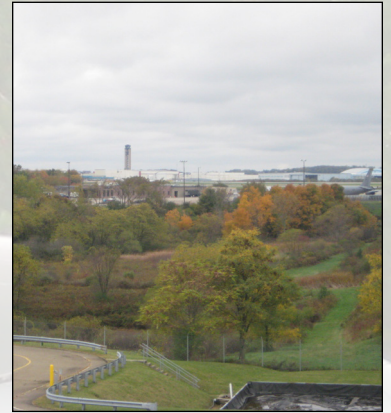
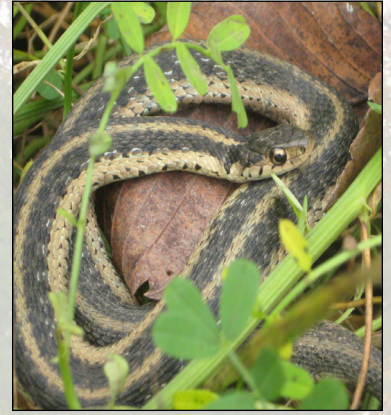




Integrated Natural Resources Management Plan

Pittsburgh Air National Guard Base
Pittsburgh International Airport
Pittsburgh, Pennsylvania

Final



April 2017

SPONSORED
BY



**Integrated Natural Resources
Management Plan
Pittsburgh Air National Guard Base
Pittsburgh International Airport
Pittsburgh, Pennsylvania**

Prepared for

Pittsburgh Air National Guard Base
171st Air Refueling Wing
300 Tanker Road
Coraopolis, Pennsylvania 15108

April 2017

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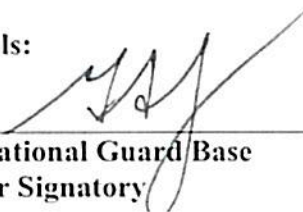
**SIGNATURE PAGE
PITTSBURGH AIR NATIONAL GUARD BASE
PITTSBURGH, PENNSYLVANIA**

This Integrated Natural Resources Management Plan (INRMP), dated April 2017, has been developed for Pittsburgh Air National Guard Base (ANGB) and the National Guard Bureau (NGB) in accordance with Air Force Instruction 32-7064, *Integrated Natural Resources Management*; Air Force Policy Directive 32-70, *Environmental Quality*; and the provisions of the Sikes Act, as amended (16 United States Code §670a et seq.) in cooperation with the United States Fish and Wildlife Service (USFWS), Pennsylvania Department of Conservation and Natural Resources (PADCNR), and Pennsylvania Game Commission (PAGC). The management of natural resources in this INRMP reflects the mutual agreement of all parties.

To the extent that resources permit, the USFWS, PADCNR, PAGC, and Pittsburgh ANGB, by signature of their agency representative, do hereby agree to enter a cooperative agreement program for the conservation, protection, and management of natural resources present on Pittsburgh ANGB, Pennsylvania. The intention of this agreement is to develop functioning, sustainable ecological communities on Pittsburgh ANGB that integrate the interests and mission of the agencies charged with conservation, protection, and management of natural heritage in the public interest. This agreement may be modified and amended by mutual agreement of the authorized representatives of the three agencies. This agreement will become effective upon the date of the last signatory and shall continue in full force 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 and acceptance of the following document.

Approving Officials:



Pittsburgh Air National Guard Base
Base Commander Signatory

28 Apr 2017

Date



United States Fish and Wildlife Service Signatory

4/27/17

Date

See note on next page

Pennsylvania Department of Conservation and Natural
Resources Signatory

Date



Pennsylvania Game Commission Signatory

5/22/17

Date

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The ANG contacted the U.S. Fish and Wildlife Service (USFWS) and both the Pennsylvania Department of Conservation and Natural Resources (PADCNR) and the Pennsylvania Game Commission (PAGC) as part of its effort to develop the Pittsburgh Integrated Natural Resources Management Plan (INRMP). Consultation was initiated with the PADCNR on July 25, 2014 for development of an INRMP for the Pittsburgh ANGB. A Task Force Meeting was held on site on October 15, 2014. No representative from the PADCNR attended the meeting. The USFWS and three representatives from the PAGC were in attendance.

A letter was sent to the PADCNR on April 6, 2016 requesting review of the draft INRMP for Pittsburgh. No comments were submitted by the PADCNR. The INRMP was then finalized and a letter was sent on April 20, 2017 requesting signatures from PADCNR, PAGC, USFWS, and the Installation Commander.

Signature pages were received from the USFWS, the PAGC and the Installation Commander. No response came from the PADCNR. A follow-up phone call to the PADCNR resulted in receipt of a letter from PADCNR on June 26, 2017 wherein the PADCNR expressed interest in working with the ANG in its implementation of the Pittsburgh INRMP. The PADCNR also expressed their interest in working with the ANG regards the presence of Torrey's rush, a state threatened plant species. The ANG will invite the PADCNR to attend annual reviews of the INRMP. If it is determined the PADCNR in addition to the PAGC should be a signatory of the INRMP their signature block will be added at the time of the 5 year operations and effect review.

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**ANNUAL REVIEW AND COORDINATION DOCUMENTATION
2017**

This page is used to certify the annual review and coordination of the Integrated Natural Resources Management Plan (INRMP) for Pittsburgh Air National Guard Base in Pennsylvania.

By their signatures below, the certifying official acknowledges that the annual review and coordination of the INRMP has occurred for the specified year.

Approving Officials:

<hr/> Pittsburgh Air National Guard Base Base Commander Signatory	<hr/> Date
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<hr/> United States Fish and Wildlife Service Signatory	<hr/> Date
--	-------------------

<hr/> Pennsylvania Department of Conservation and Natural Resources Signatory	<hr/> Date
--	-------------------

<hr/> Pennsylvania Game Commission Signatory	<hr/> Date
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**ANNUAL REVIEW AND COORDINATION DOCUMENTATION
2018**

This page is used to certify the annual review and coordination of the Integrated Natural Resources Management Plan (INRMP) for Pittsburgh Air National Guard Base in Pennsylvania.

By their signatures below, the certifying official acknowledges that the annual review and coordination of the INRMP has occurred for the specified year.

Approving Officials:

<hr/> Pittsburgh Air National Guard Base Base Commander Signatory	<hr/> Date
<hr/> United States Fish and Wildlife Service Signatory	<hr/> Date
<hr/> Pennsylvania Department of Conservation and Natural Resources Signatory	<hr/> Date
<hr/> Pennsylvania Game Commission Signatory	<hr/> Date

**ANNUAL REVIEW AND COORDINATION DOCUMENTATION
2019**

This page is used to certify the annual review and coordination of the Integrated Natural Resources Management Plan (INRMP) for Pittsburgh Air National Guard Base in Pennsylvania.

By their signatures below, the certifying official acknowledges that the annual review and coordination of the INRMP has occurred for the specified year.

Approving Officials:

<hr/> Pittsburgh Air National Guard Base Base Commander Signatory	<hr/> Date
<hr/> United States Fish and Wildlife Service Signatory	<hr/> Date
<hr/> Pennsylvania Department of Conservation and Natural Resources Signatory	<hr/> Date
<hr/> Pennsylvania Game Commission Signatory	<hr/> Date

**ANNUAL REVIEW AND COORDINATION DOCUMENTATION
2020**

This page is used to certify the annual review and coordination of the Integrated Natural Resources Management Plan (INRMP) for Pittsburgh Air National Guard Base in Pennsylvania.

By their signatures below, the certifying official acknowledges that the annual review and coordination of the INRMP has occurred for the specified year.

Approving Officials:

<hr/> Pittsburgh Air National Guard Base Base Commander Signatory	<hr/> Date
<hr/> United States Fish and Wildlife Service Signatory	<hr/> Date
<hr/> Pennsylvania Department of Conservation and Natural Resources Signatory	<hr/> Date
<hr/> Pennsylvania Game Commission Signatory	<hr/> Date

**ANNUAL REVIEW AND COORDINATION DOCUMENTATION
2021**

This page is used to certify the annual review and coordination of the Integrated Natural Resources Management Plan (INRMP) for Pittsburgh Air National Guard Base in Pennsylvania.

By their signatures below, the certifying official acknowledges that the annual review and coordination of the INRMP has occurred for the specified year.

Approving Officials:

<hr/> Pittsburgh Air National Guard Base Base Commander Signatory	<hr/> Date
<hr/> United States Fish and Wildlife Service Signatory	<hr/> Date
<hr/> Pennsylvania Department of Conservation and Natural Resources Signatory	<hr/> Date
<hr/> Pennsylvania Game Commission Signatory	<hr/> Date

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Component Plan B	Oil and Hazardous Substance Spill Prevention and Response Plan
Component Plan C	Stormwater Pollution Prevention Plan/Preparedness, Prevention, and Contingency Plan

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1. EXECUTIVE SUMMARY

This Integrated Natural Resources Management Plan (INRMP) has been developed for the Pittsburgh Air National Guard Base (ANGB) and the National Guard Bureau (NGB) in accordance with Air Force Instruction (AFI) 32-7064, *Integrated Natural Resources Management*; Air Force Policy Directive (AFPD) 32-70, *Environmental Quality*; Department of Defense Instruction (DODI) 4715.03, *Natural Resources Conservation Program*; and the provisions of the Sikes Act, as amended (16 United States Code [USC] §670a et seq.). This INRMP provides Pittsburgh ANGB with a description of the installation and its surrounding environment, and presents various management practices designed to mitigate negative impacts and enhance the positive effects of the installation's mission on regional ecosystems. These recommendations have been balanced against the requirements of Pittsburgh ANGB to accomplish its mission at the highest possible level of efficiency. To obtain an accurate assessment of the installation's influences, analyses were conducted to determine the physical and biotic nature of Pittsburgh ANGB and its surrounding environment, as well as the operational activities taking place. In some cases, the implementation of some of these recommendations sacrifices the improvement of the natural resources at Pittsburgh ANGB in deference to the safety and efficiency of the flying mission.

This INRMP is a practical guide for the management and stewardship of all natural resources present on Pittsburgh ANGB, while ensuring the successful accomplishment of the military mission. The INRMP was developed using an interdisciplinary approach in which information was gathered from a variety of organizations. Guidance was also solicited from a variety of federal and state agencies. A Task Force was formed, which included key installation personnel and individuals from various agencies that have an interest in Pittsburgh ANGB and the management of its resources. Representatives from the following federal and state regulatory agencies comprised the Task Force: United States Fish and Wildlife Service (USFWS), Pennsylvania Department of Conservation and Natural Resources (PADCNR), and Pennsylvania Game Commission (PAGC). Some members of the Task Force attended the initial kick-off meeting, while others participated by providing input during reviews of draft versions of the INRMP. These varying perspectives allowed for an accurate portrayal of the status and management needs of local ecosystems, balanced against the requirement for the installation to accomplish its mission(s) at the highest possible level of efficiency. As a result, the probable effects of Pittsburgh ANGB operations on the surrounding natural resources were projected, allowing for the development of possible operational alternatives that could result in lessening impacts on the environment.

Participation in the Task Force by representatives from the USFWS, PADCNR, and PAGC satisfied the provisions on the Sikes Act (16 USC §670a et seq.). The Sikes Act requires the preparation of an INRMP in cooperation with the USFWS and the appropriate state fish and wildlife agency (i.e., PADCNR and PAGC). In addition, it is required that the resulting plan reflect the mutual agreement of the parties concerning conservation, protection, and management of fish and wildlife resources.

The maintenance and enhancement of biological diversity is particularly important in the management of natural resources and will be accomplished through the implementation of

specific management practices identified in this INRMP. Biodiversity is simply defined as “the variety of life and its processes.”

Biodiversity does not just describe how many species there are or how evenly they are represented in a given community. Rather, biodiversity can be applied on four basic levels:

1. **Genetic Diversity**— Refers to the variation of genotypes within a species that influences different characteristics among individuals or populations.
2. **Species Diversity**—Refers to the number of different kinds of species within a given area.
3. **Ecosystem Diversity**—Refers to the number, relative proportions, and interactions among communities within an ecosystem.
4. **Landscape Diversity**—Can be defined as the composition of and interactions among ecosystems across a defined landscape.

By protecting a mosaic of habitats that support the greatest variety of life and its processes, this INRMP will help perpetuate the form and function of native communities, thus enhancing the long-term viability of Pittsburgh ANGB and ensuring its sustainability for military operations.

The INRMP presents practicable alternatives and recommendations that would minimize impact on the Pittsburgh ANGB missions while providing for management and stewardship of natural resources that would conserve and enhance existing ecosystems on the installation.

The overriding goals for this INRMP are to:

1. Manage for no net loss in Pittsburgh ANGB’s capability to support the military mission of the installation
2. Minimize habitat fragmentation and promote the natural connectivity of habitats
3. Protect native species and discourage non-native, invasive species
4. Protect rare and ecologically important species and unique or sensitive environments
5. Maintain or mimic natural processes
6. Protect genetic diversity
7. Restore species, communities, and ecosystems
8. Monitor impacts on biodiversity.

From these goals, objectives and management actions were identified that structure this plan’s guidance. However, each of the management strategies described in this INRMP should be monitored so that modifications can be made during implementation as conditions change.

Throughout the development of this INRMP, management issues were identified in a number of natural resources subject areas. Some of these natural resources topics of concern could have an adverse impact on Pittsburgh ANGB's flying mission or future planning operations. One of the purposes of this INRMP is to identify goals and objectives for the installation and to obtain workable and useful solutions for each topic of concern. The topics of concern involving natural resources constraints to planning and mission operations are presented in Chapter 6.

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2. GENERAL INFORMATION

2.1 PURPOSE AND SCOPE

This Integrated Natural Resources Management Plan (INRMP) has been developed for use by Pittsburgh Air National Guard Base (ANGB) and the National Guard Bureau (NGB) in accordance with Air Force Instruction (AFI) 32-7064, *Integrated Natural Resources Management*; Air Force Policy Directive (AFPD) 32-70, *Environmental Quality*; Department of Defense Instruction (DODI) 4715.03, *Natural Resources Conservation Program*; and the provisions of the Sikes Act (16 United States Code [USC] §670a et seq.).

This INRMP provides Pittsburgh ANGB with a description of the installation (e.g., location, history, and mission), information about the surrounding physical and biotic environment, and an assessment of the impacts on natural resources as a result of mission activities. Furthermore, the INRMP recommends various management practices in compliance with federal, state, and local standards designed to mitigate negative impacts and enhance the positive effects of the installation's mission on local ecosystems.

This INRMP integrates all aspects of natural resource management with the rest of the installation's mission and, therefore, becomes the primary tool for managing the installation's ecosystems while ensuring the successful accomplishments of the military mission at the highest possible levels of efficiency. The INRMP is a guide for the management and stewardship of natural resources present on the installation. A multiple-use approach will be implemented to allow for the presence of mission-oriented activities, as well as environmental quality through efficient management of natural resources.

Specific management practices identified in this INRMP have been developed to enhance and maintain biological diversity within the installation. Specifically, management practices should:

- Minimize habitat fragmentation and promote the natural pattern and connectivity of habitats
- Protect native species and discourage non-native, invasive species
- Protect rare and ecologically important areas
- Protect unique sensitive environments
- Maintain or mimic natural processes
- Protect genetic diversity
- Restore species, communities, and ecosystems
- Monitor impacts on biodiversity.

Each of the management strategies described in this plan should be monitored so that modifications can be made during implementation if conditions change. There are four levels of biodiversity: genetic diversity, species diversity, ecosystem diversity, and landscape diversity. Human communities are entirely and completely dependent on the goods and services provided by our diverse ecosystems. Decline of these ecosystems and the biodiversity within them is one of the foremost limitations to human prosperity. Ecosystem sustainability is the key to both biological diversity and human existence. It is the goal of this INRMP to successfully integrate ecological sustainability with goals and objectives that will sustain human communities and the operational mission of Pittsburgh ANGB. By protecting a mosaic of habitats that support the greatest diversity of life, this INRMP helps perpetuate viable, sustainable populations of native species, and the communities they comprise. The protection of these species and communities, in turn, promotes the sustainability of functional ecosystems across the landscape. Appendix A of this INRMP provides the references for the document, while Appendix B provides a list of acronyms and abbreviations.

2.2 MANAGEMENT PHILOSOPHY

This INRMP was developed using an interdisciplinary approach and information gathered from a variety of organizations. Information and guidance were also solicited from a variety of federal and state agencies. A Task Force was formed that included key installation personnel and individuals from various agencies that have interest in Pittsburgh ANGB and the management of its resources. Representatives from the following federal and state regulatory agencies comprised the Task Force: United States Fish and Wildlife Service (USFWS), Pennsylvania Department of Conservation and Natural Resources (PADCNR), and Pennsylvania Game Commission (PAGC). Correspondence with these agencies will be documented and will satisfy the requirements of 32 Code of Federal Regulations (CFR) 989, as amended, *The Environmental Impact Analysis Process*. Participants in the initial Task Force meeting included John Tower (Environmental Engineer), Charles Kerns (Base Civil Engineer), Richard Kelly (Engineer), and Jason Nelson (Engineering Technician) from Pittsburgh ANGB; Felicia Johnson from NGB; Jeannette Matkowski (NGB contractor); and Gary Camus, Jack Lucas, and Douglas Dunkerley from PAGC. Representatives from all three agencies (USFWS, PADCNR, and PAGC) also provided input for the INRMP during review of draft versions of the document.

The Task Force ensured that information concerning the natural resources on or in the vicinity of the installation was accurate and presented with acknowledgment to local and regional management strategies. As a result, the probable effects of installation operations on the surrounding natural and cultural resources will be projected. This approach also allowed for insight into possible operational alternatives, which could result in reduced impacts on natural resources on the installation and in surrounding areas.

Participation of the Task Force by representatives from the USFWS, PADCNR, and PAGC satisfies the provisions of the Sikes Act (16 USC §670a et seq.). The Sikes Act requires the preparation of an INRMP in cooperation with the USFWS and the appropriate state fish and wildlife agency (PADCNR and PAGC). In addition, it is required that the resulting plan reflects the mutual agreement of the parties concerning conservation, protection, and management of fish and wildlife resources. The Sikes Act, in addition to Department of Defense (DOD)

Manual 4715.03 and AFI 32-7064 requires public comment on the INRMP at its inception as well as during revisions when there is a mission change. Appendix C includes consultation with USFWS, PADCNR, PAGC, and the Task Force meeting minutes.

The INRMP presents practicable alternatives and recommendations to allow for the protection and enhancement of natural resources and conservation of existing ecosystems, while minimizing impacts on the installation's mission(s). Consequently, the implementation of some of these recommendations will sacrifice improvement of the installation's natural resources in deference to the safety and efficiency of the mission.

2.3 AUTHORITY

This INRMP is developed under, and proposes actions in accordance with, the applicable DOD and United States Air Force (USAF) policies, directives, and instructions. AFI 32-7064, *Integrated Natural Resources Management*, provides the necessary direction and instruction for preparing an INRMP. Issues are addressed in this plan using guidance provided under legislation, Executive Orders (EOs), Directives, and Instructions that include DODI 4715.03, *Natural Resources Conservation Program*; DOD Manual 4715.03, *Integrated Natural Resources Management Plan*; AFD 32-70, *Environmental Quality*; and AFI 32-7064. DOD Instruction 4715.03 provides direction for DOD installations in establishing procedures for an integrated program for multiple-use management of natural resources (including biological and earth resources) on property and lands managed or controlled by DOD. DOD Manual 4715.03 provides procedure to prepare, review, update, and implement INRMPs in compliance with the Sikes Act. AFD 32-70 discusses general environmental quality issues, including proper cleanup of polluted sites, compliance with applicable regulations, conservation of natural resources, and pollution prevention. Appendix D summarizes key legislation and guidance used to create and implement this INRMP.

2.4 INTEGRATION WITH OTHER PLANS

This INRMP is intended to be compatible with other Pittsburgh ANGB planning documents. In preparing this document, other plans consulted are listed below. These documents can be found either as appendices to this INRMP or as Component Plans. Component Plans can be found electronically on the compact disk attached to this INRMP.

- ***Integrated Pest Management (IPM) Plan***—This plan describes how the Pittsburgh ANGB will comply with the requirements of DODI 4150.07, *DOD Pest Management Program*, and AFI 32-1053, *Integrated Pest Management Program*. The plan provides guidance for operating and maintaining an effective integrated pest management program at the 171st Air Refueling Wing (171 ARW) and ensures that pest management issues do not adversely impact military readiness and mission. The plan also identifies and implements strategies for managing specific pests at the installation and implements the use of both chemical and non-chemical control techniques to achieve effective pest management that minimizes economic, health, and environmental risks (Appendix E).

- ***Bird/Wildlife Aircraft Strike Hazard (BASH) Plan***—This plan provides guidance for BASH reduction in areas where flying operations are conducted. Specific operations included in the plan include the establishment of a Bird/Wildlife Hazard Working Group, procedures for reporting hazardous bird activity, provisions to disseminate information to aircrews, procedures to eliminate or reduce conditions that attract birds and wildlife, and procedures to disperse birds and wildlife from the airfield (Appendix F).
- ***Hazardous Waste Management Plan***—This guide is intended to serve as an aid to the proper disposal of commonly generated hazardous wastes and special wastes produced at the installation (Component Plan A).
- ***Oil and Hazardous Substance Spill Prevention and Response Plan***—The objective of this plan is to identify sources of pollution associated with mission activities that may potentially affect the quality of stormwater discharges at the installation. The plan also describes the Oil and Hazardous Substances Pollution Contingency Plan that should be implemented in the event of a reportable spill (Component Plan B).
- ***Stormwater Pollution Prevention Plan/Preparedness, Prevention, and Contingency Plan (PPCP)***—This plan fulfills the requirements of the National Pollutant Discharge Elimination System (NPDES) stormwater permit. It is an engineering management strategy prepared specifically for the 171 ARW to improve the quality of stormwater runoff and thereby improving the quality of the receiving waters (Component Plan C).

3. INSTALLATION OVERVIEW

3.1 LOCATION AND AREA

The 171 ARW is located on the southeastern corner of the Pittsburgh Internal Airport in Moon Township, western Allegheny County, Pennsylvania. The 171 ARW is approximately 16 miles west-northwest of downtown Pittsburgh (Figure 3-1). The USAF leases approximately 179 acres, encompassing 403,516 square feet (ft) from the Allegheny County Airport Authority, and licenses the property to Pittsburgh ANGB. The entrance to the 171 ARW is located on McClaren Road (Figure 3-2).

The Allegheny County Airport Authority land borders the 171 ARW to the north, south, east, and west. The Pittsburgh International Airport airfield is located north and northeast of the 171 ARW, and undeveloped land is located to the west and southeast. McClaren Road separates the 171 ARW installation from McClaren's Run and undeveloped, privately owned land to the south (ANG 2012a).

The 258th Air Traffic Control Squadron (258 ATCS) is a geographically separated unit of the 171 ARW. The 258 ATCS is located on 11 acres encompassing one building and 22,030 square ft at Johnstown-Cambria County Airport. The 258 ATCS is located approximately 70 miles east of the 171 ARW.

3.2 INSTALLATION HISTORY

The 171 ARW has more than a 50-year history. In 1947, an Air National Guard (ANG) unit was formed at Pittsburgh Airport and included the 146th and 147th Fighter Squadrons who flew P-47 aircraft. In fall 1960, the 146th began to convert to flying the F-102 Delta Dart, or Deuce and had a fighter interception mission. Around that same time, the 147th was converted from the fighter interceptor mission to an aeromedical transport mission for Military Air Transport Command in 1961. They were now designated the 147th Aeromedical



Source: ANG Undated.

Transport Squadron. In 1968, the unit was re-designated as the 171st Aeromedical Airlift Group, the first of its kind in the ANG. Later that year, the 171st was called to active duty to augment the airlift capability of the 375th Aeromedical Airlift Wing. Their mission was to move patients from casualty staging bases and military installations in Vietnam to destination treatment hospitals.

In October 1972, during an extensive reorganization of the National Guard system, the 171st Aeromedical Airlift Wing was re-designated as the 171 ARW. On 1 July 1976, the Wing received notice of reassignment to the Strategic Air Command. A year later, the Wing

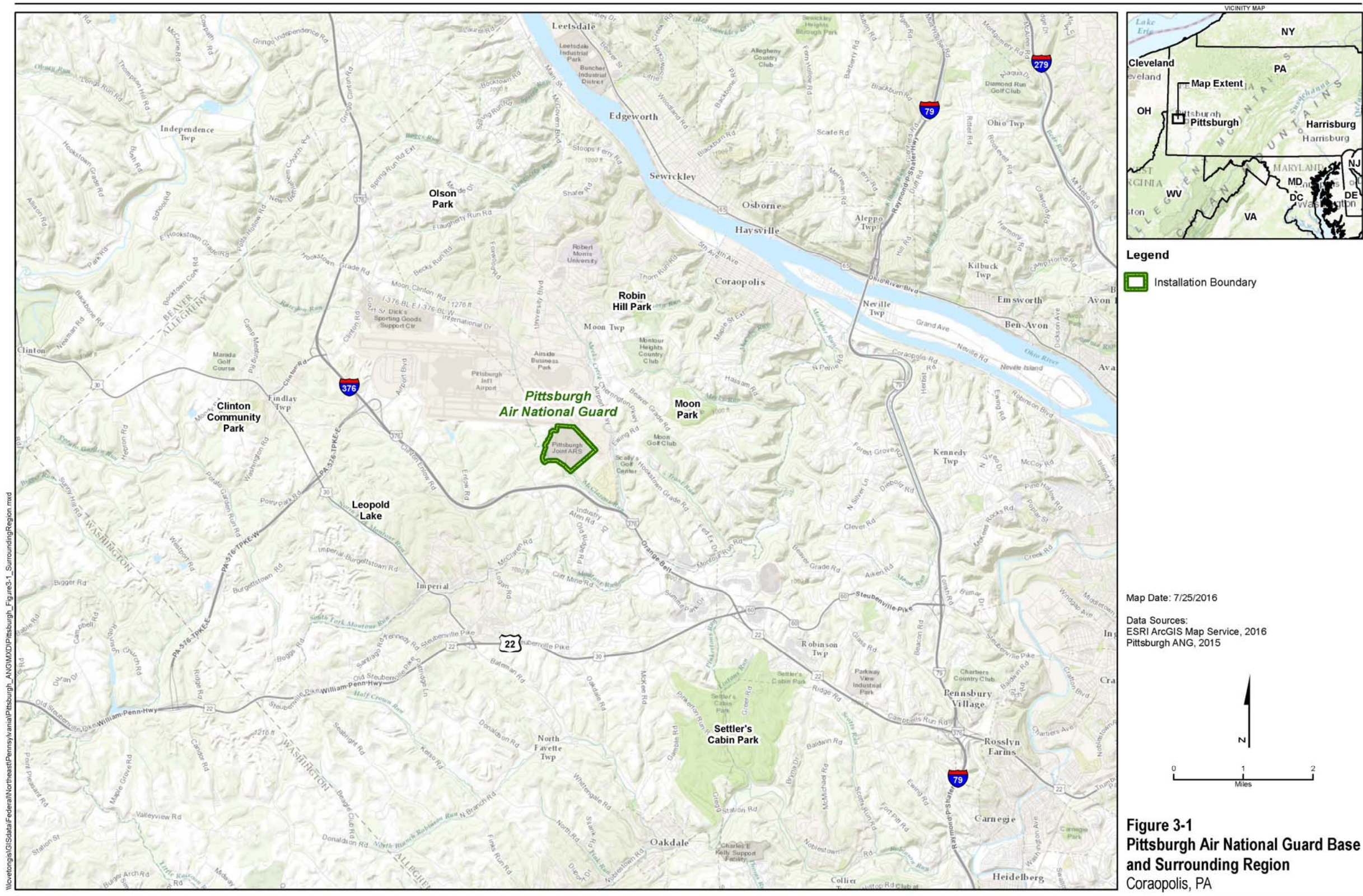
transitioned to the KC-135A, a four-engine jet aircraft. This was a significant upgrade, increasing the unit's air refueling capacity and expanding their global mission capability. In 1990 and 1991, members of the 171 ARW participated in air refueling missions for Operation Desert Shield. During this period, the 171 ARW refueled nearly 3,000 allied aircraft maintaining a 100 percent mission effectiveness rate. During the Gulf War, the 171 ARW flew 556 combat missions and offloaded 4.6 million gallons of fuel. The Strategic Air Command was deactivated in June 1992, and the 171 ARW became a part of the Air Mobility Command.

In May 1999, the 171 ARW activated over 500 members and 14 aircraft to Budapest, Hungary and Frankfurt, Germany, in support of Operation Allied Force deterring ethnic aggressions in Yugoslavia. In November 2000, the 171 ARW deployed 228 personnel to Istres, France in support of Operation Joint Forge, a North Atlantic Treaty Organization-led stabilization mission in Bosnia-Herzegovina. During this deployment, the crews flew 51 sorties in seven of the United States' KC-135s, and offloaded 1.4 million pounds of fuel. On 11 September 2001, the 171 ARW was called to duty immediately following the terrorist attacks. Their mission was to provide aerial refueling to the fuel-thirsty jet fighter aircraft that were providing Combat Air Patrols over the skies of the eastern United States.

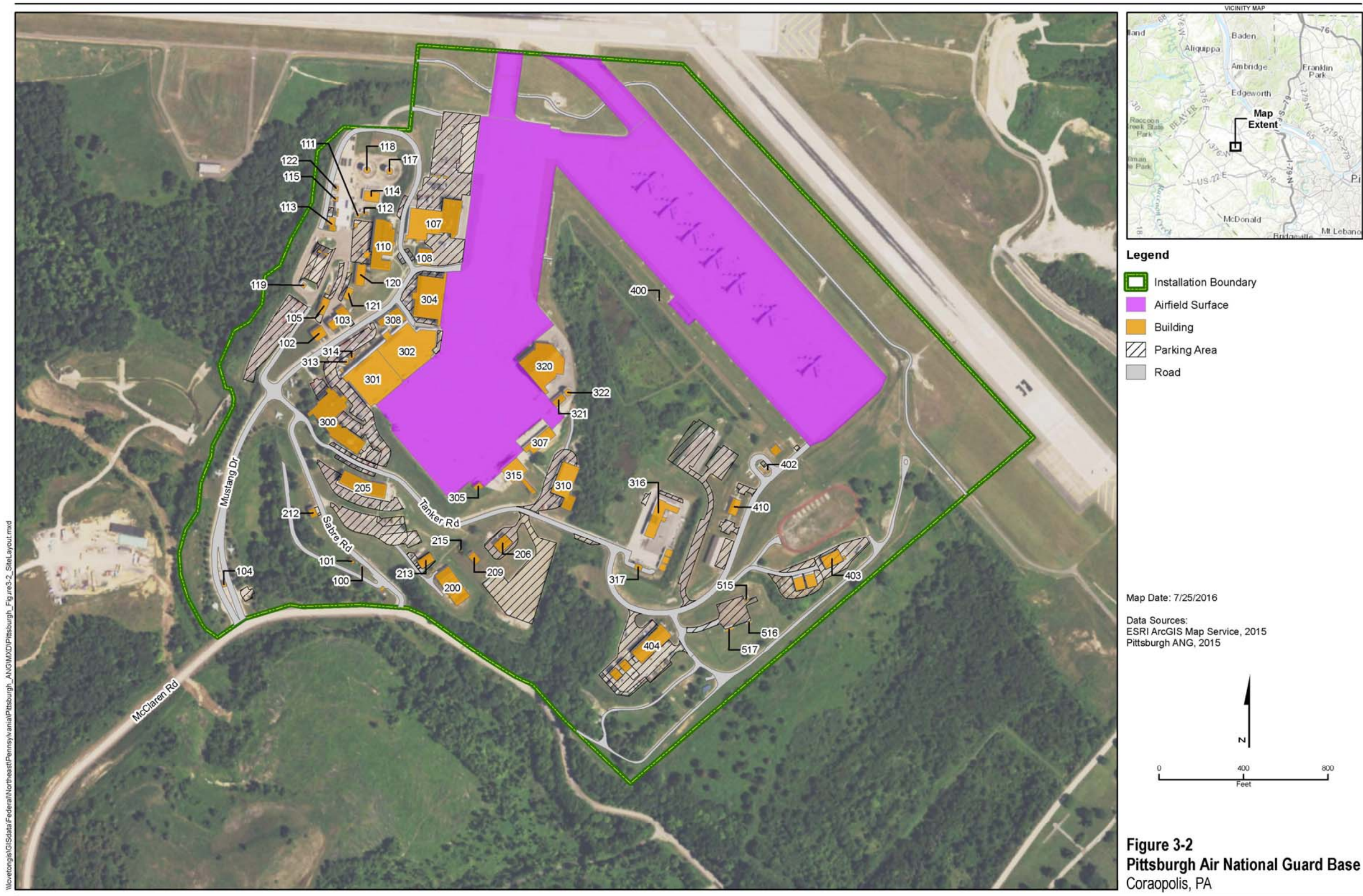
Since 2001, the 171 ARW have been involved in supporting Operation Enduring Freedom, Operation Noble Eagle, and Operation Iraqi Freedom; deployed to Guam; participated in the Hurricane Katrina Relief Effort; and supported numerous Raven assignments. The wing currently flies the KC-135, enabling the 171 ARW a global reach and continuity in the Total Force. The 171 ARW presently has 16 aircraft assigned, making it one of only three Super Tanker Wings within ANG. This wing structure provides the resources for the 171 ARW to maintain its Global Air Refueling Mission well into the 21st Century (ANG Undated).

3.3 MILITARY MISSIONS

The 171 ARW is assigned to the Air Mobility Command under the operational control of the Twenty-First Air Force. The 171 ARW mission is to provide resources for global engagement to meet national objectives and to assist local and state authorities at the direction of the Governor. A more specific mission is to organize, equip, train, and administer air refueling units on a global basis in the event of mobilization, and to maintain a state of readiness and execute assigned missions of refueling airborne USAF and ANG aircraft. Mission supporting functions of the 171 ARW include facilities maintenance, fuels storage and management, vehicle maintenance, Aircraft Generation Equipment maintenance, aircraft structural maintenance, dining facilities operations, medical examination functions, Non-Destructive Inspection activities, supply and shipment/receiving functions, communications equipment maintenance, aircrew life support and survival equipment support, weather and air traffic control activities, as well as numerous administrative support functions.



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The 146th Air Refueling Squadron (146 ARS) and the 147th Air Refueling Squadron (147 ARS) are units of the 171 ARW and fly the KC-135T Stratotanker. The 258 ATCS is a geographically separated unit of the 171 ARW, and is located at the John P. Murtha Cambria County Airport in Johnstown, Pennsylvania. Although the 258 ATCS only has 80 members, its mission is integral to the successful and safe operations of USAF, DOD, and allied aircraft at contiguous United States and outside the contiguous United States airfields.

3.4 SURROUNDING COMMUNITIES

The 171 ARW is located in Moon Township, Pennsylvania in Allegheny County approximately 16 miles from Pittsburgh (Figure 3-1). The land immediately surrounding the installation belongs to the Allegheny County Airport Authority and is used for transportation. In areas adjacent to the airport, land use is primarily suburban in character with a mixture of residential, commercial, and industrial uses. Areas to the north, east, and south of the airport are characterized by moderate to high density residential and commercial uses in Moon, Robinson, eastern Findlay, and northern North Fayette townships, respectively. Areas to the west of the airport are rural in character, with forest, agriculture, and scattered landfills and extractive uses (e.g., coal mining).

Table 3-1 shows the population, percent minorities, and number of owner- and renter-occupied homes within Coraopolis, Moon, Robinson, Findlay, and North Fayette townships in 2010.

Table 3-1. Demographics of Pittsburgh Air National Guard Base Surrounding Communities

Surrounding Communities	Total Population	Percent White Population	Percent Minorities	Total Occupied Houses	Percent Owner Occupied	Percent Renter Occupied
Coraopolis	5,677	83	17	2,747	52	48
Moon Township	24,185	89	11	9,646	72	28
Robinson Township	13,354	91	9	5,652	73	27
Findlay Township	5,060	96	4	2,092	79	21
North Fayette Township	13,934	93	7	5,810	76	24

Source: Moon Township Undated.

3.5 LOCAL AND REGIONAL NATURAL AREAS

Local parks are located within 10 miles of Pittsburgh ANGB. Moon Park is located 4 miles east of the 171 ARW (Figure 3-1). Moon Park is over 300 acres of green space with 3 miles of walking/hiking trails. Moon Park contains woodland streams, mature forests, rock outcroppings, a boulder field, and a small waterfall. The park includes Nelson Pond, which was recently renovated in 2008 due to sedimentation and decrease of fish habitat. The park also includes play equipment and sports



*Robin Hill Park
Source: Moon Parks and Recreation 2007.*

fields. Robin Hill Park is located 5 miles northeast of the 171 ARW in the Moon Township (Figure 3-1). This park is approximately 200 acres of mostly forested property containing 2.5 miles of wooded walking trails. The park also includes an herb garden, 1800s log home, 24-room Georgian-style home, and a carriage house. Olson Park is located approximately 9 miles north of the 171 ARW in Moon Township (Figure 3-1). This park contains 146 acres of natural areas and trails located along Flaugherty Run. The site primarily consists of a stream valley with wooded sloping hillsides (Moon Parks and Recreation 2007).

Leopold Lake Park is located 5 miles southwest of the 171 ARW and is located in Findlay Township (Figure 3-1). This park includes a 1-acre recreation lake for fishing, hiking, and picnicking. Clinton Community Park is located 7 miles west of the 171 ARW in Findlay Township (Figure 3-1). This park is approximately 67 acres and contains a large hardwood forest and a stand of plantation style white pines. Amenities at the park include wooded trails, ball fields, fitness trail, amphitheater, playgrounds, and pavilions (Herbert, Rowland & Grubic, Inc. 2013). Settler's Cabin Park is located approximately 7 miles southeast of 171 ARW in Collier, North Fayette, and Robinson townships (Figure 3-1). With 1,589 acres, the park provides a variety of recreational experiences, including a large wave pool, a dive pool, playgrounds, tennis courts, in-line skating facilities, picnic shelters, trails, and the original log cabin for which the park is named. The park also houses the Pittsburgh Botanical Garden, which spans 450 acres (Allegheny County undated; Allegheny County Parks Foundation 2015).

4. PHYSICAL ENVIRONMENT

4.1 CLIMATE

Pittsburgh is located in the southwestern corner of Pennsylvania, at the foothills of the Allegheny Mountains, where the Allegheny and Monongahela rivers join to form the Ohio River. The Pittsburgh area, including the ANG base, experiences a continental climate, characterized by four distinct seasons with significant variations in temperature and precipitation. Typical average daytime temperatures range from 20 degrees Fahrenheit (°F) in the winter to 80°F in the summer. Based on monthly averages from 1980 to 2010, the coldest month of the year is generally January with an average temperature of 28°F, and the warmest month is July with an average temperature of 73°F (National Oceanic and Atmospheric Administration [NOAA] 2015a). Spring and summer months (May through August) are generally the wettest months, with June being the wettest month. The Pittsburgh International Airport receives an average of 38 inches (in.) of rain yearly. On average, the months with the greatest snowfall are January and February (11 and 10 in.), and the site receives an average of 41 in. of snowfall a year (NOAA 2015a).

Table 4-1 shows the average maximum and minimum temperatures, precipitation, snowfall, and wind speed in 2014. In 2014, the Pittsburgh region experienced a total of 36.84 in. of rainfall throughout the year and 42.3 in. of snowfall in the winter. Humidity is relatively constant, averaging 80 percent in the summer and 71 percent in the winter. Prevailing winds are generally from the west or southwest, averaging 7 miles per hour (NOAA 2015b).

Table 4-1. Pittsburgh Average Monthly Temperature, Precipitation, and Wind Speed in 2014

Month	Average Temperature (°F)			Precipitation (in.)	Snowfall (in.)	Average Wind (miles per hour)
	Maximum	Mean	Minimum			
January	31.7	22.1	12.5	2.18	17.9	8.3
February	34.1	25.7	17.3	2.25	16.1	7.9
March	45.4	34.5	23.5	1.87	4.9	9.7
April	63.7	52.2	40.6	4.47	0.1	9.2
May	72.4	62.0	51.6	4.32	0.0	6.5
June	80.2	70.6	61.0	4.05	0.0	5.6
July	79.7	70.5	61.2	5.19	0.0	6.5
August	79.5	70.0	60.5	5.05	0.0	5.4
September	74.7	64.1	53.5	0.97	0.0	5.8
October	62.4	53.7	44.9	1.89	0.0	7.8
November	46.9	38.8	30.7	1.97	3.1	8.9
December	41.5	35.5	29.4	2.63	0.2	7.7

Source: NOAA 2015b.

4.2 LANDFORMS

Pittsburgh is located within the Pittsburgh Low Plateau Physiographic section of the Appalachian Plateaus Province. The Pittsburgh Low Plateau is characterized by smooth to irregular, undulating surfaces; narrow, relatively shallow valleys; and strip mines and reclaimed lands.

Local relief is characterized as low to moderate and the average elevation ranges from 660 to 1,700 ft. Typically, valley sides are moderately steep; however, side slopes are considered fairly gentle in the upper reaches of streams. Some of the land surfaces in the southwestern portion of the Pittsburgh Low Plateau, which includes Allegheny County, is susceptible to landslides (PADCNr Undated a).

Topography surrounding the 171 ARW includes steep slopes commonly exceeding 25 percent in some areas. The general configuration of the terrain at the installation consists of a level graded hilltop to accommodate taxiways, aprons, and aircraft facilities. The installation also includes a series of terraces that were constructed to maximize the amount of buildable land on the installation. The terraces are separated by steeply grassed slopes. The elevation of the terraced areas is lowest by the main entrance gate and southwest corner of the installation. Highest elevations are found on terraces in the northern portion of the installation. The 171 ARW has an elevation of approximately 1100 ft (United States Geological Survey 2013) (Figure 4-1) above sea level. Topography at the 171 ARW varies from 135 to 140 ft (Figure 4-1) (ANG 2012a).

4.3 GEOLOGY AND SOILS

The installation is located within the Pittsburgh Low Plateau, within the Pittsburgh-Huntington Basin. The Pittsburgh-Huntington Basin is an elongated Pennsylvanian Age bedrock formation that runs from a southwest to northeast direction from Huntington, West Virginia to the northeast through Pittsburgh, and into the north-central region of Pennsylvania. Pennsylvanian Age bedrock is characterized as cyclic sequences of sandstone, red and gray shale, conglomerate, clay, coal, and limestone (PADCNr 2007). The Pennsylvania-Huntington Basin consists of four geologic groups: Dunkard, Monongahela, Conemaugh, and Allegheny. The underlying geology of the installation consists of the Monongahela and Conemaugh groups. The Monongahela Group is approximately 300 ft thick in the western portion of Allegheny County and is composed mostly of limestone with small amounts of shale, sandstone, and coal. This group is thicker in the southeast portion of the county, where it is approximately 400 ft thick.

The Conemaugh Group is approximately 500 ft thick and is composed of sandstone and shale, with small amounts of limestone and coal. The Conemaugh Group is much less calcareous and carbonaceous than the overlying Monongahela Group. The cliffs and steep slopes that occur naturally throughout the Pittsburgh area and throughout the installation are comprised of sandstone. Coal represents a small percentage of the total bedrock in the area (ANG 2012a).

Unconsolidated alluvium and valley fill deposits of the Quaternary Age overlie the bedrock of the major stream valleys in Allegheny County. These deposits consist of rock material that was transported and deposited; smoothed and rounded by moving water; and include clay, silt, sand, gravel, and some boulders. Two separate units are present: the basal unit, immediately overlying the bedrock, and the upper layer of recent age. The recent alluvium deposits consist primarily of very fine silt of local origin, eroded from rocks within the existing drainage basins (ANG 2012a).



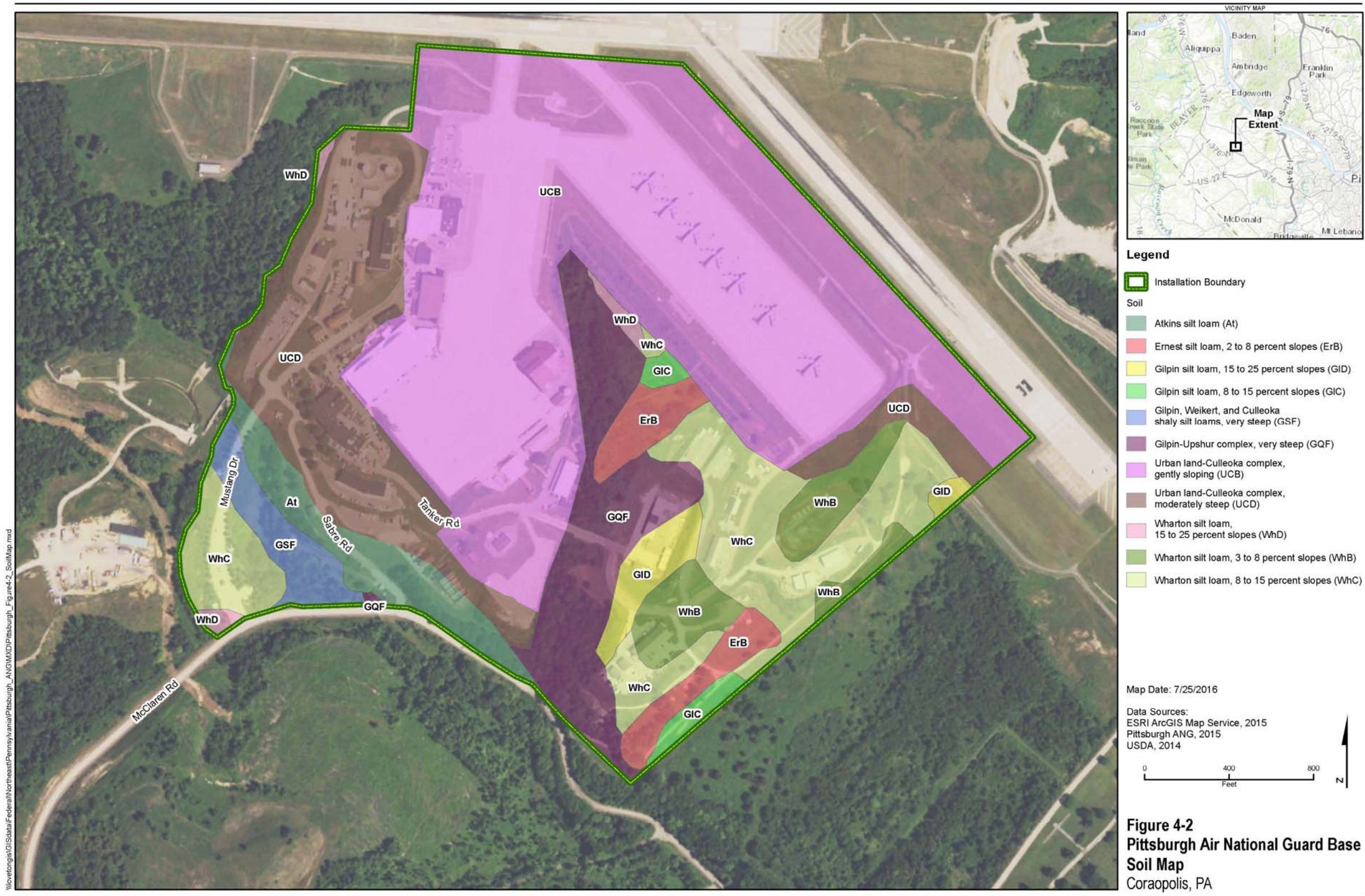
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The Natural Resources Conservation Service Soil Survey for Allegheny County, Pennsylvania identifies the following seven soil types at the installation (Figure 4-2):

- ***Atkins Silt Loam***—Approximately 5 percent of the installation is composed of Atkins silt loam. This soil consists of very deep, poorly drained soils formed in acid alluvium washed from upland soils that formed in shale and sandstone. This soil is typically found on narrow floodplains adjacent to intermittent and perennial streams and is considered a hydric soil. Hydric soils are one of the three essential characteristics of wetlands. Hydric soils are defined as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part and support the growth and reproduction of hydrophytic vegetation. In general, most areas containing these soils are wooded or pastured. Vegetation may include a mix of hardwood forest of water tolerant species such as red maples (*Acer rubrum*), black gum (*Nyssa sylvatica*), sweet gum (*Liquidambar styraciflua*), willow (*Salix* sp.), elm (*Ulmus* sp.), ash (*Fraxinus* sp.), and alder (*Alnus* sp.); with aquatic grasses or sedges in place (National Cooperative Soil Survey [NCSS] 2005).
- ***Ernest Silt Loam***—Approximately 3 percent of the installation is composed of Ernest silt loam. This soil consists of very deep, moderately well or somewhat poorly drained soils formed in colluvium derived from acid shale, siltstone, and sandstone. This soil is typically found in long, narrow areas adjacent to and parallel to floodplains of streams. In general, most areas containing these soils are cleared pasture lands or wooded. When cultivated, typical vegetation includes corn, small grains, soybeans, and hay. Where wooded, vegetation includes mixed hardwoods with some white pine and hemlocks (NCSS 2008). This soil type is designated as a Farmland of Statewide Importance. Farmlands of statewide importance include soils that economically produce high yields of crops when treated and managed according to farming methods, but are not considered Prime Farmlands. Prime Farmlands have the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops.
- ***Gilpin-Upshur Complex, Very Steep***—Approximately 10 percent of the installation is composed of the Gilpin-Upshur complex. This soil consists of moderately deep to very deep, well drained soils formed from sandstone, siltstone, and shale. This soil complex is typically found on valley sides that parallel streams (United States Department of Agriculture [USDA] 1981). These soils are suited to woodlands and wildlife habitat containing species such as oaks, maples, hickory, and yellow poplar (NCSS 2014).
- ***Gilpin Silt Loam***—Approximately 3 percent of the installation is composed of Gilpin silt loam. This soil consists of moderately deep, well drained soils formed from siltstone, sandstone, and shale. This soil can be found in hayland, pasture, cropland, and woodlands. Where wooded, oaks, maple, hickory, and yellow poplar are the dominant vegetation (NCSS 2014).
- ***Gilpin, Weikert, and Culleoka Shaly Silt Loams, Very Steep***—Approximately 2 percent of the installation is composed of very steep Gilpin, Weikert, and Culleoka silt loams. These soils consist of shallow to moderately deep, well drained soils formed from

siltstone, shale, limestone, and fine-grained sandstone. This soil is typically found in long, narrow contour areas along hillsides in cleared areas. When forested, areas contain a mix of deciduous hardwoods including oaks, maples, black walnut, ash, and red cedar (NCSS 2004a, 2009).

- ***Urban Land-Culleoka Complex, Gently Sloping and Moderately Steep***—Approximately 56 percent of the installation is composed of this soil complex. Urban land consists of soil material that has been manipulated or disturbed by either removing nearly all of the natural soil or by burying the natural soil. Urban land consists of soil from cut/fill sites used for buildings, paved roads, parking lots, and other urban development. The Culleoka series consists of moderately deep, well drained, soils formed in colluvium or residuum from siltstone or interbedded shale, limestone, siltstone, and fine grained sandstone. The Urban land-Culleoka complex is typically found in long, narrow areas and on hillsides (USDA 1981).
- ***Wharton Silt Loam***—Approximately 21 percent of the installation is composed of this soil type. These soils consist of deep, moderately well drained soils formed from interbedded clay shale, siltstone, and fine-grained sandstone. This soil is typically found in upland areas and is largely cleared and used for general farming and pasture. Areas with moderately steep to steep soils are generally in mixed hardwood areas (NCSS 2004b). Wharton silt loam is designated as Prime Farmland or Farmland of Statewide Importance depending on the slope.



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4.4 HYDROLOGY

4.4.1 Surface Water

Allegheny County is located in the Ohio River drainage basin. The Ohio River drainage basin covers approximately 204,000 square miles within 14 states. The Allegheny River enters Allegheny County from the northeast and joins the Monongahela River at Pittsburgh to form the Ohio River, which flows 981 miles to Cairo, Illinois.

Surface water features within the vicinity of the 171 ARW include McClaren’s Run (Figure 4-3). McClaren’s Run is a tributary of Montour Run that originates north of the Pittsburgh International Airport and flows in a southerly direction through the installation near the western boundary of the installation. This stream ultimately drains into the Ohio River. Montour Run discharges into the Ohio River approximately 5 miles northeast of the airport.

The installation also includes many man-made ditches, storm sewers, and drainage swales with most discharging into McClaren’s Run. A stormwater management basin is located downgradient of the Jet Engine Shop (Building 310). This basin collects runoff from the East and West aircraft parking aprons. Four emergency stormwater containment pits are connected to the storm drainage system beneath the west aircraft apron. These pits range from 2,500 to 9,500 gallons and the discharge points can be closed off during a spill.

Drainage from the 171 ARW is collected into an extensive storm sewer system, where it is then discharged to McClaren’s Run from 1 of 14 stormwater outfalls plus one oil-water separator 400-1S outfall. Table 4-2 identifies the outfalls at the Pittsburgh ANGB.

Table 4-2. Pittsburgh Air National Guard Base Drainage Outfalls

Outfall	Drainage Area
001	Paved portion of the Petroleum, Oil, Lubricant area, north of the Jet-A tanks with additives
002	Majority of the Petroleum, Oil, Lubricant area, including both Jet-A tanks with additives and Buildings 111, 112, 113, 114, and 115. Includes oil water separator (OWS) 113-1S discharge.
003	Diesel fuel and gasoline tanks and paved area immediately surrounding the tanks
004	Part of West ramp, Buildings 302 and 304, other non-industrial buildings
006	Building 301, other non-industrial buildings
007	Building 205, Building 300 and parts of west aircraft parking ramp
009	Area in front of Building 301 hangar and other non-industrial buildings
010	West ramp, East ramp, Buildings 310, 320, 322, 401, 402, north and west of Building 316, and other non-industrial buildings
012	Paved area west and south of Building 316, building 405 and other non-industrial buildings
014	Vehicle Maintenance Facility, Building 404
015	East ramp flight line oil-water separator for hydrant pits drainage
Outfalls that receive discharge from non-industrial areas only include 005, 008, 011, and 013	
Source: ANG 2013a.	

4.4.2 Groundwater

Groundwater in the area of the Pittsburgh ANGB is part of the Appalachian Plateaus aquifers. The principal coal-bearing formations are Pennsylvanian in age and consist of sequences of sandstone, shale, conglomerate, clay, coal, and minor limestone. The sandstones are the most productive aquifers, although coal beds and limestones also yield water. In the past, large-scale coal mining in the area has led to pollution issues in both groundwater and surface water in many areas due to sulfur and iron exposure (ANG 2014).

The major source of groundwater is alluvial deposits in floodplains, particularly along the Allegheny and Ohio rivers. On the installation, the direction of regional groundwater flow is to the southwest, toward McLaren's Run. Site-specific groundwater flow may fluctuate based on local geology, local well use, and seasonal variations (ANG 2014).



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5. ECOSYSTEMS AND THE BIOTIC ENVIRONMENT

5.1 ECOSYSTEM CLASSIFICATION

The installation is part of the Pittsburgh Low Plateau Section of the Appalachian Plateau physiographic province. The Pittsburgh Low Plateau Section is characterized by smooth undulating upland surfaces cut by numerous, narrow, relatively shallow stream valleys (PADCNr Undated a). The installation is located within a highly urbanized area characterized by cut and fill areas with drainage modifications. The installation has been significantly altered from its natural state due to large scale land changes, including the development of runways and extensive paved areas.

5.2 VEGETATION

5.2.1 Historic Vegetative Cover

Historic vegetation information for the 171 ARW is not available.

5.2.2 Current Vegetative Cover

Pittsburgh ANGB occurs within the Eastern Broadleaf Forest (Oceanic) Province. This province is characterized by a temperate deciduous forest. It is dominated by tall broadleaf trees that provide a dense, continuous canopy in summer and shed their leaves completely in winter. Small trees and shrubs develop weakly in the understory. During spring, a ground cover quickly develops, but is greatly reduced after trees reach full foliage and shade the ground (Bailey 1995).



Typical vegetation at Pittsburgh ANGB.

The 171 ARW consists of developed land (including paved areas), landscaped or graded areas (grass), and undisturbed forested areas. The developed/paved areas comprise approximately 45 percent of the installation. Approximately 40 percent of the site is comprised of landscaped or graded areas and the remaining 15 percent is comprised of generally undisturbed vegetation (forested or scrub-shrub) (Figure 5-1).

Small, fragmented stands of deciduous forest are located throughout the installation with most of the forest occurring along McClaren's Run in the southwest portion of the installation. Tree species occurring within the forested areas are primarily comprised of sugar maple (*Acer saccharum*), black cherry (*Prunus serotina*), American elm (*Ulmus americana*), shagbark hickory (*Carya ovata*), and box elder (*Acer negundo*).

The majority of the tree species present is less than 25 years old with diameters at breast height of less than 12 in. Common shrub and herbaceous species that comprise the understory include honeysuckle (*Lonicera* sp.), blackberry (*Rubus* sp.), red-panicle dogwood (*Cornus racemosa*), goldenrod (*Solidago* sp.), and various grasses (Graminae) (ANG 2012a). Small areas of shrubland are located throughout the installation, typically along the edge of forested areas or as dense thickets. Species include blackberry, red-panicle dogwood, and multiflora rose (*Rosa multiflora*) (ANG 2012a).

When plants grow outside of their native environment without any controls to limit their growth, they may become invasive. Invasive plants can reduce native biodiversity, alter habitat conditions, displace native plant species, and threaten the aesthetics of an area. Invasive species including multiflora rose, mile-a-minute (*Persicaria perfoliata*), and autumn olive (*Elaeagnus umbellata*) occur within the forested areas on the installation. Table 5-1 includes a list of invasive plant species found within the Pittsburgh area that have the potential to occur on the base. Invasive species can be managed mechanically (cut or pulled), chemically (herbicide), or biologically (releasing a predator).



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Table 5-1. Invasive Plant Species of the Pittsburgh Area with Potential to Occur on the Pittsburgh Air National Guard Base

Scientific Name	Common Name	Management Season	Spread By
Herbs			
<i>Elaeagnus umbellata</i>	Autumn olive	Spring	Seed
<i>Cirsium vulgare</i>	Bull thistle	Spring/Early Summer	Seed
<i>Arctium minus</i>	Burdock	Spring/Early Summer	Seed
<i>Cirsium arvense</i>	Canada thistle	Spring/Early Summer	Seed/Rhizome
<i>Miscanthus sinensis</i>	Chinese silvergrass	Early to Late Summer	Rhizomes/Seed
<i>Coronilla varia</i>	Crown vetch	Spring/Mid-Summer	Rhizomes/Vegetative
<i>Alliaria petiolata</i>	Garlic mustard	Early to Late Spring	Seed
<i>Heracleum mantegazzianum</i>	Giant hogweed	Mid-Spring/Late Summer	Seed
<i>Aegopodium podagraria</i>	Goutweed	Spring/Early Summer	Rhizomes
<i>Polygonum cuspidatum</i>	Japanese knotweed	Early Spring/Late Summer	Rhizomes, vegetative, seed
<i>Microstegium viminium</i>	Japanese stiltgrass	Mid Spring/Late Summer	Seed, rhizomes, vegetative
<i>Artemisia vulgaris</i>	Mugwort	Early Spring/Late Fall	Rhizomes
<i>Vinca minor</i>	Periwinkle	Year Round	Rhizomes, bolting
<i>Conium maculatum</i>	Poison hemlock	Spring/Fall	Seed
<i>Lythrum salicaria</i>	Purple loosestrife	Late Spring/Early Summer	Rhizomes, vegetative, seed
Shrubs			
<i>Lonicera</i> spp.	Bush honeysuckle	Year Round	Seed
<i>Rhamnus cathartica</i>	Common buckthorn	Year Round	Seed
<i>Ligustrum vulgare</i>	European privet	Year Round	Seed, rhizomes
<i>Berberis thunbergii</i>	Japanese barberry	Year Round	Seed, bolting
<i>Rhodotypos scandens</i>	Jetbead	Year Round	Seed
<i>Rosa multiflora</i>	Multiflora rose	Year Round	Seed, bolting
<i>Euonymus alatus</i>	Winged burning bush	Year Round	Seed
Vines			
<i>Hedera helix</i>	English ivy	Year Round	Rhizomes, trailing, climbing, vegetative, seed
<i>Lonicera japonica</i>	Japanese honeysuckle	Year Round	Trailing, rhizomes, seed
<i>Polygonum perfoliatum</i>	Mile-a-minute	Mid-Spring/ Late Summer	Seed, trailing, climbing
<i>Celastrus orbiculatus</i>	Oriental bittersweet	Year Round	Seed, trailing, climbing
<i>Ampelopsis brevipedunculata</i>	Porcelainberry	Year Round	Climbing, trailing, seed
<i>Vitis</i> spp.	Wild grape	Year Round	Climbing, trailing, seed
<i>Euonymus fortunei</i>	Winter creeper	Year Round	Climbing, trailing, seed
Trees			
<i>Pyrus calleryana</i>	Callery pear	Spring/Summer	Seed
<i>Acer platanoides</i>	Norway maple	Spring/Winter	Seed
<i>Paulownia tomentosa</i>	Princess tree	Early Spring	Seed, vegetative
<i>Ulmus pumila</i>	Siberian elm	Early to Late Spring	Seed
<i>Acer pseudoplatanus</i>	Sycamore maple	Spring	Seed
<i>Ailanthus altissima</i>	Tree of heaven	Spring	Seed, rhizomes, vegetative
Source: Pittsburgh Parks Conservancy Undated.			

5.2.3 Turf and Landscaped Areas

Landscaped grass is located throughout the installation adjacent to runways and taxiways, roadway medians, and around buildings. Common grass species include ryegrass (*Lolium* sp.) and orchard grass (*Dactylis glomerata*). These landscaped areas are maintained on a regular basis during the growing season.

5.3 FISH AND WILDLIFE

Wildlife habitat within the 171 ARW is limited due to the small amount of vegetation, fragmentation, and disturbed nature of the surrounding area. In addition, the high level of activity, noise, and the surrounding airport also contribute to diminishing the quality of the habitat to support wildlife. The small wetland, shrub, and forested parcels within the installation support the greatest diversity and number of wildlife species. Mammals utilizing these habitats throughout the installation include white tailed deer (*Odocoileus virginianus*), red fox (*Vulpes fluva*), gray squirrel (*Sciurus carolinensis*), raccoon (*Procyon lotor*), opossum (*Didelphis marsupialis*), eastern cottontail (*Sylvilagus floridanus*), woodchuck (*Marmota monax*), and eastern chipmunk (*Tamias striatus*). Woodchuck have become a nuisance species throughout the installation as they have been reproducing rapidly and causing damage to both the landscape and buildings. Bird species common in the wetland, shrub, and forested areas include red-winged blackbird (*Agelaius phoeniceus*), black-capped chickadee (*Parus atricapillus*), American crow (*Corvus brachyrhynchos*), European starling (*Sternus vulgaris*), mourning dove (*Zenaida macroura*), wild turkey (*Meleagris gallopavo*), ruffed grouse (*Bonasa umbellus*), and ring-necked pheasant (*Phasianus cochicus*). Appendix F includes a list of birds observed within the vicinity of Pittsburgh International Airport. Like the woodchuck, the turkey population at the installation has grown and turkeys are becoming a ground strike hazard.



Woodchuck at Pittsburgh ANGB.

Bird species utilizing the landscaped and unmaintained grass areas include the Canada goose (*Branta canadensis*), ring-billed gull (*Larus delawarensis*), American crow, eastern meadowlark (*Sturnella magna*), house sparrow (*Passer domesticus*), European starling, mourning dove, and killdeer (*Charadrius wilsonia*). A BASH Plan exists at the Pittsburgh ANGB due to the resident and migratory bird species and other wildlife. Daily and seasonal bird movements create various hazardous conditions. The BASH Plan can be found in Appendix F.

5.4 THREATENED AND ENDANGERED SPECIES AND SPECIES OF CONCERN

Federal Status is the legal protection status of a species as determined by the USFWS Office of Endangered Species, in accordance with the Endangered Species Act (ESA). Definitions for the following categories have been modified from 50 CFR 17:

- **Federally Endangered**—Taxa in danger of extinction throughout all or a significant portion of their range.
- **Federally Threatened**—Taxa likely to become endangered within the foreseeable future throughout all or a significant portion of their range.

A list of federal-listed species occurring in Allegheny County, Pennsylvania is provided in Table 5-2.

Table 5-2. List of Federal and State Listed Species in Allegheny County, Pennsylvania

Scientific Name	Common Name	Federal Status	State Status
Reptiles and Amphibians			
<i>Acris crepitans</i>	Northern Cricket Frog		E
<i>Clonophis kirtlandii</i>	Kirtland's Snake		E
<i>Sistrurus catenatus</i>	Eastern Massasauga	C	E
Birds			
<i>Asio flammeus</i>	Short-eared Owl		E
<i>Circus cyaneus</i>	Northern Harrier		T
<i>Falco peregrinus</i>	Peregrine Falcon		E
<i>Lanius ludovicianus migrans</i>	Migrant Loggerhead Shrike		E
<i>Pandion haliaetus</i>	Osprey		T
Fish			
<i>Chaenobryttus gulosus</i>	Warmouth		E
<i>Erimystax x-punctatus</i>	Gravel Chub		E
<i>Etheostoma camurum</i>	Bluebreast Darter		T
<i>Etheostoma tippecanoe</i>	Tippecanoe Darter		T
<i>Notropis buchanani</i>	Ghost Shiner		E
<i>Phoxinus erythrogaster</i>	Southern Redbelly Dace		T
Mammals			
<i>Myotis sodalists</i>	Indiana bat	E	
<i>Myotis septentrionalis</i>	Northern long-eared bat	T	
Mussels			
<i>Cyprogenia stegaria</i>	Fanshell	E	
<i>Epioblasma triquetra</i>	Snuffbox	E	E
<i>Lampsilis abrupta</i>	Pink Mucket	E	
<i>Obovaria subrotunda</i>	Round Hickorynut		E
<i>Plethobasus cooperianus</i>	Orange-foot Pimpleback	E	
<i>Plethobasus cyphus</i>	Sheepnose Mussel	E	T
<i>Quadrula cylindrica</i>	Rabbitsfoot	T	E
<i>Quadrula verrucosa</i>	Pistolgrip Mussel		E
Plants			
<i>Alisma triviale</i>	Northern Water-plantain		E
<i>Ammannia coccinea</i>	Scarlet Ammannia		E
<i>Aplectrum hyemale</i>	Puttyroot		R
<i>Camassia scilloides</i>	Wild Hyacinth		T
<i>Carex careyana</i>	Carey's Sedge		E
<i>Carex typhina</i>	Cattail Sedge		E
<i>Clematis viorna</i>	Vase-vine Leather-flower		E
<i>Collinsia verna</i>	Spring Blue-eyed Mary		R
<i>Delphinium exaltatum</i>	Tall Larkspur		E

Scientific Name	Common Name	Federal Status	State Status
<i>Dodecatheon meadia</i>	Common Shooting-star		E
<i>Eleocharis quadrangulata</i>	Four-angled Spike-rush		E
<i>Erigenia bulbosa</i>	Harbinger-of-spring		T
<i>Festuca paradoxa</i>	Cluster Fescue		E
<i>Helianthemum bicknellii</i>	Bicknell's Hoary Rockrose		E
<i>Hydrastis canadensis</i>	Golden-seal		V
<i>Hypericum adpressum</i>	Creeping St. John's-wort		X
<i>Iodanthus pinnatifidus</i>	Purple Rocket		E
<i>Iris cristata</i>	Crested Dwarf Iris		E
<i>Juncus dichotomus</i>	Forked Rush		E
<i>Juncus torreyi</i>	Torrey's Rush		T
<i>Lithospermum latifolium</i>	American Gromwell		E
<i>Marshallia grandiflora</i>	Large-flowered Marshallia		E
<i>Matelea obliqua</i>	Oblique Milkvine		E
<i>Monarda punctata</i>	Spotted Bee-balm		E
<i>Myriophyllum sibiricum</i>	Northern Water-milfoil		E
<i>Onosmodium molle</i> var. <i>hispidissimum</i>	False Gromwell		E
<i>Ophioglossum vulgatum</i>	Adder's Tongue		X
<i>Opuntia humifusa</i>	Prickly-pear Cactus		R
<i>Passiflora lutea</i>	Passion-flower		E
<i>Populus balsamifera</i>	Balsam Poplar		E
<i>Potamogeton tennesseensis</i>	Tennessee Pondweed		E
<i>Prenanthes crepidinea</i>	Crepis Rattlesnake-root		E
<i>Ptelea trifoliata</i>	Common Hop-tree		T
<i>Ruellia strepens</i>	Limestone Petunia		T
<i>Sisyrinchium atlanticum</i>	Eastern Blue-eyed Grass		E
<i>Trautvetteria caroliniensis</i>	Carolina Tassel-rue		R
<i>Trifolium reflexum</i>	Buffalo Clover		X
<i>Trillium nivale</i>	Snow Trillium		R

NOTE: C = Candidate for Listing.
E = Endangered.
PE = Proposed Endangered.
R = Rare.
T = Threatened.
V = Vulnerable.
X = Extirpated.

Source: USFWS 2014a; Pennsylvania Natural Heritage Program 2014.



Rabbitsfoot mussel
Photo by Bob Butler, USFWS.

Potential habitat for the federally threatened rabbitsfoot mussel (*Quadrula cylindrica cylindrica*) and the federally endangered Indiana bat (*Myotis sodalis*) occurs within the installation (USFWS 2015a).

The rabbitsfoot is a freshwater mussel known to occur within the Allegheny River. Although the Allegheny River does not occur within the installation, the Allegheny River enters Allegheny County from the northeast and joins the Monongahela River at Pittsburgh to form the Ohio River. McLaren's Run, which flows through the installation, ultimately discharges into the

Ohio River. The rabbitsfoot is a highly distinctive mussel with an elongated shell that is rectangular in shape. This mussel is found in small to medium rivers with moderate to swift currents. In small streams, it can be found on bars or gravel and cobble close to the fast current. Rabbitsfoot can be found in the sand or gravel in medium to large rivers. Rabbitsfoot are short-term brooders, with a brooding period from May to July. Host species include whitetail shiner (*Cyprinella galactura*), spotfin shiner (*Cyprinella spiloptera*), and bigeye chub (*Hybopsis amblops*) (NatureServe 2014).

The Indiana bat is a small, dark brown to black, bat with a wingspan of 9-11 in. During the winter, Indiana bats hibernate in caves or abandoned mines for approximately 6 months. During the summer months, Indiana bats migrate to wooded areas where they roost under loose tree bark or dead or dying trees. Indiana bats forage in or along the forest edge. Mating occurs in the fall prior to winter hibernation. After the summer migration, females roost in maternity colonies (groups of up to 100 females). Each female in the colony gives birth to one pup. The young stay in the maternity colony throughout their first summer. Indiana bats feed on flying insects around rivers, lakes, and in upland areas. Summer and winter habitat is found within Allegheny County (USFWS 2006). Within the installation, summer roosting habitat is found within forested areas containing shagbark hickory along McClaren's Run (USFWS 2014a).



Indiana Bat
Photo by Adam Mann, USFWS.

Threats to the Indiana bat population and other bat populations, including the northern long-eared bat (*Myotis septentrionalis*), are increasing due to the loss of summer roosting habitat and white nose syndrome. White nose syndrome is a disease that refers to a ring of white fungus on the faces and wings of bats that has killed over a million bats since 2006 in the northeastern United States including Pennsylvania (USFWS 2014b).

The northern long-eared bat is one of the species most affected by white-nose syndrome. In April 2015, the USFWS designated the northern long-eared bat as a threatened species under the ESA. The northern long-eared bat is a medium-sized bat with a wingspan of 9-10 in. Like Indiana bats, northern long-eared bats spend winters hibernating in caves or mines (USFWS 2015b). Known hibernacula are located within Allegheny County (USFWS 2014a). During the summer months, northern long-eared bats nest by themselves or in colonies under bark, in cavities, or in the crevices of live or dead trees; some are also found roosting in caves and mines. Northern long-eared bats are opportunistic in selecting roosts, they typically choose tree species that retain bark, or provide cavities or crevices (USFWS 2015b). Within the installation, summer roosting habitat is found in forested areas containing shagbark hickory along McLaren's Run. Northern long-eared bats breed in late summer or early fall,



Northern long-eared bat
Photo by USFWS.

hibernate, and then give birth to a single pup the following May or June. Maternity colonies typically have 30-60 bats. Young bats begin flying 18-21 days after birth. Northern long-eared bats use echolocation to catch insects such as moths, flies, leafhoppers, and beetles in the understory of forested hillsides at dusk (USFWS 2015b).

In Pennsylvania, state-listed species are managed by the PAGC. In addition, the Pennsylvania Natural Heritage Program inventories and maintains a list of rare, threatened, and endangered (RTE) species, as well as species with unique or specific habitat needs or declining populations. The Pennsylvania Natural Heritage Program defines Pennsylvania RTE species as the following:

- ***Pennsylvania Endangered***—Plant and animal species that are in danger of extinction throughout most of their natural range within this Commonwealth, if critical habitat is not maintained or if the species is greatly exploited by man. This classification shall also include any populations of plant species that have been classified as Pennsylvania Extirpated, but are subsequently found to exist in this Commonwealth.
- ***Pennsylvania Threatened***—Plant and animal species that may become endangered throughout most or all of their natural range within this Commonwealth, if critical habitat is not maintained to prevent their future decline, or if the species is greatly exploited by man.
- ***Pennsylvania Rare***—Plant and animal species that are uncommon within this Commonwealth. All species of the native wild plants classified as Disjunct, Endemic, Limit of Range and Restricted are included within the Pennsylvania Rare classification.

A list of state-listed species occurring in Allegheny County, Pennsylvania is provided in Table 5-2.

Torrey's rush (*Juncus torreyi*), a state threatened plant species, has been identified within the wetland area between the East and West aircraft parking aprons at the 171 ARW. Torrey's rush is a native perennial plant approximately 2-3 ft tall. This rush often produces 3-20 flowerheads up to 3.5 in. tall during mid- to late summer. Flowerheads are typically yellow to reddish green and shiny; during the fall, the flowerheads turn to brown and become dull. Torrey's rush can be found in wet prairies, prairie swales, sloughs, borders of ponds and streams, and roadside ditches. This species is tolerant of some degradation of wetland habitats (Hilty 2014).



Torrey's rush

No other state-listed species have been identified on the installation; however, the 171 ARW does contain habitat that may support other transient state-listed species such as the threatened northern harrier (*Circus cyaneus*). Northern harriers are medium-sized hawks that utilize open

wetlands, freshwater and brackish marshes, and riparian woodlands (Pennsylvania Natural Heritage Program 2014).

The Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act regulate the protection of migratory birds and eagles. The USFWS Bird of Conservation Concern report in 2008 identified species, subspecies, and populations of all migratory non-game birds that without conservation actions would likely become listed under the ESA (USFWS 2008). A total of 24 migratory birds of concern were identified for the 171 ARW by the USFWS Information, Planning, and Conservation System and the Pennsylvania Natural Heritage Program (USFWS 2015a and Pennsylvania Natural Heritage Program 2014). Table 5-3 identifies each migratory bird species and its potential seasonal occurrence within the installation. Table 5-3 also identifies which birds are included on the USFWS Birds of Conservation Concern list.

Table 5-3. Potential Migratory Birds Occurring on the Installation

Scientific Name	Common Name	Seasonal Occurrence	USFWS Birds of Conservation Concern List
<i>Aegolius acadicus</i>	Northern saw-whet owl	Year-round	X
<i>Ammodramus henslowii</i>	Henslow's sparrow	Breeding	X
<i>Ardea herodias</i>	Great blue heron	Year-round	
<i>Asio flammeus</i>	Short-eared owl	Wintering	X
<i>Bartramia longicauda</i>	Upland sandpiper	Breeding	X
<i>Circus cyaneus</i>	Northern harrier	Breeding	
<i>Coccyzus erythrophthalmus</i>	Black-billed cuckoo	Breeding	X
<i>Dendroica cerulea</i>	Cerulean warbler	Breeding	X
<i>Dendroica discolor</i>	Prairie warbler	Breeding	X
<i>Haliaeetus leucocephalus</i>	Bald eagle	Year-round	X
<i>Helmitheros vermivorum</i>	Worm eating warbler	Breeding	X
<i>Hylocichla mustelina</i>	Wood thrush	Breeding	X
<i>Ixobrychus exilis</i>	Least bittern	Breeding	X
<i>Lanius ludovicianus migrans</i>	Migrant loggerhead shrike	Migration	X
<i>Melanerpes erythrocephalus</i>	Red-headed woodpecker	Breeding	X
<i>Oporornis formosus</i>	Kentucky warbler	Breeding	X
<i>Pandion haliaetus</i>	Osprey	Migration	
<i>Parkesia motacilla</i>	Louisiana waterthrush	Breeding	X
<i>Poecile atricapillus</i>	Black-capped chickadee	Year-round	X
<i>Podilymbus podiceps</i>	Pied-billed grebe	Breeding	X
<i>Porzana carolina</i>	Sora	Breeding	
<i>Vermivora chrysoptera</i>	Golden-winged warbler	Breeding	X
<i>Vermivora pinus</i>	Vermivora pinus	Breeding	X
<i>Wilsonia canadensis</i>	Canada warbler	Breeding	X
Source: USFWS 2015a and Pennsylvania Natural Heritage Program 2014.			

5.5 WETLANDS AND FLOODPLAINS

5.5.1 Wetlands

Wetlands are defined as areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (United States Army Corps of Engineers [USACE] 1987). Wetland functions include groundwater recharge/discharge, flood/flow alteration, sediment stabilization, sediment and toxicant retention, nutrient removal and transformation, aquatic and terrestrial diversity and abundance, and uniqueness. In Pennsylvania, activities occurring within a wetland are regulated by both the Pennsylvania Department of Environmental Protection (PADEP) and USACE.

Wetland areas are determined using the routine onsite determination method described in the USACE *Wetlands Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)* (USACE 2012). The wetland delineation method requires the investigation of three wetland parameters:

- **Hydrophytic Vegetation**—Classified by the estimated probability of occurrence in wetland versus non-wetland areas throughout its distribution.
- **Hydric Soils**—Soils that are saturated, flooded, or ponded for sufficient periods during the growing season and that develop anaerobic conditions in their upper layers.
- **Hydrological Characteristics**—Determined by the frequency of flooding, duration of inundation, and soil saturation.

For an area to be classified as a wetland, positive indicators of each of the three parameters must be present, with the exception of problem areas. Jurisdictional wetlands are those subject to regulatory authority under Section 404 of the Clean Water Act (CWA) and EO 11990, *Protection of Wetlands*. A total of two wetland areas have been identified on the installation; however, not all wetlands have not been evaluated by USACE or PADEP (Figure 4-3).

A large 2.3-acre palustrine emergent/scrub-shrub wetland occurs between the East and West aircraft parking aprons. This wetland was constructed as mitigation for the wetlands that were impacted during the construction of the east aircraft apron in the 1990s. This wetland is associated with headwaters of two unnamed tributaries to McClaren's Run and are most likely jurisdictional



Overview of 2.3-acre palustrine emergent/scrub-shrub wetland.

wetlands (ANG 2014). Vegetation occurring within this wetland includes shrub species such as black willow (*Salix nigra*), silky dogwood (*Cornus amomum*), red-panicle dogwood, common elderberry (*Sambucus canadensis*), arrowwood (*Viburnum dentatum*), and highbush blueberry (*Vaccinium corymbosum*). Herb species within the wetland include broad-leaf cattail (*Typha latifolia*), soft rush (*Juncus effusus*), sensitive fern (*Onoclea sensibilis*), soft bulrush (*Scirpus validus*), common threesquare (*Scirpus americanus*), and giant goldenrod (*Solidago gigantea*). Torrey's rush, a state threatened species, has been documented in this wetland. This wetland area provides food, shelter, nesting, and protection for many wildlife species including birds, mammals, amphibians, and reptiles.

Three smaller wetlands are located in close proximity to the large constructed wetland. One wetland located south of the constructed wetland serves as the stormwater management basin. This wetland area has vegetation similar to the constructed wetland. Two smaller wetlands are located northeast of Building 316 (Equipment Shop).

A small, palustrine emergent wetland is located southeast of Building 316 (Equipment Shop) in the southeastern portion of the site. Vegetation within this wetland is dominated by common reed and broadleaf cattail. This small wetland supports hydrology from stormwater runoff from adjacent runways and paved areas.

5.5.2 Floodplains

EO 11988, *Floodplain Management*, issued 24 May 1977, requires all federal agencies to provide leadership and take action to reduce the risk of flood loss, minimize the impacts of floods on human safety, health, and welfare, and restore and preserve the natural and beneficial values of floodplains when acquiring, managing, or disposing of federal lands. EO 11988 is implemented through the CWA and 44 CFR Part 9 *Floodplain Management and Protection of Wetlands*. Floodplains are defined in this EO as “the lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands including, at a minimum, that area subject to a 1 percent or greater chance of flooding in any given year.” Flooding in the 100-year floodplain is expected to occur from a flood that has a 1 percent probability of occurring in any given year. The 100-year floodplain therefore has an annual probability of exceedance of one percent.

Portions of the 171 ARW are located within the 100-year floodplain mapped by the Federal Emergency Management Agency (FEMA) (Flood Insurance Rate Map Panel 0301H and 0302H, Allegheny County, Pennsylvania) (Figure 5-2). The 100-year floodplain is associated with McClaren's Run located near the western boundary of the installation. The floodplain is approximately 100 ft wide within some areas.

5.6 OTHER NATURAL RESOURCE INFORMATION

Currently, no other biological inventories and surveys have been conducted on the installation that provide information applicable to natural resources program management.

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6. MISSION IMPACTS ON NATURAL RESOURCES

6.1 NATURAL RESOURCES CONSTRAINTS TO MISSIONS AND MISSION PLANNING

The Sikes Act requires that INRMPs provide for "...no net loss in the capability of military installation lands to support the military mission of the installation" (16 USC §670 et seq.). The INRMP enables the installation to meet the requirements of the military mission within the limitations and legal restrictions of the baseline natural resources at Pittsburgh ANGB.

Environmental constraints such as forested areas and wetlands dictate where and when certain types of activities can occur to ensure regulatory compliance and long-term sustainability of natural resources on the installation. Pittsburgh ANGB will manage environmental constraints during training and mission activities. Natural resources that have the ability to limit activity on the installation are shown in Figure 6-1. Activities in and around McClaren's Run and the wetland areas are limited because impacts such as filling, modifying, draining, or construction may require federal, state, and local permits and may require mitigation to offset permitted impacts. Any new training within these areas should be coordinated with the installation's environmental staff to ensure that actions are in compliance with all applicable laws. Activities in the vicinity of the forested areas should also be limited to minimize soil compaction and damage to tree roots, and to encourage the growth of the native understory. In accordance with Section 7 of the ESA, training activities should also be avoided or minimized in areas containing federal- or state-listed species or their habitats. Torrey's rush, a state-threatened species, is located within the constructed wetland. Shagbark hickory, which is roosting habitat for Indiana and northern long-eared bats, is located in the forested areas throughout the installation; therefore, the potential for these federally listed species at Pittsburgh ANGB does occur. Activities in these areas should also be coordinated with the installation's environmental staff to ensure compliance with the ESA.

In addition to wetlands, streams, forested areas, and threatened and endangered species, activities in areas containing soils on steep slopes should also be avoided. Steep soils are often highly erodible and can create impacts to nearby waterways and to infrastructure. Areas with steep slopes and soils are located along the western boundary of the installation and near the main entrance to the installation.

6.2 LAND USE

The 171 ARW encompasses 179 acres at Pittsburgh International Airport. The developed/paved areas comprise approximately 45 percent of the installation (Figure 3-2). The north and central portions of the installation are generally comprised of airfield pavement. Aircraft maintenance, operations, and supporting functions, including fueling operations, are located adjacent to the west aircraft apron. Administrative functions, including warehouse, dining, exchange, etc., are clustered to the west of the West Aircraft Parking Apron. Support function buildings, including the environmental offices, are located in the southeastern portion of the installation. Approximately 40 percent of the site is comprised of landscaped or graded areas and the remaining 15 percent is comprised of generally undisturbed vegetation (Figure 5-1).

6.3 CURRENT MAJOR IMPACTS

The mission of the 171 ARW is to provide resources for global engagement to meet national objectives and to assist local and state authorities at the directions of the Governor. The 171 ARW flies and maintains KC-135 Stratotanker aircraft to support its mission.

The major operations performed at the Base include aircraft fueling and defueling, aircraft deicing, aircraft maintenance, aerospace ground equipment maintenance, ground vehicle maintenance, refueling of ground vehicles, and facilities maintenance. The operations related to aircraft maintenance include such activities as corrosion control and painting of aircraft parts, fuel cell maintenance, engine maintenance and testing, hydraulics, washing, and wheel and tire maintenance. The aerospace ground equipment and ground vehicle maintenance operations include fluid changes (i.e., oil, transmission, antifreeze, etc.); filter changes (gas, oil transmission, air, etc.); brake repair; lube, grease, and repair of the axle and drive trains; body repair; welding; minor painting; and washing. Facilities maintenance operations include structural maintenance and repairs, painting, chemical treatment (pesticides, fertilizers, and herbicides), mowing, and utility maintenance.

Vehicle and aircraft maintenance leads to the potential to impact water resources and soil. If a spill occurs, soils could become saturated with oil or other hazardous materials. In addition, hazardous substances could enter the nearby wetlands or waterways. Pittsburgh ANGB staff follow procedures outlined in the Oil and Hazardous Substance Spill Prevention and Response Plan to reduce impacts to water and soil resources (Component Plan B).

Aircraft operation may cause impacts to wildlife populations within the area. The noise associated with the aircraft may cause wildlife to avoid the area or interrupt feeding, breeding, and foraging.

6.4 POTENTIAL FUTURE IMPACTS

Mission activities at Pittsburgh ANGB consist primarily of installation operation and maintenance. The 171 ARW was considered for the beddown of Boeing KC-46A Pegasus aircraft. The unit was not selected, but could be selected in the future, which would change the current mission. Changes to the mission may present future impacts to natural resources which will have to be addressed at that time. Any such changes will be incorporated into the INRMP.

6.5 NATURAL RESOURCES NEEDED TO SUPPORT THE MILITARY MISSION

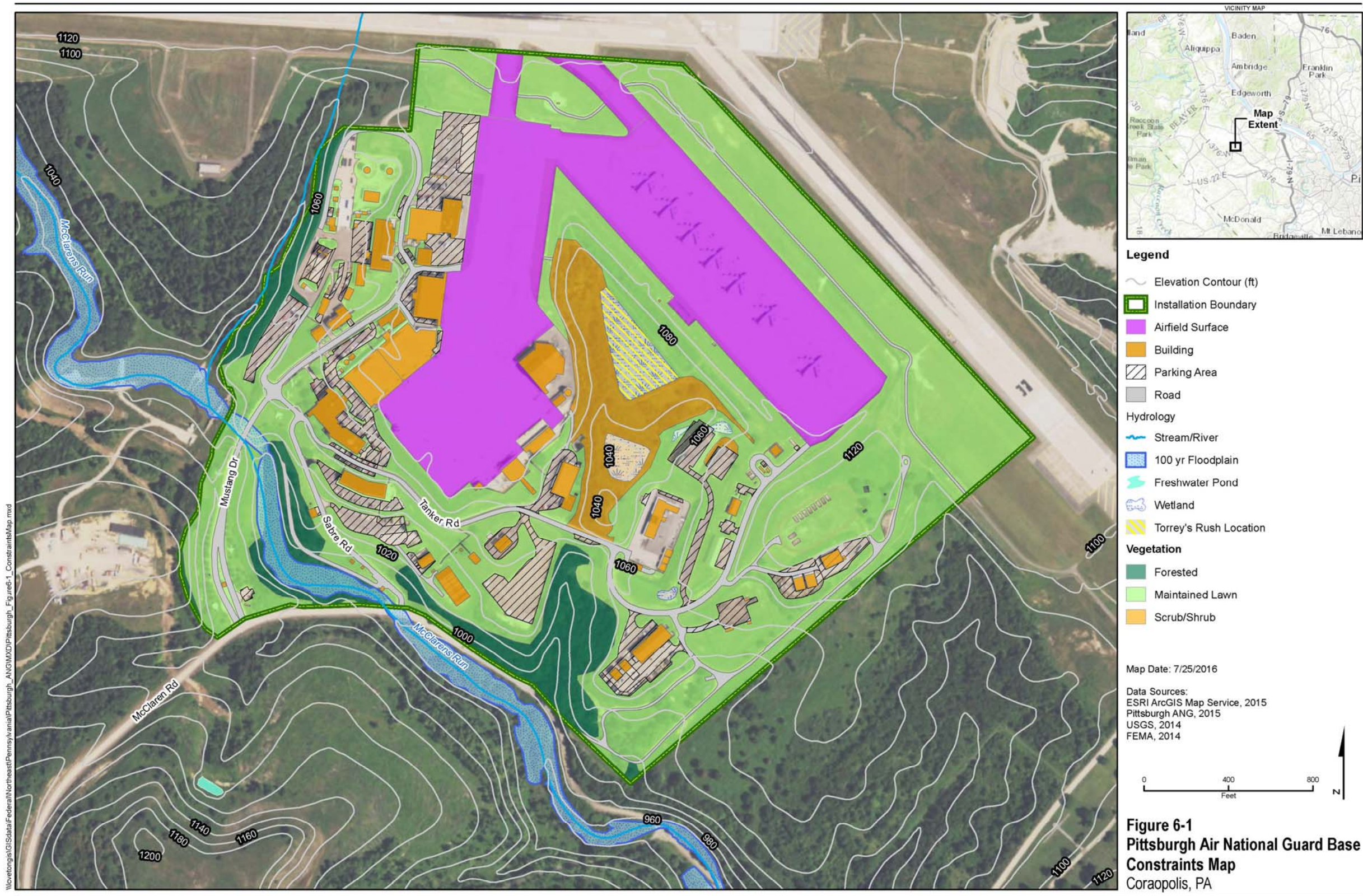
The primary purpose of the natural resources management at Pittsburgh ANGB is to support the military mission by maintaining sustainable natural resources as a critical asset upon which to accomplish the mission of Pittsburgh ANGB. Overall goals of natural resource management include:

- No net loss in the capacity of the installation lands to support existing and future military operations at Pittsburgh ANGB

- Ensure military operations are not interrupted due to non-compliance with applicable laws.

This INRMP integrates the various aspects of natural resources management into the military mission, and becomes the primary tool for ecosystem management at Pittsburgh ANGB while ensuring the successful, efficient accomplishment of the military mission. A multiple-use approach will be implemented through the INRMP to accommodate the presence of mission-oriented activities and provide for good stewardship, thereby maintaining and improving the quality, aesthetic values, and ecological relationships of the environment. Implementation of this INRMP will promote stewardship practices that protect and enhance natural resources for multiple use and biological integrity, while supporting the military mission. Mission activities at Pittsburgh ANGB consist primarily of installation operation and maintenance.

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7. NATURAL RESOURCES PROGRAM MANAGEMENT

7.1 NATURAL RESOURCES PROGRAM MANAGEMENT

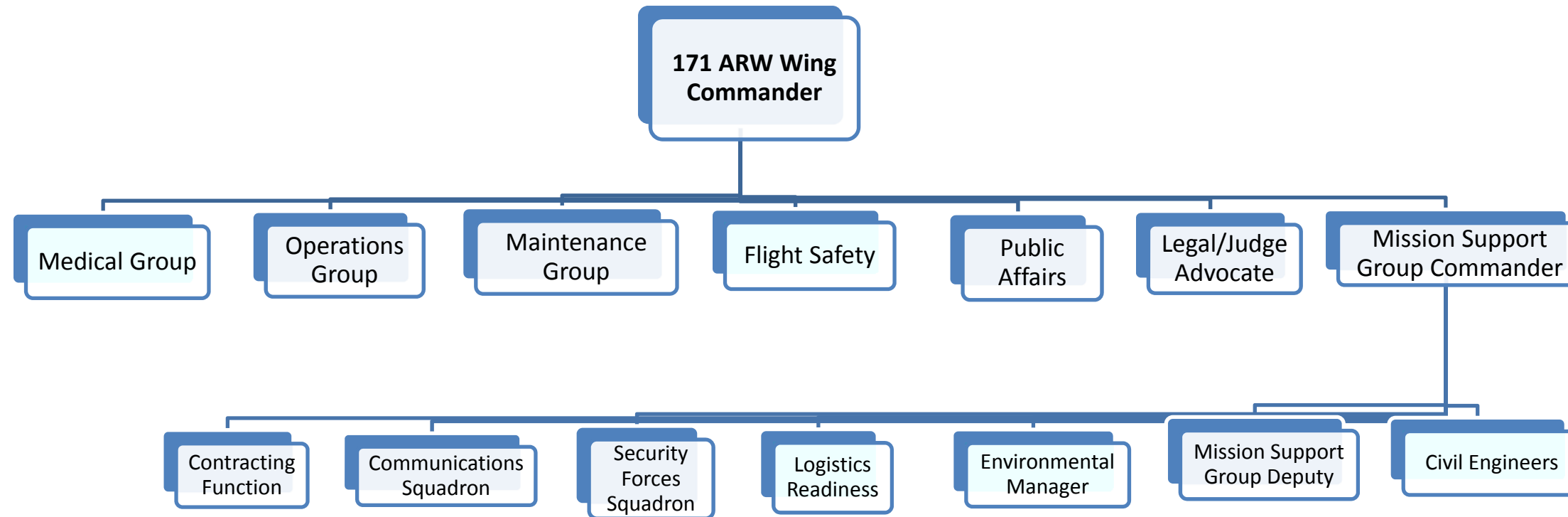
Figure 7-1 includes the organization of the 171 ARW. In general, the 171 ARW Wing Commander is responsible for implementing the INRMP; however, there are specific offices of primary responsibility for portions of this INRMP. Those offices are further discussed below in a breakdown of this chain of command with regard to the management and implementation of this plan.

- **171 ARW Wing Commander** – The Wing Commander administers and supervises the 171 ARW and its subordinate units; ensures combat readiness in the mobilization missions of units under his command; and is responsible for the operation and maintenance of the ANG property and facilities at the Pittsburgh International Airport and the Johnstown-Cambria County Airport.
- **171 ARW Flight Safety** – Flight safety officers are responsible for implementing and managing the BASH program.
- **171 ARW Public Affairs** – The public affairs group is responsible for public communication, outreach, and public involvement.
- **171 ARW Mission Support Group (MSG) Commander** – The MSG Commander directs more than 300 personnel assigned to the Civil Engineering, Communications, Force Support, Security Forces, Logistics Readiness and Contracting Squadrons, as well as the 146th Weather Flight.
 - **171 ARW Mission Support Deputy** – This person is responsible for the Qualified Recycling Program and funding.
 - **171 ARW Civil Engineers** – The Base Civil Engineer, Facilities Manager, and Production Control function are responsible for the facilities, grounds maintenance, and construction at the Pittsburgh ANGB. This functional area is also responsible for the pesticide and herbicide management. The Real Property Manager tracks and reports on real property and any changes.
 - **171 ARW Environmental Manager** – The environmental manager is responsible for overseeing, managing, and coordinating INRMP programs and projects.
 - **171 ARW Contracting Function** – This functional area oversees and manages local contracts on the installation including those pertaining to this INRMP.
- **171 ARW Maintenance Group** – This group includes over 400 enlisted and officer personnel supporting 16 KC-135T aircraft. The Maintenance Group is also responsible

for following guidelines within the Hazardous Waste Management Plan and the Spill Prevention Plan.

- **171 ARW Operations Group** – This group includes over 300 personnel assigned to the 146th Air Refueling Squadron, 147th Air Refueling Squadron, 171st Operations Support Squadron, and 258th Air Traffic Control Squadron. They are responsible for coordinating with the Flight Safety group on the BASH program. This group includes boom operators which manage the International Waste Program.
- **171 ARW Medical Group** – This group contains over 90 personnel certified in the medical field. Personnel involved with military public health coordinate on pesticide/herbicide management and international waste. The Bioenvironmental Engineer also coordinates on pesticide/herbicide management.

Figure 7-1. 171 Air Refueling Wing Organization Chart



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7.2 FISH AND WILDLIFE MANAGEMENT

The day-to-day management of fish and wildlife resources and enforcement of applicable laws and policies at Pittsburgh ANGB are the responsibility of the Installation Commander. There is no permitted hunting or fishing allowed on the installation. Woodchucks are a nuisance species that have been causing damage to both the landscape and buildings. There are currently no management techniques being implemented for this species.

7.3 OUTDOOR RECREATION AND PUBLIC ACCESS TO NATURAL RESOURCES

Outdoor recreation and public access to the natural resources at Pittsburgh ANGB is not available to the general public. The installation is secured 24 hours a day and access is strictly USAF mission-related only. Outdoor recreation opportunities for the installation personnel include an outdoor walking/jogging track. A pavilion/picnic area is also available for unit gatherings near the fire range.

7.4 CONSERVATION LAW ENFORCEMENT

DODI 5525.17, *Conservation Law Enforcement Program*, states that a Conservation Law Enforcement Program ensures that installations remain in compliance with appropriate environmental, natural, and cultural resource laws and regulations (Section 1(b)). There are no conservation law enforcement officers at Pittsburgh ANGB. Historically, there have not been any issues resulting in a need for conservation law enforcement on the installation. The installation is small and hunting is not permitted. There are no staff allocated to enforcing conservation law, and if an event warrants enforcement, the USAF provides a means for the Commander to request assistance from the USFWS. DODI 5525.17 provides specific training requirements (Section 3) and Authority (Section 4) of Conservation Law Enforcement Personnel. Compliance and implementation with this INRMP are part of the conservation law enforcement program at Pittsburgh ANGB. The 171 ARW Wing Commander is responsible for implementing the INRMP. The Environmental Manager is responsible for oversight, coordinating, tracking, and managing specific programs and projects in the INRMP.

7.5 MANAGEMENT OF THREATENED AND ENDANGERED SPECIES AND HABITATS

No planned threatened and endangered species surveys have been conducted installation wide; however, Torrey's rush, a state threatened species, has been identified within the large wetland area between the East and West aircraft parking aprons at the 171 ARW (Figure 6-1). This is the only threatened or endangered species that has been identified on the installation. There are currently no monitoring programs established for this species. Management of this species includes restricting mission related activities within the Torrey's rush habitat.

7.6 WATER RESOURCES PROTECTION

McClaren's Run flows in a southerly direction through the installation (Figure 4-3). The installation also includes many man-made ditches, storm sewers, drainage swales, and a

stormwater management basin. Pittsburgh ANGB has a Stormwater Pollution Prevention Plan/PPCP, which is a requirement of the NPDES stormwater permit (Component Plan C). The PPCP is an engineering and management strategy to improve the quality of the stormwater runoff and thereby improve the quality of the receiving waters.

Pittsburgh ANGB has been divided into 15 drainage areas, 9 of which contain industrial activities. Best Management Practices (BMPs) are implemented to reduce the amount of the potential pollutants that enter the stormwater. A Preparedness, Prevention, and Contingency Team has been created to determine the adequacy of the PPCP, ensure implementation of the BMPs, perform recordkeeping and documentation, and perform the annual updating and certifications of the PPCP. The Preparedness, Prevention, and Contingency Team is led by the Base Commander and Environmental Manager.

Monitoring of stormwater outfalls is performed by the Environmental Manager. Grab samples are collected and analyzed for C-biochemical oxygen demand, chemical oxygen demand, oil and grease, pH, total suspended solids, de-icing materials, and iron. The Environmental Manager inspects the areas contributing to stormwater discharges from industrial areas for evidence of, or the potential for, pollutants entering the drainage system. They also review measures to reduce pollutant loadings to determine whether additional control measures are needed. Structural stormwater management measures, sediment and erosion control measures, and other structural pollution prevention measures are inspected to ensure they are working properly (ANG 2013a).

Stormwater management issues include the management and prevention of aircraft deicing runoff, runoff from aircraft ramp anti-icing, and snow removal operations. To help manage this problem, most, if not all aircraft deicing is done off installation property using the Pittsburgh International Airport facilities and outside services to prevent local runoff. Another stormwater management issue includes runoff or potential runoff from Oil-Water Separator (OWS) discharges. Two OWSs on the installation discharge to stormwater. One OWS is located on the East Ramp which collects stormwater from the hydrant pits. The second OWS collects stormwater from the Petroleum, Oil, and Lubricant area and the parking, loading areas, and fuel stands for Jet-A. Both of these are considered a potential industrial process discharge by PADEP.

7.7 WETLAND PROTECTION

A total of five wetlands have been identified within the Pittsburgh ANGB. A Jurisdictional Determination has not been obtained from USACE for the wetlands. In an effort to locate and quantify on-site areas of Waters of the US/wetlands the Pittsburgh ANGB was included in the FY16 INRMP Contract Support, W9133L-14-D-0004-0009 that was awarded in September 2016. As part of this task a written jurisdictional determination for the Pittsburgh ANGB from the USACE will be obtained.

7.8 GROUNDS MAINTENANCE

The Civil Engineers are responsible for managing Pittsburgh ANGB's facilities, ground maintenance, and construction. The base civil engineer, facilities manager, and civil engineering production control manage the contract for outside vendors responsible for weekly mowing on the installation property during the growing season. The Civil Engineers are also responsible for managing state workers or Air Guard Reserve members who operate mowing equipment. There are a number of steep hillsides throughout the installation that have been identified as concern and safety risks during mowing.



Steep hillsides near Building 307

7.9 FOREST MANAGEMENT

Small parcels of deciduous forests are located along the perimeter of Pittsburgh ANGB (Figure 5-1). There is currently no forest management being implemented at the installation. There are no commercial forestry operations or timber harvesting practices. There are no designated access roads or trails in the forested areas.

7.10 WILDLAND FIRE MANAGEMENT

The installation has never experienced a wildfire. A fire department is located within the installation along with fire department equipment; however, there is only one full-time employee assigned to the facility. The Pittsburgh ANGB currently does not have appreciable unmaintained areas to support the need for a Wildland Fire Management Plan; therefore, the Wildland Fire Management Program element does not apply to Pittsburgh ANGB.

7.11 AGRICULTURAL OUTLEASING

The Agricultural Outleasing Program element does not apply to Pittsburgh ANGB.

7.12 INTEGRATED PEST MANAGEMENT PROGRAM

Pittsburgh ANGB has an IPM Plan (Appendix E). The IPM Plan is a comprehensive document used by all 171 ARW personnel, and was developed to ensure that the installation is in compliance with Federal and Commonwealth regulations governing pest management. Base Civil Engineering is the office of primary responsibility for implementation of the IPM Plan. Installation-specific pests have been identified at the 171 ARW. Per AFI 32-1053, *Integrated Pest Management Program*, a "pest" is defined as arthropods, birds, rodents, nematodes, fungi, bacteria, viruses, algae, snails, marine borers, snakes, weeds, or other organisms (except for human or animal disease-causing organisms) that adversely affect readiness, military operations, or the well-being of personnel and animals; attack or damage real property, supplies, equipment, or vegetation; or are otherwise undesirable.

The woodchuck population at the 171 ARW has been increasing over the years. The ground burrow holes from the woodchucks can cause safety hazards due to tripping, and can cause damage to maintenance (mowing) equipment. These rodents may also damage wiring and undermine the integrity of pavement and overruns. Table 7-1 includes a list of pests that are present on the installation. Canada geese can cause public health concerns and can be safety hazards near airports. Feral cats spread disease, can cause property damage, and prey on beneficial wild birds. Staff monitor the number of feral cats seen on the installation. Vegetation overgrowth refers to dense, overgrown vegetation along fence lines, building perimeters, storage yards, and road shoulders that should be removed to minimize damage to property and to control the establishments of weeds and invasive species. Japanese beetles (*Popillia japonica*) are highly destructive plant pests and the emerald ash-borer (*Agrilus planipennis*) is a destructive wood-boring pest for North American ash trees. IPM strategies have been developed for each of the pests/categories of pests (ANG 2013b).

Some invasive plant species do occur within the forested/shrub areas at the installation. Examples of invasive species include mile-a-minute, autumn olive, and multiflora rose. Some herbicides and pesticides are applied by contractors as identified in the Integrated Pest Management Plan. Contractors must comply with state and local pest applicator certification, licensing, and registration requirements. There have been no pollution issues reported associated with herbicide and pesticide application. Goals and objectives to minimize the number of invasive species and pests at Pittsburgh ANGB are included in this INRMP.

Table 7-1. Potential Pests at Pittsburgh Air National Guard Base

Category	Pests
Noxious or Invasive Plants and Animals	<ul style="list-style-type: none"> • Canada goose • Feral cats
Undesirable Vegetation	<ul style="list-style-type: none"> • Vegetative overgrowth
Quarantine and Regulated Pests	<ul style="list-style-type: none"> • Japanese beetle (<i>Popillia japonica</i>) • Emerald ash-borer beetle (<i>Agrilus planipennis</i>)
Vertebrate Pests	<ul style="list-style-type: none"> • Mammalian feral animals and wildlife pests (woodchuck, raccoon, skunk)
Source: ANG 2013b.	

7.13 BIRD/WILDLIFE AIRCRAFT STRIKE HAZARD

Pittsburgh ANG currently has a BASH Plan which is managed by 171 ARW Flight Safety personnel (Appendix F). The purpose of the BASH Plan is to provide an active program to minimize bird and other wildlife strikes to aircraft. The plan is based on hazards from both resident and seasonal bird species as well as other species of wildlife. Daily and seasonal bird movements create various hazardous conditions. The plan establishes procedures to minimize the hazard to the ANG and the deployed aircraft at the installation and in their operating areas. The plan is designed to:

- Establish a Bird/Wildlife Hazard Working Group and designate responsibilities to its members

- Establish procedures to identify high hazard situations and to aid supervisors and aircrews in altering or discontinuing flying operation when required
- Establish aircraft and airfield operating procedures to avoid high hazard situations
- Provide for disseminating information to all assigned and transient aircrews on bird hazards and procedures for bird avoidance
- Establish guidelines to decrease airfield attractiveness to birds and other wildlife
- Provide guidelines for dispersing birds and other wildlife when they are present on the airfield
- Provide guidelines for avoiding birds in operating areas away from the airfield
- Identify organizations with authority to upgrade, initiate, or downgrade Bird Watch Conditions
- Provide guidelines to maintain the working relationship with the Pittsburgh International Airport staff.

The 171 ARW and the 911th Airlift Wing have had approximately 60 bird/wildlife strikes since 2005. Some of the reported strikes were from the airfield environment, most at remote locations such as low-altitude training, transition airfields, and drop zones, and many were recorded from unknown areas. Strikes have involved red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), common loon (*Gavia immer*), mourning doves, mallard (*Anas platyrhynchos*), redhead (*Aythya americana*), American crow, European starling, American robin (*Turdus migratorius*), and cliff swallow (*Petrochelidon pyrrhonota*) among others (ANG 2010).

Appendix F includes a list of the most hazardous birds identified in the vicinity of Pittsburgh ANGB. There has been a notable shift in species struck at the airport from large, potentially damaging birds to smaller and migratory birds that have caused little damage in the recent past. This is an indication that the BASH program at Pittsburgh ANGB is serving the function of successfully reducing potentially damaging or catastrophic incidents. Incidents with other wildlife have occurred, and there has been one recorded strike with a big brown bat (*Eptesicus fuscus*). The commercial aircraft at Pittsburgh International Airport have also had strike incidents with three red fox, woodchucks, and white-tailed deer. The airfield is surrounded by two fences for security and to deter wildlife such as deer, coyote, and red fox from entering the airfield.



Red-tailed hawk
Photo by Audubon Guide to Birds.

With respect to BASH, the goal of the INRMP is to support projects necessary to ensure the success of the BASH plan. Natural resource management projects required for effective implementation of the BASH plan will be identified, discussed and developed in a cooperative effort between the installation's Flight Safety Office and the Environmental Management Office. Such projects may include identifying the airfield grass height, typically between 7 and 14 inches in accordance with USAF directives to deter bird and other wildlife species from inhabiting the areas adjacent to airfields. Other cooperative projects may include a plan to reduce rodent populations which when left unchecked leads to attracting birds including raptors, i.e. the red-tailed hawk and American kestrel which results in increasing the BASH hazard level.

7.14 COASTAL ZONE AND MARINE RESOURCES MANAGEMENT

The Coastal Zone and Marine Resources program element does not apply to Pittsburgh ANGB.

7.15 CULTURAL RESOURCES PROTECTION

Pittsburgh ANGB currently does not have an Integrated Cultural Resources Management Plan (ICRMP). A cultural resources survey was conducted at the installation in 2012. Initially, a literature review was conducted to acquire information on the history of the installation, information on past land use, the environmental setting, and the locations of archaeological sites and resources. This information was used to assess the likelihood of finding archaeological sites in the area, construct the historic context of the area, and to identify modifications from the past. Following the literature review, a survey was conducted identify prehistoric and historic archaeological resources, to document architectural resources, and to evaluate resources in order to make determinations of eligibility for listing on the National Register of Historic Places (NRHP). Only one archaeological resource, a historic scatter associated with farming activity that took place on the installation prior to the military, was recorded; however, this resource was determined to not be eligible for inclusion in the NRHP (ANG 2012b).

The architectural survey involved inventorying and evaluating all aboveground resources built before 1990. This survey documented 25 pre-1990 resources at the installation; however, the structures were not recommended for inclusion in the NRHP because of lack of significance and integrity.

7.16 PUBLIC OUTREACH

Opportunities for public outreach are limited at Pittsburgh ANGB due to the high security of the installation. In the past, the installation has offered Boy Scout and Girl Scout Merit Badge Days, where children are invited onto the installation and go for nature hikes and do simulated fossil digging. The 171 ARW also offers Orientation Flight Days when the public has the opportunity to tour aircraft and go on a plane ride.

7.17 GEOGRAPHIC INFORMATION SYSTEM

The DOD/USAF standardized requirement for geographic information system (GIS) follows the guidance provided in these links:

<http://www.sdsfionline.org/PublicPages/Branches/AF.aspx>

http://www.acq.osd.mil/ie/bei/disdi/geospatial_guidancememo041409.pdf.

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8. MANAGEMENT GOALS AND OBJECTIVES

Specific management objectives and strategies have been identified in a number of subject areas that affect the natural resources present on and immediately adjacent to Pittsburgh ANGB. This chapter lists the goals and objectives for future natural resources management on the installation. The goals are the primary focal point for implementation of the INRMP. A goal should reflect the values of the installation by expressing a vision of the desired condition for the installation’s natural resources in the foreseeable future. Each goal is supported by one or more objective. The objective indicates a management initiative or strategy that will be used to achieve the stated goal. Projects or tasks are the individual component actions required to achieve an objective. Project statements describe the specific methods and procedures that will be used to achieve the objective supported.

This chapter is divided into 17 sections, one for each of the natural resources subject areas. For simplicity and clarity within this INRMP, each natural resources subject area is assigned an individual “issue number.” Each subject area has been abbreviated, as shown in Table 8-1. For example, the first management objective in Section 8.1, Natural Resources Program Management, is identified as NRP-1. In addition, a series of projects/tasks are presented following the goal and objective for each subject area. The projects/tasks are consecutively numbered for each management objective. A summary of the management objectives is provided in Chapter 10, Annual Work Plans.

Table 8-1. Integrated Natural Resources Management Plan Subject Area Abbreviations

Section	INRMP Subject Area	Abbreviation
8.1	Natural Resources Program Management	NRP
8.2	Fish and Wildlife Management	FWM
8.3	Outdoor Recreation and Public Access to Natural Resources	OR
8.4	Conservation Law Enforcement	CLE
8.5	Threatened and Endangered Species and Habitats	TE
8.6	Water Resources Protection	WRP
8.7	Wetland Protection	WP
8.8	Grounds Maintenance	GM
8.9	Forest Management	FM
8.10	Wildland Fire Management	WFM
8.11	Agricultural Outleasing	AG
8.12	Integrated Pest Management Program	IPM
8.13	Bird/Wildlife Aircraft Strike Hazard	BH
8.14	Coastal Zone and Marine Resources Management	CZ
8.15	Cultural Resources Protection	CRP
8.16	Public Outreach	PO
8.17	Geographic Information System	GIS

8.1 NATURAL RESOURCES PROGRAM MANAGEMENT

Operation and management of Pittsburgh ANGB is conducted by installation personnel, departments, and stakeholders. The management team provides support within their areas of expertise to ensure that operation of the installations is implemented successfully. It is necessary that management approaches are consistent between operational units and with the natural resources management goals and objectives developed in the INRMP. Coordination with installation operators and consistency of natural resources management goals and objectives developed in the INRMP with other installation operational plans and documents will ensure that natural resources management can be implemented successfully in a manner consistent with the missions of the installations.

A crucial function of this INRMP is to utilize an ecosystems approach for the management of resources found at Pittsburgh ANGB. Using an ecosystems approach focuses on using an ecosystems model, in which all appropriate factors are accounted for by their function within the model. Natural resources management is emphasized in this INRMP because it is recognized that the mission of the ANG is inextricably linked to local, regional, and global ecological integrity. Protecting the ecological integrity of the installation aids in improving the natural resources of the area, including biodiversity and ecosystem health. Such practices also assure that projects are completed with the foundations of sustainable use in mind. Another benefit of conserving the ecological integrity of ANG sites is that it can reduce management costs for natural resources over time. Native natural communities are best suited to localized areas, and are crucial to maintaining a functional and adaptable ecosystem, which decreases management needs.

Although the ecosystem at Pittsburgh ANGB has already largely been altered by human activity, it is a priority to manage the remaining natural areas and resources under the principles of ecosystem management. While ecosystem management principles largely consider the complex interaction of natural factors, ecosystem-based management also must consider human needs and uses of an area when establishing suitable ecological management actions.

The goals of natural resource management at Pittsburgh ANGB are described below. These goals focus on conserving and enhancing biodiversity by managing the ecosystem rather than focusing on a single biotic or abiotic component of the ecosystem. Ecosystem-focused management encompasses both the function and the structure of the ecosystem and the processes that link them.

The natural resource management topics of concern and associated goals and objectives are listed below.

NRP GOAL 1: UPDATE THE INRMP WHEN ENVIRONMENTAL OR MISSION CONDITIONS CHANGE AS REQUIRED BY THE SIKES ACT (16 USC 670A) AND DODI 4715.03.

- **NRP OBJECTIVE 1.1:** Coordinate with installation organizations to ensure there is an understanding of management goals and actions developed in the INRMP and to ensure

that management actions developed in the INRMP are consistent with current management instructions and plans. Coordination with installation operational and management organizations and stakeholders is necessary to ensure that the goals and objectives of management actions developed in this INRMP are understood and consistent with current ongoing management on the installation. INRMP tasks need to be compatible with management and actions prescribed in other installation plans and documents.

- **PROJECT 1.1.1:** Conduct an internal review with installation operational and management organizations on an annual basis to ensure effectiveness of the INRMP and an understanding among all installation stakeholders of the goals, objectives, and projects presented in this INRMP.
- **NRP OBJECTIVE 1.2:** Conduct external stakeholder annual review and update the INRMP as needed based on pertinent review findings. If an internal review has resulted in changes to the INRMP, coordination with agencies is needed. In this case, the installation will coordinate with the USFWS, PADCNR, and PAGC to review and assess conservation goals and objectives and to determine if updates to the INRMP need to be made. In addition, the plan should be updated whenever there is a modification to an installation's mission, or when there is a substantial change to the installation's resources.
 - **PROJECT 1.2.1:** Conduct annual review with USFWS, PADCNR, and PAGC.
 - **PROJECT 1.2.2:** Utilize internal and external stakeholder comments to update the INRMP.
- **NRP OBJECTIVE 1.3:** During annual reviews, determine if an update or revision of the INRMP is necessary based on changes in environmental conditions or the mission as required by the Sikes Act (16 USC 670a) and DODI 4715.03. The Sikes Act requires INRMPs to be reviewed for operation and effect no less than once every 5 years.
 - **PROJECT 1.3.1:** Conduct an internal and external evaluation of the INRMP annually to determine if an update or revision is necessary based on changes in environmental conditions or the mission. If determined necessary, make changes to the INRMP to address changes in environmental conditions or the mission as required by the Sikes Act (16 USC 670a) and AFI 32-7064.
 - **PROJECT 1.3.2:** If aforementioned evaluation identifies changes in environmental conditions or the mission, the modifications to the INRMP will be coordinated with USFWS, PADCNR, and PAGC (tripartite coordination), as appropriate.

8.2 FISH AND WILDLIFE MANAGEMENT

Wildlife management is defined as manipulation of the environment and wildlife populations to produce desired objectives. Management can be performed in a manner that enhances biodiversity through the reestablishment of native habitats. Conversely, habitat management could be required to decrease the abundance of certain wildlife species to reduce animal damage or bird strike hazards. Traditionally, wildlife management was confined to large tracts of naturally vegetated land. Pittsburgh ANGB is largely developed and lacks large tracts of naturally vegetated land, though some areas on the installation provide potential wildlife habitat. Wildlife population and habitat management on Pittsburgh ANGB will attempt to deter animals (predominantly woodchuck and turkey) from foraging or roosting near or adjacent to areas where they would be in opposition to ANG missions and actions, or where they present a risk to safety or practices. Management actions include attracting wildlife away from these areas to more suitable locations, and protecting and conserving threatened and endangered species through habitat conservation at selected locations at the installation. This approach has been chosen due to the relative abundance and variety of wildlife species present on Pittsburgh ANGB, and the low likelihood of excluding all wildlife species from the installation that pose a significant threat to the safety of the flying mission.

FWM GOAL 1: EMPLOY A SYSTEMATIC APPROACH TO MANAGING WILDLIFE RESOURCES, UTILIZING A PROCESS THAT INCLUDES INVENTORY, MONITORING, MODELING, MANAGEMENT, AND ASSESSMENT.

- **FWM OBJECTIVE 1.1:** Conduct a reconnaissance level flora and fauna surveys to assess, at a minimum, avian, mammalian, herpetofauna, and insect species and populations. Surveys of flora and fauna species and populations have not been adequately undertaken at the installation and, as a result, Pittsburgh ANGB is lacking in biological information to effectively manage vegetation and wildlife. Completion of a planning level survey will ensure that viable populations of native species found in the ecosystem (including RTE species and species of concern) are protected, restored, and maintained in accordance with state and federal laws and regulations. This will also help Pittsburgh ANGB adhere to the principles of ecosystem management.

— **PROJECT 1.1.1:** Conduct initial planning level surveys for plants and animals. This survey should include the following:

- Detailed survey protocols and established timelines for their completion to ensure that personnel maintain the most current data available concerning the resources they are managing.
- Information and consultation from the USFWS, PADCNR, PAGC, and other local experts.

- **PROJECT 1.1.2:** Incorporate biological survey data into the INRMP as they are collected. Survey data can be incorporated into the applicable section of *Chapter 5, Ecosystems and the Biotic Environment*.
- **FWM OBJECTIVE 1.3:** Develop a Comprehensive Vegetation and Wildlife Management Component Plan. Pittsburgh ANGB does not have a plan that compiles the various components of fish and wildlife management at the installation. Following the completion of the flora and fauna survey, a comprehensive document that addresses all the components and resources integral to vegetation and wildlife management at Pittsburgh ANGB should be created. This plan should serve to enhance biodiversity, ecosystem health, and wildlife viewing opportunities without compromising the mission of the ANG. The plan should also set restrictions or management practices and strategies for Pittsburgh ANGB.
- **PROJECT 1.3.1:** Develop a comprehensive management plan document for vegetation and wildlife management that includes the following components:
 - Biological data collected from surveys and studies on vegetation and wildlife species at the installation and surrounding areas.
 - Information collected from the USFWS, PADCNR, PAGC, and local experts on vegetation and wildlife species found at the installation.
 - A record of past management actions and plans, and schedules for proposed future wildlife and fish studies.
 - Incorporate the Comprehensive Vegetation and Wildlife Management Plan into the Component Plan section of the INRMP.
- **PROJECT 1.3.2:** Maintain the vegetation and wildlife management plan with periodic updates to reflect changes in state and federal laws and regulations, as well as changes in wildlife populations or habitats at the Pittsburgh ANGB.

FWM GOAL 2: MINIMIZE WILDLIFE-RELATED HEALTH RISKS, SAFETY RISKS, AND ENVIRONMENTAL DAMAGE.

- **FWM OBJECTIVE 2.1:** Manage the woodchuck population on Pittsburgh ANGB. The woodchuck population at Pittsburgh ANGB has been rapidly increasing and causing both safety hazards and damage to the installation infrastructure and equipment. Woodchucks tend to burrow around buildings and in open fields. An entrance to a woodchuck burrow can be approximately 12 in. wide, creating safety hazards to installation personnel and causing damage to mowing equipment. These rodents may also damage wiring and undermine the integrity of pavements and overruns. Woodchucks also cause damage to trees and shrubs as they gnaw or claw woody vegetation. The woodchuck population should be reduced and managed to ensure a safe working environment.

- **PROJECT 2.1.1:** Contact the USDA Animal and Plant Health Inspection Service (APHIS) Wildlife Services Ligonier, Pennsylvania office (Tony Roland 724-238-7320) to identify effective trapping protocols and to reinstate previous contract for assistance in removing woodchuck population.
- **PROJECT 2.1.2:** Implement trapping protocols as identified by USDA APHIS.
- **PROJECT 2.1.3:** Monitor the effectiveness of woodchuck trapping. Continue to implement trapping protocols on an as needed basis to keep the population at a minimum.

- **FWM OBJECTIVE 2.2:** Manage the turkey population on Pittsburgh ANGB. The wild turkey population at Pittsburgh ANGB has recently increased over the last few years. Wild turkeys can be a safety hazard for aircraft on runways. A turkey strike by an aircraft can result in significant structural damage to the plane and endanger the occupants. Any data and recommendations coming from the actions provided below to support this objective will be provided to the Pittsburgh Air National Guard BASH team to support their actions to control BASH species.



*Eastern wild turkey
Photo credit: National Wild Turkey Federation.*

- **PROJECT 2.2.1:** Complete surveys and other methods for accurate assessment of the wild turkey population at Pittsburgh ANGB.
- **PROJECT 2.2.2:** Contact the USDA APHIS Wildlife Services Ligonier, Pennsylvania office (Tony Roland 724-238-7320) to identify effective lethal and non-lethal management techniques.
- **PROJECT 2.2.3:** Implement management protocols as identified by USDA APHIS.
- **PROJECT 2.2.4:** Monitor the effectiveness of wild turkey management techniques. Continue to implement management techniques on an as needed basis to keep the population at a minimum.

8.3 OUTDOOR RECREATION AND PUBLIC ACCESS TO NATURAL RESOURCES

Limited outdoor recreation opportunities exist at Pittsburgh ANGB due to the dangers associated with the air-to-ground mission. The level of enjoyment that is derived from outdoor activities is directly related to the quality of the natural resources present on the installation. The purpose of

this component is to identify projects that can encourage utilization of the natural resources of lands managed by the ANG for outdoor recreational purposes, while protecting and enhancing those resources.

A program for outdoor recreation must account for the basic requirements of healthy natural ecosystems while also coordinating with mission activities. Lands used primarily for military activities, such as the airfield, are excluded from outdoor recreation uses for safety, public health, and security reasons. However, on lands that are considered multiple-use areas, outdoor recreation access may be alternated with scheduled military exercises to accommodate both types of uses.

OR GOAL 1: PROVIDE QUALITY OUTDOOR RECREATION EXPERIENCES WHILE SUSTAINING ECOSYSTEM INTEGRITY. ENSURE THAT OUTDOOR RECREATION ACTIVITIES ARE NOT IN CONFLICT WITH MISSION PRIORITIES.

- **OR OBJECTIVE 1.1:** Create a trail and picnic area within the installation. A nature trail and picnic area would increase the recreational opportunities on the installation and would promote physical fitness. The trail and picnic area would be for installation personnel only; the public would not have access to the recreational opportunity.
 - **PROJECT 1.1.1:** Establish a nature trail and picnic area within the wooded portion of the installation. This location is behind the Motor Pool and Building 404.
 - **PROJECT 1.1.2:** Incorporate educational signs along the nature trail and picnic area that inform viewers of native plant and animal species of the area.

8.4 CONSERVATION LAW ENFORCEMENT

DODI 5525.17, *Conservation Law Enforcement Program*, ensures that installations remain in compliance with appropriate environmental, natural, and cultural resource laws and regulations. Conservation law enforcement also includes regulating hunting and fishing programs on the installation; however, this is not applicable to Pittsburgh ANGB because these programs do not exist. DODI 5525.17 states that with an INRMP, the Conservation Law Enforcement section will provide specific goals and objectives to ensure compliance with laws and regulation to support the overarching goals of the INRMP (DODI 5525.17 2(b)). There are a number of federal statutes and directives addressing specific requirements pertaining to natural resources. A comprehensive list of these regulations can be found in Appendix D. The environmental staff at Pittsburgh ANGB are responsible for enforcing regulations and ensuring environmental compliance.

Typically, trained Conservation Law Enforcement Officers (CLEOs) are responsible for conservation law enforcement. However, no CLEOs have been designated at Pittsburgh ANGB. Currently, the Installation Commander has delegated the environmental manager at Pittsburgh ANGB as responsible to help maintain environmental compliance for the base with federal, state, and local regulations. Education and training of natural resources personnel allow for more

effective identification of ecosystem elements and actions for successful natural resources management.

CLE GOAL 1: ENSURE THAT THE ENFORCEMENT OF NATURAL RESOURCES LAWS AND REGULATIONS IS IMPLEMENTED.

- **CLE OBJECTIVE 1.1:** Establish a Memorandum of Understanding (MOU) with PADCNR and PAGC for the enforcement of any natural resources related issues on the installation. Since there are no designated CLEOs at Pittsburgh ANGB, an MOU should be established to allow appropriate PADCNR and PAGC staff access to the installation to ensure the environmental regulations are being followed and implemented.
 - **PROJECT 1.1.1:** Create an MOU with PADCNR and PAGC that allows their staff to have access to the installation to enforce natural resource laws and regulations.
 - **PROJECT 1.1.2:** Implement MOU.

CLE GOAL 2: PROVIDE TRAINING OPPORTUNITIES FOR NATURAL RESOURCES STAFF.

- **CLE OBJECTIVE 2.1:** Provide funding for one Environmental Manager/Natural Resources staff to attend the National Military Fish and Wildlife Association (NMFWA) Workshop, Civil Engineer Corps Officers School, and other natural resource management training. Pittsburgh ANGB personnel should be provided guidance for implementing and managing the installation under an ecosystem management approach to natural resources.
 - **PROJECT 2.1.1:** Determine a funding source to cover expenses associated with sending a member of the Environmental Management staff or other natural resource staff member to an associated training workshop, such as the NMFWA.
 - **PROJECT 2.1.2:** Implement a system for determining selection of personnel who will receive funding for attending a natural resource management training workshops.

CLE GOAL 3: PROMOTE THE IMPORTANCE OF CONTINUING EDUCATION FOR NATURAL RESOURCES STAFF.

- **CLE OBJECTIVE 3.1:** Identify natural resource staff to participate in continuing education courses or training. Provide funding for these courses/trainings. Pittsburgh ANGB personnel should be provided guidance for implementing and managing the installation under an ecosystem management approach to natural resources.
 - **PROJECT 3.1.1:** Determine a funding source to cover expenses associated with sending a member of the natural resource staff to a continuing education or training course.

- **PROJECT 3.1.2:** Implement a system for determining personnel selected to receive funding to attend a training course or continuing education course.

8.5 MANAGEMENT OF THREATENED AND ENDANGERED SPECIES AND HABITATS

As noted in Chapter 5, Pittsburgh ANGB contains suitable habitat for federal-and state-listed species including the federally threatened rabbitsfoot mussel, federally endangered Indiana bat, and the federally threatened northern long-eared bat. The state-threatened plant species Torrey's rush has been documented within the wetland area at Pittsburgh ANGB. Surveys for threatened and endangered species would provide more insight into areas that could provide suitable habitat for listed species, or more information on the presence or absence of these species on the installation. If threatened or endangered species are discovered on the Pittsburgh ANGB during a biotic inventory, an endangered species management plan should be developed.

The goal for this section is to manage Pittsburgh ANGB on a regional ecosystem-based approach that manages sensitive species while protecting the operational functionality of the mission. While single species management is not promoted as a general philosophical management approach on the installation, specific controls are used to protect threatened and endangered species beyond management of the ecosystem. Other procedures in place for management of threatened and endangered species are modifying the ecosystem and human interactions within this environment. The threatened and endangered species topics of concern and associated goals and objectives are presented below.

TE GOAL 1: ENSURE THAT PITTSBURGH ANGB REMAINS IN COMPLIANCE WITH THE ESA AND APPROPRIATE STATE REGULATIONS.

- **TE OBJECTIVE 1.1:** Review state and federal species lists annually to identify species that may occur on the installation. Pittsburgh ANGB supports state and federal-listed species or suitable habitat for these species. Without up-to-date knowledge of potentially listed species and habitat found at Pittsburgh ANGB, the ANG may become non-compliant with ESA and state regulations.

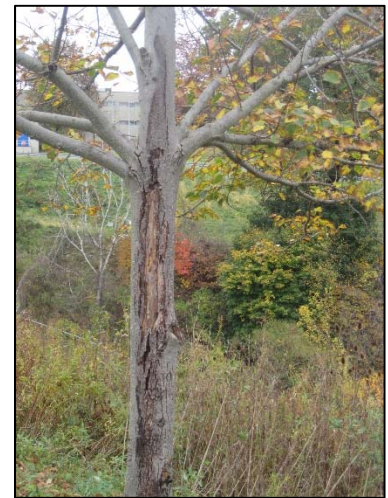
- **PROJECT 1.1.1:** Maintain an up-to-date list of both federal- and state-listed species in Allegheny County. Become familiar with the habitat requirements for each species.

TE GOAL 2: PROTECT SENSITIVE WILDLIFE AND THEIR HABITATS AT PITTSBURGH ANGB.

- **TE OBJECTIVE 2.1:** Identify the exact location of Torrey's rush on the installation and develop a management plan. Torrey's rush has been previously recorded within the large wetland mitigation area. A management plan should be developed and implemented in order to protect this species.

- **PROJECT 2.1.1:** Conduct a survey for Torrey’s rush in all wetland areas throughout the installation.
- **PROJECT 2.1.2:** If found, record the exact location with a Global Positioning System (GPS). Document the size and extent of the population.
- **PROJECT 2.1.3:** Prepare a report presenting the results of the survey.
- **PROJECT 2.1.4:** Develop a Torrey’s rush management plan that identifies actions to minimize potential for adverse impacts to the plant.
- **PROJECT 2.1.5:** Implement management actions identified in the Torrey’s rush management plan.
- **TE OBJECTIVE 2.2:** Determine if federal- or state-listed bat species utilize forested areas on the installation. Summer roosting habitat for the Indiana bat and northern long-eared bat occurs within the forested areas of the installation containing shagbark hickory. Surveys to determine if bats are utilizing these areas should be completed and management actions should be developed.

- **PROJECT 2.1.1:** Conduct bat survey(s) on the installation in accordance with USFWS survey protocols to identify all species of bats living and feeding on and migrating through the installation.
- **PROJECT 2.1.2:** Data obtained from the bat surveys is to include the species of bat, the exact location with a GPS, size and health. If the Indiana bat or the northern long-eared bat are found, In accordance with bat survey protocols the USFWS is to be notified of the occurrence of the Indiana bat or northern long-eared bat on the installation.
- **PROJECT 2.1.3:** Prepare a report presenting the results of the survey.
- **PROJECT 2.1.4:** Depending on the results from the bat surveys following receipt of the Report, consult with the USFWS, PADCNR, and PAGC in regards to potential actions that may be implemented to assist in ensuring the viability of bat populations. If warranted develop a bat management plan that identifies actions to minimize potential for adverse impacts to the species.
- **PROJECT 2.1.5:** If applicable implement management actions identified in the bat management plan.



Potential bat habitat on Pittsburgh ANGB

8.6 WATER RESOURCES PROTECTION

Water resources protection is important to natural resources management because it directly affects surface water quality and the value of aquatic habitats. Pittsburgh ANGB currently complies with a number of federal, state, local, and USAF environmental regulations that require the installation to have detailed spill control and response procedures and to implement stormwater pollution prevention BMPs. The objective of these regulations is to prevent pollutants from entering the watershed, thus protecting surface waters.

Floodplains are defined as areas adjoining inland or coastal waters that are prone to flooding. These areas must be reserved to discharge the 100-year flood without cumulatively increasing the water surface elevation more than a designated height (FEMA 2014). When a floodplain is established, no additional obstruction (e.g., building) should be placed in the floodplain that will increase the 100-year floodwater surface elevation.

EO 11988, *Floodplains Management*, requires all federal agencies to provide leadership and take action to reduce the risk of flood loss; minimize the impacts of floods on human safety, health, and welfare; and restore and preserve the natural and beneficial values of floodplains when acquiring, managing, or disposing of federal lands. If impacts to floodplains are anticipated, a Finding of No Practicable Alternative (FONPA) must be submitted to the Major Command (MAJCOM) Environmental Planning Function (EPF) (32 CFR 989.14 (g)).

Additionally, if action is taken that permits an encroachment within the floodplain that alters the flood hazards on a National Flood Insurance Rate Map, an analysis reflecting those changes must be submitted to the FEMA. FEMA headquarters can be contacted at 202-646-3461 to obtain booklet MT-2, *Revisions to National Flood Insurance Program Maps*, for further guidance. The water resources management goals for Pittsburgh ANGB are discussed below.

WRP GOAL 1: REMAIN IN COMPLIANCE WITH FEDERAL, STATE, LOCAL, AND USAF ENVIRONMENTAL REGULATIONS AND POLICIES. CONTINUE TO IMPLEMENT STORMWATER POLLUTION PREVENTION BMPS AND IMPROVE WATER QUALITY BY REDUCING EROSION AND IMPERVIOUS SERVICES.

- **WRP OBJECTIVE 1.1:** At times of construction, revegetate exposed soils to ensure that water quality is not affected by erosion and sedimentation. During precipitation events, water drains from exposed soil, carrying some of the soil into nearby waterways. Excessive suspended silt and sediment have the potential to cause an increase in turbidity. Turbidity may affect aquatic organisms by degrading habitat and changing behavior. Increase water quality benefits by limiting sedimentation in nearby waterways. Use and implement erosion and sediment control procedures for exposed soil areas.
 - **PROJECT 1.1.1:** Plant native plant species within areas of exposed soil.
 - **PROJECT 1.1.2:** Within construction zones, implement erosion and sediment control techniques to minimize soil runoff from exposed soil areas.
 - **PROJECT 1.1.3:** Monitor sites at risk for erosion and sediment control and revegetate exposed soils.

- **PROJECT 1.1.4:** On an annual basis, implement and re-evaluate protocols established as part of the erosion and sediment control plan. Implement controls when determined to be needed.
- **WRP OBJECTIVE 1.2:** Educate installation personnel who are likely to impact the installation's watersheds regarding erosion and sedimentation BMPs and watershed protection issues. Pittsburgh ANGB has the primary responsibility to maintain erosion and sediment control measures that reduce negative impacts to natural resources. Erosion and sediment control cannot be underestimated and must be implemented when needed. Educate key personnel on the watersheds and erosion and sediment control BMPs and watershed protection issues at Pittsburgh ANGB. Annually, provide a workshop or seminar to educate key personnel on regulations, protocols, and procedures.
 - **PROJECT 1.2.1:** Conduct an informal meeting to educate key personnel including grounds and maintenance personnel who have the potential to impact the property's watershed on erosion and sediment control BMPs and watershed protection issues. Education should include enforcement requirements for erosion and sediment control outlined in the Erosion and Sediment Control Manual and local regulations.
- **WRP OBJECTIVE 1.3:** Consult with the installation and NGB Petroleum, Oil and Lubricant (POL) and/or Hazardous Materials program managers to determine what secondary containment structures are needed to divert potential fuel spills. Even with implementing BMPs, the potential for fuel spills and contamination of water resources still occurs at Pittsburgh ANGB. Fuel spills could happen at any time of day; and, if they occur at night, minimal staff is available to respond to such instances.
 - **PROJECT 1.3.1:** The secondary containment can be either a structure or a dike as appropriate for the location of fuel tank(s) that could be quickly closed to capture or divert any potential fuel spills for rapid containment and cleanup even in the potential case of minimal staff, such as in evenings or overnight. This structure or dike would be in addition to the existing diversion valves and spill/deicing fluid containment/collection tank on the East Aircraft Parking Apron.
- **WRP OBJECTIVE 1.4:** Create safe access to outfalls and repair or replace outfalls as needed. Outfalls on the Pittsburgh ANGB are located behind the POL area. Access to these outfalls is overgrown with vegetation and the outfalls are deteriorating themselves. Undercutting and erosion from the outfalls is occurring and mitigation is needed.
 - **PROJECT 1.4.1:** Survey vegetation surrounding each outfall. Identify tree/shrubs that should be removed.
 - **PROJECT 1.4.2:** Construct an access point at each outfall by removing vegetation as necessary and stabilizing the exposed area to allow quick access to the outfalls and allow Pittsburgh ANGB staff to check the status of the streams.

— **PROJECT 1.4.3:** Maintain outfall and stream access points.

8.7 WETLAND PROTECTION

Wetlands are protected as a subset of the “waters of the United States” under Section 404 of the CWA. The term “waters of the United States” has broad meaning under the CWA and incorporates deep water aquatic habitats and special aquatic habitats (including wetlands). Jurisdictional waters of the United States are areas regulated under the CWA and also include coastal and inland waters, lakes, rivers, ponds, streams, intermittent streams, vernal pools, and “other” waters that if degraded or destroyed could affect interstate commerce.

Section 404 of the CWA authorizes the Secretary of the Army, acting through the Chief of Engineers, to issue permits for the discharge of dredged or fill materials into the waters of the United States, including wetlands. In addition, Section 404 of the CWA grants states with sufficient resources the right to assume these responsibilities. The primary form of state level wetland regulation is the water quality certification under the CWA. PADEP is responsible for conducting Section 401 certification reviews of USACE Section 404 permit applications for the discharge of dredged or fill material into waters of the United States, including wetlands. The purpose of these certification reviews is to determine whether a proposed discharge will comply with state water quality standards. PADEP has joint jurisdiction over proposed wetland alteration in the coastal zone. The Wetlands Act requires PADEP to review permits for all regulated activities that affect coastal wetlands.

Wetlands are also protected under EO 11990, *Protection of Wetlands* (43 Federal Register 6030) (National Archives and Records Administration 1977). The purpose of this EO is to reduce adverse impacts associated with the destruction or modification of wetlands. If impacts to wetlands are anticipated, a FONPA must be submitted to the MAJCOM EPF (32 CFR 989.14 (g)). The FONPA includes consideration of practicable alternatives that will meet justified program requirements to ensure they are within legal authority of the USAF, meet technology standards, are cost-effective, do not result in unreasonable adverse environmental impacts, and other pertinent factors.

Any actions that require a federal permit, license, or approval that results in a discharge into waters of the United States, including Section 404 individual dredge and fill permits and nationwide permits, require a state water quality certification. The state has adopted procedures and criteria for water quality certification for Department of Army permits and NPDES permits (25 Pennsylvania Code § 92a).

The ANG is responsible for identifying and locating jurisdictional waters of the United States, including wetlands occurring on ANG installations where these resources have the potential to be impacted by military mission activities. Such impacts could include construction of roads, buildings, runways, taxiways, navigational aids, and other appurtenant structures or activities as simple as culvert crossings of small intermittent streams, rip-rap placement in stream channels to curb accelerated erosion, and incidental fill and grading of wet depressions.

The major goal in wetland management is to minimize the impact that the Pittsburgh ANGB missions have on wetlands. The ANG strives to enhance healthy, functional wetlands that can sustain minor operational influences outside indirect infringement of wetlands. When possible, the goal is set to enhance wetland functions to create wetlands that maximize the values that wetlands have within the ecosystem and to society. It is also the goal to maximize floral diversity of wetland communities that, in turn, maximize the faunal diversity of the ecosystem. To meet the goals of wetland management, the following topics of concern identify actions that compromise achieving particular goals and presents objectives and management actions designed to meet the wetland management goals.

WP GOAL 1: REMAIN IN COMPLIANCE WITH USACE AND PADEP WETLAND REGULATIONS. MINIMIZE THE OPERATIONAL IMPACT OF PITTSBURGH ANGB ON WETLANDS.

- **WP OBJECTIVE 1.1:** Conduct jurisdictional Waters of the US including wetland delineation. Wetland areas within the Pittsburgh ANGB have not been field delineated, or confirmed. Delineating and having the boundaries confirmed by the USACE and/or PADEP is necessary to ensure inadvertent violations do not occur and ensures appropriate permits are identified and obtained before impacts occur.
 - **PROJECT 1.1.1:** Complete a delineation of Waters of the US to include wetlands and obtain a written jurisdictional wetland determination from the USACE and/or the PADEP.
 - **PROJECT 1.1.2:** If wetland impacts will occur appropriate permits and certifications shall be obtained from the USACE and the PADEP prior to the initiation of any work within the jurisdictional area(s).
 - **PROJECT 1.1.3:** Using the Waters of the US/Wetland Report have the boundaries surveyed into a format compatible with the installation's mapping software or the future GIS software. The data shall include the boundaries delineated, the acreage, dominant species, soil types, and wetland classification according to the Cowardin classification system.
- **WP OBJECTIVE 1.2:** Develop educational materials and a short seminar to educate all necessary installation personnel on the location of Waters of the US and wetlands and federal and state regulations. Pittsburgh ANGB personnel and visitors need to be informed of the location of and the regulations that govern jurisdictional waters of the United States. Key personnel should be educated on the processes for conducting the mission in proximity to the wetlands at Pittsburgh ANGB. Annually provide a workshop or seminar to educate key personnel on regulations, protocols, and procedures.
 - **PROJECT 1.2.1:** Develop and disseminate informational materials and a short seminar on the locations of jurisdictional wetlands and the federal and state regulations designed to protect wetlands. Include Pittsburgh ANGB's commitment to no net loss of wetlands, protection of wetland biodiversity, and preservation of high

quality and rare wetland resources. Provide copies of the presentation during the seminar and make the presentation available electronically.

- **PROJECT 1.2.2:** Perform agency coordination, notification, and permitting on Pittsburgh ANGB's actions within or potentially affecting wetlands.
- **PROJECT 1.2.3:** Where feasible, provide opportunities for key personnel to obtain certifications/training in wetland delineations and regulations.
- **WP OBJECTIVE 1.3:** Install educational wetland signs within the installation. Pittsburgh ANGB employees and visitors need to be informed of the characteristics, importance, and benefits of wetland areas. Educational signs on the importance and characteristics of wetland areas should be installed to educate Pittsburgh ANGB employees and visitors.
 - **PROJECT 1.3.1:** Assess the installation for areas most visited by employees and visitors. The assessment will determine the best location for installation of signs.
 - **PROJECT 1.3.2:** Create signs that will spark an interest to employees and visitors. Incorporate fun facts, photographs, and how the USAF military mission protects natural resources.
 - **PROJECT 1.3.3:** Install signs in high visibility areas of the installation.

WP GOAL 2: MAINTAIN HEALTHY, FUNCTIONAL WETLANDS THAT CAN SUSTAIN MINOR OPERATIONAL INFLUENCES OUTSIDE INDIRECT INFRINGEMENT OF WETLANDS AND MANAGE FOR NO NET LOSS OF WETLAND ACREAGE, FUNCTIONS, AND VALUES.

- **WP OBJECTIVE 2.1:** Prepare a freshwater wetland functions and value assessment/management plan. Pittsburgh ANGB does not have a current management plan for the conservation or enhancement of the installation's wetland resources. In addition, the installation's wetlands vary in their associated functions and values, which could lessen the mitigation burden relative to potential encroachment. There is a need to develop a greater understanding of the functions and values of the wetland complexes present at the Pittsburgh ANGB. Information obtained should include a complete understanding of the functions of wetlands through the interaction of the hydrologic systems, soils, vegetation, and fauna of the area. Completion of the following projects will provide the ANG with the tools necessary to more effectively evaluate potential future impacts and to determine appropriate mitigation measures. In addition, the following projects will allow for the adaptive management of wetland resources.
 - **PROJECT 2.1.1:** Determine the functions and values of the Pittsburgh ANGB wetlands. This will provide the ANG the tools necessary to effectively evaluate potential future impacts to wetland resources.

- **PROJECT 2.1.2:** Use results from the functions and values assessment to develop a management plan for the conservation and enhancement of Waters of the US/wetland resources. Adaptive management strategies include:
 - Maintain buffers of an appropriate width around Waters of the US/wetlands. Buffers should be considered where it is determined site conditions have, or could have, significant habitat value, or where current activities adjacent to a wetland area are causing noticeable adverse impacts on the habitat and viability of the system. Actions that can or cannot be taken inside a buffer should be identified and relayed to installation personnel.
 - In consideration of operations and maintenance programs develop training for installation staff to assist them in identifying ways to avoid wetland impacts.
 - When impacts cannot be avoided assist project proponents with preparation of all required permit applications and identifying potential ways in which impacts can be avoided to the greatest extent practicable.
 - Pursue water quality management procedures that protect Waters of the US/wetlands from impacts associated with non-point source runoff.
 - Develop a monitoring plan to ensure viability of the Waters of the US/wetlands.
 - Identify opportunities for wetland creation/enhancement/ restoration projects. Develop and maintain an inventory of potential project sites and implement projects where feasible and appropriate to ensure viability of the system and avoid impact to the mission.
 - Identify and monitor the presence of invasive species and develop actions needed to control threats to native vegetation.

8.8 GROUNDS MAINTENANCE

The military mission at each installation occurs in an overall ecosystem that has both natural elements and constructed facilities. The USAF strives to be a good steward of the environment and to fulfill its military missions, including the effects on natural resources as a result of changes in those missions. Grounds maintenance helps to maintain and improve the aesthetic appearance of lands controlled by the ANG and can contribute to overall biodiversity and ecosystem health. Installation grounds maintenance personnel perform most grounds maintenance activities at the Pittsburgh ANGB. Grounds maintenance activities performed consist of road maintenance, mowing of open areas, and target repair and replacement.

EO 13148, *Greening the Government through Leadership in Environmental Management*, contains overarching direction regarding management of vegetation in developed areas (United State Environmental Protection Agency 2000). The EO directs federal agencies to strive to promote sustainable management of federal facility lands through the implementation of cost-

effective, environmentally sound landscaping practices, and through programs to reduce adverse environmental impacts. Other federal regulations that guide undeveloped vegetation management, as listed in Appendix D and in Section 8.12 below, include the Federal Noxious Weed Act of 1974; EO 13112; Federal Insecticide, Fungicide, and Rodenticide Act; and Plant Protection Act of 2000.

USAF policies and guidelines regarding grounds maintenance and urban forest management are included in Chapter 11 of AFI 32-7064. This document encourages the use of native plants in landscaped designs, minimizing landscape maintenance, minimizing the need for irrigation, and naturalizing landscaped areas as much as possible. The use of integrated pest management practices is encouraged in both AFI 32-7064 and AFI 32-1053 (Secretary of the Air Force 2014a, b).

GM GOAL 1: ENSURE COMPLIANCE WITH ENVIRONMENTAL LEGISLATION, REGULATIONS, AND GUIDELINES. LESSEN OR AVOID ADVERSE EFFECTS FROM GROUNDS MAINTENANCE ACTIVITIES TO THE OVERALL ECOSYSTEM AND ITS SENSITIVE RESOURCES.

- **GM OBJECTIVE 1.1:** Attend state sponsored training courses on Pennsylvania Erosion and Sediment Control Manual. Sediment and erosion prevention and control measures should be implemented in accordance with Chapter 102 of PADEP's rules and regulations and the Pennsylvania Bureau of Soil and Water Conservation's *Erosion and Sediment Pollution Control Program Manual*. Pennsylvania Code Title 25 Chapter 102.4 (b) requires the "implementation and maintenance of Erosion and Sediment BMPs" to minimize the potential for accelerated erosion and sedimentation, including those activities which disturb less than 0.1 acre. A Sediment and Erosion Control Plan is required for activities that will disturb greater than 0.1 acre of land on the installation. Trained installation staff will be responsible for preparing and implementing Erosion and Sediment Control Plans on an as needed basis.
 - **PROJECT 1.1.1:** Identify a training course on Pennsylvania's Erosion and Sediment Control Manual (<http://pacd.org/calendar/es/>) for appropriate installation staff to attend.
 - **PROJECT 1.2.1:** Develop and implement an Erosion and Sediment Control Plan for projects disturbing greater than 0.1 acre of land.
- **GM OBJECTIVE 1.2:** Implement BMPs outlined in the Pennsylvania Erosion and Sediment Pollution Control Program Manual. Pittsburgh ANGB personnel have the primary responsibility to maintain the main access road to the installation and secondary roads inside the installation. Proper maintenance of the road is necessary to ensure quick response to emergencies. BMPs should be implemented to minimize erosion and sedimentation into the watershed.

- **PROJECT 1.2.1:** Continue to implement BMPs outlined in the Pennsylvania Erosion and Sediment Control Program Manual during road maintenance activities on the installation.
- **GM OBJECTIVE 1.3:** Perform an urban tree survey to identify any trees that are in poor health, pose safety hazards, or create maintenance issues. Trees may be in poor condition due to bad weather conditions, infestations, and fire. Trees in poor condition provide a safety hazard for Pittsburgh ANGB employees and visitors.
 - **PROJECT 1.3.1:** Conduct a tree risk assessment procedure, where trees are visually inspected to identify any observable defects and areas of concern.
 - **PROJECT 1.3.2:** Survey trees quarterly or after major storms.
 - **PROJECT 1.3.3:** Document data within a tree risk assessment database. The database will provide a system to track when re-inspection of trees should occur.
- **GM OBJECTIVE 1.4:** Replace any trees identified in poor health, safety hazards, or maintenance issues with an equivalent native species. There is concern that high BASH threat species could be attracted as a result of re-planting. All habitat modification projects should be assessed for their potential to affect the safety of the flying mission. Replace trees identified during the tree risk assessment with a native low growing non-BASH threat species.
 - **PROJECT 1.4.1:** Evaluate trees using the tree risk assessment to determine tree replacement locations.
 - **PROJECT 1.4.2:** Prior to tree planting activities, consult with Environmental Manager and the NGB Natural Resources Program Manager to determine if the location of a tree and type of tree will attract BASH species.
 - **PROJECT 1.4.3:** Plant native tree species to replace non-healthy or damaged trees.

GM GOAL 2: MAKE MAXIMUM USE OF REGIONALLY NATIVE PLANT SPECIES AND AVOID INTRODUCTION OF INVASIVE, EXOTIC SPECIES IN RE-VEGETATION ACTIVITIES

- **GM OBJECTIVE 2.1:** Utilize native plant species and materials for landscaping activities on the installation. Non-native and invasive species could be introduced to the installation during re-vegetation efforts and landscaping activities. The use of native plants reduces the likelihood of influence by noxious or invasive species. The installation should utilize grass and landscape plant species that are native and well-adapted to the growing conditions in Pennsylvania. The use of native plant species will discourage the introduction and spread of invasive plant species. PAGC offers free seedlings of native species.

- **PROJECT 2.1.1:** Future landscaping around buildings will utilize native plantings obtained from PAGC.

GM GOAL 3: REDUCE CHEMICAL USAGE, AND MAINTENANCE INPUTS IN TERMS OF ENERGY, WATER, MANPOWER, EQUIPMENT, AND CHEMICALS.

- **GM OBJECTIVE 3.1:** Where feasible reduce mowing of lawn areas by planting a low, native ground cover. There are steep hill areas on the installation that are mowed on a frequent basis. To reduce the hours needed for mowing, a low, native ground cover should be planted to reduce maintenance. Use a native ground cover that does not attract wildlife.
 - **PROJECT 3.1.1:** Determine native, non-invasive, and non-BASH ground cover species to use for planting on steep hillsides throughout the installation.
 - **PROJECT 3.1.2:** Implement actions to control non-native and invasive species from spreading within the planted ground cover.

8.9 FOREST MANAGEMENT

PADCNR Bureau of Forestry was established “to ensure the long-term health, viability, and productivity of the Commonwealth’s forests and to conserve native wild plants” (PADCNR Undated b). Forestry management includes maintaining biological diversity, providing habitat for forest plants and animals, and sustaining yields of quality timber. Forest management also includes protecting forested areas from fires, insects, and diseases.

Small forested areas are located within Pittsburgh ANGB; however, these forested areas are not managed as a commercial resource. Several management actions have been defined under other resources such as Grounds Maintenance and IPM that would benefit forested areas throughout the installation.

FM GOAL 1: IMPLEMENT SOUND FORESTRY PRACTICES THAT PROMOTE BIODIVERSITY, ECOSYSTEM FUNCTION, AND DISEASE CONTROL. RESTORE HEALTH AND VIGOR TO NATIVE FOREST ECOSYSTEM AND IMPROVE FOREST HEALTH.

- **FM OBJECTIVE 1.1:** Perform a forest inventory. The Pittsburgh ANGB has not conducted forest inventories on their property. A forest inventory for qualitative and quantitative information of the forest resources should be conducted.
 - **PROJECT 1.1.1:** Conduct a forest inventory to determine the status and trends of forest areas on Pittsburgh ANGB’s property. The inventory will include the location of trees/forest communities, species and size of trees, health of trees, and determine potential fire hazards/risk of fire.

- **PROJECT 1.1.2:** Determine the value and possible uses of timber with information collected during the forest inventory. Calculate the number of trees per acre and the basal area of the forest.
- **PROJECT 1.1.3:** Incorporate information derived from the forest inventory in a database. Information contained in the database can be used to plan, design, and implement restoration projects or timber harvesting projects.

8.10 WILDLAND FIRE MANAGEMENT

The Wildland Fire Management program element does not apply to Pittsburgh ANGB.

8.11 AGRICULTURAL OUTLEASING

The Agricultural Outleasing program element does not apply to Pittsburgh ANGB.

8.12 INTEGRATED PEST MANAGEMENT PROGRAM

Native plant and animal communities have been adversely impacted by development and the introduction on non-native species. Non-native species are those plants or animal species that were not present during European settlement. Due to aggressive growth habits of many non-native species, the species have become invasive and out-compete the native plants and animals. *An invasive species is defined as a species that is non-native (or alien) to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or harm to human health* (EO 13112) (National Archives and Records Administration 1999). Invasive species put native plants and animals at risk. Invasive plants, which can be both native and non-native, result in the loss of diversity within a local plant community. Table 5-1 includes the invasive plant species that occur in Allegheny County, Pennsylvania and have the potential to occur on the installation. Nuisance species generally refers to animals and is a result of the animal's population density.

DOD's natural resources management policy is contained within DODI 4715.03, *Natural Resources Conservation Program*. This instruction requires installations to follow an ecosystem-based approach to land management, inventory and protect important biological resources, and promote biodiversity. It addresses various aspects of land management including forestry and agricultural operations, management measures for the removal or control of exotic species, beneficial landscaping practices, and habitat restoration and rehabilitation.

DODI 4150.7, *Pest Management Program*, is a DOD policy to establish and maintain safe, effective, and environmentally sound integrated pest management programs to prevent or control pests and disease vectors that could adversely impact readiness or military operations by affecting the health of personnel or damaging structures, material, or property. The policy set Measures of Merit for pest management, which required each installation to develop an IPM Plan, reduce the amount of pesticides used on the installation, and certify all pesticide applicators. A copy of the IPM Plan for Pittsburgh ANGB is located in Appendix E.

Application of the least toxic chemical should be used as a last resort to control nuisance species. IPM should use mechanical, physical, cultural, biological, and educational methods to maintain pests at populations low enough to prevent undesirable damage or annoyance. AFI 32-1053, *Integrated Pest Management Program*, is a policy to conduct effective pest management programs and establish responsibilities and procedures for pest management at USAF installations (Secretary of the Air Force 2014a).

IPM GOAL 1: EMPLOY A SYSTEMATIC APPROACH FOR CONTROL OR REMOVAL OF INVASIVE SPECIES/PESTS THAT ARE HAVING AN ADVERSE EFFECT ON NATIVE ECOSYSTEMS. CONTINUALLY MONITOR THE EFFECTS THAT INVASIVE SPECIES/PESTS HAVE ON THE NATIVE ECOSYSTEM SUCH AS HABITAT ALTERATION, COMPETITION OF RESOURCES, AND PREDATION.

- **IPM OBJECTIVE 1.1:** During the reconnaissance level flora and fauna survey, identify the presence and location of invasive and nuisance species on Pittsburgh ANGB. Nuisance species can be destructive to real estate by taking refuge in human dwellings potentially causing damage to structures and fixtures. Potential disease vectors or animals of other medical importance need control for the protection of human life and well-being. Controlling disease-transmitting animals is necessary to prevent the outbreak and spread of disease at the installation. Additionally, non-native plant and animal species have the ability to become invasive and out-compete the native plants and animals. The IPM plan protects real estate, controls potential disease vectors or animals of other medical importance, controls undesirable or nuisance plants and animals, and prevents damage to natural resources. Pittsburgh ANGB should make maximum use of regionally native plant species and avoid introduction of invasive, exotic species in re-vegetation and landscaping activities. The appropriate use of herbicides should be considered to control pest and invasive species when other methods are ineffective and/or not practical.
 - **PROJECT 1.1.1:** Identify invasive and nuisance species during the reconnaissance level flora and fauna survey.
 - **PROJECT 1.1.2:** Ensure invasive and nuisance species found are identified and addressed in the IPM Plan. Incorporate IPM Plan techniques for vegetation and wildlife management that address nuisance and invasive species. The IPM Plan should include, but not be limited to, wildlife management objectives, studies/surveys, field survey protocol, analytic procedures, reporting, and record keeping. In addition, the management plan should identify wildlife populations, vegetation communities, and habitat management projects appropriate to meet management objectives.
 - **PROJECT 1.1.3:** Perform year-round surveillance of vegetation and wildlife resources to detect disruptions and/or locations where threats are affecting resource integrity.

- **PROJECT 1.1.4:** Develop and implement actions to control invasive/exotic species consistent with the requirements of EO 13112 to control threats to native plant community integrity by invasive/exotic species. Monitor known populations of invasive/exotic species by performing year-round surveillance for new outbreaks. Monitor for success of control actions.
- **PROJECT 1.1.5:** Manage populations and the actions of wildlife having deleterious effects on installation vegetation resources and associated habitats.
- **IPM OBJECTIVE 1.2:** On an annual basis, implement protocols established in the Integrated Pest Management Plan. Monitoring and assessing nuisance and non-native species allows managers to more effectively evaluate and control populations. Pittsburgh ANGB should annually review the IPM Plan to evaluate the short-term and long-term goals of the plan. Protocols within the IPM Plan should be implemented.
 - **PROJECT 1.2.1:** Develop a schedule and review process to implement protocols, such as monitoring/assessing wildlife and vegetative communities.
 - **PROJECT 1.2.2:** Implement actions to control threats to native vegetative communities and human welfare. Monitor invasive/exotic species and develop and implement a monitoring program.
 - **PROJECT 1.2.3:** Review monitoring methods to determine if methodologies are efficient.
 - **PROJECT 1.2.4:** Ensure the IPM Plan includes all actions necessary to successfully address invasive and nuisance species and the Plan is current with signatures and dates signed within 5 years of the previous date the Plan was signed.
 - **PROJECT 1.2.5:** Ensure all actions to address invasive species that employ pesticide products are reported in the Integrated Pest Management Information System (IPMIS).

IPM GOAL 2: MINIMIZE INVASIVE SPECIES-RELATED HEALTH RISKS, SAFETY RISKS, AND ENVIRONMENTAL DAMAGE. CONTINUE TO REMAIN IN COMPLIANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS GOVERNING INVASIVE SPECIES.

- **IPM OBJECTIVE 2.1:** Reduce the populations of invasive species to a tolerable level in accordance with the IPM Plan. Invasive species include but are not limited to mile-a-minute, multiflora rose, and autumn olive. Due to aggressive growth habits of many non-native species, the species have become invasive and out-compete the native plants and animals. Invasive species put native plants and animals at risk. Invasive plants result in the loss of diversity within a local plant community. In addition, nuisance species may damage real estate property and cause harm to humans. Control of undesirable nuisance

plants and animals and control of potential disease vectors or animals of other medical importance should be implemented.

— **PROJECT 2.1.1:** Develop and implement invasive and nuisance species management techniques. Methods to address these populations may include mechanical, cultural and chemical measures or a combination of measures to control the targeted species.

— **PROJECT 2.1.2:** Ensure installation personnel are aware of the management techniques incorporated into the IPM Plan. Signs, pamphlets, and community fliers are examples of methods to educate the public and staff.

— **PROJECT 2.1.3:** The following eradication methods are to be considered and incorporated accordingly into the IPM Plan:

– ***Mile-a-Minute***—Mile-a-minute seedlings and vines can be pulled by hand before flowering. New seedlings may emerge throughout the season (mid-spring to late summer), so repeated removal is necessary. If the plant has already flowered, the plant should be removed and bagged to control spread of seeds.



Mile-a-minute

– ***Multiflora Rose***—Multiflora rose plants can be dug up, pulled out, or cut to the ground 4-6 times a year. Seedlings can be hand pulled any time of year. Stems can also be cut and spraying or painting herbicide on the stump will kill the root system and prevent re-sprouting. Roundup[®] herbicide has been effective in controlling multiflora rose.

– ***Autumn Olive***—Young seedlings and sprouts can be hand-pulled in early spring. Plants should be cut off at the main stem and an herbicide should be applied to the stump to effectively kill the root system and prevent re-sprouting. Roundup[®] herbicide has been effective in controlling autumn olive.

— **PROJECT 2.1.4:** Conduct annual surveys to determine the presence of invasive plant species and nuisance animal species on the installation. Create GIS coverage depicting relative concentrations of invasive plant species to monitor progress of eradication and control efforts, and to determine the locations of remaining areas containing major concentrations of noxious and invasive species

— **PROJECT 2.1.5:** Plant native species.

- **IPM OBJECTIVE 2.2:** Revegetate areas where vegetation has been removed with native species. Non-native and invasive species could be introduced to the installation

during revegetation efforts and landscaping activities. The use of native plants reduces the likelihood of influence by noxious or invasive species. PAGC offers free seedlings of native species.

- **PROJECT 2.2.1:** Utilize installation-oriented mulches to facilitate the establishment of ground cover on impoverished soils.
- **PROJECT 2.2.2:** Reseed exposed soils after ground disturbing activities are conducted using a certified weed-free native grass mix or native plant species.
- **PROJECT 2.2.3:** Future landscaping around buildings should utilize native plantings.

8.13 BIRD/WILDLIFE AIRCRAFT STRIKE HAZARD

BASH exists at the Pittsburgh ANGB and in the vicinity due to resident and migratory bird species and other wildlife. Daily and seasonal bird movements create various hazardous conditions. A BASH reduction plan establishes procedures to minimize the hazard to ANG aircraft at the installation and in their associated operating areas.

The BASH reduction plan at Pittsburgh ANGB was developed from information collected at the installation. The presence of high BASH threat species raises concern about the compatibility of wildlife at Pittsburgh ANGB with the operational missions, specifically the threat of wildlife strikes with aircraft. Therefore, any future habitat enhancement opportunity needs to be evaluated carefully to determine its effect on the flying mission. The BASH reduction plan implemented at Pittsburgh ANGB aids in reducing the potential for a bird strike to occur. Birds can be encountered up to altitudes of 30,000 ft and higher. However, most birds fly close to ground level, and more than 95 percent of all reported incidents in which a USAF aircraft has struck a bird have been below 3,000 ft above ground level. Approximately half of these bird strikes occur in the airfield environment, and approximately one-quarter occur during low altitude training. 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 strike (USAF 1997).

Migratory waterfowl (ducks, geese, and swans) pose a threat to low flying aircraft. Waterfowl vary considerably in size, from 1 to 2 pounds for ducks, 5 to 8 pounds for geese, and up to 20 pounds for most swans. At the installation, there are several common bird species that may pose a hazard, including vultures, hawks, geese, ducks, herons, and several species of passerines, including doves, starlings, and crows. Several other species may pose a lesser threat, but are still present and may result in bird strike issues. There are two normal migratory seasons, spring and fall. Waterfowl are usually only a hazard during the migratory season. Waterfowl typically migrate at night and generally fly between 1,500 and 3,000 ft above ground level during the fall migration and 1,000-3,000 ft above ground level during spring migration.

BH GOAL 1: IMPLEMENT PROCEDURES OF THE BASH REDUCTION PLAN TO LESSEN OCCURRENCES OF BIRD/WILDLIFE AIRCRAFT STRIKES.

- **BH OBJECTIVE 1.1:** Coordinate with ANG Safety Office to implement BASH procedures for the Pittsburgh ANGB and surrounding airspace. Without the continuation of the BASH reduction plan for the installation, bird/wildlife aircraft strike incidents would not be prevented, resulting in a greater BASH threat at the installation. Pittsburgh ANGB should continue to implement BASH procedures to lessen potential threats for bird/wildlife aircraft strikes through measures that discourage use of certain areas by high BASH risk species, and through practices to avoid incidents during high risk events.
 - **PROJECT 1.1.1:** Assist the ANG Safety Office with BASH related projects involving actions affecting natural resources. These types of projects may include maintenance of high risk areas, aircraft and airfield operating procedures, and guidelines for bird dispersal and bird avoidance, among others. Funding for the projects will depend on the action taken be funded by the Safety Office.

8.14 COASTAL ZONE AND MARINE RESOURCES MANAGEMENT

The Coastal Zone and Marine Resources Management program element does not apply to Pittsburgh ANGB

8.15 CULTURAL RESOURCES PROTECTION

Cultural resource protection will be addressed through the ANG Cultural Resources Management Program.

8.16 PUBLIC OUTREACH

Opportunities for public outreach are limited at Pittsburgh ANGB due to the high security of the installation. It is important for Pittsburgh ANGB to continue to develop a positive relationship with the public and surrounding communities.

PO GOAL 1: PROVIDE QUALITY PUBLIC OUTREACH EXPERIENCES, WHILE SUSTAINING ECOSYSTEM INTEGRITY. ENSURE THAT PUBLIC OUTREACH OPPORTUNITIES ARE NOT IN CONFLICT WITH MISSION PRIORITIES.

- **PO OBJECTIVE 1.1:** Continue to develop a working relationship with the public and surrounding communities by offering a Boy Scout/Girl Scout Merit Badge Day and Orientation Flights on the installation. In addition, invite the Three Rivers Audubon to conduct a Christmas bird count, breeding bird survey, and scheduled bird walks. Pittsburgh ANGB staff can volunteer time within the local community. Developing a working relationship with the public and adjacent communities promotes outdoor

recreational experiences. Pittsburgh ANGB will need to ensure that the opportunities are not in conflict with mission priorities.

- **PROJECT 1.1.1:** Conduct a recreation and environmental education needs assessment to demonstrate Pittsburgh ANGB responsiveness to issues. The assessment would help focus limited funding on the recreation projects.
- **PROJECT 1.1.2:** Contact local Boy Scouts/Girl Scouts to visit the Pittsburgh ANGB to earn merit badges. Activities could include nature hikes, tree planting, simulated fossil digging, etc.
- **PROJECT 1.1.3:** Continue to host Orientation Flight days at Pittsburgh ANGB. This will allow the public the opportunity to go for a flight in military aircraft.
- **PROJECT 1.1.4:** Contact the Three Rivers Audubon Society (870-534-3625) to invite the group to conduct bird surveys on the installation. Bird counts could include a Christmas Bird Count, Breeding Bird Surveys, or scheduled bird surveys. Data collected could be included within the installation's Fish and Wildlife Management Component Plan.
- **PROJECT 1.1.5:** Encourage Pittsburgh ANGB personnel to volunteer their time in the local community. Example volunteer projects could include participating in an Earth Day celebration at a local elementary or middle school, participating in stream cleanups, or participating in local tree plantings.

8.17 GEOGRAPHIC INFORMATION SYSTEM

GIS needs and requirements will be addressed through the ANG GeoBase Program.

9. INTEGRATED NATURAL RESOURCES MANAGE PLAN IMPLEMENTATION

9.1 INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN IMPLEMENTATION

9.1.1 Implementation

The INRMP program has been organized to ensure the implementation of year-round, cost-effective management activities and projects that meet the requirements of the installation. The various organizations on the installation that are responsible for implementation of the INRMP are described below.

Installation Stakeholders—The INRMP Working Group will be responsible for the overall implementation of the INRMP. The INRMP Working Group will be comprised of key installation personnel from Pittsburgh ANGB, in addition to the NGB/A4AM Natural Resources Program Manager who will provide technical assistance when necessary. This INRMP Working Group will assume an oversight role to ensure the effective implementation of this plan. The Commander of Pittsburgh ANGB will be the official signatory for the INRMP and the annual reviews. The installation’s Environmental Manager is responsible for ensuring the activities associated with the implementation of this plan adhere to applicable federal, state, local, and USAF environmental regulations and guidelines. The NGB/A4AM Natural Resources Program Manager tracks DOD and USAF policies and approves funding for projects and studies identified as a priority in this plan. The NGB/A4AM Natural Resources Program Manager acts as a technical point of contact on all natural resources-related activities. Projects proposed in this plan are reviewed by the installation’s Environmental Manager and the NGB/A4AM Natural Resources Program Manager. Deviation from the projects proposed in this plan should be independently reviewed by the NGB/A4AM Natural Resources Program Manager.

External Stakeholders—The USFWS, PADCNR, and PAGC can provide technical assistance to the installation. Specifically, these agencies will alert the Environmental Manager whenever new species that have the potential for inhabiting the installation are added to the federal and state endangered species lists. In addition, these agencies will be involved in the annual review of the INRMP and updates to the INRMP determined to be necessary as a result of changes in environmental conditions or the mission.

9.1.2 Natural Resources Management Staffing

Figure 7-1 includes the organization of the 171 ARW. A description of the offices or squadrons responsible for assisting in the portions of the INRMP are described in Section 7.1, *Natural Resources Program Management*.

9.1.3 Monitoring Integrated Natural Resources Management Plan Implementation

A variety of metrics will be used to measure the extent of INRMP implementation. In general, the Environmental Manager will be responsible for implementing the goals, objectives, and

projects described in this INRMP. The following monitoring criteria have been established for each resource management.

- ***Natural Resources Program Management***—Monitoring criteria will include documented completion of the annual coordinating meeting with USFWS, PADCNr, and PAGC. When the annual INRMP review is conducted, concurrence from the signatory agencies will be obtained, and the INRMP document will be amended accordingly.
- ***Fish and Wildlife Management***—Monitoring criteria will include ensuring that all fish and wildlife surveys conducted on the installation are incorporated into the INRMP. Habitat and wildlife on the installation will be continually accessed to ensure healthy populations. The woodchuck and wild turkey populations will be monitored so that the population does not increase and remains under control.
- ***Outdoor Recreation and Public Access to Natural Resources***—Monitoring criteria will include developing a nature trail and monitoring use of the nature trail and other outdoor areas, including the fitness track by base personnel.
- ***Conservation Law Enforcement***—Monitoring criteria will include ensuring that installation personnel responsible for enforcement of environmental regulations are fully aware of planned mission-related activities that require compliance with natural resource laws and regulations.
- ***Threatened and Endangered Species and Habitats Management***—Monitoring criteria will include annual updates of the list RTE species or their habitats occurring on the installation. Management actions will be implemented to avoid impacts to any listed species or habitats.
- ***Water Resource Protection***—Monitoring criteria will include regular inspections of stormwater and erosion and sediment control BMPs to ensure proper functioning. These controls and practices are set in place to make sure that impacts to water resources associated with accidental spills and leakage from vehicles and equipment are minimized.
- ***Wetland Protection***—Monitoring criteria for wetlands will include completing a wetland delineation and determining if wetlands within the installation are considered jurisdictional wetlands. Any unavoidable impacts to wetlands will be fully mitigated and in compliance with regulations.
- ***Grounds Maintenance***—Monitoring criteria will include regular assessment of tree health and use of native species throughout the installation. In addition, the Base Civil Engineer and/or Facility Manager will monitor the amount of time and staff needed for mowing and maintenance of the installation.
- ***Forest Management***—Monitoring criteria will include regular surveys to determine the health of the forested areas throughout the installation.

- ***Integrated Pest Management***—Monitoring criteria will include ensuring that IPM practices are incorporated into pest management approaches on the installation. The IPM Plan will be updated based on USDA-Wildlife Services recommendations. After treatment of invasive species and removal of nuisance species, post-monitoring will be implemented to indicate if the effort was successful.
- ***Bird/Wildlife Aircraft Strike Hazard***—Monitoring criteria will include ensuring that management strategies provided in this INRMP do not result in an increase in BASH.
- ***Cultural Resource Protection***—Cultural resources issues will be addressed through the ANG Cultural Resources Management Program.
- ***Public Outreach***—Monitoring criteria will include assessing the overall success of programs offered at the installation.
- ***GIS***—GIS needs and requirements will be addressed through the ANG GeoBase Program.

9.2 ANNUAL INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN REVIEW AND COORDINATION REQUIREMENTS

To ensure that this INRMP properly addresses all aspects of the natural resources present on the installation and proposes actions that are in accordance with USAF goals and objectives, this plan and all its components are subject to review by the installation’s Environmental Management Office and the NGB/A4AM Natural Resources Program Manager. Similarly, all changes to be incorporated into this plan must be approved by the installation, USFWS, PADCNr, and PAGC.

9.3 INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN UPDATE AND REVISION PROCESS

This INRMP is in effect from the date that all required signatures have been received; however, the Operational Component Plans must be updated annually during preparation of the installations’ environmental budgets.

This INRMP should be reviewed internally on an annual basis to assess the recommended management practices in terms of their appropriateness for current conditions at the installation. The INRMP should also be coordinated annually with the USFWS, PADCNr, and PAGC. In addition, the INRMP should be updated whenever there is a modification to the installation’s missions, or when there is a substantial change to the installation’s natural or cultural resources.

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10. ANNUAL WORK PLANS

The purpose of this chapter is to present a road map for the execution of specific actions to achieve management goals and objectives identified in this INRMP.

Under the authority and direction of the Commanding Officer, the Environmental Manager provides staff for implementing the INRMP management actions and the NGB/A4AM Natural Resources Program Manager provides technical assistance when necessary.

Tables 10-1 through 10-5 summarize the management actions identified in Chapter 8 for Pittsburgh ANGB and propose priorities for their implementation from 2017 through 2021. The actions proposed for this INRMP are aggressive, and might not be accomplished within the established timelines due to a number of factors (e.g., budget and manpower constraints, wartime tasks). However, their importance to the proper management of the installation's natural resources cannot be understated. Therefore, the management actions presented in these tables should be modified as part of the annual review of this INRMP by the INRMP Working Group to ensure that these goals are continually emphasized and accomplished when practicable.

This INRMP reflects the commitment set forth by Pittsburgh ANGB to conserve, protect, and enhance the natural resources present on the installation. This INRMP is the final plan that will direct the natural resources management at the installation from Fiscal Years 2017 through 2021. An ecosystem approach was used to develop the management measures for each resource area. Implementation of the management measures will maintain, conserve, and enhance the ecological integrity of the installation and the biological communities occurring on the installation. In addition, the natural resources management measures described in this plan will protect the installation's ecosystems and their components from unacceptable damage or degradation and identify and restore previously degraded habitats.

Natural resources and land use management issues are not the only factors contributing to the development and implementation of the INRMP. Installation management and other seemingly unrelated issues affect the implementation of this plan. It is of utmost importance to the implementation of this INRMP that installation personnel take "ownership" of the plan (i.e., individual or organizational primary responsibility to implement the INRMP), provide the necessary resources (i.e., personnel and equipment), and allocate the appropriate funding to enact the plan. It is extremely important that an INRMP Working Group be established to aid in the continued development of and commitment to the implementation of this INRMP. The INRMP Working Group should be comprised of key installation personnel, and will assume an oversight role to ensure the effective implementation of this plan. Top- and middle-level management representation, as well as representation from several individuals with day-to-day on-installation field experience, will provide the INRMP Working Group with the leadership and structure necessary for the successful implementation of this INRMP.

Any requirement for the obligation of funds for projects in this INRMP shall be subject to the availability of funds appropriated by Congress, and none of the proposed projects shall be interpreted to require obligation or payment of funds in violation of any applicable federal law. Implementation of the actions and projects described in this INRMP are guided by how budget

priorities are assessed for environmental work on DOD installations. This is described in DODI 4715.03, *Natural Resources Conservation Program*, which implements policy, assigns responsibilities, and prescribes procedures for the integrated management of natural and cultural resources on property under DOD control.

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. As such, these programs and projects have been placed into four priority-based categories:

- Priority 0 – Day-to-day recurring projects
- Priority 1 – High priority projects
- Priority 2 – Medium importance projects
- Priority 3 – Low importance projects.

The prioritization of the projects is based on need, and need is based on a project’s importance in moving the natural resources management program closer toward successfully achieving its goal. DODI 4715.03 defines recurring and non-recurring conservation requirements as follows:

RECURRING AND NON-RECURRING CONSERVATION REQUIREMENTS

Priority 0: Recurring Natural Resources Conservation Management Requirements
<p>a. Administrative, personnel, and other costs associated with managing the DOD Natural Resources Conservation Program that are necessary to meet applicable compliance requirements in federal and state laws; regulations; EOs; and DOD policies, or in direct support of the military mission.</p> <p>b. DOD components shall give priority to recurring natural resources conservation management requirements associated with the operation of facilities, installations, and deployed weapons systems. These activities include day-to-day costs of sustaining an effective natural resources management program, and annual requirements, including manpower, training, supplies, permits, fees, testing and monitoring, sampling and analysis, reporting and recordkeeping, maintenance of natural resources conservation equipment, and compliance self-assessments.</p>
Priority 1 (High): Non-Recurring Natural Resources Management Requirements. Current Compliance.
<p>Includes installation projects and activities to support:</p> <p>a. Installations currently out of compliance (e.g., received an enforcement action from an authorized federal or state agency or local authority).</p> <p>b. Signed compliance agreement or consent order.</p> <p>c. Meeting requirements with applicable federal and state regulations, standards, EOs, or DOD policies.</p> <p>d. Immediate and essential maintenance of operational integrity or military mission sustainment.</p> <p>e. Projects or activities that will be out of compliance if not implemented in the current program year including the following:</p>

RECURRING AND NON-RECURRING CONSERVATION REQUIREMENTS

Priority 1 (High): Non-Recurring Natural Resources Management Requirements. Current Compliance (continued)

- i. Environmental analyses for natural resources conservation projects, and monitoring and studies required to assess and mitigate potential impacts of the military mission on conservation resources.
- ii. Planning documentation, master plans, compatible development planning, and INRMPs.
- iii. Natural resources planning-level surveys.
- iv. Reasonable and prudent measures included in incidental take statements of Biological Opinions; biological assessments; surveys; monitoring; reporting of assessment results; or habitat protection for listed, at-risk, and candidate species so that proposed or continuing actions can be modified in consultation with the USFWS or National Marine Fisheries Service.
- v. Mitigation to meet existing regulatory permit conditions or written agreements.
- vi. Non-point source pollution or watershed management studies or actions needed to meet compliance dates cited in approved state coastal non-point source pollution control plans, as required to meet consistency determinations consistent with Coastal Zone Management.
- vii. Wetlands delineations critical for the prevention of adverse impacts on wetlands, so that continuing actions can be modified to ensure mission continuity.

Compliance with missed deadlines established in DOD-executed agreements.

Priority 2 (Medium): Non-Recurring Natural Resources Management Requirements. Maintenance Requirements.

Includes those projects and activities needed to meet an established deadline beyond the current program year and maintain compliance. Examples include the following:

- a. Compliance with future deadlines.
- b. Conservation, GIS mapping, and data management to comply with federal, state, and local regulations; EOs; and DOD policy.
- c. Efforts undertaken in accordance with non-deadline specific compliance requirements of leadership initiatives.
- d. Wetlands enhancement to minimize wetlands loss and enhance existing degraded wetlands.
- e. Conservation recommendations in biological opinions issued pursuant to the ESA.

RECURRING AND NON-RECURRING CONSERVATION REQUIREMENTS

Priority 3 (Low): Non-Recurring Natural Resources Management Requirements. Enhancement Actions Beyond Compliance.

Includes those projects and activities that enhance conservation resources or the integrity of the installation's mission, or are needed to address overall environmental goals and objectives, but are not specifically required by law, regulation, or EO, and are not of an immediate nature. Examples include:

- a. Community outreach activities, such as International Migratory Bird Day, Earth Day, National Public Lands Day, Pollinator Week, and Arbor Day activities.
- b. Educational and public awareness projects, such as interpretive displays, oral histories, Watchable Wildlife areas, nature trails, wildlife checklists, and conservation teaching materials.
- c. Restoration or enhancement of natural resources when no specific compliance requirement dictates a course, or timing of action.
- d. Management and execution of volunteer and partnership programs.

Table 10-1. Summary of Pittsburgh Air National Guard Base Natural Resources Management Actions 2017

Objective No.	Projects	Priority Level	Completed (Date)	Notes (include actions and dates)
Natural Resources Program Management				
NRP - 1.1	Coordinate with Installation Organizations	Medium		
NRP - 1.2	Conduct Stakeholder Review and Update INRMP	High		
NRP - 1.3	Determine if an Update or Revision to the INRMP is Needed	High		
NRP - 2.1	Develop Educational Materials	Low		
NRP - 2.2	Include Ecosystem Management Principles in Land Management Programs	Medium		
Fish and Wildlife Management				
FWM - 1.1	Conduct Wildlife Surveys	High		
FWM - 2.1	Manage Woodchuck Population	High		
FWM - 2.2	Manage Turkey Population	High		
Conservation Law Enforcement				
CLE - 1.1	Natural Resources Regulation Education	Medium		
CLE - 1.2	Enforce Natural Resource Laws and Regulations	Medium		
CLE - 2.1	Fund Natural Resources Conference Attendance	Medium		
CLE - 3.1	Provide Funding for Natural Resources Education	Low		
Management of Threatened and Endangered Species and Habitats				
TE - 1.1	Review State and Federal Species Lists Annually	High		
TE - 2.1	Locate Torrey's Rush and Develop a Management Plan	High		
Water Resources Protection				
WRP - 1.2	Educate Installation Personnel	Medium		
WRP - 1.3	Divert Potential Fuel Spills	Medium		
WRP - 1.4	Maintain Outfalls and Create Safe Access	Medium		
Wetland Protection				
WP - 1.1	Conduct a Waters of the US and Wetland Delineation	High		
WP - 2.1	Prepare Wetlands Assessment and Management Plan	High		

Table 10-1. Summary of Pittsburgh Air National Guard Base Natural Resources Management Actions 2017

Objective No.	Projects	Priority Level	Completed (Date)	Notes (include actions and dates)
Grounds Maintenance				
GM – 1.1	Attend a Pennsylvania Erosion and Sediment Pollution Control Manual Training	High		
GM – 1.2	Implement BMPs Outlined in the Pennsylvania Erosion and Sediment Pollution Control Manual	High		
GM – 2.1	Utilize Native Plant Species	Medium		
GM – 3.1	Conduct Control Measures for Invasive Plants	High		
GM – 4.1	Plant Native Ground Cover			
Forest Management				
FM – 1.1	Perform a Forestry Inventory	High		
Integrated Pest Management Program				
IPM – 1.1	Perform an Invasive and Nuisance Species Survey	High		
IPM – 1.2	Implement Integrated Pest Management Plan Protocols	High		
IPM – 2.1	Reduce Nuisance Species	High		
IPM – 2.2	Re-Vegetate Areas with Native Species	High		
Bird/Wildlife Aircraft Strike Hazard				
BH – 1.1	Implement BASH Procedures	High		
BH – 2.1	Maintain Turf over the AOA	High		
BH – 2.2	Ensure that Habitat in and around the AOA Does Not Attract Wildlife	High		
Public Outreach				
PO – 1.1	Develop a Relationship with the Public	Low		

Table 10-2. Summary of Pittsburgh Air National Guard Base Natural Resources Management Actions 2018

Objective No.	Projects	Priority Level	Completed (Date)	Notes (include actions and dates)
Natural Resources Program Management				
NRP – 1.2	Conduct Stakeholder Review and Update INRMP	High		
NRP – 1.3	Determine if an Update or Revision to the INRMP is Needed	High		
NPR – 2.2	Include Ecosystem Management Principles in land Management Programs	High		
Fish and Wildlife Management				
FWM - 1.2	Map Installations Vegetative Cover	High		
FWM – 1.3	Develop a Fish and Wildlife Management Plan	Medium		
FWM – 1.4	Continually Assess Habitat Modification and Management Activities	Medium		
Conservation Law Enforcement				
CLE – 1.1	Natural Resources Regulation Education	Medium		
CLE – 2.1	Fund Natural Resources Conference Attendance	Medium		
CLE – 3.1	Provide Funding for Natural Resources Education	Low		
Management of Threatened and Endangered Species and Habitats				
TE – 1.1	Review State and Federal Species Lists Annually	High		
TE – 2.2	Determine if Listed Bat Species Utilize Forested areas on the Installation	High		
Water Resources Protection				
WRP – 1.1	Re-Vegetate Exposed Soils	Medium		
Wetland Protection				
WP – 1.2	Develop Waters of the US and Wetland Regulation Educational Materials	Medium		

Table 10-2. Summary of Pittsburgh Air National Guard Base Natural Resources Management Actions 2018

Objective No.	Projects	Priority Level	Completed (Date)	Notes (include actions and dates)
Grounds Maintenance				
GM – 1.2	Implement BMPs Outlined in the Pennsylvania Erosion and Sediment Pollution Control Manual	High		
GM – 1.3	Perform an Urban Tree Survey	Medium		
GM – 1.4	Replace Trees in Poor Health with Native Species	Medium		
GM – 2.1	Utilize Native Plant Species	Medium		
GM – 3.1	Conduct Control Measures for Invasive Plants	High		
Integrated Pest Management Program				
IPM – 1.2	Implement Integrated Pest Management Plan Protocols	High		
Bird/Wildlife Aircraft Strike Hazard				
BH – 1.1	Implement BASH Procedures	High		
BH – 2.1	Maintain Turf over the AOA	High		
BH – 2.2	Ensure that Habitat in and Around the AOA Does Not Attract Wildlife	High		
BH – 2.3	Reseed Bare Areas on Airfield	Medium		
Public Outreach				
PO – 1.1	Develop a Relationship with the Public	Low		
PO – 1.2	Develop and Distribute Pamphlets	Low		

Table 10-3. Summary of Pittsburgh Air National Guard Base Natural Resources Management Actions 2019

Objective No.	Projects	Priority Level	Completed (Date)	Notes (include actions and dates)
Natural Resources Program Management				
NRP – 1.2	Conduct Stakeholder Review and Update INRMP	High		
NRP – 1.3	Determine if an Update or Revision to the INRMP is Needed	High		
NPR – 2.2	Include Ecosystem Management Principles in Land Management Programs	High		
Outdoor Recreation and Public Access to Natural Resources				
OR – 1.1	Create a Trail and Picnic Area	Low		
Conservation Law Enforcement				
CLE – 1.2	Enforce Natural Resource Laws and Regulations	High		
CLE – 2.1	Fund Natural Resources Conference Attendance	Medium		
CLE – 3.1	Provide Funding for Natural Resources Education	Low		
Management of Threatened and Endangered Species and Habitats				
TE – 1.1	Review State and Federal Species Lists Annually	High		
Wetland Protection				
WP – 1.3	Install Educational Wetland Signs	Low		
Grounds Maintenance				
GM – 1.2	Implement BMPs Outlined in the Pennsylvania Erosion and Sediment Pollution Control Manual	High		
GM – 1.3	Perform an Urban Tree Survey	Medium		
GM – 1.4	Replace Trees in Poor Health with Native Species	Medium		
GM – 2.1	Utilize Native Plant Species	Medium		
GM – 3.1	Conduct Control Measures for Invasive Plants	High		
Integrated Pest Management Program				
IPM – 1.2	Implement Integrated Pest Management Plan Protocols	High		
Bird/Wildlife Aircraft Strike Hazard				
BH – 1.1	Implement BASH Procedures	High		
BH – 2.1	Maintain Turf over the AOA	High		

Table 10-3. Summary of Pittsburgh Air National Guard Base Natural Resources Management Actions 2019

Objective No.	Projects	Priority Level	Completed (Date)	Notes (include actions and dates)
BH – 2.2	Ensure that Habitat in and Around the AOA Does Not Attract Wildlife	High		
Public Outreach				
PO – 1.1	Develop a Relationship with the Public	Low		

Table 10-4. Summary of Pittsburgh Air National Guard Base Natural Resources Management Actions 2020

Objective No.	Projects	Priority Level	Completed (Date)	Notes (include actions and dates)
Natural Resources Program Management				
NRP – 1.2	Conduct Stakeholder Review and Update INRMP	High		
NRP – 1.3	Determine if an Update or Revision to the INRMP is Needed	High		
NPR – 2.2	Include Ecosystem Management Principles in Land Management Programs	High		
Conservation Law Enforcement				
CLE – 1.2	Enforce Natural Resource Laws and Regulations	High		
CLE – 2.1	Fund Natural Resources Conference Attendance	Medium		
CLE – 3.1	Provide Funding for Natural Resources Education	Low		
Management of Threatened and Endangered Species and Habitats				
TE – 1.1	Review State and Federal Species Lists Annually	High		
Grounds Maintenance				
GM – 1.2	Implement BMPs Outlined in the Pennsylvania Erosion and Sediment Pollution Control Manual	High		
GM – 1.3	Perform an Urban Tree Survey	Medium		
GM – 1.4	Replace Trees in Poor Health with Native Species	Medium		
GM – 2.1	Utilize Native Plant Species	Medium		
GM – 3.1	Conduct Control Measures for Invasive Plants	High		
Integrated Pest Management Program				
IPM – 1.2	Implement Integrated Pest Management Plan Protocols	High		
Bird/Wildlife Aircraft Strike Hazard				
BH – 1.1	Implement BASH Procedures	High		
BH – 2.1	Maintain Turf over the AOA	High		
BH – 2.2	Ensure that Habitat in and Around the AOA Does Not Attract Wildlife	High		
Public Outreach				
PO – 1.1	Develop a Relationship with the Public	Low		

Table 10-5. Summary of Pittsburgh Air National Guard Base Natural Resources Management Actions 2021

Objective No.	Projects	Priority Level	Completed (Date)	Notes (include actions and dates)
Natural Resources Program Management				
NRP – 1.2	Conduct Stakeholder Review and Update INRMP	High		
NRP – 1.3	Determine if an Update or Revision to the INRMP is Needed	High		
NPR – 2.2	Include Ecosystem Management Principles in Land Management Programs	High		
Conservation Law Enforcement				
CLE – 1.2	Enforce Natural Resource Laws and Regulations	High		
CLE – 2.1	Fund Natural Resources Conference Attendance	Medium		
CLE – 3.1	Provide Funding for Natural Resources Education	Low		
Management of Threatened and Endangered Species and Habitats				
TE – 1.1	Review State and Federal Species Lists Annually	High		
Grounds Maintenance				
GM – 1.2	Implement BMPs Outlined in the Pennsylvania Erosion and Sediment Pollution Control Manual	High		
GM – 1.3	Perform an Urban Tree Survey	Medium		
GM – 1.4	Replace Trees in Poor Health with Native Species	Medium		
GM – 2.1	Utilize Native Plant Species	Medium		
GM – 3.1	Conduct Control Measures for Invasive Plants	High		
Integrated Pest Management Program				
IPM – 1.2	Implement Integrated Pest Management Plan Protocols	High		
Bird/Wildlife Aircraft Strike Hazard				
BH – 1.1	Implement BASH Procedures	High		
BH – 2.1	Maintain Turf over the AOA	High		
BH – 2.2	Ensure that Habitat in and Around the AOA Does Not Attract Wildlife	High		
Public Outreach				
PO – 1.1	Develop a Relationship with the Public	Low		

11. APPENDIX

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12. ASSOCIATED AND COMPONENT PLANS

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Electronic copies of the following Component Plans are available on the attached compact disk.

Component Plan A Hazardous Waste Management Plan

Component Plan B Oil and Hazardous Substance Spill Prevention and Response Plan

Component Plan C Stormwater Pollution Prevention Plan/Preparedness, Prevention, and Contingency Plan

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Appendix A

References

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REFERENCES

- Air National Guard (ANG). Undated. *171st Air Refueling Wing Heritage*.
<<http://www.171arw.ang.af.mil/history/index.asp>>. Accessed 7 January 2015.
- . 2010. *Pennsylvania Air National Guard/Air Reserve Station Pittsburgh International Airport, Pittsburgh, Pennsylvania, 171st Air Refueling Wing/911th Airlift Wing Bird/Wildlife Aircraft Strike Hazard Plan 91-212*. May.
- . 2012a. *Final Environmental Assessment for Proposed Short-Term Construction Projects at the 171st Air Refueling Wing – Pennsylvania Air National Guard Base, Pittsburgh International Airport, Pittsburgh, Pennsylvania*. November.
- . 2012b. *Final Cultural Resources Survey, 171st Air Refueling Wing, Allegheny County, Pittsburgh, Pennsylvania, Pennsylvania Air National Guard*. February.
- . 2013a. *Stormwater Pollution Prevention Plan/Preparedness, Prevention, and Contingency Plan, Pennsylvania Air National Guard 171st Air Refueling Wing*. September.
- . 2013b. *171st Air Refueling Wing Final Integrated Pest Management Plan*. June.
- . 2014. *Final Environmental Impact Statement for the Second Main Operating base KC-46A Beddown at Alternative Air National Guard Installations*. June.
- Allegheny County. Undated. *Settlers Cabin Park*.
<<http://www.alleghenycounty.us/parks/scfac.aspx>>. Accessed 3 September 2015.
- Allegheny Parks Foundation. 2015. *Settler's Cabin Park*.
<<http://www.acparksfoundation.org/parks/show.php?park=8>>. Accessed 3 September 2015.
- Bailey, R.G. 1995. *Description of the ecoregions of the United States*. United States Department of Agriculture Forest Service Publication 1391. Washington, D.C., USA.
<<http://www.fs.fed.us/land/ecosysgmt/index.html>>.
- Federal Emergency Management Agency (FEMA). 2014. *Definitions*.
<<https://www.fema.gov/national-flood-insurance-program/definitions>> Accessed 17 February 2015.
- Herbert, Rowland & Grubic, Inc. 2013. *Township of Findlay 2013 Comprehensive Recreation, Parks and Open Space Plan Update*. <www.findlay.pa.us>.
- Hilty, J. 2014. *Grasses, Sedges, and Non-Flowering Plants of Illinois*. 21 September 2014.
<http://www.illinoiswildflowers.info/grasses/plants/torrey_rush.htm>. Accessed 17 February 2015.

- Moon Parks and Recreation. 2007. *Moon Park Master Plan*. Moon Township, Pennsylvania. November.
- Moon Township. Undated. *Demographics*. <<http://www.moontwp.com/demographics.html#>>. Accessed 6 January 2015.
- National Archives and Records Administration. 1977. *Executive Order 11990 – Protection of wetlands*. <<http://www.archives.gov/federal-register/codification/executive-order/11990.html>>. Accessed 17 February 2015.
- . 1999. *Executive Order 13112 – Invasive Species*. <<http://www.gpo.gov/fdsys/pkg/FR-1999-02-08/pdf/99-3184.pdf>>. Accessed 17 February 2015.
- National Cooperative Soil Survey (NCSS). 2004a. *Culleoka Series*. May.
- . 2004b. *Wharton Series*. July.
- . 2005. *Atkins Series*. March.
- . 2008. *Ernest Series*. December.
- . 2009. *Weikert Series*. April.
- . 2014. *Gilpin Series*. October.
- National Oceanic and Atmospheric Administration. 2015a. *Pittsburgh International Airport, PA US – Summary of Monthly Normals 1981-2010*. <<http://www1.ncdc.noaa.gov/pub/orders/cdo/600860.pdf>>. Accessed 11 September 2015.
- . 2015b. *National Weather Service Forecast Office Pittsburgh, Pennsylvania – Monthly Weather Summary*. <<http://www.weather.gov/climate/index.php?wfo=pbz>>. Accessed 8 January 2015.
- NatureServe. 2014. *NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1*. NatureServe, Arlington, Virginia. <<http://explorer.natureserve.org>>. Accessed 17 February 2015.
- Pennsylvania Department of Conservation and Natural Resources (PADCNR). Undated a. *Physiographic Provinces of Pennsylvania*. <http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_016202.pdf>. Accessed 8 January 2015.
- . Undated b. *Bureau of Forestry Mission*. <<http://www.dcnr.state.pa.us/forestry/whatwedo/index.htm>>. Accessed 24 March 2015.

- . 2007. *Geologic Map of Pennsylvania*.
<<http://www.pittsburghgeologicalsociety.org/images/map7.pdf>>. Accessed 20 January 2015.
- Pennsylvania Natural Heritage Program. 2014. *PNHP Species List, Allegheny County, November 2014*. <<http://www.naturalheritage.state.pa.us/Species.aspx>>. Accessed 17 February 2015.
- Pittsburgh Parks Conservancy. Undated. *Invasive Plants of Pittsburgh*.
- Secretary of the Air Force. 2014a. *Air Force Instruction 32-1053, Integrated Pest Management Program*. <<http://www.e-publishing.af.mil>>. Accessed 17 February 2015.
- . 2014b. *Air Force Instruction 32-7064, Integrated Natural Resource Management*. <<http://www.e-publishing.af.mil>>. Accessed 17 February 2015.
- United States Army Corps of Engineers (USACE). 1987. *Corps of Engineers Wetland Delineation Manual*. Technical Report Y-87-1, U.S. Army Corps of Engineers Waterways Experiment Station. Vicksburg, Mississippi.
- . 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)*. U.S. Army Engineer Research and Development Center, Vicksburg, Mississippi. Wetlands Regulatory Assistance Program: ERDC/EL TR-12-1. January.
- United States Air Force (USAF). 1997. *Dobbins Air Reserve Base Plan 91*. Headquarters 94th Airlift Wing.
- . 2014. *Air Force Instruction 32-7065, Cultural Resources Management Program*. Civil Engineering. By order of the Secretary of the Air Force Washington, D.C. 19 November.
- United States Department of Agriculture (USDA). 1981. *Soil Survey of Allegheny County, Pennsylvania*. August.
- United States Environmental Protection Agency. 2000. *Executive Order 13148, Greening the Government through Leadership in Environmental Management*. <<http://www.epa.gov/epp/pubs/eo13148.pdf>>. Accessed 17 February 2015.
- United States Fish and Wildlife Service (USFWS). 2006. *Threatened and Endangered Species, Indiana Bat (Myotis sodalis) Fact Sheet*. December.
- . 2008. *Birds of Conservation Concern 2008*. United States Department of Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Virginia. 85 pp.
- . 2014a. *Federally Listed, Proposed, and Candidate Species in Pennsylvania*. 25 February.

- . 2014b. *Endangered Species, Indiana Bat (Myotis sodalis)*. November.
- . 2015a. *Information, Planning, and Conservation System, Allegheny Pennsylvania*. 17 February 2015.
- . 2015b. *Endangered Species, Northern Long-Eared Bat (Myotis septentrionalis) Fact Sheet*. 22 January 2015.
- United States Geological Survey. 2013. *Oakdale Quadrangle Pennsylvania, 7.5-Minute Series*.

Appendix B

List of Acronyms and Abbreviations

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LIST OF ACRONYMS AND ABBREVIATIONS

°F	Degrees Fahrenheit
146 ARS	146 th Air Refueling Squadron
147 ARS	147 th Air Refueling Squadron
171 ARW	171 st Air Refueling Wing
258 ATCS	258 th Air Traffic Control Squadron
AFI	Air Force Instruction
AFPD	Air Force Policy Directive
AG	Agricultural Outleasing
ANG	Air National Guard
ANGB	Air National Guard Base
AOA	Area of Action
APHIS	Animal and Plant Health Inspection Service
BASH	Bird/Wildlife Aircraft Strike Hazard
BH	Bird Aircraft Strike Hazard
BMP	Best Management Practice
CFR	Code of Federal Regulations
CLE	Conservation Law Enforcement
CLEO	Conservation Law Enforcement Officer
CRP	Cultural Resources Protection
CWA	Clean Water Act
CZ	Coastal Zone and Marine Resources Management
DOD	Department of Defense
DODI	Department of Defense Instruction
EO	Executive Order
EPF	Environmental Planning Function
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FM	Forest Management
FONPA	Finding of No Practicable Alternative
ft	Foot (feet)
FWM	Fish and Wildlife Management
GIS	Geographic Information System
GM	Grounds Maintenance
GPS	Global Positioning System

ICRMP in. INRMP IPM	Integrated Cultural Resources Management Plan Inch(es) Integrated Natural Resources Management Plan Integrated Pest Management
MAJCOM MSG	Major Command Mission Support Group
NCSS NGB NMFWA NOAA NPDES NRHP NRP	National Cooperative Soil Survey National Guard Bureau National Military Fish and Wildlife Association National Oceanic and Atmospheric Administration National Pollutant Discharge Elimination System National Register of Historic Places Natural Resources Program Management
OR OWS	Outdoor Recreation and Public Access to Natural Resources Oil-Water Separator
PADCNR PADEP PAGC PO PPCP	Pennsylvania Department of Conservation and Natural Resources Pennsylvania Department of Environmental Protection Pennsylvania Game Commission Public Outreach Preparedness, Prevention, and Contingency Plan
RTE	Rare, threatened, and endangered
TE	Threatened and Endangered Species and Habitats
USACE USAF USC USDA USFWS	United States Army Corps of Engineers United States Air Force United States Code United States Department of Agriculture United States Fish and Wildlife Service
WFM WP WRP	Wildland Fire Management Wetland Protection Water Resources Protection

Appendix C

Agency Consultation and Task Force Meeting Minutes

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NATIONAL GUARD BUREAU

3501 FETCHET AVENUE
JOINT BASE ANDREWS MD 20762-5157

25 July 2014

Kathy Frankel
Natural Resource Program Supervisor
Pennsylvania Department of Conservation and Natural Resources
Southwest Region
301 Fifth Avenue, Suite 324
Pittsburgh, PA 15222-2420

Subject: Sikes Act Coordination of the Integrated Natural Resources Management Plan (INRMP) for Pittsburgh Air National Guard Base (ANGB)

Dear Ms. Frankel:

This letter is to request your assistance in the review and coordination of the Pittsburgh Air National Guard Base INRMP and EA. Pursuant to the requirements of the Sikes Act Improvement Amendment of 1997 (*16 United States Code [USC] 670a et seq.*), an INRMP is being prepared for Pittsburgh Air National Guard Base, Pennsylvania, and is currently in the Draft stage of development. The Sikes Act requires the preparation of an INRMP in cooperation with the U.S. Fish and Wildlife Service (USFWS) and the appropriate state fish and wildlife agency (i.e., Pennsylvania Department of Conservation and Natural Resources and Pennsylvania Game Commission). In addition, it is required that the resulting Plan reflects the mutual agreement of the parties concerning conservation, protection, and management of fish and wildlife resources.

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The Pittsburgh Air National Guard Base INRMP will be developed using an interdisciplinary approach and information gathered from a variety of organizations. Information and guidance will be solicited from a variety of federal, state, and local agencies and groups. An INRMP Task Force will be formed, and will include key installation personnel and individuals from various agencies and groups that have an interest in Pittsburgh Air National Guard Base and the management of their resources. Representatives from the following federal and state agencies and groups will comprise the INRMP Task Force: the USFWS – Pennsylvania Ecological Services Field Office, the Pennsylvania Department of Conservation and Natural Resources, and the Pennsylvania Game Commission. Individual Task Force members will be contacted to obtain further information and guidance.

The Task Force ensures that information concerning the natural resources on or in the vicinity of the Installation is accurate and is presented acknowledging local and regional management strategies. As a result, the probable effects of installation operations on the surrounding natural resources will be projected. This approach allows for insight into possible operational alternatives, which may result in reduced impacts to the natural resources on the Installations and in surrounding areas. To date, no INRMP Task Force meetings have been conducted at Pittsburgh Air National Guard Base. We anticipate



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holding the first Task Force Meeting in September or October 2014, and would like your agency to be present at the meeting. We will be in touch regarding further details of first Task Force Meeting at Pittsburgh ANGB.

The collaborative INRMP Task Force is designed to ensure that the management goals, objectives, and actions of the INRMP reflect the goals of your organization. Should you have any questions, please contact Jeannette Matkowski at 410-584-7000 x 5529. We look forward to our continued working relationship with the Pennsylvania Department of Conservation and Natural Resources.

Respectfully yours,

Melissa Mertz
Natural Resources Program Manager

Attachments

cc: Lt. Col. John Tower, 171 ARW, Pittsburgh ANGB, PA
Jeannette Matkowski, EA Engineering, Science, and Technology, Inc.



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3501 FETCHET AVENUE
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25 July 2014

Garry R. Camus
Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

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25 July 2014

Pam Shellenberger
U.S. Fish and Wildlife Service
Pennsylvania Field Office
315 South Allen Street, Suite 322
State College, PA 16801

Subject: Sikes Act Coordination of the Integrated Natural Resources Management Plan (INRMP) for Pittsburgh Air National Guard Base (ANGB)

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The Pittsburgh Air National Guard Base INRMP will be developed using an interdisciplinary approach and information gathered from a variety of organizations. Information and guidance will be solicited from a variety of federal, state, and local agencies and groups. An INRMP Task Force will be formed, and will include key installation personnel and individuals from various agencies and groups that have an interest in Pittsburgh Air National Guard Base and the management of their resources. Representatives from the following federal and state agencies and groups will comprise the INRMP Task Force: the USFWS – Pennsylvania Ecological Services Field Office, the Pennsylvania Department of Conservation and Natural Resources, and the Pennsylvania Game Commission. Individual Task Force members will be contacted to obtain further information and guidance.

The Task Force ensures that information concerning the natural resources on or in the vicinity of the Installation is accurate and is presented acknowledging local and regional management strategies. As a result, the probable effects of installation operations on the surrounding natural resources will be projected. This approach allows for insight into possible operational alternatives, which may result in reduced impacts to the natural resources on the Installation and in surrounding areas. The first Task Force Meeting is scheduled for October 15, 2014, at 10:00 AM at the Pittsburgh ANGB in Building 205 Civil Engineering.



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3501 FETCHET AVENUE
JOINT BASE ANDREWS MD 20762-5157

The collaborative INRMP Task Force is designed to ensure that the management goals, objectives, and actions of the INRMP reflect the goals of your organization. Should you have any questions, please contact Jeannette Matkowski at 410-584-7000 x 5529. We look forward to our continued working relationship with the Pennsylvania Game Commission.

Respectfully yours,

Felicia Johnson
NEPA Program Manager

Attachments

cc: Lt. Col. John Tower, 171 ARW, Pittsburgh ANGB, PA
Jeannette Matkowski, EA Engineering, Science, and Technology, Inc.

**Pittsburgh ANGS
INRMP Task Force Meeting
October 15, 2014 10:00 AM**

Meeting Attendees

John Tower, Environmental Engineer, PA ANG

Richard Kelly, Engineer, PA ANG

Jason Nelson Engineering Technician, PA ANG

Charles Kerns, Base Civil Engineer, PA ANG

Felicia Johnson, NEPA Coordinator, NGB/A7AN

Gary Camus, Chief, PA Game Commission

Jack Lucas, Land Management Supervisor, PA Game Commission

Douglas Dunkerley, Land Management Supervisor, PA Game Commission

Jeannette Matkowski, Project Manager, EA Engineering, Science, and Technology

1. Introductions

- Brief introductions of the Integrated Natural Resources Management Plan (INRMP) Team were exchanged.

2. Authority

- The Sikes Act requires DoD installations with appreciable natural resources such as hunting programs, wetlands, or threatened and endangered (T&E) species to have an INRMP. The trigger for the Pittsburgh ANGS INRMP is the presence of Torrey's rush (*Juncus torreyi*), a state threatened species located in the created wetland mitigation area.

3. Purpose of INRMP Task Force Meeting

- INRMPs must be signed by the Regional Director of the USFWS (authority at the local field office), state fish and game agency (PA Game Commission and PA Department of Conservation and Natural Resources), and the Installation Commander.
- The purpose of the Task Force meeting is to include agencies from the beginning of the INRMP process so the agencies are comfortable with the document which will allow the signature process to go quick and smoothly.

4. Review and Discussion of INRMP Management Concerns, Goals, and Objectives

- During the development of the INRMP, the project team needs to keep in mind that Pittsburgh ANGS is a military installation with a distinct purpose and mission. While managing natural resources, we cannot deviate from the military mission; however, knowing this ahead of time gives us an advantage while managing the natural resources. Pittsburgh ANGS is 194 acres total, with approximately 1/3 of its acreage as unimproved grounds.
- The overall goal of the INRMP is to implement an ecosystem-based conservation program that provides for conservation and rehabilitation of natural resources in a manner consistent with the military mission; integrates and coordinates all natural resource management activities; provide for sustainable multipurpose uses of natural resources; and provide public access for use of natural resources subject to safety and military security considerations.
- Since this is the first INRMP for Pittsburgh ANGS, no goal, objectives, or projects have been developed. The INRMP will act as a funding request document, so it is important that any ideas for projects to be included even if they are small projects.
- Jeannette Matkowski went through the list of management areas that would be included in the INRMP and gave hypothetical examples of projects that could be included. Not all resources will

be applicable to Pittsburgh ANGS. The INRMP team discussed potential projects for the installation under each management resource.

- Natural Resources Management – Develop educational pamphlet describing wildlife and vegetation or general natural resources on the Installation.
- Fish and Wildlife Management – There is a rather large population of groundhogs at the installation that cause some issues. Currently there is no set management of groundhogs in place. The PA Game Commission suggested contacting USDA South Park as they have the certification to work at airports. Turkeys are also growing in population size and can be a ground strike hazard.
- Outdoor Recreation and Public Access to Natural Resources - Establish a trail and picnic area near the wooded area behind the Motor Pool and Building 404. There is currently no hunting allowed on the installation.
- Conservation Law Enforcement – Educate base personnel on environmental regulations to ensure compliance.
- Management of Threatened and Endangered Species and Habitats - The Pennsylvania Natural Diversity Inventory Environmental Review Tool (PNDI ER Tool) enables the public to perform online PNDI searches for potential impacts to threatened, endangered, special concern species and special concern resources in PA. Besides Torre's rush, potential habitat for the Indiana bat (*Myotis sodalis*) and northern long eared bat (*Myotis septentrionalis*) occurs at the installation. The PA Game Commission stated that it is likely that all bats will soon be listed due to white nose syndrome.
- Water Resource Protection – The installation recently had a fuel spill that entered into an on-base stream area and the edge of the wetland that borders the stream near the East Aircraft Parking Ramp. Staff would like to design some kind of structure or dike that could be quickly closed to capture or divert any potential fuel spills for rapid containment and cleanup even in the potential case of minimal staff such as in evenings or overnight. This would be in addition to existing diversion valves and spill/deicing fluid containment/collection tank on the East Aircraft Parking Ramp. Outfalls are located behind the POL Area. Access to these outfalls is overgrown with vegetation and the outfalls are deteriorating themselves. A small access point is needed to allow quick access and to check the status of the streams. The outfalls also need to be replaced or repaired. In addition, undercutting and erosion from the outfall is occurring and mitigation is needed.
- Wetland Protection – Perform a wetland delineation survey, prepare a wetland management plan and identify areas for wetland enhancement.
- Grounds Maintenance – There are steep hill areas on the installation that are mowed on a frequent basis. To reduce the hours needed for mowing, plant a low, native ground cover to reduce maintenance. Be aware that the native ground cover would not attract wildlife.
- Forest Management/Wildland Fire Management – No forest fires have occurred at the installation. However, when planting native vegetation, to reduce the risk of wildfire, the buffer surrounding the forested area should be double the height of tallest species.
- Agricultural Outleasing – N/A
- Integrated Pest Management Program – Some of the invasive species identified on the installation included mile-a-minute (*Persicaria perfoliata*), multiflora rose (*Rosa multiflora*), and autumn olive (*Elaeagnus umbellata*). These species can be managed by spraying.
- Bird/Aircraft Strike Hazard (BASH) – Pittsburgh ANGS does have a BASH Plan. Maintain appropriate habitats in high BASH threat areas to prevent attracting wildlife.
- Coastal Zone and Marine Resources – N/A
- Cultural Resource Protection – An old farm site is located behind the Vehicle Maintenance building (Building 404). A Phase I survey was completed, but nothing was

found. The Pennsylvania BHP concurred that a Phase II excavation was not necessary at this site to determine NRHP eligibility. No further archeological investigations were recommended for Pittsburgh ANGS. Contact the PA Historic and Museum Commission to see if any other surveys were completed in the past or to see if there are any historical sites/archeological resources known on the Installation.

- Public Outreach – Continue Boy Scout and Girl Scout Merit Badge Day (nature hikes, simulated fossil digging, etc.). Continue Orientation Flights when the public has the opportunity to go for a flight in aircraft. Allow Three Rivers Audubon to do a Christmas bird count, breeding bird survey, or scheduled bird walks.
- Geographic Information Systems – Continue to train staff in GIS.
- A constraints map will be developed for Pittsburgh ANGS which will include multiple GIS layers superimposed on one another. The map will show the areas where it would be better to develop if needs versus areas with natural resources that should be avoided. Constraints map will be used as a tool for the installation in planning and natural resource management.

5. INRMP Schedule

- The INRMP team received a copy of the INRMP schedule – there is room for flexibility in the schedule if needed.
- The Fish and Boat Commission should also review the INRMP. Brian Barner is the Executive Director; however, Chris Ervin will review the document.
- For the PA Game Commission, the document should be sent to Gary Camus and he will distribute it as needed.
- Preliminary Draft – January 2015 – to be reviewed by ANG (30 day review period)
- 2nd Draft – March/April 2015 – to be reviewed by the agencies (30 day review period)
- Public Review – June 2015 - Sikes Act requires a 30 day public review. Copies of the INRMP will be available at the local Public Library and a press release will be displayed in the Post Gazette.
- Draft Final – July 2015 - includes public comments, released to ANG and agencies for final comment
- Final - signed by the agencies and installation.

6. Additional Agency Comments

- The installation is on leased land.
- There are no well pads on the airport property.
- There are no Right of Ways on the property.

7. Tour of Installation

- The following meeting attendees took a tour of the installation: John Tower, Richard Kelly, Charles Kerns, Gary Camus, Jack Lucas, Douglas Dunkerley, and Jeannette Matkowski
- Five separate areas were investigated.
 - Area 1 – Forested area behind Building 100 and Building 205. The team walked on the road along the fenced area. McClarens Run runs through the center of the forested area. Autumn olive and grapevine is located in the area adjacent to Building 100 and in the wetland area. These species can be removed by cutting or spraying. Multiflora rose was also documented and should be treated for removal. Bat habitat occurs in this area – shagbark hickory trees (*Carya ovate*) throughout. Autumn olive is also located along the fence adjacent to the installation's main entrance road. This should be treated for removal.
 - Area 2 – This area included the large forested area between the large parking lot off of Tanker Road and Building 404. This is the area for the potential trail/picnic area near

ponds and waterfalls. Area behind Building 404 would have better access (grass field) for a trail than near the parking lot. There is groundhog activity in this area. Mile-a-minute, autumn olive, and grapevine is located in this area and should be treated for removal.

- Area 3 – This area included the gravel road/old farm site behind Building 404 and areas surrounding the running track. There is a large amount of autumn olive located outside of the installation boundary that will spread into the installation in the near future. Vegetation along the fence and buildings should be maintained to prevent the invasive species.
- Area 4 – This area included the created wetland area and stormwater management ponds. PA Game Commission stated that the large wetland area looked very healthy and was composed of nice native plants. There is no need for any type of enhancement of this wetland. A large storm water detention pond is located in this area and contains multiflora rose, which should be treated for removal. Native plantings could occur around the detention pond. The PA Game Commission does offer free seedlings of native species. Scouts could come onto the installation to do the plantings. Black locust be planted along the fringe of the detention pond and could benefit the bat population.
- Area 5 – This area includes the forested area adjacent to the POL Area. A large stream runs through the center of this area and feeds into McClarens Run. There are multiple outfall pipes along the fence walkway. The outfalls are overgrown and erosion is occurring resulting in a steep hillside. Safe access to the outfalls is needed. Outfalls should be repaired or replaced. If outfalls are left as is, the soil will continue to undercut and the outfalls will fall in the future. Curbing should be installed along the fence line adjacent to the POL Area to prevent storm water from causing additional erosion in this area. Eastern chipmunk (*Tamias striatus*) and an eastern garter snake (*Thamnophis sirtalis*) were observed.

PHOTOGRAPHIC RECORD

**Pittsburgh ANGS
October 15, 2014**



Area 1 – Wetland area.



Area 1 – Vegetation



Area 2 – Vegetation and Area for
Potential Nature Trail/Picnic Area



Area 2 – Mile-a-Minute



Area 3 – Autumn olive along
fenceline.



Area 4 – Stormwater Detention Pond



Area 4 – Small stream that borders field area and nearby wetland areas.



Area 1 – Overview of created wetland area.



Area 5 – Location of outfalls and bad erosion.

Pittsburgh ANGS

INRMP Task Force Meeting

Meeting Attendees

15 October 2014

<p>Name: Jeannette Matkowski Title: Project Manager Representing: EA Engineering Address: 225 Schilling Circle Phone: 410-584-7000 e-mail: jematkowski@eaest.com</p>	<p>Name: Jason Nelson Title: Engineering Technician Representing: 171 CES Address: 300 Tanker Rd Coraopolis PA 15108 Phone: 412-776-7619 e-mail: jason.nelson.2@ang.af.mil</p>
<p>Name: Charles Kerns Title: Base Civil Engineer Representing: 171st CES Address: 300 Tanker Rd Coraopolis, PA 15108 Phone: (412) 776-7539 e-mail: charles.kerns@ang.af.mil</p>	<p>Name: GARY R. CAMUS Title: CHIEF FEDERAL AID+GRANT COORDINATION Representing: PA GAME COMMISSION Address: 2001 ELMERTON AVE HARRISBURG PA 17110 Phone: (717) 787-54250 x 3615 e-mail: gcamus@pa.gov</p>
<p>Name: Jack Lucas Title: Land Mgmt Supervisor Representing: PA Game Comm. Address: 4820 RT 711 Bolivar PA 15923 Phone: 724 2389522 e-mail: jaluucas@pa.gov</p>	<p>Name: DOUGLAS DUNKERLEY Title: LAND MANAGEMENT SUPERVISOR Representing: PA GAME COMMISSION Address: 4820 RT 711 BOLIVAR, PA 15923 Phone: (412) 860-3482 e-mail: ddunkerley@pa.gov</p>

Pittsburgh ANGS

INRMP Task Force Meeting

Meeting Attendees

15 October 2014

<p>Name: Felicia Johnson Title: NGB A7AM NEPA COR Representing: NGB Address: Phone: 240-612 8859 e-mail: felicia.johnson@ang.af.mil</p>	<p>Name: Title: Representing: Address: Phone: e-mail:</p>
<p>Name: JOHN TOWER Title: ENR.ENGR. Representing: 171 ARW Address: 300 Tanker Rd. Coraopolis, PA 15108 Phone: 412-776-7640 e-mail: john.tower@ang.af.mil</p>	<p>Name: Title: Representing: Address: Phone: e-mail:</p>
<p>Name: RICHARD KELLY Title: ENGINEER Representing: 171 ARW Address: 300 TANKER RD. CORAOPOLIS, PA 15108 Phone: 412-776-7446 e-mail: richard.kelly.2@ang.af.mil</p>	<p>Name: Title: Representing: Address: Phone: e-mail:</p>



NATIONAL GUARD BUREAU

3501 FETCHET AVENUE

JOINT BASE ANDREWS MD 20762-5157

6 April 2016

Kathy Frankel
Natural Resource Program Supervisor
Pennsylvania Department of Conservation and Natural Resources
Southwest Region
301 Fifth Avenue, Suite 324
Pittsburgh, PA 15222-2420

Subject: Review of the Draft Integrated Natural Resources Management Plan for Pittsburgh Air National Guard Base (ANGB)

Dear Ms. Frankel:

Pittsburgh Air National Guard Station (ANGS) and the Air National Guard (ANG) would like to thank the Pennsylvania Department of Conservation and Natural Resources (PADCNR) for its involvement and coordination in the development of the Pittsburgh ANGS Integrated Natural Resources Management Plan (INRMP).

The U.S. Fish and Wildlife Service and Pennsylvania Game Commission have also been involved in the development of this document. The federal and state coordination during the development of an INRMP is a requirement of the Sikes Act Improvement Act (SAIA) of 1997. As required by Title 16 U.S.C. §670a(a)(2), the Pittsburgh ANGS INRMP "shall reflect the mutual agreement of the parties concerning conservation, protection, and management of fish and wildlife resources." Pittsburgh ANGS is currently in the draft stage of the INRMP development process. At this time, we are soliciting PADCNR comments on the draft INRMP.

Please review the Pittsburgh ANGS INRMP within 30 days of receiving this document. We request that you submit comments using the Comment Response Matrix attached. Comments can be emailed to melanie.a.frisch.civ@mail.mil or mailed to:

Melanie Frisch
NGB/A7AM
3501 Fetchet Avenue
Joint Base Andrews, MD 20762

Should you have any questions concerning this matter please contact me at (240) 612-8427. We will be able to discuss any issues on the document.

Sincerely,

Melanie Frisch
Natural Resources Program Manager



NATIONAL GUARD BUREAU

3501 FETCHET AVENUE

JOINT BASE ANDREWS MD 20762-5157

6 April 2016

Garry R. Camus
Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

Subject: Review of the Draft Integrated Natural Resources Management Plan for Pittsburgh Air National Guard Base (ANGB)

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Sincerely,

Melanie Frisch
Natural Resources Program Manager



NATIONAL GUARD BUREAU

3501 FETCHET AVENUE

JOINT BASE ANDREWS MD 20762-5157

6 April 2016

Pam Shellenberger
U.S. Fish and Wildlife Service
Pennsylvania Field Office
315 South Allen Street, Suite 322
State College, PA 16801

Subject: Review of the Draft Integrated Natural Resources Management Plan for Pittsburgh Air National Guard Base (ANGB)

Dear Ms. Shellenberger:

Pittsburgh Air National Guard Station (ANGS) and the Air National Guard (ANG) would like to thank the U.S. Fish and Wildlife Service (USFWS) for its involvement and coordination in the development of the Pittsburgh ANGS Integrated Natural Resources Management Plan (INRMP).

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3501 Fetchet Avenue
Joint Base Andrews, MD 20762

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Sincerely,

Melanie Frisch
Natural Resources Program Manager

Matkowski, Jeannette

From: Frisch, Melanie A CIV (US) <melanie.a.frisch.civ@mail.mil>
Sent: Tuesday, June 07, 2016 3:34 PM
To: Scofield, Brian
Cc: Matkowski, Jeannette
Subject: RE: [Non-DoD Source] Pittsburgh Air National Guard Base draft INRMP

Thank you for your response Mr. Scofield. I have copied the contractor writing the INRMP for us for their files and for inclusion in the INRMP.

Melanie A Frisch
Natural Resources Program Manager
Pest Management Program Manager
NGB A4AM
3501 Fetchet Avenue
JB Andrews MD 20762
Commercial: 240-612-8427
DSN: 612-8427

-----Original Message-----

From: Scofield, Brian [mailto:brian_scofield@fws.gov]
Sent: Tuesday, June 07, 2016 1:24 PM
To: Frisch, Melanie A CIV (US) <melanie.a.frisch.civ@mail.mil>
Subject: [Non-DoD Source] Pittsburgh Air National Guard Base draft INRMP

Ms. Frisch,

I have reviewed the draft INRMP referenced in the subject line. No federally listed species under our jurisdiction is known or likely to occur in the project area; therefore, we have no comments to provide.

Sincerely,

Brian Scofield
Biologist
U.S. Fish & Wildlife Service
Pennsylvania Field Office

110 Radnor Rd; Suite 101

State College, PA 16801
814-234-4090 x7471



NATIONAL GUARD BUREAU

3501 FETCHET AVENUE
JOINT BASE ANDREWS MD 20762-5157

30 January 2017

Brian Scofield
U.S. Fish and Wildlife Service
Pennsylvania Field Office
315 South Allen Street, Suite 322
State College, PA 16801

Subject: Review of the Draft Final Integrated Natural Resources Management Plan for Pittsburgh Air National Guard Base (ANGB)

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Sincerely,

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Melanie Frisch
Natural Resources Program Manager



NATIONAL GUARD BUREAU

3501 FETCHET AVENUE
JOINT BASE ANDREWS MD 20762-5157

30 January 2017

Garry R. Camus
Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

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3501 Fetchet Avenue
Joint Base Andrews, MD 20762

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Sincerely,

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Melanie Frisch
Natural Resources Program Manager



NATIONAL GUARD BUREAU

3501 FETCHET AVENUE
JOINT BASE ANDREWS MD 20762-5157

30 January 2017

Kathy Frankel
Natural Resource Program Supervisor
Pennsylvania Department of Conservation and Natural Resources
Southwest Region
301 Fifth Avenue, Suite 324
Pittsburgh, PA 15222-2420

Subject: Review of the Draft Final Integrated Natural Resources Management Plan for Pittsburgh Air National Guard Base (ANGB)

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Sincerely,

A handwritten signature in black ink, appearing to read "Melanie Frisch".

Melanie Frisch
Natural Resources Program Manager



COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA GAME COMMISSION

2001 Elmerton Avenue
Harrisburg, PA 17110-9797

Wildlife Habitat Management
717-787-6818

February 15, 2017

Ms. Melanie Frisch
NGB/A4AM
3501 Fetchet Avenue
Joint Base Andrews, MD 20762

Re: Review of the Draft Final Integrated Natural Resources Management Plan for Pittsburgh Air National Guard Base (ANGB), Moon Township, Allegheny County, PA

Dear Ms. Frisch,

Thank you for submitting the Draft Final Integrated Natural Resources Management Plan for Pittsburgh Air National Guard Base (ANGB) to the Pennsylvania Game Commission (PGC) for review. The PGC reviewed the document for potential impacts to species and resources of concern under PGC responsibility.

PNDI records indicate that no known occurrences of species or resources of concern under PGC jurisdiction occur in the vicinity of the project. In addition, we have no additional comments on the document at this time as management activities outline within are not expected to impact any birds or mammals of concern, or State Game Lands.

Thank you again for the opportunity to comment on the Draft Final Integrated Natural Resources Management Plan for Pittsburgh Air National Guard Base.

Sincerely,

Tracey Librandi Mumma
Division of Environmental Planning & Habitat Protection
Bureau of Wildlife Habitat Management
Phone: 717-787-4250, Extension 3614
Fax: 717-787-6957
E-mail: tlibrandi@pa.gov

TLM/tlm



Scofield, Brian <brian_scofield@fws.gov>

Review Draft Final INRMP for Pittsburgh ANGB

Scofield, Brian <brian_scofield@fws.gov>
To: melanie.a.frisch.civ@mail.mil

Wed, Feb 22, 2017 at 4:44 PM

Ms. Frisch,

I have reviewed the draft INRMP referenced in the subject line. No federally listed species under our jurisdiction is known or likely to occur in the project area; therefore, we have no comments to provide.

Sincerely,

Brian Scofield
U.S. Fish & Wildlife Service
Pennsylvania Field Office
110 Radnor Rd; Suite 101
State College, PA 16801
814-234-4090 x7471

Appendix D

Annotated Summary of Key Legislation

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ANNOTATED SUMMARY OF KEY LEGISLATION

Federal Public Laws and Executive Orders	
<i>National Defense Authorization Act of 1989, Public Law (P.L.) 101-189; Volunteer Partnership Cost-Share Program</i>	Amends two acts and establishes volunteer and partnership programs for natural and cultural resources management on Department of Defense (DOD) lands.
<i>Defense Appropriations Act of 1991, P.L. 101-511; Legacy Resource Management Program</i>	Establishes a program for the stewardship of biological, geophysical, cultural, and historic resources on DOD lands.
<i>Executive Order (EO) 11988, Floodplain Management</i>	Provides direction regarding actions of federal agencies in floodplains, and requires permits from state and federal review agencies for any construction within a 100-year floodplain.
<i>EO 11990, Protection of Wetlands</i>	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.
<i>EO 11514, Protection and Enhancement of Environmental Quality</i>	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.
<i>EO 11593, Protection and Enhancement of the Cultural Environment</i>	All federal agencies are required to locate, identify, and record all cultural resources. Cultural resources include sites of archaeological, historical, or architectural significance.
<i>EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds</i>	The United States Fish and Wildlife Service 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.
<i>EO 11987, Exotic Organisms</i>	Agencies shall restrict the introduction of exotic species into the natural ecosystems on lands and waters that they administer.
<i>EO 12088, Federal Compliance With Pollution Control Standards</i>	This EO delegates responsibility to the head of each executive agency for ensuring that all necessary actions are taken for the prevention, control, and abatement of environmental pollution. This order gives the United States Environmental Protection Agency (EPA) authority to conduct reviews and inspections to monitor federal facility compliance with pollution control standards.
<i>EO 12898, Environmental Justice</i>	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.
<i>EO 13112, Exotic and Invasive Species</i>	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.
<i>EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds</i>	Directs executive departments and agencies to take certain actions to further implement the Migratory Bird Treaty Act.
<i>EO 13352, Facilitation of Cooperative Conservation</i>	To ensure that the Departments of the Interior, Agriculture, Commerce, and Defense EPA implement laws relating to the environment and natural resources in a manner that promotes cooperative conservation, with an emphasis on appropriate inclusion of local participation in federal decision-making, in accordance with their respective agency missions, policies, and regulations.

ANNOTATED SUMMARY OF KEY LEGISLATION

Federal Public Laws and Executive Orders	
<i>EO 13045, Protection of Children from Environmental Health and Safety Risks</i>	This EO makes it a high priority to identify and assess environmental health and safety risks that could disproportionately affect children. It also directs agencies to ensure that policies, programs, activities, and standards address such risks if identified.
<i>EO 13443, Facilitation of Hunting Heritage and Wildlife Conservation</i>	The purpose of this EO is to direct federal agencies that have programs and activities that have a measurable effect on public land management, outdoor recreation, and wildlife management, including the Department of the Interior and United States Department of Agriculture to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat.
United States Codes	
<i>National Environmental Policy Act of 1969 (NEPA), as amended; P.L. 91-190, 42 United States Code (U.S.C.) 4321 et seq.</i>	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.
<i>Council on Environmental Quality Regulations for Implementing NEPA; 40 Code of Federal Regulation Parts 1500–1508</i>	Provides regulations applicable to and binding on all federal agencies for implementing the procedural provisions of NEPA, as amended.
<i>Conservation Programs on Military Installations (Sikes Act), as amended; P.L. 86-797, 16 U.S.C. 670(a) et seq.</i>	Requires federal military installations with adequate wildlife habitat to implement cooperative agreements with other agencies and develop long range Integrated Natural Resources Management Plans. Thereby, it is appropriate to manage natural resources for multipurpose uses and provide the public access to those uses to the extent consistent with the military mission. The act also sets guidelines for the collection of fees for the use of natural resources such as hunting and fishing.
<i>Leases: Non-excess Property of Military Departments, 10 U.S.C. 2667, as amended</i>	Authorizes DOD to lease to commercial enterprises federal land that is not currently needed for public use. Covers agricultural outleasing program.
<i>Federal Land Use Policy and Management Act, 43 U.S.C. 1701–1782</i>	Requires management of public lands to protect the quality of scientific, scenic, historical, ecological, environmental, and archeological resources and values; and 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.
<i>Clean Air Act, 42 U.S.C. 7401–7671q, 14 July 1955, as amended</i>	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 that does not meet federal standards and to prevent significant deterioration in areas where air quality exceeds those standards.
<i>Federal Water Pollution Control Act (Clean Water Act), 33 U.S.C. 1251–1387</i>	The Clean Water Act 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 EPA.
<i>Migratory Bird Treaty Act 16 U.S.C. 703–712</i>	The Migratory Bird Treaty 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.

ANNOTATED SUMMARY OF KEY LEGISLATION

Federal Public Laws and Executive Orders	
<i>Endangered Species Act of 1973, as amended; P.L. 93-205, 16 U.S.C. 1531 et seq.</i>	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 Endangered Species Act also requires consultation with the United States Fish and Wildlife Service and the National Marine Fisheries Service and the preparation of a biological assessment when such species are present in an area that is affected by government activities.
<i>National Historic Preservation Act, 16 U.S.C. 470 et seq.</i>	Requires federal agencies to take account of the effect of any federally assisted undertaking or licensing on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register of Historic Places. Provides for the nomination, identification (through listing on the National Register of Historic Places), and protection of historical and cultural properties of significance.
<i>Federal Noxious Weed Act of 1974, 7 U.S.C. 2801–2814</i>	The Act provides for the control and management of no indigenous weeds that injure or have the potential to injure the interests of agriculture and commerce, wildlife resources, or the public health.
<i>Plant Protection Act of 2000, Public Law 106-224, title IV</i>	The Act provides for the prevention of introduction of plant pests into the United States or the dissemination of plant pests within the United States.
<i>Federal Insecticide, Fungicide, and Rodenticide Act</i>	The Act provides for federal regulation of pesticide distribution, sale, and use. All pesticides distributed or sold in the United States must be registered (licensed) by Environmental Protection Agency.
<i>Sale of certain interests in land, 10 U.S.C. 2665</i>	Authorizes sale of forest products and reimbursement of the costs of management of forest resources.
<i>32 Code of Federal Regulation Part 989, as amended, Environmental Impact Analysis Process</i>	Provides guidance and responsibilities in the Environmental Impact Analysis Process for implementing Integrated Natural Resources Management Plans. Implementation of an Integrated Natural Resources Management Plan constitutes a major federal action and therefore is subject to evaluation through an Environmental Assessment or an Environmental Impact Statement.
DOD Policy, Directives, and Instructions	
<i>DOD Directive 4715.1, Environmental Security</i>	Establishes policy for protecting, preserving, and (when required) restoring and enhancing the quality of the environment. This directive also ensures that environmental factors are integrated into DOD decision-making processes that could impact the environment, and are given appropriate consideration along with other relevant factors.
<i>DOD Instruction 4715.03, Natural Resources Conservation Program</i>	Implements policy, assigns responsibility, and prescribes procedures under DOD Directive 4715.1 for the integrated management of natural and cultural resources on property under DOD control.
<i>DOD Manual 4715.03, Integrated Natural Resources Management Plan</i>	Provides procedure to prepare, review, update, and implement INRMPs in compliance with the Sikes Act.
United States Air Force (USAF) Instructions and Directives	
<i>Air Force Instruction 32-7064, Integrated Natural Resources Management</i>	Implements Air Force Policy Directive (AFPD) 32-70, <i>Environmental Quality</i> ; DOD Instruction 4715.3, <i>Environmental Conservation Program</i> ; and DOD Instruction 7310.5, <i>Accounting for Sale of Forest Products</i> . It explains how to manage natural resources on USAF property in compliance with federal, state, and local standards.

ANNOTATED SUMMARY OF KEY LEGISLATION

Federal Public Laws and Executive Orders	
<i>Policy Memo for Implementation of Sikes Act Improvement Amendments, Headquarters USAF Environmental Office (USAF/ILEV) on 29 January 1999</i>	Outlines the USAF's interpretation and explanation of the Sikes Act and Improvement Act of 1997.
<i>AFPD 32-70, Environmental Quality</i>	Outlines 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 that it holds in public trust, and eliminating pollution from its activities wherever possible. AFPD 32-70 also establishes policies to carry out these objectives.
<i>Air Force Instruction 32-7062, USAF Comprehensive Planning</i>	Provides guidance and responsibilities related to the USAF comprehensive planning process on all USAF-controlled lands.
<i>Air Force Instruction 32-7065, Cultural Resources Management</i>	This instruction implements AFPD 32-70 and DOD Directive 4710.1, Archaeological and Historic Resources Management. It explains how to manage cultural resources on USAF property in compliance with federal, state, and local standards.

Appendix E

Integrated Pest Management Plan

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Final Integrated Pest Management Plan

171st Air Refueling Wing
Pittsburgh International Airport
Coraopolis, Pennsylvania

June 2013

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Final Integrated Pest Management Plan

171st Air Refueling Wing
Pittsburgh International Airport
Coraopolis, Pennsylvania

Approval and Technical Review

Office Symbol: Title	Name	Signature	Date
Installation Pest Management Coordinator	CMSgt Raymond R. Colella		
Installation Bioenvironmental Engineer	MSgt Lloyd A. Carver		
Public Health Technician	Position Vacant		
Fire Department	MSgt Gary L. Shannon		
Safety Officer	SMSgt Judith L. McGrath		
Hazmat Pharmacy	SSgt Jeanine N. Bochter		
Unit Training Manager	SSgt Brandon Sampson		
Natural Resource Program Manager	LtCol John E. Tower		
Installation Environmental Manager	LtCol John E. Tower		
Public Affairs Officer	Maj Dicie A. Hritz		
Base Civil Engineer	Maj Charles D. Kerns		
Pest Management Consultant (NGB/A7AN)	Mr. Keith M. Harris		
Mission Support Commander	Col Mark J. Van Kooten		
Wing/Installation Commander	Col Steven R. Painter		

Note: This cover page complies with DoDI 4150.07, Enclosure 5, E5.1.1.

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After all local installation signatures are entered, except for Mission Support/Installation Commander signatures, forward copy to NGB/A7AN Pest Management Consultant for approval. After requisite NGB/A7AN signature is obtained, send the Integrated Pest Management (IPM) Plan to the Mission Support/Installation Commander for signatures on the cover sheet and Installation Instruction (enclosed). After all approval signatures have been affixed, record distribution of copies, and send electronic copy of the entire plan with signatures to NGB/A7AN.

Record of Annual IPM Plan Review and Approval of Pesticide Use Proposal

Annual Review and Approval of Pesticide Use Proposal	Date	Annual Review and Approval of Pesticide Use Proposal Completed*
1		
2		
3		
4		
5	Full coordination and approval must be completed every 5 years.	

*This column will be signed by the IPM Coordinator following annual updates to the IPM Plan and approval from the NGB/A7AN Pest Management Consultant on annual Pesticide Use Proposal.

Any routine IPM Plan updates resulting from the Annual Review should be recorded in errata sheets and included with this Plan. For any non-routine updates, confer with the NGB/A7AN Pest Management Consultant prior to execution.

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Annexes

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Annex Title

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#Annex_2	Annex 2 – Pest Management Consultant Annual Pesticide Use Proposal
#Annex_3	Annex 3 – Points of Contact
#Annex_4	Annex 4 – Certificates of Training/Competency
#Annex_5	Annex 5 – Installation Map(s)
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#Annex_7	Annex 7 – Statements of Work for Pest Monitoring/Surveillance and Control Services
#Annex_8	Annex 8 – DD Form 1532-1 Pest Management Maintenance Record and USDA PPQ Form 523 Emergency Action Notification
#Annex_9	Annex 9 – Cost Comparison Analysis Tool

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Authority – Installation Instruction

Date: 10 July 2013

From: Installation Commander

Subject: Integrated Pest Management (IPM) Plan Implementation Authority

Title: Integrated Pest Management Plan, 171st Air Refueling Wing (171 ARW), Pittsburgh International Airport, Coraopolis, Pennsylvania.

Purpose: To implement an IPM Plan for 171 ARW, Pittsburgh International Airport, Coraopolis, Pennsylvania, including its Geographically Separate Unit (GSU), 285th Air Traffic Control Squadron (ATCS) located at Johnstown, Pennsylvania.

Regulatory References:

- U.S. Department of Defense (DoD) Directive 4150.07 (29 May 2008).
- U.S. Air Force (USAF) Pest Management Program, Air Force Instruction (AFI) 32-1053 (23 June 2009).
- 40 Code of Federal Regulations (CFR) Part 158, Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S. Code (USC) 136, et seq.

Summary: The IPM Plan has been prepared in accordance with DoD Instruction (DoDI) 4150.07. The subject IPM Plan is a comprehensive document that will be used by all personnel working at the 171 ARW. It has been designed to ensure installation compliance with Federal, Commonwealth, and U.S. Territory regulations governing pest management.

Security Classification: The title and document are unclassified. The document does not fall within the scope of directives governing the protection of information affecting national security. This IPM Plan will be designated “For Official Use Only.”

Applicability: In accordance with DoDI 4150.07, all ANG installations are required to prepare and maintain a pest management plan. All installation personnel and organizations will review the IPM Plan and ensure full compliance. Through implementation and cooperation, a safe, healthy, and clean environment for current and future generations can be ensured. No in-house or contract pest control operations, including pesticide (e.g., herbicide, insecticide, rodenticide, etc.) applications, may be conducted on installation without prior coordination and approval from installation designated IPM Coordinator.

Action: The IPM Plan is effective as of 10 July 2013, the date of approval by the 171 ARW Environmental, Safety and Occupational Health Council (ESOHC), chaired by the Installation Commander.

Responsibilities: Base Civil Engineering (BCE) is the office of primary responsibility for implementation of this IPM Plan. Tasked organizations are authorized to extract and reproduce those portions of the IPM Plan that are essential to accomplish necessary planning and to prepare supporting documents and reports.

IPM Coordinator should ensure necessary coordination among installation personnel for necessary updates to this plan. CMSgt Ray Colella is hereby designated installation IPM Coordinator for implementation of this plan.

Distribution: Distribution will be in accordance with established USAF procedures for unclassified documents. The IPM Plan will be distributed to the titled individuals listed below (indicate how many of each hardcopy/electronic copy has been distributed):

Title	Hard Copies	Electronic Copies
Installation Environmental Manager/ Natural Resources Program Manager	-	2
Installation Pest Management Coordinator	2	2
Installation Bioenvironmental Engineer	-	1
Fire Department	-	1
Base Civil Engineer	-	1
Installation Commander	-	1
Pest Management Consultant	-	1
Hazmat Pharmacy	-	1
Emergency Management	-	2

Management Approval: Full approval is extended by management at a level with authority to commit the necessary resources.

Signature: _____
 Name: Col Steven R. Painter
 Title: Installation Commander

Preface

The Integrated Pest Management Plan for the 171st Air Refueling Wing follows. See the table below for a crosswalk between this Integrated Pest Management Plan and Enclosure 5 “CONTENT OF INSTALLATION PEST MANAGEMENT PLANS, SUGGESTED FORMAT” of U.S. Department of Defense Instruction 4150.07 (29 May 2008).

Integrated Pest Management Plan	DoDI 4150.07 Enclosure 5	Integrated Pest Management Plan	DoDI 4150.07 Enclosure 5
Cover and Signature Pages	E5.1.1	7.4 Pesticide Spills and Remediation	E5.1.8.4
Authority	E5.1.3.2	8.0 Program Administration	E5.1.9
1.0 Executive Summary	E5.1.2	8.1 Pest Management Operations	E5.1.9.1
2.0 Background	E5.1.3	8.2 Contracts/Quality Assurance	E5.1.9.2
2.1 Purpose	E5.1.3.1	8.3 Outleases- Agricultural and Housing	E5.1.9.3
2.2 Plan Maintenance	E5.1.3.3	8.4 Inter-Service Support Agreements	E5.1.9.4
3.0 Responsibilities – Overview	E5.1.4	8.5 Reports and Records	E5.1.9.5
3.1 Installation Commander	E5.1.4.1	8.6 Training and Certification	E5.1.9.6
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3.3 Pest Management Personnel/Contractors Quality Assurance Coordinator	E5.1.4.3	8.8 Emergency Disease Vector Surveillance and Control	E5.1.9.8
4.0 Integrated Pest Management	E5.1.5	8.9 Coordination - DoD, Other Federal, State, and Local	E5.1.9.9
4.1 Legal Mandate	E5.1.5.1	8.11 Sale and Distribution of Pesticides	E5.1.10
4.2 Integrated Pest Management Operations	E5.1.5.2	8.12 IPM References and Links	E5.1.11
5.0 Priority of Pest Management Work	E5.1.6	Annexes	E5.1.12
6.0 Health and Safety	E5.1.7	Annex 1 - Integrated Pest Management Outlines	E5.1.12.1
6.1 Medical Surveillance of Pest Management Personnel	E5.1.7.1	Annex 2 - Annual Pesticide Use Proposal	E5.1.12.2
6.2 Hazard Communication	E5.1.7.2	1.0 Public Health-Related Pests	E5.1.6.1
6.3 Personnel Protective Equipment	E5.1.7.3	2.0 Pests Found In and Around Buildings	E5.1.6.2
6.4 Fire Protection	E5.1.7.4	3.0 Structural Pests	E5.1.6.3
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7.1 Sensitive Areas	E5.1.8.1	8.0 Vertebrate Pests	E5.1.6.8
7.2 Endangered /Protected Species and Critical Habitat	E5.1.8.2	Annex 3- Points of Contact	E5.1.12.3
7.3 Environmental Documentation	E5.1.8.3	Annex 4- Certificates of Training/Competency	E5.1.12.4

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List of Abbreviations and Acronyms

°F	degrees Fahrenheit
171 ARW	171st Air Refueling Wing
258 ATCS	258th Air Traffic Control Squadron
ACC	Air Combat Command
ACES	Automated Civil Engineering System
ADC	Animal Damage Control
AFCESA	Air Force Civil Engineer Support Agency
AFI	Air Force Instruction
AFMAN	Air Force Manual
AFOSHSTD	Air Force Occupational Safety and Health Standard
AFPD	Air Force Policy Directive
AFPMB	Armed Forces Pest Management Board
AFSC	Air Force Specialty Code
AGR	Active Guard Reserve
ANG	Air National Guard
ANGI	Air National Guard Instruction
APHIS	Animal and Plant Health Inspection Service
BASH	Bird/Wildlife Aircraft Strike Hazard
BCE	Base Civil Engineer
BMP	Best Management Practice
CE	Civil Engineering
CERIS	Center for Environmental and Regulatory Information Systems
DENIX	Defense Environmental Network & Information Exchange
DoD	Department of Defense
DoDD	Department of Defense Directive
DoDI	Department of Defense Instruction
DLA-DS	Defense Logistics Agency-Disposition Services
EESOH-MIS	Enterprise Environmental, Safety & Occupational Health-Environmental Management Information System
ESA	Endangered Species Act
ESOH	Environment, Safety, and Occupational Health
ESOHC	Environmental, Safety and Occupational Health Council

ESOH CAMP	Environmental, Safety, & Occupational Health Compliance Assessment and Management Program
ESPP	Endangered Species Protection Program
FBI	Federal Bureau of Investigation
FGS	Final Governing Standards
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FOMA	Facility Operations & Maintenance Activities
FY	Fiscal Year
gpm	gallons per minute
GSU	Geographically Separate Unit
HAZCOM	Hazard Communication
IAW	In Accordance With
IMPAC	International Merchant Purchase Authorization Card
IPM	Integrated Pest Management
ISSA	Inter-Service Support Agreements
JCCA	Johnstown-Cambria County Airport
MBTA	Migratory Bird Treaty Act
MC	Minor Construction
MCP	Military Construction Project
MH	Military Housing
MSDS	Material Safety Data Sheet
msl	mean sea level
NATO	North Atlantic Treaty Organization
NCDC	National Climatic Data Center
NEPA	National Environmental Policy Act
NPIRS	National Pesticide Information Retrieval System
NWI	National Wetlands Inventory
OEBGD	Overseas Environmental Baseline Guidance Document
OPR	Office of Primary Responsibility
OSHA	Occupational Health and Safety Administration [or Act]
PAANG	Pennsylvania Air National Guard
PADEP	Pennsylvania Department of Environmental Protection
PAI	Pounds of Active Ingredient
PMQAE	Pest Management Quality Assurance Evaluator
POC	Point of Contact
PPE	Personal Protective Equipment

PPQ	Plant Protection and Quarantine
QAE	Quality Assurance Evaluator
RCRA	Resource Conservation and Recovery Act
RUTA	Rescheduled Unit Training Assembly
SOW	Statement of Work
SRM	Sustainment, Restoration, and Modernization
STANAG	Standardization Agreement
SWPPP	Stormwater Pollution Prevention Plan
TG	Technical Guide
UFC	Unified Facilities Criteria
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
USC	U.S. Code
USD - AT&L	Under Secretary for Defense - Acquisition, Technology and Logistics
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UTA	Unit Training Assembly
UTC	Unit Training Code

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1.0 Executive Summary

This Integrated Pest Management (IPM) Plan describes how the 171st Air Refueling Wing (171 ARW) complies with the requirements of Department of Defense Instruction (DoDI) 4150.07, “Department of Defense (DoD) Pest Management Program”, Enclosure 5. The IPM Plan has been prepared in the order specified in Enclosure 5 to address each element defined in Enclosure 5 whether the element applies or not. Any revision to the format of this plan, or addition of pesticides, requires advance approval from the NGB/A7AN Pest Management Consultant.

The Office of Primary Responsibility (OPR) for the IPM Plan is Base Civil Engineering (BCE) (Air Force Instruction [AFI] 32-1053). The Base Civil Engineer (BCE) has primary responsibility, unless responsibilities have been assigned in writing to another office(s).

Salient requirements of this plan include:

- Under 32-1053, the IPM Coordinator works in BCE and is responsible for installation's pest management program.
- Only those pesticides pre-authorized by the NGB/A7AN Pest Management Consultant may be applied on installation. The “ARMED FORCES PEST MANAGEMENT BOARD (AFPMB) STANDARD PESTICIDES LIST AVAILABLE TO DOD COMPONENTS AND AGENCIES” itemizes pesticides recommended for use at DoD installations; however, the IPM Coordinator is responsible for nominating specific pesticides to the NGB/A7AN Pest Management Consultant for approval. Each pesticide nominated for use must be tied to a corresponding pest-specific control strategy (see [Annex 1](#)).
- Authorized pesticides may only be applied on installation by appropriately certified (DoD or Commonwealth) pesticide applicators; unless, the applicator is under supervision by a certified applicator under initial training within career field Air Force Specialty Code (AFSC) 3E4X3, or the applicator is a properly trained/instructed participant within the installation self-help program or within a U.S. Department of Agriculture (USDA)-prescribed quarantine program. All pesticide treatments must in strict accordance with label directions. “The label is the law.” Personnel who are in “Federal” status (e.g., Active Guard Reserve (AGR), Federal Technician, Title 5 Civil Service employee, or Traditional Guardsman who is currently on Unit Training Assembly [UTA]/Rescheduled Unit Training Assembly [RUTA]) may apply pesticides on installation under this IPM Plan if they are appropriately DoD or Commonwealth certified. However, Commonwealth employees and Traditional Guardsmen (not in “Federal” status) must be appropriately Commonwealth - certified in order to apply pesticides under this plan, unless otherwise determined in consultation with NGB-JA (Point of Contact [POC]: Mr. Randy Chambers, Attorney-Advisor, DSN: 327-2729). This means that DoD pesticide applicator certification generally does not cover personnel who are not in “Federal” status. However, personnel may apply repellents to skin, clothing, or netting for personal protection without pesticide-applicator certification.

Reporting must be done according to Section 8.5 of this IPM Plan or Environmental, Safety, & Occupational Health Compliance Assessment and Management Program (ESOHCAMP), Commonwealth or DoD findings could result.

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2.0 Background

2.1 Purpose

The purpose of this IPM Plan is to meet DoD policy requirements pursuant to DoD Directive (DoDD) 4715.1, “Environmental Security,” Chapter 4; including responsibility of installations to:

- Establish and maintain safe, effective, and environmentally sound IPM programs to prevent or control pests and disease vectors that may adversely impact readiness or military operations by affecting the health of personnel or damaging structures, materiel, or property.
- Ensure that DoD pest management programs achieve, maintain, and monitor compliance with all applicable Executive Orders and applicable Federal, Commonwealth, and local statutory and regulatory requirements.
- Incorporate sustainable IPM philosophy, strategies, and techniques in all aspects of DoD and Component vector control and pest management planning, training, and operations, including installation pest management plans and other written guidance to reduce pesticide risk and prevent pollution.

2.2 Plan Maintenance

Reviews of the IPM Plan and any resulting amendments or changes to the plan will be recorded and kept on file as part of the plan by CE. This plan will be reviewed and updated annually by the installation and the installation shall plan the funding for the initial and 5-year revisions to the plan. The NGB/A7AN Pest Management Consultant shall review the IPM programs on-site every 3 years either in person or through an on-site external environmental compliance review and the NGB/A7AN Pest Management Consultant will annually review and technically approve this IPM Plan. This plan should be reviewed sooner if a major revision is proposed.

The IPM Plan is subject to change:

- If any applicable laws, regulations, or requirements are altered;
- When any changes occur that increase potential health or environmental impacts from the management of pesticides; or
- At the request of the NGB/A7AN Pest Management Consultant.

Components of the IPM Plan should be reviewed and updated as needed to ensure that all information is as current as possible. Any amendments to the IPM Plan shall be implemented as soon as possible, but no later than 6 months after changes are made (unless legal requirements compel implementation sooner).

2.3 Integrated Pest Management Plan Objectives

The objectives of this IPM Plan are to:

- Provide guidance for operating and maintaining an effective integrated pest management program at 171 ARW and the 258th Air Traffic Control Squadron (258 ATCS).

- 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.
- Document coordination with other organizations and agencies.

2.4 Installation/GSU Description and Mission

2.4.1 171 ARW Description and Mission

Description

The 171 ARW, Pennsylvania Air National Guard (PAANG), is located at the Pittsburgh International Airport, in Moon Township, Pennsylvania. The airport is located in Allegheny County, approximately 16 miles northwest of downtown Pittsburgh. The airport lies directly east of McClaren's Run, which is a tributary of Montour Run. Montour Run discharges into the Ohio River approximately five (5) miles northeast of the airport. The 171 ARW is a tenant of the Pittsburgh International Airport and is responsible only for the operation and maintenance of the approximately 179 acre tract on the southeastern corner of the airport property. To the south and west of the installation is McClaren's Run. The 171 ARW leases the installation property from the Allegheny County Department of Aviation. The current lease expires 31 August 2050.

History

The 171 ARW has flown sixteen different aircraft and eight different missions. In 1947, an Air National Guard unit was formed at Pittsburgh Airport with the 146th and 147th Fighter Squadrons flying P-47 aircraft. In the 1960, the 146th began to convert to the F-102 Delta Dart. Around that same time the 147th was converted from the fighter interceptor mission to an aeromedical transport mission for Military Air Transport Command in 1961. However, after two years with the C-119J, the 147th converted to the C-121G Super Constellation, with the primary mission to perform military airlift, with a secondary mission of aeromedical evacuation.

In 1968, the unit was redesignated as the 171st Aeromedical Airlift Group and was redesignated again as the 171 ARW in October of 1972, transitioning from the C-121G to the KC-97L. On July 1, 1976, the Wing received notice of reassignment to the Strategic Air Command. A year later, the wing transitioned to the KC-135A, a four-engine jet aircraft. This was a significant upgrade, increasing the unit's air refueling capacity and expanding its global mission capability. In 1982, the Air National Guard (ANG) increased the unit's mission capability through an interim program by retrofitting commercial Boeing 707 engines to their tankers re-designating the aircraft to the KC-135E. And in 2012, the wing converted to the KC-135R enabling even greater global reach (U.S. Air Force [USAF] 2013).

Mission

The purpose of this installation is to provide organizational and maintenance support to the 171 ARW. The mission of the 171 ARW is "To prepare for combat. To perform worldwide air refueling and airlift missions. To provide global reach for global power projection in support of national objectives and to

provide trained personnel to support Commonwealth and local authorities in times of natural disaster or civil strife at the command of the Governor." The 171 ARW flies and maintains sixteen (16) KC-135R aircraft to support its mission. The major support operations performed at the installation include aircraft fueling and defueling, aircraft deicing, aircraft maintenance, aerospace ground equipment maintenance, ground vehicle maintenance, fueling of ground vehicles, and facilities maintenance. The unit is comprised of approximately 378 full-time staff as well as 1,299 traditional guard members serving in numerous roles and missions worldwide (PAANG 2012).

Climate

The climate in Pittsburgh is seasonally temperate with cold winters and warm summers. Lying at the foothills of the Alleghenies, Pittsburgh experiences overcast weather much of the year. Precipitation falls approximately 150 days a year, totaling approximately 38 inches annually. In winter, it's cloudy with occasional snow totaling approximately 53 inches. January is the coldest month with temperatures averaging approximately 38 degrees Fahrenheit (°F). Temperatures are comfortable during April and May averaging approximately 66 °F. Summertime temperatures average approximately 81°F with high humidity and frequent thunderstorms in July (National Climatic Data Center [NCDC] 2011).

Geology

Allegheny County is located in the Appalachian Plateau Province, in an area dissected by narrow, nearly level stream valleys with steep sides. The ridge tops are mostly gently sloping to moderately steep.

The installation is located at the foothills of the Allegheny Mountains with steep slopes that exceed 25 percent in some areas. The general configuration of the terrain within the installation consists of a graded hilltop that was leveled to accommodate the taxiways, apron, and aircraft facilities. A series of terraces was constructed to maximize the amount of buildable land. These terraced areas rise from the low point near the existing gate in the southwest corner and are separated by steeply grassed slopes. A deep valley defines the east edge of the installation. The installation is located at an approximate elevation of 1,100 feet above mean sea level (msl) on a hilltop plateau, with steep downhill slopes. The installation has good drainage characteristics due to this high relief, but its soils are highly susceptible to erosion. The variation of elevation on the installation is approximately 140 feet above msl.

Surface Water and Groundwater

Alleghany County is located in the Ohio River drainage basin and is drained by several rivers and streams. All of these waterbodies drain into larger tributaries, which then drain into the Ohio River. The Allegheny River enters the county from the northeast and joins the Monongahela River at Pittsburgh to form the Ohio River.

The installation is located in the McClaren's Run watershed and lies directly east of McClaren's Run, which is a tributary of Montour Run. Montour Run discharges into the Ohio River approximately 5 miles northeast of the airport and installation. McClaren's Run originates north of installation and flows in a southeasterly direction through the installation for a short distance near the western boundary of the installation. McClaren's Run flows southeast from the airport into Montour Run, about 1.5 miles downstream. Drainage from the installation is collected into the installation's extensive storm sewer system, where it is then discharged to McClaren's Run from one of eleven stormwater outfalls. Ditches, culverts, and storm sewers, which all eventually discharge in McClaren's Run, control runoff from the installation.

Stormwater runoff from much of the installation flows through drains and discharges into McClaren's Run. A stormwater management basin collects the surface runoff from the East and West Ramps and is located below the Jet Engine Shop (Building 310). Presently, four emergency containment pits are connected with the storm drainage system beneath the apron. These pits range in size from 2,500 to 10,000 gallons, and can be closed electrically or manually.

According to the Federal Emergency Management Agency flood insurance rate map for the installation, no areas designated are located within a 100-year floodplain.

Groundwater in Allegheny County is found in both artesian and water-table aquifers. Well yields range from a fraction of a gallon per minute (gpm) to over 3,000 gpm. Groundwater in Allegheny County occurs in both unconsolidated alluvial deposits and bedrock formations. The major source of groundwater is alluvial deposits in floodplains, particularly along the Allegheny and Ohio Rivers.

Soils

The principal soil series at the majority of the installation are the Urban Land-Culleoka complex, the Gilpin Series, the Atkins Series, and the Wharton Silt Loam. None of these groups are “prime farmlands”. The Atkins Series is designated as important farmland within the Commonwealth; however, it is only found in small isolated areas along McClaren’s Run. The primary soils on the installation are the Urban land-Wharton-Gilpin association, which reflects the significant amount of development on the installation. The undisturbed soils on the ridges and hillsides in the area are slide-prone in steep areas and are highly erodible. The valley bottoms have a high water table. In general, the soils at the installation have a moderate permeability rate, seasonally high water tables, and shallow depth to bedrock.

2.4.2 258th Air Traffic Control Squadron Description and Mission

Description

The 258 ATCS is a GSU of the 171 ARW, and is stationed at the Johnstown-Cambria County Airport (JCCA), located in Cambria County, approximately 5 miles east of the City of Johnstown, Pennsylvania. The installation is approximately 75 miles southeast of Pittsburgh, Pennsylvania, and is located within Richland Township. The 258 ATCS is a tenant of JCCA along with units from the U.S. Army Reserves, Pennsylvania Army National Guard, and U.S. Marine Corps Reserves.

History

Established as the 114th Tactical Control Flight in May 1982, it received its present day mission in October 1985 as the 114th Air Traffic Control Flight. Effective in May 1997, the unit was re-designated the 258 ATCS. The following September, the 258 ATCS relocated from State College to Johnstown. Recently, the unit changed realignment from the 193rd Special Operations Wing in Harrisburg to the 171 ARW at Pittsburgh.

In 1992, the 258 ARW was selected as not only the first in the Air National Guard, but the first in the entire United States Air Force to deploy an MPN-14K in support of drug interdiction- labeling the 258 ARW a leader among sister units. For their successful efforts, the 258 was named the Combat Communications Unit of the year. The following year, the 258 ARW was named the Air National Guard Air Traffic Control unit of the year (USAF 2013).



The 258 ATCS is a GSU of the 171 ARF located in Johnstown, Pennsylvania. The GSU does not store pesticides and contractor-applied pesticides are generally not necessary. Further, self-help pesticides are used at the installation infrequently.

Mission

To deploy, operate and maintain air traffic control and landing systems in either a stand-alone capacity or in conjunction with sustaining bare installation communications packages required to support contingencies. Mission includes support of war mobilization plans and worldwide requirements. To provide trained personnel to support Commonwealth and local authorities in time of natural disaster or civil strife at the command of the Governor.

Climate

The climate in the Johnstown area is seasonally temperate with cold winters and warm summers. The total average annual precipitation is approximately 41 inches and the total average annual snowfall is approximately 43 inches. The winter temperatures range from an average low of 18.4 °F to an average high of 32.1 °F in January. The summer temperatures range from an average low of 60.0 °F to an average high of 78.5°F in July (NCDC 2011).

Geology

The installation is located on a plateau in the Allegheny Mountains, which are part of the Appalachian Range. This region is also geologically known as the Appalachian Plateau Physiographic Province. The terrain surrounding the installation is a combination of steep slopes and rolling hills. To the south and west, the topography slopes off steeply towards the Solomon Run drainage. To the north and east are gently rolling hills.

The underlying bedrock at the installation consists of layered siltstone, sandstone, shale, and claystone. The upper 50 feet of the profile under the installation typically consists of 0-13 feet of overburden, 11 feet of siltstone, and 8.5 to 29.8 feet of sandstone. Deeper into the profile is the Glenshaw Formation, a regional geologic limestone and shale formation. The depth to the Glenshaw Formation is usually greater than 69 feet. The installation lies in a Seismic Zone 1 Region, indicating a low earthquake hazard.

The subterranean surface of the southwestern part of Pennsylvania, particularly the area of Cambria and Somerset Counties, contains some of the most abundant bituminous coal seams in the United States. These coal seams are exposed in numerous river and stream valleys, which has made them easy to extract. There are five minable seams in the area, including the Upper and Lower Freeport, and the Upper and Lower Kittanning, which generally range in thickness from 2.5-5 feet. The underlying Brookville seam has not been extensively mined. Vast networks of mine tunnels exist approximately 300-500 feet beneath large portions of the installation. The Airport Authority has not reported any land subsidence attributable to historic or ongoing mining activity.

Surface Water and Groundwater

The area surrounding the installation is laced with several ephemeral creeks and streams, none of which come within 1,000 feet of the installation. These ephemeral creeks include Sandy Run, Solomon Run, and Clapboard Run, each of which becomes a perennial stream approximately 1-2 miles down gradient of the installation. The Little Conemaugh River, Stonycreek River, Bens Creek, and Hinckston Run are perennial rivers located 3-4 miles from the installation; all are tributaries to the Conemaugh River, which itself flows within 5 miles of the installation.

Most of the drainage at the installation occurs overland as sheet flow, with relatively little reliance on drainage channels or other engineered stormwater management structures. A narrow drainage channel parallels the northern side of Fox Run Road, and crosses beneath the roadway to the east, ultimately draining into the wooded area off the installation property. Although there are no catch basins located within the existing motor pool, the nearby parking lot for the Pennsylvania Army National Guard Civil Engineering building includes catch basins and storm drains. The Airport Authority maintains a Spill Plan, which identifies material of concern and describes spill response procedures.

The primary water-bearing deposits in the region surrounding the installation are sandstone units contained in the Conemaugh Formation, which is part of the larger Pennsylvania Aquifer. The sandstone has moderate primary porosity and high secondary porosity. Yields of more than 50 gpm can be expected from sandstones within the Conemaugh Formation. The general movement of groundwater in the region is from areas of high head (usually at high elevation) to areas of low head (usually in low-lying areas).

Three natural springs are located on the northwest side of the installation, two of which have outlets near residential homes and are currently used as potable water sources.

Geologic borings in the vicinity of Runway 15/33 indicate groundwater at the installation is approximately 23 feet below ground surface.

Approximately 19 acres of wetlands occur on or in the immediate vicinity of the installation, according to the U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) Map. A large wetland area located southeast of the installation is characterized as palustrine, scrub-shrub and forested wetland complex. Smaller wetland areas located on the airport property are categorized as palustrine emergent. One of these smaller wetlands is located within the grassy triangle formed by Fox Run Road, the taxiway from Runway 15/33, and the southeast property boundary.

No floodplains are located on the installation property.

Soils

Most of the soils at the installation have been distributed by human activity related to the airport. The majority of the installation originally consisted of the Cookport-Hazelton-Laidig Association of soils, which naturally occupy nearly level to steep slopes are well to moderately drained upland soils. The areas towards the ends of the runways still contain soils from this association as well as several other soil types. However, most soils are all Urban Land-Udorthents Complex throughout the installation. The properties of the soils on the installation may vary due to having been altered. Generally, though, they are considered to be shallow to deep, excessively drained to somewhat poorly drained, rapidly to slowly permeable soils on upland areas. The soils are not considered to be prime farmland.

3.0 Responsibilities – Overview

Responsibilities for the IPM Plan are clearly outlined in AFI 32-1053.

3.1 Installation Commander

- Assume overall responsibility of the IPM program.
- Ensure that the installation meets DoD policy requirements as defined in DoDD 4715.1, “Environmental Security,” Chapter 4.
- Provide implementation authority and necessary resources to carry out the objectives of the IPM program.
- Officially designate, within installation IPM Plan Implementing Instruction, an IPM Coordinator in BCE to implement the installation IPM program and to maintain the installation IPM Plan.
- Approve and sign the IPM Plan cover page and Implementing Instruction.
- Implement any formal agreements with Federal or Commonwealth regulatory agencies regarding pesticide use on the installation, such as for USDA/Animal and Plant Health Inspection Service (APHIS) pest quarantine, in coordination with NGB/A7AN Pest Management Consultant.
- Installation commanders initiate formal review of suspected violations of the Federal Insecticide, Fungicide, and Rodenticide Act of 1976 (FIFRA), as amended. Suspected violations, such as pesticide misuse or recorded falsification, shall be reported through appropriate command channels to the office of the certifying official (i.e. NGB/A7AN) (per DoDI 4150.07-M, Vol. 1).

3.2 Base Civil Engineer

- Ensure overall implementation and management of the IPM Plan (see AFI 32-1053) [..\\3 Resource Toolbox\4.1.3 AFI\AFI 32-1053.pdf](#).
- Identify a qualified individual in BCE, for written designation by the installation commander within the IPM Plan Implementing Instruction, to serve as installation IPM Coordinator for implementation of this plan.
- Ensure that the designated installation IPM Coordinator has the appropriate authority, educational background, and management skills to implement the IPM Plan.
- Plan and budget for the development and maintenance of the IPM Plan.
- Provide IPM status to the installation Environmental, Safety and Occupational Health Council (ESOHC).
- Ensure coordination of IPM program among all installation organizations.
- Ensures that all installation landscaping projects/contracts preferentially use native species and do not plant invasive species.

- Ensures that facility designs incorporate cost-effective pest-resistant features and pre-construction termiticide specifications, as appropriate.
- As applicable to the installation, ensure pesticide applicators maintain certification as specified in the Armed Forces Pest Management Board document, DoD Plan for Certification of Pesticide Applicators (DoDI 4150.07-M, Vol. 1).
- Ensure that qualified personnel develop and update the IPM Plan annually. Annually update the IPM plan, coordinate the review and approval of annually updated IPM plans, and plan the funding for initial and 5-year revisions of IPM plans as necessary.
- Ensure that the IPM Coordinator forwards the IPM Plan to the NGB/A7AN Pest Management Consultant for review, technical approval, and signature on the cover sheet.
- Provide review and approval of pesticide monitoring and application contracts consistent with the pest management strategies of this plan using only pesticides pre-approved by NGB/A7AN Pest Management Consultant.
- Review and approve use of Federal and Commonwealth purchase cards for procurement of pest-control services and pesticides that are on the hazardous materials authorized-use list on a case-by-case basis. Pesticides use must strictly conform to pest-specific strategies described within [Annex 1](#) of this IPM Plan.
- Maintain copies (electronic or paper) of all in-house and contracted pest management operations (surveillance, pesticide use, etc.). Records of pesticide applicator certification are kept at the facility at which the work is done.

3.3 Installation Integrated Pest Management Coordinator

For the 171 ARW, the Facility Manager will perform the duties of the IPM Coordinator.

- Ensure that all pest management operations performed on the installation, except those for personal relief, are recorded, and ensure that all records are properly maintained.
- Ensures that data are reported to the Pest Management Consultant/Certifying Official, Civil Engineer Environmental Division (NGB/A7AN Pest Management Consultant) via the Integrated Pest Management Information System (IPMIS) reporting tool.
- Monitor training requirements and certifications of all non-military pesticide applicators on installation.
- Installation IPM Coordinator shall document any required, advance (at least 12 hours, but not more than 72 hours, prior) notifications to individuals on the Pennsylvania Pesticide Hypersensitivity Registry (under Section 128.3 of the Pesticide Control Act of 1973) before application of any general use or restricted use pesticide upon PAANG property.
- Reports monthly pesticide applications, using DD Form 1532, Pesticide Management Report, or an electronic equivalent, to NGB/A7AN via IPMIS. See section 8.5.1 – Reports, for procedures on reporting through the IPMIS database.
- Submit annually to the NGB/A7AN, via IPMIS, request for renewed approval of installation's Authorized Pesticide Use List, as well as any additionally required pesticides.
- Review and implement requirements defined in “Air Force Self-help Pest Management Program for Military Housing (MH) Occupants and Building Managers.”

- Ensure that personnel participating in installation pest management self-help program are provided with written instructions and appropriate precautions, beyond those on pesticide labels, to ensure proper pesticide application and safety. Maintain current documentation of participant acknowledgment of self-help program instructions.
- Provide technical implementation of the IPM Plan. Review AFPMB Technical Guidance (TG)-1: AFPMB Publications “Tech Guide”.
- Formally coordinate appropriate portions of the IPM Plan with the installation Environmental Manager, Bioenvironmental Engineer, Fire Department, Public Health Officer, Safety Officer, Public Affairs Officer, Hazmat Pharmacy Manager, Building Managers, and Aircraft Maintenance personnel.
- Provide answers to questions concerning pest management from BCE and Building Managers.
- Coordinate with local, Commonwealth, and Federal agencies, as necessary, to implement the pest management program.
- Provide Quality Assurance Evaluator (QAE) oversight of pesticide monitoring and application contractors if the installation does not have a separately designated Pest Management Quality Assurance Evaluator (PMQAE).
- Ensure that all Commonwealth or DoD certified pesticide applicators, and PMQAE personnel, maintain required training and certificates, as appropriate. All DoD personnel who apply or supervise the application of pesticides shall be trained and certified within 2 years of employment in accordance with DoDI 4150.07-M, VOL. 1.
- Provide written or verbal pest management education and information to installation-level personnel through Building Managers when administering or approving the use of self-help pesticides. This information should be specific to the problems experienced by installation-level personnel and should help reduce the need for pesticide use at the installation.
- Provide monitoring and coordination with installation organizations to identify new and recurring pests.
- Provide consultation to the BCE on requests to use International Merchant Purchase Authorization Card (IMPAC) cards to purchase pesticides.
- Provide notification to the Public Health Officer of pesticide applications. Notify and coordinate with installation organizations, including building managers of pesticide applications; ensure that areas treated with pesticides are properly posted.
- Ensure that the appropriate individuals sign the cover sheet of the IPM Plan.
- Forward the IPM Plan to the NGB/A7AN Pest Management Consultant for review, technical approval, and signature on the cover sheet, after review and signature by installation departments including installation IPM Coordinator and BCE. After signature obtained from NGB/A7AN Pest Management Consultant, installation IPM Coordinator forwards plan to mission support commander, wing commander, and installation commander for their signature(s). IPM Plan must be updated and re-signed every five years.
- Institute procedures to prevent terrorists from acquiring DoD pesticide dispersal equipment or pesticides, notify the Federal Bureau of Investigation (FBI) of any suspicious theft of pest control equipment, and ensure that the identity of personnel and pesticide formulations provided by

contractors is known and approved by trained pest management QAEs or DoD certified pesticide applicators.

The responsibilities below are for the installation IPM Coordinator but they may be delegated to environmental management or aircraft maintenance personnel for quarantine operations:

- Implement the USDA Plant Protection Program (e.g. Japanese Beetle Quarantine Program).
- Provide recordkeeping and reporting to BCE and USDA.

3.4 Pest Management Quality Assurance Evaluator

For the 171 ARW, the Facility Manager will perform the duties of the PMQAE.

- Provide PMQAE oversight of pest monitoring and pesticide application contractors.
- Maintain required PMQAE certification, or DoD pesticide applicator certification, through DoD training at least every three years.
- Ensure pre-approval, from NGB/A7AN Pest Management Consultant, of all contract statements of work for installation pest control services.
- Ensure that contract statements of work specify only those pesticides that have been pre-approved by NGB/A7AN Pest Management Consultant within installation IPM Plan.

3.5 Environmental Management

- Ensure that installation IPM programs are managed to minimize the amount of pesticides that become hazardous wastes.
- Ensure that the IPM Plan identifies areas within the installation that contain threatened or endangered species or associated habitat and that personnel using pesticides on the installation know the potential impact that pesticide applications could have on threatened or endangered species. The Environmental Manager is responsible to initiate consultation with regional USFWS office under Section 7 of the Endangered Species Act for any pest management actions potentially affecting threatened or endangered species. Any “formal” Section 7 consultations must include NGB/A7AN Natural Resources Program Manager.
- Provide review and approval of pesticide monitoring and application contracts.
- Provide environmental advisory support to the IPM Coordinator.
- Coordinate with installation IPM Coordinator to ensure IPM Plan and pest applications comply with all applicable environmental regulations and directives.
- Review ESOHCAMP protocols with installation IPM Coordinator to ensure requirements are being met.

3.6 Public Health Officer

- Provide consultation on Hazard Communication (HAZCOM) training and technical matters to supervisors when requested per AFI 90-821, paragraph 1.6.2.1.

- Determine the type, source, and prevalence of vectors, which affect health and efficiency of personnel.
- Conduct surveillance for mosquitoes, ticks, and cockroaches; pests which could adversely affect the health and welfare of installation personnel.
- Conduct surveillance for pests that destroy or contaminate food stored in facilities at all locations covered by the pest management plan.
- Coordinate the health aspects of the pest management program with Bioenvironmental Engineering.
- Recommend preventative and control measures for pests and monitor the effectiveness of installation pest management efforts.
- Conduct sanitary inspections to ensure cleanliness, and if necessary, to determine need for pesticide application.

3.7 Bioenvironmental Engineering

- Evaluate potential occupational exposures and the adequacy of exposure control through periodic shop visits per AFI 48-145.
- Provide review of pesticide authorization requests.
- At direction of the Medical Treatment Facility commander, make sure that medical treatment facilities personnel neither store nor use U.S. Environmental Protection Agency (USEPA)-classified pesticides, with the exception of disinfectants, and germicide; and insect repellents and permethrin-treated clothing for protection of deploying personnel against insect vectors.
- Develop and publish installation HAZCOM guidance and assist commanders and supervisors with program implementation per AFI 90-821, paragraph 1.6.2.2.
- Provide review and approval of pesticide monitoring and application contracts.

3.8 Public Affairs Officer

- Provide coordination of public notices, if needed, for pesticide applications.
- Provide news releases, if needed, to off-site public agencies related to the installation IPM program.

3.9 Fire Department

- Maintain information of location of chemical storage sites, including pesticides.
- Provide periodic inspection of pesticide storage sites.

3.10 Hazmat Pharmacy

- Implement review process for chemical use authorizations, including pesticides.
- Purchase, issue, and track chemical usage, including self-help pesticide use.
- Ensure that all pesticides on hazardous materials authorized-use list are pre-approved in writing by NGB/A7AN Pest Management Consultant within this IPM Plan, updated as appropriate.

3.11 Civil Engineering Facility Manager

- Manage the self-help program in their facilities, including training to building occupants.
- Initiate requests for chemical/pesticide authorizations through the Hazmat Pharmacy, in coordination with installation IPM Coordinator.
- Conduct periodic inspections of their buildings and notify installation IPM Coordinator of potential pest issues.
- Cooperate fully with installation personnel and pest management contractors in scheduling pest management operations, to include preparing the areas to be treated.
- Ensure all pesticide purchases are reviewed and approved through the standard Hazmat Pharmacy process.
- Ensure the designated technicians apply only those pesticides that are recommended in the IPM outlines.
- Assure that all pest management activities are recorded. Copies of all records shall be maintained in CE. These activities include surveillance time and both chemical and non-chemical control treatments.
- Review and implement requirements defined in “Air Force Self-Help Pest Management Program for MH Occupants and Building Managers”

[..3 Resource Toolbox\8.1.4 Self-Help\AF Memo Self-Help Sep 06.pdf](#)

3.12 Building Managers

- Apply good sanitary practices to prevent pest infestations.
- Use all non-chemical and “self-help” chemical pest control techniques as instructed in the IPM strategies before requesting further assistance from the IPM Coordinator for additional resources (e.g., local pest control contractors).
- Apply only those pesticides which are approved for “self-help” use and are recommended in the IPM strategies.
- Cooperate fully with the BCE in scheduling pest management operations, to include preparing the areas to be treated.

3.13 Safety Officer

- Provide support to ensure pesticide operations comply with OSHA and AFOSH standards.
- Provide review and approval of chemical/pesticide authorizations.

3.14 Emergency Management

- Shall maintain information of location of chemical storage sites to include pesticides as directed in Air Force Manual (AFMAN) 32-4013, Hazardous Material Emergency Planning and Response Guide.

- Pesticide storage sites shall be included in the Installation Hazard Assessment and checklists developed for emergency response planning.

3.15 GSU POC

- Coordinate with IPM Coordinator to address any pest-related issues at the GSU.

3.16 Unit Training Manager

- Support requirements for pest management training.
- Notifies NGB/A7AN Pest Management Consultant when ANG members complete initial training requirements (i.e., on-the-job training and correspondence training), in order to be issued initial certification.
- Coordinate with installation IPM Coordinator to ensure that certifications and re-certifications do not expire. Schedules re-training of installation personnel to keep certifications (e.g., pesticide applicator and PMQAE) current.

3.17 NGB/A7AN Pest Management Consultant

- Implement pest management policies and programs for the NGB installations.
- Reviews installation IPM programs on-site every three years; the substitution of environmental compliance on-site external reviews for on-site reviews by a pest management consultant is permitted to meet DoD program requirements.
- Annually reviews and technically approves installation IPM plans, including the installation's pesticide-use proposal for the upcoming year.
- Approve 5-year revisions of installation IPM Plans.
- Certify ANG pest management personnel, when DoD certification requirements are met.

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4.0 Integrated Pest Management

4.1 Legal Mandate

There are many sources of information to obtain regulations for the management of pesticides. Many government personnel have access to Defense Environmental Network & Informational Exchange (DENIX), where ESOHCAMP checklists are available for Federal, Commonwealth, and ANG regulatory and procedural requirements.

4.1.1 Federal Legislation

The Federal Insecticide, Fungicide, and Rodenticide Act. This act, as last amended in 28 September 2012, 7 U.S. Code (USC) 136 et seq., deals with the sale, distribution, and use of pesticides. FIFRA provides the USEPA with the authority to oversee, among other things, the registration, distribution, sale and use of pesticides. The Act applies to all types of pesticides, including insecticides, herbicides, fungicides, rodenticides, and antimicrobials.

The full text of the *Federal Insecticide, Fungicide, and Rodenticide Act* can be found at the following website:

<http://www2.epa.gov/laws-regulations/laws-and-executive-orders>

The Hazardous Materials Transportation Act of 1975. This act, as last amended in 10 August 2005, 49 USC 5101-5127, is the Federal legislation that governs the transportation of hazardous materials, including pesticides, in the nation. The policy of Congress is to improve the regulatory and enforcement authority of the Secretary of Transportation to protect the nation adequately against the risks to life and property that are inherent in the transportation of hazardous materials in commerce (49 USC 5101).

The U.S. Department of Transportation hazardous materials regulations can be found at the following website:

http://www.osha.gov/SLTC/trucking_industry/transportinghazardousmaterials.html

The Endangered Species Act (ESA) of 1973. The purpose of this act, (16 USC 1531 et seq., last amended in 24 January 2002), is to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions for protection of endangered species (16 USC 1531[b]). Under ESA, the policy of Congress is that all Federal departments and agencies must seek to conserve endangered species and threatened species and must use their authorities in furtherance of the purposes of this act. Further, Federal agencies must cooperate with Commonwealth and local agencies to resolve water resource issues in concert with conservation of endangered species (16 USC 1531[c]).

The full text of *The Endangered Species Act of 1973* can be found at the following website:

<http://www.fws.gov/endangered/esa-library/>

The Occupational Safety and Health Act (OSHA). This act, last amended in 1 January 2004, 29 USC 651-678, is a Federal statute that governs the issues related to occupational safety and health. The purpose and policy of this act are to assure every working man and woman in the nation safe and healthful working condition and to preserve our human resources by, among other things, providing for the development

and publication of occupational safety and health standards, providing for an effective enforcement program, and providing for appropriate reporting procedures with respect to occupational safety and health which procedures will help achieve the objectives of this act and accurately describe the nature of the occupational safety and health (29 USC 651(b)(9)(10)(12)).

Access to all of the OSHA regulations can be found at the following:

<http://www.osha.gov/law-regs.html>

4.1.2 Department of Defense Directives, Instructions and Guides

DoDI 4150.07, DoD Pest Management Program. This DoDI, dated 29 May 2008, sets forth the policy, responsibilities, and procedures for pest management programs and provides the basis for development of installation-specific pest management plans. This instruction establishes the DoD policy of maintaining safe, efficient, and environmentally sound integrated pest management programs to prevent or control pests that may adversely affect health or damage structures, material, or property. The DoD Plan for the Certification of Pesticide Applicators stipulates the certification of U.S. Air Force military and civilian pest managers. Requires pesticide application on DoD installations to be performed by appropriately certified personnel.

To access DoDI 4150.07, click on the following hyperlink: [..3 Resource Toolbox\4.1.2 DODI\dod4150.07-i.pdf](#)

- DoD Plan 4150.7-P requires that installation commanders initiate a formal review if violations of the FIFRA, as amended, are suspected. Any certified applicator who violates any provision of FIFRA, as amended, or the implementing regulations will have his or her certificate reviewed for possible suspension or revocation. Suspected violations, such as pesticide misuse or record falsification, shall be reported through appropriate command channels to the office of the certifying official (i.e. NGB/A7AN). The certifying official shall review the suspected violation and determine if further action is required. If no action is warranted, the installation commander shall be notified in writing that a review of the suspected violation has been conducted and that it has been determined that a violation of FIFRA has not occurred. If the certifying official determines that a violation may have occurred, he or she shall initiate action to temporarily suspend the certificate of the applicator(s) and forward the matter to the lead agency, Under Secretary for Defense - Acquisition, Technology and Logistics (USD - AT&L) for review and final action. If the lead agency determines that a violation of FIFRA has occurred, that agency shall report information on the case and action taken by the DoD to the USEPA Administrator.

To access DoDI 4150.07-P, click on the following hyperlink: [..3 Resource Toolbox\4.1.2 DODI\DoD4150.7-p.pdf](#)

- DoD 4150-7-M outlines the DoD Pest Management Training and Certification Program. The Manual is not intended to conflict with, be used instead of, or supersede other DoD training Directives or Office of Personnel Management Qualification Standards. The purpose of the manual is to establish training goals, provide a uniform training process, training standards, and procedures to prepare DoD pest management personnel to meet DoD pest management policy objectives, as stated in DoDI 4150.07 (reference [a]). The Manual supports DoD policy to maintain safe, efficient, and environmentally sound integrated pest management programs. It promotes prevention and control of pests that may adversely impact readiness or military operations by affecting the health of personnel or damaging structures, materiel, and/or property as established under DoDI 4150.07, reference (a).

To access DoDI 4150.07-M, click on the following hyperlink: [..3 Resource Toolbox\4.1.2 DODI\p41507m.pdf](#)

Technical Guides (TG). DoDI 4150.07 is supplemented by TGs that provide specific criteria and procedures for the operation of a pest management program. The TGs are guidance only and nonregulatory. The following TGs are appropriate to have on hand. TG-1 “Armed Forces Pest Management Board Publications” provides a comprehensive list of all Armed Forces Pest Management Board publications and the following website provides a link to all of the Technical Guides available online: <http://www.afpmb.org/pubs/tims/tims.htm>

DoDD 4715.1E, Environment, Safety, and Occupational Health (ESOH). This directive, dated 19 March 2005, establishes policies on Environment, Safety, and Occupational Health to sustain and improve the DoD mission. The directive also continues to authorize the AFPMB (added July 2005).

To access the DoDD 4715.1E, click on the following hyperlink: ..\3 Resource Toolbox\4.1.2 DODI\4715_1e.pdf

Quarantine Regulations of the Armed Forces, Headquarters Departments of the Army, the Navy, and the Air Force, 24 January 1992. The regulations are intended to prevent the introduction and dissemination, domestically or elsewhere, of diseases of humans, plants and animals, prohibited or illegally taken wildlife, arthropod vectors and pests of health and agricultural importance. To access these regulations, click on the following web link: http://www.army.mil/usapa/epubs/pdf/r40_12.pdf

4.1.3 U.S. Air Force Instructions and Policies

AFI 32-1053, Pest Management Program. This AFI, dated 23 June 2009, provides guidance for pest management at Air Force installations. The instruction provides guidance for pest management programs at Air Force installations and it implements Air Force Policy Directive (AFPD) 32-10, Installations and Facilities, 27 March 1995. Hyperlink: ..\3 Resource Toolbox\4.1.3 AFI\AFI_32-1053.pdf

Air Force Self-Help Pest Management Program. This USAF HQ Air Force Civil Engineer Support Agency (AFCESA)/CES memo, dated 13 September 2006, provides guidance on the USAF self-help pest management program and gives military housing occupants and building managers the opportunity to obtain specific pest control materials and guidelines. See Hyperlinks:

<..\3 Resource Toolbox\8.1.4 Self-Help\AF Memo Self-Help Sep 06.pdf>

<..\3 Resource Toolbox\4.1.3 AFI\AFCESA Self Help IPM Brochure.pdf>

AFI 32-1074, Aerial Application of Pesticides. This AFI, dated 27 August 2009, provides guidance for in-service and contract aerial application of pesticides projects at Air Force installations. It also provides guidance for the use of USAF resources on other Federal properties, non-Federal properties, and in foreign countries. See Hyperlink: ..\3 Resource Toolbox\4.1.3 AFI\AFI_32-1074.pdf

4.1.4 Commonwealth and Territory Regulations

The Commonwealth of Pennsylvania Pesticide Regulations can be found under Title 7 Agriculture, Part V Bureau of Plant Industry, Chapter 128 – Pesticides. The installation Environmental Manager has a summary of requirements obtained as part of a subscription. A summary of Chapter 128 topics are listed below with annotations for specific sections. These citations should be referenced in pest management contract language; the specific summaries below paraphrase the language in the regulations and should not be used as the basis for establishing regulatory criteria for contractors to follow.

..\3 Resource Toolbox\4.1.4 State and Territory Regulations\007_0128.pdf

General Provisions

Section 1. Scope. This section defines the scope of the Pennsylvania pesticide regulations.

Section 2. Definitions. This section provides the definitions of terms included in the regulations.

Section 3. Fees. This section lists license and examination fees for dealers, management consultants, commercial applicators, and public applicators.

Pesticide Dealers

Section 11. Recordkeeping. Pesticide dealers must keep records of each sale of restricted-use pesticides and must be kept for 3 years.

Pest Management Consultants

Section 21. Determination of competence. This is proved by passing a written exam.

Section 22. Licensing. A pest management consultant license will be issued after passing a written examination and payment of an annual fee.

Section 23. Categories of pest management consultant. Categories define as either a commercial or public pest management consultant.

Section 24. Recordkeeping. Description of pest management consultant records that must be kept for at least 3 years.

Pesticide Application Businesses

Section 31. Licensing requirements. All pesticide application businesses must obtain a license before applying pesticides. The license expires on 31 December of each year and must be prominently displayed on both sides of pesticide vehicles.

Section 32. Categories of business licenses. Provides a list of types of business categories that apply pesticides.

Section 33. Assignment of work. Pesticides can only be applied by applicators that have been certified or trained.

Section 34. Financial responsibility. Business must prove financial responsibility.

Section 35. Recordkeeping. Pesticide application business shall keep a record of every pesticide application.

Commercial and Public Applications

Section 41. Requirements for certification. Applicators must pass an examination that demonstrates knowledge of label requirements, safe pesticide usage, groundwater contamination prevention, pesticides storage, safety, and disposal. A specialized exam is required for restricted-use pesticide applicators. Applicators must be re-certified every 3 years.

Section 42. Categories of commercial and public applicators. Pennsylvania divides commercial and public pesticide applicators into broad categories for registration purposes.

Section 43. Determination of competence. For each category in section 42, passing a written exam will determine competency.

Section 44. Eligibility. To be eligible for certification, the applicant must fulfill requirements in sections 41-43.

Section 45. Recertification. Must be re-certified every 3 years.

Pesticide Application Technicians

Section 51. Training program. This section describes the training required for proper use and handling of pesticides.

Section 52. Registration. This section describes the process for registering pesticide application technicians.

Section 53. Recordkeeping. The pesticide application business must keep records of training provided and maintain them for 3 years.

Private Applicators

Section 61. Determination of competence. A passing grade based on a written examination.

Section 62. Eligibility. Must fulfill requirements of Section 61.

Section 63. Recertification. Every 3 years.

Section 64. Fumigation by a private applicator. Private applicator must demonstrate competence through passing a written examination. Fumigation permit valid for 3 year period.

Section 65. Recordkeeping. Must maintain restricted-use pesticide application records for 3 years.

Reciprocity

Section 71. General. An individual may receive a Commonwealth of Pennsylvania license, certificate or permit from another state if there is reciprocity between the states.

Section 72. Procedure. Describes procedures for obtaining a license under reciprocity.

Subchapter C. Prior Notification

Section 81. Right-of-way application. Must provide notification for application of restricted-use pesticides in right-of-way locations.

Section 82. Nonagricultural specific site application. Commercial/public applicator must provide notification to person residing in a dwelling on land contiguous to a restricted-use pesticide application site.

Section 83. Ornamental or turf application. Must make notification of application of general use pesticides.

Section 84. Nonagricultural area-wide application. Must make notification of application of restricted-use pesticide on non-agricultural areas.

Section 85. Agricultural application. Must make notification of application of restricted-use pesticide on agricultural areas.

Section 86. Constructive notification. Notification is achieved if a adult living in the dwelling receives notification.

Section 87. Prior notification by certified mail. Prior notification must be made by certified mail.

Section 88. Recordkeeping. Applicator shall keep records of notifications.

Section 89. Notification request. A request for notification made under this subchapter shall expire on December 31 in the year in which it is made.

Subchapter D. Registration of Pesticides

Section 91. EPA registration required. Only a pesticide with an approved USEPA registration will be accepted for registration.

Section 92. Special local need registration. Any special local need registrations must be approved.

Subchapter E. Miscellaneous

Section 101. Reporting of pesticide accidents. Significant pesticides accidents of incidents must be reported.

Section 102. Protected designated areas. Pennsylvania Department of Environmental Protection (PADEP) prohibits application of restricted use pesticides within 100 feet of Commonwealth lands designated as Natural Areas and Wild Areas and areas containing endangered or rare organisms identified in 25 Pennsylvania Code 82.

Section 103. Handling, transportation, storage, use and disposal of pesticides. All pesticide labels must be followed. Pesticide applications must be limited to times when winds do not disperse pesticides uncontrollably. Disposal of pesticides must be done IAW Commonwealth and Federal pollution control regulations. Only DEP-registered pesticides may be applied. All pesticide containers must be marked to indicate the name and percentage of active ingredient; the registered label must be available when using pesticides.

Section 104. Experimental use permits. Notification must be made to the Department of approved USEPA experimental use permits.

Section 105. Additional responsibilities of certified applicators. Describes responsibilities of certified applicator for those individuals who are being supervised.

Section 106. Additional responsibilities within school buildings. Describes restrictions for application of pesticides in school buildings.

Subchapter F. Pesticide Hypersensitivity Registry

Section 111. Registry. PADEP maintains a list of individuals who are sensitive to pesticides. The list is updated annually and provided to commercial applicators.

Section 112. Notification of hypersensitive individuals. Commercial applicators must notify individuals on the registry list if a pesticide is going to be applied within 500 feet of the primary or secondary residence of the individual. Records of these applications must be kept for at least 3 years.

In addition, Chapter 128b – CHEMSWEEP Pesticide Disposal Program establishes a pesticide disposal program which allows the USDA to identify and quantify canceled, unused, or suspended pesticides held, owned or possessed by citizens of Pennsylvania. Participating counties are selected and rotated annually, so the program is not available every year. However, this program serves as another potential means for the installation to dispose of unused pesticides when necessary.

[..\3 Resource Toolbox\4.1.4 State and Territory Regulations\007_0128b.pdf](#)

Although Federal agencies maintain sovereignty under section 136 of Title 7 USC, the DoD voluntarily complies with the substantive portions of Commonwealth pesticide/pest management laws and regulations when such compliance does not adversely impact DoD missions. The AFPMB has signed certain memoranda of agreement with some states and territories. The legal applicability of Commonwealth or territory pest management requirements to ANG installation property, personnel, and

operations must be determined in consultation with NGB-JA (POC: Mr. Randy Chambers, Attorney-Advisor, DSN: 327-2729, e-mail: randy.chambers@ngb.af.mil).

4.1.5 Local Regulations

There are no local pesticide regulations identified for the 171 ARW.

The legal applicability of any local pest management requirements to ANG installation property, personnel, and operations must be determined in consultation with NGB-JA (POC: Mr. Randy Chambers, Attorney-Advisor, DSN: 327-2729, e-mail: randy.chambers@ngb.af.mil).

4.2 Integrated Pest Management Operations

The cornerstone of the IPM planning effort is development of pest management strategies for each pest and disease vector category present or anticipated at 171 ARW. This IPM Plan adheres to the outline in DoDI 4150.07, Enclosure 5, and entitled “CONTENT OF IMP PLANS, SUGGESTED FORMAT” for specific pest management strategies. These strategies will be followed to ensure that pests do not interfere with the military mission, damage real property, increase maintenance costs, or expose installation personnel to diseases.

It is DoD policy (DoDI 4715.1) to establish and maintain safe, effective, and environmentally sound IPM programs to prevent or control pests and disease vectors that may adversely impact readiness or military operations by affecting the health of personnel or damaging structures, materiel, or property.

IPM is a planned program, incorporating continuous monitoring, education, record-keeping, and communication to prevent pests and disease vectors from causing unacceptable damage to operations, people, property, materiel, or the environment. IPM uses targeted, sustainable (i.e., effective, economical, and environmentally sound) methods including education, habitat modification, biological control, genetic control, cultural control, mechanical control, physical control, regulatory control, and where necessary, the judicious use of least-hazardous pesticides.

A pest management plan is a long-range, comprehensive installation planning and operational document that establishes the strategy and methods for conducting a safe, effective, and environmentally sound integrated pest management program. Written pest management plans are required as a means of establishing and implementing an installation pest management program.

IPM is the method of choice for DoD pest management and disease vector control. IPM is a sustainable approach to managing pests and controlling disease vectors by combining applicable pest management tools in a way that minimizes economic, health, and environmental risks. IPM uses regular or scheduled monitoring to determine if and when treatments are needed and employs physical, mechanical, cultural, biological, genetic, regulatory, chemical, and educational tactics to keep pest numbers low enough to prevent unacceptable damage or impacts. Treatments are not made according to a predetermined schedule; they are made only when and where monitoring has indicated that the pest will cause unacceptable economic, medical, or aesthetic damage. Treatments are chosen and timed to be most effective and least disruptive to natural controls of pests. Least hazardous, but effective, pesticides are used as a last resort.

DoDI 4150.07, DoD Pest Management Program, also requires that pesticide use during deployed military operations be recorded and archived. Pesticide applicators must record applications of all pesticides, except skin and clothing repellents, performed during military operations, using DD Form 1532-1, Pest Management Maintenance Record, or a computer generated equivalent. If this is not possible, the same information will be recorded in the unit logbook, staff journal or in a similar expedient manner. Required information includes: 1) Date applied; 2) Area/Site/Building and country where the pesticide was used; 3) Target pest; 4) Product and active ingredient name as well as USEPA Registration Number; 5) Percent

final concentration used; 6) Method of application; 7) Amount used; and 8) Who (name and rank) applied the pesticide. Different rules concerning the application of pesticides may apply in areas outside the jurisdiction of the USEPA. Follow the Final Governing Standards (FGSs) for installations in each host country. These standards, which include pesticide applications, were developed by comparing an overseas environmental baseline (based on U.S. laws and regulations) with the host nation's standards. For countries without FGSs, or for operations outside a military installation, you should adhere to USEPA requirements or the Overseas Environmental Baseline Guidance Document (OEBGD), whichever is more restrictive. For North Atlantic Treaty Organization (NATO) operations, Standardization Agreement (STANAG) 2048, Chemical Methods of Insect and Rodent Control, provides a list of pesticides approved for use by member nations. For further information on contingency operations see: AFPMB TG-24, at: <http://www.afpmb.org/pubs/tims/TG24/TG24.htm>, and the current DoD Contingency Pesticides list, at: <http://www.afpmb.org/pubs/standardlists/DoD%20contingency%20pesticides%20list.pdf>.

Finally, the contingency pest management Community of Practice website can be found at:

<https://www.dmy.af.mil/afknprod/ASPs/docman/DOCMain.asp?Tab=0&FolderID=OO-EN-CE-23-10&Filter=OO-EN-CE-23>

5.0 Priority of Pest Management Work

Installation-specific pests have been identified at 171 ARW. Table 5-1 represents pests that are present at the installation. For each of the applicable pest/disease vector categories where pests exist at the installations, IPM strategies have been developed. Each of the pests listed below are addressed in the master list of integrated pest management strategies. If a new pest should present itself at the installation, the IPM strategies must be updated to reflect that new pest. The master list of integrated pest management strategies can be found at: ..\3 Resource Toolbox\5.0 Priority of Pest Management Work\MASTER_IPM_Strategies.doc

TABLE 5-1
Priority of Pest Management Work – 171 ARW

Category	Potential Pests at 171 ARW & 258 ATCS	
1. Public Health-Related Pests	<ul style="list-style-type: none"> Rats and Mice Various Cockroaches Ticks Mosquitoes Bees, Hornets and Wasps 	<ul style="list-style-type: none"> Spiders; venomous and non-venomous Ants Filth Flies Fleas Stinkbugs
2. Pests Found In and Around Buildings	<ul style="list-style-type: none"> Stored Product Pests 	
3. Structural Pests ^{1,2}	<ul style="list-style-type: none"> Subterranean Termites³ 	<ul style="list-style-type: none"> Drywood Termites³
4. Noxious or Invasive Plants and Animals ⁴	<ul style="list-style-type: none"> Canada goose 	<ul style="list-style-type: none"> Feral cats
5. Undesirable Vegetation ⁵	<ul style="list-style-type: none"> Vegetative Overgrowth 	<ul style="list-style-type: none"> Broadleaf Weeds
6. Quarantine and Regulated Pests	<ul style="list-style-type: none"> Japanese Beetle³ 	<ul style="list-style-type: none"> Emerald Ash Borer Beetle³
7. Vertebrate Pests	<ul style="list-style-type: none"> Birds Snakes 	<ul style="list-style-type: none"> Mammalian Feral Animals and Wildlife Pests (Groundhogs, Raccoons, Coyotes, Foxes)

¹ The following link presents guide specifications for termiticide treatment measures for subterranean termite control. <..\3 Resource Toolbox\5.0 Priority of Pest Management Work\UFGS 02360 Soil Treatment for Subterranean Termite Control Apr 2006.pdf>

² The following link provides a termite and wood decay inspection form for field use. <..\3 Resource Toolbox\5.0 Priority of Pest Management Work\Termite Inspection Checklist DD Form 1070.pdf>

³ No instances have been documented on the installation or GSU.

⁴ The following link is a table of commonly used turfgrass fungicides and the diseases they control. <..\3 Resource Toolbox\5.0 Priority of Pest Management Work\Fungicide Chart.pdf>

⁵ The following link provides lists of Commonwealth and Federal noxious weeds: <http://plants.usda.gov/java/noxiousDriver>

The following link provides a list of pest management equipment (e.g., sprayers, traps, bait stations, etc.) that may be required at the installation and/or GSU:

<http://www.afpmb.org/pubs/standardlists/DoD%20pest%20management%20material%20list.pdf>

6.0 Health and Safety

6.1 Medical Surveillance of Pest Management Personnel

The 171 ARW and 258 ATCS use pest management contractors for application of pesticides; however the 258 ATCS has not required pesticide application in over a decade. The installation IPM Coordinator is responsible for ensuring that the contractors comply with the contract requirements as defined by the statement of work. Also, all contractor pest management personnel need to be certified as pesticide applicators by the Commonwealth of Pennsylvania and all applicable Federal laws and regulations (see section 4.1.4).

AFI 32-1053, Pest Management Program, dated 23 June 2009, DoDI 6055.5, Medical Surveillance, and AFOSHSTD 48-137 define specific requirements for physical exams, testing, and surveillance if the installation personnel apply pesticides. However, installation personnel at the 171 ARW and 258 ATCS do not apply pesticides beyond those used for self help.

Other procedures to protect IPM personnel and the environment from pesticide spills are included in the Oil and Hazardous Substances Spill Prevention Response Plan for the 171 ARW.

The following link provides a sample letter to the installation public health officer or healthcare POC regarding the use of pesticides on the installation. [...\\3 Resource Toolbox\6.1 Medical Surveillance\Sample Letter to Public Health Officer_Pittsburgh.doc](#)

6.2 Hazard Communication

The hazard communication program provides the initial approach to reducing potential hazards to workers at the 171 ARW. At 171 ARW, all IPM personnel receive HAZCOM training from 171/CES. A written worker HAZCOM program is in place that contains the following:

- Training to inform employees of issues such as Material Safety Data Sheets (MSDS) and hazardous materials labels and other warning signs
- A list of the hazardous chemicals known to be present
- Directions for requesting self-help pesticide products
- Verbal directive, based on the relevant MSDS(s), to inform employees of the hazards associated with non-routine tasks (e.g., communication protocol, necessary safeguards, proper PPE).
- Access to MSDSs for each hazardous chemical that employees may be exposed to while working.

MSDSs for pesticides at the 171 ARW (including self-help pesticides) are stored in Building 121 as well as Building 205. Relevant MSDSs are provided to the 258 ATCS if and when self-help pesticides are administered to the GSU by the IPM Coordinator.

Pesticides will never be transferred into a drinking container, such as a water bottle or milk jug. All pesticide products have a legible USEPA registered product label identifying the product name, registration number, active ingredients, application directions, health and safety information, and other pertinent information. Wet and dry products are stored separately with wet products on spill containment shelves.

6.3 Personal Protective Equipment

All Personal Protective Equipment (PPE) and safety equipment is specific to each individual pesticide product used on the installation. At this installation, all pesticides other than self-help pesticides and pesticides washes and lotions (i.e., Permethrin-wash and Ultrathon) are applied by contractors who supply their own PPE. Should pesticides be applied by certified personnel from this installation in the future, confirmation of appropriate PPE would be coordinated through the Bioenvironmental Engineering Office. Pesticide-specific PPE at the 171 ARW is limited to the Bee Suit in Room 119 (the former Entomology Shop). However, additional standard PPE include a shower and eyewash station in Room 119 as well as gloves, goggles, etc. in Building 205.

6.4 Fire Protection

The installation fire department maintains information of location of chemical storage sites, including pesticides stored on 171 ARW in Buildings 121 and 205. The fire department also conducts periodic inspection of the pesticide storage sites. The following web-site provides a summary of fire protection planning for pesticide fires: www.afpmb.org/pubs/tims/tim16.htm.

The following link provides a sample letter to the installation fire department addressing storage of pesticides on the installation: [..\3 Resource Toolbox\6.4 Fire Protection\Sample Letter to Fire Chief Pittsburgh.doc](#)

6.5 Pest Management Vehicles

No designated pest management vehicles are used at the 171 ARW.

6.6 Protection of the Public

Pesticide applications at 171 ARW do not impact off-site locations or adjacent land. Should there be a potential for on-site pesticide applications to affect off-site locations, the installation IPM Coordinator will coordinate with the Emergency Management Office and the Public Affairs Officer to perform any notifications to local government agencies.

Pennsylvania Pesticide Hypersensitivity Registry (under Section 128.3 of the Pesticide Control Act of 1973) consists of a list of individuals who have been verified by a physician to have medical problems associated with exposure to pesticides. These individuals must be notified before general or restricted use pesticides are applied within 500 feet of their listed locations. This registry is periodically updated and re-issued by the Pennsylvania Division of Health and Safety (Tel: 717-772-5231).

Installation IPM Coordinator shall document any required, advance (at least 12 hours, but not more than 72 hours, prior) notifications before application of any general use or restricted use pesticide upon PAANG property. Documentation of required advance notifications must be kept on file with pesticide application records.

6.7 Pesticide Inventory

Only pesticides that have been pre-approved by the NGB/A7AN Pest Management Consultant may be used on ANG property. Stocks of pesticides identified in Table 6-1, Pesticide Product Inventory, that are not on the current AFPMB Standard List (but are USEPA and State registered) must be either exhausted, through lawful use, within one year of initial adoption of this IPM Plan, or sent for disposal, or use, off installation (e.g., through the Defense Logistics Agency-Disposition Services [DLA-DS]) Pesticides that are not included on the AFPMB Standard List shall not be procured for use on installation.

Minimizing the need for pesticide disposal begins with careful planning and identification of an installation's pesticide requirements. **USERS SHOULD STOCK ONLY THOSE PESTICIDE QUANTITIES THEY WILL USE IN A REASONABLE PERIOD OF TIME, USUALLY THROUGH ONE PEST CONTROL SEASON.** While pesticides used for indoor pests can be applied year round, most of these pesticides should not be stored for more than two years. The AFPMB strongly recommends that an installation's strategic and operational environmental plans incorporate and utilize IPM techniques when establishing short-term (yearly) and long-term pesticide requirements.

The following link provides the current inventory of pesticides used at the 171 ARW: [..\3 Resource Toolbox\6.7 Pesticide Inventory\Pittsburgh Table 6 1 Pesticide Inventory 5 2013.xls](#)

Table 6-1 provides the pesticide inventory.

[Annex 6](#) contains a table showing the estimated projected annual pesticide requirements.

The Contingency Pesticide List at:

<http://www.afpmb.org/pubs/standardlists/DoD%20contingency%20pesticides%20list.pdf> provides basic information on pesticides approved by the AFPMB Contingency Advisory Group for control of disease vectors and pests during field operations worldwide. Pesticides should be used only as a part of an IPM program. The Contingency Pesticide List does not constitute procurement authority for pesticides listed therein.

Installation should periodically check any pesticides and associated materiel stored for deployment against current list posted on the USAF Portal UTC Community of Practice. See:

<https://www.my.af.mil/faf/FAF/fafHome.jsp>

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TABLE 6-1
Pesticide Product Inventory
Integrated Pest Management Plan
171 ARW, Coraopolis, PA and 258 ATCS Johnstown, PA

Trade Name	Current State Registration (Y/N)	AFPMB Approved?	NSN, if available	Type	Description	EPA Registration #	State Product ID Number (if applicable)	Manufacturer	Unit of Issue	Approximate Quantity on Base (Update when applicable)	Installation Location (Main Base or GSU?)	Active Ingredient	CAS #	% Concentration	Formulation	Maximum Quantity Authorized	NGB/A7CV Authorization Date	3952 Authorization Expiration Date	3952 Authorization Status
Trimec 899 Broadleaf Herbicide	Y	N	NA	Contract Use	Herbicide	2217-694	2001008776	PBI/Gordon Corporation	3.5 gallons	NA	Main Base (Pittsburg)	2,4-D, MCPP and Dicamba (Dimethylamine salt 2,4-dichlorophenoxyacetyl c acid; Dimethylamine salt 2-(2-methyl-4-chlorophenoxy) propionic acid; Dimethylamine salt of dicamba (3,6-dichloro-o-anisic acid)		25.38, 13.50, 2.30	Liquid	NA	NA	NA	NA
Delta Dust	Y	Y	6840-01-431-3345	Contract Use	Insecticide	432-772	2001001301	Bayer Environmental Science	1lb jar	NA	Main Base (Pittsburg)	Deltamethrin	52918-63-5	0.05	Powder	NA	NA	NA	NA
Talstar P Professional	Y	Y	6840-01-525-6888	Contract Use	Insecticide	279-3206	2007008285	FMC Corporation		NA	Main Base (Pittsburg)					NA	NA	NA	NA
VMS Diuron 80	Y	Y	6840-01-341-9346	Contract Use	Herbicide	66222-51	2002000747	Drexel		NA	Main Base (Pittsburg)					NA	NA	NA	NA
VMS Oust Extra	Y	Y	6840-01-355-8891	Contract Use	Herbicide	352-622	2003002758	DuPont		NA	Main Base (Pittsburg)					NA	NA	NA	NA
VMS Razor Pro	Y	Y	6840-01-108-9578	Contract Use	Herbicide	228-366	2005005625	NuFarm		NA	Main Base (Pittsburg)					NA	NA	NA	NA
VMS Weedestroy	Y	Y	6840-00-577-4194	Contract Use	Herbicide	228-145	2001009683	Riverdale Chemical Co.		NA	Main Base (Pittsburg)					NA	NA	NA	NA
Permethrin-wash	NA	Y	6840-01-345-0237	In Storage (Building 121)	Repellant	63120-3	NA	Sawyer Products	.3oz bottle	Variable	Main Base (Pittsburg)	Permethrin	52645-53-1	40	Liquid	NA	NA	NA	NA
Ultrathon	Y	Y	6840-01-284-3982	In Storage (Building 121)	Repellant	58007-1	2001010773	3M	2oz tubes	Variable	Main Base (Pittsburg)	N,N-Diethyl M-Toluamide	134-62-3	29-33	Liquid	NA	NA	NA	NA
Roundup Pro	Y	Y	6840-01-108-9578	In Storage (Building 205)	Herbicide	524-475	2001007734	Monsanto	gallons	1 1/2	Main Base (Pittsburg)	Glyphosate			Liquid				
BTI Briquettes	Y	Y	6840-01-377-7049	In Storage (Building 205)	Insecticide	6218-47	2001010478	Summit Chemical Co	20, 9.15 oz briquettes	80	Main Base (Pittsburg)	Bacillus thuringiensis	Unknown	Unknown	Solid Briquet	NA	NA	NA	NA
Demon Wettable Powdered	Y	Y	6840-01-390-4822	In Storage (Building 205)	Insecticide	100-990	2001003121	Sygenta crop Protection	1lb jar	6	Main Base (Pittsburg)	Cypermethrin Technical	52315-07-8	40	Powder	NA	NA	NA	NA
King Pine Brand Flying Insect & Mosquito Killer Formula 2 (Kill Zone House and Garden Insect Killer)	Y	Y	6840-01-067-2137	In Storage (Building 205)	Insecticide	498-116	2008011105	Chase Products	aerosol	12	Main Base (Pittsburg)	d-trans allethrin, resmethrin		0.125, 0.2	Aerosol	NA	NA	NA	NA
Prescription Treatment 565 Plus XLO	Y	Y	6840-00-823-7849	In Storage (Building 205)	Insecticide	499-290	2002000302	Whitmire Micro-Gen Research Lab Inc.	20 oz can	21 1/2	Main Base (Pittsburg)	Pyrethrin, Piperonyl butoxide, n-octyl Bicycloheptene Dicarboximide		0.5, 1, 1	Aerosol	NA	NA	NA	NA
Roach Motel "Combat" Bait Stations	Y	Y	6840-01-224-1269	In Storage (Building 205)	Insecticide	64240-34/33	2001008504	Combat	each	45	Main Base (Pittsburg)	Fipronil	120068-37-3	0.03	Bait	NA	NA	TBD	TBD
DEOSECT II (Stimulal Fly Bait)	Y	Y	6840-01-183-7244	In Storage (Building 205)	Insecticide	53871-3	2001002458	Troy Biosciences Inc	5lb can	5	Main Base (Pittsburg)	Methorhlyl, z-9 Ticosene	16752-77-5, 27519-01-4	1.0-1.0, 0.1-0.1	Bait	NA	NA	NA	NA
Whitmire Wasp & Homet Freeze	Y	Y	6840-00-459-2443	In Storage (Building 205)	Insecticide	499-362	2001011750	Whitmire Micro-Gen Research Lab Inc.	aerosol (14 oz can)	36	Main Base (Pittsburg)	Phenothrin, d-trans-allethrin	26002-80-2, 28057-48-9	0.120, 0.129	Aerosol	NA	NA	TBD	TBD
Enforcer Antmax Bait Stations	Y	N	NA	In Storage (Building 205)	Insecticide	40849-75	2004004925	Zep	1.26 oz each/18 per box	2 1/3	Main Base (Pittsburg)	N-ethyl Perfluorooctane-sulfonamide	NA	0.05	Bait	NA	NA	NA	NA
Enforcer Roachmax Bait Stations	Y	N	NA	In Storage (Building 205)	Insecticide	40849-76	2004004929	Zep	1.44 oz each/18 per box	22	Main Base (Pittsburg)	N-ethyl Perfluorooctane-sulfonamide	NA	1.05	Bait	NA	NA	NA	NA
J.T. Eaton Spider & Cricket Glue Trap	NA	NA	3740-01-096-1632	In Storage (Building 205)	Mechanicals	NA	NA	Various	5" x 3.5" x 2"	10	Main Base (Pittsburg)	NA	NA	NA	NA	NA	NA	TBD	TBD
Victor Pest Glue Traps	NA	NA	3740-01-240-6170	In Storage (Building 205)	Mechanicals	NA	NA	Victor	box	137	Main Base (Pittsburg)	NA	NA	NA	NA	NA	NA	NA	NA
MAKI Paraffinized Pellets	Y	Y	6840-01-151-4884	In Storage (Building 205)	Rodenticide	7173-187	2001002572	Liphatech, Inc	11lb tub	1 2/3	Main Base (Pittsburg)	Bromadiolone	28772-56-7	NA	Bait	NA	NA	NA	NA
Rodent Smoke Bomb "Revenge"	Y	N	NA	In Storage (Building 205)	Rodenticide	9086-4	2001009877	Roxide Intl	each	24 1/2	Main Base (Pittsburg)	Sulphur, Potassium Nitrate, Carbon	7704-34-9, 7757-09-0, 4014-0-0	39.4, 38.8, 9.3	Fumigant	NA	NA	NA	NA
Talon-G Rodenticidal	Y	Y	6840-01-508-6085	In Storage (Building 205)	Rodenticide	100-1050, 100-1051, 100-1052, 100-1057	2001003137	Sygenta crop Protection	5lb container	7	Main Base (Pittsburg)	Brodifacoum Technical	56073-10-0	0.005	Bait	NA	NA	NA	NA

* These pesticides are not approved by both the Commonwealth and the AFPMB, therefore, must not be used and must be removed from the installation in accordance with Section 6.7 of the Integrated Pest Management Plan.

Yellow: These pesticides are not approved by both the Commonwealth and ARPMB and, therefore, must be either exhausted, through lawful use, within one year of initial adoption of this IPM Plan, or sent for disposal, or use, off installation [possibly through DRMO].

Light Orange: This denotes those pesticides that are anticipated to be used by contractors. Only contractors are permitted to transport, mix, use, and dispose of these pesticides. These pesticides must be pre approved by the IPM coordinator and the NGB/A7AN prior to pesticide application.

Light Green: This denotes contingency pesticides. Contingency pesticides are those pesticides used during deployed military operations. These pesticides are not used on the installation, but may be stored in a designated area for a given period of time. Because the type and amount of these contingency pesticides vary, all approved pesticides are listed, but may not represent what is currently at the installation.

Light Blue: This denotes those pesticides that are approved for the Self Help program. These pesticides listed in the self-help program will be limited to BCE employees designated by the IPM coordinator.

NA Not Available
TBD To Be Determined

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6.8 Pesticide Authorization Procedure

Table 6-2 provides a summary of the requirements and procedure to obtain installation authorization for pesticide acquisition through the installation Hazmat Pharmacy using the IPMIS tracking database. In accordance with AFI 32-7086, Hazardous Materials Management, pesticide use must be tracked using the approved hazardous materials tracking database. This includes government, contractor, and any use of pesticides by a tenant on the installation. Section 8.10 contains a summary of the current steps to obtain approval from the NGB/A7AN Pest Management Consultant.

Prior to the formal authorization, the IPM Coordinator/Environmental Manager conducts a pre-screen of proposed pesticides with the NGB/A7AN Pest Management Consultant.

TABLE 6-2
Summary of EESOH-MIS Chemical/Hazardous Material Request Authorization Process for Pesticides

1. User Electronic Request via IPMIS	Includes product, purpose, exposure potential, application location, PPE, waste and disposal. Pesticide is identified by EPA Reg. #.
2. Requesting Unit Supervisor	Certifies request.
3. Hazmat Pharmacy	Ensures completeness, match MSDS, compile paperwork, constituents, manufacturer, etc.
4. Bio-Environmental Engineering	Evaluates constituent hazard and exposure potential.
5. Safety	Ensures compliance with OSHA and AFOSH standards.
6. Fire Department	Reviews for location of hazardous materials locations and storage.
7. Environmental Manager	Review for compliance with environmental regulations and potential impacts to installation environmental aspects.
8. Installation Pest Management Coordinator	Determines if pesticide is listed by Armed Forces Pest Management Board. Confirms Commonwealth registration of pesticide. Drafts revision to affected pest-specific control strategy in IPM Plan Annex 1, in coordination with installation ESOH Council; and, incorporates revised strategy into IPM Plan after approval by ANG Pest Management Consultant. Obtains pre-approval from NGB/A7AN Pest Management Consultant (see #Annex 2). Executes order through Hazmat Pharmacy
9. NGB/A7AN Pest Management Consultant	Review and approval through IPMIS
10. Hazmat Pharmacy	Order is executed. Pesticide is added to installation authorized-use list.

6.9 Pesticide Storage Methods and Facilities

Pesticides can be stored in warehouses, flammable-safe cabinets, or in specially-designed storage facilities. At the 171 ARW, pesticides are stored in pesticide storage lockers in Building 205 in the bay area next to Room 119 and in Building 121. Pesticides stored in Building 205 are limited to self-help chemicals and mechanicals that are administered by the IPM Coordinator. There is a spill kit nearby each location, as well as a fire extinguisher and an eye wash station. There are no pesticides stored at the GSU beyond temporary storage of self-help pesticides.

All faucets and spigots used by pest control operations must be appropriately fitted with properly operating backflow prevention devices. No pesticide mixing takes place at the 171 ARW; however, Room 119 in Building 205 has a water source that can be equipped with vacuum backflow prevention devices.

The design of pesticide storage facilities shall comply with the standards described in AFPMB TG-17, "Military Handbook, Design of Pest Management Facilities."

<http://www.afpmb.org/pubs/tims/tim17.htm>.

The following link will provide access to the entire list of Technical Guides:

<http://www.afpmb.org/pubs/tims/tims.htm>.

"Mesh Termite Barrier Specifications":

<..\3 Resource Toolbox\6.9 Pesticide Storage Methods and Facilities\UFGS Mesh Termite Barrier 31 31 16.21.pdf>

Pest-Resistant Home:

http://www.woai.com/news/local/story.aspx?content_id=5908116C-C212-4B66-B8E8-272CD135F7B0

7.0 Environmental Considerations

7.1 Sensitive Areas

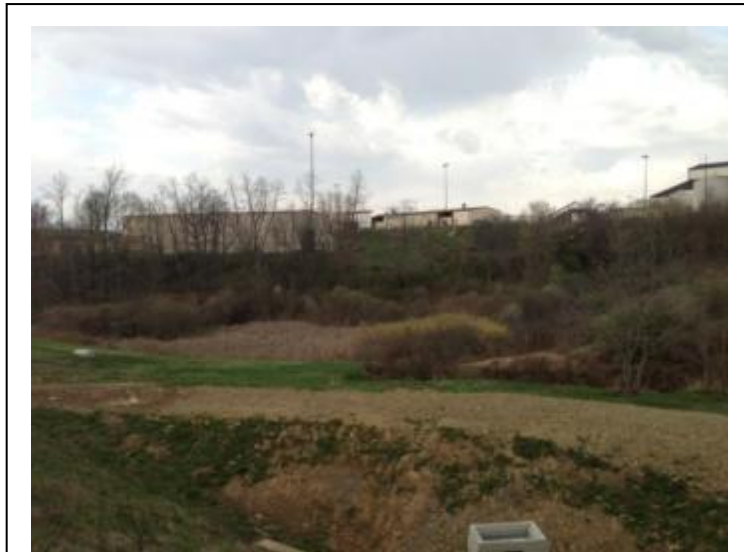
The small wetland, shrub, and forested parcels at the site support the greatest diversity and number of wildlife species at the installation. However, the fragmented nature of these parcels and the disturbed nature of surrounding areas reduce the quality of these habitats and limit potential wildlife use.

Three small wetlands are located in low-lying areas of the installation, none of which are included in the National Wetlands Inventory. These palustrine emergent/scrub shrub wetlands occur in the area between the east and west aircraft parking aprons and include a 2.3 acre wetland constructed to offset previously existing wetlands that were impacted during construction of the east aircraft parking apron.

A stormwater management basin between Buildings 310 and 316 replaced a former palustrine emergent/scrub-shrub wetland, but retains some wetland vegetation and characteristics. These wetlands are associated with the headwaters of two unnamed tributaries to McClaren's Run.

Vegetation in these areas is composed of interspersed emergent and scrub-shrub plant communities. The emergent areas are dominated by broadleaf cattail (*Typha latifolia*), sensitive fern (*Onoclea sensibilis*), willow-herb (*Epilobium coloratum*), goldenrod (*Solidago sp.*), and grasses. Scrub-shrub areas are dominated by American elm (*Ulmus americana*), boxelder (*Acer negundo*), honeysuckle (*Lonicera sp.*), blackberry (*Rubus sp.*), and multiflora rose (*Rosa multiflora*). Torrey Rush (*Juncus torreyi*), a Pennsylvania threatened species, has been found in the replacement wetlands.

These wetlands would likely be considered jurisdictional wetlands and would be regulated by both U.S. Army Corps of Engineers (USACE) and PADEP (PAANG 2012). Another small isolated palustrine wetland, dominated by common reed (*Phragmites communis*) and broadleaf cattail (*Typha latifolia*), is located southeast of Building 316. However, its supporting hydrology comes from stormwater runoff from adjacent runways and paved areas. In general, the wetlands found on the installation are of relatively low value due to their location within a highly modified and disturbed landscape and their small size and fragmented nature (PAANG 2012). However, pesticide applications in the vicinity of wetlands and open water bodies should strictly follow label instructions and may be subject to National Pollutant Discharge Elimination System [NPDES] permit requirements (see also 40 Code of Federal Regulations [CFR] 122.3



The three wetlands located on the installation, including the recreated wetland, are located between the east and west parking aprons. While herbicide is applied by contactors along the fenceline surrounding the wetlands, precautions are taken to ensure that pesticides do not migrate toward the wetland area.

and <http://www.elibrary.dep.state.pa.us/dsweb/View/Collection-10772> for information regarding NPDES permit exclusions).

7.2 Endangered/Protected Species and Critical Habitats

One Commonwealth-threatened plant species, Torrey's Rush (*Juncus torrei*) has been identified on the installation, in the vicinity of the replacement wetland. Habitat to support other threatened and endangered species does not exist at the installation. The site is within the ranges of two special status bird species, the bald eagle (*Haliaeetus leucocephalus*) and the peregrine falcon (*Falco peregrinus*), as well as the federally endangered Indiana bat (*Myotis sodalists*) and number Commonwealth-listed species. Individuals of these species could occur as transients, but do not regularly occur or inhabit the installation (PAANG 2012).

The USEPA identifies pesticides with potential to affect federally listed threatened and endangered species or their critical habitat. The USEPA, Endangered Species Protection Program (ESPP), requires pesticide applicators to, when directed by the label, visit the USEPA website or call the indicated toll free number to see if a local county Bulletin contains relevant information. Even if the information contained in the county Bulletin is not relevant to the intended use of the pesticide, applicators must still copy or download the county Bulletin. Bulletins will be good for six months, at which time applicators will need to revisit the website (or call the toll free number) to again obtain the county Bulletin. USEPA has stated that pesticides bearing label directions only for use indoors, and where the applied product remains indoors, will not be subject to ESPP.

Applicators who ignore label language directing them to obtain a county Bulletin from the USEPA website, or toll free number, run the risk of violating labeling directions. Applications that adversely impact a federally listed threatened or endangered species could constitute an ESA violation, in addition to an enforceable label violation. Pesticide applicators are encouraged to visit the ESPP Web site at <http://www.epa.gov/espp> and familiarize themselves with the county Bulletins.

To comply with the ESPP regulations, follow these steps:

1. Review the label of every product you use to determine whether it contains endangered species prohibitions.
2. If the label does contain endangered species language, check the USEPA website: <http://www.epa.gov/espp/how-to.htm>, or call USEPA's toll-free number: 1-800-447-3813, before using the product.
3. Review ESPP U.S. State maps at:
<http://www.epa.gov/espp/usa-map.htm>
4. Do not use the product in a manner inconsistent with the county Bulletin (which is an extension of the product's label).
5. Maintain a copy of the county Bulletin in your files. (Note: There are no county bulletins applicable to Allegheny or Cambria counties, Pennsylvania.)
6. Recheck the labels of products you use at least once every six months for the generic label statement about county Bulletins.

If proposed application of pesticide has potential to affect any threatened, endangered, or otherwise protected species, the installation Environmental Manager must contact the local USFWS office for an informal consultation under Section 7 of the ESA or for coordination under the Migratory Bird Treaty Act (MBTA) and other applicable regulation. If the USFWS requests a formal consultation, and preparation of a biological assessment, Unit must contact NGB/A7AN Natural Resources Manager for coordination.

All native migratory birds are protected under the Migratory Bird Treaty Act. The U.S. Fish and Wildlife Service Migratory Species brochure can be found at the following location: [..\\3 Resource Toolbox\\7.2 Endangered Species and Critical Habitats\\USFWS Migratory Species Brochure.pdf](#)

7.3 Environmental Documentation

AFI 32-1074 outlines the requirements for the Environmental Impact Analysis Process (EIAP). The following reference provides requirements for aerial pesticide applications: [..\\3 Resource Toolbox\\7.6 Aerial Applications\\AFI 32-1074 Aerial Application.pdf](#)

There are no National Environmental Policy Act (NEPA) requirements for the implementation of this IPM Plan. Documentation for aerial application projects shall be in accordance with DoD, USAF, and ANG environmental requirements including compliance with the requirements of the NEPA. A designated pest management consultant at the major command level or higher, who is certified in the aerial application pest control category, and the NGB/A7AN Natural Resources Manager must pre-approve all proposed pest management projects that involve the aerial application of pesticides. Any pesticides to be used must be pre-approved by NGB/A7AN Pest Management Consultant specifically for use in aerial application. For routine pest management operations, FIFRA's substantive and procedural provisions for the protection of the environment satisfy the objectives of NEPA [Merrell v. Thomas, 608 F. Supp. 644 (D. Or. 1985), aff'd, 807 F.2d 776 (9th Cir. 1986), cert. denied, 108 S. Ct. 145, 98 L.Ed.2d 101 (1987)].

7.4 Pesticide Spills and Remediation

The following link provides access to Technical Guide: 15, "Pesticide Spill Prevention and Management." <http://www.afpmb.org/pubs/tims/tim15.pdf> . The following link provides access to all of the Technical Guides: <http://www.afpmb.org/pubs/tims/tims.htm>.

Should there be a spill of pesticides, the base Oil and Hazardous Substances Spill Prevention and Response Plan will be followed.

The installation will avoid use of household disposal route for disposal of empty pesticides containers as this is not a household use; the "household waste exemption" is not applicable to any pesticides disposed.

7.5 Disposal Procedures and Methods

Residue rinsate from pesticide containers may be utilized as part of normal pesticide applications. All pesticide waste will be properly disposed of following established installation procedures in coordination with installation Environmental Manager. Waste from pesticide operations must be carefully characterized. Care must be taken to distinguish between hazardous waste and acute hazardous waste because their residues and containers must be handled differently. Under the Resource Conservation and Recovery Act (RCRA), a container that has held an acute hazardous waste can be considered "empty" if it has been appropriately triple rinsed (see 40 CFR 261.7(b)(3)), but State regulations might be more restrictive. Empty containers should be made un-reusable by cutting a hole in the bottom of the container, unless contrary to label directions (e.g., "do not puncture" for some aerosol cans). Empty containers (see 40 CFR 261.7) can generally be disposed of through the solid waste disposal path. Likewise, other

equipment and supplies should be decontaminated, as appropriate, and either processed for reutilization or disposed. Any contaminated equipment or supplies must be evaluated for disposal as hazardous waste. Any de-registered or surplus pesticides will be inventoried through the installation Hazmat Pharmacy and reutilized through normal installation procedures; this is typically through the DRMO.

The following link presents Frequently Asked Questions regarding Household Hazardous Waste.
<http://www.epa.gov/region09/waste/solid/house.html>

The following link provides access to the Federal Register dated Wednesday August 16, 2006 and provides the final rule on Pesticide Management and Disposal; Standards for Pesticides Containers and Containment.

<http://a257.g.akamaitech.net/7/257/2422/01jan20061800/edocket.access.gpo.gov/2006/06-6856.htm>

For further guidance on disposal procedures and methods refer to AFPMB TG-21 'Pesticide Disposal Guide for Pest Control Shops. <http://www.afpmb.org/pubs/tims/tims.htm>].

7.6 Operations Involving Aerial Application

The following AFI addresses Aerial Applications of Pesticides: [AFI 32-1074 Aerial Application.pdf](#)

Aerial pesticide applications are not performed at this installation. Should the need arise, the IPM Coordinator will ensure that there is a valid and current Environmental Impact Assessment in place and that the aerial application has been approved by the NGB/A7AN Pest Management Consultant.

8.0 Program Administration

8.1 Pest Management Operations

8.1.1 Pest Management Communications Structure

Figure 8.1 provides a summary of the team members and communications structure supporting the pest management program at 171 ARW.

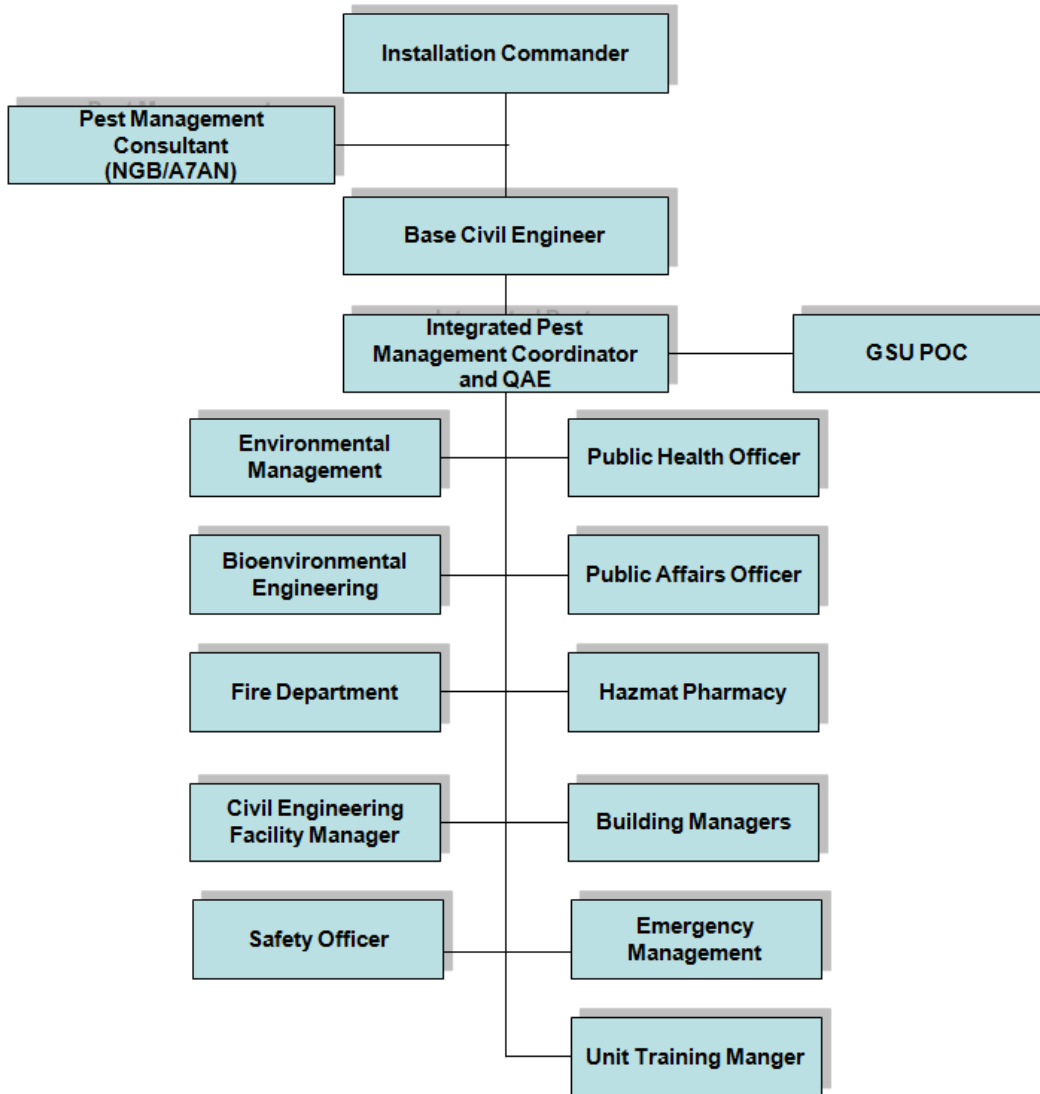


FIGURE 8.1
Pest Management Communications Structure

8.1.2 Work Order Process

Air Force Pamphlet 32-1004, Volume 3, dated 1 September 1998, ([\3 Resource Toolbox\8.1.2 Work Order Process\Work Order Process AFPAM32-1004v3.pdf](#)) describes the activities required to operate, maintain, repair, and construct real property using an in-house military and civilian work force and recurring and non-recurring service contracts. The pamphlet provides detailed guidance on the work order process, including the review process, evaluation of work orders, management of work orders, and tracking requests. Figure 8.2 provides a summary flow of a typical work order program.

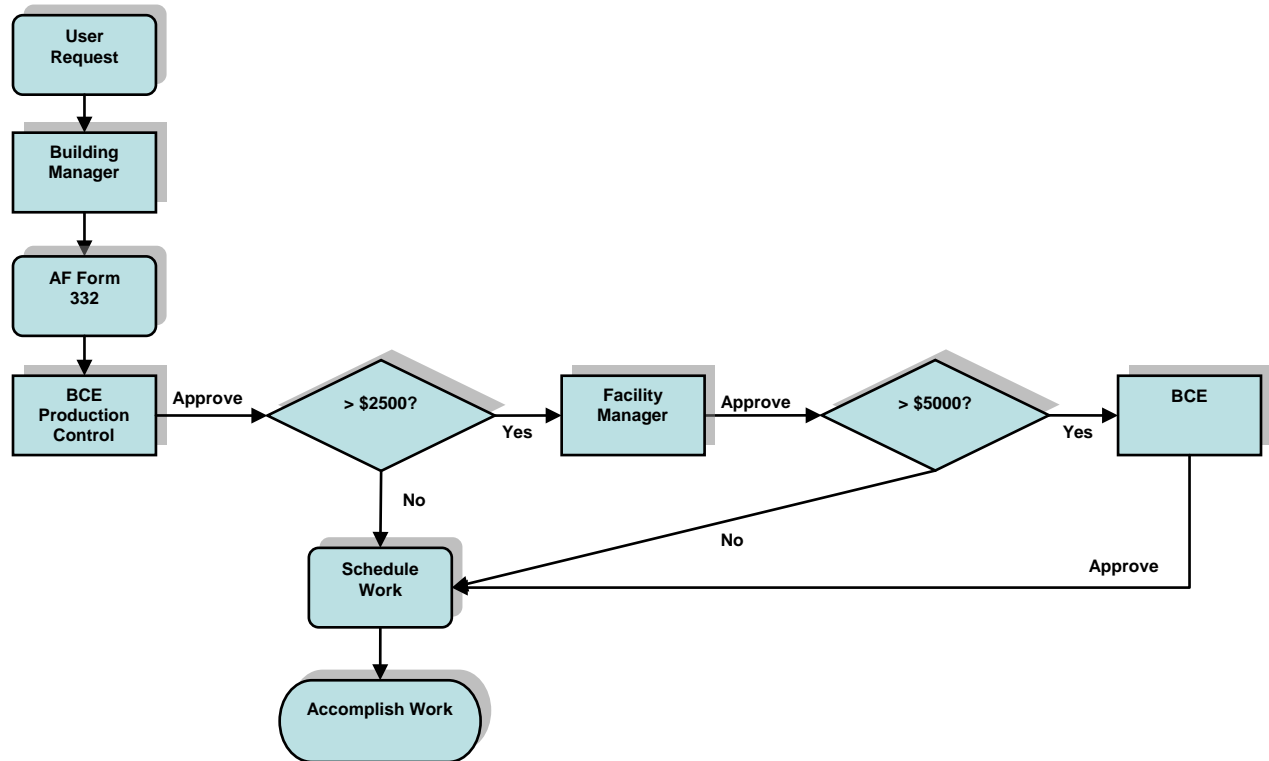


FIGURE 8.2
Work Order Process

8.1.3 Funding

Air National Guard Instruction (ANGI) 32-1023, dated 2 October 1998, prescribes the procedures and reports necessary to implement Military Construction Projects (MCP), Minor Construction (MC) projects, and Sustainment, Restoration, and Modernization (SRM) projects needed to support the pest management program at the 171 ARW.

The ESOHCAMP is a tool to identify potential opportunities to obtain funding to address pest management non-compliance findings. External assessments are conducted every 3 years and internal assessments are conducted every year.

Currently there are no pending projects associated with pest management at the 171 ARW.

Normally pesticides are to be purchased through the installation Hazmat Pharmacy. However, installations are authorized to make local purchases, of pesticide on the installation's Authorized Pesticide Use List, using IMPAC cards where the amount being acquired is so small that it should not be purchased through the authorization and supply system.

The Automated Civil Engineering System (ACES) website <https://aces.csd.disa.mil/> provides project programming documentation and associated training. Any funds expended for PMP materials through Facility Operations & Maintenance Activities (FOMA) must be approved by the BCE.

8.1.4 Self-Help and Poison Control

Self Help

The Air Force has published self-help program guidance document entitled “AIR FORCE SELF-HELP PEST MANAGEMENT PROGRAM FOR MILITARY HOUSING (MH) OCCUPANTS AND BUILDING MANAGERS.” This document can be found in the Resources Toolbox:

[..3 Resource Toolbox\8.1.4 Self-Help\AF Memo Self-Help Sep 06.pdf](#)

Under the “Search” feature type in “Pesticides” and hit the “Go” button; a link to the document will appear. The guidance document provides frequently asked questions and responses addressing the directive driving the program, facilities impacted, typical pests found, BCE assistance, available pesticides, and program responsibilities. The document also includes an attachment with an example “Acknowledgment of Understanding” to be signed by the facility occupant stating that the instruction has been read and understood.

At the 171 ARW, the self-help program will be limited to BCE employees designated by the IPM Coordinator. The list of individuals is documented in [Annex 4](#).

Poison Control

A single toll-free number (**1-800-222-1222**) now exists for poison-control centers. Dialing the new hotline will connect to the nearest poison-control center. The number is not just for emergencies, it is available for information and professional advice on poison prevention, pesticide use, drug interactions, and related topics.



8.2 Contracts/Quality Assurance

Beyond the use of self-help pesticides, major pesticide applications at the installation are performed by contractors. Table 8-1 will be used to summarize pesticides contracts used at the 171 ARW.

**TABLE 8-1
Summary of 171 ARW Pesticide Master Services Agreements**

Installation	Service Provider	SOW Title	Period of Performance	Frequency	Location*
171 ARW	Davey	Lawn Care	Ongoing	As Necessary	171 ARW
171 ARW	Ehrlich	Commercial Pest General Maintenance Service	Ongoing	Monthly (April – October as necessary)	171 ARW

Notes: Contractors are not used at 258 ATCS; however, if necessary Davey and Ehrlich would be used at this location as well. Mater Services Agreements and invoices are maintained by the 171 ARW Pest Management Coordinator.

The DoD will use pest management contracts when cost-effective or when advantageous for non-routine, large-scale, or emergency services, especially when specialized equipment or expertise is needed. Contracts for installation pest management must be monitored by persons either certified as a Commonwealth or DoD pesticide applicator, or as a PMQAE.

See [#Annex 9](#) that presents a cost comparison analysis between using installation personnel versus contractors for pest management services.

When supported by [Annex # 9](#) cost analysis comparing installation personnel versus contractors for pest management services, contracts are appended within [Annex # 7](#); samples of contract statement of work (SOW) language for monitoring and pesticide application contract services are available through this link. To avoid conflict of interest issues, it is highly recommended that pest monitoring/surveillance services contractor be separate (by either installation personnel or contractor) from pesticide application contractor. The U.S. Navy and U.S. Army offer a 3-day course for quality assurance evaluators, environmental and natural resources personnel, contract administrators and writers, and other personnel who are involved with or provide oversight of pesticide operations or who inspect or will inspect contracts where pesticides are applied. This and other courses can be accessed on the web at:

<http://www.afpmb.org/pubs/courses/courses.htm>

<https://www.cecos.navy.mil/coursedetail.cfm?courseid=86>

8.3 Outleases – Agricultural and Housing

Agricultural and housing outleasing or outgranting is defined as the use of DoD lands under a lease, license, or permit to an agency, organization, or person for growing crops, grazing animals or leasing property. The following link to the Integrated Natural Resource Management Planning AFI provides guidance and requirements for outleasing and related pest management activities. [\3 Resource Toolbox\8.3 Outleases\AFI 32-7064 Nat Resources.pdf](#).

This installation does not lease lands.

8.4 Inter-Service Support Agreements

The 171 ARW does not have any Inter-Service Support Agreements (ISSA) that address pesticide application support to tenants. Should any ISSAs be implemented or changed to reflect 171 ARW pesticide application support, Table 8-2 will be updated to summarize any ISSA that addresses support provided by the 171 ARW related to pesticide application.

TABLE 8-2
Summary of ISSAs Provided by 171 ARW

Receiving Entity	Agreement #	Effective Date	Expiration Date	ISSA Reference to Pest Management
Base Exchange (AFFES)	NA	12/1993	Present	None
NIBNISH	NA	1/2001	Present	None

8.5 Reports and Records

8.5.1 Reports

The 171 ARW utilizes contractors to perform pest control on the installation. The contractors furnish the 171 ARW with hard copies of pesticide application records, which are archived by the IPM Coordinator.

The IPM Coordinator shall insure these application records are compiled electronically and entered into IPMIS monthly.

Monthly Pesticide Use Reporting

- In accordance with DoDI 4150.07, DoD Pest Management Program, installation must record all pesticide applications using DD Form 1532 or an equivalent computer product.
- The pesticide usage data shall be submitted to the Hazardous Materials Pharmacy for entry into EESOH-MIS as well as to Environmental Manger for Air Emissions tracking and reporting.
- The ANG requires that copies of the pesticide use reports (1532 or equivalent) be submitted to the NGB/A7AN Pest Management Consultant on a monthly basis.
- Submission of monthly reports to ANG is required using IPMIS. The installation Pest Management Coordinator is responsible for submitting the reports or delegating the responsibility.

Annual Reporting of Measures of Merit

DoD's strategic plan for environmental security, drafted in 1993, mandates a reduction in the environmental risk from pesticides used in DoD programs and provides three Measures of Merit for Pest Management.

Measure of Merit 1 – Installation Pest Management Plans. All DoD installations will maintain installation Pest Management Plans that have been reviewed and approved by a DoD-certified Pest Management Consultant and annually updated by the Installation Pest Management Coordinator.

Measure of Merit 2 – Annual Amount of Pesticide Applied. All DoD installations will adhere to the principles of IPM and the DoD will maintain the goal of minimizing annual pesticide use by both government and contractor pesticide applicators on its installations. The revised baseline is set at the average annual usage by the DoD for Fiscal Years 2007-2009.

Measure of Merit 3 – Installation Pesticide Applicator Certification. All DoD pesticide applicators will be certified. All contracted employees shall have appropriate U.S. or host-nation pesticide applicator certification in the appropriate categories at the time the contract is let.

Hazardous Materials Transactional Issue Reports

All pesticide use must be tracked using the EESOH-MIS web-based hazardous materials tracking database, including in-house applications, contractor applications, and application of pesticides by a

tenant on the installation. The EESOH-MIS will generate a transactional issue report for all installation authorized pesticides.

8.5.2 Records

The following links provide access to the AFIs on record disposition.

[..\3 Resource Toolbox\8.05 Reports and Records\AFI 37-138 Records Disposition .pdf](#)

[..\3 Resource Toolbox\8.05 Reports and Records\AFI 37-139 Records Disposition Schedule .pdf](#)

The following records will be maintained to document pesticide applications at 171 ARW. The 171 ARW BCE will maintain and dispose of records IAW AFI 37-138, Information Management, Records Disposition – Procedures and Responsibilities, dated 31 March 1994, and AFMAN 37-139 Information Management – Records Disposition Schedule, dated 1 March 1996, Table 32-33.

The following records will be maintained by the 171 ARW BCE:

- Pesticide-Use Reports - DD Form 1532-1 “Pest Management Maintenance Report”
- USDA APHIS Emergency Action Notification Plant Protection and Quarantine (PPQ) Form 523
- DoD IPM/QAE Training Certification

Copies of DD Form 1532-1 and associated instructions on the use of the form, and USDA Form 523 are included in [#Annex 8](#).

8.6 Training and Certification

All pertinent certificates of training/competency can be found in [Annex 4](#).

8.6.1 Training

The following training items and actions may be necessary for an effective IPM program at 171 ARW.

- Base IPM Coordinator/QAE Training. The U.S. Navy and U.S. Army offer a 3-day course for quality assurance evaluators, environmental and natural resources personnel, contract administrators and writers, and other personnel who are involved with or provide oversight of pesticide operations or who inspect or will inspect contracts where pesticides are applied. This and other courses can be accessed on the web at:

<http://www.afpmb.org/pubs/courses/courses.htm>

or

<https://www.cecos.navy.mil/coursedetail.cfm?courseid=86>

- USDA Quarantine Program Training (e.g., Japanese beetle program). The following web link and link to the Resource Toolbox provides access to “The Japanese Beetle Program for Airports”:

http://www.aphis.usda.gov/ppq/manuals/domestic/pdf_files/Japanese_Beetle.pdf

or

[..\3 Resource Toolbox\8.06 Training and Certification\USDA APHIS Japanese_Beetle.pdf](#)

http://www.aphis.usda.gov/publications/plant_health/content/printable_version/jb_poster_8-03.pdf

http://www.aphis.usda.gov/publications/plant_health/content/printable_version/id_card_j_b.pdf

- Termite Inspection Training to meet USDA annual, biannual, or triennial inspection requirement.
- Base Self-Help. See Section 8.1.4
- Implementation of the installations' HAZCOM program in accordance with OSHA requirements, including training on MSDSs. See Section 6.2.

- A web link to the AFSC "Community of Practice" can be found at:

<https://afkm.wpafb.af.mil/ASPs/Users/login.asp?Filter=OO-EN-CE-46>

- The U.S. Army Medical Zoology Branch, Department of Preventive Health services provides training materials for 3 pest management courses (MD0141, MD0142, and MD0143) at:

<http://139.161.100.20/dphs/MedZoo/study.htm>

8.6.3 Commonwealth Certification

The following web-site provides a summary of the procedures for certification and re-certification for Pennsylvania. <http://www.pested.psu.edu/applicators/>

Section 4.1.4 provides a summary of the certification process.

8.7 Pesticide Security

All pesticides stored on 171 ARW are within the secure fence line of the installation. See TG-7, Installation Pesticide Security (August 2003) <http://www.afpmb.org/pubs/tims/tims.htm>. The installation IPM Coordinator shall institute procedures to prevent terrorists from acquiring DoD pesticide dispersal equipment or pesticides, notify the FBI of any suspicious theft of pest control equipment, and ensure that the identity of personnel and pesticide formulations provided by contractors is known and approved by trained pest management QAEs or DoD certified pesticide applicators.

8.8 Emergency Disease Vector Surveillance and Control

Certain pests are known to transmit human diseases (e.g., malaria, rabies, etc). Efficient communication and coordination with community public health and pest control officials can arrest epidemics and even prevent disease outbreak. The installation public health office should research, in advance, any local/Commonwealth/regional plans and cooperative agreements for the control of disease vectors. The installation public health office should also have current contact information for key local officials with epidemiological responsibilities for vector control.

Allegheny County Health Department
3333 Forbes Avenue
Pittsburgh, PA 15213

Main Telephone Number: 412.687.ACHD
Fax: 412.578.8925
<http://www.achd.net/>

Additionally, the public health office should be familiar with ANG roles within established Commonwealth and local disease response plans. AFI 48-102 Medical Entomology Program, dated 1 July

2004, assigns responsibilities for prevention of vector-borne disease and control of medical pests using an integrated pest management approach.

The unclassified version of the USAF Guide to Operational Surveillance of Medically Important Vectors and Pests is available on the AFPMB's web page at:

http://www.afpmb.org/coweb/guidance_targets/vector_and_pestcontrol/Operational_Surveillance_Guide.pdf

8.9 Coordination – DoD, Other Federal, Commonwealth, and Local

The following links provide documents related to the United States Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) import regulation for wood packaging material (WPM) and the DOD Interim Policy.

[..\\3 Resource Toolbox\\8.09 Coordination-DoD Federal State Local\\CBPWood Packaging Material 09-14-05.pdf](#)
[..\\3 Resource Toolbox\\8.09 Coordination-DoD Federal State Local\\DOD Interim Policy WPM 13 Feb 2006 .pdf](#)

The 171 ARW provides coordination with off-installation organizations and agencies for pest-related activities. Several Memoranda of Understandings have been set up with various organizations and agencies.

- Memorandum of Understanding between the U.S. Environmental Protection Agency and the U.S. Department of Defense with Respect to Integrated Pest Management, dated 20 March 1996. [..\\3 Resource Toolbox\\8.09 Coordination-DoD Federal State Local\\IPM MOU EPA DOD 1996.doc](#)
- Memorandum of Understanding between the U.S. Department of Defense and U.S. Department of Agriculture Animal and Plant Health Inspection Service on Animal Damage Control (ADC), dated 28 August 1990. [..\\3 Resource Toolbox\\8.09 Coordination-DoD Federal State Local\\Animal Damage Assessment and ControlUSDA.pdf](#)
- Memorandum of Agreement between the Federal Aviation Administration, the U.S. Air Force, the U.S. Army, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, and the U.S. Department of Agriculture to Address Aircraft-Wildlife Strikes, many signatories and dates, the last of which is 29 July 2003. [..\\3 Resource Toolbox\\8.09 Coordination-DoD Federal State Local\\Aircraft Wildlife Strikes MOA.pdf](#)
- Protocol for Military Clearance, April 2004, To prevent the introduction or dissemination of exotic plant pests and animal disease agents into the United States, by establishing and implementing guidelines, regulations, and policies that mitigate risks associated with military movement of troops, vehicles, equipment, and vessels of conveyance. [..\\3 Resource Toolbox\\8.09 Coordination-DoD Federal State Local\\Protocol for Military Clearance USDA APHIS 042004.doc](#)
- Coordination between the 171 ARW and the USDA on the Japanese Beetle Quarantine Program based on a USDA APHIS Emergency Action Notification dated 19 July 2005, that requires the 171 ARW "to apply remedial measures for an injurious agricultural pest" (e.g., Japanese beetle). The Japanese beetle is a highly destructive plant pest. The objective of the Japanese Beetle Quarantine is to protect the agriculture of the Western U.S. and prevent the artificial spread (spreading to a new area by other than natural means) of the Japanese beetle from the Eastern U.S. The Quarantine is specifically designed to reduce artificial spread of Japanese beetles by aircraft.
- 2010 171 ARW/911th Airlift Wing Bird/Wildlife Aircraft Strike Hazard (BASH) Plan

- Pittsburgh International Airport and the PAANG contracted with the USDA APHIS Wildlife Services to assist in managing wildlife hazards to reduce the threat of aircraft safety.

8.10 Pesticide Approval Process

#Annex 6 provides a link to the list of pesticides currently used at the 171 ARW.

The following steps need to be taken to ensure the pesticides used on installation are properly approved.

- 1) Access the approved list of Commonwealth pesticides via the following link: <http://state.ceris.purdue.edu/state.htm> or <http://www.kellysolutions.com>
- 2) Match current pesticides used on installation with Commonwealth list and determine if any of the pesticides are not authorized.
- 3) Go to the AFPMB website: <http://www.afpmb.org/>. Under “Resources” select **DoD Standard Pesticides and Pest Control Equipment Lists**



The document “ARMED FORCES PEST MANAGEMENT BOARD (AFPMB) STANDARD PESTICIDES LIST AVAILABLE TO DOD COMPONENTS AND AGENCIES October 2012” can either be opened as a PDF file or can be downloaded to your computer. Compare the list of pesticides used at the installation with the Authorized Use List from Armed Forces Pest Management Board. Note that MSDSs and labels can be obtained from this document.

- 4) Complete “Pesticide Use Approval” (See [Annex 2](#)) in IPMIS and submit to the NGB/A7AN Pest Management Consultant annually before the end of the FY (September 30), or as needed for emergent requirements.

8.11 Sale and Distribution of Pesticides

A number of common household disinfectants and pesticides are sold in the Base Exchange, Building 105, including Raid Wasp & Hornet Spray, Raid Ant & Roach Spray, and Clorox Bleach. Additionally, the National Institute for the Blind and Severely Handicapped (NIBISH) operate a small shop in Building 110, which sells similar products. All pesticides sold at the Base Exchange and the NIBISH shop are used for domestic purposes only – none are used on installation.

Wherever the sale of pesticides is authorized on installation, a clearly-legible sign with the following statement must be prominently posted alongside the EPA-registered products: “Only those USEPA-registered pesticides that have been authorized within the installation IPM Plan may be used on installation. For questions, please contact installation IPM Coordinator.”

See AFPMB TG- 45, Storage and Display of Retail Pesticides, for further guidance (<http://www.afpmb.org/pubs/tims/TG45/TG45.htm>).

8.12 IPM References and Links

Air Force Civil Engineer Center (AFCEC). 2006. “Air Force Self-Help Pest Management Program for Military Housing (MH) Occupants and Building Managers”

[..\3 Resource Toolbox\8.1.4 Self-Help\AF Memo Self-Help Sep 06.pdf](#)

Armed Forces Pest Management Board (AFPMB). 2013. AFPMB Publications.

<http://www.afpmb.org/content/afpmb-publications>

Department of Defense (DoD). 2008. Department of Defense Instruction (DoDI) Pest Management 4150.07, 29 May 2008.

http://www.afpmb.org/pubs/dir_inst/dod4150.7-i.pdf

DoD. 1996. Unified Facilities Criteria (UFC) 4-218-10N, Design: Pest Management Facilities

<http://aec.army.mil/usaec/pest/pestmgmtplans0996.pdf>

Integrated Pest Management Centers. 2013. Integrated Pest Management Information by State

<http://www.ipmcenters.org/producers/homepages/state.html>

National Invasive Species Council. 2013.

<http://www.invasivespecies.gov/>

National Climatic Data Center (NCDC). 2011. 1981-2010 Climate Normals.

<http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/>

National Pesticide Information Center. 2013.

<http://npic.orst.edu/index.html>

National Plant Board. 2012.

<http://nationalplantboard.org/index.html>

Nature Serve. 2012. Invasive Species Assessment Protocol (NatureServe)

<http://www.natureserve.org/getData/plantData.jsp>

Noxious Weeds in U.S. and Canada. 2013.

http://invader.dbs.umt.edu/Noxious_Weeds/

Pennsylvania Air National Guard (PAANG). 2012. Final Environmental Assessment for Proposed Short-term Construction Projects at the 171st Air Refueling Wing. Pittsburgh, Pennsylvania. November.

U.S. Army Environmental Center. 2013. Pesticide Applicator Certification Categories.

<http://aec.army.mil/usaec/pest/cert-pa.html>

U.S. Army Environmental Center. 1996. "Guidelines to Prepare Pest Management Plans for Army Installations and Activities," September 1996. U.S. Army Public Health Command. 2013.

<http://phc.amedd.army.mil/Pages/default.aspx>

U.S. Air Force (USAF). 2013. 171st Air Refueling Wing.

<http://www.171arw.ang.af.mil/history/>

USAF. 2009. Pest Management Program, Air Force Instruction (AFI) 32-1053. 23 June 2009.

http://www.afpmb.org/military_entomology/usafento/files/afi32-1053.pdf

U.S. Department of Agriculture (USDA). 2012. Japanese Beetle Control Program Manual.

http://www.aphis.usda.gov/ppq/manuals/domestic/pdf_files/Japanese_Beetle.pdf

http://www.aphis.usda.gov/publications/plant_health/content/printable_version/jb_poster8-03.pdf

http://www.aphis.usda.gov/publications/plant_health/content/printable_version/id_card_jb.pdf

USDA. 2011. Plant Protection and Quarantine Program.

http://www.aphis.usda.gov/plant_health/

USEPA. 2013. ECOTOX Database.

<http://www.epa.gov/ecotox>

USEPA. 2013. Endangered Species Protection Program (Pesticide Use Limitations).

<http://www.epa.gov/espp/>

USEPA. 2013. Pesticide Program.

<http://www.epa.gov/pesticides/>

USEPA. 2013. Pesticide Information Website .

<http://www.epa.gov/pesticides/>

USEPA. 2012. Integrated Pest Management Program for Schools (IPM examples).

<http://www.epa.gov/pesticides/ipm/schoolipm/>

U.S. Geological Survey (USGS). 2012. West Nile Virus Mapping.

<http://westnilemaps.usgs.gov/>

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Annexes

Ctrl + Click to follow
Bookmark

#Annex_1	Annex 1 – Integrated Pest Management Strategies
#Annex_2	Annex 2 – Annual Pesticide Use Proposal
#Annex_3	Annex 3 – Points of Contact
#Annex_4	Annex 4 – Certificates of Training/Competency
#Annex_5	Annex 5 – Installation Map(s)
#Annex_6	Annex 6 – Estimated Projected Annual Pesticide Requirements
#Annex_7	Annex 7 – Statements of Work for Pest Monitoring/Surveillance and Control Services
#Annex_8	Annex 8 – DD Form 1532-1 and USDA Form 523
#Annex_9	Annex 9 – Cost Comparison Analysis Tool

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ANNEX 1

Integrated Pest Management Strategies

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The Integrated Pest Management Strategies for Annex 1 are located at: [..\3 Resource Toolbox\5.0 Priority of Pest Management Work\MASTER IPM Strategies.doc](#)

Within each integrated pest management strategy, a table is provided that addresses the pest surveillance “Methods, Locations, and Frequency.” Several surveillance methods are provided, you may add other “Methods” to the table as necessary; however, for each method included, enter the specific locations and frequency of surveillance for your installation in the designated fields of the table.

If there is a need to prepare an additional integrated pest management strategy not included in the master list, the following template can be used to prepare the strategy: [..\3 Resource Toolbox\5.0 Priority of Pest Management Work\Blank IPM Strategy.doc](#)

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ANNEX 2

**Pest Management Consultant Annual Pesticide
Use Proposal**

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At the beginning of each fiscal year, in conjunction with review of pest-specific management strategies, each installation shall propose a list of pesticides for approval by the NGB/A7AN Pest Management Consultant. The pesticides proposed are those intended for use on installation (by contractors or by base personnel) to control pests identified, or anticipated to occur, on installation during the upcoming fiscal year (see DoD Instruction 4150.07 Section 5.4.11). Pesticide use approval is submitted through the IPMIS using the Pesticide Use Approval questionnaire shown in this Annex. In order to complete the approval process:

1) Review prior year pest-monitoring information and pest management strategies contained in installation integrated pest management plan. Determine whether any new pest management strategies are needed, or old strategies need to be updated or removed.

2) Identify pesticides suitable for the installation pest-specific strategies. The installation Pest Management Coordinator must preferentially nominate pesticides that are on the current AFPMB Standard Pesticides Available to DoD Components and All Federal Agencies list [for updated list see: <http://www.afpmb.org/standardlist.htm>].

3) Access IPMIS and request the products.

For installation self-help program, if any, identify pesticides to be nominated from current Air Force Self-Help Pest Management Program guidance, see:

<http://www.afcesa.af.mil/ces/docs/Self-HelpSep06.pdf>

The following sources of information are available on Commonwealth pesticide registrations:

<http://ppis.ceris.purdue.edu/npublic.htm>

<http://www.kellysolutions.com/>

<http://npic.orst.edu/state1.htm#map>

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ANNEX 3

Points of Contact

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USDA

http://www.aphis.usda.gov/plant_health/

http://www.aphis.usda.gov/ppq/manuals/domestic/pdf_files/Japanese_Beetle.pdf

http://www.aphis.usda.gov/publications/plant_health/content/printable_version/jb_poster8-03.pdf

http://www.aphis.usda.gov/publications/plant_health/content/printable_version/id_card_jb.pdf

Poison Control

1-800-222-1222 Nationwide

U.S. Navy QAE Courses

<http://www.afpmb.org/pubs/courses/courses.htm>

<http://www.netc.navy.mil/centers/csfe/cecos/>

NGB/A7AN Pest Management Consultant

Mr. Keith Harris

NGB/A7ANN

3500 Fetchet Ave.

Andrews AFB, MD 20762

COMM: 240-612-8327

DSN: 612-8327

e-mail: keith.harris@ang.af.mil

University of California Integrated Pest Management

The following link provides a comprehensive list of links to sites developed by government agencies or educational institutions through the University of California. This link also includes web-links to IPM centers affiliated with land-grant universities and National USDA Regional IPM Centers.

<http://www.ipm.ucdavis.edu/>

National Pesticide Information Retrieval System (NPIRS)

The National Pesticide Information Retrieval System (NPIRS) is a collection of pesticide-related databases available by subscription. NPIRS is under the administration of the Center for Environmental and Regulatory Information Systems (CERIS), at Purdue University in West Lafayette, Indiana. Click on the "State" tab to search your state's pesticide registration data by clicking the state abbreviation in the map or by clicking the state name in the list.

<http://state.ceris.purdue.edu/>

Installation POCs

The following table can be used to document internal installation POCs.

Title	Installation POC Name/Rank	Office	DSN Telephone Number 294-XXXX Commercial Telephone Number (412) 776-XXXX
Installation Pest Management Coordinator	CMSgt Ray Colella		Ext 7614

Title	Installation POC Name/Rank	Office	DSN Telephone Number 294-XXXX Commercial Telephone Number (412) 776-XXXX
Installation Environmental Manager	Lt Col John Tower		Ext 7640
Installation Bioenvironmental Engineer	MSgt Lloyd Carver		Ext 7265
Public Health Tech	SSgt Anthony Lucianai or Tom Smith		
Fire Department	MSgt Gary L. Shannon		Ext 7750
Safety Officer	SMSgt Judi McGrath		Ext 7377
Hazmat Pharmacy	SSgt Jeanine N. Bochter		Ext 7585
Unit Training Manager	SSgt Brandon Sampson		Ext 7549
Public Affairs Officer	Maj Dicie A. Hritz		Ext 7779
Base Civil Engineer	Maj Charles D. Kerns		Ext 7539
Real Property	Mr. Roy Negley		Ext 7337
Facility Manager	CMSgt Ray Colella		Ext 7614
Pest Management Consultant	Mr. Keith M. Harris	NGB/A7AN	DSN: 612-8327 COMM: 240-612-8327
Mission Support Commander	Col Mark J. Van Kooten		Ext 7629
Wing/Installation Commander	Col Steven R. Painter		Ext 7359
District Supervisor / Wildlife Biologist USDA – APHIS	Craig Swope	USDA - APHIS	724-238-7320
Environmental Program Manager	Maria Stanko	Federal Aviation Administration	718-553-2511

ANNEX 4

Certificates of Training/Competency

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AIR EDUCATION AND TRAINING COMMAND
UNITED STATES AIR FORCE
This is to certify that

Raymond Colella (E-9 - (CMSgt))

has successfully completed

Air Force Pest Management Quality
Assurance Evaluator Course

conferred this 11th day of August in the year of 2011



46983

Applicator Number
866322
BU1459

Pennsylvania Department of Agriculture
Bureau of Plant Industry
Public Pesticide Applicator Credit Statement

P-17

Reflects Recertification Credits Assigned to Your Certification as of December 26, 2012
Employee Name: Raymond R Colella Business Name: Pa Air National Guard Pgh Int Airport
Business License Expiration Date: 12/31/2013 Business Insurance Expiration Date: 12/31/2056

(You may not make applications covered by "Lapsed or Expired" categories.)

Continuing Education Credit Information	Credits Acquired	Credits Required	Credits Needed	Date When Credits Are Needed For Renewal
00 Core	0	6	6	Due 9/30/2015
10 Right of Way & Weeds	0	8	8	Due 9/30/2015

BUREAU OF PLANT INDUSTRY

For any categories with credits due in 2015 which are not completed when the renewal was processed were marked as "Lapsed". You will have until 9/30/2016 to complete the overdue credits and REQUEST the category be reinstated. After 9/30/2016 the category will be "Expired" and retesting would be required to reinstate the category.

Visit www.paplants.state.pa.us for pesticide meeting and exam locations and to review your recertification credits. (Your PaPlantsID: 001AZK and your Pin: 60896).

Visit www.pested.psu.edu for how to order exam study materials, pesticide label and MSDS links, and various fact sheets on pesticide safety and regulations.

Keep Up-to-Date

- Complete any outstanding continuing education credits. For meeting information or to check your current credits and meeting history, visit www.paplants.state.pa.us or call the Regional Office at 724-443-1585 or the County Cooperative Extension office.

Pennsylvania Department of Agriculture
Bureau of Plant Industry
Health and Safety Division
2301 N Cameron St.
Harrisburg, PA 17110-9408
Phone: (717)772-5231 ext 2
Fax: (717)783-3275
Online at www.paplants.state.pa.us

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF AGRICULTURE

Pesticide Application Business License

BU #: BU1459

Pa Air National Guard Pgh Int Airport
171 Ces/ Attn Ray Colella
Saber Room Building 205 Rm 117
Coraopolis PA 15108



CATEGORIES:
E - Right of Way & Weeds

N
O
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F
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R
A
B
L
E

PaPlants ID: 0008X5
Issue Date: 12/17/2012
Expire Date: 12/31/2013

John W. Butner

SIGNATURE

Public Pesticide Applicator Certification Identification Card

Valid For August 27, 2012 Through September 30, 2015



Applicator Certification
Number
866322

PaPlants ID ØØ1AZK
D.O.B. 09/01/1954
BU1459

Please Keep for Your Records

Colella, Raymond R
Pa Air National Guard Pgh Int Airport
171 Ces/ Attn Ray Colella
Saber Room Building 205 Rm 117
Coraopolis PA 15108

Continuing Education Credit Information	Credits Acquired	Credits Required	Credits Needed	
00-Core	0	6	6	Due 9/30/2015
10-Right of Way & Weeds	0	8	8	Due 9/30/2015

BUREAU OF PLANT INDUSTRY

(Punch out wallet card – sign on the back and carry with you.)

Commonwealth of Pennsylvania - Department of Agriculture
Health & Safety Division-717-772-5231 ext.2
Certified Public Pesticide Applicator

Issued 08/27/2012 Expires 09/30/2015
Certification # 866322 Valid only when working for BU1459
Categories of Certification 10

RAYMOND R COLELLA D.O.B. 09/01/1954
Pa Air National Guard Pgh Int
Airport
171 Ces/ Attn Ray Colella
Saber Room Building 205 Rm 117
Coraopolis PA 15108



Visit www.paplants.state.pa.us for pesticide exam and recertification meeting locations and to review your recertification credits. (Your PaPlants ID: ØØ1AZK and your Pin: 60896).
Visit www.pested.psu.edu for how to order exam study materials, pesticide label and MSDS links, and various fact sheets on pesticide safety and regulations.

The following, as applicable, are included in the following link: [..\3 Resource Toolbox\Annex 4 Certificates of Training and Competency](#)

- Current pesticide applicator certificates (Commonwealth or DoD) of every military or civilian certified installation pesticide applicator, and
- “Acknowledgements of Understanding” (to be renewed/re-signed annually by the IPM Coordinator) for every participant in installation self-help pest management program who is eligible to apply self-help pesticide at prescribed installation locations, (see the “Acknowledgment of Understanding” on page 7 of the following: [..\3 Resource Toolbox\8.1.4 Self-Help\AF Memo Self-Help Sep 06.pdf](#))
- Current pesticide applicator Commonwealth certificates for every contractor who applies pesticides on installation. (Note: the Installation IPM Coordinator must coordinate with installation contracting office to ensure that only appropriately Commonwealth-certified contractor personnel apply pesticides on installation. Even if the Commonwealth regulations allow for non-certified contract personnel to apply pesticides under supervision of a certified individual, DoD (see DoDI 4150.07) requires that each pesticide applicator is individually currently certified within the appropriate category.),
- Documentation of training from USDA for installation personnel application of any prescribed pesticides under authorized quarantine procedures, and
- Current certificates of installation PMQAEs who are qualified to provide quality assurance/control of installation pest management contract(s).

The following table can be used to summarize information on training and certification of pesticide applicators and PMQAEs:

INSTALLATION CERTIFIED MILITARY PESTICIDE APPLICATORS

Name	Rank	Certifying Authority (Commonwealth/ DoD)	Date of certification (mm/dd/yyyy)	Certificate expiration date (mm/dd/yyyy)	Certificate number	Categories in which certified
CMSgt Ray Colella	CMSgt	Commonwealth	08/27/2012	09/30/2015	866322	COR 10

CERTIFIED CONTRACTOR PESTICIDE APPLICATORS

Prior to the commencement of pesticide application, the installation IPM coordinator ensures that the applicator used by a contractor (e.g., Davey or Ehrlich) has a valid license.

INSTALLATION PEST MANAGEMENT QUALITY ASSURANCE EVALUATORS (PMQAEs)

Name of PMQAE	Date of PMQAE certificate issuance (mm/dd/yyyy) [to be renewed every 3 yrs.]	Certifying Schoolhouse (USAF/Army/Navy)	Contract Nos. (and contractors) monitored (and target pest[s])
CMSgt Ray Colella	08/11/2011	USAF	

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ANNEX 5

Installation Map(s)

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Estimated Projected Annual Pesticide Requirements

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The following link provides a spreadsheet of an estimate of the annual pesticides required at the installation: <..\3 Resource Toolbox\Annex 6 Project Annual Pesticides Reqs\Pittsburgh Annual Reqs Annex 6.XLS>

This spreadsheet contains “pick lists” of the pests listed in Chapter 5, Table 5-1 of this plan ([Table 5.1](#)), and assists the user in determining the “Projected Annual Requirement” for each pesticide used and based on “Quantities in Stock”, the tool will provide an “Amount Required to Purchase.”

Instructions for updating the spreadsheet:

For each pesticide used at the installation, obtain the “Product Coverage Area”, “Application Rate”, and the corresponding units of each, from the pesticide label or directions and enter data in the green shaded boxes. In the yellow shaded boxes, estimate the “Treatment Amount,” using the same units as the “Product Coverage Area”, and the “Application Frequency per YEAR” for your specific installation. Determine and enter, in the blue shaded boxes, the “Purchase Unit” (e.g., what unit the product is sold in, e.g., case of sodapop) and the “Issue Unit” (i.e. bottle of sodapop), number of Issue Units per Purchase Unit (e.g. how many bottles of sodapop in the case), and the “Size of Issue Unit” (e.g., how many ounces in the bottle of sodapop). The “Size of Issue Unit” must be in the same units as the “Application Rate”. Finally, enter the “Quantity in Stock” in the orange shaded boxes. The “Purchase Unit Size” (e.g., ounces of sodapop in the entire case), “Quantity Needed” (e.g., total number of ounces needed for the year) and “Projected Annual Requirement” (e.g., total number of cases for the year) will be calculated automatically. The “Projected Annual Requirement” is rounded up to the nearest whole number.

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Projected Annual Pesticide Requirements

Pest	Trade Name and [NSN]	Formulation	EPA Registration Number	Type of Application	Product Coverage		Maximum Application Rate of Concentrate		Treatment Amount (Est)		Application Frequency /YEAR	Purchase Unit	Issue Unit	# of Issue Units Per Purchase Units	Size of Issue Unit		Purchase Unit Size	Quantity Concentrate Needed	Projected Annual Concentrate Requirement		Quantity in Stock	Amount Required
					Amount	Units	Rate	Units	Amount	Units					Size	Units			Amount	Units		
Bees, Hornets, and Wasps	Prescription Treatment brand Wasp Freeze Wasp & Hornet Killer [6840-00-459-2443]	Aerosol	499-362	Self-Help	1	Each	2	Fluid Ounces	40	Each	12	1	can	12	14	Fluid Ounces	168	960	6	1	9.5	(3.79)
Rats and Mice	Maki Pellets [6840-01-151-4884]	Bait	7173-187, -188	Baiting	12	Square Feet	15	Dry Ounces	100	Square Feet	3	1	container	1	1.5	Ounces	100	375	4	1	2	1.75
Broadleaf Weeds	Roundup Pro [6840-01-108-9578]	Solution	524-475	Spray	10	Acres	2.65	Gallons	12387	Linear Feet	4	1	box	2	2.5	gallon	5	0	21	1	1.5	19.50
Cockroaches	Combat Quick Kill Roach Motel [6840-01-180-0167]	Bait	64240-33	Self-Help	30	Linear Feet	5	Grams	50	Linear Feet	12	12	boxes	144	12	gram	1728	100	0	12	45	(44.94)
Ants	MaxForce FC Ant Bait [6840-01-298-1122]	Bait	432-1256	Self-Help	30	Linear Feet	5	Grams	50	Linear Feet	12	1	package	96	1.5	gram	144	100	1	1	0	0.69
Miscellaneous Insect Pests	Kill Zone House & Garden Insect Killer Formula 4 [6840-01-067-2137]	Aerosol	498-116	Self-Help	28	Cubic Feet	14	Fluid Ounces	1	Cubic Feet	12	1	can	1	14	Ounces	14	6	0	1	14	(13.57)
Bees, Hornets, and Wasps	PT 565 Plus XLO [6840-00-823-7849]	Aerosol	499-290	Manual Pesticide Application	1	Each	2	Fluid Ounces	40	Each	12	1	can	12	20	Fluid Ounces	240	960	4	1	22	(18.00)

For each pesticide used at the installation, obtain the "Product Coverage Area", "Application Rate", and the corresponding units of each, from the pesticide label or directions and enter data in the green shaded boxes. In the yellow shaded boxes, estimate the "Treatment Amount", using the same units as the "Product Coverage Area", and the "Application Frequency per YEAR" for your specific base. Determine and enter, in the blue shaded boxes, the "Purchase Unit" (i.e. what unit the product is sold in, e.g. case of sodapop) and the "Issue Unit" (i.e. bottle of sodapop), # of Issue Units per Purchase Unit (i.e. how many bottles of sodapop in the case), and the "Size of Issue Unit" (how many ounces in the bottle of sodapop). **The "Size of Issue Unit" must be in the same units as the "Application Rate"**. Finally, enter the "Quantity in Stock" in the orange shaded boxes. The "Purchase Unit Size" (ounces of sodapop in the entire case), "Quantity Needed" (total number of ounces needed for the year) and "Projected Annual Requirement" (total number of cases for the year) will be calculated automatically. The "Projected Annual Requirement" is rounded up to the nearest whole number.

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ANNEX 7

Statements of Work for Pest Monitoring/Surveillance and Control Services

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Introduction

Many ANG installations are reliant upon the services of outside pest control contract services. Pest control services are normally funded under "entomology" within the State-Federal cooperative agreement FOMA. The AFPMB encourages use of IPM contract services where the installation has determined that they are economically advantageous or when advantageous for non-routine, large-scale, or emergency services, especially when specialized equipment or expertise is needed. However, use of contract services does require close monitoring and recordkeeping. Regularly scheduled, periodic pesticide applications are not approved for DoD property except in situations where the installation pest management plan clearly documents that no other technology or approach is available to protect personnel or property of high value. Installations shall not use preventive pesticide treatments, to include automated misting devices, unless the ANG pest management consultant has given approval based upon current surveillance information or records documenting past disease vector or pest problems that require this approach.

Any installation using contractor pest control services should have a properly trained DoD employee who is a designated PMQAE. Under AFI32-1053, if an installation's pest management contract efforts are less than 0.25 work year annually, the presence of a trained PMQAE at the installation is not mandatory; except that DoD-certified pesticide applicators or PMQAEs must inspect contract applications of pesticides for the control of termites and other wood-destroying organisms (DODI 4150.07, Section E4.1.8.17.2.).

A PMQAE in the Air Force is defined as: "A quality assurance inspector who is an Air Force employee, trained in pest management, who protects the Government's interest through on-site performance evaluation of commercial pest management contracts or other contracts that involve the use of pesticides" [AFI 32-1053, Attachment 1, Glossary]. Only a DoD employee may directly oversee Federal contracts. And, the AFI specifically states that the person must be an "Air Force employee," (i.e., a Federal employee). None of the PMQAE duties may be delegated to a non-Federal employee. Each installation PMQAE must be either a DoD certified pesticide applicator, or obtain DoD PMQAE training and certification. The requisite PMQAE training may be obtained through any of the DoD Service schoolhouses. Training opportunities are listed on the AFPMB website at: <http://www.afpmb.org/pubs/courses/courses.htm>

Pesticides proposed for use on ANG installations, and contracts, must be pre-approved by the NGB/A7AN Pest Management Consultant via IPMIS. The AFPMB pesticides committee reviews a wide range of EPA-registered pesticides for potential use on DoD installations. The pesticides are reviewed not only for active and inactive ingredients, but also for label directions, before listing on the AFPMB STANDARD PESTICIDES LIST AVAILABLE TO DOD COMPONENTS AND AGENCIES, available at <http://www.afpmb.org/standardlist.htm>. Active ingredient is not the sole determinant of whether a product is accepted. Substitution of products with differing USEPA registration numbers is not allowed without prior authorization from the ANG Pest Management Consultant (NGB/A7AN). Placement of a pesticide on the AFPMB standard list does not, in itself, authorize use of that pesticide on any ANG installation. Specific advance authorization must be obtained from the NGB/A7AN Pest Management Consultant for use of the product within a pest-specific control strategy for identified grounds or facilities, whether for application by certified contractor or for application by qualified installation personnel.

Whether or not pest control contract services are provided to the installation through an umbrella Commonwealth contract, each proposed SOW submitted for approval to the NGB/A7AN Pest Management Consultant should include the following provisions, among others (see "toolbox" sample language):

- 1) Only pesticides pre-approved by the NGB/A7AN Pest Management Consultant within pest-specific management strategies of the currently-approved installation IPM Plan may be applied. Contractor shall review and comply with pest-specific strategies of installation IPM Plan for each targeted

pest. If need for any additional pesticide is identified, contractor shall preferentially nominate only products that are on the current Armed Forces Pest Management Board (AFPMB) STANDARD PESTICIDES LIST AVAILABLE TO DOD COMPONENTS AND AGENCIES (available at: <http://www.afpmb.org/pubs/standardlists/dod%20pesticides%20list.pdf>).

- 2) Contractor shall only use Commonwealth-certified pesticide applicators that are qualified in the appropriate pest-control categories. Each individual pesticide applicator shall be Commonwealth-certified, even if Commonwealth otherwise allows non-certified personnel to apply pesticides under supervision.
- 3) Contractor shall operate consistent with principles of integrated pest management (IPM), using effective pesticides that are safest to human health and the environment, except when more-toxic pesticides are specifically required for pre-construction termiticide applications. For pre-construction application of termiticides, the SOW shall specify that termiticides are applied at the highest EPA-labeled concentration and application rate (per DODI 4150.07, Section E4.1.8.17.1).
- 4) Contractor shall prepare and maintain daily records of all pest management efforts, both chemical and non-chemical, including surveillance using DD Form 1532-1 and associated directions. Contractor shall promptly provide signed copies of completed reports to installation IPM Coordinator through Contracting Officer.

ANNEX 8

**DD Form 1532-1 Pest Management Maintenance
Record and USDA PPQ Form 523 Emergency
Action Notification**

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DD Form 1532-1 and instructions for its use can be found at the following links.

[..\\3 Resource Toolbox\\Annex 8 DD Form 1532-1_ USDA Form 523\\DD Form 1532-1 Aug 96.pdf](#)

[..\\3 Resource Toolbox\\Annex 8 DD Form 1532-1_ USDA Form 523\\DD Form 1532_ 1 Instructions.pdf](#)

Electronic copies of DD Form 1532-1 and instruction are also available via the following links:

[..\\3 Resource Toolbox\\Annex 8 DD Form 1532-1_ USDA Form 523\\PestMgtRecordV3.1.xls](#)

[..\\3 Resource Toolbox\\Annex 8 DD Form 1532-1_ USDA Form 523\\ExcelDirections.xls](#)

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BUILDING/AREA					SIZE	TYPE OF CONSTRUCTION	USE DESIGNATION				
Date	Units Served	Work Origin	Unit of Measure	Target Pest	Control Operation	If Pesticide is Used				Labor Time	Applicator Initials
						Name	EPA Reg	% Conc	Amount		

Form Approved. OMB No. 0704-0188

REPORT CONTROL SYMBOL:

PEST MANAGEMENT MAINTENANCE RECORD

The public reporting burden for this collection of information is estimated to average 4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to the Department of Defense, Executive Services and Communications Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. **PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ORGANIZATION.**

MEASUREMENT UNITS

MSF = 1,000 square feet LFF = Linear feet
MCF - 1,000 cubic feet AC = Acres

ORIGIN OF WORK

SW = Scheduled work SC = Service or trouble call
WR = Work request R = Routine inspection

TYPE OF CONSTRUCTION

CO = Concrete BV = Brick veneer WO = Wood
BL = Block ST = Steel, sheet metal OT = Other

DD FORM 1532-1, AUG 96

Date	Units Served	Work Origin	Unit of Measure	Target Pest	Control Operation	If Pesticide is Used				Labor Time	Applicator Initials
						Name	EPA Reg	% Conc	Amount		

REMARKS

Remarks.

Reset

According to the Paperwork Reduction Act of 1996, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information is 0579-0102. The time required to complete this information collection is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

FORM APPROVED - OMB NO. 0579-0102

U.S. DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE

EMERGENCY ACTION NOTIFICATION

3. NAME AND QUANTITY OF ARTICLE(S)		SERIAL NO.	
6. SHIPPER		1. PPG LOCATION	2. DATE ISSUED
		4. LOCATION OF ARTICLES	
9. OWNER/CONSIGNEE OF ARTICLES		5. DESTINATION OF ARTICLES	
		7. NAME OF CARRIER	
Name: Address:		8. SHIPMENT ID NO.(S)	
		10. PORT OF LADING	
PHONE NO. FAX NO.		11. DATE OF ARRIVAL	
		12. ID OF PEST(S), NOXIOUS WEEDS, OR ARTICLE(S)	
SS NO. TAX ID NO.		12a. PEST ID NO.	12b. DATE INTERCEPTED
		13. COUNTRY OF ORIGIN	14. GROWER NO.
		15. FOREIGN CERTIFICATE NO.	
		15a. PLACE ISSUED	15b. DATE

Under Sections 411, 412, and 414 of the Plant Protection Act (7 USC 7711, 7712, and 7714) and Sections 10404 through 10407 of the Animal Health Protection Act (7 USC 8303 through 8306), you are hereby notified, as owner or agent of the owner of said carrier, premises, and/or articles, to apply remedial measures for the pest(s), noxious weeds, and/or article(s) specified in Item 12, in a manner satisfactory to and under the supervision of an Agriculture Officer. Remedial measures shall be in accordance with the action specified in Item 16 and shall be completed within the time specified in Item 17.

AFTER RECEIPT OF THIS NOTIFICATION, ARTICLES AND/OR CARRIERS HEREIN DESIGNATED MUST NOT BE MOVED EXCEPT AS DIRECTED BY AN AGRICULTURE OFFICER. THE LOCAL OFFICER MAY BE CONTACTED AT:

16. ACTION REQUIRED

- TREATMENT: _____
- RE-EXPORTATION: _____
- DESTRUCTION: _____
- OTHER: _____

Should the owner or owner's agent fail to comply with this order within the time specified below, USDA is authorized to recover from the owner or agent cost of any care, handling, application of remedial measures, disposal, or other action incurred in connection with the remedial action, destruction, or removal.

17. AFTER RECEIPT OF THIS NOTIFICATION COMPLETE SPECIFIED ACTION WITHIN (Specify No. Hours or No. Days):	18. SIGNATURE OF OFFICER:
--	---------------------------

ACKNOWLEDGMENT OF RECEIPT OF EMERGENCY ACTION NOTIFICATION
I hereby acknowledge receipt of the foregoing notification.

SIGNATURE AND TITLE:	DATE AND TIME:
----------------------	----------------

19. REVOCATION OF NOTIFICATION

ACTION TAKEN: _____

SIGNATURE OF OFFICER:	DATE:
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ANNEX 9

Cost Comparison Analysis Tool

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COST ESTIMATE COMPARISON						
Category	Type	Description	Quantity	Unit	Unit price	Extension
Annual Cost for In-House Services						
Labor	Salary and Benefits	Monitoring, Application, Recordkeeping, Reporting	64	Hours	25	1600
Training	Labor	1 week training course	40	Hours	25	0(already completed)
Training	Travel Expenses and Fees	1 week training course	1	Trip(s)	1500	0(already completed)
Labor	Respirator Fit Program	OH Exam and Fit Testing	8	Hours	25	0(already completed)
Equipment	Supplies	PPE	1	Year	100	100
Materials	Pesticides	Herbicides and Insecticides	1	Year	300	300
TOTAL						2000
Annual Cost for Contract Services						
Category	Type	Description	Quantity	Unit	Unit price	Extension
Labor	Salary and Benefits	Monitoring	40	hours	25	1000
Contractor Fee	Pesticide Application	Herbicides and Insecticides	10	Events	250	2500
Contract Administration	Labor	Contract Establishment and Renewal	3	hours	25	75
Training	QAE Support	1 Week Training Course	1	Event	2500	2500
Documentation	QAE Oversight	Recordkeeping, Reporting	12	Hours	25	300
TOTAL	0					6375
This form can be access electronically via the following link: ..\\3 Resource Toolbox\\Annex 9 Cost Comparison Analysis Tool\\Cost Comparison Analysis Tool.xls						

Contract services at the 171 ARW include large scale herbicide applications along fence lines and parking area perimeters. Additionally, a select number of personnel participate in the Self-Help Program, which minimizes the need for contractor services. Contract services at the GSU are procured on an “as needed” basis. There are also a small number of Self-Help Program participants at the 258 ATCS, which minimizes the need for contract services for minor pest problems.

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Appendix F

Bird/Wildlife Aircraft Strike Hazard (BASH) Plan

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**PENNSYLVANIA AIR NATIONAL GUARD/
AIR RESERVE STATION
PITTSBURGH INTERNATIONAL AIRPORT
PITTSBURGH, PA**



**171st AIR REFUELING WING/911th AIRLIFT WING
BIRD/WILDLIFE AIRCRAFT STRIKE
HAZARD (BASH) PLAN 91-212**

May 2010

ACRONYMS AND ABBREVIATIONS

171 ARW	171st Air Refueling Wing
911 AW	911th Airlift Wing
AFCESA	Air Force Civil Engineer Support Agency
AFI	Air Force Instruction
AFMAN	Air Force Manual
AFPAM	Air Force Pamphlet
AFRC	Air Force Reserve Command
AFSAS	Air Force Safety Automated System
AFSC	Air Force Safety Center
AFSC/SEFW	Air Force Safety Center, Flight Safety, Wildlife (BASH Team)
AGL	Above Ground Level
AM	Airfield Management
AHAS	Avian Hazard Advisory System
ANG	Air National Guard
ANG/CEVP	Air National Guard, Civil Engineering, Environmental Planning
AOA	Airport Operating Area
ATC	Air Traffic Control
BAM	Bird Avoidance Model
BASH	Bird/Wildlife Aircraft Strike Hazard
BHWG	Bird/Wildlife Hazard Working Group
CES	Civil Engineer Squadron
COE	Corps of Engineers, US Army
DET	Detachment
DO	Duty Officer
DoD	Department of Defense
DSN	Defense Switch Network
FAA	Federal Aviation Administration
FAAO	Federal Aviation Administration Order
FOD	Foreign Object Damage
FLIP	Flight Information Publications
FSO	Squadron Flying Safety Officer
ICAO	International Civil Aviation Organization
IPM	Integrated Pest Management
LATNA	Low Altitude Tactical Navigation Area
MAJCOM	Major Command
MOA	Military Operations Area
MSL	Mean Sea Level
MXG	Maintenance Group
OG	Operations Group
OGV	Standardization and Evaluation
OG	Operations Group Commander
OSF	Operations Support Flight
OPR	Office of Primary Responsibility
PA	Public Affairs
PA ANG	Pennsylvania Air National Guard
RCO	Range Control Officer
SDO	Squadron Duty Officer
SE	Safety
SG	Support Group
SOF	Supervisor of Flying
USAFR	US Air Force Reserve
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service



DEPARTMENT OF THE AIR FORCE
171st ARW/ 911th AW

27 September 2012

MEMORANDUM FOR: 171 ARW and 911 AW – All Personnel

FROM: 171 ARW/CC and 911 AW/CC

SUBJECT: 171ST AIR REFUELING WING, 911TH AIRLIFT WING - BIRD/WILDLIFE
AIRCRAFT STRIKE HAZARD (BASH) PLAN 91-212

1. This document is UNCLASSIFIED. Handle IAW AFI 33-364, *Records Disposition –Procedures and Responsibilities*. Attached is a BASH Plan providing guidance for bird aircraft strike hazard reduction in areas where flying operations are conducted. This plan is effective upon receipt. Tasked organizations will develop checklists for implementation procedures and forward them to wing safety for review. Tasked organizations must annually review the plan, update it as needed and forward comments to wing safety as necessary. The offices of primary responsibility for coordinating this plan are the Safety offices located at 171st Air Refueling Wing and 911th Airlift Wing.

2. The National Environmental Policy Act (NEPA) of 1969 requires the Federal government to consider the environmental consequences for Federal undertakings. The Council on Environmental Quality (CEQ) is the Federal agency charged with implementing NEPA. AFI 32-7061 promulgates CEQ regulations and DoD directives for NEPA compliance within the Air Force and Air National Guard. The environmental consequences for an updated installation BASH Plan were carefully considered and there are no adverse environmental impacts. The environmental analysis for the updated BASH Plan is consistent with Categorical Exclusion (CATEX) A2.3.7 in AFI 32-70761 (32 CRF 989): “Continuation or resumption of pre-existing actions where there is no substantial change in existing conditions or existing land uses and where the actions were originally evaluated in accordance with applicable law and regulations, and surrounding circumstances have not changed.” The provisions in NEPA and requirements of AFI 32-7061 have been fulfilled. No further environmental analysis is required and neither an environmental assessment nor an environmental impact statement will be prepared.

ANTHONY J. CARRELLI, Col, PA ANG
Commander, 171st Air Refueling Wing

CRAIG C. PETERS, Col, USAFR
Commander, 911th Airlift Wing

DISTRIBUTION:
Reference ANNEX Z

171 ARW/911 AW BASH Plan 91-212

SECURITY INSTRUCTION/RECORD OF CHANGES/ANNUAL REVIEW

1. The long title of the plan is 171st Air Refueling Wing/911th Airlift Wing Bird/Wildlife Aircraft Strike Hazard (BASH) Plan 91-212. The short title is 171 ARW/911 AW BASH Plan.
2. This document is UNCLASSIFIED. Handle in accordance with Air Force Directives
3. This document does not contain information affecting the national defense of the United States.

RECORD OF CHANGES

Change Number	Date of Change	Date Entered	Posted By
---------------	----------------	--------------	-----------

RECORD OF ANNUAL REVIEW

Reviewed By	Date Reviewed	Remarks
-------------	---------------	---------

171 ARW/911 AW BASH Plan 91-212

PLAN SUMMARY

1. **Purpose.** To provide an active program to minimize bird and other wildlife strikes to aircraft.
2. **Conditions for Execution.** This plan is based on hazards from both resident and seasonal bird populations as well as for other species of wildlife. Implementation of specific portions of the plan is continuous, while other portions will be implemented as required by bird or other wildlife activity.
3. **Operations to be Conducted:**
 - a. **Specific operations include:**
 - (1) Establishment of a Bird/Wildlife Hazard Working Group (BHWG).
 - (2) Procedures for reporting hazardous bird activity and altering or discontinuing flying operations.
 - (3) Provisions to disseminate information to all assigned and transient aircrews for specific bird hazards and procedures for avoidance.
 - (4) Procedures to eliminate or reduce environmental conditions that attract birds and other wildlife to the airfield.
 - (5) Procedures to disperse birds and other wildlife from the airfield.
 - b. **Tasked organizations:** As listed in ANNEX A.
 - c. **Supporting documents:** Functional areas will develop operational instructions or checklists as required to support this plan.

171 ARW/911 AW BASH Plan 91-212

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ANNEX C: Operations	C-1 to C-9
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ANNEX S: Bird Hazard Warning System: Operation Bird Watch	S-1 to S-4
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171 ARW/911 AW BASH Plan 91-212

BIRD/WILDLIFE AIRCRAFT STRIKE HAZARD (BASH) PLAN

1. **References:** AFI 91-202/MAJCOM Supplements
AFI 91-204/MAJCOM Supplements
AFI 13-201
AFI 13-213
AFI 32-7064
AFMAN 91-223
AFPAM 91-212
FAR Part 139.337
FAA AC 150/5200.33
Pittsburgh International Airport Wildlife Hazard
Assessment and Wildlife Hazard Management Plan

2. **Introduction.** A bird/wildlife aircraft strike hazard exists at the Pennsylvania Air National Guard (PA ANG)/USAF Reserve (AFRC) installation at the Pittsburgh International Airport and its vicinity, due to resident and migratory bird species and other wildlife. Daily and seasonal bird movements create various hazardous conditions. This plan establishes procedures to minimize the hazard to Pennsylvania Air National Guard, Air Force Reserve Command and deployed aircraft at the installation and in their operating areas. This plan updates existing documents and is based on historical bird/wildlife strike records from the 171 ARW/911 AW and their operating areas, the Wildlife Hazard Assessment in progress and Wildlife Hazard Management Plan developed for the Pittsburgh International Airport, and the spring 2005 and 2010 visits by NGB/SEF. As part of that visit, a review of historical records, documentation, and updated hazard assessment are included in APPENDIX 1, attached to the updated Bird/Wildlife Aircraft Strike Hazard Plan. Detailed observations and the biological and operational basis for resulting recommendations are included in the appendix for implementing the 171 ARW/911 AW BASH Plan. Birds observed in the vicinity are listed in APPENDIX 2. Additional BASH references are attached at APPENDIX 3. No single solution exists to this BASH problem, and a variety of techniques and organizations are involved in the control program. This plan is designed to:
 - a. Establish a Bird/Wildlife Hazard Working Group (BHWG) and designate responsibilities to its members.
 - b. Establish procedures to identify high hazard situations and to aid supervisors and aircrews in altering or discontinuing flying operations when required.
 - c. Establish aircraft and airfield operating procedures to avoid high-hazard situations.

- d. Provide for disseminating information to all assigned and transient aircrews on bird hazards and procedures for bird avoidance.
- e. Establish guidelines to decrease airfield attractiveness to birds and other wildlife.
- f. Provide guidelines for dispersing birds and other wildlife when they are present on the airfield.
- g. Provide guidelines for avoiding birds in operating areas away from the airfield.
- h. Identify organizations/OPRs with authority to upgrade, initiate, or downgrade Bird Watch Conditions.
- i. Provide guidelines to maintain the working relationship with the Pittsburgh International Airport staff.

3. Summary of Recommendations:

- a. Designate airport personnel or contractors, and ANG/AFRC supplemental help to conduct the wildlife control program.
- b. Maintain current depredation permits for all agencies and personnel to control birds, mammals, and other wildlife that may pose potential aviation hazards.
- c. Maintain turf over the entire AOA with a dense, uniform monoculture of grass maintained between 7 and 14 inches (AF Mandate; FAA recommends 6-12 inches).
- d. Remove or repair all old operating surfaces, broken tarmac, bare areas, etc. from the AOA.
- e. Eliminate wetland habitat within the AOA and ensure any mitigation efforts are conducted off-site.
- f. Remove all remaining trees and brush within the AOA and ensure all landscaping vegetation in proximity to the field is selected such that it does not attract birds and other wildlife.
- g. Monitor the security fences for wildlife breeches and treat sections where breeches may occur.

- h.** Conduct dispersal operations using standard frightening techniques such as bioacoustics, pyrotechnics, gas cannons, or others. ANG, AFRC, and other tenant agencies must have this equipment at their disposal to supplement airport personnel as needed.
- i.** Remove or configure with anti-perching devices, any known bird perches or nest sites in the AOA.
- j.** Conduct harassment or depredation activities on birds nesting and roosting in hangars and other airfield structures.
- k.** Disperse roosting birds from local area sites through active harassment or depredation.
- l.** Conduct training for all aircrews and use the Bird Avoidance Model and Avian Hazard Advisory System for flight planning when away from the home airfield.
- m.** Prohibit all personnel from feeding or otherwise attracting birds or other wildlife on ANG and AFRC leasehold properties.
- n.** Develop a Memorandum of Agreement with the Air Traffic Control agency to ensure airfield Bird Watch Conditions are provided to military aircraft operating in the local airspace using ATIS and direct communications.

4. BASH Plan Execution:

a. Concept of Operations:

(1) Phases.

- (a) As with other BASH initiatives, this is a joint effort with the Pittsburgh International Airport, the Allegheny County Airport Authority, and the FAA.
- (b) BASH Phase I is normal, light, seasonal bird activity. On the other hand, BASH Phase II is heavy bird activity that is normally associated with migratory seasons but may also be associated with seasonal agricultural practices in the local area.
- (c) Due to its location in the middle latitudes of North America Pittsburgh International Airport falls into the geographic region of potential migratory bird routes. As a result, increased migratory activity may occur during the traditional Apr-May and Sep-Oct migratory timeframes.

- (d) An analysis of historical bash data shows little increase in migratory bird activity or bird strikes in the terminal area during the periods listed above. Therefore there is little justification for the Wings to establish a permanent BASH Phase II period that restricts aircraft operations and training at the airfield IAW 11-KC-135V3 para. 5.20.2, though increased vigilance is warranted during these times of the year.
 - (e) If an increase bird activity or bird strikes occurs, 171ARW/911 AW Safety will complete the phase II *Migratory Bird Hazard ORM Worksheet* (ANNEX Y, Attachments 2 and 3) and determine if phase II implementation is warranted. If so, 171 ARW and 911 Safety will accomplish the Phase II implementation checklist.
 - (f) Assigned and transient aircrews will be notified of BASH Phase II implementation by NOTAM and specific airfield/airspace procedures and restrictions will be published in that NOTAM. For example, effective date/time periods, takeoff and landing restrictions, etc. will be listed.
 - (g) Phase II will be cancelled when 171ARW or 911 AW Airfield Management and 171 ARW or 911 AW Safety Staff determine through the ORM worksheet that the bird hazard has been reduced or eliminated (see ANNEX Y, attachments 2 and 3). When this occurs the NOTAM will be cancelled and BASH Phase I will resume.
- (2) Coordination. Reducing the bird strike hazard at the 171 ARW/911 AW requires a cooperative effort between several PA ANG and AFRC organizations, Pittsburgh International Airport staff, tenant units, and the surrounding community. The OPRs for coordinating this plan are the 171 ARW/911 AW Safety Offices.
- (3) Bird Hazard Working Group (BHWG):
- (a) Function. Collects, compiles, and reviews data on bird strikes. Identifies and recommends actions to reduce hazards. Recommends changes in operational procedures. Prepares informational programs for aircrews. Assists the installation commander by acting as a point of contact for off-installation BASH issues.
 - (b) Authority. The BHWG submits all recommendations to the installation commander for approval. Implementation is through the normal chain of command.

- (c) **Composition.** The co-chairpersons will be the ANG and AFRC Vice Wing Commanders or designees. The group should consist of a representative from flight safety, aircraft maintenance, civil engineering (pest management, natural resources, grounds maintenance, etc.), airfield management, environmental management, ATC, and representatives from other tasked organizations (see Attachment 1 to this plan and ANNEX A) as required. Meeting minutes will be maintained and appropriate distribution made.
 - (d) **Meeting Schedule.** The BHWG will meet at least semi-annually and may be in conjunction with the Air Operations Board (AOB). It may be scheduled to precede Phase II periods of bird activity.
 - (e) **Airport Participation.** Representatives from the Pittsburgh International Airport Operations and an FAA representative from the tower will also be invited to participate in BHWG meetings. Data on civil and military bird strikes and mitigating measures should be exchanged. Coordination of efforts on the airfield is essential for minimizing bird/wildlife hazards.
- b. Tasks:** ANNEX C outlines the general and continuing tasks and responsibilities for each organization and gives specific hazard reduction measures for varying bird hazard conditions.

ANNEXES:

A — Tasked Organizations

C — Operations

M — Mapping, Charting and Geodesy

S — Bird Hazard Warning System: Operation Bird Watch

Y — Reports and Forms

Z — Distribution

BIRD/WILDLIFE AIRCRAFT STRIKE HAZARD (BASH) PLAN, ATTACHMENT 1



PENNSYLVANIA AIR NATIONAL GUARD

*HEADQUARTERS 171ST AIR REFUELING WING (ANG)
PITTSBURGH INTERNATIONAL AIRPORT
CORAOPOLIS PENNSYLVANIA*



8 December 2009

MEMORANDUM FOR 171 ARW/CC

FROM: 171/SE

SUBJECT: BIRD HAZARD WORKING GROUP

1. The 171 ARW maintains a Bird Hazard Working Group (BHWG) in accordance with AFI 91-202 ANG SUP1.
2. The working group is chaired by 171 OG/CC and consists of the following additional members or their designated representatives:
 - a. 171 ARW/SE
 - b. 171 CES/CC
 - c. 146 ARS/CC
 - d. 147 ARS/CC
 - e. 171 OSF/CC
 - f. 171 OG/OGV
 - g. 171 OSF/OSA
 - h. 171 MXG/QA
 - i. 171 MED/EM
 - j. Allegheny County Airport Authority (ACAA Representative)
 - k. Federal Aviation Administration (KPIT ATC representative)
3. BHWG meetings will be held quarterly in conjunction with the 171 Air Operations Board (AOB) and the BHWG minutes will be embedded in the AOB minutes under the BHWG Heading.

//SIGNED//

JEFFREY M. JONES, Lt Col, PA ANG
171 ARW Chief of Safety

Distribution:
BHWG Members

BIRD/WILDLIFE AIRCRAFT STRIKE HAZARD (BASH) PLAN, ATTACHMENT 2



DEPARTMENT OF THE AIR FORCE
AIR FORCE RESERVE COMMAND

MEMORANDUM FOR 911 AW/CC

FROM: 911 AW/SE

SUBJECT: BIRD HAZARD WORKING GROUP

1. The 911th Airlift Wing maintains a Bird Hazard Working Group (BHWG) in accordance with AFI 91-202 USAFR SUP1.
2. The working group is chaired by 911th OG/CC and consists of the following additional members or their designated representatives:
 - a. 911 AW/SE
 - b. 911 CES/CC
 - c. 758 AS/CC
 - d. 911 OSF/CC
 - e. 911 OG/OGV
 - f. 911 MXG/QA
 - g. Allegheny County Airport Authority (ACAA Representative)
 - h. Federal Aviation Administration (KPIT ATC representative)
3. BHWG meetings will be held quarterly in conjunction with the 911th Airlift Wing Air Operations Board (AOB) and the BHWG minutes will be embedded in the AOB minutes under the BHWG Heading.

WILLIAM H. GUTERMUTH, Lt Col USAFR

Distribution:
BHWG Members

ANNEX A TO 171 ARW/911 AW BASH Plan 91-212

TASKED/PARTICIPATING ORGANIZATIONS:

PENNSYLVANIA AIR NATIONAL GUARD:

171 ARW/CC
171 ARW/CV
171 ARW/SE
171 ARW/CP
171 CES/CC
171 CES/CEO
171 OG/CC
171 OG/OGV
171 OG/OGT
171 OSF/CC
171 OSF/OSA
171 MSG/CC
171 MXG/CC
171 ARW/EM
171 MG/CC
171 CF/SCS
171 ARW/ PA
146 ARS/CC
147 ARS/CC

AIR FORCE RESERVE COMMAND:

911 AW/CC
911 AW/CV
911 AW/SE
911 AW/CP
911 CES/CC
911 CES/CEO
911 OG/CC
911 OG/OGV
911 OSF/CC
911 OSF/OSK
911 MSG/CC
911 MXG/CC
911 AW/CEV
911 MG/CC
911 AW/ PA

PITTSBURGH INTERNATIONAL AIRPORT:

Airport Operations Manager

FEDERAL AVIATION ADMINISTRATION:

Air Traffic Control Tower

US DEPARTMENT OF AGRICULTURE – WILDLIFE SERVICES:

State Director

NOTE: This list represents the key players in the BASH plan. Other interested or required agencies may be involved as needed.

ANNEX C to 171 ARW/911 AW BASH Plan 91-212

OPERATIONS:

1. Vice Wing Commanders (CV) or Designees (OG/CC):

- a. Chair BHWG meetings.
- b. Approve recommendations of BHWG.
- c. Review notes from the Wing Safety Meetings.
- d. Provide recommendations to the Pittsburgh International Airport and other tenant units.

2. Operations Group Commander (OG/CC):

- a. Declares, disseminates, and terminates Bird Watch Conditions at the Pennsylvania ANG/AFRC installation, training areas, and deployed locations through the SOF or Duty Officer (ANNEX S).
- b. Issues specific guidance for aircrews and SOFs/DOs on procedures to be followed under Bird Watch Conditions (ANNEX S).
- c. Issues specific guidance to the command post concerning actions required to implement this plan (ANNEX S).
- d. Makes operational changes to avoid areas and times of known hazardous bird concentrations, mission and operations permitting. Considers the following, during periods of increased bird activity:
 - (1) Coordinate with ATC to raise pattern altitude or change pattern direction, if possible.
 - (2) Avoid takeoffs/landings at dawn/dusk \pm 1 hour.
 - (3) Reschedule local training or transition elsewhere.
 - (4) Raise altitude en route to training areas.
 - (5) Limit time in low-altitude environments to minimum for training requirements.
 - (6) Select routes or training areas based on bird hazard data from HQ AFSC/SEFW, using the Bird Avoidance Model and Avian Hazard Advisory System for low-level route and range analysis (see APPENDIX 1).
 - (7) Restrict or delay takeoffs and direct full stop landings or diverts as required.

- e. Ensures aircrew completes Form 853 if a bird strike occurs.

3. Safety (SE):

- a. Monitors installation compliance with AFI 91-202 and reports all bird strikes and hazards per AFIs 91-204, 91-202, and ANNEX Y of this plan.

- b. Annually conducts BASH Trend and Data Review Process (ANNEX Y, Attachment 4) and the BASH Self-Inspection Checklist (ANNEX Y, Attachment 5) to monitor and alter procedures for BASH mitigation efforts and update inputs to this BASH Plan.
- c. Reports on BASH and includes BHWG recommendations and actions in the agenda and minutes of the wing's quarterly safety meetings.
- d. Disseminates BASH data to BHWG and flying units.
- e. Provides the BHWG with the current BASH guidance from higher headquarters and supplemental information from the US Fish and Wildlife Service or other agencies.
- f. Provides any additional information on migratory, local, and seasonal bird activities through contact with the US Fish and Wildlife Service, Audubon Society, local ornithologists, and other agencies.
- g. Monitors bird activity and strike statistics and advises the chairperson of the working group when a meeting is deemed necessary.
- h. Coordinates with aircrews and maintenance personnel in collecting of non-fleshy remains after strikes. Sends any salvaged bird strike remains (feathers, beaks, and feet only) to the Smithsonian Institution (ANNEX Y).
- i. Establishes and maintains a continuity folder with any pertinent BASH data and information to assure continuity of knowledge with personnel turnover.
- j. Establishes a bird hazard awareness program in conjunction with squadron flying safety officers, to include films, posters, and information on local bird hazards and reporting procedures.

4. Maintenance Group Commander (MXG/CC):

- a. Issues specific guidance to personnel for the reporting of all discovered bird strikes on aircraft to Quality Assurance and Safety (ANNEX Y).
- b. Issues procedures for the preservation of non-fleshy bird remains if discovered on aircraft. Even the smallest fragment of feather (down) should be forwarded to Wing Safety for identification (ANNEX Y).
- c. Ensures all aircraft cavities and openings are inspected on the ramp or after undergoing maintenance in hangars for birds or nesting materials before returning to operation.

5. OSF Tactics Section: Reviews with OG/CC all proposed new routes and training areas or changes to existing routes/areas for BASH potential.

6. Standardization and Evaluation (OGV):

- a. Reviews with OG/CC all proposed guidance for aircrew and the SOF on procedures to be followed under Bird Watch Conditions.
- b. Reviews with OG/CC potential operational changes to avoid areas and times of known hazardous bird conditions.
- c. Reviews with OG/CC all proposed new routes and training areas or changes to existing routes/areas for BASH potential.

- 7. Supervisor of Flying (SOF) or Duty Officer (DO):** Per ANNEX S of this plan, the authority to declare bird watch conditions is vested with the SOF or DO during normal flight operations (also see ANNEX Y, Attachment 1 for instructions and SOF/DO checklist). Units deployed to the 171 ARW/911 AW should use their SOF/DO as the declaring authority when host unit resources are not available or appropriate. During all other periods, the Chief of Airfield Management, or his/her designated representative, is the declaring authority. Ensure that any bird watch conditions passed to the control tower are coordinated between ANG/AFRC units such that conflicting conditions are not issued.
- a.** Declares Bird Watch Conditions based on:
 - (1) Information relayed by airborne aircraft.
 - (2) Observations made by the air traffic control tower and transient personnel.
 - (3) Notifies the Pittsburgh Airport Authority of increased bird activity and of all changes to Bird Watch Conditions.
 - (4) Observations made by base operations personnel. NOTE: The OG/CC or his designated representative (usually the SOF) will downgrade or cancel Bird Watch Conditions, commensurate with updated information. In the absence of either of these options the Airfield Manager has the authority.
 - b.** Obtains and posts current bird activity data and ensures it is readily available for aircrew briefings. Advises each crew of the Bird Watch Conditions at the airfield and in training areas.
 - c.** Ensures Bird Watch Conditions are posted and informs aircrews of any changes.
 - d.** Briefs aircrews to report all bird strikes and hazardous conditions promptly.
- 8. Air Traffic Control (ATC):**
- a.** Issues advisory information on pilot-reported, tower-observed, or radar-observed and pilot-verified bird activity. Includes position, species or size of birds, if known, course of flight, and altitude. Does this for at least 15 minutes after receipt of such information from pilots or from adjacent facilities unless visual observation or subsequent reports reveal the activity is no longer a factor.
 - b.** Relays bird activity information to adjacent facilities and to Flight Service Stations whenever it appears birds will become a factor in their areas.
 - c.** Reports observed bird activity to the SOF or Airfield Manager as appropriate and required, as other duties will allow.
 - d.** Provides airfield management expedient access to the runway under Bird Watch Condition MODERATE or SEVERE or as required in accordance with FAA Handbook 7110.65.

- e. Identifies radar targets as possible bird activity when appropriate to provide warning to pilots as required by FAA Handbook 7110.65, paragraph 2-1-21, Traffic Advisories.
- f. Issues traffic advisories such that pilots can make operational changes such as missed approaches or delayed takeoffs when possible bird hazards appear on ATC radar.
- g. Updates bird hazard advisories and military Bird Watch Conditions on Automatic Terminal Information Service (ATIS) as required and as specified in the updated LOA with the ANG/AFRC.
- h. Coordinates with bird hazard patrol personnel when active dispersal is required or on-going within the airport operating area on a workload-permitting basis.
- i. Uses very specific language to communicate locations, times, and behaviors of birds identified as possible hazards to aircraft as required by FAA Handbook 7110.65, paragraph 2-1-22.

9. Base Civil Engineer (CES/CC) in conjunction with Airfield Management/Griffin Services and Environmental Management (EM or CEV): (Note that many of the below functions are the responsibility of the airport staff and thus should be coordinated and implemented as such. The ANG/AFRC only have direct responsibility for such actions on their leasehold property, but should provide input and guidance to the airport as necessary):

- a. Coordinates with airfield management staff on all civil engineering and habitat management issues as listed.
- b. Provides representation to the BHWG to monitor and advise group of civil engineering procedures.
- c. Develops procedures for removal or control of bird attractants on base leasehold property.
- d. Initiates surveys and writes environmental impact assessments and statements as required.
- e. Conducts BASH surveys.
- f. Corrects environmental conditions to decrease BASH potential.
- g. Uses land management practices that reduce BASH potential.
- h. Modifies airfield habitat consistent with runway lateral and approach zone management criteria per AFI 32-1026 on base property. Habitat modification to reduce BASH beyond the 1000-foot distance criterion is desired and will further reduce BASH potential.
- i. Incorporates the following practices into the installation Land Management Plan for base leasehold property IAW AFI 32-7064, if applicable:
 - (1) Managing Grass Height. Maintain a uniform grass height between 7 and 14 inches on the airfield. Determine mowing frequency as needed to maintain height requirements. Coordinate mowing with periods of low flight activity. Cut grass before it goes to seed to discourage seed eating birds from utilizing the airfield. As a rule, do

not permit grass to exceed 14 inches, as taller grass will attract some bird species and rodents which, in turn, attract raptors (birds of prey) and mammalian predators. Airfields with a variety of grass species may have a fast-growing strain that reaches 14 inches sooner than the rest of the airfield. Mow when the average grass height reaches 14 inches. Growth inhibitors may be considered to reduce mowing requirements and prevent seed head formation. Obtain assistance in herbicide selection for weed control, appropriate grass seed selection, fertilization, growth inhibitors, and erosion control vegetation from the Agricultural Extension Service, the US Natural Resources Conservation Service, or HQ AFCESA/CESM, Tyndall AFB, FL. Also see APPENDIX 3, Attachment 5 for additional guidance.

- (2) Controlling Broad-leaved Weeds. Keep broad-leaved weeds to a minimum on the airfield. Apply herbicides as necessary. Broad-leaved weeds attract a variety of birds, may produce seeds or berries, and may limit grass growth.
- (3) Planting Bare Areas. Note that bare areas are frequently used by birds as feeding and resting sites, or to obtain grit. Eliminate them on the airfield. Plant grass as necessary and appropriate on the airfield and maintain irrigation, if required.
- (4) Fertilizing. Selectively stimulate grasses to promote a uniform cover based on soil test results. Irrigation may be required to support turf growth for limited times, such as when establishing new cover.
- (5) Reducing Edge Effect. Edge effect refers to the highly attractive transition zone between two distinct habitat types (e.g., brush to grassland). Maintain the airfield as uniformly as possible to reduce this effect.
- (6) Leveling of Airfield. Level high spots and fill low spots on the field to reduce attractiveness to birds and prevent standing water.
- (7) Removing Dead Vegetation. As soon as possible, remove dead vegetation such as brush piles, grass clippings, hay bales, etc., and the cover it affords.
- (8) Removing Dead Birds and Animals. Remove dead birds or other animals from the field to avoid attracting vultures or other birds. Forward non-fleshy remains that may be caused by collision with aircraft to flight safety for identification.
- (9) Controlling Pests. Invertebrates and rodents provide important food sources for birds. Civil engineering pest management section, should periodically survey and reduce these pests when required. Control insects, earthworms, rodents, etc., by using integrated pest management (IPM) techniques under the supervision of the installation pest management office with EPA-approved methods. Control should begin early in the spring.
- (10) Maintaining Drainage Ditches. Regularly inspect ditches and keep them clear and obstacle free. Maintain ditch sides as steeply as possible—minimum slope ratio of 5:1—to discourage wading birds and

emergent vegetation. Remove vegetation as often as necessary to maintain flow and discourage use by birds. Reference the Land Management Plan for procedures.

- (11) Eliminating Standing Water. Eliminating standing water immediately is essential to avoid development of wetlands. Coordination with the Army Corps of Engineers and the appropriate state environmental permitting office is required prior to altering wetlands. Also see the 2004 Memorandum of Agreement between the Corps of Engineers, FAA, USAF, and other federal agencies regarding waivers or exemption for on-site wetland mitigation procedures. The memo may be found at http://wildlife-mitigation.tc.faa.gov/public_html/moa.pdf. Eliminate small ponds or puddles and some large bodies of standing water to reduce attractiveness to birds. Low spot and ditch maintenance is essential.
- (12) Employing Erosion Control Vegetation. Use vegetation that is appropriate for the region and supports BASH reduction philosophy.
- (13) Fencing. Employ fencing in accordance with FAA and AF guidelines to deter large mammals and other wildlife from entering the airfield environment (see also APPENDIX 3, Attachment 6 for additional guidance).
- (14) Controlling Waste Disposal. Landfills are the most significant attractant to hazardous bird species. Operate disposal sites according to FAA guidelines and ensure they comply with state and federal laws. Do not dispose of wastes on-site and relocate landfills that do not meet FAA guideline criteria.
- (15) Eliminating Roosting Sites. Control blackbird, starling, and crow roosts by vegetation management of roost sites where possible. Prune trees to reduce the number of perches available and remove entire trees or stands if necessary. Refer to the Land Management Plan and AFM 86-5 or AFI 32-7064. Use active harassment techniques for blackbird, starling, and crow roosts whenever necessary. USDA can conduct or assist in roost dispersal operations.
- (16) Bird-proofing Buildings and Hangars. Pigeons, sparrows, and starlings frequently occur in buildings and hangars and should be excluded. Denying access by screening windows, closing doors, and blocking entry holes is most effective. When necessary, consider:
 - (a) Pellet Guns. Shoot birds for a short-term solution. Permits from the US Fish and Wildlife Service and state wildlife agency are required to kill most birds. (Permits are not required for Rock Pigeons, European Starlings, or House Sparrows). Experience has shown that all birds cannot be removed using this technique. Proper safety equipment and skilled personnel are necessary.
 - (b) Netting. Install netting under building superstructure to exclude pest birds from roosting areas. Ensure no gaps or holes are present for birds to get through.

- (c) Avitrol, Starlicide, or Other Avicides. Coordinate with USDA, Wildlife Services about using any labeled bird control chemicals.
 - (d) Trapping/Removal. Use large cages with food, water, and other birds to trap pest birds. Birds can either be released away from the hangar or killed.
 - (e) Design Features. Consider structures with the support features located on the outside of the building to greatly reduce bird numbers. Consider this design when planning new hangars or other structures.
 - (f) Door Coverings. Use netting or plastic strips suspended over the doors to exclude birds. Ensure no tears or holes are present that allow birds access to the hangar.
 - (g) Sharp Projections. Use in limited areas such as ledges, overhangs, or small places where birds cannot be allowed. Expense prohibits their use over the entire structure.
 - (h) Night Harassment. Use high pressure air or water to make hangars an undesirable roosting site. Persistence is the key.
- (17) Preventing Other Animal Hazards to Aircraft. Use appropriate trapping methods for animals such as predators. Some species or individual animals, such as deer, foxes, or coyotes, may be removed by shooting. Coordinate with the Wildlife Management Plan (reference AFI 32-7064) and obtain appropriate permits.

10. Airfield Manager (AM): Per ANNEX S of this plan, the authority to declare Bird Watch Conditions is vested with the SOF/DO during normal flight operations. During all other periods, the Airfield Manager, or his/her designated representative, is the declaring authority.

a. Notifies the Pittsburgh International Airport staff to send a bird dispersal team and assists them as needed. When approved to perform dispersal activities on the airfield, this team will be used when birds create a hazardous condition. 171 ARW/911 AW dispersal team members will only operate in direct concert and coordination with the Pittsburgh International Airport. The bird dispersal team will, as a minimum, have immediate access to bioacoustic and pyrotechnic equipment for bird dispersal. This equipment must be stored where it is readily available.

- (1) Bioacoustics. Bioacoustics are recorded distress or alarm calls of actual birds. The equipment required to adequately project these calls includes a cassette tape deck or CD player mounted in a vehicle and a speaker mounted on its roof. Special care must be taken to play the recording in short intervals to prevent habituation by the birds. Play the recording for 20-30 seconds and then pause briefly. Repeat the procedures several times if necessary. The birds should respond by

taking flight or becoming alert. These calls are effective for gulls, blackbirds, starlings, cowbirds, grackles, ravens, crows, and some shorebirds. Only bioacoustics for the species to be dispersed should be used, as calls are species-specific. Calls for all species of concern may not be commercially available and other methods must be used in such instances. Pyrotechnics should be used in conjunction with bioacoustics to enhance complete dispersal.

- (2) Pyrotechnics. Pyrotechnics include 15mm or 12-gauge scare cartridges that produce a secondary explosion, or screamers that produce a loud whistle to scare birds from the area. The scare cartridges are launched from either a shotgun or a pyrotechnic pistol (31-8 Very Pistol) with a steel sleeve insert to modify the gun to the 12-gauge size. A 15mm hand held launcher is available to fire 15mm screamers and bangers (smaller versions of the 12-gauge cartridges – also see APPENDIX 3, Attachments 1 and 4). Pyrotechnics are effective for dispersing most bird species and can also be used for coyotes, foxes, and deer.
 - (3) Gas Cannons. Gas cannons may be used. These devices should be operated, especially at dawn and dusk, as birds come in to feed or roost. Cannons must be relocated frequently to avoid habituation problems. Remotely triggered models, fired only when necessary, are preferred to models on timers. These devices are very effective when used in conjunction with other harassment techniques on waterfowl and other game birds, and can also be used for gulls and blackbirds.
 - (4) Depredation. Birds must be killed occasionally as a reinforcement of other methods. Rock Pigeons (domestic pigeons), European Starlings, and House Sparrows can be killed without a permit. Most other species require federal and state permits. Flight safety will contact the US Fish and Wildlife Service and the state wildlife agency for permits and assistance in this area, or may be listed as a sub-permittee under the host's depredation permit. Also see APPENDIX 3, Attachments 2 and 3.
 - (5) Other Devices. Ingenuity is encouraged in the bird scare program. Other devices may be used. Bird Diverters, as observed on jetways, radio-controlled model aircraft, falconry, or dogs may be considered based on availability and problem bird species. Contact the BASH team at HQ AFSC/SEFW, Kirtland AFB, NM for advice in this area.
 - (6) Ineffective Methods. Ultrasound, rubber snakes, stuffed owls, rotating/flashing lights, loud music, and other such devices have not proven effective and should not be used.
- b.** Notifies security forces and ATC when significant bird scare activities will be necessary on the airfield.
 - c.** Conducts daily airfield survey. Dead birds, possibly involved in strikes to ANG/ARFC aircraft, should be removed and forwarded to wing safety for identification and shared with airport operations, USDA, or other users. Bird sighting surveys should be filled out and sent to wing safety as appropriate.

11. Base Audio Visual Services:

- a.** Provides photographic services to document bird strikes and related activities as required.
- b.** Provides graphic support to publicize bird hazards and actions taken to minimize them as required.

12. Public Affairs (PA): 171 ARW/911 AW public affairs will participate as required and upon request will provide a public information program designed to inform base personnel, dependents, and the general public on the hazards and costs of uncontrolled bird activity and the measures being taken to minimize them.

13. Training Areas/Ranges: Use the Bird Hazard Warning System (ANNEX S) to report significant bird activity noted away from the base. Report sightings to the SOF/DO or Safety Office and advise aircrews on hazardous conditions.

ANNEX M to 171 ARW/911 AW BASH Plan 91-212

MAPPING, CHARTING and GEODESY:

- 1. General.** This annex outlines the use and requirements of the maps and charts required to implement the BASH program. Wing Safety should maintain and update maps and charts as necessary.
- 2. PA ANG/AFRC Installation at Pittsburgh International Airport and Surrounding Area Map:**
 - a.** Periodic habitat surveys should be conducted to identify major habitat types available to birds. Update maps based on these surveys as local land uses and habitat conditions change.
 - b.** When a specific hazard is identified and the location of the activity isolated, use the habitat map to determine if a specific attractant exists that can be altered within the scope of this plan.
 - c.** Use the habitat map as a guide for the long range civil engineering program to reduce actual and potential hazardous environmental factors at and near the Pittsburgh International Airport.
 - d.** The local flying unit should procure maps and navigational charts of the surrounding area to designate features for BASH potential and attach them as part of this annex.
 - e.** A sample map and aerial photo are included at Figure 1.
- 3. Training Area/Range Maps/Transition Areas:**
 - a.** The USAF Bird Avoidance Model (BAM) depicts relative risk of bird hazards for the entire continental United States, Alaska, Hawaii, and Puerto Rico. It may be queried by route, range, city, airfield, or geographic location. It depicts risks for two week intervals and for four daily periods of day, night, dawn, and dusk.
 - b.** Additional information on bird hazards on transition airfields, low-level training routes, LATNAS, ranges, and MOAs may be obtained through the internet web site at www.usahas.com.
 - c.** The BAM should be used to develop risk maps for off-airfield operations. Bird strikes reported to the USAF Safety Center are overlaid on these maps in the model.
 - d.** Analyze and disseminate these data to the flying unit according to procedures outlined in ANNEX C.
 - e.** Sample BAM and AHAS outputs are included in Figures 2, 3, and 4.

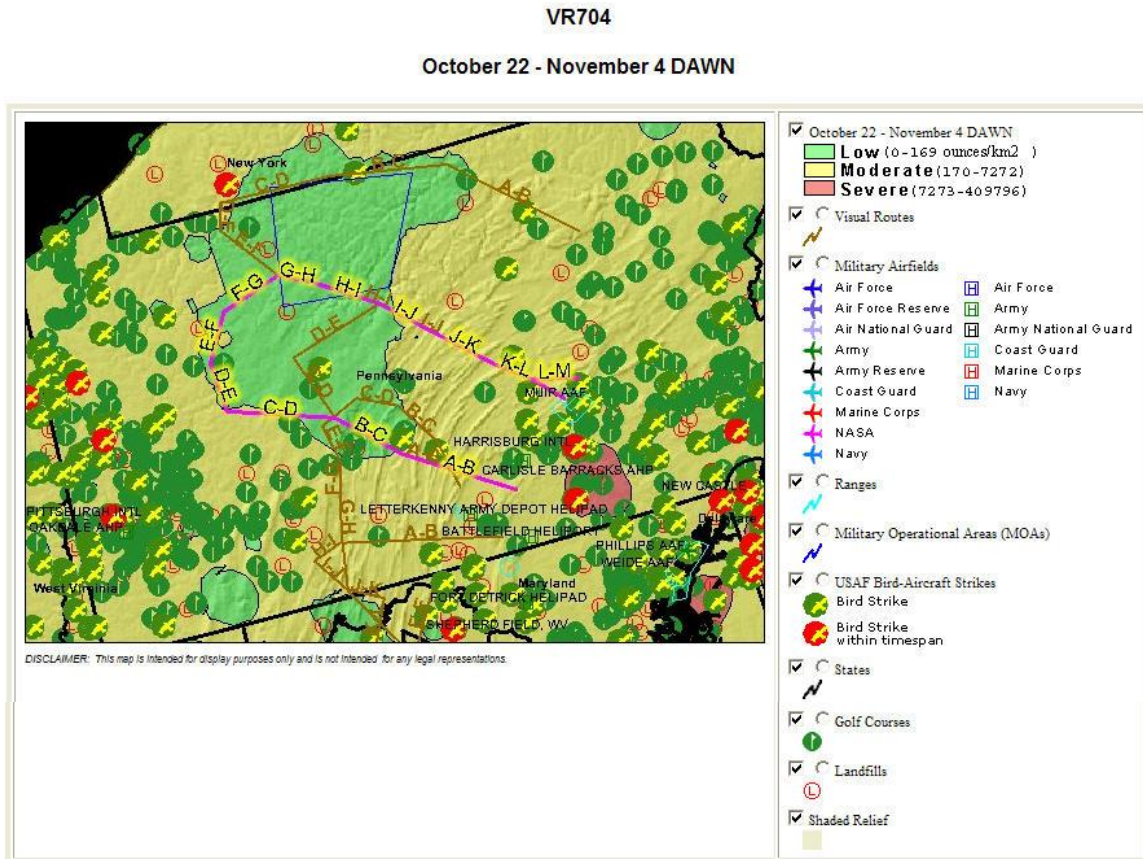
FIGURE 1. Pittsburgh International Airport Local Area Map/Aerial Photo.



FIGURE 2. Sample Bird Avoidance Model (BAM) Map.



FIGURE 3. Sample BAM output using printer friendly option.



[\[Click here to Print\]](#)

FIGURE 4. Sample Avian Hazard Advisory System (AHAS) Web Page.

HOME AHAS ABOUT INSTRUCTIONS FAQ GALLERY DOWNLOADS TERMS CONTACT

United States Avian Hazard Advisory System

Determine AHAS Risk

Select Month:

Select Day:

Select Hour:

Select Area Type:

Visual Routes Military Airfields

Instrument Routes MOAs

Slow Routes Ranges

Units Alert Areas

Select a flying area: (Select button above to change)



AHAS RISK TABLE

The Current Time is: 31 MAY, 17:26 Zulu
 The Risk Data is from: 31 MAY, 17:25 Zulu

KEY FLD				
SEGMENT	HOUR	AHAS RISK	BASED ON	TREND
KEY FLD	17	SEVERE	NEXRAD	v

Trend Data

^ : NEXRAD activity is increasing
 v : NEXRAD activity is decreasing
 = : NEXRAD activity is staying the same
 N/A: NEXRAD data is Not Available. It is only available for the current hour

Warning: The US Bird Avoidance Model (USBAM) was constructed with the best available geospatial bird data to reduce the risk of bird collisions with aircraft. Its use for flight planning can reduce the likelihood of a bird collision but will not eliminate the risk. The USBAM organizations are not liable for losses incurred as a result of bird strikes

ANNEX S to 171 ARW/911 AW BASH Plan 91-212

BIRD HAZARD WARNING SYSTEM:

OPERATION BIRD WATCH

1. **General.** This operation establishes procedures for the immediate exchange of information between ground agencies and aircrews concerning the existence and location of birds that could pose a hazard to flight safety. If 171st ARW/911th AW aircraft are flying a gained MAJCOM's mission, they will adhere to that MAJCOM's guidance if it differs from 171ARW/911AW policy. 171ARW/911 AW aircraft supporting contingencies will operate according to procedures in that theater when different from 171 ARW/911 AW or ANG/AFRC BASH policy. The restrictions to aircraft operations during MODERATE and SEVERE BWCs listed below apply to local and off-station operations.
2. **Bird Watch Conditions.** Use the following terminology for rapid communications to disseminate bird activity information and implement unit operational procedures. Give bird locations with the condition code.
 - a. **Bird Watch Condition SEVERE.** Bird Activity on or immediately above the active runway or other specific location representing high potential for strikes. Aircrews must thoroughly evaluate mission need before operating in areas under condition SEVERE.
 - (1) Traffic Pattern. All 171 ARW/911 AW takeoffs or landings will be restricted to mission essential as determined by the 171 ARW/911 AW OG/CC. The SOF may consider changing runways, delaying takeoffs and landings, diverting aircraft, changing pattern altitude, etc.
 - (2) Training Areas. Identify specific areas and altitudes. Those areas will be avoided by all flights when possible.
 - b. **Bird Watch Condition MODERATE.** Bird activity near the active runway or other specific location representing increased potential for strikes. This condition requires increased vigilance by all agencies and extreme caution by aircrews.
 - (1) Traffic Pattern. Traffic will be limited to the initial take-offs and full – stop landings unless approved by the 171 ARW/911 AW OG/CC. Low approaches are restricted to 500' AGL.
 - (2) Training Areas. Aircraft commanders will make appropriate changes in mission profile to minimize bird strike risk. Such changes include avoidance of known/observed concentrations, raising flight altitudes, and reducing airspeed.

- (1) Call sign.
- (2) Location.
- (3) Altitude.
- (4) Time of sighting.
- (5) Type of bird (if known).
- (6) Approximate number of birds.
- (7) Behavior of birds (soaring, flying to or from a location, etc.).

ATTACHMENT 1 TO ANNEX S

LOA FOR BIRD WATCH CONDITION (BWC) CHANGES



DEPARTMENT OF THE AIR FORCE
171st ARW/ 911th AW

DATE: 22 July 2006

MEMORANDUM FOR: Whom It May Concern

FROM: SMS Mark A. Hutsler, Airfield Management
300 Tanker Road # 4207
Greater Pittsburgh International Airport
Coraopolis, PA. 15108

SUBJECT: Letter Of Agreement (LOA) for Bird Watch Condition (BWC) Changes.

1. Upgrading the BWC from "low": This LOA is a mutual agreement between the 171 ARW and 911 AW Airfield Management Sections, Coraopolis, Pennsylvania. When airfield management personnel or the Duty Officer determines the need to raise the BWC from "low" to "moderate" or "severe", the 911 AW or 171 ARW Airfield Management Sections will call each other to inform one another of the change. The specific location on the airfield will be cited along with an estimated number of birds and type of birds (large or small).
2. Terminology: The following terminology is established for rapid communication of bird activity.
 - A. Low: Bird activity on and around the airfield representing a **low potential for strikes**.
 - B. Moderate: Bird activity near the active runway or other specific location representing an **increased potential for strikes**.
 - C. Severe: Bird activity on or immediately above the active runway or other specific location representing **high potential for strikes**.
3. The phone numbers for the 911 AW Base Operations are: Primary (412) 474-8163 and Secondary (412) 474-8099. The phone numbers for the 171 ARW Base Operations are: Primary (412) 776-7347 and Secondary (412) 776-7428. Base Operations personnel will in-turn notify their respective Command Post and Duty Officer (SOF).
4. If the birds persistently continue on or around the airfield, either section will contact Allegheny County Airport Authority (ACAA) Operations to notify them for possible ATIS posting, harassment, or harvesting. The ACAA can be reached at (412) 472-5630.
5. Downgrading the BWC back to "low": When airfield management personnel or the Duty Officer determine the BWC can be lowered back to the normal "low", the 911 AW or 171 ARW Airfield Management Sections will call each other to inform one another of the change. Airfield management personnel will in-turn notify their respective Command Post and Duty Officer (SOF).

//SIGNED//
MARK A. HUTSLER, SMS, PaANG
171 ARW Airfield Manager
(412) 776-7667

//SIGNED//
Doug May, Civilian, USAF RES
911 AW Airfield Manager, Maytag Corp.
(412) 474-8761

CC:

ACAA Operations

ANNEX Y to 171 ARW/911 AW BASH Plan 91-212

REPORTS AND FORMS:

- 1. General.** This annex outlines the procedures and forms required to report bird strikes per AFI 91-204 to enhance the BASH program at the 171 ARW/911 AW.
- 2. Reporting Bird/Wildlife Strikes (AFI 91-204 and AFMAN 91-223):**
 - a.** All damaging and non-damaging bird/wildlife strikes shall be reported to the BASH Team through the Air Force Safety Automated System (AFSAS). Additional information may be obtained on the Air Force Safety Center web page (http://af.safety.af.mil/SEF/BASH/SEFW_home.shtml). When bird/wildlife strikes occur to captive or live munitions (explosive/missiles), these are reported as if the bird/wildlife hit the aircraft. Reporting all bird/wildlife strikes is a necessary part of an effective BASH plan. An in-depth knowledge of the circumstances leading to a bird/wildlife strike is vital before realistic recommendations can be made.
 - b.** Flight safety offices of the organization credited with the aircraft's flying hours will report all bird/wildlife strikes.
 - c.** Report bird/wildlife strikes using the AFSAS in accordance with AFMAN 91-223. AFSAS requires a user profile (username and password). MAJCOM safety offices have designated AFSAS administrators to create BASH AFSAS accounts for each unit. Aircrews and maintenance personnel documenting the necessary data for reporting wildlife strikes through AFSAS can use AF Form 853.
 - d.** For every bird strike, send remains (if available) to the Smithsonian National Museum of Natural History for identification. Remains may include feet, beak, and/or feathers. If no remains are apparent, spray blood smear with soapy water, 70% ethanol solution, or 10% bleach, and blot with a clean paper towel. Allow to dry, then fold towel and place into labeled zip-loc bag. Send a copy of the corresponding AFSAS report with the strike evidence to the following address: "Smithsonian Institution, Feather Identification Lab, NHB, E600, MRC 116, PO Box 37012, Washington, DC 20013-7012." For high priority mishap identifications ship remains via overnight delivery to the following address: "Smithsonian Institution, Feather Identification Lab, NHB, E600, MRC 116, 10th and Constitution Ave. NW, Washington, DC 20560." To ensure overnight delivery, time shipments to the Smithsonian to arrive Monday - Friday. (Also see APPENDIX 3, Attachment 9). If you collect a whole bird carcass, place it in a freezer and contact the Smithsonian at (202) 357-2334 to see if the museum can use the specimen in their collection. Remains found on the runway as the result of a suspected aircraft

strike should also be recorded into AFSAS and sent to the Smithsonian for identification. Once the Smithsonian has entered the identification into the AFSAS report, AFSAS will automatically notify the reporting unit of the species identification through email. Bird remains recovered from a mishap site should be collected IAW instructions outlined in the paragraph above. The ISB should not delay recovering and shipping remains to the Smithsonian Institution, as the sample could be compromised. If there are any questions, contact HQ AFSC/SEFW (DSN) 246-5679. (Also see APPENDIX 3, Attachments 7 and 8 for avian influenza guidelines).

- e. For wildlife strikes other than birds, send samples of skin, fur, teeth or other non-fleshy remains, if possible, or a photograph of the remains along with the corresponding BASH SAS report to the Smithsonian for identification.

3. **Technical Assistance (AFI 91-202):** *The U.S. Air Force Mishap Prevention Program*, outlines responsibilities for reducing bird/wildlife strike hazards. Obtain additional information on BASH management from AFPAM 91-212, *Bird/Wildlife Strike Hazard (BASH) Management Techniques*. Technical assistance is available through the USAF BASH Team, HQ AFSC/SEFW, 9700 AVE G SE, Building 24499, Kirtland AFB, NM 87117-5671. DSN 246-5674/5679/5673 or Commercial (505) 846-xxxx, fax x-0684, e-mail address; afsc.sefw@kirtland.af.mil.

ATTACHMENT 1 TO ANNEX Y

SOF/DUTY OFFICER BASH CHECKLIST

1. The SOF/D.O. is the Commander's on-scene representative for monitoring bird watch conditions and the SOF/D.O. is responsible for establishing the local bird watch condition consistent with published directives. Therefore, 171 ARW and 911 AW Safety offices have developed this checklist to aid in complying with BASH directives.

2. As a minimum, at the beginning of each shift the SOF/D.O. should:

_____ **Make an on-site, eyes-on assessment of bird activity from the ramp.**

_____ **Use the Bird Avoidance Model (BAM) at <http://www.usahas.com> to make predictive assessments of bird activity.**

_____ **Use the Avian Hazard Advisory System (AHAS) at <http://www.usahas.com> to make an assessment of real-time bird activity as displayed by NEXRAD radar.**

_____ **Contact the Pittsburgh Tower Supervisor for current wildlife observations.**

_____ **Assess the four elements above and use sound judgment to establish a BWC.**

3. Keep in mind that more than one BWC may be established on a large airfield such as KPIT. For example, BWC moderate can exist on runway 10L/28R due to resident Canadian Goose activity at the local golf course while it is low for runways 28L & 32, etc.

4. IAW a Letter of Agreement between the 171st ARW and 911th AW, if either wing raises the BWC on any part of the airfield, the SOF/Airfield Manager will contact other wing's Base Operations or the Command Post with the pertinent information. It is highly encouraged but not required to mirror their BWC. Please use sound ORM and judgment when determining whether or not to mirror the BWC.

5. When observing changes in bird activity or when notified by another agency or an aircrew of changes in bird activities use the following checklist to modify the BWC:

_____ **Notify Base Ops personnel. Base Ops personnel will update the board with the location, number and type of birds.**

_____ **Call Command Post and direct the Controller to inform all aircraft of the location, number and type of birds.**

_____ **Call 911th AW Base Ops (412-474-8163 or 8099) or 171st ARW Base Ops (412 776-7347 or 7667) with new BWC.**

_____ **Notify the OG/CC by phone or via e-mail.**

____ **Notify the Chief of Safety by phone or via e-mail (for trending purposes)**

____ **If notified by MOC or the aircrew that a bird strike has occurred, ensure the Aircraft Commander completes an AF 853, Air Force Wildlife Strike Report and forwards the form to the Safety Office via the Base Mail system.**

6. Once the BWC is raised continue to assess the situation to avoid remaining in an unnecessarily upgraded BWC condition that negatively affects flying operations.
7. It is the responsibility of the ACAA and the USDA to disperse birds or other wildlife. If bird or wildlife dispersal is required then have Base Ops or the Command Post call County Operations.
8. From Annex S of the *171st ARW/911th AW BASH Plan 91-212* and AFI 11-KC-135V3/AFI 11-2C-130V3, the following definitions and restrictions apply:
 - Bird watch condition SEVERE: Heavy concentration of birds on or immediately above the active runway or other specific locations that represent an immediate hazard to safe flying operations. All takeoffs and landings are prohibited. Waiver authority is local OG/CC or equivalent.
 - Bird condition MODERATE: Concentrations of birds observable in locations that represent a probable hazard to safe flying operations. Initial takeoffs and final landings allowed only when departure and arrival routes will avoid bird activity. Local IFR/VFR traffic pattern activity is prohibited.
 - Bird condition LOW: Normal bird activity on or above the airfield with a low probability of hazard. No operating restrictions.
9. Please refer to the complete *171st ARW/911th AW BASH Plan 91-212* located on the Safety Webpage or the paper copy located in the Flight Safety Read File for complete details.
10. Please contact the Safety Office with any questions or suggestions for improvement.

ATTACHMENT 2 TO ANNEX Y

PHASE II MIGRATORY BIRD HAZARD ORM WORKSHEET

1. Using the BASH data and Trend information, has there been an increase in bird reported by various airport agencies?

Activity in the last 7 days _____
Avg weekly baseline (last 3 years) _____
Week to week increase _____
 1-5 = 10 points
 6-10 = 20 points
 >11 = 40 points _____

Activity in the last month _____
Avg Monthly baseline (last 3 years) _____
Month to month increase _____
 1-10 = 10 points
 >11 = 20 points _____

2. Are the bird responses to large flocks of birds?

Yes = 20 points _____

3. Using the BASH data and Trend information, has there been an increase in bird strikes?

Activity in the last 7 days _____
Avg weekly baseline (last 3 years) _____
Increase in activity _____
 1-2 = 20 points
 3-4 = 30 points
 >4 = 40 points _____

Activity in the last month _____
Avg Monthly baseline (last 3 years) _____
Month to month increase _____
 1-4 = 20 points
 5-7 = 40 points
 >7 = 60 points _____

4. Using the bird strike log, have any of the strikes been from multiple birds or large birds?

Yes = 20 points _____

5. Is the BAM model moderate or greater?

Dawn = 10 points _____
Day = 5 points _____
Night = 20 points _____
If Severe, add 40 points _____

6. Does the Airfield Manager, the County or the 911th AW/171st ARW report greater than normal bird activity?

Yes = 15 points

7. After calling the USDA, do they report greater than normal bird activity? _____

Yes = 10 points

8. Does the COS/FSO report greater than normal threat of bird activity? _____

Yes = 5 points

TOTAL: _____

INDEX:

0-100	Normal Operations
101-130	Daily Evaluation recommended. Risk is increasing
131-150	Demonstrated increased threat. Consider implementing Phase II
151 or >	Implement Phase II

ATTACHMENT 3 TO ANNEX Y

BASH PHASE II IMPLEMENTATION CHECKLIST

This checklist is intended for use by the Flight Safety Officer. If BASH Phase II is warranted after completing the *Phase II Migratory Bird Hazard ORM Worksheet*, complete the following checklist to implement BASH Phase II.

_____ 1. Determine if any airfield and/or airspace procedures or restrictions should be implemented based on observed bird activity and recent strike data.

_____ 2. Recommend to the OG/CC that BASH Phase II be implemented along with any operating restrictions. If the OG/CC concurs then continue.

_____ 3. Contact the 911 AW/171st SE and inform them that your OG/CC is recommending the implementation of BASH Phase II.

_____ 4. Contact the Airfield Manager and have him/her publish the following NOTAM:

- “*BASH Phase II in effect at the Pittsburgh IAP.*”
- Any airfield and/or airspace procedures or restrictions will also be added to the text of the NOTAM
- If no restrictions are going to be in place then state “*No restrictions.*”

_____ 5. Contact Base Operations and ensure that they post the current Bird Watch Condition (BWC) and “*BASH Phase II in effect at the Pittsburgh IAP*” behind the Ops Desk.

_____ 6. Post any airfield and/or airspace procedures or restrictions on the Base Ops board as well. If no restrictions are going to be in place then state “*No restrictions.*”

_____ 7. File the *Phase II Migratory Bird Hazard ORM Worksheet* in the BASH Program Binder.

_____ 8. Ensure that COS, FSO, Duty Officers and Airfield Manager monitor bird activity closely for changes to the BWC.

_____ 9. When migratory bird activity subsides complete the *Phase II Migratory Bird Hazard ORM Worksheet*.

_____ 10. Based on the ORM score, if a return to BASH Phase I is appropriate then have the Airfield Manager cancel the Phase II NOTAM and return the airfield to BASH Phase I.

_____ 11. File the *Phase II Migratory Bird Hazard ORM Worksheet* in the BASH Program Binder.

ATTACHMENT 4 TO ANNEX Y

BASH TREND AND DATA REVIEW PROCESS

There are three BASH reports available on the 171 ARW network and 911th AW Sharepoint to input, review and interpret BASH data so that Safety personnel can make informed, fact based decisions concerning hazard reduction. The reports will be updated at least monthly so that trends can be identified and they will be summarized at the end of each fiscal year. The files are stored in the following location:

[171st ARW]Y:\Wing\Risk Management\1 - Flight Safety\5 - BASH Plan\BASH Data & Trends

[911th AW] <https://sharepoint.afrc.af.mil/22AF/911AW/WingStaff/SE>

1. "BASH Trends."

- It is segregated by fiscal year and there is a column for each month of that year.
- Class E BASH events are coded with the ICAO identifier and the local time of occurrence and they are entered under the month that they occur regardless of whether damage occurs to the aircraft or not.
- Events with an asterisk (*) indicated that there is an associated damage cost.
- BASH events that occur at KPIT are coded yellow and all other airfields are coded light blue for ease of trending.
- At the conclusion of the year BASH events are totaled at the top of the spread sheet.
- Events at KPIT are totaled and the sums are further broken down into A.M. events and P.M. events.
- Total damage costs for the FY are entered in the appropriate field.

2. "BASH Data Review."

- This report provides a detailed description of each BASH event so that relevant data about each event can be found in a single location.
- It is segregated by fiscal year.

- Each BASH event has a separate row in the spreadsheet starting with the AFSAS Mishap ID.
- All applicable/known information will be entered in the appropriate column.
- Each quarter of the FY is color coded according to the legend.
- KPIT events are highlighted yellow for ease of identification/trending.

3. “Bird Watch Condition (BWC) Tracker”

- This report is used to track changes in the local BWC so that trends may be identified.
- Duty Officers are directed by the OG/CC to notify Safety via phone or e-mail anytime there is a change to the BWC.
- Enter the following information into the spreadsheet:
 - Date
 - Time
 - The BWC prior to upgrade
 - The new BWC
 - Total time in hours before the BWC is downgraded
 - The predictive BAM BWC at the time of elevation
 - The real-time NEXRAD AHAS BWC at the time of elevation

ATTACHMENT 5 TO ANNEX Y

BASH Self-Inspection Procedures

The 171 ARW BASH Program Self-Inspection will be completed at least annually and prior to any inspections. 911 AW may use this checklist or provide their own procedures. The electronic checklist is adapted from AFPAM 91-212 Attachment 2 and the master copy is stored electronically on the 171th ARW/911th AW intranet at the following address:

[171st ARW] Y:\Wing\Self-Inspection

[911th AW] Y:\SE\SEF\BASH Program &BHWG

To complete an annual self-inspection follow the procedures listed below.

1. Open the master electronic checklist located on the 171 ARW/911 AW intranet at:

[171st ARW] Y:\Wing\Self-Inspection

[911th AW] Y:\SE\SEF\BASH Program &BHWG

2. Click on the MS Excel file titled *Safety Master Template*
3. Read the Instructions on the Summary Tab of the spreadsheet.
4. Answer all of the questions using the drop-down boxes in the “In Compliance?” column next to the respective question. Only answers in the drop down menu can be used
5. The replies in the drop down menu are color coded for ease of use. All answers that are in compliance with applicable AFIs, etc. will be coded green, all answers not in compliance will be coded red and all “N/A” answers will be coded white. When there are no red fields remaining in the electronic checklist then compliance is complete.
6. Add comments to expand, explain or clarify all answers in the field directly below each question.
7. Save the file in the following location: [171st ARW] Y:\Wing\Self-Inspection

[911th AW] Y:\SE\SEF\BASH Program &BHWG

- Save the file in the appropriate yearly folder.
- Use the following naming convention: “Safety SIP XXXX” Where XXXX is the four-digit year.

- DO NOT alter the *Safety SIP Master* file.

8. Close the files and folders. Checklist is complete.

9. Sign-off the Annual Review on page iii of the 171st ARW/911th AW BASH Plan.

ANNEX Z to 171 ARW/911 AW BASH Plan 91-212

DISTRIBUTION:

NGB/SE

HQ AFSC/SEFW, BASH Team, Kirtland AFB NM 87117

171 ARW/CC

171 ARW/CV

171 ARW/SE

171 ARW/CP

171 CES/CC

171 CES/CEO

171 OG/CC

171 OG/OGV

171 OG/OGT

171 OSF/CC

171 OSF/OSA

171 MSG/CC

171 MXG/CC

171 ARW/EM

171 MG/CC

171 CF/SCS

171 ARW/ PA

146 ARS/CC

147 ARS/CC

911 AW/CC

911 AW/CV

911 AW/SE

911 AW/CP

911 CES/CC

911 CES/CEO

911 OG/CC

911 OG/OGV

911 OG/OGT

911 OSF/CC

911 OSF/OSA

911 MSG/CC

911 MXG/CC

911 AW/EM

911 MG/CC

911 CF/SCS

911 AW/ PA

FAA/ATC Tower Chief

Pittsburgh International Airport Operations Manager

USDA- Wildlife Services State Director

APPENDIX 1. BIRD/WILDLIFE HAZARD ASSESSMENT AND RECOMMENDATIONS

- 1. Historical Background.** The USAF BASH Team has approximately 100 bird/wildlife strikes recorded from the 171st Air Refueling Wing (171 ARW) and 911th Airlift Wing in its database for the period between 1997 and 2010. At least 60 of these have been reported since the last NGB visit in 2005. There are several other strikes recorded at the airport by transient military aircraft from Harrisburg and Willow Grove, PA as well as other units. Some of the reported strikes were from the airfield environment, most at remote locations such as low-altitude training, transition airfields, and drop zones, and many recorded from unknown areas. Notable is the shift in species struck at the airport from large, potentially damaging birds to smaller and migratory birds that have caused little damage in the recent past. This is an indication that the BASH program is serving the function of successfully reducing potentially damaging or catastrophic incidents through an integrated approach involving elements of airfield management, operational planning, and communications procedures within the PA ANG, AFRC, and the Pittsburgh International Airport staff. The airport has also made many notable improvements to the airfield environment and to its wildlife hazard management program since the last visit by NGB in 2005.

Strikes to PA ANG and AFRC aircraft involved a Red-tailed Hawk, American Kestrel, Killdeer, Common Loon, Mourning Doves, Mallard, Redhead, American Crow, European Starling, American Robin, Cliff Swallow, Chimney Swifts, Horned Larks, Pectoral Sandpiper, Northern Mockingbird, Cedar Waxwings, Eastern Meadowlark, and several other small passerines including flycatchers, thrushes, sparrows, vireos, and warblers. There has also been a recorded strike with a Big Brown Bat. Strikes to civil aircraft at the Pittsburgh International Airport were not provided at the time of the visit though it is known that several bird species including doves, gulls, waterfowl, raptors, and passerines have been struck in the past. There was also some concern over mammals such as deer, predators, and rodents on the airfield and strikes between a commercial aircraft and at least three Red Foxes, Woodchucks, and White-tailed Deer were identified. Historic strike records are important to give an indication of the types of conditions to be addressed in the BASH Plan and specific control measures to undertake to reduce future hazards. Strikes to aircraft other than the ANG and AFRC that operate in the same environment are also important in this context.

There are concerns with a variety of species in the local airfield environment and the surrounding areas where the 171st Air Refueling Wing and 911th Airlift Wing operate. Many strikes to aircraft throughout the DoD generally occur in the airfield environment where the ANG/ARFC have some control over the situation through habitat management, bird watch condition warnings, control of wildlife populations, and bird dispersal techniques. The local situation changes throughout the year with migrant birds such as ducks, geese, gulls, shorebirds, raptors, crows, doves, swallows, starlings, and blackbirds posing the most potential problems

during both migration periods and resident species causing hazards throughout the year. After review of the history at the installation, and as part of the ANG's recurrent visit program, an update of the BASH Plan was deemed warranted.

The PA ANG and AFRC have an effective, on-going BASH program with most of the basic elements in place. Information and assistance is freely shared between various ANG/AFRC organizations, with the Pittsburgh International Airport staff, with the FAA air traffic control staff, and with other tenant units. Airfield habitat management, bird control, bird dispersal activities, removal of other wildlife, and proper communications with the control tower have all occurred in the past and have served to reduce the hazards at the airfield. The airport staff conducts habitat management on the airfield. Most of the bird dispersal and control efforts have also been conducted by the airport staff and recent addition of a full-time USDA-Wildlife Services presence as partially funded by NGB will greatly enhance these efforts. The airport also has an active federal depredation permit for occasional lethal reinforcement measures. These activities should be supplemented by ANG and AFRC personnel as needed. Pyrotechnics were the most common dispersal techniques used by the airport. The airport is also in the process of updating Wildlife Hazard Assessment and implements an effective Wildlife Management Plan to meet its FAR Part 139 requirements. It is important that these documents are fully compatible if not integrated with the 171 ARW/911 AW BASH Plan.

2. **Regional Bird/Wildlife Hazards.** The Pennsylvania Air National Guard/Air Reserve Station local area map (ANNEX M) depicts the immediate vicinity of the airfield. It may be marked to indicate specific areas that can attract birds considered hazardous to aircraft operating from the base. Several areas of concern are evident in the surroundings and on the airfield itself. The majority of the airfield inside the interior fence is covered in turf as recommended, and habitat management in the AOA is greatly improved since the 2005 visit by NGB. Limited weedy patches, water features, deep ditches/depressions, small bare areas, broken tarmac, brushy patches, and trees are potentially attractive to a variety of bird and other wildlife species. Limited areas of broken tarmac associated with older operating surfaces and graveled access routes attracted birds such as Horned Larks, Rock Pigeons, and Mourning Doves for feeding and access to grit. Numerous Killdeer were also noted to feed and nest on these surfaces.

The airfield is surrounded by two fences for security and to deter wildlife such as White-tailed Deer (*Odocoileus virginianus*), Coyotes (*Canis latrans*), and Red Foxes (*Vulpes vulpes*) from entering the airfield. The exterior fence is below ideal height to completely deter wildlife from entering the field and is in disrepair in many places. The newer interior fence is in much better condition and is an effective deterrent to these and other wildlife, though not at ideal height to completely limit access to the airfield. Breeches under the fence still occur however as observed from the ground and air during the recent visit by NGB, and wildlife occasionally access the field. Breeches are repaired as required. Deer and other wildlife that access the field have been dispersed or killed under conditions of

a depredation permit, but are abundant in the surrounding areas and must be continually monitored. The adjacent forested hills and valleys are major attractants and corridors for movement of birds and other wildlife near the airport. There are also several wetlands and water bodies that attract a wide variety of wildlife. Canada Geese, Mallards, Great Blue Herons, Red-winged Blackbirds, and European Starlings were observed in these wetlands and in similar areas surrounding the airfield. Roosts of starlings and crows were apparent in the area and flocks of these birds were observed near and over the airfield and on the ANG/AFRC property. Raptors including Turkey Vultures and Red-tailed Hawks were seen feeding and soaring on and near the airport.

The area surrounding the installation also contains numerous features that are inherently attractive to a variety of birds and other wildlife potentially hazardous to nearby flying operations. Several small lakes and ponds surround the airport and harbor waterfowl such as Canada Geese, Mallards, and wading birds, such as the pond at the Embassy Suites and other local industrial/business parks where patron and employees are reportedly feeding these birds near the airport. Ponds such as the retention structure on the south edge of the airport, in the nearby old strip mines to the southwest, at the east end of the field near the AFRC facility, and even the natural beaver ponds on the northwest side of the airport property all attract waterfowl and other species that may pose hazards to aircraft in the vicinity. Many small streams and riparian areas surround the airport and occur on airport property as well. Several golf courses and their associated water hazards potentially attract waterfowl such as at the Bon Air, Scalley's, Coraopolis Heights, and West Hills facilities. A cemetery near the ANG facility attracted a significant deer herd and several species of birds. Parks, wetlands, and other surrounding features attract a variety of birds and other wildlife. Vultures, hawks, blackbirds, starlings, herons, turkeys, deer and other wildlife were seen in significant numbers in and around these features. Raptors were observed soaring above the forested ridges in the area and use these features as preferred migratory corridors during spring and fall. Much of the surrounding area supports a variety of land uses ranging from light agriculture, commercial properties, and suburban developments. Limited areas of agricultural crops such as corn and soybeans provide some food and cover resources for birds and other wildlife. The natural and regenerated mixed forests surrounding the airport also provide ideal cover for large mammals and roosting sites for birds such as vultures, blackbirds, starlings, and crows. Birds are very active each day as they move to and from feeding and resting areas. Some of their flightpaths necessarily transit the airport and its surrounding airspace as birds transit between these features and their feeding and resting areas. Air Traffic Control provides effective warnings to aircrews during times when direct observations of birds in the vicinity are noted. Additional cooperation and communication between the ANG/AFRC and the FAA ATC staff, to include provision of military Bird Watch Conditions through voice or ATIS communications, will serve to further improve these procedures. These procedures should be included in an updated Letter of Agreement between ATC, airport operations, and all tenants including the military at the facility.

3. **Airfield Hazard Assessment and Recommendations.** The Pittsburgh International Airport staff is responsible for ensuring that airfield vegetation and drainage are managed to minimize bird and wildlife attractants. An excellent cooperative relationship exists between the airport and tenant units and the airport staff is aggressively pursuing proper wildlife management techniques in accordance with their FAA Part 139 requirements. The Base Civil Engineering staff and the 171/911OG/OSF should assist in this area by maintaining base leasehold property and providing guidance to the airport as necessary.

- a. Airfield Turf. The airfield turf was comprised primarily of grasses such as fescue with only limited broad-leaved weedy vegetation. Improvements to the turf have been significant since the last visit by NGB in 2005. The majority of the airfield now supports a dense turf that was very well established and maintained and mown to the recommended heights. Grass grew right to the edge of the operating surfaces as recommended. Some weedy vegetation existed where turf was disrupted by construction activity or in areas where terrain or soils make mowing difficult. Ideally, the entire infield area of the airfield should be established in a thick, uniform stand of grass without openings or weedy vegetation present. Lights and signs are elevated or on paved shoulders and do not require special clearance or alteration of mowing schemes. The USAF mandates 7-14 inch grass over the entire infield area (FAA generally recommends 6-12 inches and the differences between guidelines are not significant from a management or biological standpoint).

Mowing the vegetation short or allowing it to reach heights where it goes to seed and becomes uneven encourages the growth of broad-leaved weedy vegetation. Such vegetation provides feeding and cover resources that increase bird hazards at the airfield. The climate and soil conditions allow for rapid growth in the summer months and mowing operations are a constant effort to keep up with production. Mowing vegetation, especially if mown short, actually stimulates production and encourages weedy vegetation to invade grass stands.

Fescue is an ideal grass species as it grows in a dense, sod-forming manner that can eliminate bare spots and out-compete weeds. It also grows to substantial heights before going to seed. Such grass is also generally indigestible to the majority of bird species. The endophytic (symbiotic intercellular fungal association) varieties deter foraging by birds and especially herbivorous insects that in turn, attract birds and other wildlife. Ideally, the airfield should be maintained in such grass and kept between 7 and 14 inches over the entire area to limit bird numbers and reduce maintenance costs. Selective application of herbicides may initially be necessary to eliminate weeds and allow grass to become reestablished in areas where it has been disturbed, such as parts of the airfield now reseeded

and recovering from recent construction activity. Taller grass excludes many birds due to limited visibility for flocking species, difficulty for birds to locate invertebrate food sources, and difficulty in predator detection. Grass should not be allowed to exceed 14 inches and to go to seed, as it may attract rodents and raptors.

Maintaining grass as recommended should also reduce costs of mowing operations through the growing season. Mowing may attract some birds during operations and dispersal techniques must be on hand at such times. The last mowing of the growing season should be to top grass off at 7 inches where it will dry and stand through the winter. Tall grass, once established, will out-compete and thus reduce broad-leaved weed species. This will enable a reduction in the amount of broad-leaved herbicide applied to the field, if applicable. The Pittsburgh International Airport staff is responsible for ensuring that airfield vegetation and drainage are managed to minimize bird and wildlife attractants. An excellent cooperative relationship exists between the airport and tenant units and the airport staff conducts wildlife management techniques in accordance with FAA Part 139 standards. The Base Civil Engineering staff and the 171/911 Airfield Management/Griffin Services should assist in this area by maintaining base leasehold property and providing guidance to the airport as necessary. More information on airfield turf management may be obtained from the Air Force Civil Engineer Support Agency (AFCEA/CESM) at DSN 523-6465, Commercial (850) 283-6465, or the local County Extension Agent. Also see APPENDIX 3, Attachment 5.

- b.** Airfield Mowing Plan. The Pittsburgh International Airport maintains an Airfield Mowing Plan (AMP) that can be attached as an additional reference, but is not included in this BASH Plan. The ANG/AFRC have no responsibility nor authority for mowing on the airport property, but should monitor and advise the airport staff on airfield mowing recommendations as listed above. Only areas of ANG/AFRC leasehold property inside the AOA need be maintained as described above; other areas around ANG/AFRC facilities outside the secure areas of the airfield can be maintained as observed.
- c.** Agricultural Outleases. The Pittsburgh International Airport does not currently outlease any of its property for agricultural practices and there is only limited agriculture outside the airport property. Many agricultural practices are considered incompatible with safe airport operations and such practices should not be considered on airport property.
- d.** Bare Areas. There were a limited number of bare areas on the airfield, some associated with prior construction activities and old operating surfaces. Bare areas may provide ideal roosting and loafing sites for Mourning Doves, Killdeer, Horned Larks, American Crows, Ring-billed Gulls, and waterfowl. They also provide nesting sites for birds such as Killdeer and grassland

passerines and prevent turf management as described above. Bare areas also contain gravel and grit that is highly attractive to birds such as doves that use these materials to aid in digestion. These areas also capture windblown seeds that are visible and attractive to a variety of birds. Though not a BASH issue, such areas may also contribute to FOD problems on the airfield. Bare areas should be eliminated and seeded with grass to establish a thick turf as described above. Turkey Vultures, Red-tailed Hawks, and other raptors may soar over bare soil and tarmac as it warms early in the day and thus provides ideal thermal soaring conditions. Construction sites must be targeted for reseeded as soon as possible after project completion.

There were also limited areas on the airfield where old operating surfaces had deteriorated and broken tarmac was still in place. Most notable is the area outside the 911 AW parking ramp at northern the termination of taxiway N-2, though there are several smaller areas within the AOA as well. Cracks in the remaining old surfaces or those scheduled for removal or repair were filled with a mixture of vegetation, and gravel and grit were scattered over the areas. Smaller areas along access routes were formed with gravel that attract birds as described above. Such surfaces provide ideal feeding, nesting, and loafing areas for a wide variety of birds. These areas consist mostly of open space so that visual communication between flock members can occur. They provide grit that can aid in digestion as in the bare areas mentioned above. Ideally, target old surfaces for removal, and they should be reseeded with grass. The airport's long range plan should address these conditions and target FAA Airport Improvement Funds (AIP) to assist in budgeting for such projects. In the interim, it is best to continue to remove the vegetation and routinely sweep the gravel and grit from cracked surfaces as observed. Paving access routes is the best alternative but access routes and old surfaces can be sealed with binding agents to limit available grit and vegetative growth.

- e. Drainage. Much of the airfield inside the interior fence is well drained with no major areas of standing water or obstructed flow with the exception of the area in the deep pit near the approach end of Runway 14 and abeam Runway 10/28C. Most ditches were properly maintained with steep sides and trimmed vegetation. Removal of vegetation and wildlife have occurred in the past. Areas of aquatic vegetation such as cattails, rushes, willows, and other brushy vegetation established in the bottoms and banks of the structures did occur however in limited areas. Specifically, the large ravine/pit at mid-field as noted above and the smaller areas near the approach end of Runway 28C and 28L should be cleared to prevent heavy brush and aquatic vegetation from becoming established or maintained. Several smaller areas along ditches and low spots also supported emergent vegetation such as cattails that may attract a variety of birds and other wildlife species. Wetland vegetation should be routinely removed from these areas and flow of drainage water maintained to prevent recurrence of aquatic vegetation. Wetland vegetation

must be removed whenever it develops in any of the airfield ditches through the use of gang or boom mowers to reduce the attractiveness to birds and to prevent heavy vegetative growth from complicating maintenance. Use of rock rip-rap lining can also aid in ditch maintenance in the long term. Several ditches were excellently maintained in just such a manner. Culverts that drain the field under the interior fence should be screened with hogwire on the outside of the fence to prevent deer, coyotes, beavers, and other mammals from entering the field by these potential access points.

Outside the interior fences, but within airport property, there are extensive wetlands, small streams, and areas of aquatic vegetation. Man-made retention structures such as the large retention/detention structure under construction near the entrance to the ANG facilities, ponds south of the airfield and near the AFRC facilities, natural ponding, and Beavers (*Castor canadensis*) all contributed to the presence of water features between the airport fences. These areas should be continuously monitored to ensure they do not attract hazardous concentrations of birds or other wildlife or cause them to transit the airport operating area (AOA). If such conditions do exist, wetlands, water features, and contributing wildlife should be removed, altered, or controlled. Ensure alteration of any potential wetland habitat complies with Federal and State regulations. Any potential wetlands mitigation efforts should never occur in the airport operating area (AOA) and cooperation between federal agencies, especially the Corps of Engineers, must be sought so as not to compromise flight safety for the objectives of wetlands mitigation programs. Consult the 2004 Memorandum of Agreement between the FAA, USAF, Corps of Engineers, and several other federal agencies for specific guidance. The documented agreement allows for exemptions to on-site wetlands mitigation projects and may be found at http://wildlife-mitigation.tc.faa.gov/public_html/moa.pdf. Contact the FAA Wildlife Biologist for further assistance, if required.

Periodic puddling of water following heavy rains occurs only in limited areas and these should be identified for filling or draining to prevent standing water from occurring on the airfield. Puddling on the parking ramps should also be addressed and can be reduced by sweeping in poorly drained areas. Any remaining areas should be addressed in the long-range plan to eliminate standing water, whenever possible.

- f. Security Fencing. The airfield is currently enclosed in two chain link fences for security and to deter wildlife from entering the field. The exterior fence is maintained below recommended heights to deter wildlife from entering the airport property. It is also breached in many places from erosion, wildlife, and fallen trees. In fact, the fence continues to suffer collapses in numerous places where dead and windblown trees have toppled over the fence and wildlife is free to enter in these places. During an aerial survey of the airport and surrounding areas, wildlife trails leading to and from these breeches were

very evident and numerous deer were observed in these areas. Deer, coyotes, and foxes have been noted on the airfield in the past and have been harassed and occasionally killed to reduce local populations.

An interior fence surrounding the AOA that is much more of a deterrent to wildlife attempting to enter the airfield. It is more robust, nearer recommended height, and in better condition than the exterior fence. There were a few areas where wildlife such as deer and coyotes have breached this fence and these were readily apparent from the air, but for the most part, the interior fence has served to significantly reduce wildlife presence near the operating surfaces. Unfortunately, fences are as effective at containing wildlife once they have gained access to the field as they are at deterring them from entering in the first place. This is especially true when suitable habitat is contained inside security fences such as in the deep pit mid-field that contains extensive trees, brush, and wetland vegetation. Numerous wildlife trails formed by deer, coyotes, foxes, and others were noted in this area as it provides a desirable refuge inside the AOA. Additional sections of properly constructed fencing could be installed to isolate this area, or removal of the attractive habitat features must be performed.

Proper fencing can deter access to the airfield by wildlife such as white-tailed deer, coyotes, red foxes, feral dogs (*Canis domesticus*), and even Wild Turkeys. Deer are capable of jumping fences up to eleven feet tall, and coyotes, foxes, domestic dogs, and other wildlife will frequently breach fences by digging under them or will access any small openings such as gates that are not tightly secured. Deer will exploit such breaches and will squeeze under small holes created by erosion or other wildlife.

Installed properly, fencing can significantly limit wildlife breaches and the requirement for routine monitoring and maintenance. Ideally, the fence should contain at least eight feet of chain link topped by angled strands of barbed wire up to eleven feet (see also APPENDIX 3, Attachment 6). The angled top assists by necessitating deer not only clear the height, but also the width of the fence. Additionally, a section of at least six feet of chain link, buried and attached to the base of the fence prevents burrowing animals from breaching the bottom of the fence. This section should be sloped away from the outside of the fence to be most effective. Gates must be maintained to ensure tight fitting with the substrate and between sections when closed. Stiff brushes can be added to the bottom of gates where gaps may be exploited by wildlife. Funding to construct such fencing is likely not immediately available, but the requirement should be noted in the airport's long range plan and possibly targeted for FAA Airport Improvement Program funds. In the interim, as sections of fence are targeted for routine replacement or repairs, new sections can be added in a piecemeal fashion to meet ideal specifications.

The completed fence line must be checked regularly for breeches by wildlife, to ensure all gates are closed, and for security reasons. As observed, construction debris or rock rip-rap may be piled against the base of the fence in areas routinely undermined by burrowing wildlife. It may not be possible to completely exclude all wildlife from the field and controlled hunting or depredation may be necessary on an as-needed basis. USDA, Wildlife Services can assist in this area.

- g.** Trees and Landscaping. The airport has generally done an excellent job in removing stands of trees within the airfield boundaries and on ANG/AFRC property. An exception is the deep pit between the approach end of Runway 14 and abeam Runway 10/28 C as noted in above sections. Where it has occurred, removal of such stands in the past has served to significantly reduce the presence of birds and other wildlife. Heavy vegetation and even isolated trees can provide attractants to perching raptors, roosting flocks of crows, starlings, and blackbirds, and cover for many birds and other wildlife species as observed during the NGB visits in 2005 and 2010. Areas of trees and brush on airport property within the interior fences should be removed wherever possible. Stands of forest and brush outside the perimeter fences also attract roosting birds and harbor other wildlife such as White-tailed Deer and Coyotes. Such stands can induce wildlife to follow these patches as a corridor for movement onto the field and subsequently provide protection for wildlife once they have entered the field, encouraging them to remain.

Bird roosts also occur in these forested areas. Several very large blackbird and starling roosts occur in forests in the state and region and there were several European Starling roosts noted in the vicinity of the airport during the 2005 visit. An American Crow roost was also noted in the pine forest stand along the highway and south edge of the airport property. Roosting Turkey Vultures were also noted in these areas. Continue to monitor any trees within the airport and ANG/AFRC property to ensure no further bird roosts develop. If roosts are noted, active dispersal can be employed to disrupt any such sites. The USDA, Wildlife Services can assist in roost dispersal (see APPENDIX 3 for contact information in this area). Alternately, individual trees or stands can be targeted for thinning or removal to reduce attractiveness to birds. Open canopies and sparse stands of trees eliminate these sanctuaries.

Additionally, an abrupt transition between the forest and grass should be maintained to limit edge effect. Edge effect, or the gradual transition from one cover type to another, is highly attractive to species of both cover types and can significantly increase local population densities. Brush and small trees should be removed from these transition areas and anywhere they occur on the airfield.

Ornamental trees and shrubs on the airfield and surrounding facilities should be carefully selected to reduce attractiveness to hazardous bird and other

wildlife species. Ensure species are chosen with open canopies and sparse foliage to prevent roosting birds from becoming established near the airfield. Ornamental vegetation should be chosen so that feeding and shelter are minimized. Vegetation that produces berries, seeds, fruits, etc. or that provides dense cover should be avoided.

- h.** Perch and Nest Sites. Sites such as isolated trees, airfield structures, runway markers, poles, equipment, and others should be monitored for birds using them as perches or nesting sites. Several species of birds such as Red-tailed Hawks, American Kestrels, Turkey Vultures, and song birds frequently use these sites. Where practical, remove these structures or configure them to limit suitable perching sites. For isolated structures such as poles and runway markers, anti-perching devices such as spike strips can be used on a limited basis. Such devices are much more effective and persistent than sticky tactile repellents that may melt in heat, deteriorate in ultraviolet light, dry, and collect dust. Additionally, rubber snakes, owls, and effigies should not be used as they rapidly lose effectiveness due to habituation by birds. If not feasible to eliminate or configure such attractants, target these structures for active dispersal techniques as described below.
- i.** Birds in Structures. Birds such as Rock Pigeons (domestic pigeons) and European Starlings commonly nest and roost in buildings such as old hangars and notably on the superstructure of the Air Traffic Control Tower. A large population of European Starlings has roosted on the tower in the past, but has been very significantly reduced since the 2005 NGB visit due to integrated and effective management activities now implemented by the airport. Active dispersal efforts to harass birds as they come to roost in the evenings in any airport structures should be aggressively pursued to keep populations in check. Configuring some of the surfaces to prevent suitable perching sites may also be considered. Depredation should also be considered as a viable option to disrupt this roost. USDA can assist in these efforts. (Also see ANNEX C).
- j.** Waste Management. All organic wastes should be stored only in enclosed containers until collected and removed. Construction containers as well as public trash containers should be covered to limit access by birds and other wildlife to wastes.
- k.** Wildlife Attractants. ANG personnel are prohibited by this plan from building structures, erecting nesting platforms or boxes, feeding birds, improperly disposing of wastes, or otherwise encouraging birds or other hazardous wildlife in areas of the installation that may threaten flight operations. Also consider placing signs around local lakes and ponds, such as at the nearby golf course, industrial facilities, etc to prohibit feeding of waterfowl near the airport.

4. Bird/Wildlife Management Techniques and Recommendations. Bird control and dispersal is primarily accomplished by airport personnel. However, a variety of dispersal and control measures should also be available to ANG/ARFC personnel to use on an as-needed basis. These measures should be readily available at any time when birds or other wildlife threaten airfield operations. Pyrotechnic equipment may be stored in Base Operations for immediate access. These devices may also be taken on deployments where periodic use may be necessary away from the home unit.

- a. Active Harassment.** A combination of frightening devices should be available for use whenever birds are present on the airfield or in surrounding areas. Primary among those are pyrotechnic devices that can be fired from 15mm “starter” pistols, standard 12-gauge shotguns, or modified flare pistols. Pyrotechnics are listed in the Air Force Table of Allowances for airfield bird control and may also be ordered through local purchase mechanisms if necessary. Also see APPENDIX 3, Attachment 4 for Air Force classification of pyrotechnic launchers. These devices project pyrotechnics many meters over flocks of birds that present hazards. Skillful use of the devices can disperse birds from the field in desired directions. They produce a variety of loud sounds and explosions, bright flashes of light, and/or trailing smoke. Training for safely using the devices and coordination with the Air Traffic Control (ATC) Tower is imperative. Pyrotechnic devices can be extremely effective in dispersing waterfowl, gulls, crows, shorebirds, starlings, and flocks of blackbirds. Gulls, starlings, crows, and blackbirds may also be dispersed using a combination of pyrotechnics and bioacoustics.

Bioacoustics are the recorded distress and alarm calls of species to be dispersed. Ensure species-specific calls are used. They are projected over a speaker system that may be mounted on the roof or through the window of a vehicle. Birds will sometimes disperse upon hearing species-specific calls, but may come to investigate the source of the sound and can then be encouraged to leave using pyrotechnic devices.

These active harassment techniques should be used on the airfield and in all hazardous surrounding areas. These techniques may also be used in coordination with local property owners, to disperse any known bird roosts from dense trees such as found in nearby parks, golf courses, ponds, and other structures. Active harassment devices may also be taken on deployments to areas where airfield bird control may not be conducted by local agencies.

Additional harassment techniques such as networks of remotely triggered gas cannons, radio-controlled model aircraft, or others can be considered as effective supplements to other dispersal techniques. Creativity and intensity of such programs will make the overall effort much more successful and delay habituation to the combination of techniques.

It will also be important to conduct active harassment, primarily by use of pyrotechnic devices, during off-duty hours. Base Operations staff should have the equipment available to conduct bird dispersal operations outside normal duty hours. Such activity will ensure birds remain off the airfield and prevent habituation problems that complicate efforts during regular operations.

- b.** Rodent Control. Rodents such as Woodchucks (*Marmota monax*), Meadow Voles (*Microtus pennsylvanicus*), and mice (*Peromyscus sp.*) are abundant throughout the region and have established populations in the immediate surrounding areas and on the airfield itself. Rodents attract a variety of raptors such as Red-tailed Hawks and Kestrels that feed on them. Rodents may also damage wiring and undermine the integrity of pavements and overruns. Removal by trapping or poisoning in accordance with Pennsylvania law may be conducted by Pest Management personnel or under contract with USDA, Wildlife Services. Rodenticides such as phostoxin are most effective and may be used to eliminate burrowing rodents by placing tablets of the poison into burrows, sealing the openings, and allowing the moisture-activated fumigants to permeate the burrow systems.
- c.** Invertebrate Control. Various invertebrates including earthworms are abundant on the airfield and may attract a wide variety of birds including gulls and raptors. Be prepared to sweep the operating surfaces any time heavy rains force worms or other invertebrates onto the tarmac. Additional bird dispersal techniques must be available during those times as well. Insecticides can be applied on a limited basis as necessary and in compliance with state and federal law.
- d.** Waterfowl Control. There are a variety of waterfowl species that pose very significant potential hazards to aircraft operating from the Pittsburgh International Airport. Canada Geese, and particularly resident populations, may be most significant. Some of these hazards are not possible to control as birds may merely be migrating through the region during spring and fall, or exhibiting local movement patterns between features in the vicinity of the airport. However, there are several ponds in the local area, and notably at the nearby Embassy Suites Hotel, where resident goose populations can pose a hazard to nearby flight operations that can be controlled. A small population of nesting geese was also noted in the past between the ANG parking aprons and should continue to be controlled before the population further expands. Canada Geese are also commonly observed on several of the nearby local golf courses. Canada Goose population control should be exercised in these areas and others in the surrounding community wherever potentially hazardous concentrations are noted. Egg oiling or addling, depredation hunts, and goose roundups during flightless seasons should be employed as applicable. USDA, Wildlife Services can conduct or assist in this effort.

These birds pose very significant threats to safe flying operations and should be managed to reduce the hazards. Standard dispersal techniques should be employed to reduce these attractants. Waterfowl are very easily dispersed through the use of standard frightening devices. Pyrotechnics are most effective. During times when the birds are molting and thus flightless (summer breeding season), they may be rounded up and relocated if necessary. Alternately, they may be removed by shooting individual birds or flocks. USDA, Wildlife Services can assist in these areas. Stringing wires or monofilament fishing line six inches off the ground and surrounding ponds is a very effective psychological barrier to birds that attempt to walk up the banks to feed and can virtually eliminate usage of the ponds after a period of avoidance learning. If a wire system is installed, place signs around the pond explaining their usage and also to prohibit feeding of waterfowl to reduce the hazards to nearby flight operations. Public awareness is key.

- e. Deer and Other Large Mammal Control. Deer, coyotes, foxes and other large mammal species are abundant in the region and on airport property. Numerous White-tailed Deer were observed during an aerial survey of the airport and surrounding areas. Most of these animals were seen in the wooded and open areas between the exterior and interior airport fences, though they are also present inside the interior security fences as well. The buffer zone between fences provides ideal habitat for these animals in that it provides heavy cover, abundant water and forage, and is relatively undisturbed. This buffer area can be used to the advantage of the airport to minimize the presence of wildlife in the airport operating area with proper management techniques applied. Controlled or depredation hunts occur on this property periodically and are highly encouraged for the future as well. Whenever deer or other wildlife populations approach or exceed carrying capacity, individuals and especially juveniles, will disperse to new areas to relieve the competitive pressure for suitable habitat. It is during those times that deer, and other wildlife such as beavers, foxes, etc. will most likely enter the airport operating areas. It is therefore imperative that the airport manage the property inside the interior fence to maintain it in a manner where it is least attractive to all wildlife including birds and mammals. It is equally imperative that the deer and other large mammal populations be continually maintained below their carrying capacity in the buffer zone between the airport fences. This area will provide suitable refuge nearby, but away from the AOA and limit these wildlife from entering the airfield.
- f. Depredation and Controlled Hunting. Removal of nuisance birds and other wildlife may be conducted with appropriate Federal and State permits by DoD Pest Management, airport, or contracted USDA personnel. Trapping, poisoning, and shooting of individuals or flocks of birds such as Canada Geese and gulls, or other wildlife such as coyotes, foxes, deer, and rodents may be required on a periodic basis. Depredation is a last resort measure that may reinforce other habitat management or active control efforts and is

recommended when a severe hazard persists for several days. Depredation must be coordinated with Air Traffic Control staff. Such an effort must be carefully controlled and conducted in full compliance with conditions of state and federal permits. Leaving dead birds or effigies exposed for a day or two following such efforts may also reinforce these techniques. Dead birds must not be placed near the operating surfaces as they may attract scavengers and increase the hazard. See Air Force and USFWS Policy Letters in APPENDIX 3, Attachments 2 and 3 for additional guidance in this area.

The airport has also exercised its depredation permits to limit White-tailed Deer populations on and near the airport operating areas. Additionally, the airport has allowed limited hunting on its property outside secure areas for deer. Control in the surrounding areas may also be considered to limit numbers on the airfield.

Use of depredation permits in this manner is an excellent means of keeping deer and other wildlife populations below carrying capacity such that they are less prone to disperse to areas including the airfield. These programs should continue in the future. The ANG/ARFC should consider gaining their own depredation permits to assist with these efforts. Alternatively, ANG/AFRC personnel can be named as sub-permittees under the Pittsburgh International Airport depredation permit.

5. **Bird Avoidance Away from the Airfield.** Operational planning to avoid birds in time and space is paramount in areas where active control of birds is not possible. Aircrews operating in remote areas, drop zones, or on other low-level and range missions, if applicable, must plan to minimize exposure to potentially hazardous bird concentrations. Mission planning using the Bird Avoidance Model (BAM) for scheduling purposes, or the Avian Hazard Advisory System (AHAS) in near-real time, is critical. Training of aircrews, base operations personnel, schedulers, SOFs, and other users of these systems should occur on an as-needed basis to ensure the latest information is available and properly employed.

The BAM provides a detailed depiction of bird concentrations from a historical perspective. It consolidates data on bird abundance and distribution from the previous three decades and graphically depicts the relative level of bird mass for every one square kilometer block of the continental US, Alaska, Hawaii, and Puerto Rico for each two week period of the year and four daily time periods. It also depicts a wide array of environmental features and human infrastructure for reference.

The BAM should be consulted for long-range mission planning purposes and to assess relative risks of bird strikes to operations in time and space whenever flying low-level missions. AHAS is a dynamic version of the BAM and can give forecasted bird hazard advisories within a 24-hour time frame. It should be consulted in the short term to assess bird hazards within 24 hours of a planned

operation. Both systems can be accessed through the internet at www.usahas.com. BAM and AHAS are continually updated as conditions and bird populations change. These conditions will be updated in the models as new bird data becomes available. It is important that schedulers, planners, and aircrews continue to check the models for the most current conditions. A sample of the graphic output from the BAM is contained in ANNEX M. AHAS and BAM are not currently available outside the continental United States, Alaska, Hawaii, and Puerto Rico. Specific evaluation of potential hazards in deployed areas outside the United States is not possible in the context of this plan without firsthand knowledge of these areas.

APPENDIX 2. BIRDS OBSERVED IN THE VICINITY OF PITTSBURGH INTERNATIONAL AIRPORT

These lists are compiled as a combination of observations made by ANG/SE on April 12-13, 2005 and March 22-24, 2010 and those birds listed in the United States Geological Survey, Northern Prairie Wildlife Research Center report entitled “*Bird Checklists of the United States, Erie National Wildlife Refuge, Guys Mills, Pennsylvania.*” This report may be found at <http://www.npwrc.usgs.gov/resource/othrdata/chekbird/r5/maycount.htm> and contains useful data. Rare and erratic bird species were eliminated from the following list for brevity. The list may be supplemented with local observations as needed.

List 1 contains bird species considered potentially hazardous to 171 ARW/911 AW operations because of large size, abundance, flocking behavior, formation of large roost sites, or habit of occupying airfields. Such species are indicated in **RED** text. These species should be addressed by management measures implemented through this plan.

List 2 contains bird species known to occur in the vicinity of Pittsburgh and the 171 ARW/911 AW operating areas that are considered less hazardous or minimally so because they are not common, small sized, or their behaviors limit their exposure to aircraft operations. These species are listed as they may be recorded in bird strike reports and may be identified by the Smithsonian Institution in local strike reports.

List 1. Order and Species of Most Hazardous Birds Identified in the Vicinity of Pittsburgh International Airport and Local ANG/AFRC Operating Areas:

Pelicaniformes – Pelicans and Cormorants

Double-crested Cormorant

Phalacrocorax auritis

Anseriformes – Waterfowl

Canada Goose

Branta canadensis

Mallard

Anas platyrhynchos

American Black Duck

Anas rubripes

Gadwall

Anas strepera

American Wigeon

Anas americana

Blue-winged Teal

Anas discors

Green-winged Teal

Anas crecca

Falconiformes – Vultures, Hawks, and Falcons

Turkey Vulture

Cathartes aura

Red-tailed Hawk

Buteo jamaicensis

Bald Eagle

Haliaeetus leucocephalus

American Kestrel

Falco sparverius

Galliformes – Gallinaceous Birds

Wild Turkey

*Meleagris gallopavo*Ciconiiformes – Herons and Egrets

Great Blue Heron

*Ardea herodias*Charadriiformes – Shorebirds and Gulls

Killdeer

Charadrius vociferous

Ring-billed Gull

*Larus delawarensis*Columbiformes – Pigeons and Doves

Rock Pigeon

Columba livia

Mourning Dove

*Zenaida macroura*Strigiformes – Owls

Great Horned Owl

*Bubo virginianus*Passeriformes – Perching Birds

Horned Lark

Eremophila alpestris

Barn Swallow

Hirundo rustica

Bank Swallow

Riparia riparia

American Crow

Corvus brachyrhynchos

American Robin

Turdus migratorius

European Starling

Sturnus vulgaris

Eastern Meadowlark

Sturnella magna

Red-winged Blackbird

Agelaius phoeniceus

Rusty Blackbird

Euphagus carolinus

Common Grackle

Quiscalus quiscula

Brown-headed Cowbird

*Molothrus ater***List 2. Order and Species of Other Birds Identified in the Vicinity of Pittsburgh International Airport and Local ANG/AFRC Operating Areas:**Gaviiformes – Loons

Common Loon

*Gavia immer*Podicipediformes – Grebes

Pied-billed Grebe

*Podilymbus podiceps*Anseriformes – Waterfowl

Tundra Swan

Cygnus columbianus

Northern Pintail

Anas acuta

Wood Duck

Aix sponsa

Ring-necked Duck

Aythya collaris

Bufflehead

Bucephala albeola

Hooded Merganser

Lophodytes cucullatus

Falconiformes – Vultures, Hawks, and Falcons

Sharp-shinned Hawk	<i>Accipiter striatus</i>
Broad-winged Hawk	<i>Buteo platypterus</i>
Red-shouldered Hawk	<i>Buteo lineatus</i>
Merlin	<i>Falco columbarius</i>

Galliformes – Gallinaceous Birds

Ruffed Grouse	<i>Bonasa umbellus</i>
Ring-necked Pheasant	<i>Phasianus colchicus</i>

Ciconiiformes – Herons and Egrets

Green Heron	<i>Butorides striatus</i>
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>
American Bittern	<i>Botaurus lentiginosus</i>

Gruiformes – Cranes and Allies

Sandhill Crane	<i>Grus canadensis</i>
Virginia Rail	<i>Rallus limicola</i>
Sora	<i>Porzana carolina</i>
American Coot	<i>Fulica americana</i>

Charadriiformes – Shorebirds and Gulls

Semipalmated Plover	<i>Charadrius semipalmatus</i>
Greater Yellowlegs	<i>Tringa melanoleuca</i>
Lesser Yellowlegs	<i>Tringa flavipes</i>
Solitary Sandpiper	<i>Tringa solitaria</i>
Spotted Sandpiper	<i>Actitis macularia</i>
Short-billed Dowitcher	<i>Limnodromus griseus</i>
American Woodcock	<i>Scolopax minor</i>
Common Snipe	<i>Gallinago gallinago</i>
Pectoral Sandpiper	<i>Calidris melanotos</i>
Dunlin	<i>Calidris alpina</i>
Least Sandpiper	<i>Calidris minutilla</i>
Semipalmated Sandpiper	<i>Calidris pusilla</i>

Cuculiformes – Cuckoos and Allies

Yellow-billed Cuckoo	<i>Coccyzus americanus</i>
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>

Strigiformes – Owls

Eastern Screech Owl	<i>Otus asio</i>
Barn Owl	<i>Tyto alba</i>
Barred Owl	<i>Strix varia</i>

Caprimulgiformes – Goatsuckers

Common Nighthawk	<i>Chordeiles minor</i>
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Apodiformes – Swifts and Hummingbirds

Chimney Swift

Ruby-throated Hummingbird

*Chaetura pelagica**Archilochus colubris*Coraciiformes – Kingfishers

Belted Kingfisher

*Ceryle alcyon*Piciformes – Woodpeckers

Northern Flicker

Pileated Woodpecker

Red-headed Woodpecker

Yellow-bellied Sapsucker

Hairy Woodpecker

Downy Woodpecker

*Colaptes auratus**Dryocopus pileatus**Melanerpes erythrocephalus**Sphyrapicus varius**Picoides villosus**Picoides pubescens*Passeriformes – Perching Birds

Eastern Kingbird

Great Crested Flycatcher

Eastern Phoebe

Acadian Flycatcher

Willow Flycatcher

Least Flycatcher

Eastern Wood Pewee

Tree Swallow

Purple Martin

Blue Jay

Black-capped Chickadee

Tufted Titmouse

White-breasted Nuthatch

Red-breasted Nuthatch

Brown Creeper

House Wren

Northern Mockingbird

Gray Catbird

Brown Thrasher

Wood Thrush

Hermit Thrush

Swainson's Thrush

Veery

Bicknell's Thrush

Eastern Bluebird

Blue-gray Gnatcatcher

Golden-crowned Kinglet

Ruby-crowned Kinglet

Cedar Waxwing

*Tyrannus tyrannus**Myiarchus crinitus**Sayornis phoebe**Empidonax virescens**Empidonax traillii**Empidonax minimus**Contopus virens**Tachycineta bicolor**Progne subis**Cyanocitta cristata**Parus atricapillus**Parus bicolor**Sitta carolinensis**Sitta canadensis**Certhia americana**Troglodytes aedon**Mimus polyglottos**Dumatella carolinensis**Toxostoma rufum**Hylocichla mustelina**Catharus guttatus**Catharus ustulatus**Catharus fuscescens**Catharus bicknelii**Sialia sialis**Poliophtila caerulea**Regulus satrapa**Regulus calendula**Bombycilla cedrorum*

Blue-headed Vireo	<i>Vireo solitarius</i>
Red-eyed Vireo	<i>Vireo olivaceus</i>
Warbling Vireo	<i>Vireo gilvus</i>
Black-and-White Warbler	<i>Mniotilta varia</i>
Blue-winged Warbler	<i>Vermivora pinus</i>
Tennessee Warbler	<i>Vermivora peregrina</i>
Nashville Warbler	<i>Vermivora ruficapilla</i>
Yellow Warbler	<i>Dendroica petechia</i>
Magnolia Warbler	<i>Dendroica magnolia</i>
Cape May Warbler	<i>Dendroica tigrina</i>
Yellow-rumped Warbler	<i>Dendroica coronata</i>
Black-throated Green Warbler	<i>Dendroica virens</i>
Black-throated Blue Warbler	<i>Dendroica caerulescens</i>
Blackburnian Warbler	<i>Dendroica fusca</i>
Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>
Bay-breasted Warbler	<i>Dendroica castenea</i>
Blackpoll Warbler	<i>Dendroica striata</i>
Palm Warbler	<i>Dendroica palmarum</i>
Ovenbird	<i>Seiurus aurocapillus</i>
Northern Waterthrush	<i>Seiurus noveboracensis</i>
Louisiana Waterthrush	<i>Seiurus motacilla</i>
Common Yellowthroat	<i>Geothlypis trichas</i>
Yellow-breasted Chat	<i>Icteria virens</i>
Mourning Warbler	<i>Oporornis philadelphia</i>
Hooded Warbler	<i>Wilsonia citrina</i>
Wilson's Warbler	<i>Wilsonia pusilla</i>
Canada Warbler	<i>Wilsonia canadensis</i>
American Redstart	<i>Setophaga ruticilla</i>
House Sparrow	<i>Passer domesticus</i>
Bobolink	<i>Dolichonyx oryzivorus</i>
Northern Oriole	<i>Icterus galbula</i>
Scarlet Tanager	<i>Piranga olivacea</i>
Northern Cardinal	<i>Cardinalis cardinalis</i>
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>
Evening Grosbeak	<i>Coccothraustes verspertinus</i>
Indigo Bunting	<i>Passerina cyanea</i>
Purple Finch	<i>Carpodacus purpureus</i>
House Finch	<i>Carpodacus mexicanus</i>
American Goldfinch	<i>Carduelis tristis</i>
Eastern Towhee	<i>Pipilo erythrophthalmus</i>
Grasshopper Sparrow	<i>Ammodramus savannarum</i>
Henslow's Sparrow	<i>Ammodramus henslowii</i>
Dark-eyed Junco	<i>Junco hyemalis</i>
American Tree Sparrow	<i>Spizella arborea</i>
Chipping Sparrow	<i>Spizella passerina</i>
Field Sparrow	<i>Spizella pusilla</i>

171 ARW (PA ANG)/911 AW (AFRC)

Pittsburgh, PA

30 May 2010

White-crowned Sparrow
White-throated Sparrow
Swamp Sparrow
Song Sparrow

Zonotrichia leucophrys
Zonotrichia albicollis
Melospiza georgiana
Melospiza melodia

APPENDIX 3. LIST OF BASH REFERENCES

1. **General.** This appendix includes sources of information and points of contact for BASH related issues.
2. **Technical Points of Contact.** The following are available to discuss specific bird and wildlife hazard issues:
 - a. **National Guard Bureau, Environmental Planning Branch:**
NGB/A7CVP (BASH)
Mr. Robert Dogan
3500 Fetchet Ave
Andrews AFB, MD 20762-5157
DSN 278-8859
(301) 836-8859
Robert.Dogan@ang.af.mil
 - b. **Air National Guard Safety Office:**
HQ NGB/SEF
Lt Col David Paulsgrove
ANGRC, Andrews AFB, MD 20762
DSN 612-8628
(301) 836-8628
Robert.White8@ang.af.mil
 - c. **USAF BASH Team:**
HQ AFSC/SEFW
9700 Ave G., SE
Building 24499
Kirtland AFB, NM 87117-5671
DSN 246-5679
(505) 846-5679
Eugene.LeBoeuf@kirtland.af.mil
 - d. **FAA:**
FAA – Airports
Mr. John Weller
800 Independence Ave, SW, Rm 615
Washington D.C. 20591
(202) 267-3778
John.Weller@faa.gov
 - e. **USDA/APHIS/WS:**

US Department of Agriculture, Wildlife Services (Pennsylvania):

Pennsylvania Wildlife Services State Director
PO Box 60827
Harrisburg, PA 17106
Phone: (717) 236-9451 FAX: (717) 236-9454
http://www.aphis.usda.gov/wildlife_damage/

- f. Consultant:**
BASH Incorporated
Dr. Russell DeFusco
5010 Lanagan Street
Colorado Springs, CO 80919
(719) 264-8420
BirdmanRuss@aol.com

3. Literature. The following references provide excellent text references for bird/wildlife hazards:

- a.** Blokpoel, H. 1976. Bird Hazards to Aircraft. Clarke, Irwin and Co. Ltd., Toronto.
- b.** Brough, T. 1968. Recent developments in bird scaring on airfields. Pp. 29-38. In Murton, R.K. and E.N. Wirht (eds.). The Problems of Birds as Pests. Institute of Biology Symposium No. 17, Academic Press, New York.
- c.** Brough, T. and C.J. Bridgman. 1980. An evaluation of long grass as a bird deterrent on British airfields. J. Appl. Biol. 17:243-253.
- d.** Bruun, B. B., C.S. Robbins and H. Zim. 1983. Birds of North America. Golden Press, New York.
- e.** Cleary, E.C. and R.A. Dolbeer. 2005. Wildlife Hazard Management at Airports: A Manual for Airport Operators. United States Department of Transportation, Federal Aviation Administration, Office of Safety and Standards. Washington DC.
- f.** Jarman, P. 1993. A Manual of Airfield Bird Control. British Crown Copyright 1992/DRA. United Kingdom.
- g.** MacKinnon, B., R. Sowden and S. Dudley. 2001. Sharing the Skies An Aviation Industry Guide to the Management of Wildlife Hazards. Transport Canada.

4. Distress and Alarm Calls. The following lists vendors/sources for distress and alarm call tapes:*

*Note: Lists are not inclusive and do not imply endorsement of specific vendors.

- a. Signal Education Aids
2314 Broadway
Denver, CO 80205
(303) 295-0479
- b. Laboratory of Ornithology
Cornell University
159 Sapsucker Woods Road
Ithaca, NY 14850
(607) 255-5056
- c. Borror Laboratory of Bioacoustics
Ohio State University
1735 Neil Avenue
Columbus, OH 43210-1293
(614) 292-2176

5. Pyrotechnics (reference AFI 21-201, Chapter 32 for authorized munitions and AFI 64-117 for use of IMPAC card to purchase BASH munitions). The following lists vendors for pyrotechnic devices:*

- a. Reed-Joseph International Company
232 Main Street
P.O. Box 894
Greenville, MS 38702
(800) 647-5554
- b. Margo Suppliers, Ltd.
Suite 20, Box 11, RR 6
Calgary, Alberta T2M4L5
(403) 285-9731

6. Mechanical Barriers. The following lists vendors for mechanical barriers to perching birds or exclusionary means for buildings and equipment.*

- a. Bird Barrier America, Inc.
20925 Chico Street
Carson, CA 90746
(800) 503-8005
www.birdbarrier.com

- b. Nixalite of America, Inc.
1025 16th Avenue
P.O. Box 727
East Moline, IL 61244

7. **Meetings.** Related Scientific and Professional Meetings:

a. **Bird Strike Committee – USA (BSCUSA).**

This organization was formed in 1991 as a joint effort by the FAA, USAF, and USDA. BSCUSA facilitates the exchange of information, promotes the collection and analysis of accurate wildlife strike data, promotes the development of new technologies for reducing wildlife hazards, promotes professionalism in wildlife management programs on airports through training and advocacy of high standards of conduct for airport biologists and bird patrol personnel, and is a liaison to similar organizations in other countries. The organization is directed by an eight-person steering committee consisting of two members each from the FAA, USDA, Department of Defense, and the aviation industry Wildlife Hazards Working Group. Bird Strike Committee – USA meets annually. For more information visit www.birdstrike.org or call (419) 625-0242.

b. **Bird Strike Committee – Canada (BSCC).**

This organization is sponsored by Transport Canada and the Department of National Defense and is aimed at providing a mechanism for discussion of matters relating to bird hazard awareness and wildlife control at Canadian airports. The organization includes membership from various government departments including Agriculture Canada, Canadian Museum of Nature, and the Canadian Wildlife Service. Associate members include representatives from all major Canadian airlines, aviation industry members and associations, and others. BSCC meets twice each year. For additional information please call: (613) 990-1402.

c. **International Bird Strike Committee (IBSC).**

This long-standing committee, formerly Bird Strike Committee Europe (BSCE), is an international forum for the discussion of all topics relating to bird and wildlife hazards to aviation. Meetings are held every two years and include working groups on Aerodrome Bird Hazards, Radar and Remote Sensing, Aircraft Component Design and Testing, Statistics, and Military Low-level Operations. For additional information please contact: UK Crawley (0293) 573225.

8. **BASH Information Sheet.** An informational sheet on available training videos and other BASH references was prepared by NGB/A7CVP and is attached to this appendix as Attachment 1.

APPENDIX 3, ATTACHMENT 1

BASH INFORMATION SHEET

DVDs/VIDEOTAPES: The Joint Visual Information Services Distribution Activity (JVISDA) is located at the Tobyhanna Army Depot in Northeastern Pennsylvania. DoD customers should use JVISDA to direct order desired Video Information (VI) productions. Orders must be placed online and they will be mailed directly to the customer.

Web Site:

<http://www.defenseimagery.mil/>

Search for: Bird Strike or BASH

This search will result in four of the five BASH videos listed below. You can add these to your “shopping cart” and then search for “Frightening Techniques for Airfield Bird Control” (if you want that video) and add it to your shopping cart. In addition to the BASH videos cited here, there is an enormous library of videos on various subjects that can be ordered without charge. No more than 10 separate titles may be ordered at one time.

Listed below are PIN numbers and titles of VI productions available through the JVISDA:

- 609163: BASH – Bird/Wildlife Aircraft Strike Hazard
- 609164: BASH Low Level
- 604805: Frightening Techniques for Airfield Bird Control
- 602702: Dangerous Encounters BASH
- 613359: Legacies – There is a Choice (Elmendorf E-3 Mishap)

Customer service representatives can provide assistance and can be reached at:

DSN 795-7438 or (717) 895-7438; or,
DSN 795-7192 or (717) 895-7192

APPENDIX 3, ATTACHMENT 1 (continued)

DISPERSAL EQUIPMENT: Launchers and pyrotechnics, propane cannons, sight and motion scare away products, traps, distress tapes, and other products may be obtained from commercial sources. Several sources are listed below. This list does not constitute endorsement of these sources.

- Reed-Joseph International Company
P.O. Box 894 – 232 Main Street
Greenville, MS 38702-0894
(800) 647-5554/(601) 335-5822
- Ecopic Corporation
725 South Adams Road, Suite 270
Birmingham, MI 48009
(810) 647-0505
- Nixalite of America, Inc.
1025 16th Avenue
P.O. Box 727
East Moline, IL 61244

TECHNICAL ASSISTANCE: The Air National Guard Environmental Division provides and coordinates technical assistance for wildlife hazards to aircraft operations in addition to the agencies listed below. **Please coordinate all requests for technical assistance through NGB/A7CVP.**

- NGB/A7CVP (Robert Dogan)
3500 Fetchet Avenue
Andrews AFB, MD 20762-5157
Robert.Dogan@ang.af.mil
DSN 278-8859 or (301) 836-8859 (voice)
DSN 278-8151 or (301) 836-8151 (fax)
- USAF BASH Team (Mr. Eugene LeBoeuf)
HQ AFSC/SEFW
9700 Avenue G, SE
Building 24499
Kirtland AFB, NM 87117-5671
DSN 246-5674/5679 or (505) 846-5674/5679 (voice)
DSN 246-2710 or (505) 846-2710 (fax)
Eugene.LeBoeuf@kirtland.af.mil
- USDA APHIS – Wildlife Services
www.aphis.usda.gov/ws
- Cooperative Extension Service – County Agent

APPENDIX 3, ATTACHMENT 1 (continued)

RECOMMENDED BOOKS:

Bird Hazards to Aircraft. By Hans Blokpoel, ISBN# 0-7720-1087

A Field Guide to the Birds of North America. National Geographic Society, ISBN# 0-87044-692-4

Birds of North America. Robbins et al., Golden Press, ISBN# 0-307-37002

Prevention and Control of Wildlife Damage. ISBN# 0-9613015-0-3 (also available on the USAF BASH Team's website)

APPENDIX 3, ATTACHMENT 2



**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON, DC**

JUN 10 2002

MEMORANDUM FOR ALMAJCOM/SE/JA/CE

FROM: AF/SE

SUBJECT: Bird/Wildlife Aircraft Strike Hazard (BASH) Depredation Permits

The U.S. Court of Appeals for the District of Columbia, in *Humane Society v. Glickman*, 217 F.3d 882 (DC Cir 2000), affirmed a district court ruling that Federal agencies are not exempt from the Migratory Bird Treaty Act (MBTA). The court concluded “that because the Wildlife Services division of the Department of Agriculture did not obtain a permit from the Department of the Interior, its implementation of the Integrated Goose Management Plan by taking and killing Canada Geese violates §703 of the Migratory Bird Treaty Act.” The United States Fish and Wildlife Service (USFWS) now requires Federal agencies to apply for a depredation permit before taking nuisance migratory birds. Under the MBTA a “take” occurs when a Federal agency would “pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect” a migratory bird. The Code of Federal Regulations guidance on depredation permits (50 CFR Part 21.41, paragraph (a)) states, “No permit is required merely to scare or herd depredating migratory birds other than endangered or threatened species or bald or golden eagles.”


Air Force installations located in the United States or its territories must request migratory bird depredation permits before taking any action deemed necessary for health and safety reasons, to include BASH program implementation. Reasonable effort must first be made to use non-lethal means to solve any problems prior to taking lethal action. Compliance with the provisions of the MBTA does not relieve Air Force installations from their responsibilities under the Endangered Species Act. Installations are potentially subject to stringent penalties for the taking of endangered migratory birds.

Any proposal to take, or otherwise impact, migratory birds is subject to the National Environmental Policy Act (NEPA) (42 U.S.C. § 4321 *et seq.*) and 32 CFR Part 989 (Air Force Environmental Impact Analysis Process). Once a permit is issued, installations will maintain records as dictated under the terms of the permit. In addition, a memorandum for record listing other options considered or taken, as well as consultations with federal, state, or local wildlife officials, should be maintained in support of applying for and having the depredation permit.

APPENDIX 3, ATTACHMENT 2 (continued)

2

This memorandum has been coordinated with HQ AF/ILEVP, and AFLSA/JACE. If you have any other questions concerning this matter, please contact Mr. Eugene A. LeBoeuf, DSN 246-5679 (eugene.leboeuf@kirtland.af.mil) or Maj Peter R. Windler, DSN 246-5674 (pete.windler@kafb.saia.af.mil). POC for AFLSA/JACE is Ms Lauryne Wright, DSN 426-9166 (lauryne.wright@pentagon.af.mil). POC for HQ AF/ILEVP is Maj Alan Holck, DSN 664-0632 (Alan.Holck@pentagon.af.mil).



GREGORY A. ALSTON
Colonel, USAF
Acting Chief of Safety

APPENDIX 3, ATTACHMENT 3



United States Department of the Interior
FISH AND WILDLIFE SERVICE
Washington, D.C. 20240



In Reply Refer To:
FWS/ARW99-00369

AUG 17 1999

Memorandum

To: Regional Directors, Regions 1-7
Assistant Director - Refuges and Wildlife

From: **Acting**
Director

Subject: Migratory Bird Permits for Intentional Take by Federal Agencies

In response to recent court action (Humane Society v. Glickman), we must update and modify our policies and procedures relative to the issuance of migratory bird permits for intentional take of migratory birds by Federal agencies, including any take by the Fish and Wildlife Service. The attached memorandum from the Acting Assistant Solicitor provides the details on this interim guidance. Please read the third paragraph very carefully and ensure that your permit offices are in compliance. As you can see, it is important that any take under the Migratory Bird Treaty Act conducted by the Fish and Wildlife Service be authorized by a permit. In addition, you should process requests for such permits from other Federal agencies.

Keep in mind this is a dynamic issue and further guidance on this may be forthcoming in the weeks and months ahead.

Attachment

APPENDIX 3, ATTACHMENT 3 (continued)



BY REPLY REFER TO:

United States Department of the Interior

OFFICE OF THE SOLICITOR
Washington, D.C. 20240



AUG 13 1999

Memorandum

To: Director, U.S. Fish and Wildlife Service

From: Acting Assistant Solicitor, Fish, Wildlife and Environmental Protection

Subject: Advice regarding Humane Society v. Glickman

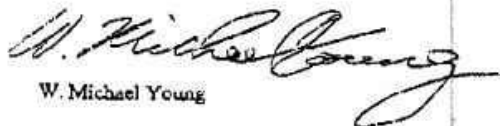
As you know, the District Court for the District of Columbia on July 6, 1999 enjoined the defendants in Humane Society v. Glickman, No. 98-1510 (CKK), from "taking, hunting, capturing, or killing Canada Geese until such time as the Defendants shall obtain valid permits to conduct such activities pursuant to the Migratory Bird Treaty Act [MBTA]." There is, however, significant uncertainty about the scope of the order. On the one hand, the order itself limits to whom it applies ("Defendants," i.e., DOI and USDA) and to what species it applies ("Canada Geese"). In addition, the conclusion of the memorandum opinion accompanying the Court's order suggested that the scope of the order was limited to the particular activities at issue in the suit, i.e., APHIS' goose control program in Virginia. On the other hand, in its opinion, the Court flatly rejected the government's legal theory that the MBTA does not apply to federal agencies. The Court's reasoning would apply equally without regard to distinctions between the federal agency, the species, or the state at issue. To confuse matters further, the analysis of two circuit courts (the decisions of which are binding in their respective circuits) and several district courts in prior cases is diametrically opposed to that of the Court in this case. See Sierra Club v. Martin, 110 F.3d 1551 (11th Cir. 1997); Newton County Wildlife Association v. U.S. Forest Service, 113 F.3d 110 (8th Cir. 1997).

The Department of Justice believes that a reasonable argument can be made that the Court's order should be interpreted as applying only to the taking of geese in Virginia by the USDA or DOI. Plaintiffs, however, are seeking to have the Court find the defendants to be in contempt of court due to the subsequent take of geese by the Air Force at Langley Air Force Base in Virginia. Given the current legal uncertainty, and until such time as that uncertainty is resolved, we believe that the Service should adopt an extremely cautious position with respect to the intentional take of migratory birds by federal agencies. Therefore, we recommend that the Service adopt the following position until the District Court provides clarification itself, or until any appeal is resolved.

APPENDIX 3, ATTACHMENT 3 (continued)

First, the Service itself should not take, hunt, capture, or kill any migratory bird in any location without a permit or regulatory authorization under the MBTA. Second, the Service should not assert in any communication or correspondence that federal agencies are not covered by the prohibitions of the MBTA. If asked, the Service should decline to take a position, and refer those inquiring to the cases cited above. The Service may explain that in those cases the government, with mixed success, argued that the prohibitions of the MBTA do not apply to federal agencies. In addition, the Service should inform those inquiring that if a federal agency applies for a permit under the MBTA to authorize the intentional take of migratory birds, the Service will process the application and, if appropriate under the standards of the MBTA and its implementing regulations, issue a permit. The Service may point out that these positions are temporary, pending clarification or overruling of the decision in Human Society v. Glickman (D.D.C.), or until the case is definitively resolved through appeal or otherwise.

We have coordinated with the Department of Justice in crafting this advice, and we understand that they are in agreement as to its substance. We will provide further advice once we receive clarification from the courts. If you have any questions regarding this case, please contact Alan Palisoul, Ben Jesup, or me at (202) 208-6172.


W. Michael Young

cc: Jean Williams, DOJ

APPENDIX 3, ATTACHMENT 4



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS WARNER ROBINS AIR LOGISTICS CENTER (AFMC)

JUN 19 1996

MEMORANDUM FOR HQ AFSC/SEFW
9700 AVE G SE, BLDG 24499
KIRTLAND AFB NM 87117-5671

FROM: WR-ALC/LKJ
460 SECOND ST, STE 221
ROBINS AFB GA 31098-1640

SUBJECT: 15mm Pyrotechnic Launcher

1. Previous correspondence and conversations stated that subject launcher was considered a firearm. That decision was based on the information available at the time; however, after having seen the launcher, we have determined that it does not fit the definition of a small arm (firearm) contained in Air Force Instructions 31-209 and 31-207. It does not expel a projectile through a barrel by the action of a propellant nor can it be converted to do so. The launcher was not designed to be used as a weapon and does not fit the definition of a weapon, which is "Any instrument or device for attack or defense in a fight".
2. Since this item does not fit the definition of a small arm, it is not subject to laws prohibiting local purchase of weapons. Therefore, we propose cataloging the launcher in the 1055 stock class (pyrotechnic launchers) as a local purchase item. We would assign security code "J" (pilferable); demilitarization code "D" (item must be completely destroyed at disposal); and ERRC code "N" (no repair due to low cost).
3. Please provide all available technical data for the launcher, such as operating instructions and safety precautions, so we can assist in the development of a technical order.
4. Point of contact at WR-ALC/LKJT is Don Maycroft, DSN468-6747.

cc:
OO-ALC/LIWCA

Al Waldrep
AL WALDREP
Chief, Weapons, Commodities, & Computers Div
Space and Special Systems Mgt Dir



Printed on recycled paper

APPENDIX 3, ATTACHMENT 6

C E R T A L E R T

ADVISORY CAUTIONARY NON-DIRECTIVE

AIRPORT SAFETY AND OPERATIONS DIVISION AAS-300

FOR INFORMATION, CONTACT Ed Cleary, (202) 267-3389, AAS-300 (202) 267-3389

Date: 12/13/2004 **No. 04-16**
To: Airport Operators, FAA Airport Certification Safety Inspectors
Topic: Deer Hazard to Aircraft and Deer Fencing

CANCELLATION:

Certalert 01-01. Deer Aircraft Hazard, dated February 1, 2001; and Certalert 02-09. Alternative Deer Fencing, dated December 12, 2002, are cancelled.

BACKGROUND

Elevated deer populations in the United States represent an increasingly serious threat to both Commercial and General Aviation Aircraft. It is currently estimated that there over 26 million deer in the United States. Because of increasing urbanization and rapidly expanding deer populations, deer are adapting to human environments, especially around airports, where they often find food and shelter. From 1990 to 2004, over 650 deer-aircraft collisions were reported to the Federal Aviation Administration (FAA). Of these reports, over 500 indicated the aircraft was damaged as a result of the collision.

In light of recent incidents where a Learjet landing at an airport in Alabama and a Learjet departing an airport in Oregon were destroyed after colliding with deer or elk, airport operators are reminded of the importance of controlling deer and other wild ungulates on and around airfields.

PURPOSE

Proper fencing is the best way of keeping deer off aircraft movement areas. The FAA recommends a 10-12 foot chain link fence with 3-strand barbed wire outriggers. In some cases an airport may be able to use an 8-foot chain link fence with 3-strand barbed outriggers, depending upon the amount of deer activity in a local area.

All fencing must be properly installed and maintained. A 4-foot skirt of chain-link fence material, attached to the bottom of the fence and buried at a 45o angle on the outside of the fence will prevent animals from digging under the fence and reduce the chance of washouts. This type of fencing also greatly increases airport security and safety. The fence line right-of-way must be kept free of excess vegetation. The fence line should be patrolled at least daily, and any washouts, breaks or other holes in the fence repaired as soon as they are discovered.

APPENDIX 3, ATTACHMENT 6 (continued)

Gates should close with less than 6-inch gaps to prevent entry by deer.

When installation of chain link fencing is not feasible due to cost or environmental impacts, other types of fencing may be installed. (Cost alone is not an acceptable reason for rejecting the use of chain link fencing.) In some cases, electric fencing may offer a suitable alternative. Recent improvements in fencing components and design have greatly increased the effectiveness and ease of installation of electric fences. Tests by the USDA, National Wildlife Research Center have shown that some 4 to 6-foot, 5 to 9-strand electric fences designs can be 99% effective at stopping deer. Installation of some of the newer electric fences requires neither specialized equipment nor training and can be accomplished by airport personnel.

In limited situations, the use of non-conductive, composite, frangible electric fence posts and fence conductors may allow the installation of electric fence closer to the aircraft movement area than would normally be allowed with standard chain link fencing material.

If deer are observed on or near the aircraft movement area, immediate action must be taken to remove them.

Airport operators can contact the nearest USDA, Wildlife Services Office or the State Wildlife Management Agency for assistance with deer problems.



December 13, 2004

Ben Castellano, Manager
Airport Safety & Operations Division

Date

DISTRIBUTION
CERTALERT DISTRIBUTION LIST

APPENDIX 3, ATTACHMENT 7

Safety Precautions for Handling Birdstrike Remains - October 2005

This information is provided to the U.S. military and civil aviation BASH (Bird/Wildlife Aircraft Strike Hazard) community in light of recent concerns over health risks to humans from infectious avian diseases such as Avian Influenza (Bird Flu or H5N1 or HPAI viruses). It is important to check with your respective public health, animal health, and natural resource agencies for up-to-date information on HPAI H5N1. Websites are provided below for additional information.

These guidelines are provided for those who routinely collect bird remains for birdstrike identification and are advisory in nature and intended to provide guidance for field biologists and others working with or handling wild birds with specific reference to highly pathogenic avian influenza. The guidance reflects information available, mainly from the U.S. Geological Survey website, as of October 2005 and may be updated as more information becomes available.

The following information was obtained from various sources including: CDC (Centers for Disease Control and Prevention, USA), USGS Wildlife Health Center, CSL (Central Sciences Lab, UK), and the World Health Organization.

Avian Influenza:

The recent reports of avian influenza in Asia and Europe have caused concern that a mutant version of the bird flu could infect the human population. Although avian influenza is potentially fatal, it is very difficult and rare to contract. Only 117 people who have had repeated contact with infected poultry over the last two years have caught Avian Influenza; 60 of those people have died. Until now, most cases of bird to human transmission involved people working in close proximity to large numbers of infected domestic birds. Recently, human cases of avian influenza have been reported from Cambodia, Indonesia, Thailand, Hong Kong and Vietnam. Currently the H5N1 virus has not been found in the United States.

The main routes of transmission are likely through bird droppings or bodily fluids of birds onto your hands and then into your mouth, or by infected airborne particles coming into contact with the nose, eyes or mouth. Simple hygiene precautions can effectively stop the first route of transmission and a single dead bird or a small number of dead birds are unlikely to generate airborne particles. The CDC recommends that travelers to Asian countries with known outbreaks of H5N1 avoid poultry farms, contact with animals in live food markets, and avoid contact with any surfaces that appear to be contaminated with feces from poultry or other animals.

The following guidelines are provided by the USGS Wildlife Health Center for Field Biologists (**Wildlife Health Bulletin #05-03**) http://www.nwhc.usgs.gov/research/WHB/WHB_05_03.html

Recommendations:

Thoroughly washing hands with soap and water (or with alcohol-based hand products if the hands are not visibly soiled) is a very effective method for inactivating influenza viruses, including HPAI. These viruses are also inactivated with many common disinfectants such as detergents, 10% household bleach, alcohol other commercial disinfectants. The virus is more difficult to inactivate in organic material such as feces or soil.

Field Biologists handling apparently healthy wild birds in areas where HPAI H5N1 is NOT suspected:
Work in well-ventilated areas if working indoors, and when working outdoors work upwind of animals, to the extent practical, to decrease the risk of inhaling aerosols such as dust, feathers, or dander.

APPENDIX 3, ATTACHMENT 7 (continued)

- *When possible, wear rubber or latex gloves that can be disinfected or disposed of and protective eyewear or a face shield while handling animals.*
- *Wash hands often as described above, and disinfect work surfaces and equipment between sites.*
- *Do not eat, drink, or smoke while handling animals.*

Follow the advice above for a birdstrike event where there is no reason to expect that the bird was carrying an infectious disease. If there is any concern about airborne particles, wear a face mask and safety glasses when handling bird remains. Spray the impact area with 70% ethanol (not water) and wipe the area with a paper towel. Place the paper towel in a ziploc bag. If you are involved in removing large numbers of birds in a confined space such as clearing pigeons from a hanger, wear a protective suit and a respirator.

See the following websites for more information:

- US. Geological Survey Wildlife Health Center:
<http://www.nwhc.usgs.gov/>
- World Health Organization
http://www.who.int/csr/disease/avian_influenza/avian_faqs/en/index.html
- Centers for Disease Control and Prevention
<http://www.cdc.gov/flu/avian/gen-info/facts.htm>
- United Kingdom Government Health Protection Agency:
http://www.hpa.org.uk/infections/topics_az/avianinfluenza/menu.htm

First and Foremost - Follow all guidance provided by your own agency or military installation. Management and Administration is encouraged to provide supplies and facilities to accommodate these guidelines.

APPENDIX 3, ATTACHMENT 8

Guidance for Cleaning Aircraft Exterior after Collisions with Birds in Areas where Avian Influenza A (H5N1) is Occurring

Airplanes occasionally collide with birds in the air or during take-off or landing resulting in visible residue that must be cleaned from the exterior of the plane after landing. In areas where H5N1 infections are occurring in bird populations such a collision might occur with an infected bird, posing a theoretical risk of contaminating the exterior surface of the plane with blood, feces or other contaminated material (such as feathers). Influenza viruses are unlikely to survive the low humidity and low oxygen environment encountered during flight, but following standard cleaning recommendations (http://www.iata.org/whatwedo/health_safety/aviation_communicable_diseases.htm) and precautions for handling dead poultry in [H5N1-affected areas](#) (<http://www.cdc.gov/flu/avian/outbreaks/embargo.htm>) may reduce any potential risk.

The following recommendations are prudent measures to reduce potential exposure to H5N1 and are based on professional judgment, routes of transmission, and perceived level of risk. Because migratory birds could spread H5N1 to new areas prior to lab detection and reporting, these precautions should be considered any time bird products are cleaned from the exterior of an aircraft:

- Wear non-sterile disposable gloves and, depending on the quantity of bird-related material needing to be cleaned, consider [protective eyewear](#) (goggles) (<http://www.cdc.gov/niosh/topics/eye/eye-infectious.html>) and a surgical mask while cleaning. A surgical mask and goggles will help reduce potential exposure to large particulate that could be spattered during cleaning or handling of bird-related materials.
- Place any bird carcasses or parts removed during cleaning in a bag or container and incinerate; do not dispose of in the trash.
- Use an agent equivalent to household cleaner or detergent to clean the surface and allow to air dry in accordance with the manufacturer's instructions.
- Keep hands away from mouth and face until washed thoroughly. A mask and goggles will reduce the potential for accidental contact between the hands and face.
- Avoid washing surfaces with pressurized water or cleaner (i.e., pressure washing). Pressure washing could theoretically aerosolize H5N1 viral particles that could then be inhaled, even if wearing a surgical mask.
- Remove and discard gloves and wash hands after cleaning is done. Avoid touching your face with gloved or unwashed hands. Do not remove goggles or surgical mask until after gloves have been removed and hands have been washed.

APPENDIX 3, ATTACHMENT 8 (continued)

- Remove eye protection and place in a designated receptacle for subsequent cleaning and disinfection. Remove and discard surgical mask as contaminated material.
- Clean hands with soap and water a second time (or an alcohol-based hand gel when soap and water are not available) immediately after personal protective equipment is removed.

For additional information on avian influenza, please consult the CDC web page at <http://www.cdc.gov/flu/avian/facts.htm>.

Additional guidance for airline flight, maintenance, and cleaning crews can be found on the CDC Travelers' Health web site at http://www.cdc.gov/travel/other/avian_flu_ig_airlines_021804.htm and http://www.cdc.gov/travel/other/avian_flu_airlines_cleaning_update_120505.htm

The International Airline Transport Association also provides information on [air transport and communicable diseases](#) on their web site.

APPENDIX 3, ATTACHMENT 9

FEATHER IDENTIFICATION LAB - General Information

~~~~~ SHIPPING

U.S. Postal Service (routine / non-damaging cases)	Overnight Shipping (priority / damaging cases)
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Feather Identification Lab Smithsonian Institution NHB, E600, MRC 116 P.O. Box 37012 Washington, DC 20013-7012	Feather Identification Lab Smithsonian Institution NHB, E600, MRC 116 10th & Constitution Ave., NW Washington, DC 20560-0116

- Include report number or copy of report (AFSAS for military, 5200-7 for civil)
- Include contact information if not on report

**Feather Lab contact information: 202-633-0801**  
**dovec@si.edu or heackerm@si.edu**

#### COLLECTING REMAINS

##### **Whole Feather**

- Whole bird: Pluck a variety of feathers (breast, back, wing, tail)
- Partial bird: Collect a variety of feathers with obvious color or pattern
- Feathers only: Send all material found
- Do not cut feathers from bird (we need the down at the base); Do not use any Sticky substance (ex. tape)
- Place remains in reclosable bag; If remains are fleshy/moist can fold material in paper (ex. paper towel, coffee filter) and use more than one reclosable bag.

##### **Small Amount of Material**

- Wipe area with paper towel; Send all material / entire towel in reclosable bag
- If needed, spray area with alcohol or water to loosen material for collection

#### **WEBSITES**

Air Force: <http://safety.kirtland.af.mil>  
Civil Aviation: <http://wildlife-mitigation.tc.faa.gov>  
Birdstrike Committee: [www.birdstrike.org](http://www.birdstrike.org)

* Basic safety measures and good hygiene when collecting material is encouraged. Use latex gloves, face mask and eye protection; always thoroughly wash hands after handling remains.

Revised 08/10/06



APPENDIX 3, ATTACHMENT 10

# CERTALERT

**ADVISORY CAUTIONARY NON-DIRECTIVE**  
**AIRPORT SAFETY AND OPERATIONS DIVISION AAS-300**  
FOR INFORMATION, CONTACT Ed Cleary, AAS-300, (202) 267-3389

**Date:** 11/21/2006 **No. 06-07**

**To:** *Airport Operators, FAA Airport Certification Safety Inspectors*

**Topic:** **Requests by State Wildlife Agencies to Facilitate and Encourage Habitat for State-Listed Threatened and Endangered Species and Species of Special Concern on Airports**

**PURPOSE:**

This Certalert describes procedures for responding to requests by state wildlife agencies to facilitate and encourage habitats for state-listed threatened and endangered species or species of special concern that occur on airports and may pose a threat to aviation safety. This Certalert does not apply to federally listed threatened and endangered species. Federal Aviation Administration (FAA) guidance on dealing with federally listed threatened and endangered species can be found in FAA Order 1050.1E, *Environmental Impacts - Policies and Procedures*, Appendix A, Section 8.

**BACKGROUND:**

An airport's air operations area (AOA) is an artificial environment that has been created and maintained for aircraft operations. Because an AOA can be markedly different from the surrounding native landscapes, it may attract wildlife species that do not normally occur, or that occur only in low numbers in the area. Some of the grassland species attracted to an airport's AOA are at the edge of their natural ranges, but are attracted to habitat features found in the airport environment. Also, some wildlife species may occur on the airport in higher numbers than occur naturally in the region because the airport offers habitat features the species prefer. Some of these wildlife species are state-listed threatened and endangered species or have been designated by state resource agencies as species of special concern.

Many state wildlife agencies have requested that airport operators facilitate and encourage habitat on airports for state-listed threatened and endangered species or species of special concern. Airport operators should exercise great caution in adopting new management techniques; new techniques may increase wildlife hazards and be inconsistent with safe airport operations. Managing the on-airport environment to facilitate or encourage the presence of hazardous wildlife species can create conditions that are incompatible with, or pose a threat to, aviation safety.

**APPENDIX 3, ATTACHMENT 10 (continued)****DISCUSSION:**

Hazardous wildlife are those species of wildlife (50 CFR 10.12), including feral animals and domesticated animals not under control (14 CFR 139.5, Definitions), that are associated with aircraft strike problems, are capable of causing structural damage to airport facilities, or act as attractants to other wildlife that pose a strike hazard. (FAA Advisory Circular 150/5200-33A, *Hazardous Wildlife Attractants on or Near Airports*, July 27, 2004.) Not all state-listed threatened and endangered species or species of concern pose a direct threat to aviation safety. However, these species may pose an indirect threat and be hazardous because they attract other wildlife species or support prey species attractive to other species that are directly hazardous. Also, the habitat management practices that benefit these state-listed threatened and endangered species and species of special concern may attract other hazardous wildlife species. For example, the grassland habitat preferred by grasshopper sparrows, which are listed as threatened in New York¹, also supports a wide variety of insects and small mammals. These insects and small mammals are an indirect threat to aviation safety because they are very attractive to hawks, owls, gulls and other birds. It is these large birds that can pose a direct threat to aviation safety. On-airport habitat and wildlife management practices designed to benefit wildlife that directly or indirectly create safety hazard where none existed before are incompatible with safe airport operations.

Airport operators must decline to adopt habitat management techniques that jeopardize aviation safety. Adopting such techniques could place them in violation of their obligations and subject to an FAA enforcement action and possible civil penalties under 49 U.S.C. §44706, as implemented by 14 CFR § 139.337. In particular, an airport operator that has received federal grant-in-aid assistance is obligated through its grant assurances to maintain compatible land uses. Failure to do so may lead to noncompliance with its grant obligations. Further, airports that serve commercial air carriers are required to be certificated under 49 U.S.C. §44706, as implemented by 14 CFR Part 139. Title 14 CFR § 139.337(a) requires airport operators holding a Part 139 certificate to “take immediate action to alleviate wildlife hazards whenever they are detected.” Accordingly, Part 139-certificated airport operators should make state wildlife agencies aware of the airport’s FAA-approved Wildlife Hazard Management Plan (WHMP), AC 150/5200-33A, and the joint FAA-Wildlife Services manual, *Wildlife Hazard Management at Airports* (6/05) (joint FAA/WS manual). Before making any changes in land management practices, the airport operator should carefully review the above documents to assure that any changes are consistent with its obligations under federal law to control wildlife hazards and attractants in the AOA. For ease of reference, the key land management practices bearing upon aviation safety are summarized and highlighted below:

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¹ Those species listed by states as threatened, endangered, or species of special concern vary from state to state. For information on state listed species, contact the appropriate state wildlife management Agency.

**APPENDIX 3, ATTACHMENT 10 (continued)**

**RECOMMENDATIONS:**

1. Adhere to the turf, landscaping, and habitat management practices described in the airport's WHMP, AC 150/5200-33A, and the joint FAA/WS manual. Do not change these practices specifically to encourage the presence of, or to attract hazardous wildlife species even if the species are state-listed or of special concern.
  - a. Do not deliberately preserve or develop on-airport wildlife habitats such as wetlands, forest, brush, or native grasslands having characteristics that attract hazardous wildlife (See the airport's WHMP, AC 150/5200-33A, and the joint FAA/WS Manual.)
  - b. Manage the airport's AOA vegetation as recommended in the airport's WHMP, AC 150/5200-33A, and the joint FAA/WS manual.
  - c. Do not deliberately preserve or develop on-airport wildlife habitats such as wetlands, forest, brush, or native grasslands having characteristics that attract hazardous wildlife (See the airport's WHMP, AC 150/5200-33A, and the joint FAA/WS Manual.)
  - d. Manage the airport's AOA vegetation as recommended in the airport's WHMP, AC 150/5200-33A, and the joint FAA/WS manual.
2. Adhere to the wildlife harassment and repellent techniques described in the airport's WHMP, AC 150/5200-33A, and the joint FAA/WS manual to prevent hazardous wildlife species from becoming established and complicating the ability to adhere to prescribed habitat management practices.
3. Do not allow hazardous state-listed threatened and endangered species or species of special concern to remain on the airport if it requires managing the airport environment contrary to FAA recommendations.
4. Reevaluate existing and evaluate future agreements with federal, state, or local wildlife agencies where the terms of the agreements are or may be contrary to federal obligations concerning hazardous wildlife on or near public-use airports and aviation safety.
5. Whenever practicable, wetland mitigation for state-listed threatened and endangered species or species of special concern should be sited off-airport (see AC 150/5200-33A, §2-4.c (1)).

OSB

11/21/2006

Ben Castellano, Manager  
Airport Safety & Operations Division

Date

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#### **APPENDIX 4. LIST OF PREPARERS**

This plan was prepared for, and under the direction of, the Air National Guard Safety Office (HQ NGB/SE) and Environmental Planning Branch (NGB/A7CVP) by BASH Inc. It updates the previous ANG BASH Plan dated July 2005 as updated October 2009 and follows USAF and ANG Operational Plan guidelines. It incorporates data and information gleaned from the Pittsburgh International Airport Wildlife Hazard Assessment and Wildlife Hazard Management Plan. Members of the professional staff are listed below:

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