MEMORANDUM OF UNDERSTANDING
BETWEEN THE

U.S. DEPARTMENT OF DEFENSE
AND THE
U.S. FISH AND WILDLIFE SERVICE

TO PROMOTE THE CONSERVATION OF MIGRATORY BIRDS

This Memorandum of Understanding (MOU) is entered into between the U.S. Department of Defense (DoD) and the U.S. Fish and Wildlife Service (FWS) (hereinafter "the Parties").

A. Purpose and Scope

This MOU is entered into pursuant to Executive Order 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds* (66 FR 3853 [January 17, 2001]). The purpose of this MOU is to promote the conservation of migratory bird populations while sustaining the use of military managed lands and airspace for testing, training, and operations.

This MOU does not address incidental take resulting from military readiness activities or active DoD airfield operations. Military readiness activities are covered by 50 CFR 21.15 (Authorization of take incidental to military readiness activities). Bird-related management activities with a potential to affect airfield operations or safety will be managed according to DoDI 4165.57 and the airfield's Bird/Wildlife Aircraft Strike Hazards (BASH) Program.

Installation commanders responsible for military airfields will not implement wildlife conservation prescriptions set forth in this MOU if they conclude that such actions will negatively impact military mission or combat capability, or if such action will increase the possibility of aircraft-wildlife strikes. Should installation commanders choose to implement wildlife conservation measures, they must follow BASH guidelines, and consider military mission impacts and elevated risk to aircraft and aircrew.

This MOU specifically pertains to the following categories of DoD activities:

1) Natural resource management activities, including, but not limited to, habitat management, erosion control, forestry activities, hunting, fishing, agricultural outleasing, conservation law enforcement, invasive-weed management, and prescribed burning;[1]

2) Installation support activities, including, but not limited to, administration, retail sales, food service, health care, water and sewage treatment, supply and storage, education, housing, equipment maintenance, base transportation, laundry and dry cleaning, recreation, and religious activities;

3) Operation of industrial activities;

[1] Vegetation management within the airfield environment shall be governed by the installation Integrated Natural Resource Management Plans (INRMP) and associated Bird/Wildlife Aircraft Strike Hazard (BASH) Plan.

4) Construction, maintenance, renovation, or demolition of facilities that support the activities described in items 1 through 3; and

5) Prevention or abatement of pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable.

This MOU identifies specific activities where cooperation between the Parties will contribute substantially to the conservation of migratory birds and their habitats. This MOU does not alter or waive any responsibilities of DoD or FWS, as applicable, under the Migratory Bird Treaty Act (MBTA), the Bald and Golden Eagle Protection Act (Eagle Act), and the Endangered Species Act (ESA); nor does it authorize the take of migratory birds.

B. Authorities

The Parties' responsibilities under the MOU are authorized by provisions of the following laws and authorities:

- Alaska National Interest Lands Conservation Act of 1980 (16 U.S.C. 410hh-3233)
- Bald and Golden Eagle Protection Act of 1940, as amended (16 U.S.C. 668-668d)
- Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1544)
- Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds, 2001 (66 FR 3853 [January 17, 2001])
- Fish and Wildlife Act of 1956, as amended (16 U.S.C. 791a *et seq.*)
- Fish and Wildlife Conservation Act of 1980, as amended (16 U.S.C. 2901-2911)
- Fish and Wildlife Coordination Act of 1980, as amended (16 U.S.C. 661-667)
- Migratory Bird Conservation Act of 1929, as amended (16 U.S.C. 715 *et seq.*)
- Migratory Bird Treaty Act, of 1918, as amended (16 U.S.C. 703-711)
- National Environmental Policy Act of 1969 (42 U.S.C. 4321-4347)
- Sikes Act Improvement Act of 1997 (16 U.S.C. 670a-670o)
- Agreements to limit encroachments and other constraints on military training, testing, and operations (10 U.S.C. 2684a)

C. Background

Department of Defense

The DoD mission is to provide for the Nation's defense. DoD's Natural Resources Program works to ensure continued access to land, air, and water resources for realistic military training and testing, while ensuring that the natural and cultural resources entrusted to DoD's care are sustained in a healthy condition.

The DoD is an active participant in international bird conservation partnerships including Partners in Flight (PIF) and the North American Bird Conservation Initiative (NABCI). Through PIF and NABCI, DoD works in partnership with numerous federal and state agencies and nongovernmental organizations to conserve migratory and resident birds and to enhance their survival. Military lands frequently provide some of the best remaining habitat for migratory and resident bird species, and DoD plans to continue supporting bird conservation activities.

Integrated Natural Resources Management Plans (INRMPs) offer a coordinated approach for incorporating habitat conservation efforts into installation management. INRMPs provide significant baseline information that can be used when preparing National Environmental Policy Act (NEPA) documents for all DoD management activities. This linkage helps to ensure that appropriate conservation and mitigation measures are identified in NEPA documents and committed to, when appropriate, in final decision documents.

The DoD develops INRMPs cooperatively with the FWS and appropriate state fish and wildlife agencies. DoD's strategy focuses on inventorying and long-term monitoring to determine changes in migratory bird populations on DoD installations. Effective on-the-ground management may then be applied to those areas identified as having the highest conservation value. DoD's goal is to support military training and testing by providing for no net loss of an installation's military readiness capability and capacity. DoD implements cooperative projects and programs on military lands to benefit the health and well-being of birds and their habitats, when consistent with the military mission, military readiness, and the safety of DoD personnel.

The DoD has a cooperative network of natural resources personnel and others from military installations across the United States that provides technical assistance, including how to incorporate landbird, shorebird, and waterbird habitat management efforts into INRMPs. These bird conservation experts work collaboratively to conserve migratory and resident birds and their habitats on DoD lands.

The DoD implements bird inventories and monitoring programs in numerous ways, including Next Generation Radar (NEXRAD) for studying bird movements in the atmosphere, and maintains an integrated pest management (IPM) program designed to reduce the use of pesticides, herbicides, fungicides, etc. In addition, the management of natural resources on DoD properties benefits migratory birds through efforts such as invasive-species control, habitat enhancement/restoration, water-quality improvement, and wetland conservation.

Fish and Wildlife Service

As a federal agency within the U.S. Department of the Interior, the FWS mission is to work with others to conserve, protect, manage, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people. The FWS Migratory Bird Program serves as a focal point in the United States for policy development and strategic planning, program implementation, and evaluation of actions designed to conserve migratory birds and their habitats.

The FWS is legally mandated to implement the conservation provisions of the MBTA, which includes responsibilities for managing migratory bird populations, domestic and international coordination, and the development and enforcement of regulations that govern authorized take of migratory birds. The Migratory Bird Conservation Act established the Migratory Bird Conservation Commission to approve land acquisition with Migratory Bird Conservation Funds. The Fish and Wildlife Coordination Act (FWCA) requires consultation under certain circumstances and added provisions to recognize the important contribution of wildlife resources to the Nation. The FWCA requires consideration and coordination of wildlife conservation, including habitat protection, through acquisition, enhancement, and/or management and avoidance and minimization of avian stressors related to federal activities.

The following FWS programs have responsibilities with regards to bird conservation activities:

1) The Division of Migratory Bird Management and the Migratory Bird Programs in FWS Regional Offices serve as focal points for policy development and strategic planning. These offices develop and implement monitoring and management initiatives that help maintain healthy populations of migratory birds and their habitats, and provide continued opportunities for citizens to enjoy bird-related recreation.

2) The Division of Bird Habitat Conservation is instrumental in supporting habitat conservation partnerships through the administration of bird conservation grant programs and development of Joint Ventures that serve as major vehicles for implementing the various bird conservation plans across the country.

3) Ecological Services Field Offices across the country serve as the primary contacts for technical assistance and environmental reviews involving migratory bird issues. The Field Offices coordinate with the Regional Migratory Bird Offices, as necessary, regarding permits and overall migratory bird conservation coordination.

4) The Office of Law Enforcement is the principal FWS program that enforces the legal provisions of the MBTA, Eagle Act, ESA, and other laws pertaining to migratory birds.

5) The National Wildlife Refuge (NWR) System manages NWRs and Waterfowl Production Areas across the country, many of which were established to protect and conserve migratory birds. NWRs not only protect important bird habitat, but also focus on monitoring migratory bird populations, restoring and maintaining native habitats, and educating the public on recreational and economic benefits of migratory birds.

6) The Science Applications program works with other FWS programs and partners to ensure that the necessary science, tools, and capacity are available for planning and implementing the most efficient and effective conservation actions to protect fish and wildlife, including migratory birds. The office facilitates regional self-directed science management partnerships called Landscape Conservation Cooperatives to develop and apply shared science capacity to conservation.

D. Statement of Mutual Interest and Benefit

The Parties have a common interest in the conservation and management of America's natural resources. The Parties agree that migratory birds are important components of biological diversity, and that the conservation of migratory birds will help sustain ecological systems and help meet the public demand for conservation education and outdoor recreation, such as wildlife viewing and hunting opportunities. The Parties also agree that it is important to focus on reducing stressors on bird populations, restore and enhance habitat where actions can benefit specific ecosystems and migratory birds dependent upon them, and recognize that actions taken to benefit some migratory bird populations may adversely affect other migratory bird populations. The Parties also agree that while it is the FWS' aim to ensure biologically diverse, thriving habitat for migratory birds away from airfields, it is DoD's aim to ensure flight safety by making airfield environments as unattractive as possible to migratory birds while supporting FWS' efforts away from airfields.

E. Responsibilities of Both Parties

The Parties agree that this MOU shall be implemented to the extent permitted by law and in harmony with evolving requirements of agency missions, subject to the availability of appropriations and budgetary limits. Both Parties shall:

1) Support the conservation intent of Executive Order 13186, and the migratory bird conventions by:

    a) Integrating bird conservation principles, measures, and practices into agency planning and actions; and

    b) Avoiding or minimizing, to the extent practicable, the exposure of birds and their resources to avian stressors that result in take.

2) Emphasize an interdisciplinary, collaborative approach to migratory bird conservation in cooperation with other governments, state and federal agencies, and non-federal partners within the geographic framework of the NABCI Bird Conservation Regions.

3) Work to protect, restore, and enhance migratory bird habitats, as practicable, on DoD-managed lands, in ways that do not conflict with or impede military training and testing, by:

    a) Designing and executing actions to minimize, to the extent practicable and consistent with the military mission, avian stressors on migratory bird populations, including impacts to breeding, migration, or wintering habitats; and by developing and implementing, as appropriate, conservation measures that could reduce the take of migratory birds or enhance the quality of the habitats they use;

    b) Working to identify, conserve, and manage significant bird conservation sites that occur on DoD-managed lands;

    c) Preventing or abating pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable; and

    d) Preventing the introduction and establishment of, and controlling and reducing the spread of existing, non-native invasive species that may be harmful to native flora and fauna, including migratory bird populations, as required by Executive Order 13112 on Invasive Species.

4) Work with willing landowners to prevent or minimize the loss or degradation of migratory bird habitats on lands adjacent or near military installation boundaries. This cooperative conservation may include:

    a) Participating in efforts to identify, protect, and conserve important migratory bird habitats or other significant bird conservation sites and ecological conditions that occur in landscapes or watersheds that may be of conservation value to migratory

birds found on DoD lands, and that also buffer one or more installations from adverse impacts to DoD mission or resource-management activities;

b) Providing information on migratory bird resources found on DoD lands for partners to include and integrate into their outreach and education materials and activities; and

c) Using available authorities to enter into agreements with federal, state, tribal, or other governmental entities, or nongovernmental organizations to conserve and enhance habitats in a manner compatible with military operations.

5) Promote collaborative projects such as:

a) Developing or using existing inventory and monitoring programs, at appropriate scales, with national or regional standardized protocols, to assess the status and trends of bird populations and habitats, including migrating, breeding, and wintering birds;

b) Designing management studies and research/monitoring projects using national or regional standardized protocols and programs to identify the habitat conditions needed by applicable species of concern, to understand interrelationships of co-existing species, and to evaluate the effects of management activities on habitats and populations of migratory birds;

c) Sharing inventory, monitoring, research, and study data for breeding, migrating, and wintering bird populations and habitats in a timely fashion with national data repositories such as the Avian Knowledge Network, National Point Count Database, and Monitoring Avian Productivity and Survivorship (MAPS);

d) Working in conjunction with each other and federal and state agencies to develop reasonable and effective conservation measures for actions that reduce the exposure of birds and their habitats to avian stressors;

e) Participating in or promoting the implementation of existing regional or national inventory and monitoring programs such as Breeding Bird Survey (BBS), Christmas Bird Counts, bird atlas projects, or game-bird surveys (e.g., mid-winter waterfowl surveys) on DoD lands where practicable and feasible;

f) Using existing partnerships and exploring opportunities for expanding and creating new partnerships to facilitate combined funding for inventory, monitoring, management studies, and research; and

g) Improving habitat on lands adjacent to DoD-managed lands through programs such as the DoD Readiness and Environmental Protection Integration and Land and Water Conservation Fund programs.

6) Work cooperatively to identify and utilize existing conservation measures to avoid or minimize the effects of avian stressors, and develop new conservation measures as

needed.

7) Per Executive Order 13186 (Sec. 3(12)), provide training opportunities to appropriate personnel on responsibilities under the MBTA, the Eagle Act, and other regulations protecting birds, current processes for coordination on bird conservation issues, strategies for properly assessing how actions effect bird populations, and recommended approaches on how to avoid or minimize the exposure of birds and their habitats to avian stressors.

8) Participate annually in the interagency Council for the Conservation of Migratory Birds. The duties of the Council include the following:

    a) Sharing resource information to help conserve and manage migratory birds;

    b) Fostering partnerships to further the goals of Executive Order 13186;

    c) Reporting annually on Executive Order accomplishments and recommendations; and

    d) Selecting an annual recipient of a Presidential Migratory Bird Federal Stewardship Award.

9) Promote migratory bird conservation nationally and internationally through activities such as National Public Lands Day and International Migratory Bird Day.

F. Department of Defense Responsibilities

1) Follow all migratory bird permitting requirements for intentional take under 50 CFR 21.22 (banding or marking), 21.23 (scientific collecting), 21.26 (special Canada Goose permit), 21.27 (special purposes), or 21.41 (depredation). Though no permit is required to take birds in accordance with 50 CFR 21.43 - 21.47 (depredation orders), follow all regulatory requirements set forth in those sections when applicable.

2) Consistent with military mission requirements, encourage incorporation of comprehensive migratory bird management objectives into relevant DoD planning documents, including INRMPs, Integrated Pest Management Plans (IPMPs), Installation Master Plans, NEPA analyses, and other relevant documents. Comprehensive planning efforts for migratory birds include PIF Bird Conservation Plans, the North American Waterfowl Management Plan, U.S. Shorebird Conservation Plan, North American Waterbird Conservation Plan, and associated regional plans where available.

3) Consistent with current and emerging mission requirements, manage military lands and non-military readiness activities in a manner that supports migratory bird conservation, habitat protection, restoration, and enhancement.

4) Inventory and monitor bird populations on DoD lands to the extent feasible to facilitate decisions about the need for, and effectiveness of, conservation efforts

5) In accordance with DoD *INRMP Implementation Manual* (DoDM 4715.03, 2013),work

cooperatively with FWS and state and fish and wildlife agencies to promote timely development, effective review, and revisions of INRMPs, including any potential revisions to promote the conservation of migratory birds.

6) Incorporate conservation measures addressed in regional or state bird conservation plans in the INRMP development process.

7) Consistent with safety and security requirements, allow the FWS and other partners reasonable access to military lands for conducting sampling or survey programs, including but not limited to MAPS, BBS, International Shorebird Survey, game-bird surveys, and breeding bird atlases.

8) Consistent with safety and security requirements and bird conservation responsibilities, support the economic and recreational benefits of bird-related activities by allowing public access to military lands for recreational uses, such as bird watching and other non-consumptive activities.

9) Develop policies and procedures for facilities design that will promote the conservation of migratory bird populations and habitat, including:

    a) Mitigating the negative impacts of reflective glass in building design by considering building location and orientation with respect to migratory bird areas, and use of other mitigation techniques, such as reducing the amount of reflective glass on buildings;

    b) Maximizing the use of native landscaping to promote migratory bird habitat, except in areas subject to BASH hazards.

    c) Turning off interior building lighting at night, especially lighting in offices with exterior windows that face outward to exterior building surfaces that may be visible to migratory or resident birds.

10) Prior to implementing any activity that has, or is likely to have, a measurable negative effect on migratory bird populations:

    a) Identify the migratory bird species likely to occur in the area of the proposed action, and determine if any species of concern could be affected by the activity;

    b) Assess and document, through the project planning process (e.g., NEPA), the potential effects of the proposed action on species of concern. Use best available demographic, population, or habitat-association data in the assessment of effects upon species of concern; and

    c) Engage in early planning and scoping with the FWS to proactively address migratory bird conservation, and to initiate appropriate actions to avoid or minimize the exposure of birds and their habitats to avian stressors that may result in the take of migratory birds.

11) Continue to promote the conservation of migratory birds on military lands, to the extent

permitted by law, subject to the availability of appropriations, within Administration budgetary limits, and where in harmony with DoD missions.

a) Fire and fuels-management practices. Fire plays an important role in shaping plant and animal communities, and is a valuable tool in restoring habitats altered by decades of fire suppression. Fire management may include fire suppression, fire prevention, fuels treatment, and prescribed burning. Prescribed burning is one of the most effective tools in managing grassland and longleaf pine/wiregrass ecosystems. Fire-management planning efforts will consider the effects of fire management strategies on the conservation of migratory bird populations, and should be combined with monitoring to properly assess fire management on relevant habitats and species.

b) Management practices for invasive and aquatic nuisance species. Invasive and aquatic nuisance species are a threat to native plants and wildlife throughout the United States, including on military lands. Efforts to prevent, control, and contain these species must take into account both the impacts from invasive species and the effects of the control efforts on migratory bird populations. Invasive species that can threaten migratory birds and their habitats include, but are not limited to, exotic grasses, trees and weeds, terrestrial and aquatic insects and organisms, non-native birds, and stray and feral cats.

c) Communications towers, utilities, and energy development. Increased communications demands, changes in technology, and the development of alternative energy sources have resulted in additional exposure of migratory birds and their resources to avian stressors. DoD will review best practices outlined in FWS Guidance, and consult with FWS as needed when considering the development of these technologies on military lands. Construction of new utility and energy systems and associated infrastructure should avoid or minimize the exposure of birds and their resources to avian stressors. Consideration also may be given to retrofitting existing utilities to reduce impacts. Available guidance includes (but is not limited to):

   i. Avian Power Line Interaction Committee - *Suggested Practices for Avian Protection on Power Lines* (2006)
   ii. Avian Power Line Interaction Committee - *Reducing Avian Collisions with Power Lines* (2012)
   iii. U.S. Fish and Wildlife Service *Land-based Wind Energy Guidelines* (2012)
   iv. U.S. Fish and Wildlife Service *Guidance on the Siting, Construction, Operation, and Decommissioning of Communication Towers* (2000) and FWS comments to the FCC on towers and lighting (2007)

12) To the extent reasonable and practicable, use a best-practices approach for routine maintenance, retrofitting, and management actions to the extent they do not diminish military readiness, including:

a) Turning out lights in buildings, especially multiple-story buildings, at night,

except where needed for safety or security reasons;

b) Reducing or eliminating activities that can attract invasive species, including feeding or managing outdoor or feral cats;

c) Minimizing or eliminating the use of pesticides (e.g., insecticides, herbicides, rodenticides);

d) Covering open pipes in which birds may be able to enter but not escape (e.g., in-ground pipes, outhouses, roofs);

e) Minimizing exposure to hazardous chemicals, including covering or removing open pits containing oil or other chemicals; and

f) Minimizing vegetation removal and manipulation during the breeding season, as practicable and when not in conflict with airfield BASH management.

G. Responsibilities of the Fish and Wildlife Service

1) Work with DoD by providing recommendations to minimize the effects of avian stressors on migratory birds from DoD actions.

2) Through the Division of Migratory Bird Management, maintain a Web page of permits that provides links to all offices responsible for issuing migratory bird take permits and permit applications.

3) Provide essential background information to DoD, when requested, to ensure sound management decisions. This may include information on migratory bird distributions, status, key habitats, conservation guidelines, and risk factors within each BCR. FWS will regularly update its *Birds of Conservation Concern* publication so it can be reliably referenced.

4) Work to identify special migratory bird habitats (e.g., nesting, stopover, migration corridors), and the ecological conditions important in those habitats.

5) Using the Points of Contact list (Appendix A), the FWS will continue to provide general guidance and information regarding migratory birds and their habitats to DoD, upon request. This guidance includes technical assistance for avoiding or minimizing project-related impacts on migratory birds.

6) The Migratory Bird Program will develop and provide FWS guidance to the Ecological Services Field Offices to ensure consistency in the interpretation and implementation of the MBTA as it applies to all federal actions.

7) In accordance with FWS Guidelines for Coordination with DoD and Implementation of the 1997 Sikes Act, promote timely and effective review of INRMPs, including any potential recommendations and revisions related to the conservation of migratory birds.

8) Review and comment on NEPA and other planning documents forwarded by military

installations.

9) Notify installations of any proposed or current actions that may result in a significant take of migratory birds.

H. Dispute Resolution

Preventing potential conflicts or resolving disagreements between the Parties will be attempted first at staff levels and elevated through the respective organizational levels if necessary. If staff level resolution is not possible, the conflict will be addressed through Alternative Dispute Resolution processes.

I. Mutual Agreement

1) This MOU will not change or alter requirements associated with the MBTA, Eagle Act, ESA, NEPA, Sikes Act, or other statutes or legal authority. This MOU is intended to provide internal guidance to federal agency staff.

2) The discretionary responsibilities established by this MOU may be incorporated into planned DoD actions; however, DoD may not be able to implement these discretionary responsibilities until DoD has successfully included them in formal planning, programming, and budgeting processes. This MOU is intended to be implemented when new actions are initiated as well as when INRMPs, IPMPs, and BASH plans are initiated or revised, and if the MOU's discretionary responsibilities are successfully included in formal planning, programming, and budgeting processes.

3) This MOU in no way restricts either Party from participating in similar activities with other public or private agencies, governments, organizations, or individuals.

4) This MOU is neither a fiscal nor a funds-obligation document. Any endeavor involving reimbursement, contribution of funds, or transfer of anything of value between the Parties will be handled in accordance with applicable laws, regulations, and procedures, including those for government procurement and printing. Such endeavors will be outlined in separate agreements that shall be made in writing by representatives of the Parties, and shall be independently authorized by appropriate statutory authority.

5) The Parties shall schedule periodic meetings to review progress and identify opportunities for advancing the principles of this MOU.

6) This MOU is intended to improve the internal management of the executive branch, and does not create any right or benefit, substantive or procedural, separately enforceable as law or equity by a party against the United States, its agencies or instrumentalities, its officers or employees, or any other person.

7) Modifications to the MOU's scope shall be made by the Parties' mutual consent, through issuance of a written modification, signed and dated by the Parties, prior to any changes.

8) Either Party may terminate this MOU, in whole or in part, at any time before the

expiration date by providing the other Party with a written statement to that effect.

F. Definitions

Action – a program, activity, project, official policy, rule, regulation, or formal plan directly carried out by one of the Parties.

Airfield Environment – UFC 3-260-01 defines what an airfield is and all of its component parts, and defines clearance criteria. DoDI 4165.57 AICUZ describes the acceptable land uses for component parts of the airfield. The Airfield's BASH Program is responsible for maintaining hazard-free airfields.

Avian Knowledge Network – an international organization of government and non-government institutions focused on understanding the patterns and dynamics of bird populations across the Western Hemisphere (www.avianknowledge.net).

Avian Stressor – any alteration of or addition to the environment that affects birds or their resources.

Bird/Wildlife Aircraft Strike Hazard (BASH) – an actual or potential collision between wildlife (i.e., a bird, mammal, or reptile) and an aircraft (e.g., plane or helicopter).

Breeding Bird Survey (BBS) – a standardized international survey that provides information on population trends of breeding birds, through volunteer observations located along randomly selected roadside routes in the United States, Canada and Mexico (www.mbr-pwrc.usgs.gov/bbs/bbs.html).

Bird Conservation Region (BCR) – a geographic unit used to facilitate bird conservation actions under the North American Bird Conservation Initiative (www.nabci-us.org/bcrs.htm).

Birds of Conservation Concern – a list that is published and periodically updated by the FWS Division of Migratory Bird Management intended to identify the migratory and non-migratory bird species that-- in addition to species already listed under the ESA, proposed or candidate-- represent the FWS's highest conservation priorities, including ESA candidate species. The most current version of the list, Birds of Conservation Concern 2008, is available at www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html.

Cantonment Area – the principal built-up area of a DoD installation, typically containing housing, barracks, military organizational areas, and community support infrastructure.

Comprehensive Planning Efforts for Migratory Birds – includes Partners in Flight, North American Waterfowl Management Plan, U.S. Shorebird Conservation Plan, Western Hemisphere Shorebird Reserve Network, North American Waterbird Conservation Plan, and other partnership planning efforts integrated through the North American Bird Conservation Initiative.

Conservation Measure – any action undertaken to address project-related stressors/impacts that ultimately improve the conservation status of one or more migratory bird species. Conservation measures split into two categories: Ecological/Habitat measures (driven by EO 13186) and Avian

Mortality measures (driven by MBTA). Conservation measures work to avoid or minimize an impact, reduce the impact over time, or rectify or compensate for the impact. Conservation Measures are also referred to as Mitigation, Best Practices, and Best Management Practices.

Conservation Planning – strategic and tactical planning of agency activities for the long-term conservation of migratory birds and their habitats.

Council for the Conservation of Migratory Birds – an interagency council established by the Secretary of the Interior to oversee the implementation of Executive Order 13186.

Ecological Condition – the composition, structure, and processes of ecosystems over time and space. This includes the diversity of plant and animal communities, the productive capacity of ecological systems and species diversity, ecosystem diversity, disturbance processes, soil productivity, water quality and quantity, and air quality. Often referred to in terms of ecosystem health, which is the degree to which ecological factors and their interactions are reasonably complete and functioning for continued resilience, productivity, and renewal of the ecosystem.

Effect (adverse or beneficial) – the biological consequences of an impact or the implementation of a conservation measure. Effects can be adverse (habitat avoidance) or beneficial (improved habitat quality). The effect is determined by the exposure of the bird or resource to the stressor/impact and the response to the impact. Effects may be direct, indirect, or cumulative, and refer to effects from actions or categories of actions on migratory birds, their populations, habitats, ecological conditions, and significant bird conservation sites.

Impact – the combined result of an action/project, all of its associated activities and components, and the stressors (see below) produced by those actions.

Integrated Natural Resources Management Plan (INRMP) – an integrated plan based, to the maximum extent practicable, on ecosystem management that shows the interrelationships of individual components of natural resources management (e.g., fish and wildlife, forestry, land management, outdoor recreation) to military mission requirements and other land use activities affecting an installation's natural resources. INRMPs are required for all DoD installations with significant natural resources, pursuant to the Sikes Act.

International Shorebird Survey – a monitoring program started in 1974 to survey shorebirds (sandpipers, plovers, etc.) across the Western Hemisphere (www.pwrc.usgs.gov/iss/iss.html).

International Migratory Bird Day (IMBD) – IMBD celebrates, brings attention to, and educates people about the migration of nearly 350 species of migratory birds that nest and breed throughout the Western Hemisphere. IMBD is celebrated in Canada, the United States, Mexico, Central and South America, and the Caribbean (http://birdday.org/birdday).

Management Action – an activity by a government agency that could cause a positive or negative impact to migratory bird populations or habitats. Conservation measures to mitigate potential activity-related stressors may be required.

Migratory Bird – an individual of any species protected by the Migratory Bird Treaty Act (MBTA) as listed in 50 CFR § 10.13.

Military Readiness Activity – all Armed Forces training and operations that relate to combat, including but not limited to the adequate and realistic testing of military equipment, vehicles, flight operations, weapons, and sensors for proper operation and suitability for use in combat.

Monitoring Avian Productivity and Survivorship (MAPS) – a program that uses the banding of birds during the breeding season to track the changes and patterns in the number of young produced, and the survivorship of adults and young (www.birdpop.org/maps.htm).

National Environmental Policy Act (NEPA) – a federal statute that requires federal agencies to prepare a detailed analysis of the environmental impacts of a proposed action and alternatives, and to include public involvement in the decision making process for major federal actions significantly affecting the quality of the human environment 42 U.S.C. 4321, et seq.

North American Bird Conservation Initiative (NABCI) – a partnership to align the avian conservation community to implement bird conservation through regionally-based, biologically driven, landscape-oriented partnerships across the North American continent. NABCI includes federal agencies of Canada, Mexico and the United States, as well as most landbird, shorebird, waterbird, and waterfowl conservation initiatives (www.nabci-us.org).

North American Waterbird Conservation Plan – a partnership of federal and state government agencies, non-governmental organizations, and private interests focusing on the conservation of waterbirds, primarily including marshbirds and inland, coastal, and pelagic colonial waterbirds (www.waterbirdconservation.org/plans.html). The partnership's vision is that the distribution, diversity, and abundance of breeding, migratory, and nonbreeding waterbirds are sustained throughout the lands and waters of North America, Central America, and the Caribbean.

North American Waterfowl Management Plan – a partnership of federal and state agencies, non-governmental organizations, and private interests focusing on the restoration of waterfowl populations through habitat restoration, protection, and enhancement (http://birdhabitat.fws.gov/NAWMP/nawmphp.htm).

Partners in Flight (PIF) – a cooperative partnership of more than 300 partners including federal and state government agencies, non-governmental organizations, conservation groups, foundations, universities, and industry focusing on the conservation of landbirds. DoD was an original signatory to the 1991 PIF Federal Agencies' MOA (www.partnersinflight.org).

Ranges & Training Areas (RTAs) – as defined within each installation's INRMP.

Species of Concern – refers to several categories of birds including: 1) species listed in the periodic report, *Birds of Conservation Concern*, published by the FWS Division of Migratory Bird Management (www.fws.gov/migratorybirds); 2) priority migratory bird species documented in the comprehensive bird conservation plans (North American Waterbird Conservation Plan, United States Shorebird Conservation Plan, Partners in Flight Bird Conservation Plans); 3) species or populations of waterfowl identified as high, or moderately high, continental priority in

the North American Waterfowl Management Plan; 4) listed threatened and endangered bird species in 50 CFR § 17.11; and 5) MBTA-listed gamebirds of management concern, as listed in the *Birds of Management Concern* list (www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BMC.html).

Take – to pursue, hunt, shoot, wound, kill, trap, capture or collect or attempt to pursue, hunt, wound, kill, trap, capture or collect (50 CFR § 10.12). The Executive Order 13186 further defines "take" to include intentional take, meaning take that take is the purpose of the activity in question, and unintentional (incidental) take, meaning take that results from, but is not the purpose of, the activity in question. Both intentional and unintentional take constitute take as defined by the MBTA. The regulations implementing the Eagle Act define take to mean pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, or disturb bald and golden eagles (50 CFR § 22.3).

U.S. Shorebird Conservation Plan – a partnership of federal and state government agencies, non-governmental organizations, and private interests focusing on restoring and protecting stable and self-sustaining populations of all shorebird species (www.shorebirdplan.org).

K. Agreement Contacts and Execution

The principal contacts for this instrument are as follows:

Brad Bortner, Chief Division of Migratory Bird Management US Fish and Wildlife Service	L. Peter Boice, Deputy Director Natural Resources Program Office of the Secretary of Defense

This MOU is executed as of the last date signed below and expires no later than five (5) years thereafter, at which time it is subject to review and renewal, or expiration.

The Parties hereto have executed this agreement as of the date shown below:

Dan Ashe Director US Fish and Wildlife Service	John Conger Acting, Deputy Under Secretary of Defense (Installations & Environment) US Department of Defense
Signature 9.5.2014 Date	Signature 7/10/2014 Date

Appendix A: FWS Points of Contact list

Contact Information for Headquarters and Regional U.S. Fish and Wildlife Service Migratory Bird and Ecological Services Offices. For a complete listing of field offices see http://www.fws.gov/offices/.

FWS Region	States Covered	Migratory Bird Office	Migratory Bird Permits	Endangered Species
Headquarters		703-358-1714	703-358-1825	703-358-2171
Region 1	Hawaii, Idaho, Oregon, Washington	503-231-6164	503-872-2715	503-231-6151
Region 2	Arizona, New Mexico, Oklahoma Texas	505-248-6875	505-248-7882	505-248-6920
Region 3	Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio Wisconsin	612-713-5473	612-713-5436	612-713-5350
Region 4	Alabama, Arkansas Florida, Georgia Kentucky, Louisiana Mississippi, North Carolina, South Carolina, Tennessee	404-679-7070	404-679-7070	404-679-7140
Region 5	Connecticut, Delaware, Maine Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania Rhode Island, Vermont, Virginia West Virginia	413-253-8643	413-253-8643	413-253-8304
Region 6	Colorado, Kansas Montana, Nebraska North Dakota, South Dakota, Utah Wyoming	303-236-4409	303-236-8171	303-236-4252
Region 7	Alaska	800-368-8890	907-786-3693	907-786-3856
Region 8	California, Nevada	916-414-6464	916-414-6464	916-414-6464