

Department of Defense Partners in Flight

2016 Annual Report



THE CONSERVATION OF BIRDS AND THEIR HABITATS ON DEPARTMENT OF DEFENSE LANDS





Partners in Flight / Compañeros en Vuelo / Partenaires d'Envol was launched in 1990 in response to growing concerns about declines in the populations of many land bird species, and in order to emphasize the conservation of birds not covered by existing conservation initiatives. The initial focus was on neotropical migrants, species that breed in the Nearctic (North America) and winter in the Neotropics (Central and South America), but the focus has spread to include most landbirds and other

species requiring terrestrial habitats. The central premise of Partners in Flight has been that the resources of public and private organizations in North and South America must be combined, coordinated, and increased in order to achieve success in conserving bird populations in this hemisphere. Partners in Flight is a cooperative effort involving partnerships among federal, state, and local government agencies, philanthropic foundations, professional organizations, conservation groups, industry, the academic community, and private individuals.



Managing over 25 million acres on hundreds of installations, the Department of Defense (DoD) plays a key role in Partners in Flight.

DoD lands represent a critical network of habitats for Neotropical migratory birds, offering migratory stopover areas for resting and feeding, and suitable sites for nesting and rearing their young. A large workforce of dedicated DoD biologists and natural resource managers implement a vast array of initiatives and management actions to conserve and enhance these valuable habitats and public lands. **DoD Partners in Flight** helps facilitate various bird conservation activities and initiatives that include all species of birds. A network of DoD natural resource professionals work as DoD Partners in Flight Representatives to support and communicate with installation resource managers, state and regional Partners in Flight working groups, non-government organizations, academic researchers, and natural resource consultants to collectively promote and coordinate bird conservation across DoD lands.



Bald Eagle drawing by DoD Partners in Flight representative Julie Jeter, USAF



In 1990, Congress passed legislation establishing DoD's **Legacy Resource Management Program** (Legacy) to fund projects that help DoD preserve our nation's natural and cultural heritage. Legacy helps DoD protect and enhance these resources in ways that enable military readiness activities. Three principles guide Legacy: stewardship, leadership, and partnership. Stewardship initiatives help DoD safeguard its irreplaceable resources for future generations. By embracing a leadership role as part of the program, the DoD serves as a model for respectful use of natural and cultural resources. Through partnerships, the Program strives to access the knowledge and talents of individuals outside of DoD. The Legacy Program provides the main financial support for high priority bird conservation efforts that cannot be funded at the installation level – especially those that are regional and encompass lands managed by more than one Military Service. Since 1991, through Legacy support to its Partners in Flight network, DoD has provided approximately \$38.9 million for bird and bird habitat conservation projects.

Cover photo: Dark-eyed Junco, San Diego, CA by DoD Partners in Flight representative Tim Burr

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<http://www.dodpif.org>

INTRODUCTION

It has long been apparent that Department of Defense (DoD) installations and ranges provide valuable avian breeding, nesting, and overwintering habitat. DoD lands also provide critical "steppingstones" of habitat for birds during their annual migrations to and from Mexico, the Caribbean, and Central and South America. To mirror similar efforts being implemented through the National and International Partners in Flight (PIF) networks, DoD's collective bird conservation programs and activities are called *DoD Partners in Flight*. The DoD first partnered with the budding PIF initiative in 1991, and proudly celebrated its 25th anniversary during 2016. For 25 years and counting, DoD has been a leader in bird conservation and worked to blend conservation actions with military preparedness on its lands.

DoD PIF works with internal and external partners to develop cooperative conservation programs, to identify and promote bird research that is needed to support the DoD mission, and to provide consulting, outreach, and educational support directly to our DoD installations.

The *Strategic Plan for Bird Conservation and Management on DoD Lands*, signed in 2014, identifies actions compatible and supportive of the military mission that achieve the overall PIF goal of maintaining secure populations of priority birds (Figure 1). This Strategic Plan should be referenced for further information on DoD PIF. The annual report herein summarizes specific accomplishments made by DoD PIF, installations, and natural resource managers toward priorities outlined in the Strategic Plan during 2016.

As signatories to the federal PIF Memorandum of Agreement, the DoD Military Service branches are part of the national PIF steering committees. A lead DoD representative, appointed by the Deputy Assistant Secretary of Defense (Environment, Safety & Occupational Health), and a National Coordinator promote and coordinate bird conservation efforts within DoD through the DoD Natural Resources Program. A network of biologists and natural resource managers, collectively referred to as the DoD PIF Steering Committee, represent DoD PIF in various Working Groups. These DoD PIF representatives support installation natural resource managers, cultivate and maintain positive working relationships with partners, develop cooperative agreements for implementing bird conservation programs and projects on military lands, facilitate communication and information sharing across geographical and political boundaries, and participate and provide leadership in various state, regional, and national PIF Working Groups and committees. The DoD PIF Steering Committee annual planning workshop provides guidance to DoD PIF on development and ongoing bird conservation priorities for DoD.

DoD PIF MANAGEMENT STRATEGY

THE DoD PARTNERS IN FLIGHT POLICY

Work with partners to conserve birds and their habitats by protecting vital DoD lands and ecosystems, enhancing biodiversity, and maintaining healthy and productive natural systems consistent with the military mission.

DoD BIRD CONSERVATION GOALS AND OBJECTIVES

DoD's primary bird conservation goals and objectives are to:

- Apply information collected from this partnership to support DoD mission requirements.
- Take proactive management actions to prevent bird species from reaching threatened or endangered status.
- Facilitate cooperative partnership efforts consistent with the military mission.
- Determine the status of migratory and resident bird populations on DoD lands and the causes of population fluctuations.
- Help Air Station Commanders manage birds and habitats in ways that reduce the incidence of bird-aircraft strikes.
- Maintain and restore priority habitats on DoD lands for migratory and resident bird populations.
- Reduce or eliminate pesticide use in sensitive habitats, especially in and around wetlands and riparian areas.
- Reduce the spread and impact to birds and their habitats of invasive and nuisance species on military lands, including feral and free-roaming cats.

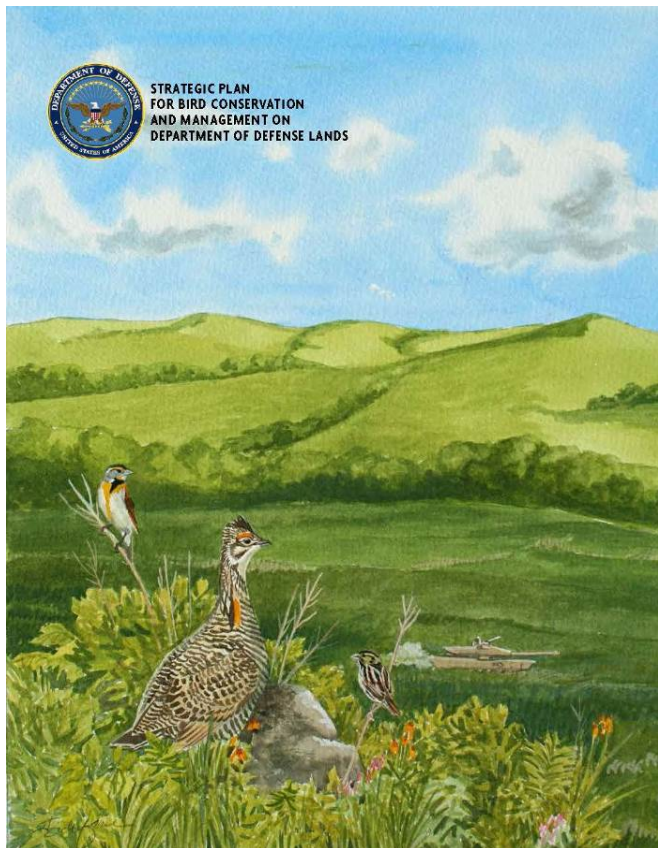


Figure 1. The *Strategic Plan for Bird Conservation and Management on Department of Defense Lands* was signed in

To help advance research and conservation actions, DoD PIF reviews all bird related pre-proposals and proposals submitted to the DoD's Legacy Resource Management Program (Legacy). Reviewers rank proposals using 10 criteria, and use overall scores to prioritize all Legacy bird proposals. Legacy encourages potential research projects based on priorities in the *Strategic Plan for Bird Conservation and Management on DoD Lands*. Assistance is given to those preparing proposals to more effectively meet Legacy criteria and DoD priorities.

2016 DoD PIF GENERAL ACCOMPLISHMENTS

DoD PIF supports and sustains the military mission through our efforts to keep common birds common and avoid species endangerment. Details on DoD PIF's 2016 accomplishments follow.

- **DoD PIF Annual Planning Meeting.** Members of the DoD PIF Steering Committee held their annual planning meeting August 3-5, 2016 at Naval Base Kitsap, Seattle, WA in conjunction with the *Migratory Bird Treaty Act (MBTA) Federal Partners* course.
- **DoD PIF Quarterly Planning Meeting Teleconference.** Members of the DoD PIF Steering Committee held a quarterly teleconference on October 6, 2016.
 - **DoD PIF Steering Committee assists Joint Base Elmendorf-Richardson (JBER).** During the October quarterly teleconference, members of the Steering Committee were asked to provide recommendations to JBER staff after DoD PIF received an inquiry from JBER. JBER staff sought input on how to complete environmental documents related to training activities at Eagle River Flats Training Area. This example highlights the support that is available from DoD PIF to all DoD installations.
- **Steering Committee reviews FY17 Legacy Proposals.** During spring and fall 2016, the DoD PIF Representatives reviewed both pre- and full proposals for bird-related FY17 DoD Legacy funding. Steering Committee recommendations were provided to DoD leadership to assist in selecting proposals for funding.
- **Steering Committee members help to establish National Military Fish and Wildlife Association (NMFWA) Bird Conservation Working Group.** The NMFWA Bird Conservation Working Group was formed in 2015 by adoption of a formal charter. The Working Group had 92 members following its annual meeting in March 2016. The group placed articles in all 4 editions of NMFWA's FAWN newsletter including good news stories from installations, press from DoD PIF partners, and requests from the Working Group. The Working Group also established representative participation in the DoD PIF Steering Committee, fulfilling its charter. The contact list for the Working Group acted as an open forum, allowing members to discuss issues installation-to-installation and promote best-practice management. Topics included International Migratory Bird Day programming, feral cat policies, nest-suitable roofing, and Golden-winged Warblers.
- **Migratory Bird Conservation for Federal Partners Training Course.**
 - NAS Oceana Natural Resources Manager and DoD PIF Steering Committee Member helped organize and host a DoD/DoN Migratory Bird Conservation, Compliance, and Management Course held April 12-14, 2016. Course was held in Virginia Beach, VA at State Military Reserve Virginia Army National Guard – Camp Pendleton. The course agenda included the following sessions: NEPA as it relates to Migratory Birds, Working with the US Fish and Wildlife Service, the Migratory Bird Treaty Act and Incidental Take, Implementing Executive Order 13186 & the DoD MOU, the DoD Migratory Bird Readiness Rule, Comparative Regulations (MBTA, BGEPA, and ESA), Conservation Measures and Adaptive Management, Bird Aircraft Strike

- Hazards, USFWS Permits, Using INRMPS, and many others. 42 course attendees represented NAVFAC PAC, NAVFAC MIDLANT, LANT EV2 and EV5, NASO AirOps, NAVFAC Washington, LANT and NAVFAC MIDLANT Legal, VA Air National Guard, and Pax River staff. Course helped Military and Regulatory personnel better understand how to comply with these environmental laws while allowing the Military to achieve their certain mission & training requirements.
- On August 3, 2016, the DoD PIF Steering Committee joined the Migratory Bird Conservation for Federal Partners Training Course for a tour of NAS Whidbey Island, WA, and to discuss bird conservation issues within DoD. The Steering Committee then met separately August 4-5 after the training course ended. The Committee reinvigorated working groups and addressed a variety of priority issues, including BASH, monitoring, improving Integrated Natural Resource Management Plans (INRMPS), and working with USFWS to obtain a checklist of the top ten mistakes that agencies make during the NEPA process.
- **DoD and USFWS Migratory Bird Conservation Leadership Training held at Pentagon.** Dr. Richard Fischer, ERDC-EL, and Dr. Eric Kershner, U.S. Fish and Wildlife Service, led a half-day Migratory Bird Conservation Leadership Training at the Pentagon in November 2016. Nearly 50 DoD leaders attended, including DoD Component Deputy Assistant Secretaries and Counsel; Directors from Energy, Installations, and Environment; and DoD Component representatives from the Readiness, Training, Natural Resources, and NEPA communities. In addition, USFWS leadership were in attendance, including the Assistant and Deputy Assistant Directors of the Migratory Bird Program. Substantial discussion focused on the interpretation, application, and responsibilities under the DoD Migratory Bird “Readiness” Rule, Executive Order 13186, and the Migratory Bird Treaty Act.
 - **Contributions to *Natural Selections***
 - Rich Fischer contributed to the spring and fall 2016 issues of *Natural Selections*. His contributions included articles on the history of DoD PIF (spring 2016) and a piece on the Least Bell’s Vireo and the role that DoD can play in recovery efforts for that and other riparian-dependent species in the southwestern U.S.
 - **DoD and USFWS Migratory Birds Monthly Meeting**
 - February 26, 2016. Discussion topics included: Update on the status of the FWS glass/building guidance, Incidental Take update (non-readiness activities), DoD PIF Activities, MBTA Training/CECOS, Migratory Bird Rule, eBirding on military lands (white paper), BASH and airfield vegetation management, Green energy initiatives (solar), DoD Mission-sensitive Priority Species (and upcoming CERL report), NEPA guidance from USFWS, DoD PIF Annual Report, USFWS online tools (IPaC and AKN)
 - April 18, 2016. Discussion topics included: MBTA Federal Partners Migratory Bird Course, Incidental Take update (non-readiness activities), Army National Guard Whooping Crane issues in Nebraska, and DoD Mission-sensitive Species
 - July 28, 2016. Discussion topics included: Updates on Incidental Take for non-readiness activities; the Federal Partners Migratory Bird Course; MBTA guidance for INRMPS; and research to benefit the Red Knot

- November 4, 2016. Discussion topics included: "hazing" or waiting for threatened and endangered birds to leave the runway before aircraft can take off, updates on West Nile, discussion about crows and how every year there are fewer and fewer seen in eastern TX, discussion on the USFWS Injury and Mortality Reporting (IMR) System, and an update on the half day Executive Level Migratory Bird Training in the Pentagon on November 15.

2016 REGIONAL NETWORK ACTIVITY

A substantial workforce of highly dedicated DoD biologists and natural resources managers work on DoD installations that represent a wide spectrum of avian habitats, bird communities, and conservation needs. The scope of this work is substantial in both area and effort, and frequently, if not typically, at the leading edge of innovation, adaptive management, and avian science. The DoD PIF network of regional and technical representatives provides support to DoD installations to promote these bird conservation efforts and provides installation personnel with the most up-to-date information on bird conservation and management. Some examples of regional and installation accomplishments and activities for 2016 include:

NORTHEAST

- **Peregrine Falcon nest monitoring supports military mission at NAS Patuxent River, MD.** NAS Patuxent River historically has had Peregrine Falcons nesting on target structures within their training Range. Natural resources staff conducted monitoring surveys to determine the presence/absence of nesting Peregrines on each of the targets (e.g., Bloodsworth Island, Hannibal Target Ship, Point No Point Light). This allowed them to determine when targets are available for mission use and allowed for immediate target use when nesting territories were vacant and the resumption of use as soon as young fledged and left the nest site. Point of contact: Kyle Rambo
- **Biologists work to reduce BASH threats on NAS Patuxent River, MD.** Data from past and current bird inventory and monitoring surveys is contributing to local BASH reduction efforts. Staff incorporated these data into the official Wildlife Hazard Assessments performed for each of the airfields. Flight planners and squadron safety officers for hazard avoidance received results of the weekly waterfowl surveys and other monitoring efforts. Forensic analysis of study skin voucher specimens from bird strike remains, collected under salvage authority, resulted in habitat modification activities on the airfield. In addition, NAS Patuxent River biologists helped plan and permit for dispersal and depredation to keep Ospreys from nesting on mission critical structures (e.g., as radars, theodolites, range clearance cameras, range calibration poles), thus preventing serious safety hazards. Point of contact: Kyle Rambo
- **Natural resources support facilitates construction projects at NAS Patuxent River, MD.** Staff established and protected (through facilities planning involvement) large forest blocks for Forest Interior Dwelling Species (FIDS), and documented usage of these blocks by species of concern. This mitigation work was acknowledged as important, and served to

streamline permitting and consultation for a number of other large facility construction projects. Point of contact: Kyle Rambo

- **NAS Patuxent River sponsors and supports research on Grasshopper Sparrows.** The installation supported year 2 of research on a DoD Legacy-funded project by the Vermont Center for Ecostudies, recapturing 30 Grasshopper Sparrows fitted with geolocators, to learn about the migration and overwintering ecology of these important grassland birds. Research also yielded valuable information on grassland bird movements around the installation airfield, thus improving local aviation safety and supporting the Base's BASH program. Avian surveys conducted as part of this project documented the effectiveness of the 7-14" grass height protocol at not attracting problem bird species (large size or flocking habit), while still producing quality habitat for the Grasshopper Sparrow - a tiny, solitary species. Local tracking of bird movements also demonstrated their site fidelity, extremely small home ranges, and the infrequency of any dangerous cross-runway movements. Point of contact: Kyle Rambo
- **Habitat management promotes Navy training and wildlife at Naval Air Station Oceana-Dam Neck Annex, VA and Joint Expeditionary Base Little Creek-Fort Story.** Natural and naturalized dune habitats along the U.S. east coast are increasingly encroached upon by development and recreational tourism. This project restores existing and creates new habitat that supports a wide variety of bird species, both species of population level concern and common bird species. The dune restoration work is multi-phased consisting of: installing sand-fencing; collecting and placing Christmas trees; building up sand behind the fencing and Christmas trees; and planting the areas that have stabilized with sand with a variety of native dune vegetation. NAS Oceana (NASO), NASO Dam Neck Annex (DNA), and JBLC-Fort Story (FS) collected Christmas Trees from the community (Dec 2016 thru Jan 2017) that were recycled along the NASO DNA and JBLC-FS dune lines to help stabilize and build up sections of the dunes that have been depleted of sand due to storm and military training actions. NASO Dam Neck Annex hosted a National Public Lands Day (NPLD) event from 19-22 Oct 2016 to restore and protect a little of 1/2 mile of dunes at NASO DNA. Approximately 100 volunteers planted over 32,000 native dune plant species. This effort was made possible by a Cooperative Ecosystems Studies Unit Agreement between the Installation and the National Aquarium and a monetary award from the Legacy Program to support this NPLD event. These efforts help to stabilize the dunes and ensure they continue to protect the military facilities/infrastructure, protect and provide realistic military training grounds, and provide suitable diverse wildlife habitat. Event was open to the public. Point of contact: Michael Wright
- **NAS Oceana and NSA Hampton Roads sponsors and supports research on Bald Eagles.** NASO, NASO DNA, NALF Fentress (F), and NSAHR Northwest Annex (NWA) entered into a Cooperative Ecosystems Studies Unit (CESU) Agreement with the College of William & Mary for Eagle Nest locating and research. One of NASO's eagle hatchlings banded last year was observed and reported utilizing the Lynnhaven River on 22 Jan 2017 and Lake Taylor on 01 Feb 2017. An article was published online that discussed additional efforts associated with this partnership effort: <<http://www.cbbirds.org/2017/01/11/tracking-eagles-in-3d/>>. The nest from 2016 was the 1st record of an active nest at NASO in the

state's Eagle Monitoring Program. In 2016, several bald eagles not located on Navy property, but within the watersheds associated with the installations, were also outfitted with GPS devices that are being utilized to track young eagles to previously undocumented roosting sites (data forthcoming in 2017). The CESU agreement was extended into 2017 and the March 2017 flight confirmed that the active nest at NASO is active again this year, and added another previously undocumented active nest within the 2,640ft buffer of NASO DNA. The NASO DNA nest is not located on Navy property but is located close enough to the installation that certain actions conducted by the Navy could potentially impact the birds. These surveys have greatly reduced delays in project NEPA reviews, helped to expedite regulatory consultations, and allowed the installation to provide clear guidance during contract development to avoid potential conflicts and delays prior to project awards. Completing these surveys and assisting in this research effort is providing knowledge regarding the growing eagle population in Hampton Roads, VA, is contributing to more efficient Bird/Animal Aircraft Strike Hazard management, and has resulted in fewer project and training delays because the data was available to make accurate decisions. Point of contact: Michael Wright

- **Habitat management promotes Army training and wildlife at Fort Belvoir, VA.** The Fort Belvoir INRMP uses the Prairie Warbler as a habitat indicator species for early-successional habitat and requires habitat management for 50 Prairie Warblers (a PIF Species of Continental Concern). During the 2014 breeding season, the Army recorded no Prairie Warblers at a Training Area with a recent breeding population, presumably due to habitat succession. Therefore, the Army identified a 35-acre project site to address the decline of Prairie Warblers on the installation. The project involved cutting all trees greater than 17' tall at the site to enhance early-successional habitat, and to provide important breeding/nesting habitat for Prairie Warbler, Brown Thrasher and Eastern Towhee (PIF Species of Regional Concern). Additionally, the habitat project will benefit American Woodcock, and various other mammals, amphibians, wildlife. The early-successional habitat will also provide numerous songbirds and habitat generalists benefits during the breeding season, over winter, and during migration. The project was completed in an active training area where overgrowth was taking over the edges of a helicopter pad, so the effort directly benefitted training capability. Specifically, by undertaking this project, the Army significantly reduced vegetation height in this area thus improving pad safety for helicopter landing usage. Soldiers also are now able to conduct realistic High Capacity Signal Training in the area – previously, soldiers used the roads because the vegetation around the pad was too high. Point of contact: Greg Fleming.
Project update: During the 2015 breeding season, one Prairie Warbler was found using the project area, and during the 2016 breeding season, four Prairie Warblers were found.
- **Guidance Supports First Bald Eagle Nesting Pair at the World's Second Busiest Helipoint at Muir Army Airfield, PA.** At Fort Indiantown Gap NGTC, the Eastern Army Aviation Training Site runs thousands of training flights each year including both federal and state support missions. In 2015, the first Bald Eagle nest ever documented on the installation appeared in the middle of the turnaround zone for Bambi Bucket (wildland fire support water drops) training at the primary filling site. In 2016, the pair chose to build and use a second nest nearby that pinched aerial pathways further. Training-induced wildfires and spots from

prescribed fires resulted in local deployment of those buckets at the installation boundary over two days before the aviators had word of the nest locations. The installation turned to DoD PIF representatives for local guidance as well as the USFWS Regional Office in New Jersey (the Field Office did not have a bird specialist) to both document the agreement to avoid nest disturbance while still completing the mission. In addition, informal consultation with USFWS deemed the bucket operations to be essential for health and human safety and their use to be demonstrated tolerance, giving the aviators another level of protection in times of emergency. To date, the Eagle pair has raised multiple eaglets and continues to repair and reuse the nests still in the vicinity of the annual aerial training. Point of contact: David McNaughton.

- **Shrub habitat is set aside for neotropical migrants and training benefits at Fort Lee, VA.** After construction of a vehicle recovery area to the north of Fort Lee's small arms ranges there were twelve acres of old farm field left fallow and not needed for the training area. Public Works had started mowing the area three times a year to keep it in grassland. Given that Fort Lee has an approximately 50 acre grassland immediately adjacent to this, and no shrub-land on post, the Natural Resource Manager was able to modify the mowing contract to remove the area from regular mowing, and put on a three to five-year bush-hogging schedule. The intent is to foster the growth of a shrub/scrub community for Prairie Warblers and other neotropical migrants, which had disappeared from Fort Lee several years ago. Of more practical benefit to the Army, the reduction in mowing opens up more range days that don't have to be coordinated with mowers and saves several thousand dollars a year on the mowing contract. Point of contact: Dana Bradshaw

SOUTHEAST

- **Silviculture practices benefit avian management programs at Southeast Installations.** Much of the conservation and collaboration on avian conservation within and across DoD installations, agencies, and conservation initiatives pivots around longleaf grassland restoration and recovery of Red-cockaded Woodpeckers. Avian management programs and biologists work closely with forest managers for projects focused strongly on ecologically based silviculture, such as pine thinning, older and uneven age stand structures, and heterogeneity. Intimately embedded into these efforts is the essential need for frequent ecological burning and ground cover restoration and/or enhancement. Forested grassland specialists such as the Bachman's Sparrow are also receiving management and research attention, and numerous open canopy, and ground or low shrub nesting birds, such as Prairie Warblers are benefitting. Point of contact: Alan Schultz

WEST

- **Early coordination and careful planning continue to prevent impacts to sensitive species at Naval Base Coronado, CA.** The Record of Decision for the Coastal Campus EIS was signed on June 12, 2015 and supports the development of a state-of-the-art campus for Naval Special Warfare on Naval Base Coronado. The ESA Section 7 Consultation for this large-scale project was completed on-schedule and with minimal impacts to listed species, due to very early coordination between the project proponents and NBC natural resources staff. In

addition, the EIS includes requirements to implement standards for bird-safe building designs, which will reduce impacts to sensitive migratory birds moving along the Pacific Flyway. The minimization measures put in place through this coordination led to money savings through an environmental analysis that was completed on-time, and contributed to continued public support of Navy projects by showing the foresight and care the Navy puts into developing its projects. During 2016, NBC staff continued to oversee the award and execution of construction projects ensuring all avoidance and minimization measures for listed species and migratory birds were implemented. Point of contact: Tiffany Shepherd.

- **Development of multi-state partnership to improve Northern Harrier management.** In 2016, a DoD PIF Steering Committee member initiated a partnership among multiple agencies to improve management of a sensitive raptor, the Northern Harrier. Agencies and experts involved included USFWS Newport OR field office, USFWS Migratory Bird Sacramento CA and Portland offices, USFWS Refuge personnel in San Diego, California Department of Fish and Wildlife raptor biologist, U.S. Navy Pacific Fleet and NB Coronado biologists, and multiple Oregon & California raptor experts. The Northern Harrier is a predator of the federally-listed Western Snowy Plover and California Least Tern. The group is holding telephone conferences and exchanging ideas to improve management strategies in Oregon and California. Point of contact: Tiffany Shepherd
- **Naval Base Coronado Natural Resources program prevents endangered birds from impacting airfield operations at NAS North Island, CA.** To the surprise of natural resources and airfield personnel, a small colony of federally endangered California Least Terns was found in 2013 to be nesting on the NASNI airfield, adjacent to an active runway and two helicopter pads. By quickly consulting with USFWS, we were able to implement innovative solutions to deter the birds from nesting in the area and encourage them to nest elsewhere. By doing this, the NBC natural resources team ensured Navy operations were not impacted and, by the 2015 season, Least Terns were no longer using the area. During 2016, NBC NR continued to successfully deter terns from nesting within this area. NASNI is the largest naval aviation industrial complex on the West Coast and helicopter pads in this area alone support an average of 11,250 operations annually. Point of contact: Tiffany Shepherd
- **DoD Grant to help Greater Sage-Grouse habitat under NAS Fallon's airspace.** More than \$2 million of DoD funding was awarded to the Military Services Readiness and Environment Protection Integration (REPI) Program. The funds are being used to protect Greater Sage-Grouse habitat on the Fallon Range Training Complex (FRTC). Partners in this program with NAS Fallon include the Nevada Department of Wildlife, Nevada Land Trust, Nature Conservancy, Bureau of Land Management and the Natural Resources Conservation Service. This program will place over 11,000 acres of the sagebrush habitat, which is under the airspace of the FRTC, in conservation and restrictive use easements on private ranches to enhance and protect Greater Sage-Grouse habitat. Point of contact: Gary Cottle
- **Bird studies conducted at Nellis Air Force Base, NV.** Nellis AFB began data collection for various wildlife species on its ranges in 1994. In 2016, we collected data for Golden Eagle, Greater Sage-Grouse, Western Burrowing Owl, Phainopepla, and other migratory birds. These surveys are conducted each year to monitor the general health of species, and to

determine composition, distribution, population size, and habitat preferences. This information is used to develop a comprehensive understanding of the ecosystem and, in turn, management strategies that anticipate and minimize impacts to species. Point of contact: Bob Turner

- **Greater Sage-Grouse study to provide critical data at Mountain Home Air Force Base, ID.** While the Greater Sage-Grouse is no longer a Candidate Species under the ESA, it remains as a species of concern. As such, MHAFB is partnering with the University of Montana's Center for Integrated Research and the Environment to examine the potential effects of overflight noise on nesting success and behavior. Following a successful field component on the Mountain Home Range Complex, a report documenting their conclusions is expected by the end of 2017. Point of contact: Jamieson Scott
- **Idaho Army National Guard continues to implement bird monitoring projects.** The Idaho Army National Guard's (IDARNG) primary training area, the 143,000 acre Orchard Combat Training Center in Southwest Idaho, is unique in that it is located on U.S. Dept. of the Interior, Bureau of Land Management (BLM) lands within the Morley Nelson Snake River Birds of Prey National Conservation Area (NCA). The NCA contains the greatest concentration of nesting raptors in North America while also supporting one of the nation's premier military training facilities. To ensure long-term compatibility with the NCA, IDARNG's natural resources staff have implemented several bird monitoring projects. IDARNG staff completed the sixth year of monthly year-round raptor driving survey routes, continued the fifth year of long-billed curlew surveys while collaborating with Intermountain Bird Observatory (Boise State University) and BLM to conduct curlew nest searching/monitoring and capture, began the first of three rounds of burrowing owl driving surveys, conducted annual migratory bird point count surveys, and captured six ferruginous hawks nesting in and near the OCTC and collaborated with U.S. Geological Survey and U.S. Fish & Wildlife Service biologists to fit each hawk with solar GPS transmitters to determine local habitat use and migration/wintering grounds. This was also part of a larger cooperative effort between BLM, USGS, USFWS, College of Western Idaho, Friends of the NCA and IDARNG to revisit and determine occupancy at approximately 500 historic ferruginous hawk nest sites in/near the OCTC and within the NCA. Point of contact: Kevin Warner

MIDWEST

- **Friends of the Whooping Crane partnership across multiple installations.** Chester McConnell of the Friends of the Wild Whooping Crane (FOTWW), a wild crane assistance not-for-profit, approached the NMFWA Bird Conservation Working Group chairs at the 2015 Annual Training Workshop. The organization wished to get in contact with installations from three Services and Army Corps reservations that might act as stopover points in migration for the wild populations' Central Flyway. The Working Group identified 45 installations within or immediately adjacent to that flyway corridor, and shared contacts with FOTWW. 21 of the 45 passed a round of cuts from FOTWW and were contacted. Of those, 14 installations invited FOTWW to make field visits and discuss habitat improvements to settling ponds, recreation lakes, and wetlands. These included Fort Hood, Texas; Camp Swift, Texas Army National Guard (TXARNG), Texas; Camp Bowie, TXARNG, Texas;

Camp Maxey, TXARNG, Texas; Wallisville Lake, U.S. Army Corps of Engineers (COE), Texas; Addicks Reservoir, COE, Texas; Barker Reservoirs, COE, Texas; Fort Sill, Oklahoma; Tinker AFB, Oklahoma; McAlester Army Ammunition Plant, Oklahoma; Fort Riley, Kansas; Kansas Training Center, Kansas Army National Guard, Kansas; Forbes Field Kansas Air National Guard, Kansas. Each installation was provided a site-specific suggestion and guidance plan. While these birds were not known to have visited many of these installations in the past, Mr. McConnell points out that cranes will usually only stop after nightfall and leave before dawn while in transit. This makes observation and detection difficult for many installation staff. The project identified and discussed 102 stopover ponds and wetlands with another 75 potential stopovers that have detailed management strategies to make them usable. Every installation received a personalized management plan with photographs and detailed site recommendations. Point of contact: Dave McNaughton

- **Prescribed fires benefit military mission and sensitive species on Fort Riley, KS.** Prescribed burns are conducted on Fort Riley to maintain realistic and safer environments for the maneuver and munition training conducted by the Army. Rotational burning coupled with proactively targeting specific areas requested by trainers allows for heterogeneous habitats that positively benefit all grassland birds, including the Henslow's Sparrow, a Species at Risk. This proactive management for Henslow's Sparrow will pay off in the future should this species ever be federally listed. Point of contact: Jeff Keating
- **Brush control management actions benefit military mission and sensitive species on Fort Riley, KS.** Due to a historic lack of fire, grassland areas on Fort Riley have become overgrown with trees and shrubs, limiting their usefulness for bivouac and dismounted training. In accordance with PIF guidance, trees were cut and shrubs mowed on a 200-acre tract of training land, followed by a prescribed burn. These management actions opened this overgrown field, making it more suited for military training. These actions also positively benefited grassland birds, as Grasshopper Sparrows and Eastern Meadowlarks were present the following growing season, and Henslow's Sparrows were present in this current year. This proactive management for Henslow's Sparrow will pay off in the future should this species ever be federally listed. Point of contact: Jeff Keating
- **Research project assistance on Fort Riley, KS.** Fort Riley Conservation Branch staff coordinated and assisted with a project tracking migratory movements of three declining, grassland bird species: Eastern Meadowlark, Grasshopper Sparrow and Upland Sandpiper. Birds of each species were captured on Fort Riley and fitted with tracking devices. Preliminary data indicates that birds remained on Fort Riley throughout the summer before heading south for the winter. The migration path for the initial birds studied (three in all) showed that they also stopped at, or flew over, Fort Sill, Oklahoma and Fort Hood, Texas, indicating the importance of these three installations specifically, and military lands in general, to grassland bird reproduction and stopover habitats. This suggests that these installations are adequately blending military training with grassland bird management. Point of contact: Jeff Keating

TECHNICAL WORKING GROUPS 2016 ACTIVITY

DoD PIF maintains technical Working Groups (WG) comprised of DoD PIF representatives with the expertise and interest to pursue the WG goals and are led by a group chair. Below are lists of the priorities and accomplishments for each of the active 2016 working groups.

MONITORING & RESEARCH

2016 Members: R. Fischer (chair), T. Burr, T. Shepherd, D. Bradshaw, J. Arnett, G. Fleming, M. Wright

Monitoring:

- Proper management of natural resources cannot be accomplished without baseline knowledge of the habitats managed by DoD. We help identify DoD lands that lack baseline surveys of bird populations, and began developing methods to provide baseline information until an installation can conduct a survey. We continue to document sites that satisfy criteria for identification as Important Bird Areas (IBA) or potential core bird conservation areas, and work with the IBA groups to address these sites with appropriate partnerships. A key monitoring program used on DoD lands is the Monitoring Avian Productivity and Survivorship (MAPS; see page 21), which provides specific habitat based management recommendations.
- The Working Group is actively working on results from a Legacy project that provided estimated populations sizes of all DoD PIF Mission-sensitive birds on all installations. These data, when complete, will provide a baseline for population sizes at individual installations useful for NEPA and complying with the Migratory Bird Readiness Rule.

Monitoring Priorities:

- Identify installations lacking baseline avian surveys, and other monitoring needs.
- Review Land Condition Trend Analysis (LCTA) protocol and suggest use of standard avian survey protocols, where appropriate.
- Continue MAPS program on DoD lands and review needs for optimizing placement of MAPS stations.
- Contribute data to and utilize resources in National Point Count Database.
- Initiate communication with USFWS to integrate DoD bird monitoring data into the Avian Knowledge Network
- Communicate with adjoining landowner partners to coordinate monitoring efforts, where appropriate.
- Utilize DoD PIF web site for monitoring protocol, data and information transfer.

Research:

- Avian researchers frequently use military lands as research study sites because these lands provide high-quality habitats not found in otherwise fragmented and developed

- landscapes. DoD lands can provide needed study sites for several areas of research underway, including the study of the spread of diseases (e.g., West Nile Virus) by birds, determination of bird conservation area requirements, assessment of grassland bird breeding and wintering habitats, determination of optimal placement of MAPS stations, and the research to fill gaps in avian life history knowledge. This research benefits the military by helping determine when and where species are at risk before they require state or federal protection, which can lead to mission encumbrance.
- The DoD PIF Research and Monitoring Needs Database maximizes resource effectiveness and efficiency by linking research needs between partners. We contribute to the database, and access its data elements to assist in our own research needs and future projects. The DoD PIF Bird Conservation Database consolidates information on bird related projects and management on all DoD lands into a searchable web-based database.

Research Priorities:

- Provide access, where conditions permit, to DoD lands to support DoD PIF research priorities.
- Update and maintain the DoD PIF Bird Conservation Database and contribute to the DoD PIF Research and Monitoring Needs Database.
- Identify DoD-wide research needs and issues and encourage research partnerships.
- Identify DoD lands that can contribute to national PIF goals.
- Maintain effective MAPS network.

Accomplishments:

- R. Fischer continues to work on the Monitoring Roadmap for DoD. The goal is to match results of a Legacy effort providing population estimates for each Species of Concern on installations to the DoD PIF Priority Species list to make regional recommendations for monitoring certain species.
- The DoD needs new, innovative technologies for monitoring avian populations in inaccessible areas. R. Fischer and the University of Tennessee completed a 4-year ESTCP investigation involving field validation tests for an autonomous aerial acoustic recording system (AAARS). This system is based on a helium-filled weather balloon that transports an instrument payload over inaccessible areas (e.g., firing ranges, ordnance impact areas) to record avian vocalizations. Specific objectives of the project were to 1) demonstrate and validate the ability of the AAARS to collect data on avian vocalizations for TER-S birds over accessible areas; 2) train project staff and installation staff on use of this technology; 3) evaluate the ability of trained project staff and installation staff to deploy the technology; 4) compare the accuracy and precision of monitoring data collected by AAARS; and 5) compare costs of data collection by AAARS to costs associated with conventional, human-based ground-sampling methods. The field validation portion of the demonstration was conducted at Fort Riley, KS; Fort Bragg, NC; and at Big Oaks National Wildlife Refuge, IN (formerly Jefferson Proving Grounds). Compared to human-based methods, the AAARS could monitor approximately 20 times more area per monitoring day (2000

- ha vs. 94 ha) based on a field crew of three individuals and also provided a permanent geo-referenced audio record of what species were vocalizing on a given site on that given day. This apparent economy of scale is seen as a huge advantage of the technology, especially in situations where human access is problematic or where large areas need to be covered such as for documenting the relative abundance of threatened and endangered species, or DoD Mission-sensitive Species.
- R. Fischer worked with Smithsonian Institution, Oregon State University, and the Institute for Bird Populations under a SERDP grant to investigate source and sink habitats for Wood Thrush in southern Indiana with two primary aims: 1) to validate and test the performance of three avian sampling approaches (point-counts, MAPS and intensive demography) to characterize source-sink dynamics, and 2) to determine which local and landscape factors influence distribution, demography and overall population persistence on both DoD installations as well as in surrounding landscapes. This research was carried out at Jefferson Proving Ground (now Big Oaks National Wildlife refuge), NSA Crane, and within surrounding Indiana state forests and parks.
 - R. Fischer provided monitoring recommendations for priority species to forts Carson and Hood
 - Eric Kershner, USFWS, is spearheading the development of a Federal Avian Knowledge Network (AKN) Node. AKN is an archive for large avian data sets used for environmental review and NEPA analysis. This ultimately will be the primary storage location for many DoD avian monitoring data sets.
 - R. Fischer coordinated with the DoD Natural Resources Program support team and Eric Kershner to offer a webinar on the Information for Planning and Conservation (IPaC) tool and AKN in February 2016.
 - Coordinated Bird Monitoring Database/AKN with work being done by Liz Neipert and Dave McNaughton. Dave McNaughton is working on a template for structuring data and entering it into AKN.
 - DoD-specific tools need to be identified for the Federal Node of the AKN.
 - Dave McNaughton is developing an eBird white paper on how to use eBird on DoD lands. This effort may be highlighted as a feature in *Natural Selections*.

INTEGRATED NATURAL RESOURCES MANAGEMENT PLANS – MIGRATORY BIRD UPDATES

2016 Members: R. Fischer (chair), T. Shepherd, C. Carroll, B. Schallmann

Priorities:

- Focused on improving avian input to DoD INRMP's and developing a good template for installations to use when developing their INRMP's.

Accomplishments:

- R. Fischer was contacted by Forts Carson and Hood independently asking for help in ramping up their migratory bird management and monitoring programs, as well as

- input on how to better incorporate migratory bird information into their INRMPs. This demonstrates that installations need the information we have, and the WG needs to develop a short summary document of the types of information that should go into INRMP updates and revisions, tools and methodologies, e.g., IPaC. We should have both a template and a checklist of important key items.
- The USFWS continues to develop and field tools for addressing migratory bird issues. They continue to enhance conservation measures information to the Migratory Bird Programs Conservation Measures website, particularly with respect to Incidental Take and to assist agencies in implementing MOUs. This information includes comprehensive recommendations for addressing impacts from building glass and lighting, recommendations on urban vegetation management, recommendations for improving bird analyses through NEPA, and improved information on stressor management. <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance.php>
 - R. Fischer is working with T. Conkle to review the avian monitoring component of all Navy INRMPs. This includes assessing whether the INRMP provides adequate information on bird monitoring, whether it is focused on priority bird species, and whether bird programs are sufficient to address key questions that protect the mission. Final products will include text and templates. Work began in October 2014, and final reporting will occur in 2016.

CLIMATE RESILIENCE AND ADAPTATION

2016 Members: D. Walsh (chair)

Priorities:

- Identify migratory bird species that are the most vulnerable to impacts from changing climatic conditions, and develop adaptation and management strategies to prevent listing and enable military readiness to continue unabated.

Accomplishments:

- Diane is conducting research on species vulnerabilities.

ENERGY

2016 Members: T. Cutler (chair), D. Walsh

Priorities:

- Solar, wind, and other alternative energy issues
- Avian Protection Plans (power line electrocutions and collisions)
- Outdoor lighting

Accomplishments:

- D. Walsh organized the DoD PIF review, and helped draft and edit the Multiagency Avian-Solar Collaborative Working Group *Avian Solar Science Plan*
- D. Walsh coordinated development of DoD Legacy Proposal to train DoD personnel to write and implement Avian Protection Plans.
- R. Fischer worked on the Green Energy Initiative (e.g., solar panel fields) and MBTA. Eric Kershner is USFWS lead, working with R. Fischer.

DoD SPECIES OF CONCERN

2016 Members: G. Fleming (chair), R. Fischer, J. Bolsinger, J. Rubinoff

Priorities:

- Reviewing and updating the DoD *Mission-sensitive Priority Species List*, which are species that, if listed, would have the greatest impact to sustaining the mission. The list helps installations prioritize monitoring programs and NEPA documents, and guides the development of conservation actions to support EO 13186 (Responsibilities of Federal Agencies To Protect Migratory Birds), the associated Memorandum of Understanding with USFWS, and the Final Migratory Bird (“Readiness”) Rule.

Accomplishments:

- Each year, DoD PIF reviews its *Mission-sensitive Priority Species List*. In 2016, DoD PIF decided to update list:

Phase 1 – Nominate species for adding or subtracting review - complete by 1 November.

Phase 2 – List installations known or suspected to have each species, and a listing of potential mission impacts if listed - complete by mid-December

Phase 3 – Determine which species should be on the list and add a priority ranking system (e.g., high, moderate) - to complete in January.

Phase 4 – Finalize list in 2018.

NATIONAL ENVIRONMENTAL POLICY ACT TEMPLATE

2016 Members: J. Hautzenroder (chair), G. Fleming, J. Haddix, J. Jeter

Priorities:

- Tasked to develop a NEPA template to help DoD incorporate avian input into NEPA documents (categorical exclusions, environmental assessments (EAs), and EISs).

Accomplishments:

- The Working Group held a meeting with USFWS to develop a draft document addressing how to better integrate migratory birds into the NEPA process. J. Hautzenroder, R. Fischer, and G. Fleming worked with E. Kershner (USFWS).
- G. Fleming is working on a Migratory Bird Treaty Act Policy Memo for Fort Belvoir.

INVASIVE SPECIES

2016 Members: D. Bradshaw (chair), J. Jeter

Priorities:

- Tasked with compiling scientific information regarding invasive species and their impacts to native bird communities. Information will be used to aid installations with invasive species management priorities. The effectiveness of this working group will be enhanced by active participation from other members in helping to identify invasive species priorities across the country.

Accomplishments:

- The working group worked with the Armed Forces Pest Management Board to provide guidance on microstegium control at a northeastern installation. This shared expertise proved useful, and offers a template for broader and more effective information dissemination.
- The Invasive Species Chair also worked closely in the mid-Atlantic area with National Park Service in assessing efficacy of various herbicide treatments on common invasives in the area, and is compiling data that might be useful to regional partners.

ANNUAL REPORTING

2016 Members: T. Shepherd (chair), R. Fischer, A. Schultz

Priorities:

- Focused on developing a thorough annual report of DoD PIF accomplishments, including summaries of avian-related good news stories, information on published avian research conducted on DoD lands, and details of how DoD PIF supported the mission.

Accomplishments:

- Working group completed the 2015 annual report using a newly developed template.

EDUCATION & OUTREACH

2016 Members: B. Schallmann (chair)

Communication Priorities:

- Support International Migratory Bird Day and other national PIF outreach efforts.
- Ensure appropriate DoD PIF bird conservation plan information is incorporated into installation INRMPs.
- Provide support and assistance for DoD PIF website, and outreach information for DENIX web site (<http://www.denix.osd.mil>).
- Contribute articles regarding DoD PIF activities to DoD publications, birding magazines, and national PIF publications.
- Enhance conservation objectives through partnerships that facilitate information exchange and coordinated management activities.
- Continue to participate in state, regional, and national PIF conferences.

Education Priorities:

- Work with national PIF and other groups to develop materials for landowners and managers regarding grassland bird habitat and other management priorities.
- Promote DoD accomplishments to the public and other agencies.
- Update DoD display and brochure as needed.
- Give talks to bird clubs and school groups.
- Identify and create needed educational materials.

Accomplishments:

- B. Schallmann quantified DoD's involvement in International Migratory Bird Day (IMBD) and other outreach events.

Some examples of installation outreach include the following:

Fort Belvoir, VA

- Special events (Potomac River Watershed Cleanup, habitat restoration events, National Public Lands Day river cleanup, Christmas Bird Counts) most of which were completed with volunteers.
- Earth Day, which involved 12 stations to educate children and adults about actions they can take to benefit the environment. Natural resources staff operated a “Migration to Extinction” game that covered the importance of



Figure 2. Fort Belvoir Earth Day Event 2016.

habitat, migration, and extinction. In addition, DoD PIF and its “Mission Sensitive Species” were explained, and DoD PIF stickers and posters were provided to the public (Figure 2).

NWS Seal Beach, Fallbrook, Norco, and San Pedro, CA

- Maintained key partnership with Seal Beach National Wildlife Refuge and associated Friends of Seal Beach National Wildlife Refuge.
- Supported Eagle Scout projects that enhanced habitat for a number of endangered, threatened, and at-risk avian species.
- Outreach with local elementary schools, retirement communities, Audubon chapters and libraries
- In-reach with installation personnel and their families (military and civilian) through all-hands trainings, brochures, presentations, etc.
- Special events (beach clean ups, habitat restoration events, National Public Lands Day events, Christmas Bird Counts)
- Monthly tours that include discussion on migratory birds and the DoD
- Specialty bird watching tours
- For the "large" special events, these installations receive 100-200 participants, for the smaller events, maybe 20-30. Local outreach efforts have mentioned the DoD and migratory birds to more than 1,000 people in the last year.
- Occasionally receive press coverage (mostly newspaper and online, but on rare occasions, television and radio) for these events.
- Most of the "return on investment" is in the in-kind sweat of the volunteers, particularly in habitat restoration/beach clean-up events.

NAS Patuxent River, MD

- Held an Earth Day event that was attended by three local public school groups (3rd, 4th, and 5th graders) as well as about 1,000 installation personnel. Included among the static display exhibits was one on bird conservation and specifically DoD Partners in Flight.

NAS Fallon, NV

- Worked with the Stillwater National Wildlife Refuge and participated in the Spring Wings Bird Festival (annually since 1996) on IMBD.
- Using an interpretive nature trail on the airfield safety buffer zone, natural resources personnel provide tours of the wildlife in this area to local school groups and Navy personnel.

Fort Bragg, NC

- Celebrated Arbor and Earth Days with festivals that highlight DoD’s bird conservation programs. Most of these annual events involve children from Ft. Bragg’s school systems.

Ft. Drum, NY

- Hosted the annual IMBD event, a birding tour of the installation led every Memorial Day weekend since 2005. This trip has been very popular with more interest than can be accommodated.

NB Coronado, CA

- Conduct twice-monthly bird walks at NAS North Island (established 2008, ongoing). During 2016, 84 total people participated in the bird walk. Target audience is Navy Lodge guests, but housing residents and base personnel attend frequently, as well. Biologist hands out DoD PIF and IMBD materials

at the bird walk. During 2016, participation in the bird walks increased after MWR began to advertise regularly and lobby signage was improved.

- In 2016, NBC NR designed and installed an interpretive shadowbox display table at the NAS North Island Navy Lodge lobby. The display informs lodge guests about the Snowy Plover management program, other sensitive bird species, and the twice-monthly bird walks.
- Two-day NBC annual beach clean-up was held February 17-18, 2016. During 2016, the event hosted 340 volunteers (mostly uniform Navy) who removed 6.12 tons of trash from the sensitive nesting beaches.
- Ongoing partnership with the San Diego Zoo's Youth Conservation Corps (starting in December 2014). NBC has hosted five events so far with 2 events occurring during 2016 (with about 40 volunteers each). 2016 events

included removal of invasive iceplant and a beach cleanup to enhance Snowy Plover habitat (Figure 3).

- NBC wildlife biologist Tiffany Shepherd wrote an article titled, *Pulling Plants for Plovers*, which was featured in the fall 2016 issue of *Currents*, the Navy's Energy and Environmental Magazine.
- On June 5, 2016 NBC wildlife biologist partnered with the military home-school liaison to provide a Least Tern and Snowy Plover-themed classroom presentation and craft followed by a visit to a tern and plover nesting site (Figure 4).



Figure 3. Students celebrate after removing iceplant at Naval Base Coronado.



Figure 4. Snowy Plover craft created by military home-school students at Naval Base Coronado.

Ft. Riley, KS

- Provided Bird Conservation on Military Lands educational materials (maps, brochures, etc.) at Fort Riley Open House/Apple Days event.

NAS Oceana, NASO Dam Neck Annex, NSA HR Northwest Annex

- 2016 Arbor Day/Month of the Military Child/Earth Day/ International Migratory Bird Day Celebrations and Tree City USA Award Presentations. Children and adults (events are open to anyone with access to the installation) learn about the importance of trees and how they are part of the cycle of life for Birds, Humans and other Plants and Wildlife. The children help the installation leadership plant and care for the ceremonial trees.
 - NAS Oceana (NASO), NASO Dam Neck Annex (DNA), and JBLC-Fort Story (FS) collected Christmas Trees from the community (Dec 2016 thru Jan 2017) that were recycled along the NASO DNA and JBLC-FS dune lines to help stabilize and build up sections of the dunes that have been depleted of sand due to storm and military training actions. This effort helps to ensure the dunes continue to protect the military facilities/infrastructure, protect and provide realistic military training grounds, and provide suitable wildlife habitat.
 - NASO, NASO DNA, NALF Fentress (F), and NSAHR Northwest Annex (NWA) entered into an agreement with the College of William & Mary for Eagle Nest Locating and Research which included public outreach. See page 10 for complete summary.
 - NASO Dam Neck Annex hosted a National Public Lands Day (NPLD) event from 19-22 Oct 2016 to restore and protect a little of 1/2 mile of dunes at NASO DNA. The event was open to the public and approximately 100 volunteers planted over 32,000 native dune plant species. See page 10 for complete summary.
 - Provided Bird Conservation on Military Lands educational materials (maps, brochures, etc.) to the NASO Air Show for distributions.
 - 25 April 2016, NSAHR Captain's Crest Video Shoot. Completed 1st NSAHR Northwest Annex video chat plug for the installation's annual Arbor Day, Earth Day, International Migratory Bird Day and Month of the Military Child Event/Celebration.
- DoD Natural Resources Program webinar series:
 - March 24, 2016: Source/Sink Dynamics of Birds on DoD Lands by Dr. Pete Marra, Smithsonian Migratory Bird Center.
 - February 4, 2016: AKN and IPaC System Presentation Available by Dr. Eric Kershner, USFWS.
 - Presentations:
 - MBTA Courses (R. Fischer)
 - El Dorado Audubon Society (B. Schallmann)
 - Friends of Seal Beach National Wildlife Refuge (B. Schallmann)

- The DoD Bird Conservation Photo Library was developed to provide installation personnel with a database of photos for use in presentations and outreach materials. The photo library is located at: <http://dodpifphotosite.shutterfly.com>. Contact Paul Block (paul.block@navy.mil), if you have photos to contribute.

BIRD AIRCRAFT STRIKE HAZARD

2016 Members: P. Block (chair), R. Fischer, K. Rambo

A successful BASH prevention program reduces loss of human life and damage to aircraft. Through communication, cooperation and coordination between natural resources and air operations, we can achieve mutually beneficial results that will protect priority bird species while reducing the BASH risk to flight crews and aircraft thus protecting the DoD mission. Improving communication, coordination, cooperation, and education among all stakeholders is a top priority of this working group.

Priorities:

- Explore the newest technologies and management techniques that emphasize non-lethal methods of mitigating BASH hazards.
- Improve communication, coordination, and cooperation between Air Operations and natural resource programs .
- Coordinate data collection with BASH and natural resource programs including the integration of BASH plans into INRMPS.
- Train and communicate the importance of reporting all bird strike and "near miss" data.
- Develop DoD-specific Hazard Scores for the most hazardous species.
- Explore development of study designed to "field test" the results of the "Regional Assessments and Life-history Investigations of Problematic Birds on Military Airfields" project.

Accomplishments:

- R. Fischer delivered the draft *Regional Assessments and Life-history Investigations of Problematic Birds on Military Airfields* for review. This deliverable uses multiple BASH databases (USAF, Navy, Federal Aviation Administration) and summarizes strike by data by species in regions (e.g., California) to examine how BASH species and issues differ regionally, and describe life histories of problematic species. The WG will review current airfield maintenance guidelines (e.g. adequacy of grass height recommendations).

NATIONAL MILITARY FISH & WILDLIFE ASSOCIATION LIAISON AND BIRD CONSERVATION WORKING GROUP

2016 Members: D. McNaughton, G. Fleming, L. Neipert

Priorities:

- To develop an active Migratory Bird WG within the National Military Fish and Wildlife Association (NMFWA).

Accomplishments:

- This WG has provided broader opportunities for installation natural resources managers to raise avian issues to the DoD PIF Steering Committee and the Military Services, as well as to share with others as lessons-learned.
- The WG is collaborating with several of the other DoD PIF working groups' projects by actively recruiting information and installation involvement.
- The WG brought several installation-example presentations to the larger DoD audience at NMFWA through planned presentations and improvised discussion in person and electronically.
- The WG provided an open forum that can and was visited by non-DoD attendees at the 2016 North American Wildlife Conference, allowing federal partners and other partners to see and discuss some of what DoD has accomplished. Attendees from National Park Service, Center for Environmental Management of Military Lands, USFWS, Institute for Bird Populations, and several environmental contractors signed the contacts list in 2016.