

Natural Selections

Department of Defense Natural Resources Program



CONTENTS

- 1 Spotlight: Secretary of Defense Environmental Awards Program
- 1 Environmental Security Technology Certification Program Requests Proposals for Demonstrations of Environmental Technologies
- 2 Message From the Director
- 3 Fort McCoy Natural Resources Branch
- 3 Endangered Species Act Implementation Course
- 4 Pacific Missile Range Facility Barking Sands
- 4 Dr. Brian Henen, Marine Corps Air Ground Combat Center
- 5 Air Force East Region Integrated Natural Resources Management Plan Team
- 5 U.S. Army Garrison Fort Riley, Natural Resources Conservation Team
- 5 Endangered Species Day
- 6 Ian Trefry, Public Works Department – Maine, Portsmouth Naval Ship Yard
- 6 Marine Corps Base Hawaii
- 6 Webinar Series: DoD Natural Resources Program and the Readiness and Environmental Protection Integration Program
- 7 Malmstrom Air Force Base
- 7 2017 National Military Fish & Wildlife Association Annual Training Workshop
- 8 DoD Project Highlights
- 9 Upcoming Events, Conferences, Workshops, and Training
- 10 Links of Interest



SPOTLIGHT: SECRETARY OF DEFENSE ENVIRONMENTAL AWARDS PROGRAM



DoD celebrates Military Service members and civilians for their commitments to protect human health and the environment through sound conservation

of America's natural and cultural resources for future generations, while also addressing complex national security challenges. DoD established the annual Secretary of Defense Environmental Awards in 1962 to honor individuals, teams, and installations for outstanding conservation achievements, innovative environmental practices, and partnerships that improve quality of life, and promote efficiencies without compromising mission success.

For 55 years, the Office of the Assistant Secretary of Defense for Energy, Installations, and Environment has hosted the Secretary of Defense Environmental Awards. Each year, the Military Services and Defense Agencies may submit one nomination for each of the nine categories that cover six subject areas: natural resources conservation, environmental quality, sustainability, environmental restoration, cultural resources management, and environmental excellence in weapon system acquisition. A panel of volunteer judges from federal and state agencies, academia, and the public evaluate each of the nominees.

For many years, DoD has highlighted outstanding achievements in environmental practices and innovations that promote and instill a conservation ethic in the day to day operations of DoD. The Secretary of Defense Environmental Awards recognize remarkable program and individual/team efforts to promote the use of alternative clean, secure, and renewable sources of energy; develop, test, and implement innovative technologies that eliminate wastes; and reclaim water resources. Award-winning programs and individuals/teams have also engaged in projects where installations join with communities, state and local governments, and private stakeholders to protect our Nation's irreplaceable natural and cultural heritage, conserve open spaces surrounding our installations, and protect and restore habitats critical to endangered or at-risk species. These extraordinary actions raise our expectations of what is possible and inspire us all to seek opportunities reaching beyond compliance to ensure a secure and sustainable future for the environment, the Armed Forces, and our Nation.

For more information about the Secretary of Defense Environmental Awards Program, visit their [website](#).

ENVIRONMENTAL SECURITY TECHNOLOGY CERTIFICATION PROGRAM (ESTCP) REQUESTS PROPOSALS FOR DEMONSTRATIONS OF ENVIRONMENTAL TECHNOLOGIES



On January 5, 2017, the DoD ESTCP released its

fiscal year (FY) 2018 solicitation requesting proposals for demonstrations of environmental technologies at DoD

facilities and sites. Applications are due March 9, 2017. For more information, visit the ESTCP website under [Funding Opportunities](#).

continued on page 3

MESSAGE FROM THE DIRECTOR

By Alison A. Dalsimer, Program Director, DoD Natural Resources

Greetings from our Nation's Capital, where change seems to be the order of the day! It is no secret that there has been turbulence associated with the Administrative transition, and confusion about how our new Government will move with respect to environmental issues. Yet, regardless of what happens in the world of politics, DoD's natural resources community has consistently demonstrated excellence in the course of doing business.

This edition of *Natural Selections* highlights just a few of the award-winning efforts that meet and often exceed environmental stewardship standards. Through their excellence, installation natural resources managers (NRMs) directly enable our soldiers, sailors, and air personnel to test, train, and operate in ways that help ensure Defense readiness.

After reading through several years' worth of Military Service-specific and Secretary of Defense Environmental Award winning write ups, we selected a handful of examples that we hope are representative of the broader efforts occurring across the more than 350 installations that are home to significant natural resources. Through the implementation of Integrated Natural Resources Management Plans (Plans), our NRMs manage DoD's land, air, and water resources in ways that not only benefit our Nation's priceless natural heritage, but also minimize and avoid mission restrictions. How?

By managing threatened, endangered, and at-risk species in ways that produce a net benefit to those species; by having fully coordinated five-year Plans, approved by the regulator, that result in our avoiding critical habitat designations in key mission areas; by preventing and reducing the spread of often harmful invasive species; by managing birds to reduce their colliding with aircraft; by implementing prescribed burn programs that reduce the risk of wildfire; and so much more.

The award-winning programs highlighted in this issue recognize outstanding installations, teams, and individuals for their environmental stewardship. They recognize environmental accomplishments, best practices, and partnerships that promote natural resources management, increase installation

efficiencies, and often generate cost savings. From 'going dark' at Pacific Missile Range Facility Barking Sands and geo-locating grassland birds at Fort McCoy to reduce bird-aircraft strikes, to monitoring sturgeon so military personnel could continue to overhaul and repair submarines, the range of activities that help enable our military is – I think – stunning.

In terms of format, you will no doubt notice that we've revamped *Natural Selections*, removing several sections and reducing article length to go with more of a "USA Today" style format. Each article provides a summary of the topic and a link to more content; you can opt to read more about any topic that interests you. We've done this in response to our November survey that indicated our busy readers are interested in certain portions of the newsletter more than others. Going forward, *Natural Selections* will highlight:

- current natural resources issues, efforts, and lessons learned on DoD installations;
- legislative, policy, and program updates that may impact the Natural Resources Program;
- GIS tools, new technologies, and survey techniques for managing natural resources;
- Military Service-specific efforts;
- general natural resources efforts by state, federal, and non-governmental organization partners; and
- updates on DoD-funded projects.

Before I close, a couple updates: First, the Sustaining Military Readiness Conference will not take place in 2017 – hopefully, more to come on that one in 2018! Second, Legacy: FY2017 DoD Legacy Resource Management Program (Legacy Program) funded project announcement is forthcoming, as is the FY18 Request for pre-proposals. More significantly, the Legacy Program Tracker (our online proposal and project tracking system) is being completely overhauled and, as with all our websites, will transition to [DENIX](#). The update should make it easier to enter proposals and track project activity.

My personal note for this edition is one of thanks to the installations and personnel highlighted in this newsletter, and to all those who do great work daily but aren't specifically highlighted here. Collectively, DoD's NRMs are some of the best out there. Thank you!

(ESTCP Requests Proposals, continued from page 1)

DoD organizations (Military Service and Defense Agencies) may submit pre-proposals for the following topic areas:

- Environmental Restoration;
- Munitions Response in Underwater Environments;
- Resource Conservation and Resiliency, and Weapons Systems and Platforms.

Non-DoD Federal organizations, state organizations, academia, and industry may submit pre-proposals for the following topic areas only:

- Innovative Technology Transfer Approaches;
- Management of Contaminated Aquatic Sediments or Contaminated Groundwater;
- Detection, Classification, and Remediation of Military Munitions in Underwater Environments;
- Use of Unmanned Aerial Vehicles for Safe and Cost Effective Natural Resources Management on DoD Lands;
- Demonstration/Validation of Alternatives to Hexavalent Chromium in Manufacturing and Maintenance of Weapons Systems; and
- Waste to Energy Converters for Overseas Contingency Operations.

FORT MCCOY NATURAL RESOURCES BRANCH (NRB)

In 2016, after winning the Secretary of the Army's Environmental Award, the Natural Resources Branch at Fort McCoy went on to win the Office of the Secretary of Defense's Team Environmental Award for their innovative forest, conservation, and land use management efforts.



Staff at Fort McCoy start a prescribed burn on Fort McCoy's South Post. Source: Scott T. Sturkol, Fort McCoy Public Affairs

Grassland bird species are in decline throughout their range on Fort McCoy. In response, the Fort McCoy NRB team installed geo-locators on upland sandpipers, eastern meadowlarks, and grasshopper sparrows to collect data about how these species use the installation's savannah habitat, including as migration routes, stop-over locations, and wintering sites. Installation personnel will use the data to help reduce bird mortality, as well as to avoid land use restrictions on vital training areas and facilities. For example, DoD can use migration data to determine if these birds pose an airstrike risk and, if so, when and where such strikes might occur. With this information, flight operators can reduce and hopefully eliminate the risk of bird/animal aircraft strike hazard.



Male Karner Blue Butterfly.
Source: Fort McCoy NRB

In addition to supporting conservation in the savannah habitat, Fort McCoy staff improved nearly 2,000 feet of stream habitat and removed fish barriers at Stillwell Creek by establishing a first-of-its-kind eight-way partnership. The eight partners, who came together in 2014, were the Habelman Cranberry Marsh, Colorado State University, U.S. Geological Survey, Army, U.S. Fish & Wildlife Service,

Wisconsin Department of Natural Resources, volunteers, and local school groups. Stream monitoring data from 2015 showed encouraging improvements such as the presence of several cold water-intolerant species. Staff also protected endangered species habitat, including the Karner blue butterfly, grasshopper sparrow, eastern meadowlark, and upland sandpiper, by eliminating brush and dry vegetation through a highly successful prescribed burn program that benefitted nearly 12,000 acres. As an added benefit, the NRB team saved the Army \$104,000 by collaborating with the Directorate of Public Works Troop Projects, Directorate of Plans, Training, Mobilization and Security, and the Wisconsin National Guard to conduct prescribed burn-in-house and eliminate the costs associated with contractors performing this work.

For more information on these projects, and to learn about other NRB team accomplishments at Fort McCoy, click [here](#).

ENDANGERED SPECIES ACT IMPLEMENTATION COURSE

The online [Endangered Species Act \(ESA\) Implementation Course](#) highlights the DoD Components' responsibilities for complying with ESA requirements on installations. During the course, participants learn about important topics such as [ESA Section 7 consultations](#), critical habitat designations, and major sections of the ESA. The course also explains how the ESA relates to the [Marine Mammal Protection Act](#), [National Environmental Policy Act](#), and [Administrative Procedures Act](#), including creating and maintaining a complete Administrative Record.

Through case studies, course participants learn strategies for facilitating regulator and stakeholder cooperation while protecting natural resources in ways that ensure no net loss in mission capability. Specific case studies include red-cockaded woodpecker management on Army lands, a U.S. Fish and Wildlife Service (USFWS) consultation for U.S. Marine Corps build-up on Guam and the Mariana Islands, and Air Force coordination with a USFWS liaison to manage forest structure and expand red-cockaded woodpecker colonies.

This course is approved by DoD, the Military Services, and the Deputy General Counsel (Environment, Energy & Installations), and is available online to those with access to the secure side of the [DoD Environment, Safety and Occupational Health Network and Information Exchange](#).

PACIFIC MISSILE RANGE FACILITY (PMRF) BARKING SANDS

PMRF has “gone dark” to help the threatened and endangered Newell’s shearwater, Hawaiian petrel, and band-rumped storm petrel seabirds, as well as to protect vital training areas. PMRF developed the “dark-skies” program, an innovative energy conservation initiative intended to decrease light pollution.



PMRF’s Dark Sky Initiative in action. The North End of PMRF is seen from Makaha Ridge at sunset, revealing the stark absence of lighting on Base. Source: John Nelson, Installation Environmental Program Director, PMRF

During the fledgling season, these young inland-dwelling seabirds take their first flight out to the ocean at night, using the moon, stars, and setting sun as navigation aids. Artificial lighting interferes with these natural navigation aids. Disoriented fledglings often strike objects or become exhausted by flying in misguided directions. Eventually, disorientation forces birds to land and, when they do, they become easy prey. To go “dark,” installation personnel eliminated non-essential exterior lighting and installed exterior light fixtures that direct or shade the light so it does not radiate upward and interfere with bird flights. PMRF’s Dark Skies initiative significantly decreased bird fatalities, supported Endangered Species Act requirements, benefitted energy conservation goals, and enhanced mission capability as a testing and training facility by reducing bird-strike potential. As a result of this effort, the installation earned the 2016 Secretary of the Navy and Office of the Chief of Naval Operations Small Installation Environmental Award.



PMRF staff hand feeding a Laysan albatross chick recently transferred to its protected outdoor enclosure. Source: John Nelson, Installation Environmental Program Director, PMRF

nests for fertile eggs from nests on PMRF. Having protected so many eggs, in 2014 the PMRF staff were able to establish a new Laysan albatross nesting population on the James Campbell National Wildlife Refuge, which is located on the northeast shore of the Island of Oahu. Both this initiative and the Egg Swap program have successfully reduced bird aircraft strike

Another award-winning program at PMRF is the Egg Swap. Since 2005, PMRF environmental staff have worked with the U.S. Fish and Wildlife Service, State of Hawaii Division of Forestry and Wildlife, local seabird conservation groups, and private landowners to move more than 300 fertile Migratory Bird Treaty Act-protected Laysan albatross eggs from PMRF to protected areas on the North Shore of Kauai. They do this by swapping out infertile eggs in existing

hazards, supported conservation goals for a species vulnerable to sea level rise, and fostered strong partnerships among DoD and its conservation stakeholders. PMRF will continue these efforts in the future to support safety, the military mission, and conservation on the installation.

For more information on these projects, and to learn about other accomplishments at PMRF, click [here](#).

DR. BRIAN HENEN, MARINE CORPS AIR GROUND COMBAT CENTER (MCAGCC)



Col Harp, Combat Center Chief of Staff, releases a member of the first cohort of tortoises to be raised in the TRACRS facility. Source: MCAGCC

In 2016, the Secretary of the Navy named Dr. Brian Henen at MCAGCC an environmental award winner for his outstanding management and dedication to MCAGCC’s Tortoise Research and Captive Rearing Site (TRACRS). The U.S. Marine Corps (USMC) built TRACRS in 2006 to support recovery of the threatened desert tortoise. TRACRS houses juvenile tortoises, giving

them a “head start” until they have grown large enough to minimize the risk of predation from ravens and coyotes. Since 2006, TRACRS has kept approximately 474 juvenile tortoises, with an annual survivorship rate of up to 96 percent compared to 40 percent survivorship in the wild. MCAGCC has developed up to 150 acres of tortoise habitat each year, avoided formal, interagency consultations that could lead to restrictions on training land, and easily executed training and training facility projects without disturbing the tortoises.



MCAGCC’s TRACRS uses fencing and aviary netting to exclude predators (e.g., coyotes and common ravens), which are major contributors to tortoise mortality. Source: MCAGCC

TRACRS’ low operational cost has also generated savings for USMC. Yearly operating costs of \$80,000 for TRACRS are substantially lower than other commonly practiced conservation efforts for species recovery, such as the overall cost to manage the desert tortoise, which amounted to about nine million in fiscal year 2015. Additionally, TRACRS allows staff to conduct basic scientific research and collect additional data, such as growth rates, at little or no additional cost. This, in turn, helps them improve tortoise conservation.

For more information on these projects, and to learn about other accomplishments at MCAGCC, click [here](#).

AIR FORCE EAST REGION INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN (INRMP) TEAM



Prescribed fire at Avon Park Air Force Range reduces the risk and intensity of wildfires through reduction of hazardous fuels and supports threatened and endangered species recovery by creating optimal habitat. Source: East Region INRMP Team

The Air Force East Region INRMP team successfully developed and implemented 18 INRMPs to efficiently manage natural resources and reduce management costs by planning and programming against goals outlined in the INRMPs. The Air Force saved \$500,000 by eliminating duplicate projects, realigning responsibilities to the Air Force Wildland Fire Center, and eliminating expenditures that do

not support the military mission. The team also reduced the amount of funding needed to complete INRMP updates and revisions from \$490,000, programmed for fiscal year (FY) 2013, to \$10,000 programmed for FY15 by completing INRMPs in-house. In 2016, these efforts earned them a [Thomas D. White Team Environmental Award](#).



Grasshopper Sparrow. Source: East Region INRMP Team

In addition, the team also manages invasive plant species that significantly degrade wildlife habitats across the East Region. The team removed invasive plant species on 4,900 acres of mission-essential lands, which benefitted 29 federally listed and over 50 state listed species, and restored ecosystem health.

By eliminating invasive species, the team avoided additional species listings and mission and land use restrictions on vital training areas.

For more information on these projects, and to learn about other East Region INRMP team accomplishments, click [here](#).

U.S. ARMY GARRISON FORT RILEY, NATURAL RESOURCES CONSERVATION (NRC) TEAM

The U.S. Army Garrison Fort Riley NRC team won the Army Team Environmental Award in 2014 for their innovative wildfire management and wildlife conservation efforts. The installation's Wildland Fire Coordinator coordinated regularly with the local fire department to allow the NRC team to increase prescribed burns from 23,384 acres in 2012 to 26,890 acres in 2013, while simultaneously decreasing the number of required burning days from 31 to 19.

The NRC team also used various programs to enhance wildfire management efforts. For example, personnel leveraged funding from the installation's Agricultural Leasing Program to help



Fort Riley staff execute a prescribed burn. Source: U.S. Army Garrison Fort Riley

maintain perimeter firebreaks, and avoided over \$200,000 in annual fire management costs. The NRC team used the Hay Lease program to bale and remove large expanses of ignitable hay, reducing potentially life threatening fire hazards for military personnel and decreasing overall mowing costs.



Installation staff repurpose an underground historic rifle range bunker to house bats. Source: U.S. Army Garrison Fort Riley

The NRC team also repurposed an underground historic rifle range bunker by installing 75 bat houses, and developed and implemented the Fort Riley Bat Conservation and Monitoring Guidance to protect bat species threatened by white-nose syndrome in the Midwest. The guidance helps installation personnel

conserve bat species and avoid new species listings under the Endangered Species Act, which could result in increased land use restrictions on vital training lands.

For more information on these projects, and to learn about other NRC team accomplishments at U.S. Army Garrison Fort Riley, click [here](#).

ENDANGERED SPECIES DAY (ESD)



ENDANGERED
SPECIES
DAY

The 12th annual international ESD will be May 19, 2017, and will include special events and programs in many countries that recognize and celebrate efforts to protect threatened, endangered, and at-risk species.

ESD emphasizes the importance of protecting endangered species, and demonstrates how even small actions that people can take every day to help protect our disappearing wildlife and the last

remaining open spaces in our country. The U.S. Senate unanimously approved the creation of ESD, which the United States first celebrated in 2006.

Visit the [ESD website](#) for information and resources to help plan and coordinate events.

IAN TREFRY, PUBLIC WORKS DEPARTMENT – MAINE (PWD-ME), PORTSMOUTH NAVAL SHIP YARD (PNSY)



Atlantic Sturgeon. Source: PNSY

Ian Trefry won the 2016 Secretary of the Navy and Office of the Chief of Naval Operations Individual Environmental Award for his comprehensive natural resources management at PWD-ME, PNSY. PNSY personnel were able to

continue overhauling and repairing the Los Angeles and Virginia class submarines, and conduct vital in-water training without delays or costly mitigation due to Mr. Trefry's efforts to monitor the threatened Atlantic sturgeon and endangered shortnose sturgeon. Mr. Trefry, along with federal agency partners and installation staff, helped tag and collect data from over 30 sturgeon to date, which helped staff monitor and avoid adverse impacts to the species.



Hibernating northern long-eared bat. Source: Ann Froschauer/U.S. Fish & Wildlife Service

Mr. Trefry also manages multiple Integrated Natural Resources Management Plans and projects at three northern Maine installations, including projects that focus on protected or at-risk bird species, international **Important Bird Areas**, significant wildlife habitats, fresh water fishery resources, protected mammal species, and high elevation ecosystems. Mr. Trefry's effective natural resources management work has helped PNSY maintain greater access to training areas,

fulfilling each installation's mission. These efforts also helped to maintain installation exemptions from critical habitat designated under the Endangered Species Act, and they avoided increased restrictions that could cause costly delays, restrict training opportunities, and impact overall mission activities.

For more information on these projects, and to learn about other accomplishments at PNSY, click [here](#).

MARINE CORPS BASE (MCB) HAWAII

In 2012 and 2014, the Office of the Secretary of Defense and the Secretary of the Navy named MCB Hawaii a Small Installation Environmental Award winner not only for their effective surveys to collect data, but also for rolling up their sleeves and digging in to protect wildlife. In 2007 and 2012, MCB Hawaii staff used photos to document water conditions around the installation and survey data to create maps for the installation's geographic information system. The surveys provided information about the underwater environment that enables military personnel to conduct in-water training and ship-to-shore movements in a manner that does not impact marine



The Mokapu peninsula on the windward coast of the Island of O'ahu. The peninsula contains many sensitive natural and cultural resources. Source: MCB Hawaii

resources, avoiding potential restrictions to training activities. In 2015, MCB Hawaii staff initiated similar coastal and marine surveys at the installation's training area south of the base (Marine Corps Training Area Bellows).



Hawaiian Stilt. Source: U.S. Fish & Wildlife Service

Installation staff got 'down and dirty' and removed 300 mud-laden tires located 100-300 feet offshore of the Nu'upia Ponds to improve the survivability of young, endangered Hawaiian stilts. Staff intentionally placed the tires offshore in the early 1980s to serve as artificial

[continued on next page](#)

WEBINAR SERIES: DOD NATURAL RESOURCES PROGRAM (NR PROGRAM) AND THE READINESS AND ENVIRONMENTAL PROTECTION INTEGRATION (REPI) PROGRAM

The DoD NR Program's webinar series provides information on a variety of NR topics and projects, such as species at-risk on DoD lands, tools and techniques to improve natural resources management, and legislative updates impacting DoD. Past presentations have featured species at-risk on DoD lands, wildlife trafficking, using environmental DNA, and amphibian and reptile management, among others. Visit the [DoD NR Program web portal](#) to view past presentations and for information on upcoming webinars. The next presentation in the DoD NR webinar series, scheduled for March 22 at 1:00pm ET, will be *Developing a Survey Protocol for Landscapes with a Low-Density of Gopher Tortoises (DoD Legacy Project 14-762)*.

The REPI program's webinar series features best practices, tutorials, and knowledge sharing on REPI partnerships that support the military mission and accelerate the pace and rate of land conservation. Unless otherwise noted, all webinars begin at 1:00pm ET. Visit REPI's [web portal](#) for information on upcoming webinars. The next REPI webinar, scheduled for March 15, will be given by the Environmental Law Institute, and will describe Sentinel Landscape Partnership Authorities and Opportunities.

nesting platforms to deter stilt predators, but the stilts later abandoned the tires as water around the islands became too deep for the young stilts that need to forage right after birth.

Staff also are battling the yellow crazy ant, an aggressive invasive species that is negatively affecting the installation's native wedge-tailed shearwater colony. Personnel successfully placed formicides (a substance that kills ants) into bait stations to stop the spread of the yellow crazy ants. As a result, the number of wedge-tailed shearwater colony's active nests grew from 520 in 2010 to over 700 in 2016. This initiative helps DoD keep these birds common, preventing their listing under the Endangered Species Act, which could cause restrictions on vital training lands.

For more information on these projects, and to learn about other accomplishments at MCB Hawaii, click [here](#).

MALMSTROM AIR FORCE BASE (AFB)

In 2016, the Office of the Air Force Civil Engineer awarded Malmstrom AFB with the [Thomas D. White](#) Small Installation Environmental Award for its proactive management of invasive species and natural resources. Land managers know that controlling invasive species can be expensive and time consuming, and often involves large quantities of chemicals. To minimize chemical use, Malmstrom staff designed a program to lease 1,500 goats from a private company for two days to graze over 1,300 acres to control invasive weed species, such as thistle and kochia that have rapidly spread to training areas. These invasive species spread quickly, degrading habitat quality and creating difficult conditions for physical training. This successful grazing initiative controlled the spread of invasive species, supported combat readiness and training activities, and saved Malmstrom AFB an estimated \$15,000 in herbicide costs. This initiative was so successful, that Malmstrom AFB hopes to implement a three-year grazing project that will use goats to weaken invasive plants in the first year, tackle new growth in the second year, and eliminate any remains, or seeds, in the third year.



Goats grazing on Malmstrom AFB, including Boer Spanish Cross goats. Source: Malmstrom AFB



Northern Flicker. Source: U.S. Fish & Wildlife Service

Malmstrom staff also developed a new Wildlife Hazard Assessment Plan that includes bird/animal aircraft strike hazard avoidance measures for all current flight paths, and characterizes hazards to pilots and aircraft

based on geographic location, landforms, season, and altitude. The Plan uses these characteristics to provide recommendations for pilots to enhance flying missions, and reduce the risk of injury and loss of life resulting from bird/animal aircraft strikes. The installation saved \$30,000 by developing the Plan in-house. Staff also installed nest boxes for northern flickers, a bird species that drills nest cavities into the outsides of buildings, onto previously damaged buildings. Malmstrom AFB staff expect this project will reduce the need to repair exterior building surfaces, generating \$30,000 in savings, and giving northern flickers new homes.

For more information on these projects, and to learn about other accomplishments at Malmstrom AFB, click [here](#).

2017 NATIONAL MILITARY FISH & WILDLIFE ASSOCIATION (NMFVA) ANNUAL TRAINING WORKSHOP



NMFVA will hold its annual training workshop March 6-10, 2017, in Spokane, Washington. This event provides innovative, valuable training relevant to managing natural resources on DoD lands, and enables attendees to maintain their professional certification per the Sikes Act requirement. This is

the only workshop of its kind where installation managers can meet to discuss DoD-specific natural resources challenges and opportunities, recent policy and legislative changes, ongoing activities, and accomplishments. The workshop also offers an opportunity for face-to-face communication between DoD natural resources professionals and their counterparts from federal and state fish and wildlife agencies, non-governmental organizations, and other stakeholders.

Specific workshop topics include a DoD Natural Resources Program policy update, endangered and at-risk species, invasive species, climate change, and migratory birds. Military Service breakout sessions will provide opportunities for managers to discuss issues unique to their branch. There will be a full-day Endangered Species Act training session and a half-day session on pollinators. The workshop agenda and registration information are available at www.nmfva.net.

DOD PROJECT HIGHLIGHTS

The following projects highlight high priority natural resources projects that DoD installation natural resource managers can use to protect natural resources and sustain the military mission. Find more projects on the Natural Resources page of the DoD Environment, Safety and Occupational Health Network and Information Exchange [site](#) and the Strategic Environmental Research and Development Program (SERDP) and Environmental Security Technology Certification Program (ESTCP) [sites](#).

Integrated Climate Change and Threatened Bird Population Modeling to Mitigate Operations Risks on Florida Military Installations (SERDP Project RC-1699)



Snowy Plover. Source: Stock image

Researchers developed a set of habitat and species-based models to inform decision-making for three coastal bird species: the snowy plover (threatened), piping plover (endangered), and red knot (species at-risk (SAR)). The

researchers used sea level rise, species distribution, and population models to explore the current and future state of the three species' habitat. The models will help natural resources managers predict risk to the species under different climate change scenarios at Eglin and Tyndall Air Force Bases (AFBs). In addition, researchers developed a decision analysis framework for natural resources managers to evaluate management decisions based on how the outcomes will impact the threatened and endangered species and SAR at Eglin and Tyndall AFBs and other coastal facilities.

Enlisting Ecosystem Services: Quantification and Valuation of Ecosystem Services to Inform Base Management (ESTCP Project RC-201113)

This project was a pilot effort to create and demonstrate new methods for incorporating vital wildlife and ecosystem services, such as timber production and carbon sequestration into installation management decisions. The project team used software to estimate the costs and benefits of alternative land uses, military activities, habitat protection, and restoration activities for species on installations. For example, the project team assessed nine locations at Fort Pickett, Virginia to identify



Virginia National Guard Soldiers conduct tactical movement at Fort Pickett, VA. Source: Capt. Jenny K. Hartsock, Virginia National Guard Public Affairs

the ecological impacts of creating a new firing range. They used the program to identify suitable locations for the new range location based on the new range's potential impact to ecosystem services and wildlife. This project enables natural resources managers to integrate new technologies into natural resources management and decision-making processes to protect natural resources and enable military activities.

Update of the United States Army and Air Force Installation Amphibian and Reptile Species Lists (DoD Legacy Project #13-642)

Researchers recently updated herpetofauna species lists to identify species that occur on 152 Army and 80 Air Force installations. Researchers compiled and updated these lists into a single database to record the 355 species that occur on Army lands and 336 species that occur on Air Force lands. Installation biologists can use the updated lists to identify data gaps in the herpetofauna biodiversity of a particular site, or as a tool to plan for species-specific surveys. In addition, Army and Air Force leadership can incorporate this information into installation Integrated Natural Resources Management Plans to include updated data for state-listed species, species at-risk, and species protected by the Endangered Species Act to improve overall natural resource management. Finally, natural resources managers can share project methods and data with other installations, regions, and state and federal partners to facilitate successful conservation initiatives and partnerships.

View the [Herpetofauna Biodiversity on United States Army Installations](#) and [Herpetofauna Biodiversity on United States Air Force Installations](#) final reports for more information.



UPCOMING EVENTS, CONFERENCES, WORKSHOPS, AND TRAINING

National Invasive Species Awareness Week (NISAW)

February 27- March 3, Nationwide

Each year during NISAW, state, federal, local, and tribal officials meet with non-governmental organizations, industry, and stakeholder groups to discuss invasive species, including creative approaches to prevent and reduce invasive species threats to our health, economy, and natural resources. Attend events in Washington, DC, or host your own event to explore local invasive species problems and solutions.

Climate Leadership Conference

March 1-3, Chicago, IL

The Climate Leadership Conference brings together climate, energy, and sustainability professionals to address impacts of global climate change through policy, innovation, and business solutions. The agenda includes sessions on renewable energy and policy implementation.

World Wildlife Day

March 3, Global

The United Nations designated World Wildlife Day to celebrate and raise awareness about wild animals and plants. World Wildlife Day draws attention to the threats that endangered species face from habitat loss, poaching, and the pet trade. Volunteer for an [event](#) near you.

North American Wildlife and Natural Resources Conference

March 4-11, 2017, Spokane, WA

This conference brings together natural resources professionals from all sectors to exchange knowledge and best practices on issues such as endangered species, migratory birds, and landscape management through workshops and meetings. The event will provide attendees with a better understanding of various solutions to current conservation issues, and methods for coordinating with other agencies on natural resources conservation efforts.

2017 National Military Fish & Wildlife Association (NMFWA) Annual Training Workshop

March 6-10, 2017, Spokane, WA

Held in conjunction with the North American Wildlife and Natural Resources Conference (above), the NMFWA annual training workshop is the primary event where installation natural resources managers meet to discuss key concerns and opportunities, recent policy and legislative changes, ongoing activities and recent accomplishments, and emerging issues and potential new challenges. The workshop will include a DoD Natural Resource Program policy update, and multiple technical and informational sessions on topics including endangered and at-risk species, invasive species, climate change, and migratory birds.

Earth Day

April 22, Global

Earth Day – celebrating saving the planet since 1970. Join the 22,000 partners in 192 countries working to promote environmental conservation across the globe. Find an [event](#) near you or host one yourself!

International Migratory Bird Day

May 13, Global

International Migratory Bird Day, coordinated by Environment for the Americas, celebrates the many ways that birds matter to the earth, to ecosystems, and to us. Some bird species provide practical solutions to problems, such as the need for insect and rodent control. Others disperse seeds, helping to revegetate disturbed areas, or help pollinate flowering plants, trees, and shrubs. This year's theme will focus on stopover sites across the Western Hemisphere and the Caribbean that are important to migratory birds. DoD lands have long served as Steppingstones of Migration! So, join or host an International Migratory Bird Day [event](#) near you.

Check out the [DoD Partners in Flight Steppingstones of Migration map](#) to view the many migratory stop-over-sites (steppingstones) throughout the U.S. that DoD conserves and protects!

Endangered Species Day

May 19, Nationwide

Celebrate and HELP save the planet one species or habitat at a time! Join the many zoos, aquariums, botanic gardens, wildlife refuges, conservation groups, national parks, museums, and schools throughout the country for tours, open houses, special presentations, exhibits, milkweed plantings/ butterfly garden installations, habitat clean-ups/other restoration events, children's activities, and more on May 19. Volunteer for or host an [event](#) near you!

American Ornithological Society 2017 Meeting

July 31- August 5, 2017, East Lansing, MI

This conference gives ornithological professionals, amateurs, and students an opportunity to gather and discuss the recent climate-driven decline of endangered and migratory bird species. More importantly, the conference will facilitate discussion of new avian research to help conserve and protect these endangered and migratory bird species.

LINKS OF INTEREST

DoD Natural Resources Program (NR Program)

DoD's NR Program provides policy, guidance, and oversight to manage natural resources on approximately 25 million acres of military land, air, and water resources. Visit the NR Program website for more information on DoD's natural resources initiatives, policy updates, presentations, and links to other conservation and natural resources sites.

DoD Environment, Safety and Occupational Health Network and Information Exchange (DENIX)

The DENIX Natural Resources website is another resource that provides access to natural resources information. Specifically, the website includes DoD Legacy Resource Management Program (Legacy Program) fact sheets and reports, as well as other natural resources materials.

DoD Partners in Amphibian and Reptile Conservation (PARC)

DoD PARC is a partnership dedicated to the conservation and management of herpetofauna (reptiles and amphibians) and their habitats on military lands. DoD PARC membership includes natural resource specialists and wildlife biologists from the Military Services, and individuals from state and federal agencies, museums, universities, and environmental consultants. Visit the DoD PARC website for information about herpetofauna management projects on DoD lands.

DoD Partners in Flight (PIF)

DoD PIF consists of natural resources personnel from military installations across the U.S. and works collaboratively with partners throughout the Americas to conserve migratory and resident birds and their habitats. In addition, DoD PIF supports and enhances the military mission through proactive, habitat-based management strategies that help protect birds on DoD lands and maintain healthy landscapes and training lands. Visit the DoD PIF website for fact sheets, reports, and other materials with information about DoD's migratory bird conservation efforts.

DoD PARC Group and Photo Site, DoD PIF Photo Library, and DoD Natural Resources Photo Library

Visit these three websites to share pictures, news, information, and ideas with the DoD Natural Resources, DoD PARC, and DoD PIF communities. Please review the [photo policy](#) and [photo submission instructions](#) to contribute your images. In addition, account users can download photographs for reports, Power Point presentations, and educational materials such as brochures and posters.

DoD Invasive Species Outreach Toolkit

This toolkit has materials to help DoD natural resources managers communicate with agencies, organizations, and the public about invasive species issues on DoD lands. Specifically, the tool kit includes modifiable outreach materials, such as posters, brochures, reference cards, and a PowerPoint presentation.



DoD Pollinator Initiatives

Visit this website for an overview of pollinators and why they are important to DoD. The website also contains information on how people can help protect pollinators and their habitat, including fact sheets, technical reports, and how-to guides.

Legacy Program Tracker

The DoD NR Program funds high priority natural and cultural resources projects that have regional, national, and/or multi-Military Service benefits through the Legacy Program. The Legacy Program Tracker houses fact sheets and reports with information about methods and results for completed Legacy-funded projects. Natural resources managers can use information from these materials and apply it to similar projects or improve upon completed projects.

Readiness and Environmental Protection Integration (REPI)

Under REPI, DoD partners with conservation organizations, and state and local governments to preserve land around military installations to combat encroachment. REPI promotes innovative land conservation, which preserves the military's ability to train and test on its lands now and into the future.

Strategic Environmental Research and Development Program (SERDP) and Environmental Security Technology Certification Program (ESTCP)

SERDP and ESTCP are independent DoD research programs that use the latest science and technology to develop innovative solutions to DoD's environmental challenges. They promote partnerships and collaboration among academia, industry, the Military Services, and other federal agencies that support military readiness and mission capabilities, quality of life, compliance with legislation and policy, and natural and cultural resources management.

DoD Biodiversity Handbook

The DoD Biodiversity Handbook contains a thorough introduction to biodiversity and how it is essential to support the military mission. It also details the scientific, legal, policy, and natural resources management contexts for biodiversity conservation on DoD lands, and includes 17 case studies with practical advice from DoD natural resources managers.

Cooperative Ecosystem Studies Unit (CESU) Network

DoD participates in the CESU Network, which is a national consortium of federal agencies, tribes, academia, state and local governments, and non-governmental organizations working together to provide research, technical assistance, and training to federal agencies and their partners. DoD's CESU projects have netted savings of approximately \$33 million through combined efforts and a pre-negotiated, lower overhead rate for federal agencies. The CESU Network also provides managers with the adaptive management approaches necessary to preserve installation natural resources.

Armed Forces Pest Management Board (AFPMB)

AFPMB recommends policy, provides guidance, and coordinates the exchange of information on pest management throughout DoD. Their mission is to ensure that environmentally sound and effective programs are in place to prevent pests and disease vectors from adversely affecting natural resources and DoD operations.



DOD NATURAL RESOURCES PROGRAM

Enabling the Mission, Defending the Resources

www.dodnaturalresources.net

<http://twitter.com/#!/DoDNatRes>

Program Director, DoD Natural Resources

Alison Dalsimer: allyn.a.dalsimer.civ@mail.mil

DoD Natural Resources Program Support

DoDNatRes@bah.com

Natural Selections

Natural Selections is written and published quarterly by Booz Allen Hamilton with funding awarded by the DoD Legacy Resource Management Program under Washington Headquarters Services contract number HQ0034-12-A-0032-0002.

All written information contained in Natural Selections is public and not copyrighted.

Information and ideas for future articles are always welcome. Please send comments and suggestions to: NaturalSelections@bah.com.

