

Natural Selections

Department of Defense Natural Resources Program



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ONE-THIRD OF NORTH AMERICAN BIRDS ARE IN TROUBLE

According to the just released *State of North America's Birds Report*, of the 1,154 native North American bird species, one-third of them, or 432 species, require immediate conservation action. The North American Conservation Initiative's report is a comprehensive risk assessment of native bird species that breed in the continental U.S., Canada, and Mexico, as well as oceanic birds that regularly occur in waters off these countries. The report evaluates species vulnerability based on population size, distribution, threats, and population

trend. According to the report, seabirds and tropical birds are the most vulnerable, primarily because of small and declining populations, small ranges, and habitat threats. View the full report online at <http://www.stateofthebirds.org/2016>.



Research shows that Atlantic Puffins and other seabirds have declined nearly 70% since the 1950s. Source USFWS

SPOTLIGHT: WOMEN SUPPORTING WOMEN: DOD AND THE WOMEN'S WILDLIFE CONSERVATION NETWORK

By Naomi Edelson, Senior Director, Wildlife Partnerships, National Advocacy Center, National Wildlife Federation, and Nancy Gloman, Vice President of Field Conservation, Defenders of Wildlife

When women leaders working in the natural resources field meet for dinner, the outcome can be a game changer! In 2011, at the North American Wildlife and Natural Resources meeting in Kansas City, Missouri, four women from the government and nonprofit sectors contemplated the challenges of attending professional meetings (like the North American) where there were few women present. We discussed the need for a platform for women to gather during these professional meetings, share ideas and challenges, and become better leaders in our natural resources careers.

Thus, the Women in Wildlife Conservation Network (WWCN) was born. Our mission is to inspire and empower women in the natural resources community; to provide a venue to share and learn from all genders to help women aspire to and succeed in leadership positions; and to welcome

women of all ages and nationalities into the conservation field.

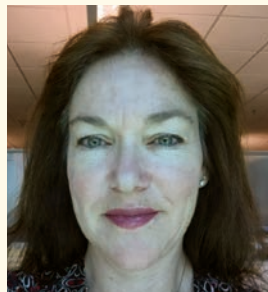


Women in Wildlife Conservation Network participants hear recruitment tips from headhunters. Source: Elsa Haubold

WWCN held an inaugural breakfast at the Association of Fish and Wildlife Agencies meeting in 2011 in Omaha, Nebraska. At this meeting, everyone told interesting, and sometimes amusing stories about their careers. As the meetings moved around the country and the word spread, more women attended, and eventually we had about 40 women attending our events. It was time to take it to the next level. What more could we do to provide an inspiring, empowering forum for professional women in the natural resources community? We decided to have a series of workshops around topics

FROM THE DESK OF DOD'S (NEW!) DEPUTY DIRECTOR, NATURAL RESOURCES

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



Alison A. Dalsimer

After 38 years of federal service, the last 15 years as DoD's Deputy Director, Natural Resources, Peter Boice has retired. Leadership has decided not to backfill this position. So, for some or all of the next four years, I will fill the slot through an Inter-governmental Personnel Agreement (IPA).

For those of you who have worked in this field for a while, you know very well the number and extent of budgetary and personnel challenges and cuts that DoD's natural resources world has faced. Not hiring a permanent civilian for this position is just one more in a series of cuts we have had to face. Despite the challenges, we have not only sustained the resource but also – in many ways – improved conditions beyond expectations. From biologists at the installation to the Service Secretariats, we have all adapted priorities, streamlined workloads, and achieved myriad successes...We have MUCH to be proud of!

However, as every single one of us knows, we cannot do it alone. As we move forward, coordinating and collaborating with our many stakeholders and partners will become increasingly important. Leadership within DoD has tasked this office to maximize off-installation species and habitat protection and mitigation efforts to better meet on-installation conservation objectives in ways that minimize or avoid impacts to our testing, training, and operational activities.

This edition of *Natural Selections* highlights a few of our partnerships. As you will see, the breadth and impact of these efforts is laudable and, hopefully, inspiring. Together, we will continue to make a difference in species and habitat management in ways that directly benefit our soldiers, sailors, and air personnel – allowing them to sustain important mission activities on the lands we help make available and accessible.

Thank you, Alison Dalsimer

PS: For those of you who do not know me, here is a quick bio: I began working in the natural resources field in 1990, when I joined the staff at National Fish and Wildlife Foundation (NFWF). At NFWF, I helped Peter Stangel create and establish the national Partners in Flight program. I joined the DoD family in July 1997 when I became the Legacy Program coordinator. In July 2003, I switched DoD programs jumping from Legacy to Strategic Environmental Research and Development Program (SERDP) and Environmental Security Technology Certification Program (ESTCP), where I stayed until 2008. Beginning in 2008, I began facilitating the development of projects and programs that directly support DoD's Natural Resources Program office (threatened and endangered species [TER-S] Workshops, DoD Instruction [DoDI] update, Invasive Species Commander's Guide, Program metrics, the DoD Natural Resources Program web portal, etc.). I would have stayed, but leadership decided to bring the position onsite and in-house at the Office of Secretary of Defense, so... I applied. After a multi-phase competitive process that took several months, I landed the job of onsite Conservation and Natural Resources Program Associate, where I have directly supported Peter and the DoD Natural Resources Program since September 2012. I have undergraduate degrees in English and Psychology, a master's in Public Policy with an Environmental Law and Economics track, and have completed extensive coursework through the U.S. Department of Agriculture Graduate School and Audubon Naturalist Society. My goal is to serve DoD's natural resources community to the best of my abilities. I will no doubt look to many of you for help and guidance.



The November 2015 issue of *Connect, For the Good of Us All; Conservation Partnerships with the Military* highlights

DoD's partnerships with several organizations including zoos, aquariums, academic groups, state agencies, and more, to conserve threatened and endangered species, and their habitats. Explore this issue of *Natural Selections* as we highlight several DoD beneficial partnerships.

important to women in the natural resources field, including mentoring, recruitment, assertiveness, and communication. As the excitement around the group grew, more women wanted to help. Therefore, we formed a steering committee to help direct our future activities.

From the beginning, Department of Defense (DoD) has lent its financial, emotional and intellectual support. Alison Dalsimer, DoD Deputy Director, Natural Resources Program, and Tammy Conklin, Commander Navy Installations Command N45/Naval Facilities Engineering Command EV2 Natural Resources Program Manager, serve on our steering committee, and Tammy inspired everyone with a speech about her career path and challenges, at our first workshop in Washington, D.C. Many of our events have coincided with the Military Fish and Wildlife Association meetings so that many women of our armed services can learn and grow with us.



Women conservation leaders (including coauthor Nancy Gloman) talk about mentoring at a workshop in Denver, CO, in 2014. Source: Elsa Haubold

We have begun to see a difference. Our numbers have grown to more than 90 (25-40% from DoD!) at our workshops, and even more on our listserv. More women of mixed ages attend our events, providing opportunities for mentoring—and some men have participated too! In the last few years, more women move into leadership roles in agencies and organizations. We have achieved the ultimate goal, women helping women by assisting in finding jobs and peer-to-peer advice on how to handle sticky situations.

Looking to the future, we are considering additional events and opportunities that will help with our networking including more workshops, a retreat, and an informal mentoring program. We are thankful for the support of DoD and the many women who work there.



Texas Horned Lizard (*Phrynosoma cornutum*).
Source: Peggy Grant



Black-necked Gartersnake (*Thamnophis cyrtopsis*).
Source: Rob Lovich



Marbled Salamander (*Ambystoma opacum*).
Source: Paul Block

A SUCCESSFUL AMPHIBIAN AND REPTILE CONSERVATION PARTNERSHIP

By Jen Williams, Ph.D., Federal Coordinator for PARC



Partners in Amphibian and Reptile Conservation (PARC) provides a means for federal agencies to talk to each other through an international network of amphibian and reptile conservation partnerships. Who is in PARC? Anyone who is interested in herpetofauna conservation! The PARC network involves government, state and local agencies, zoos, non-governmental organizations, industry, academia, and more!

PARC membership extends from western Canada through the continental U.S., and into the Caribbean. It includes **five regional working groups**, seven state chapters (AL, CO, FL, ID, MI, NC, WI), and a Caribbean chapter. Since 2009, DoD PARC and PARC have worked closely on a number of projects. **More importantly, DoD PARC is the only federal agency to have a strategic plan for amphibian and reptile conservation and PARC worked closely with them in the early drafts of the strategic plan.**

The DoD is one of 11 federal agencies on PARC's federal agency steering committee (FASC). The FASC meets monthly by phone conference and discusses hot topics about amphibians and reptiles, such as a new fungus (**Batrachochytrium salamandrivorans, Bsal**) that caused a mass die-off of salamanders in some European countries. The U.S. boasts the highest salamander diversity in the world, so PARC is trying to prevent the fungus from entering the country. Other PARC actions include updating members on upcoming or ongoing amphibian and reptile projects conducted on federal lands, and coordinating conservation actions with our partners.

PARC's Federal Coordinator develops and coordinates conservation actions among its partners, including DoD PARC. For instance, DoD PARC is developing a series of amphibian and reptile management training modules for Navy resources personnel that PARC hopes to make available to other federal agencies. Courses include *Threats to Amphibians and Reptiles* and *How to Safely Move Venomous Snakes*. Recently, the PARC Federal Coordinator facilitated completion of a cooperative agreement and identified instructors to create the modules. These modules will be available in 2017, so stay tuned!

National and DoD PARC representatives were instrumental to ensuring completion of three important national amphibian disease surveys on DoD lands in 2009, 2011 and 2013. The surveys sampled for the amphibian chytrid fungus (*Batrachochytrium dendrobatidis*) on approximately 90 military installations and collected data for 65 amphibian species across the U.S. Collecting data for these projects was challenging due to their large geographical scale; the project would probably never have been possible without a dedicated Federal Coordinator, dedicated DoD Coordinators, and a strong partnership between PARC and DoD PARC. Survey reports are available on the [DoD PARC website](#).

NMFWA: A NATURAL RESOURCE PARTNERING & COMMUNICATION TOOL

By Elizabeth Neipert, President, NMFWA



The National Military Fish and Wildlife Association (NMFWA) has been a part of DoD natural resources conservation since it was founded in 1983 by a collection of installation biologists and foresters after several unofficial meetings at regional conferences. The approximately 700 members include wildlife and fisheries biologists, botanists, ecologists, range conservationists, foresters, cultural resource managers, installation planners, National Environmental Policy Act (NEPA) practitioners, and wildlife/cultural law enforcement agents. Members may work for DoD or other federal, state or local agencies, universities, conservation organizations, or private businesses, and are directly involved in conservation and management of natural resources on military lands.

The primary benefit to NMFWA members is access to a community of natural resources and environmental professionals with similar challenges. Within NMFWA, nine working groups allow members to be active in topics that are of interest (bats, bird conservation, herpetofauna, climate change, pollinators, invasive species, law enforcement, Bird/Animal Aircraft Strike Hazard, and fish & wildlife recreation). NMFWA also publishes a quarterly newsletter, the [Fish and Wildlife News \(FAWN\)](#). Anyone can contribute articles, original or reprinted from willing publications, that highlight work completed on DoD lands. Details on how to contact the editor to submit materials are on the [NMFWA website](#).

NMFWA members work to protect and manage wildlife and other natural resources on DoD lands through collaboration and peer-to-peer contact. Over time, this contact has grown to include representation from the U.S. Fish and Wildlife Service headquarters and DoD officials. NMFWA holds an annual training workshop in conjunction with the Wildlife Management Institute's North American Wildlife and Natural Resources Conference. The training allows DoD personnel to interact with other federal agencies, non-governmental organizations, and national and international policy makers and land managers. The open meetings on both sides of the aisle allow DoD to be viewed as an equal partner, and also to keep installation staff's eyes open to the bigger picture and grow beneficial and efficient partnerships.

The 2016 training included workshops on eDNA techniques and Migratory Bird Treaty Act implementation; six technical sessions

on topics such as marine conservation, bat acoustics, and climate change; and Peter Boice's last DoD Natural Resources Policy Update. The meeting incorporated traditional fixtures like the USFWS breakouts, awards banquet, and working group meetings. To view the presentations, visit www.nmfw.net/index.php/conference/presentations.

Because of the individual and collective dedication of the membership, NMFWA has earned national and international recognition from within DoD, Congressional leadership, state and professional resource management agencies, and non-governmental conservation organizations.

Joining NMFWA is simple and free. Send an email with your signature block to [Todd Wills](#) (Membership Coordinator). Please visit the [NMFWA website](#) for additional information.

USFWS HONORS BARRY M. GOLDWATER RANGE'S PARTNERSHIP EFFORTS

The Barry M. Goldwater Range in southern Arizona won the U.S. Fish and Wildlife Service (USFWS) 2016 Military Conservation Partner Award for its outstanding collaborative efforts to provide landscape-level stewardship for diverse and rare natural resources. The Barry M. Goldwater Range provides 1.5 million acres of wildlife and supports conservation efforts for three federally listed species, including the Sonoran pronghorn, lesser long-nosed bat, and acuña cactus. The Range harbors one of the largest, protected expanses of Sonoran desert habitat. It is a joint range managed by the Marine Corps Air Station Yuma and the Air Force's 56th Fighter Wing at Luke Air Force Base.

The USFWS created the Military Conservation Partner Award to recognize the hard work that our DoD installations accomplish for conservation. This annual award, bestowed at the National Military Fish and Wildlife Association annual conference, acknowledges a military installation whose efforts represent significant conservation accomplishments often achieved in partnership with the USFWS and other conservation agencies.

Visit https://www.fws.gov/fisheries/sikes_act/ for the full article.



Recovery teams at the Barry M. Goldwater Range in Arizona are taking measures to safeguard endangered Sonoran pronghorns. The population crashed to a low of just 21 animals in 2002, prompting the initiation of a full-scale recovery effort. Source: U.S. Air Force photo/Monica Guevara/Released

POCS, MOUS AND OTHER TLAS (THREE-LETTER ACRONYMS): THE BENEFITS OF PARTNERSHIP AND COOPERATION WITH PROFESSIONAL ORGANIZATIONS

By Rhys Evans, Vandenberg Air Force Base, Past Chair, Military Lands Working Group of TWS, Mariah Simmons, Wildlife Programs Coordinator, TWS, and Keith Norris, Director of Government Affairs and Partnerships, TWS

In an environment surrounded by acronyms, readers may not be familiar with a relatively new one: TWS-MLWG (The Wildlife Society, Military Lands Working Group). TWS-MLWG is, in theory, a representative of several other organizations that currently exist, or should exist, as we think about partnerships in general and how they make our jobs easier.

The MLWG of TWS officially launched in 2014, but its origins began during table talk in fall 2009, or perhaps even before. Within TWS, "Working groups are forums for members with common professional interests to network, exchange information and promote science-based decision making and management of wildlife and its habitats." TWS has more than 25 active working groups.

The MLWG provides opportunities for members to exchange information, meet professionals with similar situations, and promote awareness of natural resource conservation requirements on DoD lands. Returning to the common ground of acronyms, there can be no denying that it makes our jobs easier when we know and can ask questions of colleagues who deal with INRMPS (Integrated Natural Resources Management Plans), BASH (Bird/Animal Aircraft Strike Hazard), BAER (Burned Area Emergency Rehabilitation), and NEPA, among dozens of other topics.

MLWG also allows members to get the word out by sharing our accomplishments with those conference attendees who inevitably tell us, in the hallway, "I didn't know DoD had wildlife biologists." MLWG sponsored or co-sponsored workshops or symposia at recent National TWS meetings in Monterey, Snowbird, Portland, Milwaukee, and Pittsburgh. In addition, our members have recently organized contributed paper sessions at smaller, TWS section meetings in Flagstaff, Arizona and Pomona, California.

From the other perspective, how does the existence of the MLWG benefit TWS? (Alternatively, how would a similar organization benefit other professional organizations? Read onward for a challenge). For starters, it provides other professional organizations with a list of members they can contact when a pertinent question appears. TWS can also look to us to provide commentary, expertise, or recommendations for articles in their member publications.

Mariah Simmons, Wildlife Programs Coordinator for TWS stated, "Participation from military employees and the knowledge they gain from the habitat provided by military lands generates unique and valuable perspectives on wildlife management and conservation. These perspectives contribute to the ongoing wealth of wildlife science, benefiting wildlife professionals around the globe."

Simmons continued, "...by engaging DoD employees in the MLWG, TWS is able to more fully implement its mission, empowering DoD employees to perform science-based management. Our other members also benefit from the knowledge and perspectives provided by DoD employees and MLWG members on technical issues of wildlife science and management."

Other professional societies can, and should, have participation from DoD Natural Resources personnel. If you do not think that TWS will fit your education and experience, look at the [American Fisheries Society](#), [Society of American Foresters](#), [Ecological Society of America](#), and [Society for Range Management](#), or any other organization dedicated to promoting science-based decision-making and management of wildlife and its habitats. Lastly, if your professional society does not have a military lands working group, why not start one?

BALD EAGLES CONTINUE TO SOAR

By Valerie Fellows, USFWS, Ecological Services Program

It has been nine years since the U.S. Fish & Wildlife Service (USFWS) deemed our national symbol fully recovered and officially removed from Endangered Species Act (ESA) protection. Today, the bald eagle population continues to grow, and people can see them flying in every state across the country. Habitat protection afforded by the ESA, the federal government's banning of DDT (dichlorodiphenyltrichloroethane - a synthetic pesticide that harms wildlife), and actions taken by our partners in conservation have put the bald eagle on its path to recovery.



Bald eagle chicks. Source: USFWS

When America adopted the bald eagle as the national symbol in 1782, the country had as many as 100,000 nesting eagles. The first major decline of the species began in the mid to late 1800s, coinciding with the decline of waterfowl, shorebirds, and other prey. Although they primarily eat fish and carrion, landowners, farmers, and livestock owners mistakenly considered bald eagles marauders that preyed on chickens, lambs, and domestic livestock. Consequently, landowners shot the birds in an effort to eliminate a perceived threat. In 1940, noting that the species was "threatened with extinction," Congress passed the Bald Eagle Protection Act, which prohibited killing, selling, or possessing the species.

Shortly after World War II, pesticide companies introduced DDT as a new pesticide designed to control mosquitoes and other insects. However, DDT and its residues washed into nearby waterways, where aquatic plants and fish absorbed the pesticide. DDT poisoned bald eagles after the birds consumed contaminated fish. The chemical interfered with the bird's ability to produce strong eggshells. As a result, their eggs had shells so thin that they often broke during incubation or otherwise failed to hatch. DDT also affected other species such as peregrine falcons and brown pelicans.

By 1963, with only 417 nesting pairs of bald eagles remaining in the lower 48 states, bald eagles were in danger of extinction. In 1967, the Secretary of the Interior listed bald eagles south of the 40th parallel under the [Endangered Species Preservation Act of 1966](#). Following enactment of the [Endangered Species Act of 1973](#), the USFWS listed the species as endangered throughout the lower 48 states, except in Michigan, Minnesota, Oregon, Washington, and Wisconsin, where it designated the bird as threatened.

The legal protections given to the species by these statutes, along with a crucial decision by the Environmental Protection Agency to ban the general use of DDT in 1972, provided the springboard for USFWS and its partners to accelerate recovery through captive breeding programs, reintroductions, law enforcement efforts, protection of habitat around nest sites and land purchase and preservation activities.

One of our key partners in conserving bald eagles and their habitat was DoD, and the numerous installations around the country that worked to protect eagles. By restoring and creating habitat, building platforms for nests, establishing protection zones around nests, and monitoring bald eagle movements, military installations around the country have provided a healthy and safe environment so eagles can flourish.

There are now more than 10,000 breeding pairs of bald eagles in the lower 48 states. From Aberdeen Proving Ground in Maryland, to Naval Air Station Whidbey Island in Washington, and the numerous other military installations that are home to nesting eagles, USFWS continues to work with and celebrate the recovery of the bald eagle with our partners at DoD.



Bald eagle. Source: USFWS

THE ENDANGERED SPECIES ROUNDTABLE: SUCCESSFUL COOPERATIVE INTERAGENCY MANAGEMENT

By Alison A. Dalsimer, DoD Deputy Director, Natural Resources Program; Martha Balis-Larsen, Chief, Division of Budget & Technical Support, Ecological Services, and Lewis Gorman, III, Biologist, Endangered Species Recovery Program, USFWS

In preparation of the bald eagle being de-listed in 1999, the U.S. Fish and Wildlife Service (USFWS) reached out to DoD's Natural Resources Program to recognize the military's role in the recovery of our Nation's iconic species. DoD and USFWS began meeting regularly to plan activities, organize several collaborative outreach events, and develop materials, including a poster and postcard featuring a military-inspired image of the bald eagle (shown).



Example outreach poster in honor of bald eagle delisting. Source: USFWS

Over time, both agencies began discussing more substantive listed species issues, and the partnership evolved into a formal coordinating body called the DoD/USFWS Endangered Species (ES) Roundtable. Roundtable meetings provided a forum where participants could share information and identify problems in a non-regulatory, communications-based environment. As relationships formed, trust formed also. The meetings

became standing quarterly events at which multiple USFWS offices met with Office of the Secretary of Defense and headquarters' staff from all of the Military Services.

Other federal agencies began joining and, by 2006, the DoD/USFWS ES Roundtable became the ES Roundtable. Roundtable partnerships launched several efforts which created a new DoD database to store outreach, natural resource training and science information, regional science forums to determine DoD-related endangered species science needs, four DoD-themed USFWS [Endangered Species Bulletins](#), and a number of DoD Legacy projects that focused on science, endangered species, and species at-risk.

Today, scope of the Roundtable and its subcommittees include federally listed species, species at-risk, candidate, and state-listed species. This broader view continues to provide opportunities for cooperative interagency management and program development, as well as integration of efforts at the local, regional, and national levels.

The Roundtable partnership benefits all parties by sharing early alerts of upcoming policies and listing decisions, creating opportunities for cooperative problem solving, and improving staff communication among participating agencies. These agencies now include (in addition to DoD and USFWS), the U.S. Geological Survey, National Oceanic and Atmospheric Administration, Army and Air National Guard, U.S. Army Corps of Engineers, Bureau of Land Management, Bureau of Ocean Energy Management, U.S. Coast Guard, Federal Emergency Management Agency, Bureau of Reclamation, U.S. Department of Agriculture Forest Service, State Department, and National Park Service.



JBLM and WDFW Conserve Species and Training Lands

At Joint Base Lewis-McChord (JBLM) in Washington, base Natural Resource Managers work with the Washington Department of Fish and Wildlife (WDFW) to restore populations of the Oregon spotted frog and the Taylor's checkerspot butterfly. The last known population of the Taylor's checkerspot currently resides on the live fire artillery range at JBLM. JBLM supplies WDFW with funding and access to training lands to support propagation, reintroduction, and monitoring of the species. In turn, WDFW supplies JBLM with data on the species distribution



Taylor's checkerspot butterfly.
Source: WDFW

and numbers, and recommendations on managing habitat and threats. Through this partnership, DoD is able to minimize and mitigate impacts to these species, enabling no net loss in military training. [Connect, For the Good of Us All; Conservation Partnerships with the Military](#)

BASH PARTNERSHIPS: THE NAVY AND USDA PARTNER FOR SAFER SKIES

Michael J. Begier, National Coordinator, Airport Wildlife Hazards Program, USDA Wildlife Services and James Swift, Natural Resources Specialist, NAS Patuxent River, MD

The Bird/Animal Aircraft Strike Hazard (BASH) program is a complex arrangement of people, organizations, backgrounds, and technology that work together to reduce the hazards wildlife pose to aircraft so that the Navy can achieve its mission in terms of aviation safety and natural resource stewardship.

How does this all come together? Through effective coordination!



T-44 aircraft from VT-31 Training Air Wing Four, that struck a Black Vulture. Source: VT-31 Safety

Historically, BASH programs varied across the Navy, the Environmental Division, Air Operations, or Safety Departments, administered some of the program, which led to a lack of consistency among installations. An important change occurred in 2009 when the Navy's BASH program management was assigned to Commander, Navy Installations Command (CNIC) Air Operations. CNIC consolidated the established U.S. Department of Agriculture (USDA) Wildlife Services programs in Texas, Washington, California, and Florida, and implemented a national agreement with the USDA that now covers 19 facilities in 11 states. This partnership is logical and effectively supports the Navy mission in different yet complimentary ways.

BASH programs are an example of wildlife damage management in action that document baseline information

about potentially hazardous wildlife and habitats, consider, and implement recommendations to achieve effective mitigation. This is critical on DoD lands so that the DoD can maintain the functional mission and natural resources stewardship goals. Examples of where a coordinated approach benefits conservation and aviation safety are programs at Naval Air Station (NAS) Patuxent River and NAS Kingsville.

A critical gap of the NAS Patuxent River BASH program, prior to USDA involvement, was the lack of a consistent airfield presence to control potential wildlife hazards to aviation, such as, to look for, disperse, and when necessary, conduct depredation of wildlife. These activities are crucial for a well-functioning BASH program but require coordination so that all parties are aware of the data supporting the decision making cycle, especially for habitat management and depredation of regulated wildlife species. Coordination at the installation level was achieved via the Bird Hazard Working Group, which involves all installation stakeholders ensuring that aviation safety is achieved and natural resource management goals are maintained. In one case, the vegetation along an airfield stormwater drainage area was removed after being identified as a causal factor in a deer aircraft strike.

The use of technology is another good example of the integrated approach to mitigating BASH issues. Since 2012, collaboration between the Chief of Naval Air Training, USDA, and flying units at NAS Kingsville continue to benefit safety and conservation by de-conflicting the airspace with an avian radar system. A coordinated approach to sharing both historical and real-time bird movement data within the air traffic pattern has increased training opportunities for new naval aviators. The benefit to all parties is a decrease in strike rate. This not only supports the training mission but also results in fewer strikes over time particularly with larger, more hazardous species of birds.

The DoD Natural Resources (NR) Program's webinar series aims to share interesting and informative topics and projects related to natural resources with the larger DoD NR community. The webinar series features bimonthly presentations from speakers representing DoD Partners in Amphibian and Reptile Conservation (DoD PARC), DoD Partners in Flight, and Legacy, Strategic Environmental Research and Development Program, and Environmental Security Technology Certification Program projects. Visit the [DoD NR Program](#) and [DoD PARC](#) web portals for information on upcoming webinars. The next presentation in the DoD NR webinar series will feature recovery efforts for the Eastern Massasauga rattlesnake in July.

The Readiness and Environmental Protection Integration (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 1pm ET. Visit [REPI's web portal](#) for information on upcoming webinars. The next presentation in the REPI program's webinar series will be held on July 20 at 1pm ET, and discuss opportunities for DoD installations to address Endangered Species Act and other species and habitat-related issues through innovative off-installation practices, while highlighting DoD's efforts at updating its Natural Resources Program strategy.

DOD COOPERATIVE ECOSYSTEM STUDIES UNITS (CESU) NETWORK

Established in 1999, the [Cooperative Ecosystem Studies Units \(CESU\) Network](#) is a national consortium of public and private parties. Its purpose is to provide research, technical assistance, and training to the federal land management, environmental and research agencies and their partners. The scope includes the biological, physical, social, and cultural sciences needed to address natural and cultural resource management issues at multiple scales and in an ecosystem context.



The CESU Network is organized into 17 biogeographic regions. DoD is a federal member of all 17 regions.

Each CESU is comprised of three key partners: federal agencies, the host university, and partner institutions (with a requirement of at least one minority institution in each region). Agreements allow each participating federal agency to transfer funds and duty station employees to university partners while maintaining responsibility for agency-sponsored activities within CESUs.

The [National CESU Council](#) is made up of representatives from each federal agency that signed the CESU Memorandum of Understanding (MOU), and a National Coordinator that coordinates the CESU Network leads the Network. DoD became a federal agency partner in the CESU Network through an amendment to the MOU in 2000.

DoD is a member of all 17 CESU regions: Californian, Chesapeake Watershed, Colorado Plateau, Desert Southwest, Great Basin, Great Lakes-Northern Forests, Great Plains, Great Rivers, Gulf Coast, Hawaii-Pacific Islands, North and West Alaska, North Atlantic Coast, Pacific Northwest, Piedmont-South Atlantic Coast, Rocky Mountains, South Florida-Caribbean, and Southern Appalachian Mountains.

From fiscal year 2002-2015, DoD funded 862 projects through the CESUs, totaling nearly \$218 million. These projects have provided access to high quality scientists from the pool of more than 375 partners in the CESU Network. In addition, DoD's CESU projects have netted savings through cost avoidance of approximately \$28 million.

For more information on the DoD CESU Network, read the [DoD CESU National Network fact sheet](#) and visit the [CESU Network website](#).

USACE USES COOPERATIVE NETWORK TO TAP TOP TALENT FOR DOD ENVIRONMENTAL NEEDS

By Jim Frisinger, Fort Worth District, USACE

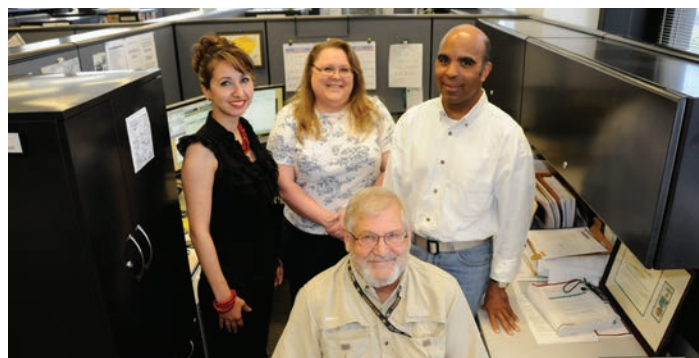
Fort Worth is in Texas, and San Clemente Island is in California, both seem worlds away. However, Army personnel in Texas collaborate with Navy staff in California to meet environmental challenges at a remote training site in the Channel Islands, California.

The [Cooperative Ecosystem Studies Units Network \(CESU\)](#) is a consortium of universities, non-profits, government agencies, and institutions. CESU projects generate research, provide assistance, and offer educational opportunities benefitting the 15 federal agencies who are members. The U.S. Army Corps of Engineers (USACE) at Fort Worth District generates all CESU Network projects for DoD installations, which is approximately \$30 million of the \$100 million annual CESU Network program. The remaining \$70 million supports work for the other 14 federal agencies.

"I'm everywhere from Alaska to Guantanamo Bay to New York to Hawaii – and everywhere in between," said Jack Mobley, retired, was DoD's CESU point of contact for the last five years at Fort Worth's Regional Planning and Environmental Center.

It may seem counterintuitive, but CESU supports compliance with the Endangered Species Act and simultaneously expands the military's ability to pursue its training mission, Mobley said. CESU projects at Fort Hood in Killeen, Texas, expanded habitat suitable for the endangered golden-cheeked warbler and black-capped vireo, thereby reducing the conflict between training grounds and breeding grounds.

The Pentagon uses a comprehensive natural resources management approach. It focuses less on preserving individual listed or at-risk species and more on preserving an entire ecosystem, said L. Peter Boice, DoD Deputy Director, Natural Resources Program, retired. CESU reduces costs to the federal government with its policy of not exceeding 17.5 percent overhead – about half of what typically was charged, said Boice.



Dr. Jack Mobley, front, retired from the USACE in March. His Cooperative Ecosystem Studies Units work will be continued by Army teammates Zia Flossman, Kathy Mitchell and Charles McGregor. Source: Jim Frisinger, USACE, Fort Worth District

CESU has been a good fit for Kimberly O'Connor, a botanist who manages natural and cultural resources for Commander, Pacific Fleet. It helps her oversight mission for Naval Base

Coronado's San Clemente Island. Finding the best experts in the field, from both universities and nonprofits, had gotten harder, said O'Connor, who works closely with base biologists to determine what projects are needed. They collaborate with CESU partners to develop work plans.

Maintaining the population of the San Clemente loggerhead shrike, a subspecies found only on the island, has been challenging. The Institute for Wildlife Studies won a competition through CESU to support recovery efforts. It combines monitoring with predator management and control. It also releases shrikes raised by the San Diego Zoo in California, under another CESU agreement (San Clemente Loggerhead Shrike Captive Breeding).

CESU also supports botanical research; it helps uncover the germination requirements of listed species, some of which are helped by fires. CESU-assisted surveys can uncover an emerging habitat problem before it becomes a serious issue, said O'Connor. Thanks to CESU, the Navy can undertake a more robust process to demonstrate the improved distribution and abundance of endangered species, which can be a long process.



San Clemente Island bushmallow, one of six federally listed plants on the island, is found only on the Island. Source: U.S. Navy

"If we can make a case that they have made a dramatic recovery, then they can be down-listed or delisted," said O'Connor. That is a big plus for the Navy since it reduces the encumbrance to the military mission of where and when the service members can train.

COAST GUARD IN HAWAII HONORED FOR HELPING ENDANGERED MONK SEALS

By *Stars and Stripes* (published May 17, 2016)

Coast Guard personnel from Air Station Barbers Point, Hawaii, recently flew some unusual precious cargo aboard a C-130 Hercules: seven endangered Hawaiian monk seals.

The seals were rescued by the National Oceanic and Atmospheric Administration in September 2015 and spent the past few months in protective custody at the Marine Mammal Center's Ke Kai Ola monk seal rehabilitation facility in Kona, Hawaii. Once they were deemed fit to return to the wild, the agency partnered with the Coast Guard to return the animals back to where they were found.



Members of the Coast Guard, the National Oceanic and Atmospheric Administration, the Marine Mammal Center, and volunteers load a Hawaiian monk seal onto a C-130 Hercules airplane from Air Station Barbers Point, Hawaii, to travel from Kona to Oahu, April 14, 2016. Photo by Sara Mooers/US Coast Guard (Courtesy of Stars and Stripes)

To commemorate the conservation mission — the largest single transport of marine life by the Coast Guard in recent years — NOAA on Monday presented the air station with a series of Hawaiian monk seal decals to adorn the hull of the plane that flew the delicate creatures....

A partnership between the Coast Guard, NOAA, and the Marine Mammal Center is responsible for the rehabilitation and release of 15 Hawaiian monk seals, which are among the most endangered mammals native to the United States, over the course of several years. Just under 1,200 of the seals remain in their native habitat along Hawaii's coastlines.

"This is a unique opportunity for the Coast Guard to play a part in the recovery of this species," said Eric Roberts, Living Marine Resource Specialist, Coast Guard 14th District.

Marine-life protection is one of 11 statutory missions given to the Coast Guard by Congress and the Ocean Guardian Strategy. Since 2008, the Coast Guard 14th District has helped transport 46 animals.

It's important for anyone who sees a sick or injured Hawaiian monk seal to call 888-256-9840, NOAA's marine mammal hotline, said Michelle Barbier, a NOAA wildlife veterinary medical officer.

"Monk seals are really important to Hawaii because not only are they endangered, but they're also the only [seals] native to these waters," she said.



A Hawaiian monk seal rests in a cage at Kona, Hawaii, before boarding a C-130 Hercules airplane from Air Station Barbers Point, Hawaii, April 14, 2016. Seven of the endangered seals were initially rescued by the National Oceanic and Atmospheric Administration in September 2015, and spent the past few months in protective custody at the Marine Mammal Center's Ke Kai Ola monk seal rehabilitation facility in Kona, Hawaii. Once they were deemed fit to return to their natural habitat, the agency partnered with the Coast Guard to return the animals back to the wild. Photo by: Sara Mooers/US Coast Guard (Courtesy of Stars and Stripes)

NEEF AND DOD LEGACY PARTNER TO HELP PUBLIC LANDS

By Amanda Hoffman, Communications Manager, NEEF and Mallory Shramek, Grantmaking Associate, NEEF



Every September for the last 22 years, National Public Lands Day (NPLD) has drawn

hundreds of thousands of people out to their local and national public lands to plant, paint, mulch, pick-up trash, build trails, and more. NPLD is a program of the National Environmental Education Foundation (NEEF), and the nation's largest single-day volunteer effort for public lands. More than 200,000 people participated in 2015 at over 2,500 sites in every state, the District of Columbia, and many U.S. territories. Through NPLD, NEEF works to connect people to public lands in their community, inspire environmental stewardship, and encourage use of public lands for education, recreation, and general health.

In 1999, the DoD joined the NEEF NPLD partnership to support cultural and natural resource enhancement projects at military installations open to the public for recreation throughout the United States. Over the past 17 years, through the Legacy Resource Management Program (Legacy), DoD has contributed more than \$2,000,000 in financial support for NPLD events, leveraging an estimated 5:1 return on investment to DoD in volunteer labor to benefit natural and cultural resources on Military lands. With DoD Legacy funds, NEEF awards up to \$6,500 per project for service efforts at about 30 military installation sites across the nation each year.

Participating in NPLD provides natural and cultural resource managers the means and labor to complete small installation-specific projects that while beneficial to the installations, may not otherwise get done due to budget or labor limitations. NPLD also provides an opportunity for the military to strengthen its relationship with the local community. By inviting the community to participate in NPLD projects, the public can learn about the lands and their cultural elements, and understand the unique challenges surrounding natural and cultural resource management on DoD installations.



Legacy volunteers on NPLD 2015 at Schofield Barracks in Honolulu, HI. Source: NPLD volunteer

In 2015, nearly 1,200 volunteers took part in natural and cultural resource improvement activities at 30 funded DoD installations. Natural resource projects improved habitat for pollinator species including bees, birds, bats, and insects; removed invasive plants; restored rivers; enhanced dunes; constructed trails; and planted

native trees and wildflowers. The cultural resource activities included preserving burial sites, repairing historic structures, and installing educational signage.

This year, join thousands across the country for the 23rd annual NPLD on September 24, 2016! You can register an event or find one to take part in at the [NEEF NPLD website](#). Your work will help ensure our public lands of all kinds continue to be beautiful places for all to enjoy.

WHAT'S HOPPIN' IN DOD PARC: DOD PARC REPRESENTATIVES PROVIDE TECHNICAL SUPPORT TO CONDUCT SURVEY IN ITALY

By Chris E. Petersen, NAVFAC Atlantic-DoD PARC National Representative, Robert E. Lovich, Ph.D., NAVFAC Southeast-DoD PARC National Technical Representative, Paul Block, NAVFAC Atlantic-DoD PARC Representative



One of the many services that Naval Facilities Engineering Command (NAVFAC) provides is the expertise and staffing to conduct field surveys for common and listed amphibian and reptile species on military lands within and outside of the continental U.S. This capacity has grown with completion of the [Strategic Plan for Amphibian Conservation and Management on Department of Defense Lands](#), and is in line with the objectives therein. In April 2016, Department of Defense Partners in Amphibian and Reptile Conservation (DoD PARC) representatives surveyed protected species at Naval Radio Transmitting Facility (NRTF) Niscemi, on the Island of Sicily, Italy, funded by the U.S. Navy.

On behalf of the Navy, DoD PARC inventoried herpetofauna and bird species listed as protected by Italian law, international conventions, and European Union directives, and documented their potential to occur at NRTF Niscemi. The Navy had not conducted surveys of common or protected species at this site, even though suitable habitat is present to support several species listed under the aforementioned conventions. This work directly supports compliance with the 2012 Final Governing Standards for Italy that requires surveys and inventories for protected species. Other regulatory mechanisms requiring this effort include [Overseas Environmental Baseline Guidance Document](#), [Executive Order 12114 Environmental Effects abroad of Major Federal Actions](#), [DoD Instruction 4715.5](#), [Environmental Compliance at Installations Outside of the United States](#).

For reptiles, amphibians, and birds, visual encounter surveys were the primary method used. This involves searching available habitats and microhabitats with experienced field biologists and herpetologists when the species are most likely to be detected (i.e., appropriate weather, season, time of day, for the targeted species). At NRTF Niscemi, the Navy used this technique by surveying grassland, woodland, and Mediterranean scrub habitats in the daytime, and at night. Other survey methods for herpetofauna included night driving while looking for individuals on or attempting to cross a road, use of cover boards already present on the site, and acoustic surveys for frogs and toads.

The pool frog (*Pelophylax lessonae*), a species on the Italian protected species list, and the European toad (*Bufo bufo*) were documented onsite. Reptiles encountered included two Italian protected species: the ocellated skink (*Chalcides ocellatus*) and

the Western whip snake (*Hierophis viridiflavus*). Other reptiles included the Turkish gecko (*Hemidactylus turcicus*), Moorish gecko (*Tarentola mauritanica*), Italian wall lizard (*Podarcis siculus*), and Western green lizard (*Lacerta bilineata*).



Italian Wall Lizard. Source: DoD PARC

The most important discovery of the trip was documentation of the venomous asp viper (*Vipera aspis*) on the Navy facility. Technical experts had suspected this species of being present on NRTF Niscemi, but had not previously confirmed its presence. When surveyors first discovered the asp, it was in the process of consuming an adult Italian wall lizard. Known to live in Spain, France, Germany, Switzerland, and Italy, asp vipers are secretive animals and not often encountered in the wild.

During the weeklong survey effort, DoD PARC representatives safely photographed many of the reptiles encountered on the base. On the last day of the survey, DoD PARC gave an information and safety briefing to over 30 Navy personnel that was met with an overwhelmingly positive response. The briefing educated Navy staff on the wildlife living on the facility, and provide awareness and safety procedures regarding how to avoid the venomous asp. A few brave personnel even stepped forward to touch some of the live specimens! While the lizards and non-venomous snake species were abundant, few of the Navy personnel had ever seen them up close. Many were unaware as to the diversity of wildlife living on the facility or the presence of the viper.

DoD PARC members are currently working on a survey field report, educational posters, and pamphlets with pictures of the species documented on the Navy facility. They are also working on providing venomous snakebite protocols, and helping to identify the nearest hospitals that have medical toxicology staffing and anti-venom for this remote installation.

If you would like more information on this project or if you would like to participate in any DoD PARC related projects or activities, please contact [Chris Petersen](#) or [Rob Lovich](#) or visit the [DoD PARC website](#).



Asp Viper. Source: DoD PARC

Navy and Virginia Aquarium and Marine Science Center Monitor Endangered Species

The Navy collaborates with academic institutions and groups, such as the Virginia Aquarium and Marine Science Center in Virginia Beach, VA, to document and monitor protected and endangered marine mammal and reptile species that occur on DoD installations. For example, the Virginia Aquarium and Marine Science Center is working to monitor fine-scale movement of sea turtles in the Chesapeake Bay and other waters in and around naval facilities. The partner organizations share their data and



Sea Turtle. Source: NOAA

findings on how installations and military activities impact the environment and the protected and endangered species which occur on and near DoD installations. [Connect, For the Good of Us All; Conservation Partnerships with the Military](#)

KEY NATURAL RESOURCES CONSERVATION GOALS ACHIEVED THROUGH STRATEGIC LOCAL PARTNERSHIPS AND EFFICIENT RESOURCE MANAGEMENT

Reprinted from the 2016 Secretary of Defense Environmental Awards, [Natural Resources Conservation, Small Installation: Camp Dawson Army Training Site, West Virginia Army National Guard, West Virginia fact sheet](#).

The West Virginia Army National Guard's (WVARNG) Camp Dawson began as a tent facility used only in the summer. Since the 1980s, the Army transformed the campsite by acquiring land, building new ranges and training capacities, and constructing infrastructure. Today, Camp Dawson encompasses approximately 5,000 acres. In addition to its training lands, Camp Dawson's live fire ranges include a modified record firing range, demolition range, and a live fire shoot house, many of which are new or have been recently updated. With the expansion of Camp Dawson's training capacities, its troop throughput has increased from an average of 110,000 per year to 130,000 soldiers in fiscal year (FY) 2015 with expected increases of 20 to 30 percent over the next five years. To manage the installation's natural resources, Camp Dawson established a Natural Resources Conservation (NRC) program.

Camp Dawson's NRC major accomplishments include:

- In FY 2014, the NRC staff completed a five-year project to construct an interpretive wetland boardwalk, with volunteer assistance, using National Public Lands Day (NPLD) grants. The new recreation site includes a boardwalk and picnic area with educational exhibits on natural resources and ecology.
- Camp Dawson staff improved upon an old field/strip mine rehabilitation project encompassing nearly 100 acres. The project restored native grasslands that support wildlife and created new drop zones and bivouac areas for training. The NRC staff also restructured their progressive invasive species program to facilitate other installation mission needs.


- The NRC staff focused on bringing activities in-house, making use of the skills within the WVARNG and reducing costs. For example, the NRC staff conducted the prescribed fire program and associated training in-house. They also integrated the installation's pond construction and demo range remediation projects into annual training activities for engineering units.
- The NRC staff completed a pond construction project adjacent to a new modified record firing range this year. This effort tied together habitat enhancement with the training mission, and partnered the NRC staff with the Natural Resources Conservation Service, project managers, and trainers. Excess clay excavated from the construction of the pond also benefited WVARNG's riverbank stabilization project and implementation was incorporated into training exercises.



NRC staff assists with trout stockings of the cantonment area pond that provides recreational fishing opportunities for soldiers, their families, and other Camp Dawson guests. Source: Camp Dawson



Camp Dawson's NRC Manager, Ryan Snyder, holds an at-risk banded Golden-winged warbler prior to release. NRC staff conducts yearly monitoring of the warblers using protocol outlined by Cornell Lab of Ornithology and the Golden-winged Warbler Conservation Initiative. Source: Camp Dawson

 **Navy and Baltimore National Aquarium Partner to Restore Critical Beach Habitat**

Naval bases on the shoreline depend on sand dunes for defense from the impacts of severe weather events, such as hurricanes and flooding. DoD partnered with the Baltimore National Aquarium, MD, to restore four miles of sand dune along the Naval Air Station Oceana Dam Neck Annex in Virginia Beach, VA, to improve beach stability. The restored sand dunes provide the Annex with defense from extreme weather, while providing critical habitat for a variety of at-risk species, including sea turtles, migratory birds, and crustaceans.



Blue crab. Source: Chesapeake Bay Program

[Connect, For the Good of Us All; Conservation Partnerships with the Military](#)

NATURAL RESOURCES DOCUMENTS

Highlighted here are reports, fact sheets, spreadsheets, and presentations on the Natural Resources page of the [DENIX site](#). These documents are designed to provide direct benefit to the mission and installation Natural Resource Managers by transferring knowledge and results of high priority natural resources efforts.

DoD Partners in Amphibian and Reptile Conservation (PARC) Project Implementation– Fact Sheet, Integrated Natural Resource Management Plan (INRMP) Guidelines, and Report (Legacy 14-641)

DoD PARC developed guidelines to help military installation managers update and revise INRMP sections pertaining to herpetofauna. These guidelines support military readiness by ensuring healthy training and testing environments through the implementation of herpetofauna management and conservation goals within INRMPs. Additionally, the project team consolidated military installation herpetofauna species lists into a single database for ease of updating and analysis. They also developed a survey citation list with the assistance of the National Military Fish and Wildlife Association for approximately 200 amphibian and reptile surveys, inventories, and scientific studies conducted on DoD installations. This information will assist with identifying data gaps in the distribution and presence of amphibians and reptiles on military lands, developing scopes of work for future surveys, and developing a better understanding of the overall historical and current research and monitoring efforts of herpetofauna on military lands.

Migration ecology and connectivity of At-Risk grassland birds - Year 1 – Fact Sheet and Installation Reports (Legacy 14-764)

The upland sandpiper (*Bartramia longicauda*), grasshopper sparrow (*Ammodramus savannarum*), and eastern meadowlark (*Sturnella magna*) are at-risk migratory grassland bird species that have experienced population declines in parts or all of their breeding ranges. This project's objective was to reveal the migratory routes and timing, stopover areas, wintering grounds, and population connectivity for these species. Understanding the entire annual cycle of migratory birds across their breeding range offers the DoD avenues for sharing the burden of protecting declining populations, and provides insights applicable to other installations supporting grassland birds. Project deliverables in Year 1 include installation reports for Camp Grafton, Camp Ripley, Fort McCoy, Fort Riley, Joint Base Cape Cod, and Naval Air Station Patuxent River.

DoD Partners in Flight Program (PIF) Support – Fact Sheet and Priority Bird Species Summary (Legacy 14-1717)

This project supports the major components of DoD PIF by representing DoD in bird conservation initiatives and facilitating the exchange of information regarding bird conservation and management within the DoD natural resources community. The program also released an updated mission-sensitive priority species list to provide monitoring recommendations for those species that, if listed, would have the highest likelihood of affecting the military mission.

National Public Lands Day 2015 – Fact Sheet and Report (Legacy 15-086)

In 2015, the National Environmental Education Foundation (NEEF) organized 30 DoD project sites with Legacy awards of up to \$6,500 each. Visit [NEEF and DoD Legacy Partner to Help Public Lands](#) to learn more about National Public Lands Day.

UPCOMING EVENTS CONFERENCES, WORKSHOPS, AND TRAINING

Washed Ashore: Art to Save the Sea

May 27-September 5, National Zoo, Washington, DC

This summer, experience an exhibit of 17 marine wildlife sculptures—from jellyfish to sharks—made entirely of plastic pollution directly recovered from oceans. Placed throughout the Smithsonian's National Zoo, these sculptures represent the more than 315 billion pounds of plastic in oceans, illustrating the devastating effects of the ocean's deadliest predator—trash. More information about the Washed Ashore program is available at washedashore.org.



Less than 10% of the nearly 300 million pounds of plastic produced each year is recycled.
Source: Washed Ashore.org

24th North American Prairie Conference

July 17-20, Normal, IL

Join the conference for sessions on landscape scale restoration, status of grassland birds, and much more! There will be more than 70 oral papers on many aspects of prairie ecology, restoration, management and some innovative ideas on working lands.

2016 North America Congress for Conservation Biology

July 17-20, Madison, WI

"Communicating Science for Conservation Biology," the conference focuses on content related to conservation science, management, policy, and education, and this year highlights the importance of communicating science to achieve conservation goals. The conference is an open platform to grow and foster collaborative relationships among conservation professionals, journalists, researchers, and students.

71st Soil and Water Conservation Society International Annual Conference

July 24-27, Louisville, KY

The annual conference provides a forum for exploring and promoting science-based knowledge about management practices to protect land and river ecologies and make them productive and more resilient. The conference will offer unique opportunities to display conservation efforts around the great rivers (e.g., Mississippi, Tennessee, Cumberland and Ohio rivers) and their tributaries, including nutrient management, erosion and sediment control, nonpoint source pollution and watershed policy, flood and drought management, and other issues influencing the health and functionality of our soil and water.

North American Ornithological Conference 2016

August 16-20, Washington, DC

The theme of the meeting is "Bringing Science and Conservation Together." This will be the largest-ever North American Ornithological Conference, with an estimated 2,000 ornithological professionals, amateurs, and students from North America, the Caribbean, and around the world. The NAOOC will feature lectures by world experts, workshops, roundtable discussions and interactive sessions and symposia on a vast array of topics such as systematics and taxonomy, reproductive biology, population and community ecology, ecotoxicology and conservation biology.

2016 Association of Fish & Wildlife Agencies Annual Meeting

September 11-14, Philadelphia, PA

The 106th annual meeting of the Association of Fish and Wildlife Agencies is a forum for conservation leadership that brings together more than 700 leaders from fish and wildlife agencies and conservation groups nationwide to discuss conservation policy and management issues and accomplishments. Attendees include key decision makers in the field of fish and wildlife, including; directors, assistant directors, program managers, and others involved in fisheries, wildlife habitat, law enforcement, legal affairs, industry, and public affairs (information and education).

National Public Lands Day

September 24, Nationwide

National Public Lands Day is the nation's largest, single-day volunteer effort for public lands. In 2015, during the 22nd annual National Public Lands Day, volunteers and park visitors celebrated at more than 2,500 public land sites nationwide.

National Wildlife Refuge Week

October 11-17, Wildlife Refuges Nationwide

Many refuges will host public celebrations during National Wildlife Refuge Week, which falls on the second week in October. The nation's 561 national wildlife refuges protect wildlife habitat while cleaning our air, filtering our water and pollinating our crops. They also provide excellent hunting, fishing, and hiking. Visit the [special events calendar](#) for Refuge Week events.

Wildlife Society 23rd Annual Conference

October 15-19, Raleigh, NC

The Wildlife Society's annual conference is one of the largest gatherings of wildlife professionals, students, and supporters in North America. The conference features more than 500 learning opportunities on wildlife management, research, and techniques through a wide variety of symposia, contributed papers, panel discussions, workshops, contributed posters, and field trips.

LINKS OF INTEREST

AFPMB

The Armed Forces Pest Management Board (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 DoD operations.

CESU Network

The Cooperative Ecosystem Studies Unit (CESU) Network is a national consortium of federal agencies, tribes, academic institutions, state and local governments, and nongovernmental conservation organizations working together to support research, technical assistance, education, and capacity building. There are 17 CESUs which link DoD and other federal agencies, a host university, and partner institutions. One of the benefits of joining a CESU is a reduced, Network-wide Finance and Administration (i.e., overhead) rate of 17.5% for federal agencies.

DENIX

The DENIX Natural Resources home page is an electronic environmental network and information exchange that provides access to natural resources information, such as Executive Orders, policies, guidance, INRMPS, fact sheets, and reports.

DoD Biodiversity Handbook

On this website you will find a thorough introduction to biodiversity and how it applies to the military mission; the scientific, legal, policy, and natural resources management contexts for biodiversity conservation on DoD lands; and practical advice from DoD natural resources managers through 17 case studies.

DoD Invasive Species Outreach Toolkit

This site provides education and outreach materials to help DoD land managers communicate about invasive species. It contains modifiable outreach materials such as posters, brochures, reference cards, and a PowerPoint presentation. A list of resources to help identify information and funding sources also is included.

DoD Legacy Resource Management Program Tracker

The DoD Natural Resources (NR) Program funds high priority natural and cultural resources projects that have regional, national, and/or multi-Service benefits through the DoD Legacy Program. The Legacy Tracker lets users download fact sheets and reports for completed Legacy-funded projects.

DoD Natural Resources Program

DoD's NR Program provides policy, guidance, and oversight for management of natural resources on all land, air, and water resources owned or operated by DoD. The website offers information on DoD's natural resources initiatives, programs, presentations, and links to other DoD conservation and natural resources sites.

DoD PARC

DoD Partners in Amphibian and Reptile Conservation (PARC) is an inclusive 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.

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

The three sites are designed to share pictures, news, information, and ideas with the DoD Natural Resources, DoD PARC, and DoD PIF communities. Members may use the websites to download photographs for reports, Power Point Presentations, and educational materials such as brochures and posters. There is also a forum for posting questions to group members, a calendar listing upcoming events, and a library where reports and documents are stored.

DoD Partners in Flight

The DoD Partners in Flight Program supports and enhances the military mission while it works to develop cooperative relationships to ensure a focused and coordinated approach for the conservation of resident and migratory birds and their habitats.

DoD Pollinator Initiatives

This website provides an overview of pollinators and the reasons they are important to DoD. It contains fact sheets and technical reports, how-to guides, resource lists, and more describing some of the simple ways that people can help pollinators and their habitats.

REPI

Under Readiness and Environmental Protection Integration (REPI), DoD partners with conservation organizations and state and local governments to preserve buffer land and habitat around military installations and ranges as a key tool for combating encroachment. By promoting innovative land conservation solutions, REPI supports the military's ability to train and test at its lands now and into the future.

SERDP and ESTCP

Strategic Environmental Research and Development Program (SERDP) and Environmental Security Technology Certification Program (ESTCP) harness the latest science and technology to improve environmental performance, reduce costs, and enhance and sustain mission capabilities. They are independent DoD programs managed from a joint office to coordinate the full spectrum of efforts, from basic and applied research to field demonstration. SERDP and ESTCP, in conjunction with the Legacy Program, support readiness, quality of life, adherence to legal mandates, and responsible environmental stewardship of natural and cultural resources.



DOD NATURAL RESOURCES PROGRAM

Enabling the Mission, Defending the Resources

www.dodnaturalresources.net

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

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