

Natural Selections

Fall 2011

Department of Defense Natural Resources Program

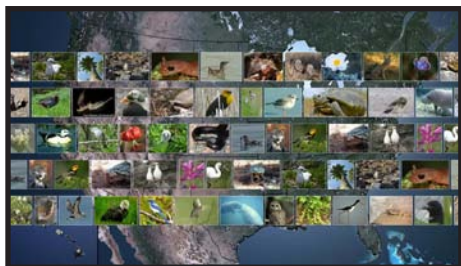


ANIMATION:

Supporting the Military's Combat Readiness Mission

Developed with support from the Legacy Resource Management Program, this animation describes how natural resources management supports the military's combat readiness mission by ensuring continued access to realistic training landscapes in diverse settings—forested, desert, grassland, tropical. Topics covered in the animation include threatened, endangered, and at-risk species management, monitoring programs conducted in collaboration with state and federal partners across the nation, Bird/Animal Aircraft Strike Hazard management, and long-term challenges such as climate change.

To view the animation, visit
www.dodnaturalresources.net.



SPOTLIGHT

Assessing the Readiness of Our Military Training Ranges

By Frank DiGiovanni, Director, Training Readiness and Strategy, Office of the Secretary of Defense

Robust and realistic training is a basic tenet of U.S. military success. The Training Readiness and Strategy Directorate (TRS), part of the Office of the Deputy Assistant Secretary of Defense for Readiness, is responsible for policy and oversight regarding all Department of Defense training activities. In this role, TRS must know if our ranges and training areas can meet the needs of our military forces.

DoD's Sustainable Ranges Initiative Integrated Product Team (SRI IPT), led by OSD Readiness, OSD Installations and Environment, and the Office of the Director for Operational Test and Evaluation, along with Service operational and environmental principals, provides a cross-cutting forum that brings together the training, test, and installations and environment communities. The SRI IPT works to ensure our military forces have access to vital land, air, sea, and frequency resources necessary for their current and future missions, while practicing sustained stewardship of the natural resources entrusted to our care.

A central piece of the training mission sustainment puzzle is identifying and responding to the many challenges that can affect range access. TRS leads an annual assessment of training range capabilities and encroachment impacts to measure, assess, and report on such factors. This range assessment is a collaborative OSD-Service product, developed through the SRI IPT and provided to Congress as the centerpiece of the annual Sustainable Ranges Report (SRR), a congressionally mandated product. Natural resource managers will be particularly interested in the Services' encroachment assessments in the SRR. The encroachment assessment methodology is designed to quantify the extent of training impacts from external influences across 12 encroachment factors. Several of these factors relate directly to natural resource considerations, including Threatened and Endangered Species/Critical Habitat; Maritime Sustainability; Air Quality; Water Quality/Supply; and Wetlands. Other factors, such as Adjacent Land Use, Airspace, and Noise Restrictions, can also involve natural resource issues.

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NATURALLY SPEAKING

From the Desk of L. Peter Boice, DoD Deputy Director,
Natural Resources and Director, Legacy Program



The Need for Enhanced Program Oversight

President Obama's Executive Order (E.O.) on *Promoting Efficient Spending*, signed November 9, 2011, reinforces that we are in the midst of very challenging fiscal times. Yet, environmental pressures from climate change, invasive species, wildlife disease, alternative energy development, and a host of other challenges continue unabated. As a result, we are again being forced to tighten our belts and make do with fewer resources—not just for natural resources management and other environmental programs, but across DoD.

In response to the E.O., our Office of the Secretary of Defense (OSD) leadership has called on me and other senior program managers to increase our oversight of all environmental programs. My charge for the Natural Resources (NR) Program is to determine:

- What did DoD get for the money and time spent (return on investment)?
- How did the Military Services move the NR Program forward (e.g., management initiatives, investments, policy changes, behavior changes, different outcomes)?
- What trends can we glean from EQ data call inputs?
- What is the health of the NR Program?

DoD has embarked on three parallel and complementary natural resources-focused efforts to respond to these questions and to demonstrate clearly the ongoing essential value that natural resources management provides to mission sustainment and long-term resource stewardship. Specifically, we are taking steps to:

1. Improve and expand upon existing natural resources metrics
2. Enhance information presented at our annual OSD Environmental Management Reviews (EMRs)
3. Revise existing Conservation program budget elements

Improve and Expand NR Metrics

My office now has three years' worth of data reported on the seven Focus Areas.¹ Our next step is to evaluate that information in detail to identify key trends, determine what the metrics are telling us, and learn what we can do to improve measurement accuracy.

Enhanced EMRs

Each Military Service must demonstrate during annual EMRs how its NR Program enables the military's testing and training mission. That is, how do their natural resources programs ensure that military personnel have continued access to a realistic training environment, while simultaneously maintaining the long-term sustainability of our nation's priceless natural heritage? This requires not only improved metrics, but also enhanced program narratives to demonstrate our return on investment.

Hence, I am asking for more detailed and illustrative examples of program-wide accomplishments to use wherever it's important that the audience understand the impact of our program investments (e.g., in testimony, speeches, interviews).

If you have specific examples of how your installation natural resources program achieves the following, please send them to DoDNRCConservation@bah.com by January 23.

- Provides and protects access to land, sea, and air assets through regulatory compliance
- Meets missionscape requirements for military use
- Protects endangered and threatened species, and avoids critical habitat designation through effective management
- Avoids or minimizes adverse regulatory actions
- Seeks to minimize restrictions/encroachment to testing and training
- Ensures sustainable use of lands and no net loss of wetlands
- Promotes enhanced public awareness of DoD's mission, its requirements, and its accomplishments
- Provides recreational opportunities for soldiers, their families, and the public

Revised Program Budget Elements

Our office also is working to revise the Presidential Budget (PB-28) exhibits for most Environmental Management program areas.

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¹ See DoDI 4715.03, Enclosure 5 at www.denix.osd.mil/nr/LegislationandPolicy/PolicyandGuidance/dodinstructions.cfm.

NATURALLY SPEAKING *Continued*

The effort's stated goal is to develop a single commonly agreed upon format that aligns Program and Budget funding submissions with the DoD Components' Execution reporting. The new format must answer some key questions:

- What is DoD's money buying in terms of physical effects at the installation level?
- What impacts will 5%, 10%, and 15% decreases in funding have at the installation level?
- What have we done in the past (Execution reporting)?
- What do we want to do in the future (Budget and POM submissions)?

Summary

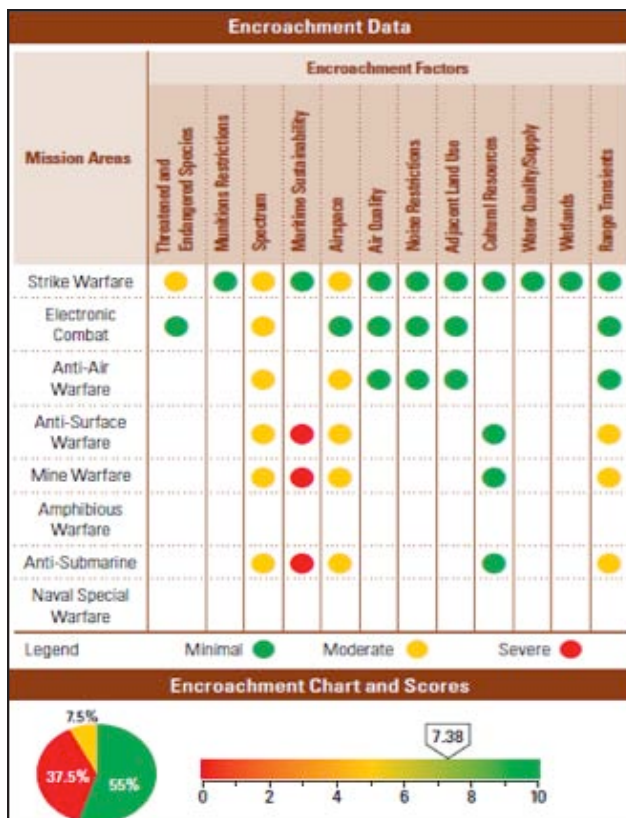
Our enhanced program oversight, as represented by these three parallel efforts, is one of the most important initiatives that our office has undertaken. To defend our essential NR Program resources from what are sure to be increased pressures from all who allocate fiscal and manpower resources, we need to jointly put forth the most complete and compelling story possible. I firmly believe that each of these initiatives will help us achieve that overall goal.

During this time of thanksgiving and holiday celebration, my warm wishes to each of you, your families, and your friends.

SPOTLIGHT *Continued*

Range encroachment scoring is completed on a range-by-range basis, using a Red/Yellow/Green ranking system indicating a high, moderate, or low/no impact to the range's ability to perform its mission(s). When these ratings are aggregated, a numeric encroachment score for each individual range is developed. The range assessment data can also be analyzed to indicate encroachment levels across a number of ranges or factors. For example, how much of an encroachment concern are wetlands issues across all Army ranges or all military ranges? The data can also be analyzed across time to determine trends at a particular location or for a certain factor.

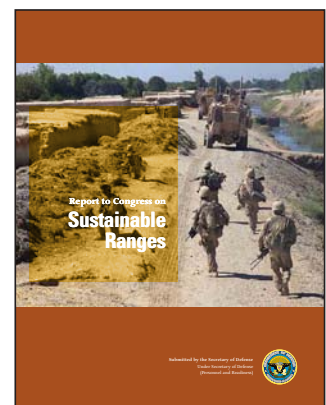
This assessment methodology has been in use since 2008. The 2012 SRR cycle now under way will provide a fifth year of range encroachment data. This data is available to help identify encroachment concerns, analyze impacts, define potential responses, and gauge program effectiveness. The Congressional requirement for the SRR expires with the 2012 report. However, for management and oversight purposes, OSD TRS plans to continue a revised form of the Sustainable Ranges assessment and reporting methodology. In coming years, this information will be aligned with other Service readiness and reporting processes and captured as part of a range assessment function within the Defense Readiness Reporting System (DRRS) Enterprise.



Example SRR Encroachment Assessment for a Military Range

Accurate and consistent assessment and reporting is a necessary underpinning of a sustainable and mission-ready training resource base. At the Service level, assessment results can help identify where a natural resource management focus might contribute to solving problems at a specific range. Over time, the range community, including natural resource managers, can use trend assessments to prioritize actions and measure progress to best enable mission readiness. This same information can also highlight issues affecting multiple ranges and services, providing an impetus for action at higher levels of command and at the DoD policy level.

For the 2011 Report to Congress on Sustainable Ranges, visit www.denix.osd.mil/sri.



Land Management Benefits Training and Natural Resources at Camp Blanding Joint Training Center

By Daniel Gualtieri, Land Rehabilitation and Management Coordinator, ITAM, CBJTC

At Camp Blanding, Integrated Training Area Management (ITAM) is an important part of ensuring the availability and sustainability of our training areas. The ITAM program is one of two core programs of the Sustainable Range Program, which is charged with improving sustained use of training and testing lands and ensuring that Army lands remain in a condition suitable for realistic and safe training. ITAM is uniquely positioned to integrate land stewardship principles into the broad mission of troop readiness and military training with environmental stewardship.

By removing or preventing excessive growth of undesirable plants, which hinders training, and by preventing woody plant encroachment that reduces maneuverability and restricts the kind of training the land can support, Camp Blanding ITAM is managing ecosystems in a manner that sustains the training environment while enhancing natural ecological processes.

AFP Revegetation

ITAM, Forestry, and Environmental Conservation recently were tasked with expanding all artillery firing points (AFPs) on post to a standard 300m x 300m box. Training on these AFPs was severely impeded by heavy turkey oak densities, which limited maneuverability, angle of firing, and gun placement throughout the AFPs. Severe soil erosion was also a concern because of the impact of heavy training, which can quickly denude firing points of groundcover during concentrated training exercises.

In collaboration with Range Control, ITAM and Environmental Conservation (which includes Forestry staff) expanded the firing points by clearing the timber, removing an undesirable overgrowth of shrubs, and plowing the newly cleared AFPs. Forestry staff plowed fire lanes around each AFP and implemented prescribed burning to remove any remaining debris. Once the encroaching vegetation was removed and the



soil smoothed for planting, ITAM staff revegetated the area with native grass, planting more than 71,000 wiregrass plugs on more than 21 acres. Additionally, another 261 pounds of wiregrass and other native grass seed was planted by either hand broadcasting or using a Grasslander seed drill.

Data from the revegetation project are currently being evaluated by our Range and Training Lands Assessment (RTLTA) coordinator. Visual inspections already show great improvement from the previous condition of the AFPs. In ensuring the availability and accessibility of training lands and improving training conditions on these eight sites, ITAM teamed up with natural resource management to rehabilitate the natural resources of this portion of Camp Blanding, improve native groundcover, and reintroduce a natural fire regime utilizing native vegetation that will further increase the value of these training sites and enhance the natural environment.

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AFP 2 in 2007, looking north from permanent photo point. Site was cleared in 2006 and planted with wiregrass plugs in February 2007.



AFP 2 in 2010, looking north from permanent photo point.

Land Management Benefits at Camp Blanding *Continued*

Native Seed Collection

Rehabilitation of groundcover and the overall improvement of the training experiences on Camp Blanding from a land management perspective can be a costly enterprise given the amount of persistent training occurring on Camp Blanding's 38 AFPs and 62 landing zones. To supplement ongoing revegetation efforts, ITAM operates a native plant nursery with a capacity of 64,512 plants. By propagating our own plants, as opposed to purchasing them, our ITAM program saves approximately \$20,000 annually. Native wiregrass (*Aristida beyrichiana*) seed is collected on post and used for revegetation projects. However, wiregrass must be burned at a fairly high temperature during the growing season in order to produce viable seed. ITAM works with the Conservation and Forestry staff, including the Prescribed Fire program, to

designate stands of wild wiregrass to be burned and then collects the seed in late November to early December using a pull behind flail-vac seed stripper.

The ITAM staff has ongoing plans to increase the capacity of the nursery and expand the species of seed collected. By collecting local varieties of seed, we improve our potential for a successful planting, because local ecotypes are adapted to the environmental conditions of Camp Blanding and therefore have an increased chance of survival over seed purchased from further distances. By using native plants in our rehabilitation of training areas, we provide a safe, sustainable, and maneuverable area for troops as well as sustainment of and improvement to ecosystem structure and function.



LZ 102 in February 2010, looking east from permanent photo point. Topsoil was spread in rotor-wash areas, and native seed was planted in the winter of 2010.



LZ 102 in August 2010, looking east from permanent photo point. Yellow flowers in picture are from Partridge pea.



Funding Available for Environmental Research and Development

The Department of Defense's Strategic Environmental Research and Development Program (SERDP) is seeking to fund environmental research and development in the Resource Conservation and Climate Change program area. SERDP invests across the broad spectrum of basic and applied research, as well as advanced development. The Resource Conservation and Climate Change program area supports the development of the science, technologies, and methods needed to manage DoD's installation infrastructure in a sustainable way. SERDP is requesting proposals that respond to the following two focused Statements of Need (SON) in Resource Conservation and Climate Change:

- Department of Defense Pacific Island Installations: Impacts of and Adaptive Responses to Climate Change
- Improved Understanding of Soil Ecology to Meet Department of Defense Natural Resource Management Challenges

Proposals responding to the Fiscal Year 2013 SONs will be selected through a competitive process. New this year, Federal organizations will submit pre-proposals directly to SERDP. Pre-proposals from the Federal and non-Federal sectors are due by January 5, 2012. The SONs and detailed instructions are available at www.serdp-estcp.org/Funding-Opportunities/SERDP-Solicitations.

Communication is Key to Successful Bird/Animal Aircraft Strike Hazard Programs

By Matthew W. Klope, BASH Program Manager, Naval Facilities Engineering Command

For as long as the military has been flying aircraft, many species of wildlife have become a serious risk for pilots both on the ground and in the air. Over the last several decades, biologists and natural resources managers have seen populations of certain wildlife species increase to levels never recorded before. This can be beneficial and detrimental depending on the species and where these species occur. If these species spend time on or near an airfield, they can present a real safety risk to military aviators and have a profound effect on the military mission. This is where the military wildlife biologist plays a vital role in managing habitats and wildlife populations in an effort to increase the safety margin.

Every military facility with a flying mission is required to have a Bird/Animal Aircraft Strike Hazard (BASH) Management Plan to manage wildlife and their habitats to reduce the risk of wildlife strikes. This management plan is not just limited to the immediate airfield environment but to training ranges as well. It is often the natural resources manager and the wildlife biologist that are called upon to investigate the issues regarding wildlife strike events and make sound habitat and wildlife population recommendations in order to lower the risk of future wildlife strike events.

The facility BASH program relies on communication between many departments and personnel. Programs and projects planned

or conducted anywhere on a facility can have a significant effect on a BASH program. Something as simple as a stormwater retention pond located in the wrong place can attract a multitude of birds and bird species. The natural resources professional should review all proposed projects and programs with regard to the facility BASH program and how it might affect the aviation mission. Programs potentially impacting BASH include agricultural outleasings, recreational hunting, forestry, wetlands management, endangered species management, and grassland management. In many instances, a complete review of a facility's BASH and natural resources management programs can result in reduced operational maintenance costs. An example would be raising the airfield grass height, thus reducing the number of mowing rotations.

Every facility BASH program has an established Bird Hazard Working Group that brings together all the players on a regular basis to present and discuss issues surrounding the BASH program in support of operational readiness. The natural resources manager will ensure that all BASH program initiatives are fully supported through the Integrated Natural Resources Management Plan.

It is everyone's responsibility on a facility to support the mission of that facility. The BASH program is no exception, and good communication is the key.

DID YOU KNOW?

Turkey Waste has Energy-Producing Potential

More than 240 million turkeys were raised in the United States in 2011, approximately 45 million of which were eaten at Thanksgiving. The demand for non-fossil-fuel energy and environmental concerns associated with traditional land application of turkey waste or litter—a mixture of cellulosic bedding material and manure—are driving efforts to explore new ways of productively using turkey litter.

Turkey litter can be converted into thermal or electrical energy. The process is simple: turkey litter is burned to boil water to make steam, which drives a turbine that generates electricity. Although using turkey litter as a feedstock to produce energy requires specialized equipment, designs, and practices, it is technically feasible with currently available technology.

A full-scale turkey litter-fueled plant has been operational in Benson, Minnesota, since mid-2007. It uses more than 500,000 tons of poultry litter annually, which is collected from turkey growers in the region. The 62 megawatt power plant produces enough electricity to serve approximately 40,000 homes. Additional plants are being considered in other states with significant turkey production.



Photo by Curt Gibbs

Turkey History and Trivia

<http://minnesotaturkey.com>

- Benjamin Franklin proposed the turkey as the official United States bird.
- Wild turkeys can fly for short distances up to 55 miles per hour and can run 20 miles per hour.
- Turkey eggs are tan with brown specks.
- A baby turkey is called a poult.

NEW! NATURAL RESOURCES DOCUMENTS

Reports, Fact Sheets, Spreadsheets, Presentations

Highlighted here are recently uploaded reports and fact sheets on the Legacy Tracker or on the DENIX site. For Legacy-related products, please visit https://www.dodlegacy.org/Legacy/intro/ProductsList_NU.aspx. All Legacy products and many more are available at www.denix.osd.mil/nr. Bird-related products are also posted on the DoD Partners in Flight site at www.DoDPIF.org.

Policy and Guidance

State Wildlife Action Plans: Shared Threats and Conservation Actions (Legacy 07-338) – [Fact Sheet](#)

Individual State Wildlife Action Plans identified conservation challenges, needed actions, and opportunities at the state level. To identify common priorities that can be used to guide national conservation work, information was gathered from a survey of state fish and wildlife agencies, a review of the State Wildlife Action Plans, and discussions with state Wildlife Diversity Program Managers and State Wildlife Action Plan Coordinators. This fact sheet highlights the key threats and conservation actions of national significance that are shared by the states and territories.

Threatened, Endangered, and At-Risk Species Management

Species-at-Risk on Department of Defense Installations in the Carolinas (Legacy 07-348) – [Final Report](#) and [Fact Sheet](#)

This project identified priority habitat areas for species at risk (SAR) likely to be found on military reservations in the Carolinas. Thirteen SAR were identified for further evaluation. Habitat modeling was conducted for three of the species—the mimic glass lizard, northern pine snake, and southern hognose snake. Basic habitat and threat information, resource management guidelines, and recommendations for future modeling are provided for the remaining SAR.

Species-at-Risk on Department of Defense Lands: Updated Analysis, Report, and Maps (Legacy 10-247) – [Fact Sheet](#)

In 2001, the Legacy Resource Management Program engaged NatureServe, the U.S. Fish and Wildlife Service, and the Military Services to identify species-at-risk (SAR) that are important to DoD installations. Utilizing the most current species location data in NatureServe's databases, NatureServe has now provided updated lists of SAR by installation and revised maps.

Cerulean Warbler Occurrence Atlas for Military Installations - Year 2 (Legacy 10-429) – [Fact Sheet](#)

This fact sheet provides results to date of a multi-year project focused on determining the status of cerulean warblers, a species of management concern, on all military installations (including Army Corps of Engineer reservoirs) that have appropriate habitat and lie within the breeding range. The final products will include a GIS layer and set of management recommendations.

Assessing the Status of Declining Rusty Blackbirds on DoD Lands in Alaska (Legacy 10-337) – [Fact Sheet](#)

This nest monitoring and mark-recapture study aims to help understand whether the Rusty Blackbird's continued decline on military lands in Alaska is due to deficits in the rate of reproduction, adult survival, or recruitment of young birds into the breeding population.

Fish and Wildlife Management - Birds

Avian Response to Grassland Management on Military Airfields in the Mid-Atlantic and Northeast (Legacy 08-381) – [Interim Report](#)

Grasslands associated with airfields in the eastern United States frequently support breeding populations of regionally important grassland birds, but can also support bird species that are potentially hazardous to aircraft operations. This project is studying the relationships among avian habitat use, grassland habitat management, vegetation, and landscape characteristics on three military airfields: Lakehurst Naval Air Engineering Station, New Jersey; Westover Air Reserve Base, Massachusetts; and Patuxent River Naval Air Station, Maryland.

Grassland Bird Productivity on Military Airfields in the Mid-Atlantic and Northeast Regions (Legacy 09-408) – [Interim Report](#) and [Fact Sheet](#)

The purpose of this study is to improve understanding of grassland bird reproductive success on regional military airfields and to examine possible factors that may be affecting productivity. Of particular interest are the effects of mowing and vegetation structure on nest survival of grasshopper sparrows and eastern meadowlarks, species of conservation concern in the region. The nest monitoring study is being conducted at Westover Air Reserve Base, Massachusetts; Joint Base McGuire-Dix-Lakehurst, New Jersey; and Patuxent River Naval Air Station, Maryland.

Invasive Species Management

Brown Treesnake Interdiction and Prevention of Spread (Legacy 05-238) – [Strategic Plan](#)

Considerable annual commitments have been made by the federal government to prevent the inadvertent spread of the brown treesnake (BTS) via Guam's outbound cargo network. This containment plan summarizes current BTS control methods and strategies, identifies locations of strategic actions for BTS containment, and provides recommendations for improving these efforts.

Brown Treesnake Species Information Sheet 2011 (Legacy 05-238) – [Information Sheet](#)

Intended for use as an outreach tool, this two-page information sheet provides information on the brown treesnake, including its biology, habitat, and potential for damage and spread.

Early Detection of Invasive Plant Species on Holloman Air Force Base, New Mexico (Legacy 06-312) – [Final Report](#)

This research evaluated the efficacy of using remotely sensed and GIS data as tools to support early detection of invasive plants on Holloman Air Force Base (HAFB), New Mexico. The proof-of-concept approach was to first create inductive models of potential invasive species habitat based on known plant occurrences on HAFB and then create spatial models of distributional pathways on HAFB. A risk assessment also was conducted to prioritize areas for conservation efforts.

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NEW! NATURAL RESOURCES DOCUMENTS *Continued*

Utilizing Cooperative Invasive Species Management Areas to Effectively Reduce Re-Infestation of Invaders on Six Military Bases and Adjacent Lands in Florida (Legacy 10-437) – [Fact Sheet](#)

Since 2009, The Nature Conservancy has worked with military bases in Florida to establish or strengthen six Cooperative Invasive Species Management Areas (CISMAs). Made up of federal, state, and local government agencies, tribes, individuals, and other interested groups, CISMAs are geographic alliances that address invasive species prevention, education and awareness, early detection and rapid response, monitoring, and integrated pest management. This fact sheet highlights these CISMAs and how they are helping to reduce reinfestation from invasive species.

Transfer of Invasive Species Associated with the Movement of Military Equipment and Personnel (Legacy 03-123) – [Final Report](#)

Every military unit that passes through a port of embarkation and debarkation is subjected to scrutiny and inspections to preclude the movement of invasive species from one region of the world to another. Depending on the region, the inspection and cleaning process can last weeks, even for small units, and be costly. This document provides a general overview of the current process that exists to clean, inspect, and regulate the movement of invasive species through ports of embarkation and debarkation. It identifies success stories and procedures that can help improve DoD's efforts to reduce the transport of invasive species associated with military movements.

UPCOMING EVENTS

Conferences, Workshops, and Training

12th National Conference on Science, Policy, and the Environment: Environment & Security

January 18-20, Washington, D.C.

Sponsored by the National Council for Science and the Environment, the Environment and Security Conference will provide a forum to explore the connections between environment and security issues, their common underlying scientific threads, and the policy and governance needed to address security risks posed by a rapidly changing environment. The conference is expected to bring together more than 1,000 attendees from the scientific, business, academic, and environmental communities, as well as international, federal, and regional government officials. For more information, visit www.environmentandsecurity.org.

National Invasive Species Awareness Week

February 26 - March 3, Washington, D.C.

Activities, briefings, workshops, and events are focused on strategizing solutions to address invasive species prevention, detection, monitoring, control, and management issues at local, state, tribal, regional, national, and international scales. Visit www.nisaw.org for highlights.

U.S. Civil Engineer Corps Officer School (CECOS) Natural Resources Compliance Training

February 28 - March 2, Naval Air Station Key West, Florida

This course instructs personnel to identify and meet responsibilities under laws, regulations, and directives that govern stewardship of fish, game, and wildlife; protection of wetlands, waterways, and other special ecological areas; and management of forest and other land use within the context of the military mission. The course covers mandatory interagency cooperation procedures and is tuition-free for DoD military, civilian, and government-sponsored contractor personnel. For more information, contact the course director David Pease at (805) 982-2946 or david.pease@navy.mil. To register, visit <https://www.netc.navy.mil/centers/csfe/cecos/default.aspx>. Note: This course will also be offered June 26-29 at Lewis & McChord Joint Base, Washington.

2012 National Military Fish and Wildlife Association Meeting

March 12-17, Atlanta, Georgia

This annual meeting enables DoD personnel specializing in fish and wildlife management to meet and discuss challenges and solutions to managing these resources. It also affords an opportunity for DoD natural resources managers to meet with counterparts from the U.S. Fish and Wildlife Service and State fish and wildlife agencies who work on Sikes Act issues and many other areas of common concern. For more information, visit www.nmfwa.org.

Biodiversity Without Boundaries 2012: The NatureServe Conservation & Natural Heritage Conference

April 22-26, Portland, Oregon

This conservation and natural heritage conference highlights the crucial role that biodiversity science plays in our global society. Join conservation leaders, thinkers, and practitioners to exchange knowledge, discuss issues, share innovations, and network. Biodiversity Without Boundaries attendees range from scientists, natural resource managers, and environmental consultants to planners, environmental advocates, and corporate and public policy-makers. The unifying goal of this diverse audience is to tackle urgent and emerging international conservation needs through science, collaboration, and leadership. Visit <http://connect.natureserve.org/BWB2012> for more information.

LINKS OF INTEREST

DoD Natural Resources Conservation Program - www.DoDNaturalResources.net. 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.

DoD Legacy Resource Management Program - <https://www.dodlegacy.org>. This DoD program provides funding to natural and cultural resources projects that have regional, national, and/or multi-Service benefits. The Legacy Tracker lets you download fact sheets and reports for completed Legacy-funded projects.

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

DoD TER-S Document Repository - <http://dodtes.nbii.gov>. A compilation of DoD Threatened and Endangered Species documents and data made available online through the National Biological Information Infrastructure. Information contained in these documents is considered "gray" literature (i.e., not peer reviewed).

Biodiversity Handbook - www.dodbiodiversity.org. On this web site 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. A Commander's Guide to conserving biodiversity on military lands is also available.

DoD Invasive Species Outreach Toolkit - www.DoDinvasives.org. The Toolkit is an education and outreach tool 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 is also included.

DoD Pollinator Workshop - www.DoDpollinators.org. This web site provides an overview of pollinators and the reasons they are important to DoD. It highlights the 2009 NMFWA workshop on pollinators and has many useful resources, including fact sheets and technical reports, pocket guides to identifying pollinators, and links to other web sites on pollinators.

DENIX - www.denix.osd.mil/nr/. DENIX is an electronic environmental bulletin board that provides access to environmental information, such as Executive Orders, policies, guidance, INRMPs, fact sheets, and reports.

DISDI Portal - <https://rsgis.crrel.usace.army.mil/disdicac> (DoD only, CAC required). The DISDI Portal offers high-level geospatial data on DoD's installations, providing strategic maps of installations and information on how to access more detailed data. IVT data forms the foundation for the DISDI Portal, which is accessible to DoD staff with a common access card.

Strategic Environmental Research and Development Program and Environmental Security Technology Certification Program - www.serdp-estcp.org. SERDP and ESTCP are DoD's environmental research programs, harnessing the latest science and technology to improve environmental performance, reduce costs, and enhance and sustain mission capabilities. They are independent programs managed from a joint office to coordinate the full spectrum of efforts, from basic and applied research to field demonstration and validation.

Readiness and Environmental Protection Initiative - www.repi.mil. Under this initiative, 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 effective and realistic military training and testing now and into the future.

Cooperative Ecosystem Studies Unit Network - www.cesu.psu.edu/. This network of 17 cooperative units provides research, technical assistance, and training to federal resource and environmental managers. DoD is a member of 14 units of the CESUs National Network.

Bat Conservation International - www.batcon.org. BCI is devoted to conservation, education, and research to protect bats and their ecosystems around the world.

Partners in Amphibian and Reptile Conservation - www.parcplace.org. PARC is a partnership of individuals and entities dedicated to the conservation of amphibians and reptiles and their habitats as integral parts of our ecosystem and culture through proactive and coordinated public/private partnerships.

Armed Forces Pest Management Board - www.afpmb.org. The AFPMB recommends policy, provides guidance, and coordinates the exchange of information on pest management throughout DoD. The AFPMB's mission is to ensure that environmentally sound and effective programs are present to prevent pests and disease vectors from adversely affecting DoD operations.



DOD NATURAL RESOURCES PROGRAM

Enabling the Mission, Defending the Resources

www.dodnaturalresources.net

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