Department of Defense
Legacy Resource Management Program

Natural Selections

Volume 6, Issue 7 July / August 2010

Legacy Program Update

FY 2011 Legacy Program Preproposals Season Closed: The Legacy Program closed its 2011 call for preproposal on Friday July 16, 2010. The Legacy Program received 164 natural resources, 98 cultural resources, and 19 integrated resource preproposals. Legacy Staff will meet with Military Service representatives the week of August 23, 2010 to review all submissions. The Legacy Program will announce preproposals approvals via https://www.dodlegacy.org.

New MOU between the U.S. Army Corps of Engineers, Ft. Worth District and DoD to facilitate management of the Cooperative Ecosystem Studies Unit (CESU) Network: On July 7, 2010, Mr. John Conger, Assistant Deputy Under Secretary of Defense for Installations and Environment, signed a MOU with the USACE (Ft Worth). This MOU establishes an agreement between the Fort Worth District and ODUSD(I&E) to provide contractual support for projects administered through the CESU Network. Specifically, this MOU will authorize the Fort Worth District to provide nonexclusive contractual support to DoD military installations desiring to use the CESU Network. The DoD Conservation Program is the authorized CESU Network representative for DoD and the Military Departments.

The CESU National Network was established in 2001 to provide research, technical assistance, and education to federal resource and environmental managers. The network is comprised of 17 biogeographic regional units, and includes DoD, other federal partners, universities and non-government organizations. The objectives of the CESU are to provide natural, cultural, and social science resource managers with access to high-quality scientific research, technical assistance, and education that is timely and relevant, and to share resources and expertise within the network. Cooperative agreements are used to access university partners to provide research, technical assistance, and education in an efficient and low-cost manner.

In The News

Acoustically Tracking Gulf Sturgeon in the Eglin Gulf Test and Training Range

By Scott Moorman, Mike Nunley, and Amanda Robydek
Science Applications International Corporation

Monitoring the movements and behavior of high value targets is a mission usually reserved for covert special agents, unless the mark is a fish.

Targeting the Gulf sturgeon, *Acipenser oxyrinchus desotoi*, Eglin Air Force Base's 96th Civil Engineer Group's Natural Resource Management Section, known as Jackson Guard (JG), is tracking the threatened species in an attempt to protect them from military mission impacts in the Gulf of Mexico.

The research project is an ongoing cooperative effort between the Air Force, Science Applications International Corporation, the U.S. Fish and Wildlife Service, the U.S. Geological Survey, and the Florida Fish and Wildlife Conservation Commission.

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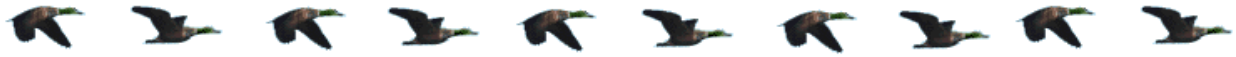
Inside This Issue



It's been a challenging year

As you read this, the DoD Legacy program is completing the successful transition of its contracting services from the Huntsville Corps of Engineers (HNC) to the U.S. Army's Environmental Research and Development Center (ERDC).

This change has not been without a continuing array of significant and unexpected challenges. We continue to work with both contracting offices to minimize potential project and program impacts and to reach mutually agreed upon solutions whenever possible.

That said, those of you with open projects remaining at HNC should be aware of the following:

- HNC has agreed to stop their recent actions to deobligate funds for projects with valid, unexpired cooperative agreements. They acknowledge a misinterpretation of "fiscal law." In addition, HNC should have withdrawn any such actions that they initiated. You should notify my staff immediately if HNC notifies you of any deobligation of funds.
- Likewise, HNC has agreed to stop refusing payment requests for current projects. Notify my staff immediately if you are refused payment.
- Some of you recently requested project extensions. After some initial reluctance, HNC now appears to be processing all our approved extensions; however, as they phase out of Legacy work, it is likely that they will cease accepting additional requests for extensions within the next several months. Further, HNC will not approve extensions beyond September 30, 2011. We recommend that you limit any future requests for extensions to the greatest degree possible, and that you submit any such requests as soon as possible.
- A few of you with projects that are 2-4 years old have substantial unexpended balances at HNC. We urge you to submit your valid payment requests in a timely manner, and to complete all projects and related paperwork – including those initiated in FY 2008 and 2009 – as soon as possible, and NLT September 30, 2011.

Those of you with new projects established through ERDC should know that:

- ERDC has identified several shortcomings in the Legacy Tracker that make the processing of new cooperative agreements and MIPRs more difficult than expected. We identified the required fixes to the Tracker and will implement them before we begin processing FY 2011 full proposals. You will need to provide additional information, and some information in a different format, starting with the FY 2011 full proposals. We will provide detailed instructions on these changes as soon as possible.
- ERDC has been very willing and able to find alternate solutions to distribute project funds. In almost every case, we identified and implemented successful fixes. We will continue to work with ERDC to develop and distribute a list of lessons learned to assist you in future FYs.

Finally, thanks are in order to:

- Many of you, for being patient and understanding with both ERDC and Legacy staff.
- ERDC, for their many efforts to ensure as seamless a transition of contracting activities as possible.
- Legacy staff, for enduring an enforced month away from Legacy duties at the height of the preproposal season, and for helping to find solutions for your problems and concerns. A heartfelt "Well Done" to Pedro, Jane, and Cecilia!
- HydroGeoLogic (support contractor for Legacy staff), and Logistics Management Institute (host for the Legacy Tracker), for their understanding and flexibility during this difficult transition period.

Sturgeon, continued from page 1

"Prior to our study, we discovered a black hole in our information concerning the Gulf sturgeon's movements in marine waters," said SAIC's Amanda Robydek, environmental scientist and the project lead investigator. "For this reason, JG felt it would be in their best interest to determine the sturgeon's behavioral and movement patterns within the critical habitat areas around the Eglin Gulf Test and Training Range and Santa Rosa Island Test and Training Complex to define avoidance zones in the areas fish are most likely to be present."

Added to the Endangered Species Act's list of protected species in 1991, the sturgeon's critical habitat stretches from Louisiana to Florida's Suwannee River, and includes portions of the base's Gulf test and training areas.

According to Ms. Robydek, Gulf sturgeon are *anadromous*, meaning adult fish move into freshwater rivers to spawn during the spring months and migrate into marine waters in the winter months to eat.

Jackson Guard's Bruce Hagedorn, holds an adult Gulf sturgeon tagged with a surgically implanted acoustic transmitter. The federally protected fish is taking part in a study to gather more information about threatened species' migration patterns in and around Eglin's Gulf test ranges.

U.S. Fish and Wildlife Service researchers, surgically inserts an acoustic transmitter into a federally protected Gulf sturgeon. The tag will help researchers with the 96th Civil Engineer Group's Natural Resource Management Section track the adult sturgeon as it migrates from its freshwater spawning areas to its winter habitat around the base's Gulf test ranges. JG will use the collected data to help define mission avoidance zones and enhance military mission-related consultations with fish and wildlife agencies.

However, she said JG's lack of significant Gulf sturgeon movement and behavior data in and through its critical habitat surrounding the base test ranges had left JG officials unsure to what extent the fish use its habitat within these boundaries.

In response, JG conducted a cooperative pilot research project in 2008 and received funding from the Legacy Program to extend the research for an additional year.

"Our goal was to add some missing pieces to the sturgeon puzzle in order to preserve Gulf testing and training missions and accelerate Endangered Species Act, Section 7 consultations with marine and wildlife agencies," Ms. Robydek said.

By September 2009, JG and USFWS researchers began tracking Gulf sturgeon using a new technology designed especially for underwater environments.

"The relatively new field of acoustic telemetry has allowed us to quickly expand our knowledge of Gulf sturgeon migratory behavior," said SAIC's Mike Nunley, a marine biologist. "The Bluetooth wireless technology allows us to recover data often and without having to recapture the fish."

During spawning season, JG and USFWS researchers caught 80 adult sturgeons from local rivers. Weighing between 50 to 142 pounds, the sturgeon were tagged with a coded acoustic transmitters surgically inserted into their abdominal cavities.

"The tags emit a unique ultrasonic acoustic pulse and are capable of transmitting a signal that can be detected by data-logging hydrophone receivers within a 500 meter range, said Mr. Nunley. "The receivers record the date and time a tagged fish passes within the detection radius and can identify each individual fish by recording its unique tag ID". JG and SAIC biologist deployed 21 data receivers buoyed around the Gulf range area.

Buoy arrays, placed at 500 meters, 1000 meters and at 1,500 meters into the Gulf were used to determine how far out to sea the sturgeon were travelling, according to Mr. Nunley. Buoys also were anchored in several intercoastal waterways to indicate if the fish used other avenues to migrate into the Gulf. Additional receivers were located in several rivers to give researchers a better idea of when fish migrated in and out of Gulf waters.

Mike Nunley, Science Applications International Corporation marine biologist downloads Gulf sturgeon migration data from an acoustic receiver anchored in the Gulf of Mexico. Eglin AFB is tracking the threatened species in an attempt to protect them from military mission impacts in the Gulf of Mexico.

Encompassing the entire seaward range of critical habitat offshore of Eglin's property, researchers were able to document and monitor sturgeon presence and determine the sturgeon's direction of travel in its territory near the test ranges.

"Nearly all detections from receivers out in the Gulf were within 1,000 meters from the shoreline, indicating the fish seemed to hug the coast instead of moving into deeper waters of the Gulf," said Ms. Robydek. "This means near shore military activities moved beyond 1,500 meters from shore would eliminate most potential impacts."

Stephanie Hiers, Science Applications International Corporation, deploys an acoustic receiver used to help track tagged Gulf sturgeon in area waterways. Placed in the Blackwater River near Milton, FL, the receiver is one of 21 placed in intercoastal waterways and the Gulf of Mexico around Eglin's Gulf Ranges.

Ms. Robydek said she was really surprised the Gulf sturgeon were only using two-thirds the seaward extent of critical habitat, and sturgeon migrating into the Gulf from the Choctawhatchee Bay typically head west toward Alabama.

"This is the first major Gulf sturgeon study we've ever done," she said. "It really makes everyday an "ah-ha" moment."

Data from the study is currently helping federal and state agencies analyze potential Gulf sturgeon impacts of proposed oil spill prevention measures along the Gulf Coast.

The study has provided significant insight into the Gulf sturgeon's movement and distribution trends, Ms. Robydek said, although, a few more years of tagging and tracking are necessary to obtain more accurate and conclusive results. The research is expected to undergo a peer review in the fall of 2011.

Training, Announcements & Events of Interest

Workshops, Interagency Training Announcements, and Future Events of Interest to the Conservation Community

LEGACY SPONSORED! Bat Conservation International 2010 Field-training Workshops: November 2-4, 2010, Nashville, Tennessee. Bat Conservation International, in collaboration with the Department of the Army invites you to attend a workshop discussing impacts of White-nose syndrome (WNS). This workshop will focus on challenges and opportunities unique to military installations and will provide a Department of Defense perspective on managing for bats and WNS within the context of the Military Mission. In this workshop, we will discuss bat and cave ecology, landscape management for bats, current knowledge on WNS issues, federal and state responses to WNS, options for inventory and monitoring for both WNS and bats, and implications for installations trying to manage for both wildlife and their mission. Our field trip hosted by Fort Campbell will provide participants with opportunities to view and discuss on-site tools and management techniques for conserving healthy bat habitats and will highlight potential issues that may arise with possible listing of additional species as a result of WNS-induced declines. We will visit streamside management zones and nearby caves to demonstrate and discuss management options in the field. There will be ample opportunity to discuss tactics and scenarios both within the workshop as well as during the field trip. There will be no registration costs for the workshop. Registration details and agenda will be available in August. If interested in attending or for more information contact: Mylea Bayless, Bat Conservation International. 512-327-9721, mbayless@batcon.org

Bat Conservation International Acoustic Monitoring Workshop: August 5-10, 2010, Tulelake, California. Designed for biologists, consultants and researchers, Bat Conservation International's Acoustic Monitoring Workshop provides direct experience with cutting-edge technologies. You'll work directly with AnaBat/AnaLook and SonoBat software developers Chris Corben and Joe Szewczak to learn techniques for collecting, recording, and analyzing bat calls in the field. This session covers heterodyne, frequency-division, time-expansion, and direct-recording techniques, as you learn to use your own equipment more effectively and to choose proper protocols for designing an acoustic-inventory project. The fee of $1,595 covers course materials, food, lodging, and transportation in the field. For registration, visit www.batcon.org/workshops or contact Rebecca Patterson at (512) 327-9721 or workshops@batcon.org.

37th Annual Natural Areas Conference: Connecting for the Future Across Generations and Disciplines: October 26 - 29, 2010 at Tan-Tar-A Resort, Osage Beach, Missouri. This national conference will bring together natural resources professionals, students, and volunteers in a forum that provides practical, land management focused information through symposia, workshops, field trips, paper sessions, posters, round tables, and opportunities for social networking. The progressive conference program will connect new tools, places, and faces amongst a diverse audience of land managers, university faculty and students, researchers, planners, and administrators from throughout the nation who are involved with the conservation and management of natural communities. The mainstay of this annual national conference has been strong participation from local, regional, and national organizations and agencies. For more details visit: http://www.naturalarea.org/ or contact Mike Leahy at (573-522-4115, ext. 3192) or mike.leahy@mdc.mo.gov.

CALL FOR POSTERS! 5TH National Conference and Expo on Coastal and Estuarine Habitat Restoration: "Preparing for Climate Change: Science, Practice, and Policy": November 13-17, 2010, at the Galveston Island Convention Center, Galveston Island, Texas. This is the only national conference that focuses exclusively on coastal habitat restoration. Healthy coasts and estuaries are essential to the social, economic and ecological well being of everything that depends on them. Successful habitat restoration at all scales is critical to ensuring vibrant coasts. For more information please visit https://www.estuaries.org/conference/.

Strategic Conservation Using a Green Infrastructure Approach: September 13-17, 2010 in Shepherdstown, WV. This highly-acclaimed introductory course provides participants with a strategic approach for prioritizing conservation opportunities and a planning framework for conservation and development - integrating the green and

the grey. Participants will experience firsthand how the green infrastructure approach can be used to connect environmental, social, and economic health across urban, suburban, and rural settings. Participants will also learn how green infrastructure planning can serve as a tool to inform land use decisions and build consensus among diverse interests. Limited scholarship assistance is available. Registration deadline: August 20th. For more information, please go to http://www.conservationfund.org/node/239.

SERDP/ESTCP Annual Technical Symposium & Workshop: The Strategic Environmental Research and Development Program (SERDP) and the Environmental Security Technology Certification Program (ESTCP) will hold the annual Partners in Environmental Technology Technical Symposium & Workshop, "Meeting DoD's Environmental Challenges," November 30 – December 2, 2010, at the Marriott Wardman Park Hotel in Washington, D.C. This year's Symposium & Workshop will offer a dynamic opening Plenary Session, 14 technical sessions, three short courses, and an Exhibit Hall. Technical sessions will highlight research and innovative technologies that assist the Department of Defense (DoD) in addressing increasingly complex environmental and mission sustainability challenges. Over the course of the event, short courses will provide training opportunities on select technologies and methods in environmental restoration and munitions response.

Technical Sessions: A comprehensive technical program consisting of concurrent sessions covering a variety of scientific and technical subjects will follow the Plenary Session. The list of topical areas includes:

* Opening the Arctic: Science Challenges to Understanding the Impacts of Climate Change
* Lead-Free Electronics
* Remediation and Management of Persistent Chlorinated Solvent Contamination
* Military Installations as Test Beds for Innovative Energy Efficiency Technologies
* Sea Level Rise: Assessing Vulnerabilities and Impacts
* Minimizing Hexavalent Chromium Use in DoD Operations
* Monitoring and Mitigation of Vapor Intrusion from Contaminated Groundwater Sites
* Classification Methods for Military Munitions Response
* National Environmental Monitoring and Indicator Systems: Implications for DoD
* Aviation and the Environment: Deicing and Noise
* Evaluating the Environmental Impacts of Energetic Materials
* Military Munitions in the Underwater Environment
* Maintaining Sustainability of Forward Operating Bases
* Passive Sampling Approaches for Contaminated Sediment Management

Short Courses: Three short courses will be offered for which professional development hours will be available! Attendance for these courses will be limited, and space will be available on a first-come first-serve basis. Therefore, registration for each short course will be required for you to attend. Below are the topics for this year's short courses.

* Advances in Classification Methods for Military Munitions Response
* Principles and Practices of In Situ Chemical Oxidation
* Measurement and Use of Mass Discharge and Mass Flux at Contaminated Sites

Other highlights include more than 400 posters showcasing technologies and scientific advancement from a variety of environmental research programs, exhibit booths offering information about funding opportunities in related research programs, a special session providing a summary of SERDP and ESTCP program development and opportunities to conduct research and demonstrations, and networking with more than 1,000 environmental professionals.

For additional information, please visit www.serdp-estcp.org/symposium, send an email to partners@hgl.com, or call the Symposium Contact Line at (703) 736-4548.

Recent Natural Resources Documents Online

Reports, Fact Sheets, Photos, Videos

This section highlights recently uploaded reports and factsheets on the Legacy Tracker or on the DENIX website. For Legacy-related products, please visit https://www.dodlegacy.org/Legacy/intro/ProductsList_NU.aspx. All Legacy products and many more are available at https://www.denix.osd.mil/portal/page/portal/denix/environment/NR. In addition to these two websites, bird-related products are also posted on http://www.DoDPIF.org.

Evaluation of State Comprehensive Wildlife Conservation Strategies: (Legacy 06-300) A series of workshops held to determine methods to integrate State Wildlife Action Plans (SWAP) and Integrated Natural Resource Management Plans (INRMP). https://www.dodlegacy.org/Legacy/intro/ProductsList_NU.aspx

Factsheet: DoD Invasive Species Outreach Toolkit: (Legacy 08-415) Development of a nationally-relevant yet regionally-based toolkit that provides information and outreach materials and templates for installation natural resource managers. https://www.dodlegacy.org/Legacy/intro/ProductsList_NU.aspx

Listed Plant Species Evaluation: (Legacy 07-368) This Legacy-funded project evaluates the status of existing ex situ plant material of 185 federally listed and candidate plant species occurring on DoD sites. The resulting report details the species and accompanying species information with existing ex situ plant material, existing ex situ plant material from multiple collection sites (DoD and non-DoD), and species without ex situ plant material. The species information will facilitate setting priorities, budgets, and planning for any future ex situ work by individual DoD services and on specific DoD installations. https://www.denix.osd.mil/portal/page/portal/NaturalResources/ThreatenedEndageredandAtRiskSpecies/FederallyListed

Fact Sheet: Support Southwest Strategy Threatened and Endangered Species Program Managers (TEPM) Team: (Legacy 05-258) The Southwest Strategy (SWS) provides an opportunity for DoD and other land-management agencies in Arizona and New Mexico to address issues of shared importance, such as management of federally listed species and species-at-risk. In 2000, a SWS workgroup was formed to develop and implement strategies for streamlining Endangered Species Act section 7 consultations and species management in New Mexico and Arizona. This group was first called the TEPM Team, and is now the Southwest Endangered Species Act (SWESA) Team. https://www.denix.osd.mil/portal/page/portal/NaturalResources/ThreatenedEndageredandAtRiskSpecies/FederallyListed

Establishing American Chestnut Test Orchards on Two TN Army National Guard Installations: (Legacy 08-401) American chestnut (*Castanea dentata*) was once one of the dominant trees in the eastern forests of the United States. By 1950, this keystone species on an estimated 9 million acres of eastern forest had all but vanished as a result of blight infection. The purpose of this project was to contribute to the efforts to develop a blight-resistant American chestnut that may be reintroduced into its former habitat across the eastern United States by establishing seed orchards on two Tennessee Army National Guard facilities: VTS-Milan and VTS-Catoosa. This report describes the methodologies in producing the crosses and establishing the orchards. Deliverables for this project included a report, fact sheet, brochure, and slide show, all of which can be found at https://www.denix.osd.mil/portal/page/portal/NaturalResources/OtherConservationTopics(A-H)/HabitatRestoration

Proof of Concept of The Range Ignition Probability Tool: (Legacy 07-374) Wildfires resulting from military training pose a significant threat to training realism and land use capabilities, natural and cultural resources, infrastructure, and human/soldier safety. Assessing incendiary munitions wildfire risk and determining best management practices requires accurate information about where fires are likely to start as ignition location can make a dramatic difference in fire outcomes. The RIP Tool is designed to fill the information gap caused by the lack of actual ignition location data. https://www.denix.osd.mil/portal/page/portal/NaturalResources/OtherConservationTopics(A-H)/Disturbance

Photo of the Month

Capturing the beauty of our natural resources

July 2010 Photo of the Month Winner!

Stiff Verbena, Ft McClellan Army National Guard Training Center.
Submitted by *Natural Selections* reader: Leah Nerem

HELP WANTED!

The Kalamazoo Nature Center is working on a Legacy-funded project to determine the presence/absence of Cerulean Warblers (CERW) on military lands (DoD installations and Army Corps projects). They are attempting to contact all properties in states bordering the Mississippi River and east (the potential range of CERW). If you have not been contacted and are in one of these states, please contact Torrey Wenger Conservation Education Assistant, Kalamazoo Nature Center, (269) 381-1574 ext. 12 or email him at TWenger@naturecenter.org. The CERW breeding season will conclude soon, and we need your help in making this atlas a complete record for DoD sites. Thanks for your help!

Did You Know?

Little Did You Know Conservation Could Be So Much Fun!

Could you tell a fish from a whale? Almost anyone can recognize a fish, and almost anyone could tell you that whales and dolphins are not big fish, but the similarities and differences between both groups may surprise you. The similarities among them are often very obvious, they all need to live in water and cannot survive out of water for long. Yes, whales, dolphins and fish are all vertebrates but whales and dolphins are mammals and a fish are not. But did you also know that a whale has sideways tail fins while a fish's fins run up and down? That's why when a whale swims it swings its body up and down, and when a fish swims, it moves from side to side. These animals unique streamlined body shapes, with dorsal and pectoral fins, help them maneuver under water.

However, telling why a fish is different from a dolphin takes a little more understanding of these animals. Fish have scales (even a shark has fine scales); whales and dolphins have smooth skin. Fish breathe through gills; whales and dolphins use lungs and a blowhole, which functions like a nose, on top of their heads. Most fish lay eggs, while whales and dolphins give birth to live young. Fish are cold-blooded; whales and dolphins are warm-blooded. Swimming motions are different: Fish move through the water by using their body muscles to push their tails side-to-side; whales and dolphins move by pushing their tails up and down.

What is a fish? The term "fish" most precisely describes any non-tetrapod craniate (i.e. an animal with a skull and in most cases a backbone) that has gills throughout life and whose limbs, if any, are in the shape of fins. Unlike groupings such as birds or mammals, fish are not a single clade but a paraphyletic collection of taxa, including hagfishes, lampreys, sharks and rays, ray-finned fishes, coelacanths, and lungfishes.

A typical fish is ectothermic (animals which must use heat acquired from the environment and behavioral adaptations to regulate body temperature), has two sets of paired fins, usually one or two (rarely three) dorsal fins, an anal fin, and a tail fin, has jaws, has skin that is usually covered with scales

A fish extracts oxygen from water using gills or uses an accessory breathing organ to breathe atmospheric oxygen. Many groups of freshwater fish extract oxygen from the air as well as from the water using a variety of different structures. Lungfish have paired lungs similar to those of tetrapods. Gouramis have a structure called the labyrinth organ that performs a similar function, while many catfish, such as Corydoras extract oxygen via the intestine or stomach.

A fish's body shape and the arrangement of the fins vary considerably, covering such seemingly un-fishlike forms as seahorses, pufferfish, anglerfish, and gulpers. Similarly, the surface of the skin may be naked (as in moray eels), or covered with scales of a variety of different types usually defined as placoid (typical of sharks and rays), cosmoid (fossil lungfishes and coelacanths), ganoid (various fossil fishes but also living gars and bichirs), cycloid, and ctenoid (these last two are found on most bony fish).

At an estimated 31,500 species, fish exhibit greater species diversity than any other class of vertebrates.

Did You Know?

Fish are abundant in most bodies of water. They can be found in nearly all aquatic environments, from high mountain streams (e.g., char and gudgeon) to the abyssal and even hadal depths of the deepest oceans (e.g., gulpers and anglerfish).

The *hadal* zone (from the Greek for "like Hades"—in other words "unseen"), also known as the hadopelagic zone and trench zone, is the delineation for the deepest trenches in the ocean. This zone is found from a depth of around 6,000 metres (20,000 ft) to the bottom of the ocean.

Links of Interest on the Web

Useful URLs

DoD Natural Resources Conservation Program: http://www.DoDNaturalResources.net The 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 DoD program that 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 TER-S Document Repository: http://www.nbii.gov/portal/community/Communities/Ecological_Topics/Threatened_&_Endangered_Species/DoD_TES_Document_Repository/ A compilation of DoD Threatened and Endangered Species documents and data made available online through National Biological Information Infrastructure. The information contained within these documents is considered "gray" literature (i.e., not peer reviewed).

Biodiversity Handbook: http://www.dodbiodiversity.org 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. A Commander's Guide to conserving biodiversity on military lands is also available.

DoD Partners in Flight: http://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 Pollinator Workshop: http://www.DoDpollinators.org Provides an overview of pollinators and the reasons they are important to DoD. This website highlights the 2009 NMFWA workshop on pollinators, and has many useful resources, including factsheets and technical reports, pocket guides to identifying pollinators, and links to other websites on pollinators.

DoD Invasive Species Outreach Toolkit: http://www.DoDinvasives.org To help installation natural resources managers protect the natural resources on our nation's military lands, the Legacy Program funded the Invasive Species Outreach Toolkit. 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.

DENIX: https://www.denix.osd.mil DENIX is an electronic environmental bulletin board that provides access to environmental information, such as Executive Orders, policies, guidance, INRMPs, fact sheets, and reports. This website is under reconstruction. We will advise you when it is fully operational. In the meantime, we suggest you visit these other natural resources links.

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 (SERDP): http://www.serdp.org/ SERDP identifies, develops, and transitions environmental technologies that relate directly to defense mission accomplishment.

Environmental Security Technology Certification Program (ESTCP): http://www.estcp.org/ A DoD program that promotes innovative, cost-effective environmental technologies through demonstration and validation at DoD sites.

Cooperative Ecosystem Studies Unit Network (CESU): http://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 12 units of the CESUs National Network.

Bat Conservation International: http://www.batcon.org BCI, based in Austin, Texas, is devoted to conservation, education, and research to protect bats and their ecosystems around the world.

PARC - Partners in Amphibian and Reptile Conservation: http://www.parcplace.org/ Partners in Amphibian and Reptile Conservation (PARC) is an inclusive partnership of individuals and entities dedicated to the conservation of amphibians and reptiles (i.e., herpetofauna) and their habitats as integral parts of our ecosystem and culture through proactive and coordinated public/private partnerships.

Contact Us

Who we are and where to find us!

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For additional information about DoD's Natural Resources, please contact the Deputy Director, Natural Resources or the DoD Natural Resources Conservation Staff.