



Legacy Program Update

Time to register for the DoD Sustaining Military Readiness 2007 Conference: Don't delay! The 2007 Sustaining Military Readiness Conference, also known as the Conservation Plus Conference, will be held at Disney's Coronado Springs Resort in Orlando, Florida from July 30 to August 3, 2007. Calls for posters, registration, agenda, and field trip details are available online at www.sustainingmilitaryreadiness2007.com.

National Public Lands Day (NPLD) application deadline now extended! Applications for NPLD Legacy funds are available for base-level projects on any Department of Defense site that supports the goals of National Public Lands Day (NPLD) and emphasize natural and cultural resource management. The deadline for submitting applications is June 15, 2007. For more information visit NPLD website at <http://www.publiclandsday.org> or contact Claudia Kessel, at claudia@neetf.org or Jane Mallory, with the Legacy Program at Jane.Mallory.ctr@osd.mil

Legacy Project Highlight of the Month

Legacy Project 05-158 Grand Bay-Banks Lake Stewardship Partnership - Phase II

Moody Air Force Base is part of a 10,000-acre site of regional significance that includes Banks Lake National Wildlife Refuge, Grand Bay Wildlife Management Area and The Nature Conservancy's Banks Lake Preserve. The site collectively referred to as the Grand-Bay Banks Lake (GBBL) ecosystem contains a diversity of relatively undisturbed aquatic and terrestrial habitats including longleaf pine, flatwoods, Carolina bays, limesink depressions and evergreen hammocks. These community types have been identified by The Nature Conservancy as priority conservation targets within the South Atlantic Coastal Plain Ecoregion. The

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In The News

Creating Quail Habitat on US Navy Lands

By Richard R. Riddle, Natural Resources Program Manager
NAS Corpus Christi & NAS Kingsville, TX

Quail hunters will soon have another place to hunt in South Texas at the US Navy's Escondido Ranch. A unique partnership between the US Navy and the South Texas Chapter (#132) of Quail Unlimited has been formed to provide better hunting opportunities to our Servicemen and women that want to enjoy the experience of hunting in South Texas at a fraction of the cost to hunt on private land.

In September 2006, the US Navy committed funds to improve and enhance habitat for quail at the Escondido Ranch, a 6,800-acre Navy owned hunting ranch in southwestern McMullen County. The South Texas Chapter of Quail Unlimited, led by President Bill Rauch, also provided matching funds to support this project.

Prior to beginning work, site visits between US Navy

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Training

Multi - Party Negotiation and Conflict Management: Sustainable Ranges Require Sustainable Relationships:

July 31, 2007, Coronado Springs Resort, Orlando, FL. Sharpen your skills in multi-party negotiation and conflict management to strengthen local range sustainment efforts. This workshop offers a framework for negotiating productively with multiple interests, agencies, and agendas and preventing, managing and resolving conflicts that may arise. Multi-party negotiation is not the same as two-party negotiation with more people. Learn about the difference and how to improve your own communication and deliberation skills with other federal, state, and local agencies, diverse interest groups, and the community at large. A multi-party scenario based on a noise encroachment case provides the context for this skill-building workshop. NOTE: Materials are required for this workshop. Admittance will be limited to only those who have registered.

Cumulative Effects Assessment: June 11-13, 2007, National Conservation Training Center (NCTC), Shepherdstown, WV. Cumulative effects are defined as impacts on the environment that result from the incremental effects of a proposed action when added to other past, present, and reasonably foreseeable future actions. Cumulative effects can result from individually minor, but collectively significant, actions taking place over a period of time. This course presents the concepts and approaches for incorporating cumulative effects considerations into environmental impact assessments. Emphasis will be placed on the relationships of cumulative effects issues to National Environmental Policy Act (NEPA) documents, transportation projects, and the review of wetland permits under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. Case studies and group discussions will be used to illustrate concepts and applications. Register online or contact Laura Eaton-Poole (Laura_Eaton@fws.gov) or Mary Kimble (Mary_Kimble@fws.gov), Division of Conservation Science and Policy, at 304/876-7473 or 304/876-7449 for more details.

Ecological Risk Assessment: August 14-16, 2007, San Diego, CA. This Civil Engineer Corps Officers School course provides attendees with information on Ecological Risk Assessment (ERA) and its use in the IR program. Instruction includes discussion on ERA components, how the risk manager and risk assessor decide what is needed for a site-specific ERA, technical oversight that should be included in the ERA how the tasks of the ERA should be performed, how to estimate risk based on the results of the ERA, and how the ERA fits within required regulatory processes such as RI/FS (CERCLA) and RFI/CMS (RCRA). This course was developed in coordination with the Tri-Service ERA Group and is approved by the Interservice Environmental Education Review Board (ISEERB).

GIS Introduction for Conservation Professionals: June 6-8, 2007, National Conservation Training Center (NCTC), Shepherdstown, WV. A geographic information system (GIS) is a powerful tool that can assist conservation professionals in natural resource-related projects. This course gives participants an introduction to GIS technology and terminology and teaches them how to use an existing GIS. Professionals emerge from this course with skills in the use of GIS software. Training examples use data from actual FWS projects and other similar conservation efforts.

Natural Resource Compliance: June 19-22, 2007, West Point, NY. This Civil Engineer Corps Officers School course offers instruction in specific natural resource laws, regulations, policies, Executive Orders, DoD Instructions, and other guidance, noting Service-specific requirements. Course addresses stewardship, preservation, and process; fish, game, and wildlife management laws; protection of wetlands, waterways, and other protected ecological areas; forest and land use management laws; and interservice cooperation. Practical exercises and guest speakers are included. This course is approved by the Interservice Environmental Education Review Board (ISEERB).



Announcements and Events of Interest

FEATURED! DoD's "Conservation Plus" Conference: The 2007 Sustaining Military Readiness Conference will be held July 30 to August 3, 2007, at the Coronado Springs Resort in Orlando, FL. The 2007 Sustaining Military Readiness Conference will bring together DoD professionals from the operational, environmental conservation, and planning communities along with partners from other government and non-governmental agencies and organizations to participate in training opportunities, discuss projects and programs, share lessons learned, and exchange information for the purpose of sustaining military readiness through conservation, compatible land use planning, and encroachment mitigation. Requests to submit posters are due by June 15. The hotel reservation deadline is July 4. Hotel per diem room rate is not guaranteed after July 4th. For more details and registration information visit the conference website at: <http://www.sustainingmilitaryreadiness2007.com/>

2007 National Gap Analysis Conference Featuring the Southeast Regional Gap Analysis Project September 11-13, 2007, at the Renaissance Asheville Hotel, Asheville, North Carolina. The meeting will include presentations and discussions about recent developments and applications from GAP projects across the country. Attendees will learn about the most important environmental issues in the country, particularly in the Southeast, and to discuss how GAP data sets can be used for resource management and decision-making. A special symposium will focus on conservation issues in the Southeastern U.S. and on the use of the Southeast Regional Gap Analysis Project (SEGAP) data for addressing these issues. This symposium is intended to bring together all interested individuals and agencies to explore the highest priority management needs in this region and to discuss how data resources can be used to assist managers.

Applied Management of Conservation Lands in Florida Conference The first conference on Applied Management of Conservation Lands in Florida will be held June 20-22, 2007 at Orlando's Caribe Royale. Convened by the Fish and Wildlife Conservation Commission, this conference will provide a forum for the exchange of new ideas, approaches, methods, and pertinent data on applied management of conservation lands in Florida, with an emphasis on vegetation management. For more information visit <http://www.ces.fau.edu/amclif>.

NEW! Annual Conference on Ecosystem Restoration and Creation: The 34th anniversary of The Annual Conference on Ecosystems Restoration and Creation will be held November 1 - 2, 2007 at the Trinkle Building located on the Plant City campus of Hillsborough Community College (Plant City, Florida). The Annual Conference provides a forum for the nationwide exchange of results of the latest scientific research on restoration, creation, and management of not only freshwater and coastal systems but total ecosystems including upland and transitional areas.



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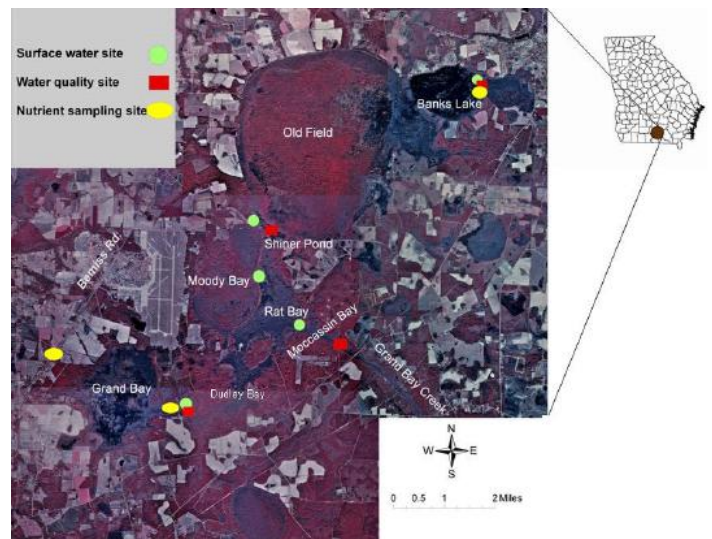
stewardship partnership for GBBL includes Moody Air Force Base, The Nature Conservancy, US Fish and Wildlife Service and the Georgia Department of Natural Resources.

In 2003, using funds from the Department of Defense Legacy Resource Management Program and the Price-Campbell Foundation, a comprehensive Site Conservation Plan (SCP) was completed for GBBL. The SCP established conservation targets and included threat analysis and strategies to mitigate the threats on the conservation targets. Phase II project was undertaken to explore the underlying ecological processes that shape natural communities across this region: hydrology and fire. The challenges of ecological burning on or near an air base cannot be underestimated. A thorough examination of the interaction of hydrology and fire ecology therefore is critical in enabling resource managers to conserve these regionally significant communities, while facilitating execution of the military mission. These issues are not unique to Moody AFB; in fact, many military installations across the southeast must address these issues.

The stewardship partnership developed a hydrological and fire management plan for the area. The first steps toward this goal included establishing shared goals for water control and ecological burns. Using historical data, partners determined hydrological patterns and historic fire regimes. The information will serve as a predictor of future conditions and its impact on the rare species and natural communities of this ecosystem.

The results of this partnership will improve the conservation status of regionally significant natural communities on Moody Air Force Base and in the larger surrounding Grand Bay-Banks Lake ecosystem, and will not only result in a measurable contribution to regional conservation, it will also result in increased flexibility and options available to military operators on Moody Air Force Base. Partnership research of these management techniques for fire and hydrology at Grand-Bay Banks Lake can be exported to installations throughout the southeast.

The partnership received completed pre-settlement vegetation and fire regimes maps supplied as GIS layers. The current and historic vegetation mapping project conducted a change analysis that confirmed the opinions of experts familiar with the site. In the absence of frequent fire, the Carolina bays are shifting from open marsh communities to scrub-shrub communities. This is resulting in a decrease in habitat needed for rare species at GBBL. A study of the pre-settlement fire regime confirmed that fire was once a frequent occurrence in portions of the wetland complex at GBBL. A hydrological study provides information on the connection between the surface water and groundwater at the site and recommends management options to meet ecological goals. The fire management plan make recommendations on how to increase the frequency of fire at the site to return GBBL to a larger percentage of open marsh communities, similar to levels observed in the past.



Grand Bay and Banks Lake are located in the lower Coastal Plain physiographic province in what is typically known as "flatwoods" (figure 1). This wetland group comprises the major part of an 18,000-acre wetlands system, which is the second largest natural blackwater wetland in the Coastal Plain of Georgia.



Quail Habitat, continued from page 1

biologist, Rich Riddle and local QU personnel were conducted to determine best management practices and identify locations on the ranch that would benefit from the creation of quail habitat. As much as 85% of the ranch was dominated by heavy brush and there were few open areas that would support good quail populations. At monthly meetings, QU South Texas Chapter members provided discussion and prior experience in quail management to help determine the best methods of enhancing the area for quality quail habitat. As a result, it was determined that mechanical brush chopping using a Lawson aerator to create soil disturbance, in combination with prescribed fire, would provide the best results in the areas dominated by mixed brush species.



Pretreatment – photo showing density of mixed brush species prior to treatment with Lawson Aerator. Photo by Richard Riddle.

Thus far, about 600 acres of South Texas mixed brush has been chopped and another 900 acres along the Nueces River were burned by professional fire crews from The Nature Conservancy and US Fish & Wildlife Service. Together, these land use practices have created more areas to hunt on the ranch and greatly improved the habitat for quail by creating edge effects and increasing annual forb production. Additionally, these same practices benefit other game species such as deer, turkey, dove and javalinas. In February 2006, a late winter helicopter survey of the ranch conducted by Texas Parks & Wildlife Department showed that the treated areas were already being heavily utilized by many species of wildlife.

For 2007, the US Navy and the QU South Texas Chapter have again pledged funding for additional mechanical brush treatment. It is anticipated that a similar number of acres will be treated. As with any good brush control program, follow up treatments will be necessary to maintain the habitat in a desirable state for quail. In order to accomplish this, more burning and chemical treatments will be need in successive years.



Lawson Aerator – photo showing Lawson Aerator chopping brush and aerating soil. Photo by Rick Kocurek

Although 2005 and much of 2006 were poor years for quail production due to prolonged drought in South Texas, the area began receiving rains in late Fall 2006 that continued through Spring 2007. As a result, the plant community has responded and hopefully so will the quail. The disturbances created by prescribed fires and mechanical brush chopping at the Escondido Ranch have caused an explosion of annual forbs that will provide excellent food sources for the bobwhite and scaled quail found on the ranch. Additionally, the debris created by the brush chopping provides loafing cover and protection from predators.

Escondido means “hidden” in Spanish and true to its name the Escondido Ranch is an often overlooked hunting resource in South Texas. The ranch is located approximately 25 miles northwest of Freer, TX in the southwest corner of McMullen County on land that is owned by the US Navy. It is adjacent to the “Dixie” Target Site of the McMullen



Rx Burn – prescribed Burning operations on Escondido Ranch were conducted with the assistance of professional fire crews from The Nature Conservancy and US Fish & Wildlife Service. Photo by Richard Riddle

Range Complex, an active air-to-ground gunnery and bombing range.

The Escondido Ranch is managed by the Morale, Welfare and Recreation Department of Naval Air Station Kingsville and offers a South Texas hunting experience for members of the military community. Although its primary customers are active duty military, it is also open to military retirees and Department of Defense (DoD) civilian employees. For more information contact the Escondido Ranch at (830) 373-4419.



6 mo post treatment – photo showing area 6 months after mechanical brush treatment. Note openness of area, abundance of forbs and various age class and structure of remaining woody vegetation. Photo by Richard Riddle



Recent Natural Resources Documents On [DENIX](#) and Web

NEW! [State-wide Conservation Forum to Facilitate Cooperative Conservation](#) (Legacy 06-331): this report details the conservation forum held on December 14, 2006 at the Pocahontas State Park in Chester, Virginia. The purpose was to launch regional conservation partnerships in support of the Governor's land conservation initiative and military compatible land use and conservation buffers addressing both land protection and restoration. At the forum's conclusion, commitments were made by the forum attendees for three follow-on regional forums to explore specific conservation partnerships in the Northern Virginia area that includes Fort A.P. Hill, Naval Surface Warfare Center Dahlgren, and Marine Corps Base Quantico; the south-central region that includes Fort Pickett; and the Tidewater region that includes Fort Eustis, Fort Story, Langley Air Force Base, and the Oceana Naval Air Station.

NEW! [Prescribed burns and their effects on threatened and endangered species with emphasis on the Eastern Box Turtle \(*Terrapene c. carolina*\)](#) (Legacy # 05-271) This report summarizes preliminary findings from year one of field studies on the ecology of the Eastern Box Turtle (*Terrapene c. carolina*) on the Fort Custer Training Center (FCTC) in south central Michigan. This study was initiated to investigate the impacts of prescribed burning on resident herpetofaunal populations by examining patterns of movement and habitat use of the Eastern Box Turtle using radiotelemetry. This report provides a discussion of data collected to date, as well as management recommendations intended to promote the conservation of the Eastern Box Turtle, as well as other herpetofaunal species found on the FCTC, including those that are listed as threatened and endangered such as the Eastern Massasauga Rattlesnake (*Sistrurus c. catenatus*), Spotted Turtle (*Clemmys guttata*), and Blanding's Turtle (*Emydoidea blandingii*).

NEW! [Grand Bay-Banks Lake \(GBBL\) Stewardship Partnership - Phase II:](#) (Legacy 05-158) The Grand Bay-Banks Lake ecosystem is a major part of an expansive palustrine wetland complex (over 18,000 acres) in south-central Georgia in Lanier and Lowndes Counties near Valdosta. The wetland is co-owned by Moody Air Force Base (AFB); Georgia Department of Natural Resources (DNR), Grand Bay Wildlife Management. This project involved the development of preliminary hydrological and fire management plans for the area as well as a monitoring plan to track the impacts of management action or inaction on the rare species and natural communities found at GBBL. Other components of this project include mapping of current and historic vegetation at the site, and a description of the pre-settlement fire regime and vegetation of the GBBL area. See also project [Fact Sheet](#).

NEW! [SERDP Ecosystem Management Project \(SEMP\): 2005 Annual Report](#) The SERDP Ecosystem Management Project (SEMP) was initiated in 1998 by the Strategic Environmental Research and Development Program (SERDP), after a 1997 workshop on Department of Defense ecosystem management challenges. This report records the many changes that occurred in the SEMP Project in the year 2005. All the original SEMP research projects have completed their funded work and final reports were received during this year. As reported in the 2004 SEMP annual Report, significant change took place in almost every aspect of SEMP program management and execution during 2005. The response to the comprehensive external review of SEMP is reported as these changes have been implemented. New SEMP research projects are no longer being funded within the SEMP budget, but will be separate Statements of Need through the normal SERDP process. Two workshops were held at Fort Benning in January and February 2005 to identify more critical installation needs; Fort Benning staff, SEMP researchers, Technical Advisory Committee members, and several outside experts reviewed these results, which resulted in a redefined research plan for 2006 and beyond.

NEW! [Habitat Fragmentation Handbook for Installation Planners: Status and Options](#) The primary objective of this work is to provide military installation planners with a sourcebook on the state of the art in how to analyze the probability and risks of habitat fragmentation for animal Threatened and Endangered Species (TES). The document provides a review of habitat fragmentation issues, focusing on those of highest concern to Army Military Installation Land Managers. It has been designed to capture information developed during the 4-year Engineering Research and Development Center research project called: Quantify Effects of Fragmentation and Approaches to Mitigate.

NEW! Habitat Selection by the Gopher Tortoise (*Gopherus polyphemus*) The gopher tortoise (*Gopherus polyphemus*) occurs in the southeastern Coastal Plain and has experienced widespread decline due to habitat loss and other human impacts. The largest remaining populations occur on private lands and military installations. Proper management at these sites will be critical to the success of the species. The goal of this study was to determine the response of gopher tortoises to forestry management practices commonly implemented in the management of the Red-cockaded Woodpecker. Habitat use of individual tortoises was monitored at four study sites with different ownership and management scenarios: Fort Gordon (military installation, winter burning), Savannah River Site (federal defense facility, winter burning, translocated population), Tillman Sand Ridge (state wildlife preserve, summer burning), and a private hunting preserve (no management). Habitat data were collected to characterize typical canopy and herbaceous vegetation of each site. Data were collected at active burrows; the anecdotal belief that tortoises select the most open habitat available was confirmed. The preferred habitat density appears to be in the range of 40 percent canopy cover, a value compatible with current woodpecker management guidelines. Results will be used to develop recommendations for the concurrent management of gopher tortoises and Red-cockaded Woodpeckers.

NEW! Evaluation of Soil Loss and Erosion Control Measures on Ranges and Range Structures at Installations in Temperate Climates The Department of Defense operates the largest and most diverse training enterprise in the world. The Army has under its authority 1.3 million uniformed and civilian personnel at over 4,100 locations using over 61 million square kilometers of land. Providing realistic and effective training is a key element in fulfilling the military mission. The sustainable use of military training lands presents a challenge to maintaining combat preparedness. Range managers need cost-effective long-term solutions that alleviate maintenance requirements and increase training intervals. Guidelines on the design of small arms ranges to prevent erosion have been developed. However, these guidelines do not incorporate sustainable range elements into the overall design, and without proper soil and water conservation, large ranges have the potential to contribute greatly to overall installation erosion. This research evaluates design weaknesses and develops an improved design methodology for embankments, firing points, and targeting impact positions on training ranges. Additionally recommendations are outlined that propose specific guidelines for range structures: defilades, stationary armor targets and moving armor targets that reduce soil loss and improve training realism.

NEW! Survey of the Golden-cheeked Warbler on Fort Hood in Support of NEPA Requirements: This research on the golden-cheeked warbler (GCW) was conducted on Fort Hood, Texas, during April and June 2006. Subject matter experts on Fort Hood were consulted and helped determine which areas of the installation contained suitable GCW habitat but were not already included in The Nature Conservancy's (TNC) intensive study program. Researchers then surveyed one of these areas, documenting the presence of GCW. This research was conducted to determine if data collected in the intensive study area has been successfully extrapolated to other areas of habitat on the installation. The collected data showed that the territory density was lower than those found on TNC's intensive study areas, but pairing success was very similar to the TNC data, and the number of territorial males producing one fledgling was considerably higher than TNC's estimates. This study supports the possibility of extrapolating TNC's data to areas on Fort Hood that have not been intensively sampled. However, the small scope of this project and relatively low sample size make it necessary to preface the results with one caveat: additional years of data collection on this study site would equate to a higher measure of confidence in the results.



Did You Know?

Invasive Species - a species that is non-native or alien to the ecosystem under consideration and whose introduction does or is likely to cause economic or environmental harm or harm to human health. • Invasive species are the number one threat to native biodiversity on protected lands. • Invasive plants are spreading over approximately 1,700,000 acres per year of U.S. wildlife habitat. • Scientists estimate that invasive plants cost our economy \$35 billion in damages and treatment each year!

What to do? Here are some tips from the [Garden smart Plant wise Brochure](#)

1. **Know your plants.** Find out which plants cause problems in parks or natural areas in your region to know which species to avoid.
2. **Use non-invasive alternatives.** Ask a nursery about non-invasive plant alternatives. Native plants often have similar characteristics to invasives without the damaging ecological side effects.
3. **Use only seed mixes that are invasive plant-free.** Check the ingredients of seed mixes to make sure invasive plants are not included. Buy seed mixes from reputable sources that guarantee the purity and content of their seed. Take your regional native plant list with you when you buy the mix.
4. **Use weed-free soil and mulch mix.** Some invasive plants are introduced because they were contaminants in landfill soil and mulch mixes. Purchase from reputable manufacturers that guarantee the purity or weed-free content of their soil and mulch mixes. Look for a tag that says "Certified weed-free."
5. **Watch out for invasive plant hitchhikers.** Check clothes, belongings and vehicles for seeds and pieces of plants that attach and drop somewhere new.



The Plantwise program gives gardeners easy tips on how to manage their garden to preserve the unique qualities of neighboring wildlands.

Contact Us

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