

# Secretary of Defense Secretary of the Navy

FY 2002  
Environmental Award

## Natural Resources Conservation Large Installation

### Marine Corps Base Camp Lejeune, North Carolina

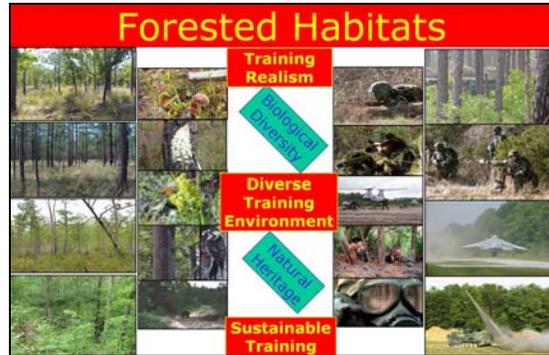
#### Introduction

Marine Corps Base, Camp Lejeune, NC is home to the largest single concentration of Marines in the world. Camp Lejeune supports the world's most complete amphibious training program and is the east coast's "Home of Marine Expeditionary Forces in Readiness."

Located entirely within Onslow County, Camp Lejeune occupies approximately 153,000 acres of land cover as follows:

Land Cover	Acres
Surface Waters	24,000
Forested Wetlands	29,000
Non-forested Wetlands	20,000
Upland forests	72,000
Urban/Developed	7,500

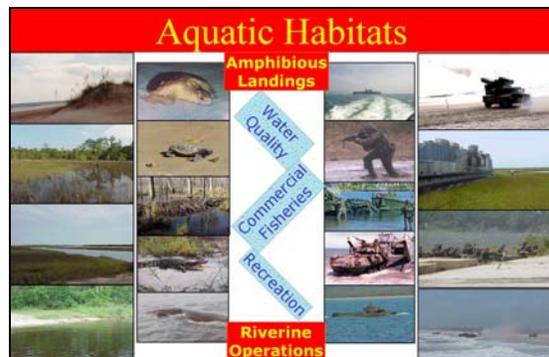
The installation has an extensive natural resources program, including forest management on more than 92,000 acres, and management and protection of eight federally threatened and endangered species. The North Carolina Natural Heritage Program has identified 29 significant natural areas on Camp Lejeune. Of these sites, 11 are considered of state or national significance.



Camp Lejeune supports the wildlife and plant associations typical of the southeastern coastal plain fire maintained pine forests. Hunting opportunities abound across the installation with the exception of cantonment and impact areas. Whitetail deer, wild turkey, quail, and black bear are some of the featured game species.

With 11 miles of nearly pristine beach, Camp Lejeune provides habitat for a wide array of migratory shore and water birds. Marine mammals frequent the nearshore waters and loggerhead sea turtles nest on the beach during summer months.

Nearly 400 miles of shoreline along the New River, its tributaries, the Atlantic Intracoastal Waterway and the Atlantic Ocean are found within installation boundaries.



With such diversity and extent of natural habitats- ranging from beachfront,

riverine, upland forests, and urban areas- it's easy to see why Camp Lejeune is a premiere training facility.

### Background

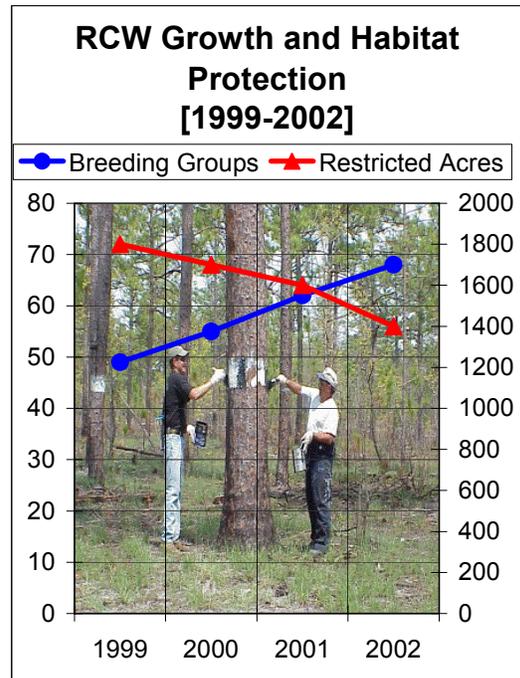
Marine Corps Base, Camp Lejeune's Integrated Natural Resources Management Plan (INRMP) was endorsed by State and Federal natural resource agencies and approved by the Commanding General in November 2001. The successful development of the INRMP had its foundations in the organizational structure emplaced to facilitate integrated planning.

A Stakeholders Issue Group (SIG) was convened to solicit and eventually address the natural resource issues that were of importance to State and Federal natural resource agencies, along with private and other conservation organizations.

Input received from the SIG was formulated into issue statements that described a need for change. The issue statements were reviewed and endorsed by a Base INRMP Working Group, comprised of representatives from each major Marine Corps Base department and/or division. The issue statements, along with others that identified opportunities for closer inter-departmental communication and coordination, were evaluated and analyzed by the Interdisciplinary Team (ID Team). Subject matter experts from other departments, primarily Training and Operations, were called upon as needed. Since INRMP endorsement, the ID Team has been renamed the Implementation Working Group (IIWG). The IIWG convenes monthly to facilitate INRMP implementation and to address emerging issues, projects, and other topics as necessary.

### Program Summary

The Department of Defense is faced with progressively more difficult encroachment issues at military installations. The accomplishments of Camp Lejeune's natural resource program provides insight and working models for addressing complex issues. Endangered species protection and management is often blamed for hindering realistic training to a point of reduced readiness. At Camp Lejeune the most visible endangered species- the red-cockaded woodpecker (RCW)- is growing more rapidly than any other while the acreage encumbered with restrictions is declining. During the period of 1999-2002, the RCW population increased by 36% while the acreage subject to training restrictions decreased by 20%.



Several projects initiated to enhance training on the base were successfully planned and executed within the constraints of the Endangered Species Act. These projects include the

construction of a combined arms training range- the Company Battle Course, the realignment and repositioning of artillery firing positions, and the initiation of Shore Fire Control Party training involving Naval Surface Fire Support into the central impact area, and the development of a new route for ship to shore movements of Landing Craft Air Cushions (LCAC).

Urban development of lands adjacent to the installation has resulted in modifications to Camp Lejeune's training regime, largely in response to noise complaints. Such urban development also increases the likelihood that Camp Lejeune will play an increasingly important role as a refuge for protected species as the base becomes isolated from other natural lands. To avoid such consequences, the Onslow Bight Conservation Forum was created and has taken action in the greater Camp Lejeune area. The Forum is composed of several State and Federal agencies, non-governmental organizations and other conservation-oriented parties.

The first success of the initiative was placement of a 2,500-acre tract of land into a conservation status. This property is bound on two sides by Camp Lejeune and is within one half mile of both a rifle and tank range. The land will be managed for natural resources while providing the local community new outdoor recreation opportunities. The prospect of noise complaints from the 500 residential units that would have been built on the property no longer exists.

In addition, the INRMP set dozens of goals and objectives that would augment the installation's approach to ecosystem management while accommodating uses

supplemental to military training. For example, natural resource personnel increased user satisfaction among the hunting community by planning and executing the preparation and planting of over 200 acres of managed wildlife openings. In previous years this effort had been contracted but through the utilization of in-house resources, Camp Lejeune produced a higher quality product at nearly two-thirds the contract cost.

Members of the Camp Lejeune community, affiliated and non-affiliated, were given an opportunity to participate in natural resource management through the Conservation Volunteer Program which was sanctioned in 2001. Volunteers have made significant contributions including a comprehensive wood duck box program, annual Christmas Bird Counts, and regular monitoring of a bald eagle's nest. These are just a few of nearly 50 projects listed in the INRMP for FY02. To date, nearly 70% of the projects have been completed.

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### Accomplishments

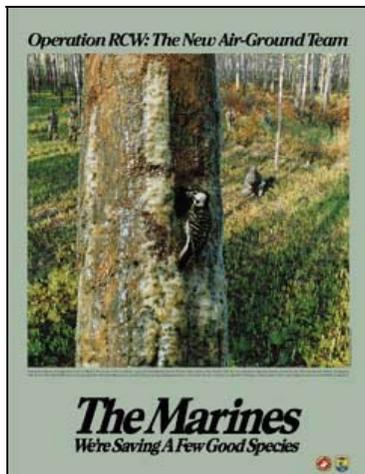
#### ***More Woodpeckers, Less Restrictions on Training***

In 1999, Camp Lejeune adopted a Mission Compatible Red-cockaded Woodpecker Management Plan and since that time, installation natural resource managers have worked to facilitate RCW growth so that the mission compatible recovery goal would be met in a timeframe beneficial to the installation and its training mission.

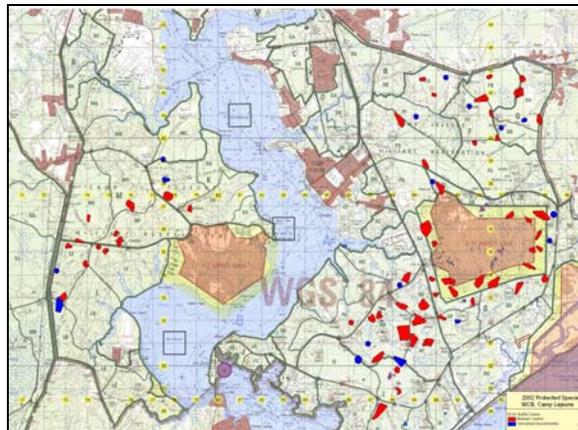
This year, the IIWG collaboratively produced the Silvicultural Prescription Plan for FY03 that emphasizes habitat management to favor RCW growth as outlined in the INRMP. This type of continuing effort has not gone unnoticed

in the RCW community. In late 2001, a book entitled “The Red-cockaded Woodpecker: Surviving in a Fire-maintained Community” was published. The authors cite Camp Lejeune as “a demonstration of compatibility between military training and woodpecker conservation...”(Conner et al., 2001). Similarly, the United States Fish and Wildlife Service acknowledges that Camp Lejeune’s achievements in RCW recovery are “...among the best, if not the best on all Federal properties”(Correspondence, USFWS 2002). Because of this distinction, the Commanding General was invited to be a keynote speaker at the January 2003 RCW Symposium for RCW researchers, managers, and regulators.

Among the RCW community, success is measured in the numbers of active RCW groups. At Camp Lejeune, success is defined as an increase in groups along with a decrease in training restrictions. A synopsis of the program’s recent success begins in 1999 when the base supported 52 active clusters that accounted for restricted training activities on 1,800 acres. Since 1999, the RCW population on Camp Lejeune has seen an average annual increase of 11% resulting in 71 active groups in the 2002 nesting season.



With the addition of 19 new groups, the acreage impacted by training restrictions has been reduced to 1,400 acres, or less than 1.5%, of the forested training areas. This reduction is primarily attributed to the initiation of a Military Impact Study that allows for one half of all new groups to be assigned an experimental status, free of restrictions. The experimental sites are compared to control sites where standard training restrictions are in place so effects of normal training activities on RCW reproduction, behavior, and habitat can be scientifically measured. The data collected will be used to assess the functionality of the restrictions and is expected to make a case for wider tactical use of RCW habitat.



Blue areas are unmarked, experimental RCW clusters – contributing to the reduction of training areas encumbered with restrictions.

Through continued proactive forest management and integrated land use planning, Camp Lejeune hopes to maintain an annual growth rate of at least 6%, which would place the installation at its mission compatible recovery goal by the year 2019. With a future addition of another 102 groups, it is estimated that the area encumbered with training restrictions will maximize at approximately 2,400 acres, or 2.5% of forested training areas.



prohibited to avoid impacts to RCW. The Company Battle Course has become an example of how creative thinking, communication, and coordination enhances Camp Lejeune's mission requirements while conserving protected species.



Platoon level objectives on the Company Battle Course (A). Protective structures are placed to protect RCW habitat (B).



Company objectives camouflaged by a natural landscape create training realism.

### ***Artillery Firing Positions***

Concurrent with the development of the Company Battle Course, T&O had initiated plans to remedy another training deficiency. The artillery component of the 2<sup>d</sup> Marine Division (2MARDIV) was unable to execute battery level firing exercises on Camp Lejeune. To achieve this training, the units were transported to Fort Bragg, N.C., where larger mission support openings could accommodate a battery of six artillery pieces with the appropriate safety buffers in between. This becomes logistically and financially problematic. Initial evaluations of Camp Lejeune gun positions revealed that potential expansion of existing positions

would be a tricky proposition considering the environmental constraints existing on the landscape. Cooperation and coordination were the key components to a successful project. Natural resource managers spent hours in the field and in front of Geographic Information Systems projects alongside representatives from T&O and 2MARDIV examining each gun position. For each position in question, it was determined whether wetland, protected species, or archaeological constraints merited the closure, rehabilitation, and relocation of a gun position or if the opening could be expanded without significantly affecting adjacent resources.

Through this process, long term management and maintenance techniques were discussed. In some cases, portions of the gun position will be planted and managed for the benefit of game species—primarily deer, turkey, and quail. In others, existing and potential soil erosion problems were identified and will be rehabilitated once the overall project receives final approval by the end of calendar year 2002.



The use of GIS was key to developing alternatives with minimal environmental impacts.

Approval will come with the completion of a comprehensive Environmental Assessment that describes as the proposed

action, the continued military use, expansion, and long-term management of artillery gun positions. Expansion and relocation have been addressed through a favorable informal consultation regarding RCW and rough leaved loosestrife. Although some groups of RCW may be subjected to minor impact, the overall project will benefit the RCW population with over 60 acres of previously cleared land being reforested in longleaf pine.



A Howitzer prepares to fire from an established gun position.

***From Ship to Shore- Shore Fire Control Party Training and an LCAC Route***

Prior to 2001, the last time Naval Gunfire (NGF) fired at Camp Lejeune was in the mid-1970's. The lack of Naval Surface Fire Support (NSFS) planning and integration into operations aboard Camp Lejeune had contributed to a degraded NGF Liaison Section and Shore Fire Control Party (SFCP) readiness. As a result of the significant reduction in NSFS range availability elsewhere and no alternative ranges on the east coast, an alternative site aboard Camp Lejeune was identified for limited use to train Marines.



NSFS was reintroduced to Camp Lejeune

The proposal for limited NGF would produce impacts similar to those associated with ongoing artillery training. The regulatory and civilian communities were reassured of this assertion through the combined efforts of Camp Lejeune's natural resource managers and trainers. Successful interagency consultation under the Endangered Species Act (ESA), National Environmental Protection Act (NEPA) documentation, and other regulatory requirements including multiple public meetings and requests for comments resulted in a favorable outcome reintroducing SFCP training as a regular operation at Camp Lejeune.

Naval and Marine Corps teams work seamlessly both at sea and at the beachhead. Increased activity at Onslow Beach required significant improvements of the landing facility at Mile Hammock Bay on the Intracoastal Waterway (IAWW). This docking facility is used to transport tactical equipment on and off Naval ships without subjecting the equipment to corrosive seawater.

However, due to the nature of the dynamic New River Inlet, the concentration of commercial and recreational boats, and the tight timelines operators must contend with, the traditional LCAC route became less than satisfactory due to increased transit time.

After coordinating with the natural resource managers, the LCAC pilots were provided with an alternate route that would take them over tidal marsh, across the IAWW and into Mile Hammock Bay while avoiding island crossings that could impact sea turtle nesting, a protected dune plant, and nesting colonial water birds.



The LCAC route to Mile Hammock Bay-  
evaluated by natural resource managers.

A demonstration of the route was provided to the natural resource managers who evaluated the minimal impact of the LCACs passing over, shutting down, and starting up in the tidal marsh. Appropriate coordination with regulatory agencies was initiated and the new route is currently being used.

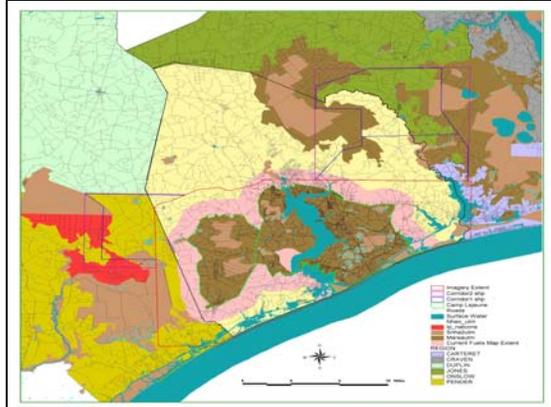
### ***Addressing Urban Encroachment***

In response to the need for Camp Lejeune to address encroachment on the training mission stemming from adjacent land use and ecological isolation, the Onslow Bight Conservation Forum was initiated. The natural resource staff and other Base departments pursued the formation of a regional conservation partnership with a number of representatives from State, Federal, private landowners and land managers. The group is in final stages of developing a charter for the forum that outlines common goals and objectives for the conservation of natural resources in the Onslow Bight landscape. Though still in its formative stages, the Onslow Bight Partnership has greatly assisted the Marine Corps in its efforts to retain Camp Lejeune as a premiere training facility.

On October 31, 2002, the Nature Conservancy, in cooperation with Camp Lejeune and the North Carolina Wildlife Resource Commission, closed on 2,500 acres of land slated for residential

development adjacent to Camp Lejeune's training ranges.

Through these types of cooperative purchases of conservation easements or fee-simple title to adjacent lands, encroachment due to urbanization of the region surrounding military installations can be prevented or minimized.



Looking at conservation from a regional  
perspective.

Camp Lejeune will focus on its immediate neighborhood while Forum members will keep an eye on the larger regional scale. The group will be alert for opportunities to facilitate land placement into conservation status via fee-simple purchase, the purchase of development rights, or memorandums of agreement advocating beneficial management practices. In the long term, this approach will lessen the burden of endangered species restrictions if recovery obligations are not disproportionately attributed to Camp Lejeune, but are instead spread across a number of landowners.

### **And still more...**

While these major accomplishments demanded much time and effort from the natural resources staff, the organization continued building on a long history of

land management. Other noteworthy accomplishments at Camp Lejeune include:

- ✓ Regular participation in the Base Training Working Group and the Environmental Impact Working Group for NEPA review. (00-02)
- ✓ Development of a database to track INRMP implementation and program success. (2002)
- ✓ Initiation of a Strategic Environmental Research and Development Program (SERDP) study on the effects of silvicultural methods on plant community diversity and abundance in longleaf pine ecosystems. (2001)
- ✓ Forest management accomplished 4,700 acres of improvement thinnings, 1,275 acres of longleaf restoration, and 47,500 acres of prescribed burning- over 20% of which occurred in the growing season, providing maximum ecological benefit. (00-02)
- ✓ A retired borrow pit was transformed into a recreational fishing pond, complete with 1,800 bass, catfish, and bluegill. (2002)
- ✓ An intensive annual monitoring protocol was initiated for the endangered rough-leaved loosestrife (*Lysimachia asperulifolia*). The monitoring is consistent with all other land managers caring for the plant and will be used to reevaluate recovery standards. (2000)
- ✓ Natural resource personnel presented environmental briefings to each 2MARDIV mechanized infantry units in March 2002- no protected species violations have been recorded since.

- ✓ In Spring 2002, Camp Lejeune hosted a special hunt for the Paralyzed Veterans Association shortly after the organization donated a Huntmaster Elevated Stand and wheelchair accessible blinds. This adaptive equipment provides new opportunities for our disabled veterans.
- ✓ In September 2002, Camp Lejeune received a final report and guide to the inventory and monitoring of amphibians. The project was completed through the Legacy Resource Management Program.
- ✓ Camp Lejeune acquired reliable black bear population estimates based on the innovative use of new microsatellite DNA technology.
- ✓ In response to the West Nile Virus outbreak, natural resource managers participated in a well-coordinated working group to monitor for the appearance of the disease on Camp Lejeune.

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### Conclusion

Camp Lejeune is committed to natural resource conservation in support of the military mission. The 153,000-acre supports eight federally protected species, wide hunting opportunities, sensitive wetland habitats, and commercial timber products.

Camp Lejeune's Integrated Natural Resources Management Plan establishes goals for the management of installation natural resources that will support sustainable military use through the application of an integrated approach to ecosystem management.

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**Natural Resources Conservation – Large Installation**

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During the period from 2000-2002, Camp Lejeune has 1) increased the population of the endangered Red-cockaded woodpecker while decreasing acreage impacted by training restrictions, 2) reintroduced Shore Fire Control Party Training, 3) created a live fire company sized battle course with access to a duded impact area, 4) realigned and relocated artillery firing positions to allow for battery level exercises, and 5) assumed a leadership role in the creation of a regional conservation initiative.