

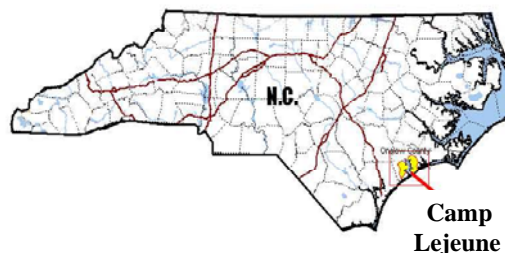
**Secretary of Defense - Secretary of the Navy**  
**FY 2004**  
**Environmental Award**  
**Natural Resources Conservation – Large Installation**

**Marine Corps Base, Camp Lejeune, North Carolina**

**Introduction**

Marine Corps Base, Camp Lejeune, located on the North Carolina coast is the nation's largest Marine Corps installation on the eastern seaboard. Camp Lejeune supports the Marine Corps's most complete expeditionary training program and is the home of the II Marine Expeditionary Force. The mission of Camp Lejeune is stated simply, to maintain combat ready units for expeditionary deployment. The complexity of this mission is clear when one considers the requirements for providing a sustainable training environment for approximately 42,000 Marines, Sailors and their families. Directly contributing to this mission are approximately 5,000 civilian employees and the 47,000+ retirees in the local area at the ready to support our active duty members.

Located entirely within Onslow County, Camp Lejeune occupies approximately 153,000 acres that includes dynamic beach and sand dune complex's along the Atlantic ocean, ecologically diverse embayments and estuaries of the New River, extensive bottomland hardwood forests and swamps, with majestic pine savannahs and upland hardwood forests. The Marine Corps and the abundant wildlife on Camp Lejeune have co-existed in this coastal plain ecosystem for over 60 years.



The installation has an extensive natural and cultural resources program responsible for continued stewardship of this vast area. It includes active forest management of more than 92,000 acres, and management and protection of eight federally threatened and endangered species. Twenty nine significant natural areas have been identified by the North Carolina Natural Heritage Program in Camp Lejeune training areas. Of these sites, 11 are considered of state or national significance due to unique and sensitive plant communities. Two sites are officially entered on the NC Registry of Natural Heritage Areas. Of the 840 officially recorded archaeological sites found on Camp Lejeune, 30 are eligible for National Register status, 240 are potentially eligible and require further assessment, and the remaining 570 are not eligible.

Camp Lejeune supports the wildlife and plant associations typical of the southeastern coastal plain fire-maintained ecosystem. Recreational hunting takes place on approximately 102,000 acres and anglers have 71 acres of freshwater ponds and 26,000 acres of estuarine and brackish water associated with the New River to explore. Freshwater ponds, conveniently located marinas, and access to remote beach locations provide valuable fishing opportunities for properly licensed personnel extended this privilege.

## **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 (FY 2002). Since INRMP endorsement, an INRMP Implementation Working Group (IIWG) was formed and was recently replaced by a Conservation Working Group (CWG). The CWG convenes monthly to facilitate INRMP implementation, address new issues, projects, and other topics as necessary.

The working group is comprised of permanent and on/call members from the civilian and military community at Camp Lejeune to include representatives from Marine Corps Air Station, New River; Training and Operations (Training Resources Division, Range Control Division); Installation Development Division (Facilities Planning); Environmental Conservation; Business Technology Division (GIS Office); and Marine Corps Community Services. The diversity of this stakeholder group, with its broad connectivity to various mission components, provides vital INRMP integration and fosters focused communication among all aspects of the Camp Lejeune Community.

The Environmental Conservation Branch (ECON) within the Environmental Management Division (EMD), which is charged with INRMP development, implementation and revision, continues to evaluate and analyze long-range planning, project implementation, along with other emerging requirements. Camp Lejeune's INRMP, based upon strong recommendation by ECON, has been put on a fast track for revision in advance of the established review deadline of November 2006. Camp Lejeune has secured support from the U.S. Forest Service to revise the INRMP. Forest Service personnel will facilitate in-house meetings and planning efforts to keep INRMP revision on schedule and provide writing/editing/publishing support.

The ECON Branch, with a combined staff of 40 professional and technical personnel (consisting of civilian employees, interns, and contract support) is well structured to lead INRMP revision and implementation. ECON includes professional wildlife biologists, professional foresters, National Environmental Policy Act staff, an archeologist, and conservation law enforcement staff.

## **Program Summary**

The Department of Defense is faced with progressively more difficult encroachment issues at large military installations. While external encroachment pressures are easier to define and address, internal pressures such as endangered species protection and management also threaten military training opportunities. Striking the balance between the primary mission of maintaining combat ready units for expeditionary deployment and endangered species protection and management is frequently misunderstood. A positive working model is illustrated in the management strategies adopted by Camp Lejeune to address Red-cockaded Woodpecker (RCW) population growth requirements and vegetation management, and Camp Lejeune's participation in a species at risk pilot project.

Camp Lejeune completed its first RCW Management Plan in 1999 and established a population goal of 173 active clusters based upon calculations of overstory pine and pine-hardwood. Recently revised RCW Recovery Plan guidelines have placed emphasis on habitat “quality” due to new scientific information that demonstrates a correlation between midstory and understory habitat structure and RCW group fitness. In many areas on Camp Lejeune, prescribed fire alone was deemed ineffective to move midstory and understory vegetation toward recovery guidelines and a different approach was necessary. Utilizing a Fecon “Bullhog” grinder, 651 acres of vegetation were mechanically treated to “jump start” and enhance the application of prescribed fire. The resultant forest conditions have immediately improved forage habitat conditions for RCW and have opened significant acres of otherwise impenetrable forest for maneuver to contact and patrol type infantry training.



**Mechanical treatment with Bullhog grinder head results in immediate improvement of vegetation**

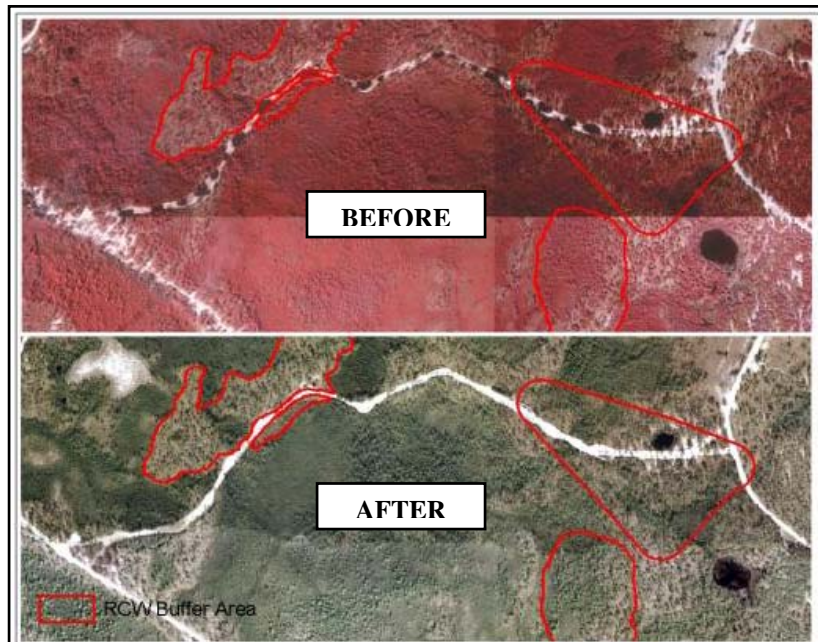
Camp Lejeune is participating in a pilot project to address species at risk on military lands. Camp Lejeune chose coastal goldenrod (*Solidago villosicarpa*), a recently discovered species known from only 4 populations, 3 of which are on Camp Lejeune, as the target species. The goal of the project is to identify rare species on military installations that are not Federally listed as threatened or endangered, but are at risk of being listed in the future and develop voluntary management guidelines in cooperation with the U.S. Fish and Wildlife Service, the NC Natural Heritage Program and NatureServe. The Marine Corps is currently pursuing assurances from the U. S. Fish and Wildlife Service that, if the species were to become listed, Camp Lejeune will only be responsible for protecting the baseline population. This innovative project, when implemented should have the double benefit of simultaneously increasing the population of the plant, while also maximizing flexibility for military training.



**Goldenrod**



In addition to improving habitat for endangered species, military training, and providing habitat for species at risk, Camp Lejeune has taken an aggressive stance on controlling eroding landscapes that affect wetlands and surface water quality through non-point discharge. Highlighted in this approach were soil erosion projects on tactical trails leading to high-use training areas and mission support openings such as helicopter landing zones and artillery gun positions. An example is the effort on Hogpen Pond Road. This tactical trail located within the heart of a mechanized movement area had a long history of water ponding, erosion, and contributed to serious violations of threatened and endangered species protection measures due to water obstacle “avoidance” tactics taken by military units. The tactical trail surface was reconstructed of crushed, recycled concrete from facility demolition and other projects aboard Camp Lejeune demonstrating environmental sustainability. As clearly illustrated in the accompanying photos, Hogpen Pond Road has been restored to a fully functional tactical trail and endangered species violations at this location have decreased. An additional 5.2 km of road and 70 acres within eroding landing zones have been restored within the last 2 years.



**Top photo is a 1996 aerial of Hogpen Pond Road showing nearly impassable areas of deep water and severe erosion, identified as brown spots on road. Bottom photo illustrates finished project.  =RCW Buffer Area**

As the nation’s largest amphibious training installation, accessibility and use of Camp Lejeune’s Onslow Beach training area is critical to expeditionary unit training and deployments. The general use patterns by diverse and sometimes competing interests at Onslow Beach were leading to conflicts between military training, recreational use, and threatened species protection efforts. The formation of an Onslow Beach Working Group, identified in the INRMP as a high priority, tackled the complex use issues at Onslow Beach and have produced a plan which allows for recreational use of the island, while placing emphasis on military use and long-term environmental sustainability. The plan, scheduled for completion in FY 2005, successfully addresses responsible development and management of the sensitive barrier island.

Camp Lejeune’s Conservation Volunteer Program provides direct support to natural resources management efforts and INRMP implementation. Through volunteerism, Camp Lejeune was able to meet or exceed INRMP objectives during the reporting period. Volunteers were extremely active during 2004 and assisted in planting 10,000 sea oat plants for dune stabilization; maintained 40 acres of wildlife clearings; repaired, replaced and maintained 80 bluebird nesting boxes; provided valuable assistance to a long-term USGS sponsored painted bunting research effort; and assisted with vegetation clearing projects around historical markers.

The combined volunteer effort provided many hours of quality outdoor environmental education and hands on experience for volunteers interested in natural resource management careers.

Resource-based outdoor recreational activities are vital for many members of our military community, enhancing their quality of life through individual pursuits and providing important contact with family and friends. Recreational users at Camp Lejeune logged over 200,000 hours engaged in hunting and fishing activities. Wildlife biologists at Camp Lejeune scientifically manage wildlife and fisheries resources to meet the demand of recreational users and to balance wildlife with habitat conditions. A total of 1,500 fish have been stocked in 5 freshwater ponds and 1,400 deer, 40 turkeys, and 100's of other small game have been harvested within the last two years by hunters.



Camp Lejeune's INRMP established goals and objectives to augment the installation's approach to ecosystem management while accommodating uses supplemental to military training. Of the "must fund" projects proposed during the reporting period that are still valid, all have been completed or are on-going.

### **Accomplishments**

With such diversity and extent of natural habitats- ranging from oceanfront, wetland areas, upland forests, and urban areas - it's easy to see the challenges faced by natural resources personnel while ensuring Camp Lejeune remains a premiere training facility.

### **Mechanized Understory Control for the Restoration and Enhancement of Red-Cockaded Woodpecker (RCW) Habitat**

Destructive hurricanes and tropical storms left the Installation faced with several thousand acres of damaged forests which had been salvage logged. The forest habitat quickly became brush choked due to the decrease in overstory shading and unsuitable as RCW habitat. After researching appropriate management alternatives for the restoration and enhancement of the disturbed RCW habitat, it was decided to proceed with mechanical control of the understory vegetation because: (1) the vegetation had reached a point that prescribed burning was ineffective as a control method, (2) the value of the habitat for use as nest and foraging habitat by RCW's was compromised and (3) the ability of the Marine units to use these areas for effective training was excessively limited. The purchase of a 421E Hydroax with a Fecon "Bullhog" grinder head attachment allowed for mechanical treatment of 651 acres of vegetation. The treatment consists of mowing all brush within the block. Desirable mast producing trees are left in accordance with the revised RCW recovery guidelines. All other hardwood trees less than 8" DBH are removed. These mechanical treatments have restored the acreage treated to a desired state for military training activities, three RCW cluster sites becoming active and with prescribed fire being reintroduced into these areas, good quality habitat can be restored by the rejuvenation of the ground cover.

## Land & Wildlife Resources '04 Erosion Projects

The ever-increasing operational tempo of military training creates significant soil erosion along roads and trails leading to training areas, as well as eroded mission support openings, such as helicopter landing zones and artillery gun positions. Varying degrees of resources and equipment were used in restoration. Some sites required aggressive treatment such as grading, reseeded with native grasses, replacing topsoil, installing erosion control fiber matting, netting and installing sediment traps. This work prevents eroded sediments from escaping the site into adjacent streams and wetlands, prevents wetland and water quality impacts, preserves wildlife and protected species habitat, and supports the base mission. During 2004, Camp Lejeune successfully restored 7.2 km of tactical trail within Hogpen Pond, Pocosin, and Meadow Roads, and restored 70 acres of heavily eroding landscape within five tactical landing zones.

## Sustainment Plan for Onslow Beach and Browns Island

Lejeune is one of two major sites in the country used for amphibious military training with 11 miles of shoreline at Onslow Beach and Browns Island, providing premier training opportunities for Marines, recreational opportunities for the Camp Lejeune community and habitat for many species, including Federally threatened loggerhead and green sea turtles and seabeach amaranth. Diverse and competing interests at Onslow Beach were identified in the Base's Integrated Natural Resources Management Plan

- with the intent of planning for future military and recreational use of the beach while improving the environment and minimizing conflicts. In 2003, the Onslow Beach Working Group (OBWG) was formed consisting of stakeholders from many areas of Camp Lejeune and Environmental Conservation. Since the group's inception, OBWG members have worked closely to develop a plan that would optimize future training, and recreational use, while improving the environment for the species that use the beach. Highlights of the plan, now in its final edit, include reduced potential for dangerous interactions between training and recreation. The plan also provides increased protection for threatened species by minimizing off-road recreational vehicle use during the most sensitive time of year.

## Conclusion

Camp Lejeune is committed to natural resource conservation in support of the Marine Corps mission. The 153,000 acre installation provides habitat for eight federally protected species, provides wildlife enthusiasts with opportunities for the challenging pursuit of game and non-game animals and fish, protects riparian areas adjacent to rich estuaries that support commercial fish stocks, and supports long-rotation production of high quality forest products. The continued implementation and evaluation of Camp Lejeune's Integrated Natural Resources Management Plan will support sustainable military use through the application of an integrated approach to ecosystem management.

