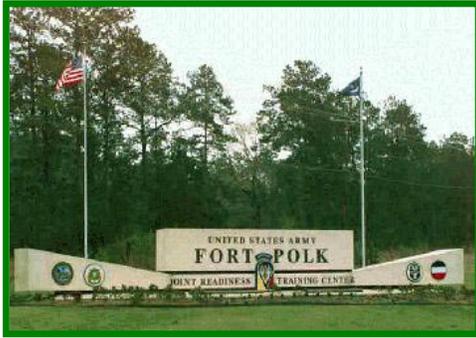

Compliance and Effectiveness Monitoring Report

Limited Use Area Vernon Unit, Calcasieu Ranger District Kisatchie National Forest



**U.S. Army, Joint Readiness Training Center and Fort Polk, Louisiana
and
U.S.D.A. Forest Service, Kisatchie National Forest, Louisiana**

with Technical Assistance from

**Quantitative Ecological Services, Inc.
Under Contract DACA63-00-D-0012**

September 2003



To our Friends of the Kisatchie National Forest and Fort Polk:

We are pleased to present the annual Compliance and Effectiveness Monitoring Report for the Limited Use Area (LUA) of the Vernon Unit, Calcasieu Ranger District, of the Kisatchie National Forest. This report summarizes accomplishments toward implementation of increased military training use of the LUA and describes measures to minimize potential adverse effects on the biological, physical, cultural and socio-economic environment. Increased military use of the LUA and related measures to mitigate environmental effects – including continued compliance and effectiveness monitoring – were approved on September 22, 2000, based on the results of a thorough environmental analysis process, Army and Forest Service review, and input from the public.

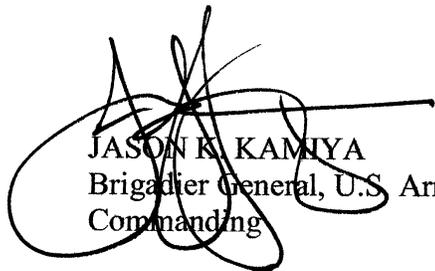
The mitigation and monitoring accomplishments described in this report represent the cooperative work by many Army and Forest Service employees. These accomplishments and an environmentally sensitive approach to military use of the LUA underscore the commitment of both agencies to sound environmental stewardship, multiple use management of public lands, and a policy of being “good neighbors” to surrounding residents and communities.

We will continue to keep you informed as we work closely together to monitor the effects of military use of the LUA and its valuable natural resources. Your thoughts on these matters are important to us. If you have questions or comments regarding plans for military use of the LUA or mitigation and monitoring activities, please contact us and let us know.

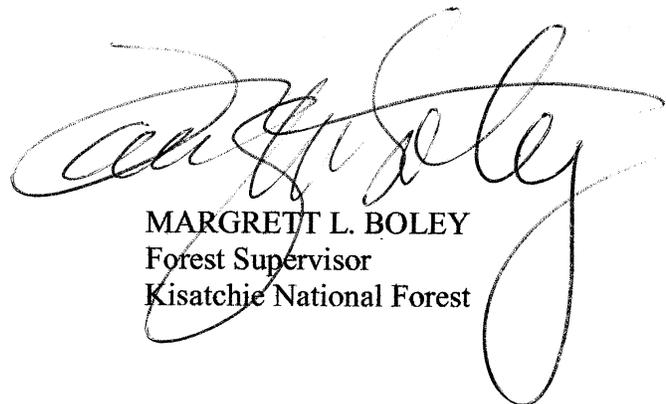
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Sincerely,



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Executive Summary

This report is prepared by the U.S. Army, Joint Readiness Training Center and Fort Polk (Army) and the U.S.D.A. Forest Service, Kisatchie National Forest (Forest Service). It presents the fiscal year (FY) 2002 activities and results of the site-level Compliance and Effectiveness Monitoring (CEM) program for the Limited Use Area (LUA) of the Vernon Unit, Calcasieu District of the Kisatchie National Forest.

The CEM Report is prepared in accordance with conditions specified in the Environmental Assessment (EA) and Decision Notice signed by the Forest Supervisor on September 22, 2000, authorizing increased military training use of the LUA. The report also fulfills annual monitoring and reporting requirements specified in the Army's Special Use Permit/Operating Plan for the LUA, as amended, which details terms and conditions for military use of the LUA.

The CEM Report is used by Army and Forest Service officials to evaluate compliance with the terms and conditions of the Special Use Permit/Operating Plan and to determine if increased military use of the LUA is having unexpected or unacceptable effects on the natural or human environment. It is also a public document that provides information on these matters to individuals and organizations with an interest in the Army's use of the Forest.

The LUA has been divided into two categories of training areas: Level 1 training areas, in which six new training activities may be conducted; and Level 2 training areas, in which only historically approved training activities may be conducted. The six new training activities are being implemented on a training area-by-area basis as required mitigation measures for resource protection, management, public information and safety are implemented. As of the publication date, use of pyrotechnic devices and artillery simulators had been approved in all Level 1 training areas. Cross-country vehicle movement and limited digging have also been approved in Rustville training areas.

Compliance monitoring items are organized into nine program areas identified in the Special Use Permit/Operating Plan for the LUA. These are:

- General Operating Procedures
- Public Awareness of Military Training
- Training Area Maintenance and Upgrades
- Environmental Compliance Training and Regulations
- Fire Control and Response Measures
- Red-Cockaded Woodpecker Management
- Areas Off-Limits to Military Training
- Area Restrictions
- Site-Level Monitoring Plan

Effectiveness monitoring items are also being included in the CEM Report for this reporting year. These items are organized into sections based upon the resources that could potentially be affected by military activity in the LUA. The effectiveness items are categorized as follows:

- Mitigation of Potential Conflicts between Training and Non-Training Activities and Land Uses
- Mitigation of Effects of Military Activities on Environmental Resources

Monitoring items under each program area are described in terms of their linkage to the LUA EA, compliance questions to be answered, compliance indicators, implementation requirements, compliance status and results, and recommended actions for the next reporting period.



COMPLIANCE MONITORING RESULTS

General Operating Procedures. This program area consists of five monitoring items designed to evaluate the Army's compliance with general procedures for scheduling of training and non-training activities in the LUA. During the current reporting period, in addition to continued implementation of monitoring items, the following reporting data were included: the number of exceptions to the 14-day LUA training schedule lock-in, scheduled recreation events and potential conflicts between training and non-training activities, and the portion of the LUA and Fort Polk Wildlife Management Area (WMA) that was available for hunting during opening weekends for specified hunting seasons.

Public Awareness of Military Training. This program area consists of six monitoring items. These items are designed to provide current and accurate information to the public on training activities in the LUA using a variety of media, and to provide means for the Army and Forest Service to respond in a timely manner to complaints and concerns received from the public. Monitoring items in this report include: operation of a Complaint Hotline, 24-hour response to complaints received on the hotline, and posting of training maps on information kiosks within the LUA. Monitoring items under this program that are under development include a LUA web page and a toll-free information hotline for military activity in the LUA.

Training Area Maintenance and Upgrades. This program area consists of five monitoring items to identify and correct damages to LUA natural resources due to military maneuvers; improve and maintain LUA roads to support military traffic; and mark private property boundaries in the LUA to minimize accidental military intrusion. Compliance with program requirements occurred for each of the five monitoring items. Progress toward implementation included: upgrading of 1.8 miles of LUA roads; funding of 1.4 additional miles of LUA roads to be upgraded and initial development of a maneuver damage tracking system. Recommendations were given for ongoing implementation during the next reporting period.

Environmental Compliance Training and Regulations. This program area includes three monitoring items designed to promote military unit compliance with environmental regulations and restrictions specific to the LUA. Implementation of each of these monitoring items is ongoing. A draft revision to JRTC and FP Reg. 385-1, the installation's regulation governing military operations within maneuver and range areas, was circulated for internal review, updates have been made to environmental training materials to reflect newly approved activities, and a total of 959 soldiers have received LUA awareness training.

Fire Control and Response Measures. This program area consists of a monitoring item for fire control and response. Compliance with program requirements occurred for this item, including refurbishment of nearly 72 miles of fire lines and organizing a joint wildfire drill conducted by JRTC-Fort Polk and the US Forest Service. Continued monitoring was recommended for the next reporting period.

Red-cockaded Woodpecker (RCW) Management. This program area consists of nine monitoring items to promote cooperative Army and Forest Service RCW demographic monitoring, enable consistent data management and analysis, protect and maintain cluster resources, and minimize potential adverse effects of military training to the RCW. Compliance with program requirements was achieved for each monitoring item. Monitoring items included cluster maintenance (fuel removal, painting and signing of cavity and cluster boundary trees) and cooperative Army and Forest Service population management. Recommendations were for continued implementation during the next reporting period. Recommendations were also made to eliminate future reporting requirements for several monitoring items under this program area, because compliance obligations under the LUA Monitoring Plan have been fulfilled.



Areas Off-Limits to Military Training. This program area consists of seven monitoring items for identification and protection of environmentally sensitive areas, developed recreation areas and other facilities in the LUA. Compliance and progress toward implementation was achieved for each of the monitoring items. Progress included establishing protective boundary signage at Fullerton Mill Historic Site, maintaining protective boundary marking of bogs in the LUA, completion of Level 1 cultural resource surveys for an additional 15 percent (62 percent total) of the LUA survey area, continued testing of Level 2 cultural resource sites, maintaining protective boundary marking of 21 cultural resource sites, and identification of 20 proposed locations for stream and wetland crossing sites in the LUA. Recommendations for the next reporting period included evaluation of pipeline crossing points and continued environment analyses for construction of hardened stream crossing points.

Area Restrictions. This program area consists of eight monitoring items to minimize potential impacts to various natural resources and recreational facilities occurring in the LUA or to address safety concerns associated with specific training activities. Monitoring items in this program area include: implementation of training guidance and restrictions for blackout driving, evaluation for the need of signage to avoid military use of maintained recreational trails, and mapping of inactive grazing allotment fences and prioritization for removal. Recommendations for progress and continued implementation in each of these areas were provided for the next reporting period.

Site Level Monitoring Plan. This program area requires preparation of an annual monitoring report to document the Army's compliance with mitigation measures in the LUA and the effectiveness of those measures. This CEM report constitutes fulfillment of that requirement for FY 2002.

EFFECTIVENESS MONITORING RESULTS

This report includes initial results of effectiveness monitoring. These items have been divided into two groups that address the effectiveness of mitigation and monitoring measures to reduce or avoid conflicts between military and non-military activities in the LUA and effects to environmental resources.

FISCAL YEAR 2003 ACTION PLAN

Procedures, goals and objectives for the FY 2003 reporting period (October 1, 2002 – September 30, 2003) include:

- A. Range Regulations (e.g., JRTC and FP Reg. 385-1)
- B. Joint Army and Forest Service Quarterly In-Progress Review
- C. Funding Requirements
- D. Training Activities and Maneuver Damage in the LUA
- E. LUA Certification Course
- F. LUA Website



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1. Introduction

AUTHORITY AND PURPOSE

This report presents a summary of the activities and results of the site-level compliance and effectiveness monitoring (CEM) program for the Limited Use Area (LUA) of the Vernon Unit, Calcasieu District of the Kisatchie National Forest. It also presents strategies and timelines for the orderly implementation of increased military training use of the LUA by the US Army, Joint Readiness Training Center (JRTC) and Fort Polk, Louisiana, along with implementation of resource protection, management, public information and safety measures.

This report is prepared in accordance with the LUA Monitoring Plan (Appendix L) contained in the *Environmental Assessment for Increased Military Training Use of the Vernon Unit, Calcasieu Ranger District, Kisatchie National Forest* (“LUA EA”) prepared by the US Army (Army) and USDA Forest Service (Forest Service) and with the associated *Decision Notice and Finding of No Significant Impact* signed by the Forest Supervisor on September 22, 2000. It also fulfills annual monitoring and reporting requirements specified in the Army’s Special Use Permit, as amended, which authorizes use of national forest lands for military training. The Special Use Permit was originally issued by the Forest Service to the Army in 1992 and was amended on September 26, 2001 to add an Operating Plan for the LUA. The Special Use Permit was reauthorized on January 6, 2003 for a one-year period and will be extended annually as needed while the Army and the Forest Service prepare an Environmental Impact Statement to address the effects of long-term military use of Kisatchie National Forest lands.

The purpose of the CEM report is several-fold. First, it is reviewed by Army and Forest Service officials to determine if increased military use of the LUA is proceeding in compliance with the Special Use Permit/Operating Plan referenced above. The results of the CEM are also reviewed by Army and Forest Service staff and resource specialists to determine if increased military use of the LUA is having unexpected or unacceptable effects on the natural or human environment. These reviews provide the basis for future planning and decision-making as part of an adaptive management program. Lastly, the CEM provides information to the public on the Army’s compliance with Special Use Permit/Operating Plan conditions and on the effectiveness of mitigation measures identified in the LUA EA to minimize or avoid adverse effects on the natural and human environment potentially resulting from increased military use of the LUA.

REPORT ORGANIZATION

Section 2 of the CEM report presents a map of designated LUA training areas and describes approved training activities.

Section 3 presents an expected schedule for implementing increased military training in the LUA.

Section 4 documents compliance monitoring activities and results for the period October 1, 2001 – September 30, 2002. This section is organized by program area to correspond with the format of the Army’s Special Use Permit/Operating Plan for the LUA. Monitoring items under each program area are described as follows:

- The item being monitored and its linkage to the LUA EA and Monitoring Plan;
- The compliance question to be answered;
- The compliance indicator or measurement;
- The implementation strategy, responsibility or frequency of measure;



- The compliance status, results and accomplishments; and
- Recommended actions for the next monitoring and reporting period.

Section 5 presents effectiveness monitoring items used to measure the success of the compliance items documented in Section 4. This section is organized into two groups that address issues and resources that could be affected as a result of military activity in the LUA.

Section 6 presents activities and monitoring practices planned for the next reporting period (October 1, 2002 – September 30, 2003).

REPORT PREPARERS

This report was prepared by the Army and Forest Service with technical assistance from Quantitative Ecological Services, Inc. Compliance and effectiveness monitoring results contained in this report represent monitoring activities conducted by both the Army and Forest Service.

2. Limited Use Area Training Areas

Figure 2-1 shows LUA training areas approved for the Army's use in accordance with the LUA EA and in the Special Use Permit/Operating Plan described in Section 1 above. Two categories of LUA training areas have been established: Level 1 training areas, in which six new military training activities are being implemented; and Level 2 training areas, in which only historically approved training activities may be conducted.

Level 1 training areas include Johnsonville 1-4, Flatwoods 1-2, Rustville 1-4, and Pitkin 1-2. New military training activities approved for these areas consist of: (1) cross-country vehicle movement, (2) blackout driving, (3) use of pyrotechnic devices and artillery simulators, (4) construction of hasty/limited defensive positions, (5) emplacement of obstacles, and (6) establish forward/rear support areas and field hospitals. In addition to these new activities, the Army is permitted to conduct a list of 29 historically approved training events. A description of the six new training activities is provided in Appendix A. New military training activities will be phased into use within Level 1 training areas as described in Section 3.

Level 2 training areas include Providence, Marlow 1-3 and Cravens. To minimize or avoid potential adverse effects to residents, private properties and sensitive environmental resources interspersed within these training areas, only 29 historically approved military training events are permitted in these areas. These training events have been evaluated and determined to have minimal effects on the natural and human environment.

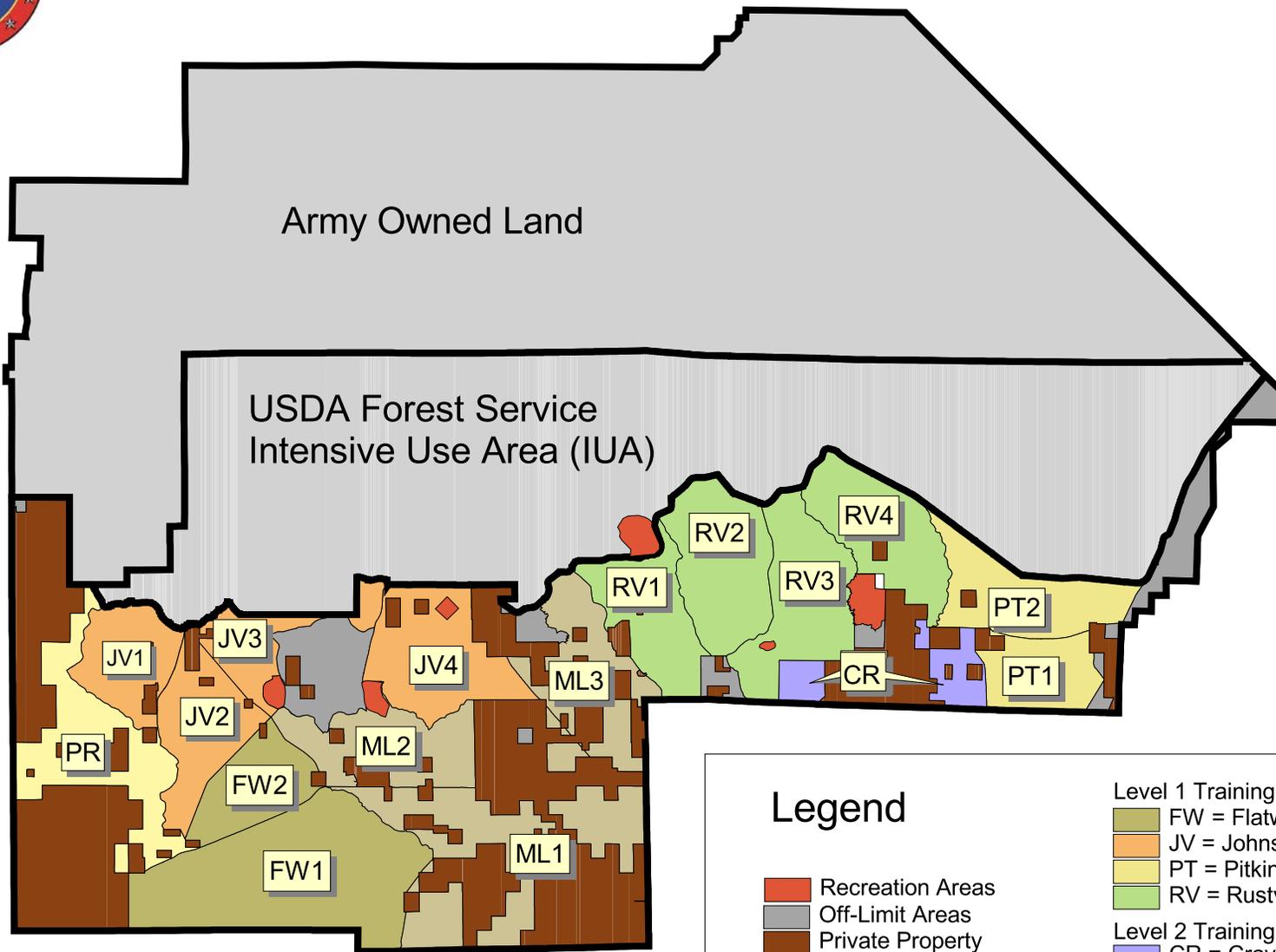
3. Implementation Plan

The Army and Forest Service have developed a plan for implementing increased military training use of the LUA based on training priorities and the terms of the LUA EA, Decision Notice, and the Army's Special Use Permit/Operating Plan for the LUA. The six new training activities are being implemented in phases on a training area-by-area basis as required mitigation measures for resource protection, management, public information, and safety are implemented.

The schedule for implementing increased use of the LUA shown in Figure 3-1. The schedule is intended to be a tool for Army and Forest Service planners as well as an indicator for measuring progress toward



Figure 2-1. Limited Use Area (LUA) Training Areas



Legend

Recreation Areas	Level 1 Training Areas
Off-Limit Areas	FW = Flatwoods
Private Property	JV = Johnsonville
	PT = Pitkin
	RV = Rustville
	Level 2 Training Areas
	CR = Cravens
	ML = Marlow
	PR = Providence





TRAINING ACTIVITY	FY 02				FY 03				FY 04			
	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer
29 recurrent training events (historically approved)	JV, FW, RV, PT, PR, ML, CR											
New Activities												
Cross-country vehicle maneuver (excluding stream crossing)						RV			PT, JV, FW			
Stream crossings* (permitted at approved sites only)											RV	
Blackout driving**												
Use of pyrotechnics and artillery simulators	RV 2&3	RV 1&4, PT, FW, JV 1&4				JV						
Limited digging (e.g., 1-2 man positions)						RV			PT, JV, FW			
Use of obstacles (concertina wire, simulated mines)									RV, PT, JV, FW			
Establishment of field hospitals/support areas						RV			JV, FW, PT			

Figure 3-1. Projected Timeline for Implementation of LUA New Training Activities By Fiscal Year. Green boxes indicate time period when approval for activity was given or is expected to occur for training areas identified. Codes for Level 1 Training Areas (Approved for New Activities): JV=Johnsonville, FW=Flatwoods, RV=Rustville, PT=Pitkin. Codes for Level 2 Training Areas (Approved for 29 Recurrent Events): PR=Providence, ML=Marlow, CR=Cravens. Projections current as of October 2003. Schedule is contingent on fulfillment of NEPA, mitigation and monitoring requirements and receipt of funds.

*Crossing of streams by military vehicles is deferred until appropriate crossing sites have been identified and crossing structures have been constructed. Construction of stream crossing structures will be analyzed in the *Environmental Impact Statement for 2d Armored Cavalry Regiment Transformation and Installation Mission Support, Joint Readiness Training Center and Fort Polk, Louisiana, and Long-Term Military Training Use of Kisatchie National Forest Lands*. Pending completion of the EIS, construction of crossings would begin in FY04 and be completed in subsequent fiscal years.

**Blackout driving is deferred indefinitely based on evaluation of current military training plans and operational and safety protocols.



accomplishment of mitigation requirements. The schedule will be updated routinely based on the status of mitigation measures and current Army training priorities. Approvals for the majority of the six new training activities are projected to occur through the fourth quarter of FY 2004. Because the Army has identified the Rustville training area as having the highest priority for increased use, most environmental protection measures and new training activities will be implemented first in the Rustville area.

The final training activity scheduled for approval is vehicle crossing of streams and wetlands. Although crossing of streams and wetlands was not separately identified among the six new training activities, this activity is an element of cross-country vehicle movement (new activity no. 1). Crossing of streams and wetlands by military vehicles will be deferred until the Army and Forest Service have identified suitable crossing sites and have completed appropriate environmental analysis. The *Draft Environmental Impact Statement (EIS) for 2d Armored Cavalry Regiment Transformation and Installation Mission Support, Joint Readiness Training Center and Fort Polk, Louisiana, and Long-Term Military Training Use of Kisatchie National Forest Lands* analyzes the effects of construction of 20 proposed stream crossing structures in the LUA, including effects on wetlands, water quality and aquatic life. The EIS is scheduled for completion during 2004 (see section 4.7.F). Implementation of one training activity, blackout driving, has been deferred indefinitely based on installation evaluations of current training plans and operational and safety protocols.

4. Compliance Monitoring Results

This section documents the status of LUA compliance monitoring items from October 1, 2001 – September 30, 2002. Compliance monitoring items are organized into nine program areas identified in the Army’s Special Use Permit/Operating Plan for the LUA. The monitoring item number listed to the right of each item refers to the LUA monitoring plan and indicates the mitigation measure number assigned in the LUA EA.

4.1. GENERAL OPERATING PROCEDURES

A. Training Schedule Lock-In (Monitoring Item No. 1)

- *Compliance Question:* Are schedules for training finalized 14 days in advance?
- *Compliance Indicator:* G3/Range Control records/exception reports.
- *Implementation:* Commander – Issue policy statement on 14 day schedule lock-in. Range Control – Retain copy of Command policy and record exceptions.
- *Status:* Current Command policy states that training schedules must be finalized 14 days prior to the event. There were a total of 6 exceptions approved for the LUA during FY2002 for training events scheduled less than 14 days in advance.
- *Recommended Action:* Continue monitoring of this measure during the next reporting period and reinforce Command policy for the 14-day schedule lock-in.

B. Special Events Scheduling (Monitoring Item No. 11)

- *Compliance Question:* Are special recreation events in the LUA such as Enduro races and nature studies/tours scheduled in advance by the Forest Service at monthly Resource Allocation Conferences (RACs)? Are Forest Service sponsored requests for access to the LUA for educational and research purposes accommodated at the RACs, where possible?
- *Compliance Indicator:* Scheduling records, records of Forest Service requests, and/or records of occurrence of recreational/ educational/ research events in the LUA.



- *Implementation:* Forest Service Military Liaison Officer (MLO) – Tabulate requests made at RACs for scheduling of special events, tours, research work, etc. in the LUA. Note proposed date(s) for each event and indicate whether event was accommodated. When events are not accommodated, note nature of conflict. Retain records.
- *Status:* During this reporting period, the special events that were scheduled included the Horse Enduro on March 8-9, 2002; the Motorbike Enduro on April 12-13, 2002; and the Bogs, Birds, Baygalls, and Butterflies Tour on May 16-18, 2002 (Figure 4-1). No conflicts between recurring military activities and non-training activities in the LUA were noted for this period.



Figure 4-1 Recreational events in the LUA included the annual “Bogs and Birds” tour.



- *Recommended Action:* Continue monitoring of this measure.

C. Access for Oil and Gas Operations (Monitoring Item No. 41)

- *Compliance Question:* Are training exercises in the LUA scheduled/coordinated to provide access for oil and gas exploration and development in accordance with existing Forest Service lease agreements? Do future lease agreements include Surface Use Occupancy Stipulations to minimize conflicts with training?
- *Compliance Indicator:* Copies of future lease agreements or standard surface use occupancy stipulation for the LUA (to be prepared and retained as needed).
- *Implementation:* G3/Range Control/Operations Group/Forest Service – Schedule training exercises/plan rotations to avoid conflicts with oil and gas operations on Forest Service lands permitted under existing lease agreements (pre-decision). Resolve scheduling conflicts at RACs. *Forest Service* – Include Surface Use Occupancy Stipulations in subsequent (post-decision) lease agreements for the Vernon Unit to avoid conflicts with military training exercises.
- *Status:* No new oil and gas leasing or development activity occurred on the Vernon Unit during this reporting period. No conflicts between recurring military activities and oil and gas operations were noted.
- *Recommended Action:* Continue monitoring of this measure as needed during the next reporting period.

D. Logging Contracts (Monitoring Item No. 36)

- *Compliance Question:* Are training exercises scheduled to avoid conflicts with existing (pre-decision) logging contracts in the LUA? Are subsequent logging contracts coordinated to avoid conflicts with area closures for JRTC exercises in the LUA?



- *Compliance Indicator:* Occurrence of scheduling conflicts or disruption of logging operations due to training exercises. Copies of future timber sales contracts/standard contract provisions requiring logging operations to be coordinated with military activities in the LUA.
- *Implementation:* G3/Range Division/Operations Group/Forest Service – Schedule training exercises/plan rotations to avoid logging operations for existing timber sales (pre-decision). Schedule logging operations to avoid JRTC rotations (post-decision). Resolve scheduling conflicts at RACs. Forest Service – Develop standard contract language requiring logging operations to be coordinated with military activities in the LUA.
- *Status:* During this reporting period, a timber sale was completed in the Flatwoods training area as the timber contractor met all contractual requirements. There were no new sales of timber in the Vernon Unit. There were no closures of this area that occurred as a result of military training exercises nor any conflicts between military activities and the timber removal operations.
- *Recommended Action:* Continue monitoring of this measure during the next reporting period.

E. Deer Gun Season and Other Opening Weekend Hunts (Monitoring Item No. 8)

- *Compliance Question:* Are training exercises scheduled in the LUA during deer gun season (modern firearms)? Are home station training exercises scheduled in the LUA during opening weekends for turkey or squirrel season? Are areas on the main post open for hunting on opening weekends for deer and turkey, if they are not in use for JRTC exercises?
- *Compliance Indicator:* G3/Range Division training schedule records (Fort Polk and LUA) and copies of hunting maps for Fort Polk Wildlife Management Area (WMA).
- *Implementation:* Range Division – Tabulate hunting status (open/closed) for LUA training areas and Fort Polk WMA during applicable hunting seasons and opening weekends. For WMA, indicate which of the training areas not reserved for JRTC are open for hunting during opening weekends for deer and turkey seasons. Retain records.
- *Status:* The availability of the LUA and the Fort Polk WMA to hunting is shown in Table 4-1. During all reported hunting periods, all areas of the LUA were open to hunting. During the months of November and December, all of the LUA training areas were closed to training and were subsequently available to hunting. During the opening weekend of squirrel season, no training areas in the LUA were scheduled for military use.

Table 4-1. Availability of LUA and Fort Polk WMA for Selected Hunting Seasons

Fort Polk WMA	Dates	Average Daily Area Available to Hunting (Acres)
Deer Season Opening Weekend (modern firearms)	October 27-28, 2001	56,663
Turkey Season Opening Weekend	Mar. 23-24, 2002	55,397

LUA	Dates	Average Daily Area Available to Hunting (Acres)
Squirrel Season Opening Weekend	Oct. 6-7, 2001	41,615
Deer Season (all dates)	Nov. 3, 2001 – Jan. 1, 2002	41,615
Turkey Season Opening Weekend	Mar. 23-24, 2002	41,615



- *Recommended Action:* Continue monitoring of this measure during the next reporting period and consider scheduling land for opening weekend hunts on the annual training calendar to maximize hunting opportunities.

4.2. PUBLIC AWARENESS OF MILITARY TRAINING

A. Training Area Maps (Monitoring Item No. 2)

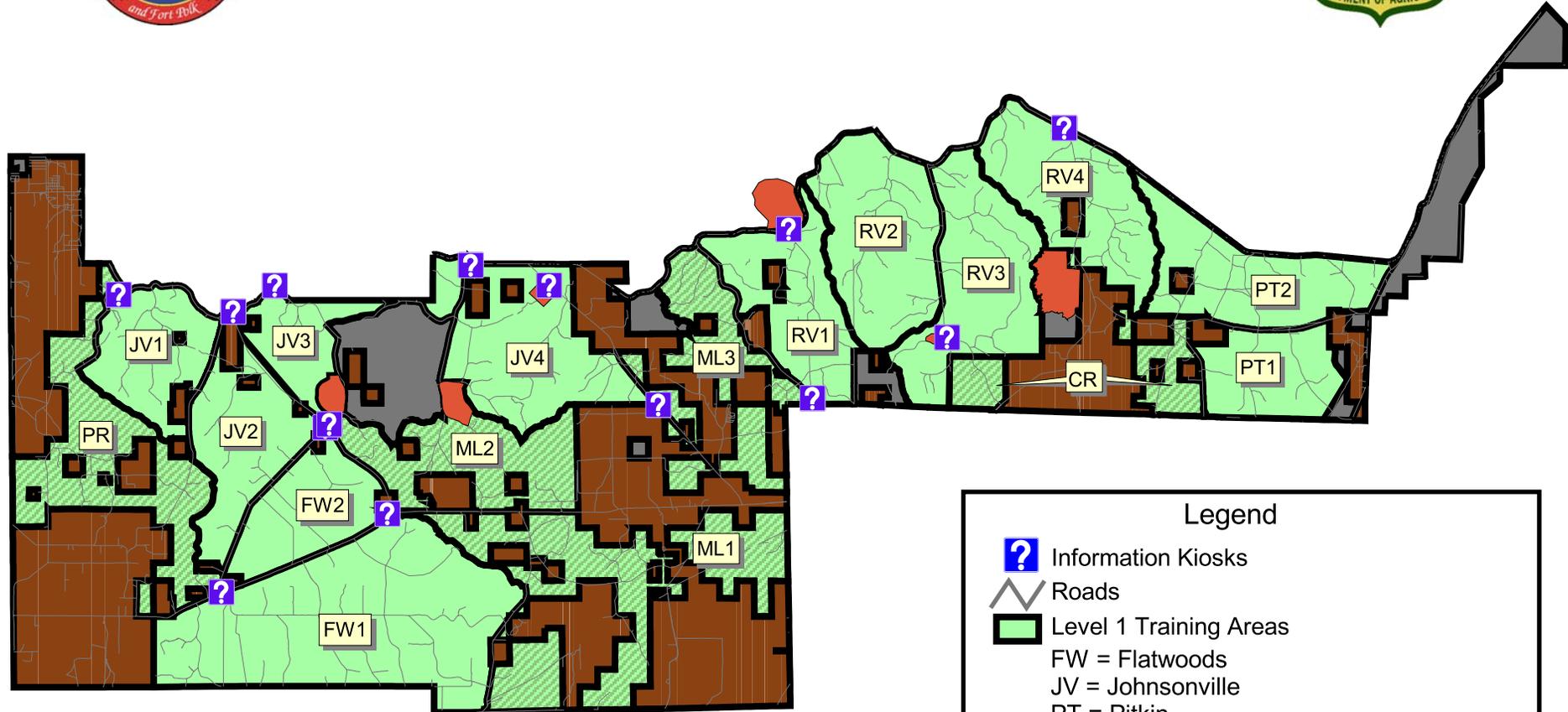
- *Compliance Question:* Are maps posted in the LUA showing areas where training exercises are scheduled? Do the maps properly identify areas and time periods in the LUA that are open for co-use or closed to the public? Are the maps current and do they project training schedules five or more days in advance?
- *Compliance Indicator:* Posted maps and Range Division training area schedules (for comparison/verification purposes).
- *Implementation:* Range Control/Provost Marshall – Produce and post maps in LUA each week. Forest Service MLO/Environmental and Natural Resources Management Division (ENRMD) staff – Conduct periodic (monthly or quarterly) check of accuracy/completeness of maps and record. Interview Range staff as needed. Note any problems during previous time period.
- *Status:* Maps utilizing the new training area boundaries were posted in the LUA to show areas that were scheduled for training. The map kiosks were checked periodically to determine that the maps were available. A map showing locations of the kiosks is shown in Figure 4-2.
- *Recommended Action:* Upon completion of the LUA website (Monitoring Item No. 5), use improved maps at the information kiosks located throughout the LUA. Continue monitoring of this measure during next reporting period.

B. Information Hotline (Monitoring Item No. 4)

- *Compliance Question:* Is a toll free number available (provided by the Army) for information on public access and military training in the LUA? Is the number listed in directory services and is it regularly published in local newspapers?
- *Compliance Indicator:* Working toll free number with current information on training schedules in the LUA and area closures in the LUA and Fort Polk WMA; copies of notices from local newspapers and directory services listing.
- *Implementation:* Range Control – Regularly update hunting/recreation hotline. Retain copies of LUA training maps and WMA hunting maps. Public Affairs Office (PAO) – List Information Line in Fort Polk, Vernon and Beauregard Parish telephone directories; periodically publish Information Line information in local papers. Retain records of directory listings and newspaper releases/ads.
- *Status:* Fort Polk’s toll free hunting information line (1-888-718-3029) was operational during this reporting period and was published in state hunting guides, the Louisiana Department of Wildlife and Fisheries website, the JRTC and Fort Polk website, and other media. A toll-free LUA information line is planned for development after the LUA web page is completed (Monitoring Item No. 5). Coupled with the LUA web page, the toll-free number will provide alternate ways to access current information about training. Until the toll-free line is available, information on military training in the LUA can be obtained from the Deputy District Ranger at (337) 531-6155 or Range Control at (337) 531-5445.



Figure 4-2. Limited Use Area (LUA) Information Kiosks



Legend

- Information Kiosks
- Roads
- Level 1 Training Areas
FW = Flatwoods
JV = Johnsonville
PT = Pitkin
RV = Rustville
- Level 2 Training Areas
CR = Cravens
ML = Marlow
PR = Providence
- Recreation Areas
- Off-Limit Areas
- Private Property





- *Recommended Action:* Upon completion of the LUA website (Monitoring Item No. 5), evaluate need for toll free line for information on training schedules based on public interest and level of training activities.

C. World Wide Web Page (Monitoring Item No. 5)

- *Compliance Question:* Is information available on Fort Polk's web page (www.jrtc-polk.army.mil) identifying areas open to the public for hunting and other activities on the Fort Polk WMA and the LUA?
- *Compliance Indicator:* Up-to-date web page identifying training schedules in the LUA and area closures in the LUA and Fort Polk WMA.
- *Implementation:* Range Division – Regularly update hunting/recreation web page to reflect current training schedules, areas open to the public (co-use), and area closures in the LUA. Periodically check accuracy/completeness of web page, report discrepancies to PAO, and record.
- *Status:* During this reporting period, Fort Polk has maintained a web page depicting areas open for hunting on Fort Polk and Peason Ridge WMAs. A link to the hunting information web page can be found on the JRTC-Fort Polk General information page located at <http://www.jrtc-polk.army.mil/GENERALINFO.ASP>. Fort Polk plans to add interactive capabilities to the hunting maps so that users can “zoom” in and out on areas of interest and continue to access website features that are currently available, including the ability to print maps. Development of the LUA web site and automated mapping system was delayed until technical requirements for enhancements to the hunting website could be determined. Similar interactive features will be provided on the LUA website.
- *Recommended Action:* Continue implementation of this reporting item.

D. Fort Polk Complaint Hotline (Monitoring Item No. 6)

- *Compliance Question:* Is the Fort Polk complaint hotline operational? Are damages to private property repaired/corrected by the Army?
- *Compliance Indicator:* Working complaint hotline; records of repairs for damages to private property or other corrective actions.
- *Implementation:* PAO – Maintain hotline and record complaints by category. Store records in database. Record corrective actions taken by Army and store in database.
- *Status:* Fort Polk PAO continued to maintain operation of the complaint hotline and database throughout the reporting period. Hotline messages were checked intermittently during and after business hours and on weekends. One complaint regarding military activity in the LUA was filed with the PAO due to troop bivouacking in a cattle-grazing allotment permitted by the Forest Service in the Johnsonville training area. The Forest Service and Fort Polk determined that there were adequate bivouacking sites nearby and resolved the issue by directing troops to avoid bivouacking the portion of the cattle grazing allotment that was of concern.
- *Recommended Action:* Continue monitoring of this measure during the next reporting period.

**JRTC and Fort Polk
Complaint Hotline
(337) 531-1431**

E. 24-Hour Complaint Response (Monitoring Item No. 7)

- *Compliance Question:* Are initial responses to complaints provided within 24 hours?
- *Compliance Indicator:* Percent of complaints where initial response was provided within 24 hours of receipt. Records of time elapsed from receipt of complaint to initial response.



- *Implementation:* PAO – Record time/date complaints are received and time/date of response. Store records in database. Calculate percent of total number of complaints where initial response was provided within 24 hours.
- *Status:* The PAO received only one complaint regarding military training activities in the LUA and an initial response was provided within 24 hours.
- *Recommended Action:* Continue monitoring of this measure during the next reporting period.

F. Forest Service Information Hotline (Monitoring Item No. 4-6)

- *Compliance Question:* Is a toll free line maintained by the Forest Service to provide information to the public regarding military training activities within the Forest?
- *Compliance Indicator:* Working toll free number with current information on training schedules in the LUA (and other military activities within the Forest, at the discretion of the Forest Service).
- *Implementation:* Forest Service – Establish and maintain toll free number to provide current information on training schedules/activities in the LUA (other military activities within the Forest optional).
- *Status:* The Forest Service has deferred implementation of this measure based on consideration of cost and benefits. Implementation of this measure is not warranted based on the current level of public interest, accessibility of information on military training activities in the LUA, and the lack of conflicts between training and non-training activities. Information on military training in the LUA can be obtained from the Deputy District Ranger at (337) 531-6155.
- *Recommended Action:* Reevaluate need for toll-free Forest Service information line on an annual basis.

4.3 TRAINING AREA MAINTENANCE AND UPGRADES

A. Training Land Recovery/Rotation of Training Areas (Monitoring Item No. 12)

- *Compliance Question:* Are areas in need of rest/restoration identified and documented following training exercises (home station and JRTC)? Are training exercises scheduled to avoid areas identified as needing rest/restoration?
- *Compliance Indicator:* Maneuver damage inspection records or other records documenting areas needing rest/restoration; Range Control records designating training areas/sites as off-limits pending restoration/recovery.
- *Implementation:* Forest Service/Range Control/Directorate of Public Works (DPW) – Survey bivouac sites and other training areas in LUA at least once during each month that training is permitted. Identify sites adversely impacted by training; record site location and categorize damage according to type and severity. Report nature and extent of damage to appropriate points of contact. Record basic clean up/repair actions, date of completion and other pertinent data. ENRMD/DPW/Forest Service – Determine appropriate course of action; notify G3 and Range as needed. Conduct appropriate corrective actions in accordance with Forest Service specifications for erosion control, including use of native species when possible. Record restoration/repair methods and rationale; retain records. G3/Range Control – Designate site/training area as off-limits to training activities for specified time period per ENRMD/DPW/Forest Service determination. Maintain records of closures and re-openings for sites/training areas.
- *Status:* During this reporting period, Range Control safety technicians and Fort Polk ENRMD conducted routine inspections of LUA training areas scheduled for military training use. No



reportable maneuver damages were identified in the LUA during this time period. The Army and Forest Service have developed a standard protocol for conducting inspections, recording maneuver damages, and implementing corrective actions. This protocol has been implemented on Army land and the Forest Service Intensive Use Area. Army and Forest Service Officials are refining the protocol and associated requirements to account for organizational changes at Fort Polk and other factors.

- *Recommended Action:* Continue with development of the tracking system to record maneuver damages and corrective actions in the LUA. Implement the system during the next reporting period prior to approvals for digging and other military activities with the potential for ground disturbance.

B. Maneuver Damage Inspection and Repair (Monitoring Item No. 13)

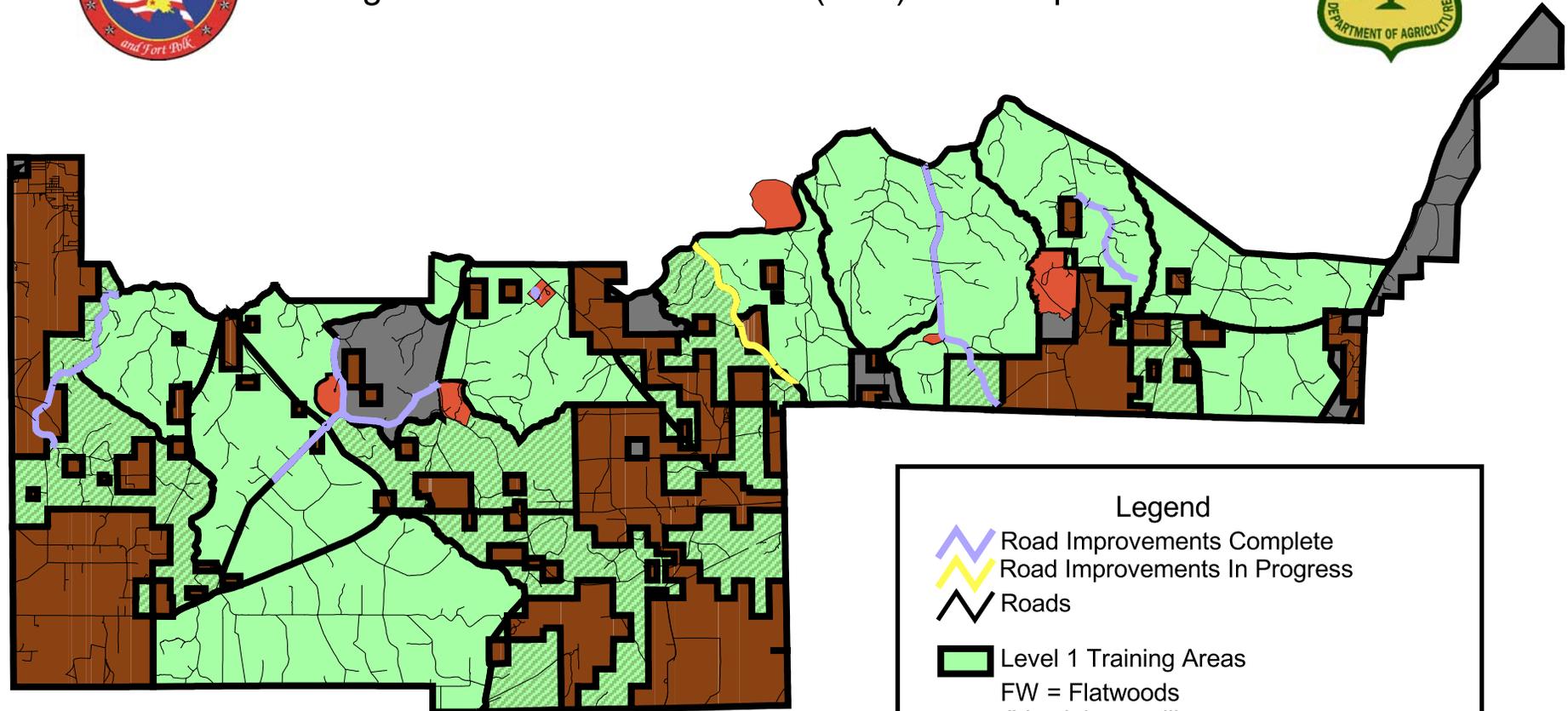
- *Compliance Question:* Is ground disturbance and other damage to Forest Service lands due to training repaired/corrected in an appropriate and timely manner? Are damaged sites repaired/restored to minimize erosion, loss of soil productivity and loss of native vegetation? Is damage to existing vegetation minimized during repair efforts, and are erosion control and reseeding efforts conducted in accordance with Forest Service specifications, including use of native species?
- *Compliance Indicator:* Maneuver damage inspection records or other documentation of areas needing repairs/corrective action; records of repairs/corrective actions taken.
- *Implementation:* Same as Monitoring Item 12 (Section 4.3.A.).
- *Status:* See Monitoring Item 12 (Section 4.3.A.).
- *Recommended Action:* See Monitoring Item 12 (Section 4.3.A.).

C. Upgrade of Training Roads (Monitoring Item No. 16)

- *Compliance Question:* Has the Army upgraded roads/bridges in the LUA to support increased military traffic, or is it actively planning to make such improvements?
- *Compliance Indicator:* Maps and documentation of completed road/bridge improvements; active planning documents for improvements to roads/road segments and associated facilities where severe or recurring damages have occurred or that may not be able to support expected levels of military traffic.
- *Implementation:* Forest Service/G3/Range Control/Operations Group and DPW – Jointly identify roads/bridges in the LUA for upgrade/improvement. Determine schedule for upgrade based on priority and conduct improvements. Maintain records of roads/road segment upgrades completed by the Army in LUA.
- *Status:* The Army has prepared comprehensive inventories of existing LUA roads. The inventories provide information on baseline road conditions and assist in developing priorities for improvements. During the period from October 1, 2001 to September 30, 2002 the Army completed improvements to Dove Field Road (V31A) and began improvements to Gravel Hill Road (FS418). In previous years, the Army had identified additional roads for potential improvements based on training needs and availability of funds. Upgrade of additional roads is not warranted at this time based on forecasted training intensity. If future training levels intensify beyond the capacity of LUA roads, the Army will undertake the necessary upgrades. Table 4-2 lists LUA roads and road segments that have been improved or were undergoing upgrade in 2002. Figure 4-3 shows the status of road improvements in the LUA, and Figure 4-4 shows Dove Field Road after resurfacing to support increased military traffic.



Figure 4-3. Limited Use Area (LUA) Road Improvements



Legend

- Road Improvements Complete
- Road Improvements In Progress
- Roads
- Level 1 Training Areas
 - FW = Flatwoods
 - JV = Johnsonville
 - PT = Pitkin
 - RV = Rustville
- Level 2 Training Areas
 - CR = Cravens
 - ML = Marlow
 - PR = Providence
- Recreation Areas
- Off Limit Areas
- Private Property



Table 4-2. LUA Road Improvement Projects

Road No./ Name	Improvement Length (mi)	Improvement Status	Type of Improvement
FS 440 / Rustville Rd.	3.85	Completed	Resurfacing with crushed rock (glaucanite)
Hunter Camp Loop	0.32	Completed	Resurfacing with crushed rock (glaucanite)
FS 422 / West Boundary Rd.	3.3	Completed	Resurfacing with crushed rock (glaucanite)
FS 471	1.80	Completed	Resurfacing with crushed rock (glaucanite)
FS 400 / Preacher James Rd.	2.40	Completed	Resurfacing with crushed rock (glaucanite)
FS V31A / Dove Field Rd.	1.75	Completed FY02	Resurfacing and drainage improvements
FS 418 / Gravel Hill Rd.	2.75	In Progress	Resurfacing and drainage improvements



Figure 4-4: Road improvements made to Dove Field Road in the Rustville Training Area.

- *Recommended Action:* Continue implementation of this measure during next reporting period. Evaluate need for future road improvements based on anticipated levels of military traffic and existing road conditions.

D. Road Maintenance Agreements (Monitoring Item No. 17)

- *Compliance Question:* Are cooperative agreements in place among the Army, Forest Service and the Parish for road maintenance and repair of maneuver damage, including reimbursement by the Army?
- *Compliance Indicator:* Documentation of agreements.
- *Implementation:* Command/DPW – Develop agreements with the Forest Service and Vernon Parish officials for road maintenance and repairs of training-related damages to public roads in the LUA. Retain copy of agreement at appropriate office(s). Maintain records of repairs completed by Army (start and completion dates, costs, etc.).
- *Status:* The Army and the Vernon Parish Police Jury have developed an agreement that addresses repair of parish roads as a result of military training. Damages that occur to Forest Service roads as a result of military activity are repaired in accordance with the Special Use Permit/Operating Plan. No military damages to LUA roads were detected during the reporting period.
- *Recommended Action:* Continue implementation of this measure during next reporting period.

E. Mark and Maintain Property Lines/Avoid Private Property (Monitoring Item No. 21)

- *Compliance Question:* Unless otherwise requested by the landowner, are property boundaries between Forest Service and private lands clearly marked on the ground as needed to alert soldiers



to avoid private lands? Do maps distributed to Observer Controllers (OCs), Environmental Compliance Officers (ECOs) and unit leaders accurately reflect private property and training area boundaries? Are boundaries recognizable in the field?

- *Compliance Indicator:* Records and/or maps documenting completion of property boundary markings, or documentation from landowner requesting that boundaries are not marked. Fort Polk maps/overlays with accurate property boundaries for LUA.
- *Implementation:* Forest Service/G3/DPW – Identify private property boundaries in the LUA to be marked based on anticipated training use and field conditions. Paint/sign boundaries and document work completed. Prepare/revise training maps to accurately reflect private property boundaries in the LUA.
- *Status:* All private property boundary lines adjacent to Level 1 training areas in the LUA have been marked. Private property boundaries that are adjacent to Level 2 training areas have also been completed with the exception of the Marlow training area. Refurbishment of these property lines is scheduled to occur on a 5-year basis.
- *Recommended Action:* Continue implementation of this measure by inspecting property/land lines and refurbishing as needed in following reporting periods. Evaluate need to mark property lines adjacent to Marlow training areas.

4.4 ENVIRONMENTAL COMPLIANCE TRAINING AND REGULATIONS

A. Exercise Rules of Engagement (EXROE) (Monitoring Item No. 18)

- *Compliance Question:* Do the EXROE and other applicable Range regulations reflect training restrictions and issues of concern specific to the LUA, including avoidance of private property, environmentally sensitive areas, stream crossings, restrictions on large-scale digging (e.g., vehicle positions, anti-tank ditches, berms) and observance of noise buffers?
- *Compliance Indicator:* EXROE and Range regulations (e.g., JRTC and FP Reg. 385-1) with appropriate revisions.
- *Implementation:* G3/Range Control/Operations Group – Draft revisions to Range regulations and EXROE reflecting decisions for increased use of LUA. Distribute final revisions to appropriate offices and unit commands. No ongoing requirements.
- *Status:* Progress toward updating applicable Range regulations was made during this reporting period. A draft revision to JRTC and FP Reg. 385-1, the installation’s regulation governing military operations within maneuver and range areas, was circulated for internal review. The revised regulation is scheduled for publication in 2003 and will address authorized training activities and restrictions within the LUA. The Army continues to develop interim training guidance to address training opportunities and restrictions in the LUA as new training activities are approved on an area-by-area basis (see Section 3).
- *Recommended Action:* Continue use of interim training guidance and complete draft revisions to JRTC and FP Reg. 385-1 during next reporting period. Evaluate need to revise to JRTC EXROE pending completion of JRTC and FP Reg. 385-1.

B. Environmental Compliance Officer (ECO) Certification Course (Monitoring Item No. 19)

- *Compliance Question:* Do Fort Polk’s troop environmental education courses (ECO, OC, and LUA certification) address training restrictions and issues of concern specific to the LUA, including avoidance of private property, environmentally sensitive areas, stream crossings,



restrictions on large-scale digging and observance of noise buffers? Is one person per squad LUA certified for each home station unit that conducts training exercises in the LUA?

- *Compliance Indicator:* Course texts/materials addressing training restrictions and issues of concern specific to the LUA; percent of squads with at least 1 LUA certified soldier for home station units that train in the LUA.
- *Implementation:* ENRMD – Revise ECO/LUA certification course materials as needed to reflect decision for increased use. G3/ENRMD: Calculate percentage of squads for each home station unit that have one or more LUA certified soldiers. Update quarterly.
- *Status:* Fort Polk’s ECO, OC and LUA certification courses have been updated to address currently approved training activities and restrictions in the LUA. During this reporting period, a total of 959 soldiers were certified to train in the LUA.
- *Recommended Action:* Update appropriate course material as approved training activities are implemented. Continue implementation of this measure during the next reporting period and evaluate options for development of a web and classroom based environmental field awareness course designed to incorporate LUA certification course content.

C. Leader’s Environmental Handbook (Monitoring Item No. 20)

- *Compliance Question:* Do unit leaders and soldiers receive an environmental handbook/field card regarding environmental restrictions at Fort Polk, including restrictions pertaining to the LUA?
- *Compliance Indicator:* Copies of leader's environmental handbook/soldier's field card and distribution records.
- *Implementation:* G3/Range Control /Operations Group – Distribute Leader's Environmental Handbook and Soldier's Field Cards to troops; retain records of distribution.
- *Status:* During this reporting period, all soldiers that were LUA certified were given copies of the Leader’s Environmental Handbook or the Soldiers Field Card (see Section 4.4.B above) and additional copies were distributed on an as-needed basis.
- *Recommended Action:* During the next reporting period, update the handbooks and field cards and include any additional activities that have been approved. Consider development of a web and classroom based environmental field awareness course to reach a larger number of soldiers; emphasize environmental stewardship measures and restrictions common to all training lands; and clarify resource protection measures and training restrictions specific to the IUA, LUA, or SLUA.

4.5 FIRE CONTROL AND RESPONSE MEASURES

A. Fire Control and Response Measures (Monitoring Item No. 22)

- *Compliance Question:* Is use of incendiary devices suspended as needed on days of “high risk” for forest fires? Are permanent firelines installed where needed around private property boundaries in the LUA? Are such firelines vegetated with winter wheat or other appropriate annual species and regularly maintained to minimize over-growth and soil erosion?
- *Compliance Indicator:* Record of occurrence of "high risk" days and record of notification from Range to military units to suspend use of pyrotechnics. Records and/or maps documenting construction of firelines around private properties in the LUA, or documentation of assessment showing none needed. Records of seeding and maintenance of LUA firebreaks.



- Implementation:* Fort Polk Forestry – Maintain records of "high risk" fire days. Range Control – Suspend use of pyrotechnics in the LUA on "high risk" fire days. Record notice to units of suspension and retain records. ENRMD/Forest Service – Determine private properties at risk for training related wildfires and locations where firelines are needed. Develop schedule for construction of firelines and prepare necessary approvals/environmental documents and permits. Construct firelines on Forest Service property as needed (Army funded) and prepare maps of locations. Coordinate with landowners if any clearing on private lands is recommended. Seed with winter wheat or other appropriate annual species and conduct maintenance on annual basis or as needed. Document inspection of firelines and maintenance activities.

Table 4-3 – LUA Fireline Refurbishment

Training Area	Fireline Refurbishment (miles)
Johnsonville	11.85
Flatwoods	12.01
Rustville	11.36
Pitkin	7.47
Providence	9.85
Marlow	13.45
Cravens	5.99
TOTAL	71.98

- Status:* Through a cooperative effort between the Army and the Forest Service, fire risks within the LUA have been evaluated and nearly 72 miles of firebreaks have been refurbished where needed (Table 4-3). These firebreaks are maintained biannually (spring and fall) by disking, fertilizing, and seeding with seasonal grasses (Figure 4-5). The risk of fire has been reduced by restricting the use of pyrotechnics on "high risk" days. During this reporting period, there were a total of five days where the risk was considered "high" and training with pyrotechnics in the LUA was restricted. To further increase cooperative efforts between the Forest Service and the Army, a fire drill was conducted in the LUA to test communication capabilities and the response procedures between responding organizations. A total of five organizations took part in the drill (Figure 4-5), participated in incident command, and coordinated the allocation of resources.



Figure 4-5: A firebreak in the LUA after disking, seeding, and fertilizing.

Figure 4-5: A fire drill was conducted in the LUA to test communication capabilities of the Army, Forest Service and local volunteer fire departments.



- Recommended Action:* Continue monitoring during the next reporting period.



4.6 RED-COCKADED WOODPECKER MANAGEMENT

A. Forest Service RCW Management Guidelines (Monitoring Item No. 24)

- *Compliance Question:* Is the RCW population of the Vernon Unit managed in accordance with the guidelines established in the Record of Decision (ROD) for the Final Environmental Impact Statement (FEIS) for the Management of the Red-Cockaded Woodpecker and Its Habitat on National Forest in the Southern Region (US Forest Service, 1995) and the Kisatchie's 1999 Revised Forest Plan?
- *Compliance Indicator:* Forest Service and U.S. Fish and Wildlife Service (USFWS) determination.
- *Implementation:* Forest Service/USFWS – Assess Forest Service management practices for compliance with ROD for RCW FEIS and Forest Plan management direction.
- *Status:* Management of the RCW population of the Vernon Unit continues to proceed in accordance with the ROD referenced above and Revised Forest Plan direction.
- *Recommended Action:* Requirements for this monitoring item have been fulfilled. No additional actions are recommended for the next reporting period. Omit monitoring item from future CEM reports.

B. Assist with RCW Management (Monitoring Item No. 25)

- *Compliance Question:* Have RCW cluster boundaries and cavity trees been painted and/or signed? Has brush within clusters been removed? Have cavity trees and/or cluster boundaries been marked with reflective material?
- *Compliance Indicator:* Documentation showing completion of cluster boundary and cavity tree painting/signing and brush removal.
- *Implementation:* Forest Service – Identify trees to be painted/signed. ENRMD – Remove brush/midstory within designated clusters (LUA and Intensive Use Area [IUA]). Paint and sign trees. Record completion of work. Repeat on 3 year rotating cycle.
- *Status:* The Army continues to manage all RCW clusters (active, inactive, and recruitment) in the LUA and the IUA in accordance with Forest Service standards. Clusters are maintained by removing fuel material within 15 feet of cavity trees, painting white bands around cavity trees, painting orange bands around cluster boundary trees, and placement of signs and reflectors on the boundary trees. During this reporting period, maintenance was completed on 70 RCW clusters that are located in the LUA.
- *Recommended Action:* Continue monitoring of this measure in the next reporting period to maintain condition of RCW clusters to standard.

C. Mapping of RCW Clusters (Monitoring Item No. 26)

- *Compliance Question:* Are all known RCW clusters in the LUA digitally mapped using a global positioning system (GPS)?
- *Compliance Indicator:* Documentation showing completion of cluster GPSing and digital map of clusters.
- *Implementation:* ENRMD – GPS cavity trees and record activity status (active/inactive). Produce digital map of trees and activity status. Document completion of work.
- *Status:* In cooperation with the Forest Service, the Army has completed mapping of all RCW clusters in the LUA and IUA. Cavity tree locations were determined using real-time corrected



GPS position estimates, accurate to within <10 meters. Cavity tree attributes, including tree condition and activity status, were collected by qualified RCW biologists. Tree location data were converted to a geographic information system (GIS) layer, and a map of the cluster boundary was created. Tree and cavity attribute data, originally collected on paper field data sheets, were also entered into the Vernon Unit RCW database.

- *Recommended Action:* Requirements for this monitoring item have been fulfilled. No additional actions are recommended for the next reporting period. Omit reporting requirement for this measure in future CEM reports.

D. Access for RCW Management Activities (Monitoring Item No. 27)

- *Compliance Question:* Has a Standard Operating Procedure (SOP) been developed for Forest Service access to training areas for banding of RCW nestlings and augmentation/translocation activities?
- *Compliance Indicator:* Copy of SOP or Memorandum of Agreement (MOA).
- *Implementation:* G3/Forest Service MLO – Prepare SOP/MOA for Forest Service access to the Vernon. Distribute and retain copies.
- *Status:* A MOA outlining procedures for Forest Service access within JRTC and Fort Polk training areas for RCW and other management needs was signed in February 1999 and included in the Final LUA EA (Appendix K). This MOA is still in effect.
- *Recommended Action:* Requirements for this monitoring item have been fulfilled. No additional actions are recommended for the next reporting period. Omit reporting requirement for this measure in future CEM reports.

E. RCW Database (Monitoring Item No. 4-4)

- *Compliance Question:* Are Fort Polk and the Forest Service using a common database system to collect, record, store and report equivalent demographic and management data for the Vernon-Fort Polk RCW population? Are RCW monitoring, demographic and management data collected by both agencies in a uniform manner, and are those data routinely exchanged in digital format for RCW clusters located in the IUA and the LUA according to an established frequency and protocol?
- *Compliance Indicator:* Analogous Army and Forest Service records/reports on RCW demographics and management actions and protocol/agreement for exchange of demographic data between Army and Forest Service. See Joint Monitoring Plan for the Vernon-Fort Polk Red-cockaded Woodpecker Population (measure BO-3).
- *Implementation:* Forest Service – Adopt RCW DataMax[®] System for Vernon Unit. Enter historic data into database and validate. Implement monitoring practices consistent with Joint Monitoring Plan for Vernon-Fort Polk RCW population approved by USFWS. Forest Service/ENRMD – Develop agreement and protocol for exchange, review and analysis of RCW population data for Vernon-Fort Polk population in accordance with USFWS approved plan.
- *Status:* The Forest Service and the Army continue to utilize a common system for the collection, storage, analysis and reporting of RCW biological and management activity data. The system also generates the USFWS’s annual RCW report and the information required under the Joint Monitoring Plan (see monitoring item no. BO-3).
- *Recommended Action:* Requirements for this monitoring item have been fulfilled. No additional actions are recommended for the next reporting period. Omit reporting requirement for this measure in future CEM reports.



F. Sign Access Roads to RCW Clusters (Monitoring Item No. BO-2)

- *Compliance Question:* Are unimproved roads in the LUA that lead into and dead-end at RCW clusters, as identified in the Forest Service Biological Assessment/Biological Evaluation (BA/BE), closed to military training? Are such roads monitored monthly for evidence of military activity? Are permanent structures in place to block military traffic where signage has been ineffective?
- *Compliance Indicator:* Record of placement of appropriate signage at unimproved roads specified in BA/BE. Monthly monitoring records indicating evidence of military activity. Where signs have not been effective, record of construction of permanent structures blocking military traffic within cluster(s).
- *Implementation:* DPW/ENRMD/Forest Service – Identify unimproved roads needing signage per BA/BE. Mark designated roads with signs prior to entering the cluster boundary. Locate signs where the restricted roads branch off from the main road, unless local terrain conditions make placing the signs elsewhere more effective. Monitor those roads on a monthly basis for evidence of military activity. If there is evidence that the signs are not effective, erect permanent structures such as gates or fences. In no case should signs, gates or any other structures restricting access be located closer than 100 feet from the cluster boundary.
- *Status:* Signs restricting military vehicles have been installed where necessary on roads leading to remote clusters. Remote clusters were monitored monthly by US Fish and Wildlife Service biologists to identify evidence of military activity. No evidence of military activity within or near remote RCW clusters was detected during the reporting period.
- *Recommended Action:* Continue monitoring of remote RCW clusters for military activity and evaluate need for additional management actions.

G. Joint RCW Monitoring Plan (Monitoring Item No. BO-3)

- *Compliance Question:* Have the Army and Forest Service prepared a joint monitoring plan for the Vernon-Fort Polk RCW population, including protocols for documenting training violations pertaining to the RCW? Has the plan been approved by the USFWS? Are the Army and the Forest Service jointly executing the plan?
- *Compliance Indicator:* Finalized Joint Monitoring Plan for the Vernon-Fort Polk Red-cockaded Woodpecker Population. Record of approval by USFWS. Records of training violations pertinent to the RCW, if any. Quarterly and annual reports as specified in the plan.
- *Implementation:* ENRMD/Forest Service – Finalize joint RCW monitoring plan. Conduct monitoring and reporting practices as specified in the plan.
- *Status:* Monitoring of RCW clusters was conducted by Army and Forest Service biologists as specified in the Joint Monitoring Plan. Both quarterly reports and an annual report on RCW demographic parameters must be submitted to USFWS in accordance with plan. Quarterly reports for calendar year 2002 were submitted to the USFWS on schedule and data for the annual report were compiled and presented to the USFWS in late 2002 as a part of the analysis process for the Army's proposed long-term use of Kisatchie National Forest lands and reauthorization of its special use permit with the Forest Service. The 2002 Annual report, which normally submitted in January of the following calendar year, will be submitted to USFWS in late 2003. A copy of the Joint RCW Monitoring Plan Annual Report is included in Appendix B.
- *Recommended Action:* Continue monitoring in accordance with the Joint Monitoring Plan during the next reporting period.



H. Cooperative RCW Population Management (Monitoring Item No. BO-4)

- *Compliance Question:* Are the Army and Forest Service promoting cooperative management of the Vernon-Fort Polk RCW population through the use of a joint database and monitoring system?
- *Compliance Indicator:* See Monitoring Item No. 4-4 (4.5.E. above).
- *Implementation:* See Monitoring Item No. 4-4 above (4.5.E. above).
- *Status:* The Army continues to provide ongoing assistance to the Forest Service in managing the Forest Service portion of the Vernon-Fort Polk RCW population. Tasks that have been jointly completed by the Army and the Forest Service include assisting in banding birds for identification, performing roost checks, and installing nest inserts in trees. The Army has also helped to translocate RCW between Army owned land and Forest Service land as needed in the management of the population.
- *Recommended Action:* Continue current management practices for the RCW population in the next reporting period.

I. Fall Start of Increased Use (Monitoring Item No. BO-1)

- *Compliance Question:* Was the start of increased use of the LUA initiated in the fall of the year to allow RCWs to acclimate to increased disturbance outside of the nesting season?
- *Compliance Indicator:* Range or other records of scheduling of six new activities in LUA or scheduling of recurrent activities in new areas in LUA.
- *Implementation:* Command/G3/Operations Group – Schedule start of increased use of LUA in fall of year.
- *Status:* Increased use of the LUA began as of October 1, 2001 with approval of new Level 1 and Level 2 training areas.
- *Recommended Action:* Requirements for this monitoring item have been fulfilled. No additional actions are recommended for the next reporting period. Omit reporting requirements for this measure in future CEM reports.

4.7 AREAS OFF-LIMITS TO MILITARY TRAINING

A. Sensitive Area Markings (Monitoring Item No. 28)

- *Compliance Question:* Are environmentally sensitive areas in the LUA, including designated wetlands, hillside bogs (designated A and B quality), cultural resource sites, sensitive plant sites, wildlife food plots, and pine plantations marked on the ground as off-limits to training activities using a system identifiable to soldiers in the field during daylight and low-light conditions?
- *Compliance Indicator:* Documentation and/or maps showing sensitive sites in LUA marked as off-limits (“Carsonite” stakes or other method).
- *Implementation:* ENRMD/Forest Service – Determine protocol for identification and delineation of ecologically sensitive areas (bogs, wetlands, rare/sensitive plants). Locate and delineate bogs, wetlands, and rare plant sites. Mark these and other designated sensitive sites (protected cultural resource sites, wildlife food plots, pine plantations) on the ground as off-limits to training activities as appropriate. Collect GPS locations and prepare digital map and overlay of marked sites. Document actions and retain records.



- *Status:* Through a joint effort between the Forest Service and the Army, bogs, and cultural resources sites in the LUA have been marked as off limits to training. These sites have been marked with orange “Carsonite” posts that have reflective stickers to indicate that digging and driving is not allowed. Level 1 cultural resource surveys and Level 2 site testing in the LUA (see monitoring item 35 [item 4.7.G.] below) is currently occurring. The results of the surveys determine if an area is eligible or potentially eligible for listing on the National Register of Historic Places. As of this reporting period, a total of 21 sites in the LUA are currently marked for protection pending Level 2 site testing.
- *Recommended Action:* Continue implementation of this measure as needed in the next reporting period. Monitor protected sites and maintain “off-limits” signage.

B. Natural Registry Areas Off-Limits (Monitoring Item No. 29)

- *Compliance Question:* Do appropriate Range regulations and EXROE prohibit military vehicle and foot traffic within state Natural Registry Areas in the LUA (Cooter's Bog, Leo's Bog and Drake's Creek Area)?
- *Compliance Indicator:* EXROE and Range regulations (e.g., JRTC and FP Reg. 385-1) with appropriate revisions.
- *Implementation:* G3/Range Control/Operations Group – Draft revisions to Range regulations and EXROE designating Registry Areas as off-limits. Distribute final revisions to appropriate offices and unit commands. ENRMD/Forest Service – Delineate bounds of Registry Areas and mark with signs as needed.
- *Status:* Natural Registry Areas in the LUA are located within areas designated as off-limits to military training. Revisions to JRTC and FP Reg. 385-1, the installation’s regulation governing military operations within maneuver and range areas, are underway to address authorized training activities and restrictions within the LUA, and a revised draft of the regulation is expected during FY03. Upon completion of JRTC and FP Reg. 385-1, appropriate revisions to the EXROE will be evaluated.
- *Recommended Action:* Continue implementation of monitoring item no. 18 (item 4.4A. above).

C. Recreation Complexes Off-Limits (Monitoring Item No. 30)

- *Compliance Question:* Do appropriate Range regulations and EXROE prohibit training activities at Little Cypress, Fullerton Lake, Enduro Camp and Government Pond recreational areas?
- *Compliance Indicator:* EXROE and Range regulations (e.g., JRTC and FP Reg. 385-1) with appropriate revisions.
- *Implementation:* G3/Range Control/Operations Group – Draft revisions to Range regulations and EXROE designating developed recreation areas as off-limits. Distribute final revisions to appropriate offices and unit commands. ENRMD/Forest Service – Mark entry points to developed recreation areas with "Off-limits to Training" signs as needed.
- *Status:* The Little Cypress Pond and Recreation Area and the Fullerton Recreation Area and Historic Mill site are located within areas designated as off-limits to military use. These areas as well as Government Pond and the Enduro Camp site will be identified as off-limits in the revised installation Range regulations and the JRTC EXROE (see monitoring item no. 29 above). Revisions to JRTC and FP Reg. 385-1 are underway to address authorized training activities and restrictions within the LUA, and a revised draft of the regulation is expected during FY03. A determination has been made that signage to alert troops to avoid these areas are not warranted at the current time.



- *Recommended Action:* Continue implementation of monitoring item no. 18 (item 4.4A. above) and continue to monitor need for "Off-limits to Training" signage at recreational areas.

D. Protect Fullerton Mill Historic Site (Monitoring Item No. 31)

- *Compliance Question:* Are signs installed around the Fullerton Historic Mill Site as needed to alert soldiers to avoid protected cultural resources?
- *Compliance Indicator:* Documentation of sign installation and/or survey report indicating none needed.
- *Implementation:* ENRMD/Forest Service – Evaluate need for signage around perimeter of Fullerton Mill site. Place signs as needed and document completion of work, or document evaluation results stating no signs needed.
- *Status:* Placement of signs around the Fullerton Mill Historic Site has been completed.
- *Recommended Action:* Requirements for this monitoring item have been fulfilled. No additional actions are recommended for the next reporting period. Omit reporting requirement for this measure from future CEM reports.

E. Avoid Pipeline/Utility Lines (Monitoring Item No. 39)

- *Compliance Question:* Are pipelines, utility corridors or other special use easements in the LUA identified in installation regulations, on training maps and on the ground as off-limits to digging? Are designated crossing sites identified?
- *Compliance Indicator:* Range regulations and maps showing location of pipelines, utility corridors and other easements off-limits to digging.
- *Implementation:* DPW – Identify and map off-limits pipelines and other easements in the LUA. Place "Off-Limits" signs as needed along off-limits easements. G3/Range Control/Operations Group – Draft revisions to Range regulations and EXROE restricting crossing of pipelines/utility lines in the LUA by military vehicles. Distribute to appropriate offices and unit commands.
- *Status:* Extending through Fort Polk, the Forest Service IUA, and the Forest Service LUA is a major natural gas pipeline. This pipeline is marked on Fort Polk maps and current environmental training courses addresses the hazards of digging and driving military vehicles in and around this and other pipelines. However, there is a need to further mark the location of the pipeline on the ground in the Rustville training area to ensure safety. Revisions to JRTC and FP Reg. 385-1 are underway to address authorized training activities and restrictions within the LUA and a revised draft of the regulation is expected during FY03.
- *Recommended Action:* Determine methods to protect pipeline right-of-way and if protective actions can be taken to utilize pipeline right-of-way in the future. Continue implementation of monitoring item no. 18 (item 4.4A. above).

F. Hardened Stream Crossings (Monitoring Item No. 34)

- *Compliance Question:* Are designated stream crossing sites in the LUA hardened or bridged for crossing by military vehicles and troops, or are plans actively underway to harden such sites? Are methods and materials used to harden or bridge stream crossings designed to minimize impacts to water quality and aquatic systems? Are crossing sites authorized/ permitted by the U.S. Army Corps of Engineers in accordance with Section 404 of the Clean Water Act, and are they designed and installed in accordance with permit conditions? Are sites affecting state scenic streams also permitted by the Louisiana Department of Wildlife and Fisheries (LDWF, Scenic Stream Permit), and are crossings designed in accordance with permit conditions? Are



appropriate National Environmental Policy Act (NEPA) documents available for hardening/bridging of streams in the LUA?

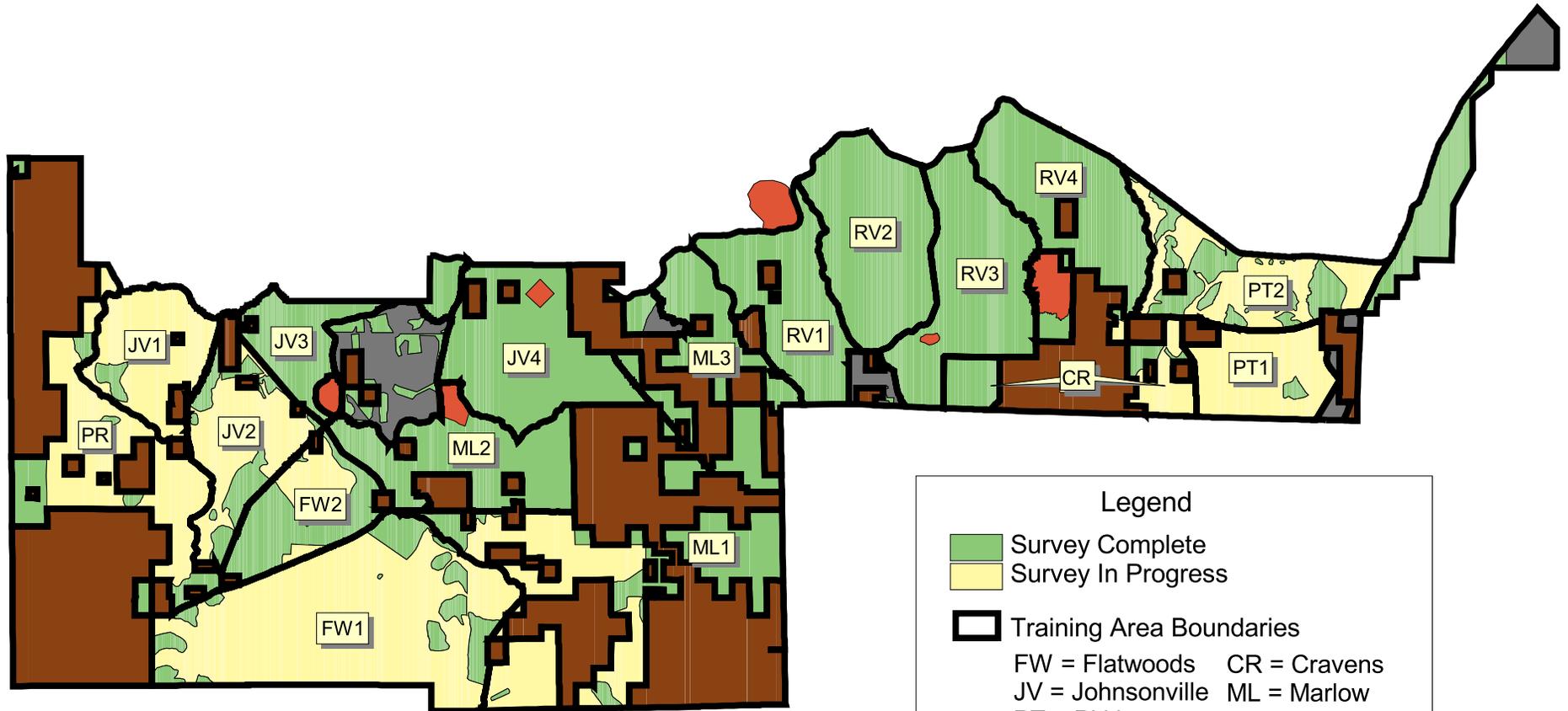
- *Compliance Indicator:* Design plans or other documentation for completed crossing sites. Section 404 permit/authorization for each site, plus LDWF Scenic Stream Permit for crossings on Whiskey Chitto, East Fork Sixmile and West Fort Sixmile Creeks. Completed NEPA documentation covering all stream crossing sites.
- *Implementation:* DPW/ENRMD – Prepare design plans for stream crossing sites, including alternatives (may be alternative locations and/or design options). Prepare site-specific NEPA document(s) for crossings as determined necessary by Forest Service. Obtain Section 404 permit/authorization from the U.S. Army Corps of Engineers and Scenic Stream Permits (if necessary) prior to construction. Finalize design plans and complete construction in accordance with NEPA decisions and permits.
- *Status:* The Army and Forest Service have jointly identified 20 proposed locations for stream and wetland crossing sites in the LUA from an initial list of 46 possible sites. Design plans for crossing structures are being prepared based on site-specific conditions. Fort Polk has also performed wetland delineations and is applying for Section 404 permits and Scenic Stream Permits, as needed, and will comply with permit terms and conditions. Environmental effects of the low water crossings are being considered in the *Draft Environmental Impact Statement (EIS) for 2d Armored Cavalry Regiment Transformation and Installation Mission Support Joint Readiness Training Center and Fort Polk, Louisiana, and Long-Term Military Training Use of Kisatchie National Forest Lands*, which is expected to be completed during 2004.
- *Recommended Action:* Complete design process, permitting, and environmental analysis. Continue to defer crossing of LUA streams by military vehicles during the next reporting period.

G. Cultural Resource Surveys (Monitoring Item No. 35)

- *Compliance Question:* Have Level 1 cultural resource surveys been completed in the LUA prior to conducting ground-disturbing activities under the proposed action?
- *Compliance Indicator:* Documentation and/or maps showing areas surveyed for cultural resources in LUA (must be completed prior to activities involving ground disturbance).
- *Implementation:* Forest Service/ENRMD – Complete Level 1 cultural resource surveys of the LUA. Identify sites eligible or potentially eligible for listing in the National Register of Historic Places (NRHP); test/protect sites as appropriate (Level 2 surveys). Map and document completed work.
- *Status:* Through the combined efforts of the Army and Forest Service, Level 1 cultural resource surveys have been completed or are in progress for all LUA training areas. A total of 62 percent (over 27,000 acres) of the areas available for training have been surveyed. The remaining 38 percent (16,529 acres) of the LUA that is available for training is currently being surveyed. The status of Level 1 cultural resource surveys is shown in Figure 4-6. A total of 21 sites are currently marked as off-limits due to Level 1 cultural resource survey and Level 2 site testing findings, which has decreased from 26 sites reported last year (see monitoring item 28 [item 4.7.A] above). Off-limits signage surrounding certain sites was removed because Level 2 site testing found that they were not eligible for the NRHP. As of this reporting period, 18 of the 21 sites that are potentially eligible for the NRHP are under contract for further testing.
- *Recommended Action:* Continue monitoring of this measure during next reporting period. Continue to defer approvals for digging, cross-country vehicle movement and other ground disturbing military activities in training areas where cultural resource surveys and appropriate site protections have not yet been completed.



Figure 4-6. Status of Limited Use Area Cultural Resource Surveys



Legend

- Survey Complete
- Survey In Progress
- Training Area Boundaries
- FW = Flatwoods CR = Cravens
- JV = Johnsonville ML = Marlow
- PT = Pitkin PR = Providence
- RV = Rustville
- Recreation Areas
- Off-Limit Areas
- Private Property



4.8 AREA RESTRICTIONS

A. Restrictions on Louisiana National Guard Training (Monitoring Item No. 14)

- *Compliance Question:* Is cross-country tank travel (mounted maneuvers) by the 256th Brigade of the Louisiana Army National Guard (LAARNG) restricted to the main post?
- *Compliance Indicator:* Command/G3 policy statement or installation regulation prohibiting 256th mounted maneuvers in the LUA.
- *Implementation:* Command/G3 – Issue policy statement and/or amend Range regulations to prohibit LAARNG mounted maneuvers in the LUA. Retain documentation. No ongoing requirements.
- *Status:* Fort Polk is currently revising JRTC and FP Reg. 385-1 to address training opportunities and restrictions in the LUA, including restrictions on operation of armored/tracked vehicles.
- *Recommended Action:* Continue implementation of monitoring item no. 18 (see Section 4.4.A. above).

B. Restrictions on Blackout Driving (Monitoring Item No.15)

- *Compliance Question:* During routine training exercises, is blackout driving in the LUA restricted to primitive “woods roads” within training areas closed to public access? Are special training events requiring blackout driving on roads open to the public (e.g., LA Hwy 10, Lookout Road) coordinated in advance with the Forest Service and other state and local agencies? Is appropriate advance notice given to the public? Are signs/barricades/sentries posted at training area entry and exit points as needed to alert the public of temporary access
- *Compliance Indicator:* Installation regulations, guidance documents and/or maps identifying roads/training areas in LUA where blackout driving may be conducted. Documentation of coordination/authorization from state/local agencies for blackout driving on public roads (as required by applicable laws and regulations). Documentation of public notice for temporary road closures. Optional indicator: Unit/OC field records of sign/ barricade/ sentry positions.
- *Implementation:* G3/Operations Group/Range/DPW – Identify LUA roads where blackout driving can be conducted. Produce maps of roads and distribute to troops. Revise Range regulations/EXROE as needed. Coordinate any temporary road closures in advance with Forest Service and local/state officials; retain records. Consider feasibility of requiring unit leaders/ECOs/OCs to document time and location where barricades/sentries are posted on public roads during blackout driving exercises. PAO – Publicize any temporary road closures in advance in local media and retain records.
- *Status:* The Army is currently working to develop training guidance for the safe execution of blackout driving in the LUA. However, due to other training priorities, the Army has elected to defer implementation of this activity in the LUA. Revisions to JRTC and FP Reg. 385-1 are underway to address authorized training activities and restrictions within the LUA, and a revised draft of the regulation is expected during FY03.
- *Recommended Action:* Continue implementation of this measure in the next reporting period. Complete marking of roads that are approved for blackout driving. Continue to defer approval for blackout driving until roads that are approved are marked by signage and pending applicable training guidance (JRTC and FP 385-1).



C. Noise Buffers (Monitoring Item No. 23)

- *Compliance Question:* Are noise buffers around potential receptors in the LUA (e.g., residences, commercial establishments, developed recreational sites, etc.) established at appropriated distances so as not to exceed recommended Day-Night Levels (DNLs) for noise? Are appropriate distances from noise receptors for specific noise-producing events incorporated into the EXROE, JRTC and Fort Polk Regulation 385-1, and/or other installation regulations governing use of training areas?
- *Compliance Indicator:* Maps, EXROE and Range regulations (e.g., JRTC and FP 385-1) with appropriate revisions for noise buffers in LUA.
- *Implementation:* ENRMD/G3/Operations Group – Develop digital map of noise buffer(s) around LUA developed recreation areas, residences, commercial establishments, churches, etc. and produce noise buffer maps/overlays for training maps. G3/Range Control/Operations Group – Draft revisions to Range regulations and EXROE reflecting decisions for LUA noise buffers. Distribute final revisions to appropriate offices and unit commands.
- *Status:* The Army has published a noise management plan that addresses military noise in the LUA. As part of the noise management plan, the Army has installed a noise monitoring system that consists of 7 individual noise monitors distributed near residences. Continuous monitoring began in February 2002, and results will be reviewed on an annual basis or more frequently as needed. The locations of the monitors are shown in Figure 4-7. No noise complaints were received during this reporting period.
- *Recommended Action:* Continue implementation of this measure during the next reporting period, including reporting results of noise monitoring.

D. Avoid Recreation Trails (Monitoring Item No. 32)

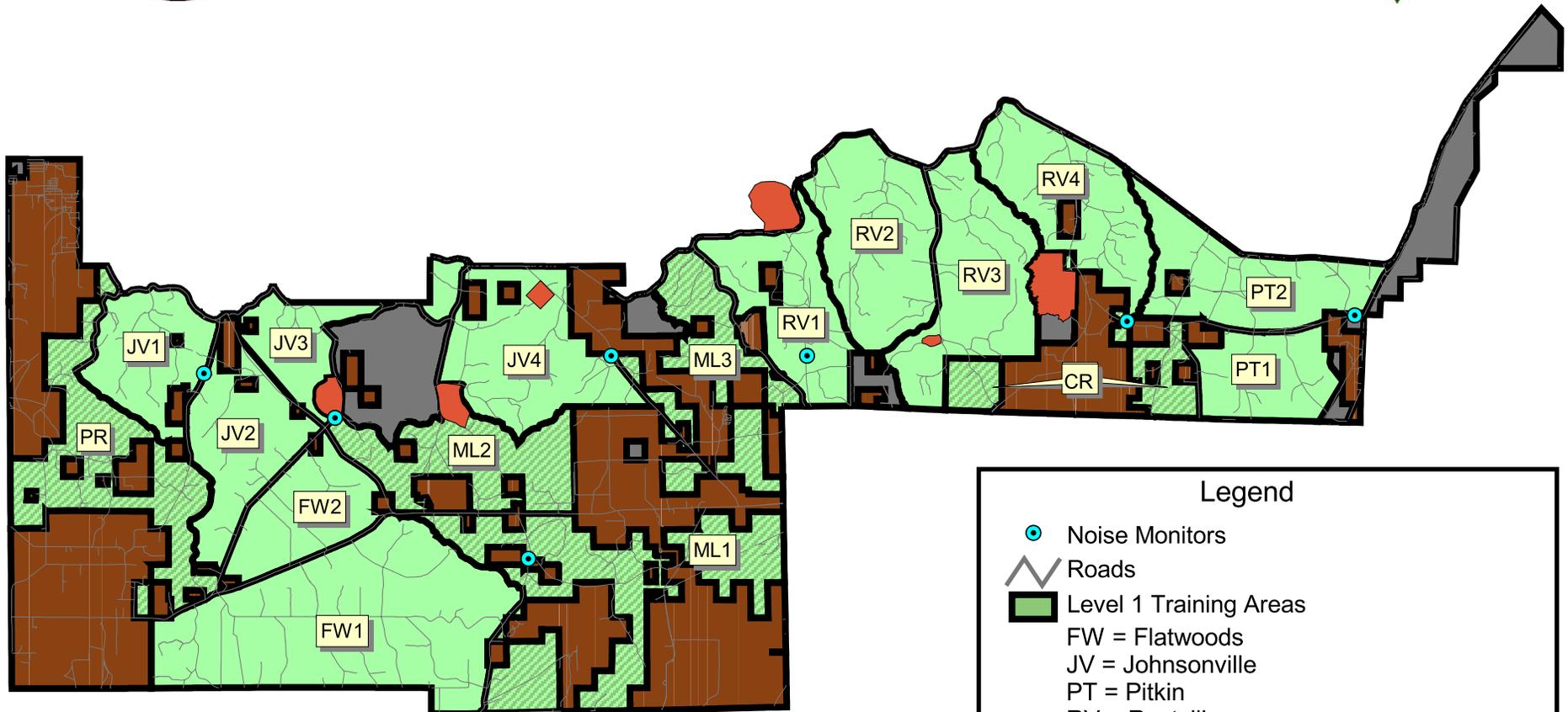
- *Compliance Question:* Are Forest Service maintained recreational trails/trail heads identified in installation regulations, training maps and on the ground as off-limits to military vehicles (vehicle crossing and pedestrian traffic only allowed)?
- *Compliance Indicator:* EXROE and Range regulations (e.g., JRTC and FP Reg. 385-1) with appropriate revisions. Documentation and maps showing location of appropriate signage at trails/trail heads.
- *Implementation:* G3/Range Control/Operations Group – Draft revisions to Range regulations and EXROE prohibiting use of Forest Service maintained trails by military vehicles. Distribute final revisions to appropriate offices and unit commands. Forest Service/ENRMD – GPS trails and produce digital map. Mark trailheads/entry points with "Off-limits to Training" signs as needed.
- *Status:* As of this reporting period, the Army has drafted a revision to JRTC and FP 385-1 (see monitoring item no. 18 in Section 4.4.A above) which states that marked trailheads are off-limits to training. Revisions to JRTC EXROE will be initiated as needed pending completion of JRTC and FP Reg. 385-1. As of this reporting period, no additional signage was needed along trails or trailheads to prevent use of military vehicles.
- *Recommended Action:* Continue implementation of this measure during next reporting period.

E. Avoid School Bus Routes (Monitoring Item No. 37)

- *Compliance Question:* Are military convoys scheduled and routed so as not to interfere with school buses during the school year?



Figure 4-7. Limited Use Area (LUA) Noise Monitors



Legend

-  Noise Monitors
-  Roads
-  Level 1 Training Areas
FW = Flatwoods
JV = Johnsonville
PT = Pitkin
RV = Rustville
-  Level 2 Training Areas
CR = Cravens
ML = Marlow
PR = Providence
-  Recreation Areas
-  Off-Limit Areas
-  Private Property





- *Compliance Indicator:* Map or list of school bus routes and associated guidance/ documentation directing military convoys to use other routes during busing schedules.
- *Implementation:* *Command/G3/Operations Group* – Issue policy statement and/or amend Range regulations to restrict military convoys along school bus routes during the school year. Obtain schedules and maps from parish or school districts and distribute to appropriate offices and unit commands. Update maps, schedules and/or policy on annual basis and retain documentation.
- *Status:* The Army has determined that revisions to Fort Polk vehicle convoy regulations are not necessary to attain the goal of this monitoring item. Since all LUA roads are potential school bus routes, Fort Polk has established procedures to manage possible interaction between troops and school buses rather than attempting to avoid bus routes. Through ongoing training, Fort Polk instructs soldiers on appropriate interaction with the public so that training does not interfere with the public’s activities in the LUA. Any conflicts relating to military traffic and bus routes would be addressed through the Vernon Parish School Liaison Officer and the Vernon Parish School Board. During this reporting period there has been no military convoy interference with school buses.
- *Recommended Action:* Continue monitoring of potential problems with military training in the LUA by means of the Complaint Hotline (Monitoring Item 6). If conflicts occur between military training and school bus travel, this item may be re-evaluated to determine if further action is needed. No further action of this item is needed at this time.

F. Avoid Pasture Fences (Monitoring Item No. 38)

- *Compliance Question:* Are fences for active grazing allotments in the LUA left in their original condition during and after training exercises? Are pasture gates left as they were found, either closed or open?
- *Compliance Indicator:* Maneuver damage inspection reports and/or records of landowner complaints regarding grazing allotments.
- *Implementation:* Forest Service – Produce digital map of fences and designate those which may be removed. G3 – Remove unneeded pasture fences in LUA, in coordination with the Forest Service and private landowners/permittees. Issue policy statement, amend Range regulations and/or amend troop educational materials to address remaining fences in LUA. PAO – Record public complaints by category. Store records in database. Record corrective actions taken by Army and store in database.
- *Status:* The Forest Service is planning to evaluate the status of grazing allotments and identify inactive pasture fences. Since other priorities have delayed the identification of inactive fences, the location of all grazing fences will be mapped and prioritized for removal during the next reporting period. After identification, unneeded fences can be removed based upon resource management and training priorities. The Army is also in the process of revising its Range regulation, JRTC and FP Reg. 385-1, to address authorized training activities and restrictions in the LUA (see monitoring item no. 18 in Section 4.4.A above). No incidents regarding military disturbance or damages to LUA pasture fences were reported to the PAO during this reporting period.
- *Recommended Action:* Continue implementation of this measure during the next reporting period.



G. Limit Stream Crossings (Monitoring Item No. 33)

- *Compliance Question:* Do appropriate Range regulations and EXROE prohibit crossing of streams by military vehicles in the LUA except at approved designated crossings? Are designated crossing sites shown on appropriate training maps/overlays?
- *Compliance Indicator:* EXROE and Range regulations (e.g., JRTC and FP 385-1) with appropriate revisions for LUA. Training maps identifying designated stream crossing sites.
- *Implementation:* G3/Operations Group/MLO – Identify designated stream crossing sites. Revise Range regulations and EXROE as needed to prohibit military vehicle crossings at non-designated sites. DPW: Digitally map crossing sites and create overlays for training maps. DPW/ENRMD/MLO – Document evidence of stream crossings by military vehicles at non-designated locations during maneuver damage inspections (see monitoring item 12).
- *Status:* The Army and Forest Service have jointly selected potential stream and wetland crossing sites in the LUA. Once the hardened stream crossings have been installed (Monitoring Item 34), stream crossing will be allowed at those designated locations. Revisions to JRTC and FP Reg. 385-1 are currently being completed and should address authorized training activities and restrictions within the LUA. A revised draft of the regulation is expected during FY03.
- *Recommended Action:* Continue implementation of this measure. Continue to defer crossing of LUA streams by military vehicles until designated stream crossing sites are hardened or bridged.

H. Multiple Use Trail (Monitoring Item No. 4-5)

- *Compliance Question:* Has an existing recreational trail in the west half of the LUA been re-designated as a multiple use trail?
- *Compliance Indicator:* Decision notice/other documentation identifying proposal to change trail classification.
- *Implementation:* *Forest Service* – Propose reclassification of recreational trail on west side of LUA for multi-use (all-terrain/off-road vehicles permitted). Replace trailhead markers and revise District maps as needed.
- *Status:* The LUA EA Decision Notice signed by the Forest Supervisor on September 22, 2000, approved the reclassification of the Big Branch Trail on the west side of the LUA to allow motorized travel. After further evaluation by the Forest Service, it was determined that the Big Branch trail was inappropriate for off-road vehicle use. In addition, the Forest Service determined that current levels of military use in the LUA do not interfere with off-road vehicle use nor warrant establishment of an additional multiple use trail on the west half of the LUA.
- *Recommended Action:* No further action on this item is needed at this time. Upon the determination that Army training activities in the Rustville area are limiting access to the currently available off-road vehicle trail; the Forest Service may re-evaluate the need for an additional multiple use trail on the western portion of the LUA.

4.9 SITE LEVEL MONITORING PLAN

A. Monitoring Plan (Monitoring Item No. 4-2)

- *Compliance Question:* Is compliance and effectiveness monitoring conducted according to plan? Are monitoring results recorded and maintained as necessary to assess compliance and effectiveness? Are monitoring results made available to other agencies, organizations and the public on an annual basis?



- *Compliance Indicator:* Published annual summary of monitoring practices and results and proceedings/records of public meetings, as applicable. Records of consultation with other agencies regarding monitoring results, where applicable.
- *Implementation:* ENRMD/Forest Service – Publish results of monitoring annually. Make results available to the public (methods may include direct distribution, internet publishing, availability by request, etc.). Command/PAO/Forest Service – Based on public interest, hold public meetings to disclose results of monitoring and receive feedback from the public. Advertise public meeting and document proceedings.
- *Status:* This document constitutes the second annual Compliance and Effectiveness Monitoring (CEM) Report for the LUA. This report includes compliance-monitoring results current from October 1, 2001– September 30, 2002 and documents the status of approvals for six new LUA training activities at the time of report preparation. Although implementation of increased military training is still ongoing, effectiveness monitoring results were included in this CEM report where possible. Copies of this report are available on line at the JRTC and Fort Polk website (www.jrtc-polk.army.mil/generalinfo.asp) and by request from the JRTC and Fort Polk PAO at 7073 Radio Road, Fort Polk, Louisiana, 71459-5342, (337) 531-7203, or e-mail to nanced@polk.army.mil.
- *Recommended Action:* Continue to develop standardized CEM protocols and record-keeping practices. Continue compliance monitoring and effectiveness monitoring during next reporting period and publish results for public review. Evaluate procedures for internal Army and Forest Service review and analysis of CEM results, and incorporate CEM into Fort Polk’s environmental management system.

5. Effectiveness Monitoring Results

This section documents the status of the LUA effectiveness monitoring items from October 1, 2001 – September 30, 2002. Effectiveness monitoring items are organized into two objectives that address potentially affected resources, land uses and activities.

5.1 MITIGATION OF POTENTIAL CONFLICTS BETWEEN TRAINING AND NON-TRAINING ACTIVITIES AND LAND USES

A. Scheduling Conflicts between Military and Non-Military Activities (Effectiveness Item 1)

- *Objective:* Minimize/avoid scheduling conflicts between training and non-training activities in the Vernon Unit. Maximize areas and time periods available for non-training activities on the Vernon Unit, while meeting training needs.
- *Question:* Are scheduling conflicts between training and non-training activities effectively resolved at the RACs? Do LUA training area boundaries allow flexibility for scheduling of military and USFS activities?
- *Effectiveness Indicator:* Number of planned training exercises/non-training activities (USFS permitted or sponsored) in the Vernon Unit that had to be cancelled or rescheduled due to conflicts between the two types of uses. Number of unresolved conflicts between training exercises/non-training activities where conflict could have been resolved by scheduling a subportion of a training area/compartment. Percent of non-training activities which were successfully accomplished/scheduled at RACs.
- *Implementation:* Track requests for training and non-training activities in the LUA. Indicate whether request was/was not accommodated. When request not accommodated due to conflict,



note nature of conflict and whether conflict could have been resolved by alternative scheduling method (e.g. scheduling a subportion of a training area/compartments). Tally total number of training exercises scheduled in LUA and percent of non-training requests accommodated each quarter and report at EQCCs. Identify any problems and discuss potential solutions. Include results in annual monitoring report and public meeting, as applicable.

- *Status:* For FY02, all potential scheduling conflicts were effectively addressed during RACs. As a result, there were no conflicts between training and non-training activities in the LUA.
- *Recommended Action:* Continue reporting on this item during the next reporting period.

B. Availability of Land for Hunting (Effectiveness Item 2)

- *Objective:* Maximize opportunities for hunting in the Fort Polk WMA and the LUA.
- *Question:* Have overall opportunities for hunting on the Fort Polk WMA and/or LUA been significantly affected by increased military use of the LUA? Are areas and time periods that are not used for training made available for hunting on the Fort Polk WMA and LUA?
- *Effectiveness Indicator:* Percent of areas and time periods open for hunting [Total annual acre-days open for hunting in WMA/LUA (actual) divided by total annual acre-days available for hunting in WMA/LUA (theoretical maximum)].
- *Implementation:* Calculate total available acre-days for hunting in WMA and LUA based on State-regulated seasons for previous calendar year and acre-days open for hunting in each area for previous year. Calculate percent acre-days open for hunting in WMA and LUA as a function of total available for previous year. Report at EQCCs and evaluate. Include results in annual monitoring report and public meeting, as applicable.
- *Status:* During the hunting periods of FY02 that were monitored for this report, 100% of the LUA was available to hunting (41,615 acres). These hunting periods included the opening weekends of turkey and squirrel season and the entire deer season. During the hunting periods that were monitored in the Fort Polk WMA, a total of 55% (56,663 acres) of the WMA was available for hunting during the opening weekend of deer season and 51% (55,397 acres) of the WMA was available for hunting during the opening weekend of turkey season.
- *Recommended Action:* Continue monitoring of this measure during the next reporting period. Consider scheduling land for opening weekend hunts on the installation's annual training calendar to maximize hunting opportunities.

C. Availability of Information on Military Training Schedules (Effectiveness Item 3)

- *Objective:* Inform the public through various media of areas and time periods in the LUA to be used for training. Provide advance notice of areas to be closed to the public due to training use.
- *Question:* Are methods of notification adequate to inform the public in advance of military uses of the LUA?
- *Effectiveness Indicator:* Number of complaints and/or positive feedback from the public regarding availability/quality of information on training schedules and activities in the LUA.
- *Implementation:* Track complaints and comments from the public by category. Discuss problems and solutions at EQCCs. Include results in annual monitoring report and public meeting, as applicable.
- *Status:* There were no complaints reported to the PAO regarding the availability and/or quality of information on training schedules and activities in the LUA. In addition to LUA Monitoring



items, the Fort Polk PAO and Range Control maintain close contact with residents of the LUA to inform them of military activity.

- *Recommended Action:* Continue monitoring of this measure during the next reporting period.

D. Response to Complaints (Effectiveness Item 4)

- *Objective:* Respond to public complaints and concerns regarding military training in the LUA and expeditiously redress complaints/concerns to the extent possible.
- *Question:* Are public complaints and concerns about training in the LUA addressed and resolved in a satisfactory manner, including damages to private property?
- *Effectiveness Indicator:* Public feedback on Army responsiveness to complaints/concerns regarding training activities in the LUA. Percent of complaints where initial response was provided by Army within 24 hours of receipt. Average days elapsed between notice of damages to private property and repair/closure of case. Percent of cases satisfactorily resolved and records of corrective actions taken for unresolved cases.
- *Implementation:* Track complaints and comments from the public by category. Record time and date complaints/comments received and whether initial response was provided within 24 hours. Record corrective actions and date of case closure for all complaints. For complaints involving damages to private property, track time elapsed between initial response and closure of case and calculate percent of cases satisfactorily resolved. Report at EQCCs, include results in annual monitoring report and public meetings, as applicable; discuss potential system improvements
- *Status:* The Fort Polk PAO received only one complaint during this reporting period. This complaint was responded to within 24 hours and the complaint was documented and satisfactorily resolved.
- *Recommended Action:* Continue monitoring of this measure during the next reporting period.

E. Military Compliance with Range Safety and Environmental Regulations (Effectiveness Item 6)

- *Objective:* Promote compliance with installation training rules, regulations and restrictions designed to protect natural resources, private property and civilians in the LUA through education of troops (home station units and rotational units)
- *Question:* Are troops knowledgeable of current Range regulations, EXROE and SUPA conditions for use of the LUA? Are troops complying with applicable regulations and permit conditions for use of the LUA? Are soldiers conducting themselves appropriately during contact with civilians while training in the LUA?
- *Effectiveness Indicator:* Trends in number of training violations (occurrence of unpermitted training activities) or incidents of inappropriate conduct of military personnel toward civilians.
- *Implementation:* Annual/biannual analysis of maneuver damage inspection and repair data, PAO complaint records, MLO records and related data, and feedback from ECO/OC/LUA course instructors. Report trends by unit and type of violation at EQCCs, include results in annual monitoring report and public meetings, as applicable.
- *Status:* The Fort Polk PAO received no complaints regarding compliance with training safety or environmental regulations or policies in the LUA. During FY02, Range Control, ENRMD, and USFS inspectors documented 10 minor infractions by military units of the LUA Operating Plan or JRTC and Fort Polk Reg. 385-1. Seven infractions involved units setting up in an area not scheduled for training, two involved unpermitted use of a USFS recreation area, and one involved unpermitted activity in an RCW cluster. No adverse effects were noted as a result of the infractions.



- *Recommended Action:* Continue monitoring of this measure during the next reporting period. Determine if trends are developing in regard to specific unpermitted activities, number of unpermitted activities by specific units, or during specific types of training activities.

F. Noise Disturbance (Effectiveness Item 14)

- *Objective:* Minimize disturbance of LUA residents and recreational users due to noise from increased training activities.
- *Question:* Are troop educational materials, maps and other mitigation measures minimizing unpermitted noise-producing events within noise buffers? Are noise buffer zones/off-limits areas adequate to maintain training noise below acceptable levels, per thresholds for exposure specified in the draft EA?
- *Effectiveness Indicator:* Records of public feedback/complaints regarding noise disturbances. Results of noise monitoring within noise buffer zones during maximum/typical noise event.
- *Implementation:* Record public complaints/feedback regarding noise disturbances in the LUA. As closely as possible, identify and record the location of the military unit and the nature of the noise-producing event; record corrective actions taken. Evaluate trends and report at EQCCs. Include results in annual monitoring report and public meetings, as applicable. Based on trends and case-by-case needs, conduct noise monitoring to determine adequacy of noise buffer zones. Evaluate results of noise monitoring and revise training restrictions/buffer zones as needed.
- *Status:* During this reporting period there were no complaints reported regarding noise in the LUA. Noise monitors were also installed in the LUA and noise monitoring was initiated.
- *Recommended Action:* Report on annual findings from noise monitoring. Continue monitoring of this measure during the next reporting period.

G. Public Safety (Effectiveness Item 15)

- *Objective:* Minimize potential risks to public safety associated with increased military training in the LUA.
- *Question:* Are training activities in the LUA conducted in a manner so as not to jeopardize public health and safety?
- *Effectiveness Indicator:* Number of training-related traffic accidents in the LUA, incidents involving military vehicles/troops and school buses, and other training-related accidents/injuries in the LUA involving the public.
- *Implementation:* Record reports from the public and law enforcement officials of accidents/injuries involving members of the public and military troops engaged in training exercises. Evaluate case-by-case occurrences and trends; conduct and record corrective actions as appropriate. Report at EQCCs, include in annual monitoring report and public meetings, as applicable.
- *Status:* There were no training related traffic accidents in the LUA during this reporting period or incidents between military and non-military vehicles.
- *Recommended Action:* Continue monitoring of this measure during the next reporting period.



5.2 MITIGATION OF EFFECTS OF MILITARY ACTIVITIES ON ENVIRONMENTAL RESOURCES

A. Military Traffic and Road Conditions (Effectiveness Item 5)

- *Objective:* Avoid degradation of LUA road conditions/designated service levels due to increased training use. Avoid/ minimize civilian traffic disruptions/delays and traffic safety hazards in the LUA due to military training activities.
- *Question:* Has increased training resulted in severe or recurring damages to public roads and bridges? Have civilian traffic delays/ disruptions or traffic accidents occurred due to road damages from military use? Are repairs and/or upgrades to LUA public roads conducted in a timely manner?
- *Effectiveness Indicator:* Number of reported occurrences where training damages to roads/bridges made road impassable for passenger car, presented a traffic safety hazard or rendered road unsuitable for its designated level of service. Number of traffic accidents occurring in the LUA positively attributable to road damages directly caused by military training. Number of days elapsed between notice of road damages and completion of repairs/closure of case.
- *Implementation:* Investigate complaints of road damages in LUA, assess damages and determine if Army responsible. Record road name, location, ownership, designated service level (USFS maintenance level); indicate type/extent of damage, estimated date of occurrence and whether Army has previously improved/ repaired the damaged road/road segment. Record date repairs completed, days elapsed since damage report, and cost of repairs. Calculate annual incidence of road damages; number of incidents on public vs. private roads; average time required to complete repairs; cost for repairs; incidence of recurring damages by road/road segment; and percent of total cost for recurring repairs/upgrades of previously repaired/improved road segments. Report at EQCCs, include results in annual monitoring report and public meetings, as applicable.
- *Status:* There were no complaints reported to the Fort Polk PAO of road damages in LUA. As a result of Army upgrades to several road segments, road conditions along those segments have improved rather than degraded.
- *Recommended Action:* Continue monitoring of this measure during the next reporting period.

B. Environmentally Sensitive Areas (Effectiveness Item 7)

- *Objective:* Protect designated environmentally sensitive areas (e.g., bogs, seeps, wetlands and rare plant sites) from adverse impacts due to increased military use.
- *Question:* Are mitigation measures and training restrictions preventing or minimizing direct impacts (e.g., rutting, trampling) and indirect impacts (e.g., sedimentation) to designated environmentally sensitive areas caused by increased training activities? If not, have significant damages occurred to designated sensitive areas as a result of increased military training? Were significant damages, if any, repaired, and were the repairs effective?
- *Effectiveness Indicator:* Number of training violations involving designated environmentally sensitive areas (e.g., vehicle traffic within area marked as off-limits); areal extent and type of damage; number of damage sites/incidences repaired; and post-repair condition of sites.
- *Implementation:* Conduct regular maneuver damage inspections of training areas, identify and assess damages to designated environmentally sensitive areas; authorize and conduct appropriate repairs/corrective actions; assess effectiveness of repairs and repeat as needed until site returned to original condition or no additional restoration is practicable; record work, summarized results



and report at EQCCs. Include results in annual monitoring report and public meetings, as applicable.

- *Status:* During this reporting period, there were no training violations recorded that involved an environmentally sensitive area.
- *Recommended Action:* Continue monitoring of this measure during the next reporting period.

C. Stream Protection (Effectiveness Item 8A)

- *Objective:* Protect streams and streamside zones from adverse impacts due to increased military training. Avoid degradation of water quality and aquatic habitat of LUA streams due to military training activities.
- *Question:* Are troops crossing primarily at authorized hardened crossings/bridges?
- *Effectiveness Indicator:* Occurrence of significant damages to streams due to military vehicle crossings at unauthorized locations (e.g., sedimentation and erosion of stream beds/banks clearly attributable to military activities).
- *Implementation:* Conduct annual 100% survey of scenic streams in LUA for damages due to unauthorized military crossings. Inspect streams and headwaters near heavily used training sites (e.g., bivouac and assembly areas) and cross-country trails/approach routes for unauthorized crossings. Authorize and conduct necessary repairs/corrective actions, document completion and check for effectiveness. Repeat as needed until desired results achieved (e.g., stream bank is stabilized and is able to support necessary level of military use). Report results at EQCC meetings, include in annual monitoring report and public meetings, as applicable.
- *Status:* A baseline stream conditions report was completed during this reporting period that identified all pre-existing disturbances on scenic streams in the LUA. After each training event in the LUA, Army and Forest Service personnel inspected scheduled training areas and observed no unauthorized stream crossings. Since no unauthorized crossings have been observed nor any training-related damages to streams reported, no corrective actions have been necessary.
- *Recommended Action:* Utilize maneuver damage inspection reports to identify potential damages to LUA streams in the future. Continue monitoring of this measure during the next reporting period.

D. Water Quality (Effectiveness Item 8B)

- *Objective:* Protect streams and streamside zones from adverse impacts due to increased military training. Avoid degradation of water quality and aquatic habitat of LUA streams due to military training activities.
- *Question:* Are authorized hardened crossings/ bridges affecting stream hydrology? Are hardened crossings/bridges adequate to prevent erosion and loss of ground cover/riparian vegetation within the streamside zone?
- *Effectiveness Indicator:* Ponding or changes in base flow downstream of crossing site as compared to pre-construction conditions. Erosion of stream bed/banks around authorized crossing structures and/or expansion of crossing site upstream/downstream of authorized crossing structures.
- *Implementation:* On annual basis, conduct characterization of LUA stream using standardized methods. At least once during each month when training activities are permitted, inspect authorized crossing sites for damages. Authorize and conduct necessary repairs/corrective actions, document completion and check for effectiveness. Repeat as needed until desired results achieved (e.g., stream bank is stabilized and is able to support necessary level of military use).



Report results at EQCC meetings, include in annual monitoring report and public meetings, as applicable.

- *Status:* No training-related damage to streams in the LUA was reported during this period. Characterization of LUA streams was done in 1996-1997, but because crossing of streams by military vehicles has not been approved, no subsequent characterization has been done.
- *Recommended Action:* Continue monitoring of this measure during the next reporting period.

E. Stream Crossing Effects (Effectiveness Item 8C)

- *Objective:* Protect streams and streamside zones from adverse impacts due to increased military training. Avoid degradation of water quality and aquatic habitat of LUA streams due to military training activities.
- *Question:* Are increased military training activities in upland areas causing sedimentation or other indirect effects to streams/aquatic habitat? If yes, have appropriate repairs/corrective actions been conducted? Were the repairs effective?
- *Effectiveness Indicator:* Are increased military training activities in upland areas causing sedimentation or other indirect effects to streams/aquatic habitat? If yes, have appropriate repairs/corrective actions been conducted? Were the repairs effective?
- *Implementation:* Same as Effectiveness Item 8B above.
- *Status:* No direct or indirect damage to streams from military activities was identified. As of this reporting period, no stream crossing sites had been designated in the LUA.
- *Recommended Action:* Continue monitoring of this measure during the next reporting period.

F. Timber Protection (Effectiveness Item 9)

- *Objective:* Avoid training-related damages to pine plantations and merchantable timber.
- *Question:* Are mitigation measures minimizing or preventing training damages to pine plantations and merchantable timber?
- *Effectiveness Indicator:* Occurrence of quantifiable maneuver damages within pine plantations and merchantable timber.
- *Implementation:* Record maneuver damages to pine plantations and/or merchantable timber: date, location, responsible unit, etc. Document payment/compensation to USFS for reimbursement or other corrective action as appropriate.
- *Status:* There were no training related damages to pine plantations reported in the LUA during this reporting period.
- *Recommended Action:* Continue monitoring of this measure during the next reporting period.

G. Red-Cockaded Woodpecker Impacts (Effectiveness Item 10)

- *Objective:* Minimize violation of training restrictions within RCW clusters and avoid adverse impacts to the RCW due to increased military training: (1) direct or indirect loss of cavity trees, (2) decline in reproductive success, and/or (3) decline in activity status.
- *Question:* Are restrictions on training activities within RCW clusters, painting and signing of cluster boundaries and troop educational materials minimizing training violations within clusters? Have training activities resulted in the loss of cavity trees or other "taking"? Have training activities resulted in a decline in RCW reproductive success or cluster activity status?



- *Effectiveness Indicator:* Number of reported incidents of training violations (unpermitted activities) within RCW clusters. Loss of cavity trees directly/indirectly due to training activities (e.g., vehicle collision, wildfire). Significant difference in number of young fledged and/or change in cluster activity status among clusters exposed to different training intensity levels. Must use statistically sound method of analysis; see Joint Monitoring Plan for Vernon-Fort Polk RCW Population.
- *Implementation:* Inspect active RCW clusters and record distinct evidence of training violations or damages to cluster resources per requirements of joint RCW monitoring plan. Record distinct evidence of training violations observed during routine RCW monitoring/ management activities. Combine data sets, summarize and report at EQCCs, include results in annual monitoring report and at public meetings, as applicable. Conduct statistical analysis of effects of increased training on RCW reproductive success and activity status after 5 years of increased use of LUA (see joint RCW monitoring plan).
- *Status:* During this reporting period, there was one training violation recorded in the LUA that involved an RCW cluster. The violation occurred in the Flatwoods training area on July 22, 2002. The unit training in the area had assembled vehicles in an RCW cluster and was instructed to leave. There was no damage to cluster resources as a result of the violation.
- *Recommended Action:* Continue monitoring of this measure during the next reporting period.

H. Management and Recovery of Vernon-Fort Polk RCW Population (Effectiveness Item 11)

- *Objective:* Support management and recovery of the Vernon-Fort Polk RCW population through consistent US Forest Service and Army population monitoring and data management practices.
- *Question:* See Joint Monitoring Plan for the Vernon-Fort Polk RCW Population
- *Effectiveness Indicator:* See Joint Monitoring Plan for the Vernon-Fort Polk RCW Population
- *Implementation:* See Joint Monitoring Plan for the Vernon-Fort Polk RCW Population
- *Status:* This item to be addressed in the Vernon-Fort Polk RCW Joint Monitoring Plan.
- *Recommended Action:* Recommend omitting this item from future CEM Reports

I. Private Property (Effectiveness Item 12)

- *Objective:* Minimize/avoid trespass on private property within the LUA and related adverse impacts due to increased military use (e.g., property damages/disturbance).
- *Question:* Are mitigation measures (i.e., property boundary markings and maps, off-limits areas, noise buffers, and soldier education) minimizing trespass on private property by troops and associated maneuver damages and disturbance to LUA residents?
- *Effectiveness Indicator:* Number of reported incidents of trespass by troops and/or confirmed incidents of maneuver damages to private property in the LUA. Reported incidents of improper conduct by soldiers during encounter with civilians.
- *Implementation:* Record and track public complaints regarding maneuver damages to private property and damages to private property identified during post-exercise inspections. Record corrective actions and date of case closure for all complaints. For maneuver damages to private property, track time elapsed between initial response and closure of case. Calculate percent of cases satisfactorily resolved, report at EQCCs, and discuss potential system improvements. Include results in annual monitoring report and discuss at public meetings as applicable.
- *Status:* During this reporting period, there were no damages to private property in the LUA identified as a result of military activity.



- *Recommended Action:* Continue monitoring of this measure during the next reporting period.

J. Recreational Areas and Trails (Effectiveness Item 13)

- *Objective:* Minimize/avoid training-related damages to recreational facilities and trails.
- *Question:* Are mitigation measures minimizing training related damages to developed recreational areas and USFS-maintained trails? Are maneuver damages to recreational areas and maintained trails repaired in a timely and appropriate manner?
- *Effectiveness Indicator:* Number of reported incidents of damage to developed recreational sites and maintained trails directly caused by military training activities. Severity/extent of damages. Records of repairs/corrective actions.
- *Implementation:* Record maneuver damages to developed recreational sites and maintained trails: date, location, responsible unit, nature and extent of damages, etc. Record corrective actions and date of case closure for all complaints/incidents. Track time elapsed between initial response and closure of case. Calculate percent of cases satisfactorily resolved, report at EQCCs, and discuss potential system improvements. Include results in annual monitoring report and public meetings, as applicable.
- *Status:* During this reporting period, there were no damages to recreational sites or trails identified as the result of military activity.
- *Recommended Action:* Continue monitoring of this measure during the next reporting period.

K. Training Related Wildfires (Effectiveness Item 16)

- *Objective:* Minimize/avoid adverse effects of training-related wildfires in the LUA. Protect private properties in the LUA from training-related wildfires.
- *Question:* Have training-related wildfires in the LUA resulted in significant damages to natural resources? Are military fire control and response measures in the LUA adequate? Are private properties in the LUA adequately protected from potential training-related wildfires?
- *Effectiveness Indicator:* Annual number of military fires in LUA, acreage burned, nature and severity of damages. Encroachment/occurrence of military wildfires on private property in LUA.
- *Implementation:* Track data for training-related fires in LUA: for each wildfire, record nature and severity of damages; notification and response actions; responsible military unit and training activity/incendiary device used; and encroachment/occurrence on private lands. Map areas burned by training-related wildfires using GIS. Relate spatial data and other records for wildfires, evaluate trends and assess effectiveness of fire prevention/ response systems. Include results in annual monitoring report, at EQCCs, public meetings or other appropriate venues.
- *Status:* There were no training related wildfires reported in the LUA during this reporting period.
- *Recommended Action:* Continue monitoring of this measure during the next reporting period.

L. Cultural Resources (Effectiveness Item 17)

- *Objective:* Minimize/avoid damages to protected cultural resources resulting from increased training activities in the LUA.
- *Question:* Have damages occurred to cultural resources eligible or potentially eligible for listing in the National Register of Historic Places as a result of training activities in the LUA?
- *Effectiveness Indicator:* Number of occurrences of maneuver damages to protected cultural resources in the LUA.



- *Implementation:* Record and track occurrence of maneuver damages to protected (marked) cultural resource sites identified during post-exercise inspections. Evaluate case-by-case circumstances and trends; conduct and record corrective actions as appropriate. Report at EQCCs and Include results in annual monitoring report and at public meetings, as applicable.
- *Status:* During this reporting period, there were no damages to cultural resource sites identified as a result of military training.
- *Recommended Action:* Continue monitoring of this measure during the next reporting period.

6. Fiscal Year 2003 Action Plan

This section summarizes procedures, goals and objectives for the next reporting period, Fiscal Year 2003 (FY03; October 1, 2002 through September 30, 2003), and outlines agency responsibilities.

A. Range Regulations (e.g., JRTC and FP Reg. 385-1)

- *Action:* Finalize and distribute updated regulations governing training and environmental restrictions in the LUA.
- *Indicator:* Signed regulation.
- *Responsibilities:* Range Control finalize and distribute updated regulations.

B. Joint Army and Forest Service Quarterly In-Progress Review

- *Action:* Review status of monitoring items and recommendations in the third and fourth quarters of FY02.
- *Indicator:* Progress shown for individual monitoring items.
- *Responsibilities:* Joint review by JRTC and Fort Polk Environmental Quality Control Council (EQCC) and Command Group; and Forest Service Deputy District Ranger, Forest Ecosystem Assessment/Planning Team Leader and Forest Supervisor.

C. Funding Requirements

- *Action:* Update funding requirements for FY03 with emphasis on training use of the Rustville area, based on JRTC and Fort Polk mission commander's priorities.
- *Indicator:* Funding requests and issue sheets.
- *Responsibilities:* Directorate of Resource Management and ENRMD prepare issue sheets and budget requests. Forest Service provide supporting information as needed.

D. Training Activities and Maneuver Damage in the LUA

- *Action:* Focus on implementation of cross-country vehicle maneuvers (excluding crossing of streams), limited digging, and approvals for establishment of forward/rear support areas in the Rustville training area.
- *Indicator:* Number of new training activities implemented on schedule.
- *Responsibilities:* Coordination among the Garrison Commander's office, G3, Range Control, DPW, ENRMD, and USFS for development and approval of a maneuver damage tracking and repair protocol necessary for authorization of ground-disturbing activities.



E. LUA Certification Course

- *Action:* Review and evaluate course content. Update course as needed based on approvals of new training activities and feedback from Range Control, ENRMD, and Forest Service inspectors.
- *Indicator:* Results for individual monitoring items.
- *Responsibilities:* ENRMD, G3, Range Control, and Forest Service to review LUA certification course and make recommendations for updates and improvements.

F. LUA Website

- *Action:* Develop website and mapping system to provide information to the public on military training schedules.
- *Indicator:* Maps of military training activity in the LUA published on the web.
- *Responsibilities:* Range Control oversee website development in coordination with ENRMD and Forest Service

7. **Acronyms**

<u>Acronym</u>	<u>Definition</u>
BA/BE	Biological Assessment/Biological Evaluation
BO	Biological Opinion
CEM	Compliance and Effectiveness Monitoring
DNL	Day-Night Level
DPW	Directorate of Public Works
EA	Environmental Assessment
ECO	Environmental Compliance Officer
ENRMD	Environmental and Natural Resources Management Division
EQCC	Environmental Quality Control Council
EXROE	Exercise Rules Of Engagement
FEIS	Final Environmental Impact Statement
FP	Fort Polk
FY	Fiscal Year
GIS	Geographic Information System
GPS	Global Positioning System
IUA	Intensive Use Area
JRTC	Joint Readiness Training Center
LAARNG	Louisiana Army National Guard
LDWF	Louisiana Department of Wildlife and Fisheries
LUA	Limited Use Area
MLO	Military Liaison Officer
MOA	Memorandum of Agreement
NEPA	National Environmental Policy Act
OC	Observer Controller
PAO	Public Affairs Office
RAC	Resource Allocation Conference
RCW	Red-Cockaded Woodpecker
ROD	Record of Decision



SOP
USDA
USFWS
WMA

Standard Operating Procedure
United States Department of Agriculture
United States Fish and Wildlife Service
Wildlife Management Area



Appendices



Appendix A

DESCRIPTION OF SIX NEW LIMITED USE AREA TRAINING ACTIVITIES

- **Cross-country vehicle maneuvers.** This activity would involve off-road movement of limited numbers of tracked or wheeled vehicles. Off-road vehicle movement would consist primarily of movement for short distances from assembly areas and other fixed areas of operation in upland areas to nearby improved roads. Unimproved Forest Service roads would also be used for cross-country movement. Occasional stream crossings would occur at designated hardened crossing sites.
- **Blackout driving.** Blackout driving would be conducted primarily on unimproved Forest Service roads. Cross-country driving under blackout conditions would occasionally be required for tactical purposes. However, military vehicles would typically be road bound at night due the difficulty of maneuvering off-road under blackout conditions.
- **Use of pyrotechnics and artillery simulation devices.** This activity would involve limited use of various devices to simulate direct and indirect artillery fire, use of smoke and obscurants, and flares. These devices would be used only by Officers in Charge, Non-Commissioned Officers in Charge, and specially trained personnel know as "firemarkers."
- **Construction of hasty/limited defensive positions.** Hasty or limited defensive positions, commonly known as foxholes, would be constructed in upland areas. These positions would typically consist of shallow holes (up to 12 inches deep) to provide protection for a single individual. Larger two-man excavations would also be constructed for concealment and firing of crew-served weapons. These positions would primarily be constructed around fixed areas of operation such as bivouac/assembly areas, tactical operations centers, and forward/rear support areas and/or field hospitals. All excavations would be filled in at the close of the training exercise.
- **Emplacement of obstacles.** Concertina or barbed wire would be strung at intersections of unimproved Forest Service roads, around defensive positions, and at checkpoints and entrances to fixed areas of operation. Simulated mines consisting of inert material would be buried just beneath the ground surface or scattered along improved Forest Service roads and around fixed operation sites. All wire and simulated mines would be removed at the close of the training exercise.
- **Establishment of forward/rear support areas and/or field hospitals.** This activity would be similar to bivouacking/establishment of troop assembly areas (activity no. 19), but would allow expanded operations such as field hospitals which have not been previously conducted in the LUA. Operations conducted under this activity would be primarily for combat support rather than tactical purposes.



Appendix B

Joint RCW Monitoring Plan Annual Report

**2002 Joint Monitoring Plan Report
for the
Vernon – Fort Polk
Red-cockaded Woodpecker Population**

Submitted to

Environmental & Natural Resources Management Division,
Fort Polk, Louisiana

US Fish and Wildlife Service, Ecological Services
Lafayette, Louisiana

and

US Forest Service, Calcasieu Ranger District
Kisatchie National Forest, Louisiana

Date Submitted: 29 September 2003

Prepared by

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2002 Joint Monitoring Plan Report for the Vernon-Fort Polk Red-Cockaded Woodpecker Population

The *Joint Monitoring Plan for the Vernon-Fort Polk Red-Cockaded Woodpecker Population* (QES, 2000; JMP) was designed to monitor for effects on the red-cockaded woodpecker (RCW) that may result from increased military training in the Limited Use Area (LUA) of the Vernon Unit, Calcasieu Ranger District, Kisatchie National Forest. Increased military use of the LUA was described and evaluated in the Modified Preferred Alternative (Alternative 4) in the *Environmental Assessment for Increased Military Training Use of the Vernon Unit, Calcasieu Ranger District of the Kisatchie National Forest* (USACE 2000). Originally, the JMP was scheduled to be implemented in the 2000 RCW pre-breeding season and continue through 2005. However, because increased military training use did not begin until October 2001 (post RCW breeding season), no JMP annual report was prepared for 2000 or 2001. Thus, this is the first annual report produced under the JMP and fulfills the reporting obligations contained therein.

PURPOSE

This annual report was designed to assist U.S. Army and U.S. Forest Service managers and planners, and U.S. Fish and Wildlife Service personnel in determining if the Army's increased training use of the LUA is negatively affecting the Vernon-Fort Polk RCW population (the Population). The report contains summaries of quantitative monitoring data collected through monitoring described in the JMP. The data elements reported were selected to address three basic questions:

- What is the trend in the Population, and is the Population maintaining its viability through time;
- What is the overall effect of military training on the Population; and
- Has initial exposure to increased military training in the Limited Use Area of the Vernon Unit reduced viability of "remote" clusters (i.e., those removed from well-established roads)?

This report is organized into 3 main sections, each addressing one of the three questions given above and follows the format outlined in Appendix D of the JMP. A complete description of the summary statistics presented and the reasons for their selection are provided in the JMP. Data considered in this report were collected during 1999-2002.

SECTION 1. POPULATION LEVEL MONITORING

Reliable data on population trend and viability are prerequisites not only for evaluating progress toward recovery goals but also for evaluating potential effects of the Army's increased

use of the LUA. To monitor population viability, the following measures were identified in the JMP:

- Number of active clusters during the pre-breeding and breeding season;
- Number of group occupied clusters as determined by pre-breeding roost checks and breeding season monitoring;
- Reproductive output, including number of clusters attempting nesting and number of young pre-fledge;
- Group size as determined by pre-breeding roost checks; and
- The probability of a cluster to remain active from one year to the next (P_{Active}).

In order to collect the necessary monitoring data, Fort Polk and the Vernon Unit 1) completed cluster activity checks during the pre-breeding season, 2) monitored active clusters during the breeding season to determine if nesting was attempted and evaluate nest success, and 3) conducted pre-breeding/breeding season roost checks. To ensure that all monitoring could be completed during the appropriate time frame, given that monitoring must be coordinated with military training activities, Fort Polk provided financial and personnel support to the Vernon Unit for monitoring. With Fort Polk's assistance, the Vernon Unit was able to monitor most active clusters through the breeding season, and the number of clusters successfully monitored by both agencies was well in excess of the JMP requirements of 30 active clusters in each area (IUA, LUA, and Fort Polk) during the nesting season (Table 1). By working in a cooperative manner, the agencies were able to conduct the monitoring required under the JMP (i.e., military training did not prevent either agency from meeting their monitoring goals).

1.1 Population Trend and Number of Groups

The number of RCW groups is the monitoring measure of primary interest when assessing population trends. However, the number of active clusters is the measure typically used for monitoring population trend for RCWs because cluster activity status is easily assessed and it is the primary monitoring measure used by the USFWS to stipulate the species' recovery goals. Therefore, population trend analysis in this report will focus on the number of active clusters, but estimates of the number of groups will be presented for evaluation and comparison.

Fort Polk and the Vernon Unit surveyed all known clusters in the Vernon-Fort Polk population annually to determine cluster activity status using the following protocol from the JMP:

- All clusters were visited in March-April to determine activity status;
- A cluster is considered *Active* for the year if any cavities in the cluster have fresh resin wells (assessment of cavity activity follows Jackson 1977); or
- If no active cavities are found in the cluster, the cluster is considered *Inactive* for the year unless the cluster was *Active* the previous year;
- If the cluster was *Active* the previous year, the cluster will be checked again at the end of the breeding season and considered *Active* if any cavities in the cluster have fresh resin wells, else *Inactive*.

The results of these surveys were compiled and are summarized in Table 2. A graphical presentation of all clusters active at least one year during 1999-2002 and the number of years active is presented in Figure 1. Differences between the number of active clusters and number of groups were expected, with the number of active clusters always greater than the number of groups. This was expected because a cluster identified as active can fail to be group occupied for two reasons: 1) A transient bird or bird from an adjacent cluster can temporarily occupy the cluster and work a resin well making the cluster active at the time of activity status determination, but vacate the cluster prior to the pre-breeding roost check, or 2) extra-territorial roosting.

Table 1. Summary of RCW monitoring success in the Vernon-Fort Polk population by administrative unit. Nesting season monitoring was considered completed if the cluster was monitored until it was determined that either nesting did not occur or the nest attempt was known to be successful (fledged young) or unsuccessful (nest loss).

Area	Year	#Active Clusters	# Active Clusters with Monitoring Initiated	% of Active Clusters with Monitoring Initiated	# Active Clusters Monitored Through Nesting Season	% of Active Clusters Monitored Through Nesting Season	Percent of Monitored Clusters Fully Monitored
Fort Polk	1999	48	48	100%	48	100%	100%
	2000	48	48	100%	48	100%	100%
	2001	51	51	100%	51	100%	100%
	2002	47	47	100%	47	100%	100%
IUA	1999	71	57	80%	47	66%	82%
	2000	74	72	97%	69	93%	96%
	2001	73	72	99%	70	96%	97%
	2002	71	70	99%	69	97%	99%
LUA	1999	74	74	100%	62	84%	84%
	2000	77	77	100%	72	94%	94%
	2001	76	76	100%	76	100%	100%
	2002	71	71	100%	70	99%	99%
Vernon Unit Combined	1999	145	131	90%	109	75%	83%
	2000	151	149	99%	141	93%	95%
	2001	149	148	99%	146	98%	99%
	2002	142	141	99%	139	98%	99%

Table 2. The number of active clusters (Total Active), active clusters of unknown group status (#Active-Unknown), active clusters not group occupied (#Active-No Group), group occupied clusters (#Active-Group), recruitment clusters becoming active (Recruitment Clusters), and mean number of active clusters per group occupied cluster by population segment and year (1999 – 2002) for the Vernon – Fort Polk RCW population. Note that because pre-breeding roost checks were not initiated on the Vernon Unit or Fort Polk until 2001, 1999 and 2000 group status data are based solely on breeding records. Therefore, the number of group occupied clusters may be underestimated for these years if breeding/nesting records were not kept for single bird groups (those clusters would be part of the Active-Unknown count).

Portion of Population	Year	Total Active	#Active-Unknown	#Active-No Group	#Active - Group	Recruitment Clusters ¹
Fort Polk	1999	48	1	1	46	1
	2000	48	1	2	45	2
	2001	51	0	5	46	2
	2002	47	0	7	40	2
	Mean active clusters/group occupied =				1.10	
IUA	1999	71	15	0	56	0
	2000	74	3	0	71	0
	2001	73	0	6	67	0
	2002	71	0	3	68	1
	Mean active clusters/group occupied =				1.10	
LUA	1999	74	1	0	73	4
	2000	77	4	0	73	0
	2001	76	0	9	67	0
	2002	71	0	6	65	0
	Mean active clusters/group occupied =				1.07	
Vernon	1999	145	16	0	129	4
	2000	151	7	0	144	0
	2001	149	0	15	134	0
	2002	142	0	9	133	1
	Mean active clusters/group occupied =				1.09	
Vernon-Polk	1999	193	17	1	175	5
	2000	199	8	2	189	2
	2001	200	0	20	180	2
	2002	189	0	16	173	3
	Mean active clusters/group occupied =				1.09	

¹ Number of recruitment clusters first-time active in the monitoring year.

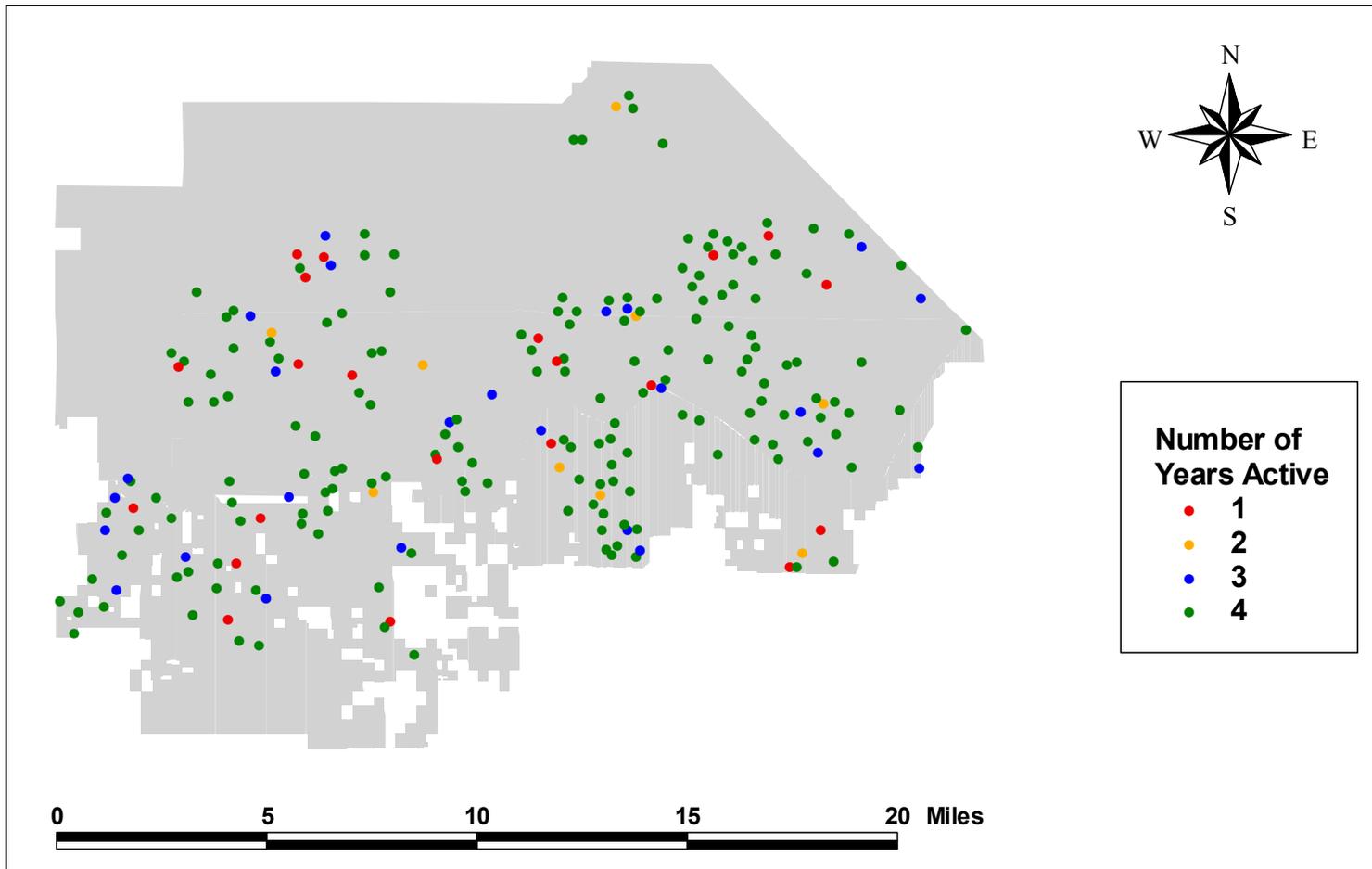


Figure 1. Vernon-Fort Polk RCW clusters active at least one year during 1999–2002.

Because reliable activity status data were available for the Vernon Unit clusters from only 1999 to present, calculation of the population trend in the number of active clusters was restricted to this period. Regression techniques for trend estimation were not used because only 4 years of data were available. Instead, the population trend was calculated as a constant rate of change over each unit of time as described in the JMP. This constant rate of change is typically referred to as λ (lambda), or the finite rate of increase, expressed mathematically as:

$$N_t = \lambda N_{t-1} \quad (Eq. 1)$$

Which says that at time t , the number of active clusters in the Population is λ times its size at time $t-1$ ($\lambda = N_t / N_{t-1}$; *Eq. 1b*). Values of $\lambda > 1$ indicate an increasing population, $\lambda = 1$ indicates a stable population, and $\lambda < 1$ indicates decline. Lambda (λ) can be estimated as the mean of annual λ s (geometric mean of all annual λ , calculated by *Eq. 1b*).

The results of trend estimation are presented in Table 3. The trend in the number of active clusters over the period 1999-2002 was stable (not statistically different than 1) for all population segments as well as for the Population as a whole. As would be expected, year-to-year variability in annual trends, expressed as width of the confidence interval about the mean trend, decreased with population size (i.e., the year-to-year variability for the Vernon Unit population segments < Fort Polk population segment). The 2002 annual trends for Fort Polk and the LUA indicated a decline greater than the 5% allowed under the *Recovery Plan for the Red-cockaded Woodpecker (Picoides borealis)*, *Second Revision* (U.S. Fish and Wildlife Service 2003; Recovery Plan). However, annual variation in the number of active clusters should be expected, and long-term trend should be the monitoring measure of primary focus. Thus, a single year with a decline of greater than 5% should not be cause for alarm if the long-term population trend is acceptable. These data suggest that no significant changes in the number of active clusters have occurred during 1999-2002 on either Fort Polk or the Vernon Unit. Additionally, all population segments, which experience different levels of training intensity, experienced similar 2002 trends. Thus, these data suggest that the cause of the 2002 change resulted from a change in conditions affecting the entire population in a similar manner and were not the result of increased training on the LUA.

As previously stated, the real metric of interest in assessing population status is the number of groups. To assess the group status of clusters, pre-breeding and breeding season roost checks were performed during 2001-02. Because no roost data were available for 1999 or 2000, breeding data were used to estimate the number of groups. If a breeding pair was present during the breeding season, then the cluster was considered group occupied. If a single bird occupied the cluster, then the group status was classified as unknown, not single, because it may have been an extra-territorial roosting bird (i.e., a “Captured” or “Shared” cluster). As a result of this classification, the number of group occupied clusters in 1999 and 2000 was underestimated.

Table 3. Annual trends in the number of active clusters in the Vernon – Fort Polk red-cockaded woodpecker population, by population segment and year (1999 – 2002).

Portion of Population	Year	Total Active - Current Year	Total Active - Prior Year	Annual Trend	Annual Trend Geometric Mean (Confidence Limits)
Fort Polk	1999	48			
	2000	48	48	1.00	
	2001	51	48	1.06	
	2002	47	51	0.92	0.99 (0.84, 1.18)
IUA	1999	71			
	2000	74	71	1.04	
	2001	73	74	0.99	
	2002	71	73	0.97	1.00 (0.92, 1.09)
LUA	1999	74			
	2000	77	74	1.04	
	2001	76	77	0.99	
	2002	71	76	0.93	0.99 (0.87, 1.12)
Vernon	1999	145			
	2000	151	145	1.04	
	2001	149	151	0.99	
	2002	142	149	0.95	0.99 (0.89, 1.11)
Vernon-Polk	1999	194			
	2000	195	194	1.01	
	2001	199	195	1.02	
	2002	189	199	0.95	0.99 (0.90, 1.09)

1.2 Probability of Clusters Remaining Active

Probability of clusters to remain active in consecutive years, or P_{Active} , can be thought of as cluster survival rate. P_{Active} is determined as the proportion of clusters active in the prior year (time t-1) that are active in the reporting year (time t; such that $P_{Active} = N_t / N_{t-1}$). Changes in that rate indicate a change in the viability of occupied clusters and can result from changes in the number of groups and/or shifts of groups among clusters.

P_{Active} was calculated from the same data from which trend in the number of active clusters was determined (see Section 1.1) and the results are presented in Table 4. Mean P_{Active} was not statistically different among population segments. However, it was less than expected for Fort Polk and the LUA in 2002, resulting in a less than expected value for the population as a whole in 2002. As described in the JMP, P_{Active} greater than 89.6 (lower bound of 95% confidence interval if mean $P_{Active} = 95.5$ and standard error on mean = 4.6) is considered

normal. The lower than expected values observed are not believed to indicate a decline in probability for clusters to remain active, but are believed due to an underestimate of the annual variability (calculated from limited data in the JMP) associated with this metric.

Table 4. The probability of active clusters to remain active (P_{Active}) from the previous year to the reporting year in the Vernon-Fort Polk red-cockaded woodpecker population, Fort Polk Main Post and Vernon Unit, Calcasieu Ranger District, Kisatchie National Forest, and population-segment average P_{Active} and standard error (1999 – 2002).

Portion of Population	Year	# Active in Previous Year	# Active in Previous Year Remaining Active In Reporting Year	P_{Active}	Mean P_{Active} (Std. Error)
Fort Polk	2000	48	45	0.938	
	2001	48	47	0.979	
	2002	51	44	0.863	0.926 (0.03)
IUA	2000	71	71	1.000	
	2001	74	71	0.959	
	2002	73	67	0.918	0.959 (0.02)
LUA	2000	74	71	0.959	
	2001	77	72	0.935	
	2002	76	67	0.882	0.925 (0.02)
Vernon	2000	145	142	0.979	
	2001	151	143	0.947	
	2002	149	134	0.899	0.942 (0.02)
Vernon-Polk	2000	193	187	0.969	
	2001	199	190	0.955	
	2002	200	178	0.890	0.938 (0.02)

1.3 Population and Group Size

Although less precise than censusing, the number of RCWs in the Population can be more efficiently estimated by monitoring group size (where number of groups * mean group size \approx number of RCWs in the Population). Much of the variation in population size (number of individuals) is manifested as a change in group size rather than in the number of groups (Walters 1990). Group size data can also be analyzed to quantify the proportion of single bird groups, proportion of groups with 2 or more birds, and the mean number of helpers per group. Accordingly, mean group size, or average number of adults per group during the breeding season, and its variability are the monitoring measures reported in Table 5.

Group size was determined by pre-breeding roost checks and consisted of the number of adults present. As can be seen in Table 5, group size and the distribution of single bird groups, pairs, and groups with helpers were not different among population segments or years. The

individual population segment averages, as well as the resulting Population mean, are on the high end of values that have been reported for other populations.

Table 5. Mean group size and proportion of groups consisting of a single bird, pairs (2 or more birds), and pairs with helpers (3 or more birds) for the Vernon-Fort Polk red-cockaded woodpecker population, Fort Polk Main Post and Vernon Unit, Calcasieu Ranger District, Kisatchie National Forest. Prebreeding roost checks did not begin in the Vernon – Fort Polk population until 2001.

Portion of Population	Year	Mean Group Size	N	Standard Error	Proportion Single Bird Groups (#Clusters)	Proportion Pairs (#Clusters)	Proportion with Helpers (#Clusters)
Fort Polk	2001	2.61	46	0.14	7%(3)	43%(20)	50%(23)
	2002	2.58	40	0.12	0%(0)	58%(23)	42%(17)
IUA	2001	2.42	67	0.09	3%(2)	61%(41)	36%(24)
	2002	2.54	68	0.09	3%(2)	50%(34)	47%(32)
LUA	2001	2.48	67	0.09	3%(2)	57%(38)	40%(27)
	2002	2.54	65	0.10	2%(1)	58%(38)	40%(26)
Vernon	2001	2.45	134	0.06	3%(4)	59%(79)	38%(51)
	2002	2.54	133	0.07	2%(3)	54%(72)	44%(58)
Vernon-Polk	2001	2.49	180	0.06	4%(7)	55%(99)	41%(74)
	2002	2.55	173	0.06	2%(3)	55%(95)	43%(75)

1.4 Reproduction

As discussed in the JMP, reproductive output may be the best measure of group level dynamics. Although annual mortality rates, or, conversely, survival rates, are important measures of population fitness, they are not believed to vary greatly. Therefore, most annual variability in population size or group size is believed to result from annual variation in reproductive output, which was the focus of monitoring under the JMP.

The 1999-2002 breeding season monitoring data for the Population are presented in Table 7. Although it appears that mean nest success on the IUA was lower than on the LUA or Fort Polk, no statistically significant differences in nest success between Fort Polk and the Vernon Unit were detected (paired t-test, 3 d.f.).

Table 6. Expected values for red-cockaded woodpeckers group size and proportions (from the *Joint Monitoring Plan for the Vernon-Fort Polk Red-cockaded Woodpecker Population*, QES 2000).

Source ¹	Population	Data Period	Group size		Group proportion		
			Mean	St dev, n	Pairs	Pairs with Helpers	Single
Carter et al. 1995	Sandhills Region, NC	1980-1991				38%	
Walters et al. 1988	Sandhills Region, NC	1980-1985			59%	30%	11%
Mobley et al. 1995	Sandhills Region, NC	1981-1990					
	Ft. Brag Control		2.42	0.52, 24			
	Camp Mackall		2.40	0.41, 9			
	Sandhills Gamelands		2.00	0.37, 24			
	Southern Pines - Pinehurst		2.27	0.6, 24			
Hooper & Lennartz 1995	Francis Marion NF, SC	1979-1989	2.40	0.17 se			
DeLotelle et al. 1995	Central Florida	1980-1992	2.29	0.32, 12 yrs	58%	37%	6%
James et al. 1997	Apalachicola NF, FL	1992-1995	2.40	0.60			
	Wakulla RD		2.15	0.56			
	Apalachicola RD		2.60	0.58			
QES 2000	Ft. Polk, LA		2.50	0.19, 5 yrs	41%	45%	14%
	Peason Ridge, LA		2.35	0.19, 5 yrs	39%	47%	14%

Note: ¹ See literature cited section below for references in this table.

Table 7. Annual breeding count data for the Vernon-Fort Polk red-cockaded woodpecker population, by population segment (1999 – 2002).

Portion of Population	Year	# Active Clusters	# Active Clusters with Monitoring Initiated ¹	# Active Clusters Monitored Through Nesting Season ²	# Group Occupied Monitored Clusters ³	Number Clusters Nesting	# Clusters Nesting And Monitored Through Nesting Season	Number Successful Nests	Number Fledged	% of Nests Successful ⁴	Mean % of Nests Successful (Std. Error)
Fort Polk	1999	48	48	48	46	38	38	31	51	82%	
	2000	48	48	48	45	40	40	31	51	78%	
	2001	51	51	51	46	36	36	27	51	75%	
	2002	47	47	47	40	37	37	32	64	86%	80%(2%)
IUA	1999	71	57	47	46	40	29	17	30	59%	
	2000	74	72	69	68	56	53	35	55	63%	
	2001	73	72	70	64	55	53	39	66	74%	
	2002	71	70	69	67	51	50	36	63	72%	67%(4%)
LUA	1999	74	74	62	61	53	41	30	52	73%	
	2000	77	77	72	68	56	51	42	77	82%	
	2001	76	76	76	67	62	62	44	83	71%	
	2002	71	71	70	64	55	54	47	87	87%	78%(4%)
Vernon	1999	145	131	109	107	93	70	47	82	67%	
	2000	151	149	141	136	112	104	77	132	74%	
	2001	149	148	146	131	117	115	83	149	72%	
	2002	142	141	139	131	106	104	83	150	80%	73%(3%)
Vernon-Polk	1999	193	179	157	153	131	108	78	133	72%	
	2000	199	197	189	181	152	144	108	183	75%	
	2001	200	199	197	177	153	151	110	200	73%	
	2002	189	188	186	171	143	141	115	214	82%	76%(2%)

Notes: ¹ Number of clusters on which nesting season monitoring was initiated; ² Number of clusters monitored throughout the nesting season; ³ Number of group occupied clusters monitored throughout the nesting season; ⁴ Percent of clusters nesting that were monitored throughout the nesting season and fledged young.

A few of the typical measures of RCW reproduction include the proportion of clusters that attempt nesting, proportion of successful nests per nest attempt, and number fledged per successful nest. To facilitate consideration of measures of reproductive success, the annual cycle of cluster demography is shown in Figure 2. In the figure, lines or italicized text represent probabilities, and the regular text represents count data from field observations. Reproductive success can be measured at a number of points in the cycle. However, the number fledged by a cluster is the final result of the reproductive cycle, and it is thus the appropriate measure representing reproductive success. At the population level, by assessing the average number fledged per active cluster, all reproductive vital rates from the probability of an active cluster to nest through number fledged can be accounted for in a single measure. Calculation of this single measure also facilitates calculation of a single source of variance among years for the reproductive process. Therefore, number fledged per active cluster, calculated as the total number of fledglings counted in the nest on approximately the 21st day after hatching, then divided by the number of active clusters for that year, is the value emphasized in this report.

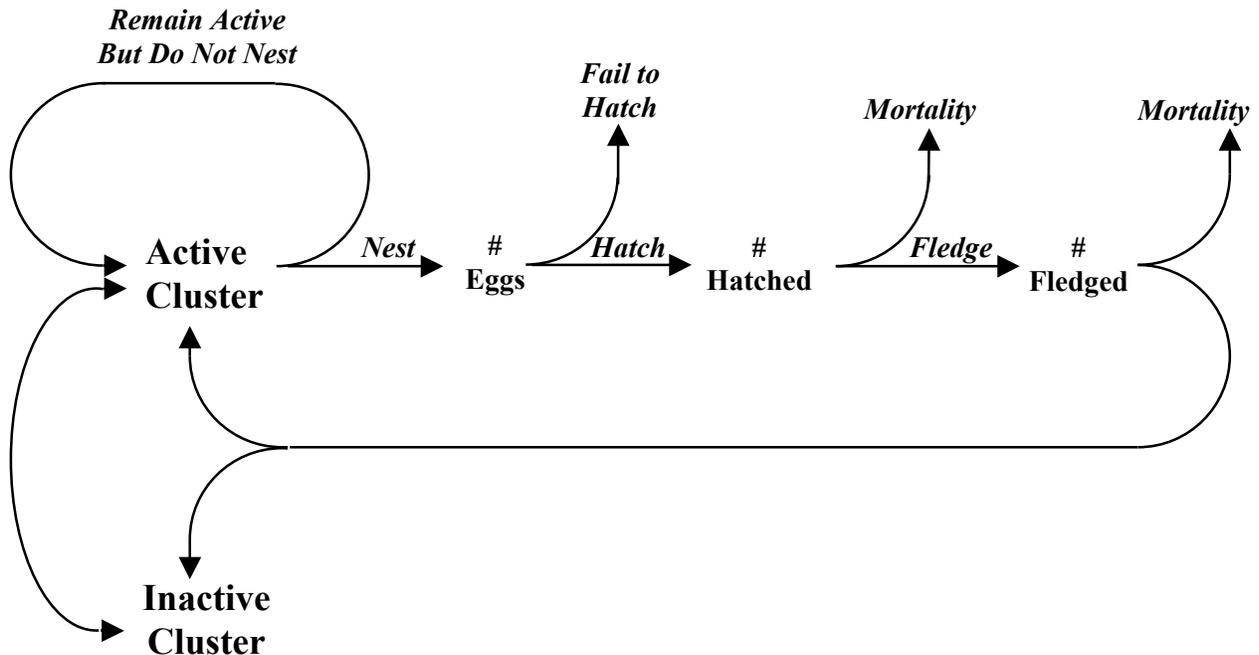


Figure 2. Annual cycle of RCW cluster demography.

The number fledged per active cluster during 1999-2002, as well as the number fledged per monitored group, and fledged per nest attempt, are presented in Table 8. The number fledged per monitored group and fledged per nest attempt for Fort Polk and the LUA were comparable to those reported for other populations, but were low on the IUA (see Table 9). The lower values on the IUA may be due to habitat constraints. A proposal to reduce the pine stocking on much of the IUA to levels more similar to those recommended in the Recovery Plan is being evaluated in the *Draft Environmental Impact Statement for 2d Armored Cavalry Regiment Transformation and Installation Mission Support, Joint Readiness Training Center (JRTC) and Fort Polk, Louisiana, and Long-Term Military Training Use of Kisatchie National*

Forest Lands. Implementation of this proposal would benefit the IUA segment of the population.

Table 8. Annual nesting success for the Vernon-Fort Polk red-cockaded woodpecker population, Fort Polk Main Post and Vernon Unit, Calcasieu Ranger District, Kisatchie National Forest.

Portion of Population	Year	% of Monitored Nesting ¹	% of Nests Successful ²	Fledged / Active Cluster	Fledged / Cluster Monitored Through Nesting Season	Fledged / Monitored Group ³	Fledged / Nest Attempt Monitored Through Nesting Season ⁴
Fort Polk	1999	79%	82%	1.06	1.06	1.11	1.34
	2000	83%	78%	1.06	1.06	1.13	1.28
	2001	71%	75%	1.00	1.00	1.11	1.42
	2002	79%	86%	1.36	1.36	1.60	1.73
	Mean	78%	80%	1.12	1.12	1.24	1.44
	Std. Error	3%	2%	0.08	0.08	0.12	0.10
IUA	1999	70%	59%	0.42	0.64	0.65	1.03
	2000	78%	63%	0.74	0.80	0.81	1.04
	2001	76%	74%	0.90	0.94	1.03	1.25
	2002	73%	72%	0.89	0.91	0.94	1.26
	Mean	74%	67%	0.74	0.82	0.86	1.14
	Std. Error	2%	4%	0.11	0.07	0.08	0.06
LUA	1999	72%	73%	0.70	0.84	0.85	1.27
	2000	73%	82%	1.00	1.07	1.13	1.51
	2001	82%	71%	1.09	1.09	1.24	1.34
	2002	77%	87%	1.23	1.24	1.36	1.61
	Mean	76%	78%	1.01	1.06	1.15	1.43
	Std. Error	2%	4%	0.11	0.08	0.11	0.08
Vernon	1999	71%	67%	0.56	0.75	0.77	1.17
	2000	75%	74%	0.87	0.94	0.96	1.27
	2001	79%	72%	1.00	1.02	1.14	1.30
	2002	75%	80%	1.06	1.08	1.15	1.44
	Mean	75%	73%	0.87	0.95	1.00	1.29
	Std. Error	2%	3%	0.11	0.07	0.09	0.06
Vernon-Polk	1999	73%	72%	0.69	0.85	0.87	1.23
	2000	77%	75%	0.92	0.97	1.01	1.27
	2001	77%	73%	1.00	1.02	1.13	1.32
	2002	76%	82%	1.13	1.15	1.25	1.52
	Mean	76%	75%	0.94	1.00	1.07	1.34
	Std. Error	1%	2%	0.09	0.06	0.08	0.06

Notes: ¹ Percent of clusters on which nesting season monitoring was at least initiated, if not continued through the end of the nesting season, that attempted nesting; ² Percent of clusters nesting that were monitored throughout the nesting season and fledged young; ³ Number of young fledged per group occupied cluster monitored throughout the nesting season; ⁴ Number of young fledged per cluster initiating nesting and monitored throughout the nesting season.

Table 9. Expected values for red-cockaded woodpeckers vital rates.

Source ¹	Population	Data Period	Fledged/group		Fledged/pair		Fledged/nest		Fledged/success. nest	
			Mean	St dev, n	Mean	St dev, n	Mean	St dev, n	Mean	St dev, n
Carter et al. 1995	Sandhills Region, NC	1980-1991							1.99-2.08	
LaBranche & Walters 1994	Sandhills Region, NC	1980-1985	1.42	0.245, 6 yrs					1.88	0.19, 6 yrs
Mobley et al. 1995	Sandhills Region, NC	1981-1990								
	Ft. Brag Control		1.35	0.52, 24			1.73	0.43, 24		
	Camp Mackall		1.37	0.24, 9			1.64	0.25, 9		
	Sandhills Gamelands		1.15	0.49, 24			1.58	0.43, 24		
	Southern Pines -Pinehurst		1.23	0.56, 24			1.70	0.52, 24		
Hooper & Lennartz 1995	Francis Marion NF, SC	1979-1989			1.2	1.16 se				
Loeb & Stevens 1995	Piedmont NF, central GA	1983-1992			1.8	0.1 se				
Stevens 1995	Piedmont NF, central GA				1.7					
DeLotelle et al. 1995	Central Florida	1980-1992	0.99	0.35, 12 yrs						
James et al. 1997	Apalachicola NF, FL	1992-1995			1.40	0.07				
	Wakulla RD				1.23	0.69, 31				
	Apalachicola RD				1.61	0.61, 43				
QES 2000	Ft. Polk, LA		1.19	0.21, 6 yrs			1.42	0.17, 6 yrs	1.77	0.09, 6 yrs
	Peason Ridge, LA		1.10	0.09, 6 yrs			1.30	0.11, 6 yrs	1.68	0.09, 6 yrs
	Vernon RD, LA						1.55	0.18, 7 yrs	1.78	0.15, 7 yrs

Note: ¹ See literature cited section below for references in this table.

1.5 Summary

Monitoring data indicate that during 1999-2002, the number of active clusters and number of groups in the Population, as well as P_{Active} , were stable, suggesting that the population was stable over the period. The lowest numbers of active clusters and groups were observed in 2002, but the 2002 reproductive values (total fledged, fledged per nest attempt, fledged per group) were highest in 2002. This suggests that marginal clusters were abandoned, but the viability of the Population was stable to increasing.

Additionally, the Population average group size was high compared to other populations. Most clusters were group occupied, and most group occupied clusters had at least a pair and many had helpers. Reproductive rates were comparable to other populations, although the number of young fledged per active cluster was somewhat lower on the IUA than on Fort Polk or the LUA. The lower reproductive rate on the IUA was believed to be due to habitat constraints. Forest thinning to improve habitat conditions has been proposed and is being evaluated in the *Draft Environmental Impact Statement for 2d Armored Cavalry Regiment Transformation and Installation Mission Support, Joint Readiness Training Center (JRTC) and Fort Polk, Louisiana, and Long-Term Military Training Use of Kisatchie National Forest Lands*.

2. EFFECTS OF MILITARY TRAINING

Because Fort Polk restricts fixed operations and activities involving vehicles and equipment within RCW cluster buffers, potential effects of training are primarily associated with short-term disturbance. If behavioral changes occur in response to disturbance, these changes may result in a decline in the viability measures monitored under the JMP.

Specific questions regarding potential reductions in RCW viability associated with disturbance from military training identified in the JMP were:

- Does P_{Active} differ among levels of training?
- Does reproductive output differ among levels of training?

Data collected on clusters to assess population trend and viability as described in Section 1 were used to assess the effects of military training by evaluating P_{Active} and reproductive output for each level of military training intensity delineated on Fort Polk and the Vernon Unit (High, Moderate, Low). To conduct this evaluation, each cluster was assigned a training intensity value based on a map of military training intensity levels (see Fig. 3) that was developed by Fort Polk training planners. Because training intensity was not uniform within training intensity “zones”, the delineations are a coarse approximation.

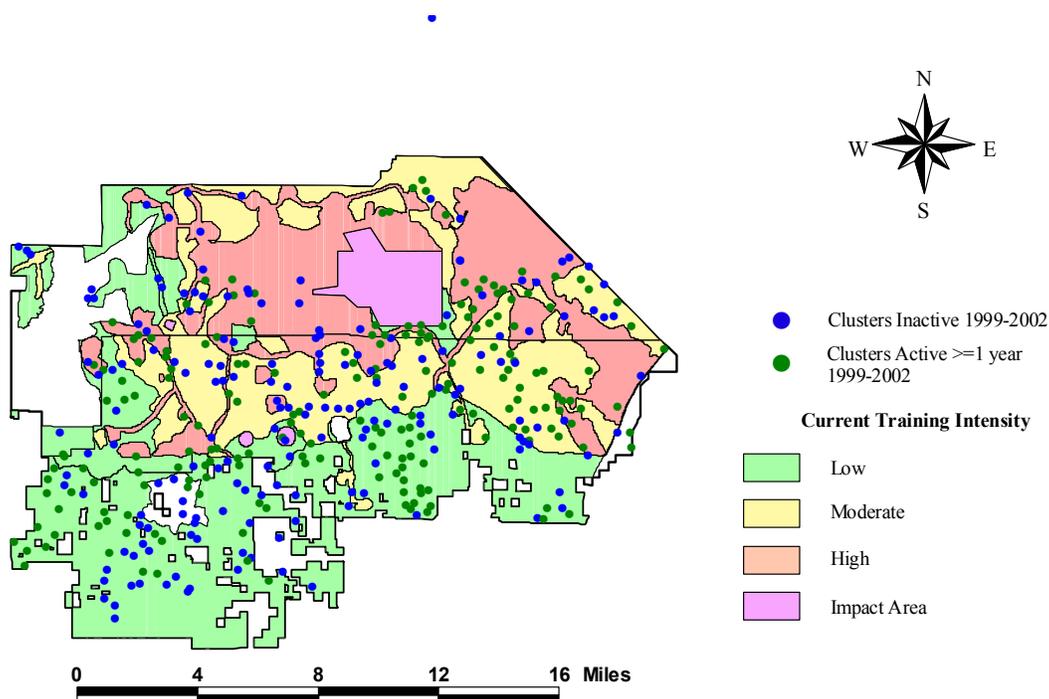


Figure 3. Fort Polk and Vernon Unit Training intensity map.

2.1 Probability of Clusters Remaining Active

P_{Active} was determined for all clusters and averaged within and then across years for each training intensity level (Table 10). There were no differences in the probability of a cluster to remain active from year to year (P_{Active}) among training intensities, suggesting no effects on cluster activity from military training.

Table 10. The probability of active clusters to remain active (P_{Active}) from the previous year, to the reporting year for the Vernon-Fort Polk red-cockaded woodpecker population, and mean and standard error of P_{Active} across years by military training intensity level.

Training Intensity	Year	# Active in Previous Year	# Active in Previous Year Remaining Active in Reporting Year	P_{Active}	Mean P_{Active} (Std. Error)
High	2000	49	47	0.96	
	2001	48	47	0.98	
	2002	52	47	0.90	0.95 (0.02)
Moderate	2000	59	58	0.98	
	2001	63	60	0.95	
	2002	61	55	0.90	0.95 (0.02)
Low	2000	81	78	0.96	
	2001	83	78	0.94	
	2002	81	71	0.88	0.93 (0.03)

2.2 Reproduction

To assess the effects of training intensity on reproductive output, breeding season monitoring data collected to assess population trend and viability, and presented in Section 1, were summarized by training intensity level (Table 11). The training intensity map presented in section 2.1 (Fig. 3) was used to determine the training intensity level for each cluster in this analysis. The mean percent of successful nests was not statistically different among training intensities during 1999-2002, and nest success was comparable among years within population segments. These data suggest no influence of military training, as conducted by Fort Polk over the period, on RCW nest success.

As described in section 1.4, the number of birds fledged per active cluster or, alternatively, the number of birds fledged per group, is the best measure of reproductive success. To assess reproductive output relative to training intensity, fledged per active cluster and fledged per group were calculated for each population segment (Table 12). The number of birds fledged per active cluster was not different among training intensities. These data suggest that military training, as conducted by Fort Polk over the period, did not influence the number of birds fledged per cluster. Note that estimates of reproductive success for moderate intensity training were lower (although not statistically different) than those for high or low intensity training. This was expected because most of the moderate intensity training areas were on the IUA, which had the lowest estimated reproductive output among population segments (see Section 1.4).

2.3 Summary

Based on monitoring data collected during 1999-2002, there were no detectable differences in the probability of RCW clusters to remain active from year to year, or in reproductive success among training intensity levels. These data suggest that population viability was not reduced by military training as conducted by Fort Polk.

Table 11. Summary of annual breeding count data for the Vernon-Fort Polk red-cockaded woodpecker population by military training intensity level, Main Post Fort Polk and Vernon Unit, Calcasieu Ranger District, Kisatchie National Forest.

Training Intensity	Year	# Active Clusters	# Active Clusters with Monitoring Initiated ¹	# Active Clusters Monitored Through Nesting Season ²	Group Occupied Monitored Clusters ³	# Clusters Nesting	# Clusters Nesting And Monitored Through Nesting Season	Number Successful Nests	Number Fledged	% of Nests Successful ⁴	Mean % of Nests Successful (Std. Error)
High	1999	49	45	40	40	38	33	25	42	76%	
	2000	48	47	46	46	43	42	34	57	81%	
	2001	52	52	51	45	36	35	26	47	74%	
	2002	51	51	51	45	39	39	31	61	79%	78%(2%)
Moderate	1999	59	51	44	41	35	27	19	32	70%	
	2000	63	62	60	56	47	45	30	46	67%	
	2001	61	61	60	56	47	46	37	66	80%	
	2002	57	57	57	54	42	42	33	59	79%	74%(3%)
Low	1999	81	79	70	69	55	46	33	57	72%	
	2000	83	83	78	74	58	53	40	73	75%	
	2001	81	80	80	71	66	66	44	79	67%	
	2002	75	75	73	67	58	56	48	89	86%	75%(4%)

Notes: ¹ Number of clusters on which nesting season monitoring was initiated; ² Number of clusters monitored throughout the nesting season; ³ Number of group occupied clusters monitored throughout the nesting season; ⁴ Percent of clusters nesting that were monitored throughout the breeding season and fledged young.

Table 12. Summary of annual breeding success for the Vernon-Fort Polk red-cockaded woodpecker population by military training intensity level.

Training Intensity	Year	% of Monitored Nesting ¹	% of Nests Successful ²	Fledged/Cluster Monitored Through Nesting Season			Fledged / Nest Attempt Monitored Through Nesting Season ⁴
				Fledged / Active Cluster	Fledged / Monitored Through Nesting Season	Fledged / Monitored Group ³	
High	1999	90%	76%	0.86	1.05	1.05	1.27
	2000	96%	81%	1.19	1.24	1.24	1.36
	2001	71%	74%	0.90	0.92	1.04	1.34
	2002	84%	79%	1.20	1.20	1.36	1.56
	Mean	85%	78%	1.04	1.10	1.17	1.38
	Std. Error	5%	1%	0.09	0.07	0.08	0.06
Moderate	1999	74%	70%	0.54	0.73	0.78	1.19
	2000	82%	67%	0.73	0.77	0.82	1.02
	2001	78%	80%	1.08	1.10	1.18	1.43
	2002	78%	79%	1.04	1.03	1.09	1.40
	Mean	78%	74%	0.85	0.91	0.97	1.26
	Std. Error	2%	3%	0.13	0.09	0.10	0.10
Low	1999	70%	72%	0.70	0.81	0.83	1.24
	2000	71%	75%	0.88	0.94	0.99	1.38
	2001	83%	67%	0.98	0.99	1.11	1.20
	2002	77%	86%	1.19	1.22	1.33	1.59
	Mean	75%	75%	0.94	0.99	1.06	1.35
	Std. Error	3%	4%	0.10	0.08	0.11	0.09

Notes: ¹ Percent of clusters on which nesting season monitoring was at least initiated, if not continued through the end of the nesting season, that attempted nesting; ² Percent of clusters monitored throughout the nesting season that successfully fledged young; ³ Number of young fledged per group occupied cluster monitored throughout the nesting season; ⁴ Number of young fledged per cluster initiating nesting and monitored throughout the nesting season.

3. INCREASED USE ON LUA

During evaluation of the *Environmental Assessment for Increased Military Training Use of the Vernon Unit, Calcasieu Ranger District of the Kisatchie National Forest*, concern was expressed that clusters that are distant from roads and not historically exposed to human activity, or remote clusters, may be more stressed by initial exposure to increased training than clusters that have been regularly exposed to activity. To address this concern, the JMP requires monitoring of 31 remote clusters (Fig. 4) for changes in viability pre- and post-exposure, and periodic inspections of remote clusters for evidence of exposure to increased training and infractions of training restrictions. In addition to monitoring of remote clusters, inspections of all clusters in the LUA potentially exposed to training activities during each JRTC training rotation are required to validate compliance with training restrictions.

Two measures of cluster viability, mean fledged per group and P_{Active} , were identified in the JMP for intensive analysis to determine if cluster viability was reduced by exposure to training. If remote clusters are stressed enough by initial exposure to increased use to reduce cluster viability, then reductions in these values would be expected. Exposure to military training, cluster viability as measured by mean fledged per group and P_{Active} , and compliance with training restrictions for remote clusters were evaluated and the results are presented in subsequent sections. Because no JRTC rotational training occurred on the LUA during 2001-02, inspections of non-remote clusters for compliance with training restrictions were not required.

3.1 Remote Cluster Inspections / Compliance Monitoring

Between 11 March 2002 and 7 October 2002, Fort Polk personnel conducted three inspection events, performing 91 inspections of 30 remote clusters. All remote clusters, except cluster 115-02, were inspected at least once during each of three inspection events that occurred in March, April-May, and September-October. Cluster 115-02 was not inspected during any of the inspection rotations because access was limited. The road previously used by biologists and managers to access the cluster crosses private property and the landowner fenced the road. Accordingly, access by others, including military personnel on training missions, would also have been restricted. Kisatchie National Forest biologists are currently working with the landowner to restore use of the road. Monitoring of cluster 115-02 will be initiated once the access road to the cluster is restored.

No evidence of military activities within remote clusters was detected through the inspections (Tables 13, 14). However, it should be recognized that some cluster exposures might have gone undetected because of the difficulty in distinguishing between vegetative cover and soil disturbance resulting from military and non-military vehicles.

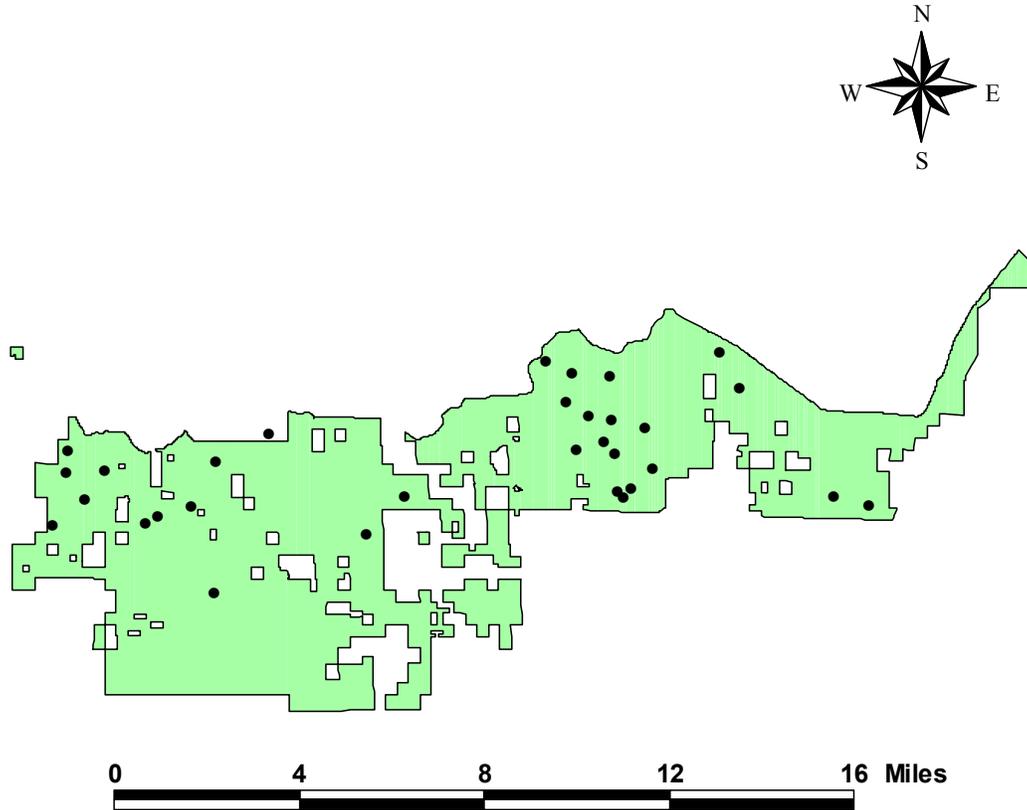


Figure 4. Remote clusters (●) on the Limited Use Area, Vernon Unit, Kisatchie National Forest. Note that the centroid (arithmetic average of tree locations) of cluster 110-08 is on the IUA. All trees within the cluster are within the bounds of the LUA, although near the boundary with the IUA, and the error in the above graphic is due to small errors in image of the LUA.

Table 13. Number of remote clusters in the LUA, Vernon Unit, Kisatchie National Forest, Louisiana, by year.

Year	# Remote Clusters in Prior Year	# Remote Clusters in Reporting Year	# Initially Exposed in Reporting Year Prior to Breeding Season	# Initially Exposed in Reporting Year During Breeding Season	# Initially Exposed in Reporting Year After Breeding Season
2000	31	31	0	0	0
2001	31	31	0	0	0
2002	31	31	0	0	0

Table 14. Summary of annual compliance monitoring listing the number of violations occurring in each year by type for remote clusters in the Limited Use Area, Vernon Unit, Kisatchie National Forest, Louisiana.

Violation Type	2000	2001	2002
Number of clusters with military vehicles within cluster boundaries other than on authorized roads (# of occurrences).	- (-)	- (-)	0 (0)
Number of clusters with fixed activities within cluster boundaries (# of occurrences).	- (-)	- (-)	0 (0)
Number of clusters with damage to cavity trees (# of trees).	- (-)	- (-)	0 (0)
Number of clusters with soil or vegetation disturbance requiring remedial measures (total acres disturbed)	- (-)	- (-)	0 (0)

3.2 Assessment of P_{Active}

P_{active} , or the probability of a cluster to remain active from year to year, was assessed for remote clusters using monitoring data collected to evaluate population trend and viability as described in section 1. The results of that assessment are presented in Table 15 and represent the baseline condition prior to exposure to training, as according to remote cluster inspections, no remote clusters were exposed to training after the initiation of increased use through 2002. As described in section 1.2, values of $P_{Active} > 89.5$ are considered normal and remote cluster P_{Active} was greater than 89.5 in all years considered and similar to that observed on the LUA as a whole, as well as the Population (see Table 4).

Table 15. The probability of remote red-cockaded woodpecker clusters to remain active (P_{Active}) from the previous year to the reporting year on the LUA, Vernon Unit, Kisatchie National Forest, Louisiana.

Remote Cluster Status	Year	# Active in Previous Year		P_{Active}
		# Active in Previous Year	Remaining Active in Reporting Year	
Remote	2000	31	31	1.00
	2001	31	29	0.94
	2002	29	26	0.90
Initial Exposure	2001	-	-	-
	2002	-	-	-
2nd Year	2002	-	-	-

3.3 Reproduction

Breeding data for LUA remote clusters was summarized from monitoring data described in section 1 (Table 16). These data represent the baseline condition prior to exposure to training, as according to remote cluster inspections, no remote clusters were exposed to training after the initiation of increased use through 2002.

Table 16. Summary of annual breeding count data for remote red-cockaded woodpecker clusters, Vernon Unit, Kisatchie National Forest, Louisiana.

Remote Cluster Status	Year	# Monitored Clusters ¹	Group Occupied	#Clusters Nesting	# Successful Nests	# Fledged
			Monitored Clusters ²			
Remote	2000	31	31	22	18	32
	2001	29	28	28	20	32
	2002	26	25	17	14	27
Initial Exposure	2001	-	-	-	-	-
	2002	-	-	-	-	-
2nd Year	2002	-	-	-	-	-

¹ Number of clusters monitored throughout the nesting season; ² Number of group occupied clusters monitored throughout the nesting season. Number estimated for 2000 from breeding data because pre-breeding roost checks were not initiated until 2001.

As previously stated in section 1, the appropriate measure for assessing reproductive output is the number fledged per active cluster or, alternatively, the number fledged per group. The number fledged per cluster and number fledged per group were calculated for remote clusters and those results are presented in Table 17. No analysis of pre- and post-exposure to training was conducted because there were no observations of clusters post-increased use. However, the high variability apparent in these data for 2000-2002 (expected because of small sample size, $n \approx 31$ clusters) suggests that the power to detect differences between pre- and post-exposure, assuming some clusters will be exposed to training in the future, will be low. That is, our ability to detect any differences in the reproductive output of remote clusters pre- and post-exposure, even if differences exist, will be minimal.

Table 17. Summary of annual breeding success for remote red-cockaded woodpecker clusters, on the Vernon Unit, Kisatchie National Forest, Louisiana.

Remote Cluster Status	Year	% of Monitored Nesting	% of Attempts Successful	Fledged / Active Cluster	Fledged / Monitored Group ¹	Fledged /Nest Attempt
		Remote	2000	71%	82%	1.03
	2001	97%	71%	1.10	1.14	1.14
	2002	65%	82%	1.04	1.08	1.59
Initial Exposure	2001	-	-	-	-	-
	2002	-	-	-	-	-
2nd Year	2002	-	-	-	-	-

¹ Number of groups estimated for 2000 from breeding data because pre-breeding roost checks were not initiated until 2001.

3.4 Summary

No evidence of military activity within remote clusters was detected through inspections conducted in 2002. Therefore, cluster viability measures presented for 2000-2002 should be regarded as baseline data prior to exposure to military training. The probability of remote clusters to remain active or P_{Active} , was within expected limits and the number of young fledged per nest attempt was similar to the values observed on the LUA as a whole (see Table 8). Although, the number fledged per group appeared lower than observed on the LUA as a whole, they were not statistically different. No statistical tests for differences in remote cluster viability measures before and after exposure to military training could be made, but given the variability in the viability measures from this small sample of clusters, it is unlikely that differences could be detected even if they truly exist unless they are very large.

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