

**INTEGRATED TRAINING AREA MANAGEMENT, FORT LEWIS, WA
LAND REHABILITATION AND MAINTENANCE
ANNUAL REPORT FY 2000**

Prepared by Lisa Randolph, LRAM Coordinator
May 2001

Land Rehabilitation and Maintenance (LRAM) is one of four components of the Integrated Training Area Management (ITAM) program. LRAM supports the training mission by expanding new training areas and maintaining current ones to enhance military field exercises, while maintaining the natural resources at Fort Lewis.

During Fiscal Year (FY) 2000, the Land Rehabilitation and Maintenance (LRAM) program accomplished many land improvement projects for the Fort Lewis, Washington (FLW). Training Areas (TAs) have been expanded and improved by removing Scotch broom and other unwanted vegetation to enhance training opportunities. Maneuver damaged areas were reseeded to improve training realism and to maintain the installation natural environment. Work was completed on a recently repaired ford approach in TA 14 to make vehicle passage safer and improve water quality in Muck Creek. All Seibert stake areas were inspected and repairs made where needed. Many Seibert stakes lines were 're-drawn' to allow more access throughout a TA while protecting the natural resources at hand. Hardened tank pads were installed on Range 74 to prevent further degradation to the surrounding prairie. Coordination with the Land Condition and Monitoring (LCAM, a.k.a. Land Condition Trend Analysis, LCAM), Environmental Awareness (EA) program, Training Requirements Integration (TRI) program, Installation directorates, I CORPS G-3, outside contractors and military units has been refined; budgets are being tracked; and restoration efforts are being implemented and monitored.

Land Rehabilitation and Maintenance

2000 Workplan

Prepared by Lisa Randolph, LRAM Coordinator, ERC

The goal of the 2000 LRAM field season is to expand current training areas and open up new training areas to enhance military field exercises, while maintaining the natural resources at FLW. Implementation and completion of other project priorities are contingent upon appropriation of funds, scheduling, time constraints, and unforeseen rehabilitation projects.

| LRAM PRIORITY PROJECTS | COST |
|---|---------------------|
| # 1 Seibert Stake Inspection and Repairs | 59,000.00 |
| # 2 Scotch Broom and Douglas Fir Removal | 388,414.50 |
| # 3 General Maneuver Damage Repair | 16,796.00 |
| # 4 Native Seed Collection Program | 0 |
| # 5 Prairie Plant Propagation Project | 11,000.00 |
| # 6 Ford Approach Maintenance | 7,475.33 |
| # 7 Off Road Traffic Prevention | 0 |
| # 8 Selective Fir Removal in AIA | 12,750.00 |
| PROJECTS CONTIGENT UPON FUNDING | |
| # 9 Training Area 8 Reconfiguration | 0 |
| # 10 Land/Soil Stabilization- Range 74 | 127,196.43 |
| TOTAL | \$622,632.26 |

ACKNOWLEDGEMENTS

The LRAM Coordinator would like to thank the following individuals for their contributions and support during the 2000 field season:

| | |
|---------------------|---|
| Bill Black | Columbia Hydroseeding, Contractor |
| Ron Borne | Range Officer, Schofield Barracks |
| Beth Pettit | PW Budget |
| Stu Cannon | FORSCOM Forestry |
| Daryl Day | PW Roads and Grounds Equipment Operator |
| Patrick Dunn | The Nature Conservancy |
| Jeff Erickson | Range Control Electricians |
| SFC Ferdinand | Range Control Master Gunner |
| Ron Furman | Range Control Electrician |
| Tom Gray | TRADOC ATSC |
| Teresa Hansen | PW GIS Analyst/ENRD Protection Spec. |
| James Hairston | COL DPTM |
| Karl Johnson | DOC Contracting Officer |
| Tom Kelly | LRAM Coordinator, Schofield Barracks |
| Roselyn Knox | Range Control Scheduler |
| Pat Larsen | Chief, PW Budget |
| Del Larson | Range Control Operations Officer |
| Virginia Lanoue | Range Control System Administrator |
| Brent Levander | Centennial Contractors |
| Angel Lombardi | LCAM Coordinator |
| Tom Macia | HQ DA (DAMO TRS) |
| Paul Malaspiña | LRAM Coordinator, Pohakuloa Training Area |
| Havre Mays | LRAM Crew Lead |
| Tony Mays | LRAM Crew member |
| Sally McLean | PW Budget Account Manager |
| Kim Miranda | DOC Contracting Representative |
| Carl Ramsey | Range Control Facilities Engineer |
| Joe Reasoner | PW ENRD Prescribe Burn Manager |
| Ted Reid | FORSCOM ITAM |
| SFC Dale Richter | Range Control Safety NCO |
| Inger Schmidt-Gruhn | ITAM Coordinator |
| Bob Short | Short Logging and Reforestation Contractors |
| Oscar Soule | Professor, The Evergreen State College |
| Jonye Thompson | DOL Supply |
| Bill Watson | LRAM Crew member |
| Al Wiedemann | Professor, The Evergreen State College |
| Walt Wilson | Deputy DPTM |
| John Weller | Fort Lewis Range Officer |
| Nate Whelan | 7 th ATC ITAM Office |

Seibert Stake Inspection and Repairs

Since the initial installation of Seibert stakes in 1994, there had not been a thorough review to ensure they are all still in place. During this field season, the LRAM ‘summer crew’ inspected all Seibert stake areas and made repairs where needed. This portion of the workplan became the LRAM crew’s top priority before moving on to other project priorities. The LRAM Coordinator provided ArcView maps of all Seibert stake areas to assist in locating sites for ‘summer crew’ members unfamiliar with FLW training areas and road networks (Fig. 1, Pg. 16).

Scotch Broom and Brush Mowing/Slashing Project

Scotch broom control and removing other unwanted vegetation is an important portion of LRAM responsibilities. Scotch broom (*Cytisus scoparius*) is an invasive shrub that has aggressively spread across many acres of FLW training lands. This exotic shrub is considered a problem on FLW because it grows quickly, reproduces at a rapid rate, and is very resistant to control techniques. Both the Pierce and Thurston County weed boards classify Scotch broom as a noxious weed.

Scotch broom needs to be controlled on FLW for both military and conservation reasons. Scotch broom limits training opportunities by impeding passage of military personnel, vehicles and towed equipment. Units exclude areas of heavy Scotch broom from consideration for dismounted training due to challenges to foot movement. Many artilleryists report they avoid the tall thick brush due to the risk it poses. For example, Scotch broom can get entangled in the trans-axles of towed equipment, possibly tipping it over, a situation to avoid. At different times of the year, Scotch broom attracts bees, wasps, ants and aphids, making it unpleasant for infantry to wade through. And armored units avoid traversing across fields of dense Scotch broom at moderate to high speeds because it conceals the ground contour. Scotch broom can also limit downrange visibility, both close in and across large open landscapes. Since soldiers are taught to train as they would fight, they typically avoid Scotch broom thickets. By mechanically removing Scotch broom and other brush, LRAM increases training opportunities on FLW by making more land available for use and by making the environment safer for training.

General Maneuver Damage Repairs

Tracked and wheeled vehicle maneuvering is an essential component of training, yet has a tendency to disrupt pre-existing vegetation patterns. If left uncorrected, large areas of bare ground become susceptible to invasion by weedy noxious plants like Scotch broom. In order to support the military mission, LRAM has begun rehabilitating maneuver damaged training lands through hydroseeding. Hydroseeding is one method of revegetating Fort Lewis prairies that is efficient, cost effective and provides good results if applied at the right time of year. Other methods of re-establishing ground cover such as broadcast seeding and hand planting propagated seedlings are usually much more costly, labor intensive, time consuming and the results are questionable.

During FY 00, the LRAM Coordinator calculated 19 acres of maneuver damage in Training Areas 4 and 5, by walking the perimeter of disturbed areas with a GPS unit. The LRAM Coordinator developed a hydroseed Scope of Work (SOW) using the GIS maps and submitted contract specifications to DOC. Under this contract ITAM would fund all hydroseed costs.

Native Seed Collection Program

The intent of this on-going project is to revegetate and maintain Training Areas through implementing a seed collection and storage program. The use of locally collected seed, adapted to the immediate environmental conditions increases the chance of successful rehabilitation, and provides the best assurance of maintaining FLW's training resources. As this program matures, a continuous supply of those species most often used in restoration should be available, allowing for immediate rehabilitation while minimizing training restrictions. Initially the primary focus will be to collect *Festuca idahoensis* var. *roemers*, the dominant grass species on FLW's prairies.

Due to a lack of crew personnel during seed collection season, this project was not completed in FY 00. Roemer's fescue seed must be collected at the end of June through mid July, and the LRAM "summer crew" did not begin work until the end of July. Another reason this project was placed on hold is that before seed is collected there needs to be a comprehensive plan for processing, cleaning and properly storing the seed so it can be used at a later date. Since these details were not yet formulated in FY 00, LRAM did not perform work on this project. Plans for a small-scale test plot are being developed for FY 01 field season.

Prairie Plant Propagation Project

The follow-up component of the Seed Collection Program is to commercially produce native grass species for rehabilitation projects. During FY 00, ITAM made arrangements with TNC to contract seed propagation through a private contractor in Eastern Washington. Some of the seed TNC receives will be used for their own rehabilitation projects in the South Puget Sound and some will be reserved for the LRAM program. The ITAM program allocated \$11,000.00 for TNC to do this project. The contractor, Rainier Seeds, Inc. prepared a seed lot, but experienced a set-back in seed production due to weed interference. Therefore, no seed was available for the LRAM program to utilize in FY 00. The small amount of seed that was harvested will be re-sown to start another seed lot and hopefully will be available for harvest in August/September 2001.

Efforts are still being made to investigate growing local grass species in-house (greenhouse and/or field cultivation) or utilizing an existing on-post/near-post nursery (i.e. Clover Park Technical College). According to the literature approximately 8 pounds of seed are needed to establish a one-acre seedlot. If tended properly, the seed bed can yield up to 400 pounds per year- enough to hydroseed 10 acres (assuming 40 lbs/acre) or drill seed up to 40 acres annually (assuming 10 lbs/acre).

Land Soil Stabilization- Range 74

Increased use by tracked vehicles in FY 98 and FY 99 has severely damaged both the range roads and surrounding prairie at Range 74. The road system and access routes were not well defined which led to unconstrained use of the entire area (see FY 99 report). LRAM sought to remedy this by constructing hardened tank pads for the assembly area (behind the firing positions), and in the vehicle maintenance area (behind the old target mover). This allows firm ground to park tanks or to perform equipment repairs, which should alleviate pressure on the surrounding prairie.

The LRAM Coordinator pulled together many meetings with Range Control personnel and affected units to seek feedback on project design, and received environmental approval through PW ENRD. A Work Order was placed through PW Work Management Center, which was later awarded to Centennial Contractor Inc. The LRAM Coordinator developed general project specifications to include installing two concrete tank pads and redefining the road system (Fig. 48, pg. 88), all of which were later refined by Centennial Contractors and the Range Control Facilities Engineer, Mr. Carl Ramsey. Many thanks are owed to Mr. Ramsey for guiding this project to fruition.

Selective Fir Removal in AIA

Encroachment of Douglas firs onto the AIA is gradually limiting visibility and constrains where training events can occur. Many proposals have been offered to solve the problem, but funding, institutional, and liability hurdles have prevented their implementation (i.e. selective logging and girdling of trees may be hazardous if metal fragments are present in tree trunks and getting to any tree requires traversing the dud-loaded AIA). One option for remedying this problem is to contract a prescribed burn to selective trees via a helicopter and drip-torch (also called “Heli-torch”). The ITAM Coordinator developed specifications to contract this work out to HighLine Helicopters through DOC. Due to uncontrolled wild fires across the west, plus a fire ban in Washington State, HighLine helicopters was unavailable to work, meaning that this project was placed on hold for the season and will be attempted during FY 01.

Ford Approach Maintenance at Muck Creek Crossings

There are 8 authorized ford crossings along Muck Creek, many with concrete crossings. However, increased use by track vehicles within the past few years coupled with periodic flooding and unstable soils, has led to severe deterioration of some ford approaches (ET 41690876 and ET 42100858). During FY 98 and 99, the LRAM program completed a Ford Approach Stabilization project on these fords in TA 14 using Cable Concrete (see LRAM FY 99 report). The construction project was designed and completed by the Support Platoon, Charlie Company of the 14th Engineer Battalion (ENBN), part of the 555th Engineer Group (ENGP).

General maintenance of the Cable Concrete-improved ford approaches is required every few years by spreading additional gravel. This action will protect the concrete mats from being exposed. However, the original engineering design did not call for enough gravel, necessitating the need for more.

The winter of '99-'00 brought heavy rainfall which filled Muck Creek and saturated the ground at Ford Approach ET 41690876 leaving a large pool of standing water on both the north and south approach. Following repeated passes of the ford by tracked and wheeled vehicles, the thin layer of gravel covering the Cable Concrete was moved around exposing portions of the mats. More gravel was needed to bring the road grade up to standard and prevent the pooling of water. With the assistance of the Range Facilities Engineer and PW Engineering Construction and Management Division (ECMD), the LRAM Coordinator developed a SOW for this project and submitted it to PW ENRD. The work went to Centennial Contractors Inc., a sub-contractor of PW that handles construction related projects.

Training Area 8 Reconfiguration

Selective removal of Douglas fir trees in TA 8 is needed to improve sightlines which would create new training capabilities for this area. TA 8 is a large and easily accessible maneuver area and Tank and Bradley Crew Proficiency Course (TCPC/BCPC). Mechanized units conducting preliminary blank-fire gunnery training in TA 8 find Douglas fir growth impedes placement of targets. Removal of some large trees will enable the use of full-scale targetry to promote training realism and will enhance maneuverability within the TA. However, portions of TA 8 lie within designated Critical Habitat for the Spotted Owl, which means that any tree cutting is subject to regulatory review before proceeding. Due to these regulatory hurdles this project has been put on hold until these logistics have been worked out.

Off Road Traffic Prevention

Recent increases in off-road traffic on FLW's prairies are encouraging the development of military trails. If left alone, these trails may become more utilized leading to prairie fragmentation, potential increases in noxious weeds and decreases in native diversity, and may decrease training realism. The intent of this project is to help maintain the visual aesthetics of FLW's prairies and enhance the realism of training by keeping non-essential trails from turning into well-established roads. This goal could be accomplished by planting seed on unnecessary roads and placing fluorescent cones or other traffic deterrents. This project was not attended in FY 00 as other project priorities took precedence.