
**INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN
THE 417th BASE SUPPORT BATTALION KITZINGEN
2000 - 2004**

VOLUME III - TRAINING AREA PLAN

FOR THE
U.S. ARMY ENGINEER DISTRICT, EUROPE
KONRAD-ADENAUER RING 39
65187 WIESBADEN

SUBMITTED BY



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ENGLAND, UNITED KINGDOM

INRMP - VOLUME III

417th BSB KITZINGEN

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ACRONYMS

AAFES	Army/Air Force Exchange Service
ABG-75	Auftragsbautengrundsätze (Principle for Contracting Construction Projects)
ACE	Armored Combat Earthmovers
ADP	Automated Data Processing
AFH	Army Family Housing
AFPMB	Armed Forces Pest Management Board
AR	Army Regulation
ASG	Area Support Group
AST	Area Support Team
ATC	Army Training Command
BASOPS	Base Operations
BayWaldG	Bayerisches Waldgesetz (Bavarian Forest Act)
BayWG	Bayerisches Wassergesetz (Bavarian Water Act)
BCPC	Bradley Crew Proficiency Course
BfN	Bundesamt für Naturschutz (Federal Nature Protection Authority)
BOD	Biochemical Oxygen Demand
BSB	Base Support Battalion
CADD	Computer Aided Drafting and Design
CAP	Conservation Assistance Program
CHC	Chlorinated Hydrocarbons
CHPPM-E	Center for Health Promotion and Preventive Medicine Europe
CMTC	Combat Maneuver Training Center
COD	Chemical Oxygen Demand
CONUS	Contiguous United States
CTT	Combat Training Theater
CX	Categorical Exclusion
DAPam	Department of the Army Pamphlet
DCA	Directorate of Community Activities
DIN	Deutsche Industrie Norm (German Industry Standard)
DoD	Department of Defense
DoDDS	Department of Defense Dependent Schools
DOT	Directorate of Training
DPW	Directorate of Public Works
DRMO	Defense Reutilization and Marketing Office
DRMS	Defense Reutilization and Marketing Service
DSN	Defense System Network
DSV	Deutscher Schädlingbekämpferverband (German Pest Association)
EA	Environmental Awareness
EAC	Emergency Action Center
ECAS	Environmental Compliance Assessment System
EFMB	Expect Field Medical Badge
EIS	Environmental Impact Statement
EMO	Environmental Management Office
EO	Executive Order
EP&S	Engineering Plans and Services

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EQCC	Environmental Quality Control Committee
ESRI	Environmental Systems Research Institute
FAO	Federal Assets Office
FGS-G	Final Governing Standards, Germany
FORSCOM	Forces Command
FRG	Federal Republic of Germany
FY	Financial Year
GIS	Geographic Information System
GPS	Global Positioning System
GSW	German Specified Water
GUI	Graphic User Interface
HQDA	Headquarters Department of the Army
INRMP	Integrated Natural Resources Management Plan
IPM	Integrated Pest Management
ISA	Interservice Agreement
ITAM	Integrated Training Area Management
IVL	Institut für Vegetationskunde und Landschaftsökologie (private landscape and ecology consultancy company)
LCTA	Land Condition Trend Analysis
LfU	Landesamt für Umweltschutz (State Environmental Protection Agency)
LPflG	Landespflegegesetz (Land Conservation)
LRAM	Land Rehabilitation and Maintenance
LTA	Local Training Area
MACOM(s)	Major Command(s)
MACS	Multipurpose Arcade Combat Simulators
MAGIC	Military Activity GIS Interface Concept
MAI	Main Active Ingredient
MAP	Management Action Plan
MATCH	Modular Armor Tactical Compact House
MDEP	Management Decision Package
MEDDAC	Medical Department Activity
MGE	Modular GIS Environment
MILES	Multiple Integrated Laser Engagement System
MOM	Measures of Merit
MOUT	Military Operations on Urban Terrain
MSL	Mean Sea Level
MWR	Moral, Welfare, and Recreation
NAF	Non-Appropriated Funds
NATO	North Atlantic Treaty Organization
NBC	Nuclear Biological Chamber
NEPA	National Environmental Policy Act
OCONUS	Outside Continental United States
ODCSENGR	Office of the Deputy Chief of Staff, Engineer
ODCSOPS	Office of the Deputy Chief of Staff for Operations and Plans
OMA	Operations and Maintenance, Army
OPCON	Operational Control
OPFOR	Opposing Force

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OPRED	Operational Readiness
OPTEMPO	Operational Tempo
PAI	Pounds of Active Ingredient
PflSchG	Pflanzenschutzgesetz (Plant Protection Act)
PLS	Planning Level Surveys
PMI	Preliminary Marksmanship Instruction
PMR	Program Management Review
pnV	Potential Natural Vegetation
PX	Post Exchange
RDB	Red Data Book
RPMA	Real Property Maintenance Activity
RSC	Regional Support Center
RTLTP	Range and Training Land Program
SA	Supplementary Agreement
SAC(s)	Special Areas of Conservation
SCI(s)	Sites of Community Importance
SEE	Small Equipment Excavator
SOFA	Status of Forces Agreement
SOP	Standard Operating Procedure
SOS	Schedule of Services
SPA	Special Protection Area
SPOT	Satellite pour l'observation de la Terre (Earth Observation Satellite)
STOV	Standortverwaltung – German agency that provides base operation services at Giebelstadt Army Airfield
TAACOM	Theater Army Area Command
TES	Threatened and Endangered Species
TCT	Total Containment Trap
TIM	Technical Information Manual
TM	Technical Manual
TRI	Training Requirements Integration
TrinkwV	Trinkwasserverordnung (Federal Drinking Water standards)
TSD	Training Support Division
TSSDS	Tri-Services Spatial Data Standard
TÜV	Technischer Überwachungsverein (third party testing organization)
UNIX	Operating system developed by Bell Laboratories (an AT&T subsidiary)
USACERL	U.S. Army Construction Engineering Research Laboratory
USAEC	U.S. Army Environmental Center
USAREUR	U.S. Army Europe
USAWES	U.S. Army Waterways Experiment Station
WHG	Wasserhaushaltsgesetz (Federal Water Management Act)
WWTP	Wastewater Treatment Plant

GLOSSARY OF TERMS

ABG-75: "*Auftragsbautengrundsätze - 1975*" (Principles for Contracting Construction Projects - 1975) is an agreement between the Federal Republic of Germany and the financing bodies, to include the United States, on the procedures to be followed by the financing bodies to accomplish construction within Germany.

Adverse Effect: Changes that reduce the quality of the natural environment or diminish the quality or significant value of archaeological resources, cultural resources, or property.

Biotopes: A small habitat characterized by its unique composition.

Biodiversity: As defined by AR 200-3, biodiversity is the variety of life and its processes, it includes the variety of living organisms, the genetic differences among them, and the communities and ecosystems in which they occur.

Carrying Capacity (Ecological): The maximum density of wildlife which a particular area or habitat is capable of carrying on a sustained basis without deterioration of the habitat.

Carrying Capacity (ITAM): The amount of training that a given parcel of land can accommodate in a sustainable manner with a reasonable and prudent level of maintenance and rehabilitation. The optimum capacity is a balance of usage, condition, and level of maintenance.

Check Dams: Structures built on ephemeral stream beds in order to control the flow of sedimentation into surface waters; often associated with retention basins.

Chlorination: The application of chlorine to water, wastewater, or industrial wastes, generally for the purpose of disinfection.

Conservation: Wise management and use of natural resources to provide the best public benefits for present and future generations.

Contaminated water: Water that has been intruded by microorganisms, chemicals, wastes, or wastewater in a concentration that makes the water unfit for its intended use.

Edaphic: Environmental conditions that are control by the physical, chemical and biological characteristics of soil.

Edge Effect: The effect, generally favorable to wildlife, produced by the conditions existing where one habitat or cover type ends, and another one begins.

Ephemeral: Temporary or seasonal.

Endangered Species: Any species of flora or fauna, listed in Table 13-1 in the FGS-G, in a German state's Red List (Rote Liste Deutschland), or designated in some other fashion by the

governments of the United States or Germany whose continued existence is, or is likely to be, threatened and is, therefore, subject to special protection from destruction or adverse modification of associated or required/critical habitat.

Environment: The natural and physical environment, excluding social, economic, and other environments.

Fauna: Animals collectively.

Floodplain: The lowland and relatively flat areas adjoining streams and rivers including at a minimum that area subject to a one percent or greater chance of flooding in any given year.

Flora: Plant life collectively.

Forest Management: The science, art, and practice of managing and using for human benefit the natural resources that occur on or in association with forest lands.

German Specified Water: Water delivered according to the German standards.

Habitat: The place where a plant or animal species naturally lives and grows, or the environment in which the life needs of an organism, population, or biological community are supplied.

Herbicide: A chemical agent used to destroy or inhibit plant growth.

Hydrosere: a particular example of plant succession in watery or moist environments. This type of succession is found only on static surface water bodies which are reducing in size.

Improved Grounds: Acreage on which intensive maintenance activities are performed.

Integrated Pest Management: The use of all appropriate technology and management techniques to bring about pest prevention and suppression in a cost-effective and environmentally sound manner.

Inventory-Wildlife: Estimates of populations of wild animals, by species, on an area at a given time, based upon various types of procedures.

Management Plan: A document describing the quality, quantity, condition, and actions to ensure stewardship of natural resources.

Multiple Use: The integrated management of more than one land use to achieve the optimum use and enjoyment of natural resources while maintaining a balance of environmental qualities, ecological relationships, and aesthetic values.

Natural Resource: All living and inanimate materials supplied by nature that are of aesthetic, ecological, educational, historical, recreational, scientific, or other value.

Natural Resources Management: Action taken to protect, manipulate, alter, or manage environmental, human, and biological resources in harmony with each other to meet present and future human needs.

Outdoor Recreation Area: Land or water area with characteristics that make it suitable for one or more specific outdoor recreation activities. It does not include athletic facilities such as ball fields and golf courses.

Outfall: The point or location where wastewater or drainage discharges from a sewer, drain or conduit.

Pest: Organisms (except for microorganisms that cause human or animal disease) that adversely affect the well being of humans or animals, attack real property, supplies, equipment or vegetation, or are otherwise undesirable.

Pesticide: Any substance or mixture of substances, including biological control agents, that may prevent, destroy, repel, or mitigate any pests; also any substance or mixture of substances used as plant regulators, defoliants, or desiccants.

pH: The acidity or alkalinity of a substance measured as the concentration of hydrogen ions. $pH = -\log cH$ where cH is the concentration of hydrogen ions.

Potable water: Water that has been examined and treated to meet proper standards and declared by responsible authorities to be fit for drinking and domestic use.

Retention Basin: Structures built to retain storm water and other surface run-off water in order to control sedimentation; often associated with check dams.

Runoff: Water from rain, snowmelt, or irrigation that flows over the ground surface to a stream, lake, pond, or underground aquifer.

Sediment: Solid material, such as silt, sand, and organic matter, that has moved or is moving by natural forces to settle in a new location.

Semi-improved Grounds: Areas on which periodic recurring maintenance is performed, but to a lesser degree than improved grounds.

Seibert Stakes: These are wooden stakes, which are a standard length of 1.8 to 2 meters and a standard diameter of 8 to 10 cm and painted red and yellow, to mark wetlands, pipe crossings, recovering lands, and other environmentally sensitive areas. These stakes are named after a former garrison commander named Seibert at Hohenfels.

Sludge: The solids separated from liquids during processing or through deposition on bottom of streams and other bodies of water. A mixture of liquids and solids.

Surface Waters: Those waters continuously or occasionally flowing in beds, standing, or naturally flowing from springs.

Standortverwaltung: A German administrative body for a location or area. Commonly referred to as the STOV. In the 419th BSB the STOV provides base operations services to Giebelsttdt Army Airfield.

State: The political subdivision referred to as *Land* in Germany.

Sustainable Use: Use of the land that meets the needs of the present generation without compromising those of future generations.

Threatened Species: Those plants and animals that are likely to become endangered within the foreseeable future throughout a significant portion of their ranges.

Unimproved Grounds: Acreage occupied by land on which no maintenance activities occur.

Wastewater Treatment Plant (WWTP): Any DoD or host nation facility designed to treat wastewater before its discharge to waters of the host nation and in which the majority of such wastewater is made up of domestic sewage.

Water Use: The removal or diversion of waters from surface waters: damming or lowering of surface waters; removal of solids from surface waters so that the condition of the water or its drainage is affected; introduction or discharge of substances into coastal waters; discharge of substances into the groundwater; removal, unearthing, drawing, and diverting of groundwater; damming, lowering, and conducting groundwater through facilities intended for these purposes; and measures that are likely to cause lasting or significant deleterious changes in the physical, chemical, or biological quality of the water.

Waters of The Host Nation: Surface waters including the territorial seas recognized under customary international law, including;

- all waters that are currently used, used in the past, or may be susceptible to use in commerce;
- waters that are or could be used for recreation or other purposes;
- waters from which fish or shellfish are or could be taken or sold;
- waters that are used or could be used for industrial purposes by industries;
- waters including lakes, rivers, streams (including intermittent streams) sloughs, prairie potholes, or natural ponds;
- tributaries of waters identified above.

Waste treatment systems, including treatment ponds or lagoons, are not waters of the host nation. This exclusion only applies to human-made bodies of water that neither were originally waters of the host nation nor resulted from the impoundment of waters of the host nation.

Water Protection Area: An area established by a German state to protect public water supplies, supplement groundwater, or prevent harmful runoff of precipitation and flooding, as well as to prevent entry into the water of soil constituents or substances used to treat and fertilize plants. The state will publish a set of restrictions for each area designated applicable to all, including DoD components.

Wetlands: Areas inundated or saturated by surface water or groundwater at a frequency and a duration to support a prevalence of vegetation typically adapted for life in saturated soil conditions.

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CHAPTER 13.0

TRAINING AREA PLAN INTRODUCTION

13.1 ORGANIZATION OF VOLUME III

Volume III of the Integrated Natural Resources Management Plan (INRMP) for the 417th BSB Kitzingen contains Chapters 13 through 15. Chapter 14 addresses the specific natural resources management programs for the training areas of the 417th BSB. Chapter 15 summarizes the implementation of the programs discussed in the previous chapters. Sections for each management program include descriptions of responsibilities, points of contact, a program overview, standard operating procedures, management issues and concerns; management goals and objectives; project/program priorities and implementation information.

The natural resource management programs for the training areas have identified management goals designed to address management issues and concerns. The Project/Program Priorities section of each program are defined as Highest Priority, Important, or Less Important. The following definitions are according to the Draft Guidelines for Preparing Integrated Natural Resources Management Plans (AEC, 1997).

- The projects that have been classified as Highest Priority are those, which are needed in order to be in compliance with environmental regulations.
- Those projects that have been classified as Important are those that will directly benefit the military mission or which will significantly improve the quality of life at the installation.
- Those projects classified as Less Important are those which would first be cut or will only be implemented if funding is available.

Some of the natural resource programs addressed by this INRMP are not applicable to the training areas. Accordingly, detailed information on these programs is not presented. Furthermore, some information for the management programs overlap with the cantonment area. In such cases, Volume II of the INRMP is cross referenced to avoid repeating information. References are listed in Appendix A3 and persons contacted are listed in Appendix B3. Each volume has separate appendices.

13.2 SUMMARY OF TRAINING AREA NATURAL RESOURCES

In an effort to be concise, all Rare, Threatened and Endangered Species information can be found in this Volume. The following summary refers to both the training and cantonment areas. Volume I, Chapter 2 provides more detailed information on the different locations. In the past, most surveys of natural resources have concentrated on the Klosterforst Training Area. Surveys have documented significant flora including dry sand meadows, dune forests, and wetland structures, and fauna supported by the hottest and driest climate in Bavaria.

The Klosterforst and Giltholz area have been ecologically mapped and show dry sand meadows, dune forests and pioneer formations of statewide importance. The ephemeral and perennial wetlands are of comparable value. This situation is the result of two factors. The first factor contributing to this diversity is that the training area has never been intensively used for agricultural purposes. The second factor evolves from the continuous training activities that prevent forest succession into the open areas. These sites also hold the potential for the recovery of plant species which are thought to be extinct, including Nordischer Drachenkopf (*Dracocephalum ruyschiana*) and Black rush (*Juncus atratus*).

The game populations on the training area may be increasing. However further surveying is necessary before hunting can be used to control the growth of particular species.

Other important areas include grasslands at the runways of Harvey Barracks and Giebelstadt, the deciduous forests of the Michelfeld and Klingenforst, as well as poor meadows on its eastern side. Orchards with apple and cherry cultivars at Harvey Barracks, Larson Barracks, and Leighton Barracks are historically important, due to the overall decline in species variety.

13.3 POINTS OF CONTACT

The points of contact for the Natural Resources Management Programs on the installation are given in Table 13.3.1. The points of contact for the German Agencies involved with management of specific natural resources at the 417th BSB, are given in Table 13.3.2.

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TABLE 13.3.1
THE 417TH BSB NATURAL RESOURCES MANAGEMENT PLAN
POINTS OF CONTACT

Program	Responsible Department	Primary Point of Contact			
		Title	Name	Building Number	Telephone Number (DSN)
USAREUR ITAM Program Manager	DOT	ITAM Program Director	Mr. Wolff	621	475-6902
USAREUR Regional Support Center ITAM Program -LCTA -LRAM -TRI -EA	EMO	Chief EMO (HTA)	Mr Böhm	34	466-2658
	DOT	Range Control-LTA ITAM Program Manager	Mr. Ferrara	256	355 8206
	DOT	Range Control-LTA Manager	Mr. Ferrara	256	355 8206
	DOT	Range Control-LTA Manager	Mr. Ferrara	256	355 8206
	DOT	Range Control-LTA Manager	Mr. Ferrara	256	355 8206
Forest Management	EMO	Natural Resources Manager	Mr. K. Sims	221	351-4581
Fish & Wildlife Management - Fish - Wildlife	417 th BSB, S2/S3 EMO	Hunting & Fishing Coordinator Chief, EMO	Mr. Gentry	N/A	355-5609
			Mr. Sims	221	351 4581
Rare, Threatened and Endangered Species Management	EMO	Chief, EMO	Mr. Sims	221	351 4581
Wetlands Management	EMO	Chief, EMO	Mr. Sims	221	351 4581
Water Resources Management - Water Resources Quality - Water Supply/Wastewater Treatment	EMO	Chief, EMO	Mr. Sims	221	351 4581
	EMO	Chief, EMO	Mr. Sims	221	351 4581
	Utilities	Chief, Utilities	Mr. Thal	221	351-4451
Agricultural and Grazing Outleasing	EMO	EMO	Mr. Sims	221	351 4581
Pest Management	Buildings and Grounds	Chief, Buildings and Grounds	Mr. Ohlenschlager	221	351 4449

Fire Management	Fire Department	Fire Chief	Mr. Wolf	221	350-7396
Outdoor Recreation	Outdoor Recreation	Chief, Outdoor Recreation	Mr. Soholt	156	355-8629
Grounds Maintenance and Vegetation Management	Buildings and Grounds	Chief, Buildings and Grounds	Mr. Ohlenschlager	221	351 4449

TABLE 13.3.2
GERMAN AGENCY POINTS OF CONTACT

Program Name	Responsible Agency	Primary Point of Contact		
		Title	Name	Telephone Number
Forest Management*	Bundesforstamt Hammelburg-Reußenberg	Forstdirektor	Mr. G. Rudolf	09732-2045
Forest Management*	Staatsforstamt	Forstdirektor	Mr. K-O von Deuster	09383/384
Wildlife Management	Staatsforstamt	Forstdirektor	Mr. K-O von Deuster	09383/384
TES Management	Forest Inspection South Bundesforstamt	Forstdirektor	Mr. L. Schmid	0911-376 3940
TES Management	Regierung von Unterfranken	Civil Servant	Mr. Krämer	0931 3801163
TES Management	Staatliches Hochbauamt	Civil Servant	Mr. Kamin	0931 4504684
TES Management	Landratsamt Kitzingen Untere Naturschutzbehörde	Civil Servant	Mr. Lang	09321 928748
TES Management	Landratsamt Würzburg Untere Naturschutzbehörde	Civil Servant	Mr. Heinle	0931 8003443
TES Management	Stadt Würzburg Umweltamt	Civil Servant	Mrs. Remling	0931 373683
Agricultural and Outleasing Program	Bundesvermögensamt	Regierungsoberinspektor	Mr. Neeb	0931 355 1033

* *The points of contact for each of the Forest Districts are listed in Volume III, Section 14.3.1.*

CHAPTER 14.0

NATURAL RESOURCES MANAGEMENT PROGRAMS

14.1 INTRODUCTION TO MANAGEMENT PROGRAMS

This chapter presents the natural resources program structure for the training areas of 417th BSB, outlines management issues and concerns, and establishes goals and objectives to address management issues. The program structure is based on the installation-specific management situation and is designed to facilitate issue identification and prioritization, as well as project funding, implementation, and tracking. Natural resources management programs at the training area are grouped into the following two categories: Integrated Training Area Management (ITAM) Programs and resource-specific management programs.

The ITAM Program is one of the mechanisms for achieving the overall goals of the INRMP. Resource-specific management programs cover other planning requirements needed to meet U.S. Army and host nation stewardship goals. There is significant overlap and interaction between ITAM and resource-specific management programs, just as there is significant interaction between resources that are managed under these programs. The following information is presented below for each of the management programs: responsibilities and points of contact at the installation and the German government; a listing of applicable regulatory requirements (see Volume I, Chapter 6.0) for a detailed overview of regulatory requirements; a description of the program and its current status; standard operating procedures; management issues and concerns; management goals and objectives; inventorying and monitoring; resources required for implementation; project/program priorities; cost saving opportunities; implementation schedule; implementation funding options and command support.

14.2 INTEGRATED TRAINING AREA MANAGEMENT (ITAM) PROGRAM

14.2.1 ITAM Overview

As the Department of Defense's premiere land force, the U.S. Army relies on land to achieve its training objectives and maintain readiness standards. Consequently, training lands are one of the U.S. Army's most valuable assets. In order to achieve its missions, the U.S. Army must have lands that are capable of supporting training and other functions indefinitely into the future. The ITAM Program was developed by the Department of Army to integrate training and other mission requirements for land use with sound natural resources management of the land. Components of ITAM can be thought of as preventive maintenance of training land. Just as the U.S. Army conducts preventive maintenance programs to protect its substantial investment in tactical equipment, it also must invest in preventive maintenance of its training lands. The overall goal of the ITAM Program is to achieve optimum, sustainable use of training lands by inventorying and monitoring land condition, integrating training requirements with land capacity, providing for land rehabilitation and maintenance, and educating users about their impacts on natural resources. As such, the ITAM Program consists of the following four components:

- Land Condition Trend Analysis (LCTA);
- Training Requirements Integration (TRI);
- Land Rehabilitation and Maintenance (LRAM); and
- Environmental Awareness (EA).

Detailed information on these components and the overall ITAM Program strategy is described in *Integrated Area Management (ITAM) Program Strategy* (Department of the Army, 1995).

The ITAM Program, as an integrated tool to maintain and enhance Army training lands, has not been fully implemented at the 417th BSB. Items that have an ITAM-like component to them (e.g. LRAM), however, are currently being performed.

14.2.2 Responsibilities and Points of Contact

Overall responsibility for ITAM is assigned to the Office of the Deputy Chief of Staff for Operations and Plans (ODCSOPS), with specific responsibility residing in the Training Directorate (DAM-TR). There are coordinating roles for the implementation of ITAM assigned to USAREUR in the Directorate of Training (DOT). The POC for the ITAM Program in USAREUR coordinates the ITAM Program implementation at the 417th BSB with the Training Support Division. All POC's for the ITAM Program are given in Table 13.3.1.

14.2.3 Regulatory Requirements and Enforcement

Key regulations and guidance associated with this management program are described below. These and other general regulations are discussed in Volume 1, Chapter 6. Some specific regulations and guidance are not listed in Volume 1, Chapter 6, because they are applicable only to this program.

- **AR 200-1.** *Environmental Protection and Enhancement.* (21 February 1997).
- **AR 200-3.** *Natural Resources-Land, Forest and Wildlife Management.* (28 February 1995).
- **AR 210-21.** *Installations, Army Ranges, and Training Land Program.* (1 May 1997).
- **AR 350-4.** *Integrated Training Area Management.* (8 May 1998).
- **Army Goals and Implementing Guidance for Natural Resources Planning Level Surveys and Integrated Natural Resources Management Plans.** (21 March 1997).
- **DA Pam 350-4.** *Integrated Training Area Management (ITAM), Coordinating Draft.* (24 August 1998).
- **Integrated Training Area Management (ITAM) Geographic Information System (GIS) Regional Support Center (RSC) Support Services Pamphlet.** (no date).
- **ITAM Strategy.** (August 1995).

- **ITAM Technology Configuration Management Process Standard Operating Procedure (SOP).** (6 February 1998).
- **USAREUR Regulation 350-220.** *Home Station Training Support* (19 February 1999).

14.2.4 Land Condition Trend Analysis (LCTA)

14.2.4.1 Program Overview and Status

The LCTA component of ITAM is the U.S. Army's standard program for land inventory and monitoring. The long-term objectives of the LCTA component are to document existing conditions of natural resources on training lands, evaluate the capability of the land to support multiple missions on a sustained basis, delineate physical constraints to military missions, and to monitor and evaluate changes in vegetation, wildlife, and soil resources over time. The LCTA methodology includes provisions for sample plot allocation; plot data sampling protocols for vegetation, wildlife, and soils; trend analysis of sampled data; and spatial analysis.

In April 1995, Forces Command (FORSCOM) sponsored a meeting to discuss issues related to LCTA methods and objectives. The representatives from this meeting agreed that:

- Current standard LCTA plot allocation and field methods do not provide adequate field data for installation training land use decision-making, nor do they provide site-specific information needed for the LRAM and TRI components of ITAM; and
- They require more field plots, which dictates the current LCTA methods to be streamlined.

As a result of this reassessment meeting, the U.S. Army has begun to move forward to update the LCTA component of ITAM. This effort is called LCTA II. Several workshops have been convened since the initial FORSCOM meeting to devise an improved methodology to inventory and monitor natural resources in accordance with user requirements specified by both the MACOM and installations. Although the process is ongoing at this time, it is likely that a new methodology will emerge and implementation of the modifications will ensue.

There is currently no LCTA component of the ITAM Program implemented at the 417th BSB.

14.2.4.2 Inventorying and Monitoring

Since there are no LCTA plots installed at the 417th BSB, there is no inventorying and monitoring of land condition trends. However, should standard LCTA plots be installed, plot monitoring data should be recorded in the field on two government-furnished hand-held computers containing a public domain LCTA front-end program. These units are available from HQ USAREUR. The data is then downloaded to the LCTA Coordinator's PC for further analysis.

14.2.4.3 Standard Operating Procedures

Currently, no LCTA plot exist at the 417th BSB. If standard LCTA core plots are installed, the field data collection must be performed according to the procedures outlined in the *U.S. Army Land Condition Trend Analysis (LCTA) Plots Inventory Field Methods* (USACERL, 1992). According to the LCTA Program procedures, long-term monitoring of the LCTA plots should be conducted at least every 3 to 5 years. Short-term monitoring should be conducted annually for both the LCTA plots. However, if the installation installs non-standard LCTA plots the procedures for inventory field methods and frequency will be determined by the scientific monitoring method deployed rather than the document referenced above.

14.2.4.4 Management Issues and Concerns

The majority of issues surrounding the LCTA component of ITAM at the 417th BSB revolve around the need, value and costs associated with installation and monitoring of LCTA plots. There is a desire at the 98th ASG and at the TSD at the 417th BSB to install LCTA plots on areas where there is a genuine need for monitoring land conditions. In addition to reoccurring costs, a fundamental consideration in determining whether or not to install monitoring plots is how to ensure that any inventory data collected from the plots once they

are installed will be integrated into the decision-making process for the management of the training lands. The intended use for these data is critical in determining what plots to install, which method to use to make observations, and how frequently to make observations. The LCTA component of the ITAM Program is not limited to the LCTA methodology but covers a range of activities that seek to illustrate land condition trends. Therefore, other methods of determining land condition change such as remote sensing and aerial photo interpretation techniques are valid under the LCTA component of the ITAM Program.

14.2.4.5 Management Goals, Objectives and Resources Required for Implementation

LCTA Goal #1 - LCTA Method Selection and Installation

In order to determine whether or not to install LCTA plots in the 417th BSB training areas it is necessary to compare plot installation costs, plot monitoring frequency, and monitoring results for different scientific methods that are currently used in the U.S. Army. By completing a comparison, the 417th BSB will be able to determine the best method to use for the conditions that exists at the LTA for the least amount of money giving the most useful results. Below are the different methods used at U.S. Army installations in Germany:

Standard LCTA Plot Inventory Field Methods as described in *LCTA Field Methods Manual* – USACERL Technical Report N-92/03 (February 1992).

Transect or 2 x 2 Meter Plots single plots using the Braun-Blanquet method as described in *Überlegungen zu einem Konzept geobotanischer Dauerbeobachtungsflächen für Bayern* by Jörg Pfadenhauer, Peter Poschlod and Rainer Buchwald (Akademie für Naturschutz und Landschaftspflege, July 1996).

Point-Frame Vegetation Ground Cover Method as described in a report on aerial seeding activities at CMTC Hohenfels. Document prepared by Argonne National Laboratory. Contact CMTC Hohenfels EMO for more details. Recording method used is the point-frame (intercept) method using a 3 meter measuring stick. The stick is laid across a 100 meter measuring tape at a 90° angle at each meter mark perpendicular left and right from the transect, starting at 1m to the right. The vegetative ground cover is then measured with a

pin, by recording the first 'hit' under the pin in six categories: exposed soil, litter, grass, legumes, forbs, and woody cover. The recording begins at a 0.3 meter distance to the measuring tape and is repeated ten times at each 10 cm interval of the measuring stick until 1.2 m distance is reached. Then the measuring stick is moved to the next meter mark where 10 more point observations are made on the left side. This procedure is repeated at each meter mark until the end of the transect for a total of 1,000 observations on each transect.

TABLE 14.2.1
STRENGTHS/WEAKNESSES OF LCTA MONITORING METHODS

<i>Uses and Parameters</i>	<i>Monitoring Methods</i>			
	<i>LCTA Standard¹</i>	<i>Braun-Blanquet (transect)²</i>	<i>Braun-Blanquet (single plot)²</i>	<i>Vegetation Ground Cover³</i>
<i>Area Monitored</i>	<i>100 x 6 m</i>	<i>10 – 20 x 1 m²</i>	<i>4 m²</i>	<i>100 x 2 m</i>
<i>Vegetation cover percentage</i>	<i>Good</i>	<i>Good</i>	<i>Poor</i>	<i>Excellent</i>
<i>Exact vegetation composition</i>	<i>Very poor</i>	<i>Excellent</i>	<i>Good</i>	<i>Very poor</i>
<i>General vegetation composition</i>	<i>Good</i>	<i>Excellent</i>	<i>Excellent</i>	<i>Good</i>
<i>Increase or decrease in species</i>	<i>Poor</i>	<i>Excellent</i>	<i>Good</i>	<i>Very poor</i>
<i>Canopy cover</i>	<i>Excellent</i>	<i>Good</i>	<i>Poor</i>	<i>Poor</i>
<i>Erosion monitoring</i>	<i>Poor</i>	<i>Poor</i>	<i>Poor</i>	<i>Good</i>
<i>Succession monitoring</i>	<i>Excellent</i>	<i>Good</i>	<i>Good</i>	<i>Poor</i>
<i>Ecological changes (e.g. light, pH, nutrients, etc.)</i>	<i>Poor</i>	<i>Excellent</i>	<i>Good</i>	<i>Very poor</i>
<i>Identification of threatened and endangered species</i>	<i>Poor</i>	<i>Excellent</i>	<i>Excellent</i>	<i>Poor</i>

¹Standard LCTA Plot Inventory Field Methods as described in LCTA Field Methods Manual – USACERL Technical Report N-92/03 (February 1992).

²Transect or 2 x 2 Meter Plots single plots using the Braun-Blanquet method as described in Überlegungen zu einem Konzept geobotanischer Dauerbeobachtungsflächen für Bayern by Jörg Pfadenhauer, Peter Poschlod and Rainer Buchwald (Akademie für Naturschutz und Landschaftspflege (July 1996).

³Point-Frame Vegetation Ground Cover Method as described in a report of aerial seeding at CMTC Hohenfels prepared by Argonne National Laboratory. Contact CMTC Hohenfels EMO for more details.

TABLE 14.2.2
COSTS OF LCTA MONITORING METHODS IN U.S. DOLLARS

<i>Installation and Monitoring Items</i>	<i>Monitoring Methods and Estimated Costs¹</i>			
	<i>LCTA Standard (Short/Long Term)</i>	<i>Braun-Blanquet (transect) including 10 single 2x2m plots</i>	<i>Braun-Blanquet (single plot)</i>	<i>Vegetation Ground Cover</i>
INSTALLATION				
<i>Installation of plot (labor)</i>	110	850	110	110
<i>Installation of plots (materials)</i>	10	50	10	10
<i>Subtotal of one time installation costs</i>	120	900	120	120
MONITORING				
<i>Plot monitoring costs (labor)</i>	200/300	500	130	130
<i>Plot monitoring costs (materials)</i>	20	20	5	5
<i>Analysis costs</i>	50/100	350	70	160
<i>Subtotal of reoccurring monitoring costs</i>	270/420	870	205	295

¹Per plot costs in US dollars

The LCTA monitoring is an essential requirement in the ITAM Program. Long-term monitoring should be performed every 3-5 years. Short-term monitoring should be conducted every year. Depending on the nature and intensity of land use, short-term monitoring may not be necessary for all LCTA plots every year. Short-term monitoring will not take place during years in which long-term monitoring is performed.

Based on the above information, site visits, and experience it is recommended that LCTA plots be installed at the 417th BSB. A total of eight LCTA Standard Plots are suggested on parts of the installation with actual maneuver impacts:

- *Two plots at Klingenforst TA west of Larson (one in the open grassland and one at the forest fringe);*
- *Two plots at the tank training area east of Giltholz; and*
- *Four plots on the maneuver area at the center of the Klosterforst; two in the open sand fields and two in the succession area to the east.*

It is further suggested that there should be installation of, and monitoring by, Braun-Blanquet transects on several places of floristic value to determine vegetation cover and composition over time. These recommended locations are as follows:

- *One transect at the large sand meadows near the railway east of Giltholz;*
- *One transect in the open dune at the old sand pit in the northeast of Klosterforst;*
- *At least one transect at the eastern edge of the open area in Klosterforst where the Bundesforstamt removed spruces to support spring vegetation;*
- *One or two selected pioneer areas in Klosterforst including dry and wet areas. At least one transect should be located in a way that it includes a typical forest fringe to monitor succession;*
- *Two to four transects in the hydrosere sections at two or three wet biotopes at the Klosterforst and Giltholz including a monitoring of the results of the removal of sand out of the pond which Mr. Henning illustrated during the site visit. This area is located at the southern edge of Giltholz;*
- *One transect at the open grassland east of Klingerforst;*
- *One transect located at Leighton which would be used to monitor the efficiency of sheep grazing;*
- *Two transects at the orchard and dry meadow relicts near the golf course at Larson Barracks; and*
- *At least one transect at the dry meadows south of the flightline at Harvey Barracks.*

It should be noted that these are merely suggestions and the plots can be phased in over time depending on the use of the areas by the trainers. Once the installation has determined which areas are important enough to warrant installation and monitoring of plots, a customized regime can be established that reduces costs and maximizes data by which sound long term management goals can be achieved.

Objectives

1. LCTA inventories are an ITAM Program requirement.
2. The proposed plot locations will assist the EMO and the TSD in monitoring the success of LRAM efforts, succession, sheep grazing effectiveness, and vegetation cover and composition.

Resources Required for Implementation

In-house Staff: In house staff should be utilized for all aspects of this goal. Estimated effort: 3 weeks for up to 100 LCTA plots.

Contractors: Contractors should be utilized for all aspects of this goal.

Estimated effort: Installation of plots and long-term monitoring is two weeks. Short-term monitoring is one week. Estimated cost: LCTA Standard Plot Installation: \$960; LCTA Monitoring: \$2,160 for short term monitoring (every year); \$3,360 for long-term monitoring (once every 3-5 years); Braun-Blanquet Transect Installation: \$11,700; Braun-Blanquet Transect Monitoring: \$11,310 (every year).

Equipment: The HQ USAREUR possesses all necessary equipment for LCTA plot monitoring.

Materials: No anticipated materials requirements are needed to complete this goal.

LCTA Goal #2 - Implementation of LCTA Graphic User Interface

The EMO at the Combat Maneuver Training Center Hohenfels has developed a new LCTA database to convert the existing SQLBase system to MSAccess and designing graphic user interface (GUI) for intuitive access to the new system. Since the LCTA database/GUI development is complete, every installation in USAREUR with an LCTA program has access to the software. Furthermore, since CMTC Hohenfels is the Regional Support Center (RSC) in Europe for the ITAM Program assistance with installation, configuration, and training assistance is available. Information regarding the LCTA GUI software program or RSC Support is available by contacting the USAREUR ITAM Program Manager shown in Table 13.3.1.

Objectives

1. To provide simple, cost effective LCTA data analysis tools for decision making in conjunction with other ITAM pillars.
2. To ensure integration and standardization of LCTA data within the Command.

Resources Required for Implementation

In-house Staff: In house staff should be utilized for all aspects of this goal. Estimated effort: 2-4 weeks of a computer specialist's time.

Contractors: No contractors are needed to complete this goal.

Equipment: No anticipated equipment requirements are needed to complete this goal.

Materials: No anticipated material requirements are needed to complete this goal.

14.2.4.6 Project/Programs Priorities

Goal Number	Priority	Development Responsibilities
1	Important	Contractor
2	Important	In-house

14.2.4.7 Cost Saving Opportunities

No direct cost saving opportunities have been identified for this program.

14.2.4.8 Implementation Schedule

The implementation schedule shown below is specific for the intended life span of the INRMP. It should be noted that schedules may change through adaptive management and the availability of funds.

Goal Number	Year																			
	2000				2001				2002				2003				2004			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1																				
2	■																			

This schedule shows the time required to complete the work for individual goals (not the man-time). It does not necessarily reflect the time when a particular project will start.

14.2.4.9 Implementation Funding Options

The table below shows the potential funding sources for the goals identified in this section. The funding vehicles noted are proposed in relation to the wording of the goals and the applicable INRMP timeframe. The precise boundaries for project qualification under these funding vehicles are not always clear due to the continuing evolution of environmental policy and the multi-faceted nature of some natural resources management issues. Further information about the funding vehicles is given in Section 14.1.

Goal	Possible Funding Vehicle
1	ITAM
2	ITAM

417th BSB staff will include additional programming information during the approval action by the BSB Commander. In general, the aim is to program funding at least two years in advance of the INRMP development to encourage long-term planning.

14.2.4.10 Command Support

General information regarding command support can be found in Section 14.1. Additional information on command support for individual projects can be obtained from the EMO.

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14.2.5 Land Rehabilitation and Maintenance (LRAM)

14.2.5.1 Program Overview and Status

The LRAM component is designed to repair and maintain land for long-term sustainable use in a cost effective manner. The component includes programming, planning, designing, and executing land rehabilitation and maintenance projects. The LRAM component uses best management practices for rehabilitation and maintenance projects and includes training area redesign and reconfiguration. Training area redesign and reconfiguration helps sustain the overall condition of the installation by avoiding impacts and permitting restoration to occur. The LCTA component determines the need for LRAM activities and the TRI component ensures that mission requirements are met while LRAM activities are accomplished. LRAM activities generally concentrate on retaining the soil and vegetation. The projects conducted as part of the LRAM component are therefore mainly concerned with erosion and water control structures.

The LTA's in the 417th BSB are characterized by erodible soils, concentrated runoff areas and moderate slopes. The condition of the LTA's are generally good and contain sufficient vegetation cover. Therefore, the erosion problems that are commonly addressed within the LRAM Program (identified in the previous paragraph) are not a particular concern at the 417th BSB. The Buildings and Grounds Division supports the LRAM component of ITAM at the 417th BSB by periodically repairing the drainage ditches along tank roads.

14.2.5.2 Inventorying and Monitoring

The LCTA component monitors the need/success of the LRAM projects (see Section 14.2.4). Since installation staff are continually in the training area, inspection of structures, roads, etc., are conducted periodically on an as-needed basis.

14.2.5.3 Standard Operating Procedures

There are no SOPs for the LRAM component of the ITAM Program. As a general rule, for all projects involving new construction like erosion control structures the Bundesforstamt is contacted during the planning process.

The 417th BSB has developed valuable experience with a variety of seed mixes suitable for local conditions and for particular applications. This information is held in the Buildings and Grounds department. The department has a close relationship with a supplier called Green Field which can develop new mixes for problem applications.

14.2.5.4 Management Issues and Concerns

Several problem areas exist at the 417th BSB, the most significant in the form of tank road maintenance and repair. This situation creates several challenges both internally within the TSD and Buildings and Grounds and externally with host nation authorities both of which are identified in greater detail within the TRI section of this chapter.

All problem areas will be addressed in detail in the following section (Management Goals, Objectives, and Resources Required for Implementation).

14.2.5.5 Management Goals, Objectives and Resources Required for Implementation

LRAM Goal #1 - Seibert Stake Installation

Range Control has identified many areas on the Klosterforst and Larson LTA where Seibert Stakes are desperately needed. Photographs 14.2.1, 14.2.2, 14.2.3, and 14.2.4 show some of the highest priority areas within the 417th BSB. An INRMP is a living document and these areas will be amended as necessary by staff at the 417th BSB.



Photograph 14.2.1 - Larson Area L3. This area poses potential health and safety risks to troops particularly during bivouac and night operations. Seibert Stakes should be placed around this entire area until repairs can be performed.





Photograph 14.2.3 - Vehicle Recovery Area at Klosterforst. This area poses health and safety risks to troops in vehicles. To the left of this photo (red arrow) lies an area frequently used for driver instruction. During our site visit one vehicle approached at a very high rate of speed towards the vehicle recovery area and was turned back by



Photograph 14.2.4 - Nature Protection Area in Klosterforst Area U. Although this area is clearly marked a 'Naturdenkmal' (nature monument) because of its proximity to a frequently used intersection it should be marked off with Seibert Stakes.

Objectives

1. To keep troops and vehicles out of restricted areas and in some cases to avoid accidents.

Resources Required for Implementation

In-house Staff: In house staff are required for Seibert Stake installation. Estimated effort: three days.

Contractors: Contractors are needed to manufacture the Seibert Stakes. Alternatively, the Bundesforstamt may be able to provide the stakes at no charge if they are involved with delineating areas where the Seibert Stakes are placed. This has worked at other U.S. Army installations in Germany to great mutual benefit and enhanced cooperation

between the U.S. Army's most strategic host nation partner, the Bundesforstamt. In-house staff may also be able to make the Seibert Stakes. Estimated per unit costs for the Seibert Stakes is not available.

Equipment: The only equipment required to complete this goal is a sledge hammer to drive the stakes into the ground.

Materials: No materials other than the Seibert Stakes themselves are required to complete this goal.

LRAM Goal #2 - Road Repair at Larson Area L3

As stated previously in the caption to Photograph 14.2.1, and shown in greater detail in Photograph 14.2.5, this intersection is in desperate need of repair. If left unchanged it poses health and safety risks to troops and vehicles as well as erosion problems. The longer this situation remains unchanged the greater the damage, and cost to repair in the future. Despite its condition it will continue to be used unless Seibert Stakes are placed around it (see LRAM Goal #1).



Photograph 14.2.5 - Road Repair Needs at Larson L3. This intersection is along one of the main roads leading into the I TA

Objectives

1. To prevent accidents and further road degradation and erosion problems.
2. Enhance troop and vehicle movements to and from the LTA.

Resources Required for Implementation

In-house Staff: In house staff should be involved in the repair process of this project. Estimated effort: 1 week.

Contractors: Contractors are needed to complete this goal. Estimated effort: 2 months. Estimated costs: less than \$10,000 (including materials and equipment).

Equipment: Equipment needed to complete this goal should be provided by the contractor.

Materials: Materials needed to complete this goal should be provided by the contractor.

LRAM Goal #3 - Road Repair in Klosterforst Area E

There are several stretches of roads and intersections that are in need of repair in Area U. Photograph 14.2.6 below is just one example. This site was visited during a precipitation event of moderate intensity and it was observed that the section of road pictured below was completely submersed and difficult to pass. In addition, the fines of the gravel that makes up the road is being transported into the surrounding area further degrading the road condition.

Objectives

1. To prevent soil erosion and sediment deposition into the surrounding areas.
2. To prevent surface damage to the road network from improper drainage and the resulting erosion.



Photograph 14.2.6 - Road Repair Needs at Area E in Klosterforst. This photo was taken several days after it rained indicating insufficient drainage for the road and surrounding area. In the distance there is also another section in need of repair.

Resources Required for Implementation

In-house Staff: In house staff should be involved in all aspects of the design process of this project. Estimated effort: 2 months.

Contractors: Contractors are needed to complete this goal. Estimated effort: 1 year. Estimated costs: \$75,000 (including materials and equipment).

Equipment: Equipment needed to complete this goal should be provided by the contractor.

Materials: Materials needed to complete this goal should be provided by the contractor.

LRAM Goal #4 - Turning Pad Repair and/or Replacement at the Bradley Crew Proficiency Course (BCPC)

The BCPC has several erosion control problems associated with the roads. At BP Point #1 and BP Point #2 concrete the turning pads should be re-installed or modified. The current pads were improperly designed and do not extend far enough into the roads. Turning Bradleys are creating ruts just beyond where the pads end. It is suggested that the pads be extended or if funds allow removed completely and redesigned from scratch.



Photograph 14.2.7 - BCPC Repair in Klosterforst. This photo is of BCPC Point #1 and illustrates the extent to which damage has occurred.



Objectives

1. To prevent soil erosion and sediment deposition into the surrounding areas.
2. To prevent surface damage to the road network from improper drainage and the resulting erosion.

Resources Required for Implementation

In-house Staff: In house staff should be involved in all aspects of the design process of this project. Estimated effort: 2 months.

Contractors: Contractors are needed to complete this goal. Estimated effort: 1 year. Estimated costs: \$75,000 to \$100,000 depending on repair vs. replacement (including materials and equipment).

Equipment: Equipment needed to complete this goal should be provided by the contractor.

Materials: Materials needed to complete this goal should be provided by the contractor.

LRAM Goal #5 - Maintenance Plan for the BCPC

The BCPC has been neglected with respect to regular maintenance and the course will soon become unusable. Medium to large trees are now obstructing the line of sight to the movers in several areas throughout the course. This is causing significant degradation to the mission. Since regular maintenance has been neglected, removing the trees will now require permission from the Bundesforstamt. While not a large obstacle, a 'maintenance plan' for the BCPC will avoid Bundesforstamt involvement altogether in the future. In addition to solving the current problem, a maintenance plan will also allow the U.S. Army to 'manage' the grassland-to-forest transition zones for maximum mission realism effect. These transition zones will also provide a much more robust habitat for plants and animals, increasing biodiversity and highlighting the U.S. Army's commitment to good stewardship practices. It will also enhance the cooperation between the installation and the Bundesforstamt by avoiding potential management conflicts in the future.

Objectives

1. To extend the availability of the BCPC throughout the year.
2. To enhance mission realism.
3. To enhance biodiversity in the transition zones from forests to meadow.



Photograph 14.2.9 - BCPC View. This photo was taken in spring and shows trees growing in the middle of the range (red arrow). By the end of summer and the beginning of fall the movers can no longer be seen.

Resources Required for Implementation

In-house Staff: In house staff should be involved in all aspects of the plan. If possible, the Bundesforstamt should also be involved. Estimated effort: 1 week.

Contractors: Contractors can be used to complete this goal. Estimated effort: 1 month. Estimated costs: \$10,000 for a complete management plan.

Equipment: No equipment needed to complete this goal.

Materials: No materials are needed to complete this goal.

14.2.5.6 Project/Programs Priorities

Goal Number	Priority	Development Responsibilities
1	Important	In-house
2	Important	In-house & contractor
3	Important	In-house & contractor
4	Important	In-house & contractor
5	Important	In-house & contractor

14.2.5.7 Cost Saving Opportunities

No direct cost saving opportunities for this program

14.2.5.8 Implementation Schedule

The implementation schedule shown below is specific for the intended life span of the INRMP. It should be noted that schedules may change through adaptive management and the availability of funds.

Goal Number	Year																			
	2000				2001				2002				2003				2004			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	■																			
2	■	■	■																	
3		■	■	■	■	■	■													
4		■	■	■	■	■	■													
5	■																			

This schedule shows the time required to complete the work for individual goals (not the man-time). It does not necessarily reflect the time when a particular project will start.

14.2.5.9 Implementation Funding Options

The table below shows the potential funding sources for the goals identified in this section. The funding vehicles noted are proposed in relation to the wording of the goals and the applicable INRMP timeframe. The precise boundaries for project qualification under these funding vehicles are not always clear owing to the continuing evolution of environmental policy and the multi-faceted nature of some natural resources management issues. Further information about the funding vehicles is given in Section 14.1.

Goal	Possible Funding Vehicle
1	ITAM
2	OMA
3	OMA
4	OMA or ITAM
5	ITAM

417th BSB staff will include additional programming information during the approval action by the Base Support Battalion Commander. In general, the aim is to program funding at least two years in advance of the INRMP development to encourage long-term planning.

14.2.5.10 Command Support

General information regarding command support can be found in Section 14.1. Additional information on command support for individual projects can be obtained from the EMO.

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14.2.6 Training Requirements Integration (TRI)

14.2.6.1 Program Overview and Status

Training Requirements Integration (TRI) is a decision-making and resource allocation process based on the concept of land carrying capacity/sustainment factors (the objectives of TRI are explained further in DA Pam 350-4 (Department of the Army, 24 August 1999)). The TRI component integrates the installation's training requirements for land use, derived from the Range and Training Land Program (RTLP) process, with the natural resources conditions of the installation's lands, derived from the LCTA and other natural resources management projects. TRI seeks to balance training requirements with natural resource conditions by selecting options that will sustain use of lands indefinitely to support training readiness. Through TRI, the installation operations/training staff, supported by the natural resources staff, identifies options for allocating specific training requirements to specific land parcels.

The range of possible land use options derived through TRI includes: cease all training permanently on a given parcel of land due to severe impacts and initiate restoration; cease training temporarily on a given parcel of land to permit rehabilitation, repair, and maintenance; schedule and allocate lower impact training to a given parcel to reduce adverse effects and allow for natural recovery or longer, sustained use; alter likely training use of a given parcel by redesigning and reconfiguring the parcel; redesignate the parcel's use to alternative training, mission, or non-mission activity to permit natural recovery, prolong sustained use, or allow for rehabilitation, repair, or maintenance, and accept training related degradation of a given parcel of land.

The possible options derived from TRI for siting training facilities or activities include all feasible locations that support full accomplishment of all training objectives, eliminate or minimize adverse impacts, eliminate or minimize compromises to training, and take into account other factors such as access and support facilities.

In order to effectively rehabilitate and maintain many areas within the training area, it is necessary to put selected sites off-limits to training activities for defined periods. This is done to allow rehabilitation and maintenance crews to perform their work and for rehabilitation measure to take effect. Certain areas may only be restricted to motorized units and open to dismounted units.

14.2.6.2 Inventorying and Monitoring

The monitoring of the effectiveness of the ITAM Program is undertaken through the LCTA component, see Section 14.2.4.

14.2.6.3 Standard Operating Procedures

There are currently no SOPs for the TRI Program at the 417th BSB.

14.2.6.4 Management Issues and Concerns

The continuous use of facilities for military purposes for many decades requires a constant evaluation, repair, maintenance, and upgrading program to ensure that infrastructure components that allow these facilities to operate and meet the military missions are adequate and reliable. There is currently no clear guidance on what division is responsible for maintaining the road network within the training area. At other U.S. Army installations in Germany, notably CMTC Hohenfels, Grafenwöhr Training Area, Schweinfurt Training Area, and Friedburg Training Area all road maintenance and repair contained in the training areas are the responsibility of the Buildings and Grounds Division and are paid using O&M funds. At the 417th BSB, no road maintenance and repair on the scale described in LRAM Goal #2 or LRAM Goal #3 are performed by the Buildings and Grounds Division.

Personnel at the 417th BSB and the 98th ASG have shown or expressed the need for additional guidance from USAREUR in the form of an AR, TM, or other policy documents to help the installations with program management. This need arises due to the fact that the current AR350-4 is not sufficiently specific for day-to-day use at the installation level. Smaller

installations like the 417th BSB really need a ‘how to’ document. Of particular interest is how the ITAM funding system works including what qualifies and what does not under ITAM.

14.2.6.5 Management Goals, Objectives, and Resources Required for Implementation

TRI Goal #1 - Identification of Responsibility and Funding for the Road Network and other Regular Maintenance Requirements in the Training Areas

The current situation at the 417th BSB involving identification of responsible parties for the road network on the LTA is unclear. When the trainers are asked, they think it's the responsibility of the Buildings and Grounds Division. Ask the Buildings and grounds Division and they will say that since it is in the training area it is the responsibility of the trainers. This is highlighted by LRAM Goal #2 and LRAM Goal#3 but will continue to be an issue long after those particular goals are achieved. It is recommended that an SOP, Memorandum, or other official documentation be created in conjunction with the DPW, the ITAM Program Manager, and other stakeholders clearly defining the roles, responsibilities, and funding avenues needed to maintain the road network in the training areas, primarily in Klosterforst and Larson.

Objectives

1. To ensure that problems areas with the road network and similar structures in the LTA, as highlighted in LRAM Goal #2 and LRAM Goal #3 are dealt with efficiently and in timely manner.
2. To prevent problem areas from becoming hazards to vehicles and personnel.

Resources Required for Implementation

In-house Staff: In-house staff will be required to complete this goal. Estimated effort: 6-months.

Contractors: Contractors are not required to complete this goal.

Equipment: No anticipated equipment requirements are needed to complete this goal.

Materials: No anticipated material requirements are needed to complete this goal.

TRI Goal #2 - Improved Coordination Between the TSD and the Bundesforstamt

The TSD highlighted the need for better coordination on the installation. Currently, the foresters will call real property to inform the U.S. that logging or other activities will take place during a certain period at a particular area. However, Real Property doesn't inform Range Control of the Bundesforstamt's activities. Range Control only finds out 'after the fact'. This needs to be corrected immediately. One of two options are suggested. First, Real Property must inform Range Control when they are notified by the Bundesforstamt. Alternatively, the Bundesforstamt calls Range Control and then Range Control notifies Real Property. Either way, it is probably too much to expect the Bundesforstamt to call both Range Control and Real Property. To correct the situation it is recommended that a written standard operating procedure be created defining the roles and responsibilities for coordination of Bundesforstamt activities.

Objectives

1. To ensure that the TSD is informed of Bundesforstamt activities prior to being performed.

Resources Required for Implementation

In-house Staff: In-house staff will be required to complete this goal. Estimated effort: 1 week.

Contractors: Contractors are not required to achieve this goal.

Equipment: No anticipated equipment requirements are needed to complete this goal.

Materials: No anticipated material requirements are needed to complete this goal.

TRI Goal #3 - Creation of USAREUR Guidance for the ITAM Program

The ITAM Program has documents available such as AR 350-4, DA Pam 350-4, etc. that describe the ITAM Program strategy and what the end result should be. In addition, these documents are geared more towards larger installations where staff are responsible for each pillar of the program (e.g. LCTA Coordinator, LRAM Coordinator, etc.). However, no document exists that is USAREUR-specific that describe how small installations like the 417th BSB are supposed to achieve the objectives contained in the AR, DA Pam, or the ITAM Program Strategy.

Objectives

1. To ensure that assistance exists on how the ITAM Program is run within USAREUR. Of particular interest is what types of projects qualify under what pillar, the documents required by the USAREUR ITAM Program Manager to efficiently process, fund, and achieve ITAM Program objectives at the installation level, and when the documents are required for the future.

Resources Required for Implementation

In-house Staff: In-house staff will be required to complete this goal. Estimated effort: 6 months.

Contractors: Contractors can be used to achieve this goal but are not required.

Equipment: No anticipated equipment requirements are needed to complete this goal.

Materials: No anticipated material requirements are needed to complete this goal.

TRI Goal #4 - Range Training Land Plan (RTLPL) for BCPC and M203 Range

The BCPC and the M203 Range are located adjacent to each other at Klosterforst. The current configuration will not allow the BCPC and the M203 Range to be operated simultaneously for safety reasons and space restrictions. This poses a significant constraint to the training possibilities available to the TSD within this area. Determination of all configuration possibilities, effective troop usage, and alternatives will require an abbreviated

RTLTP. The RTLTP will provide detailed information whether the M203 range needs to be relocated elsewhere in Klosterforst or the M203 Range and the BCPC should be reconfigured in their current location. The Abbreviated RTLTP should take place prior to any repair to the BCPC outlined in LRAM Goal #4 and LRAM Goal #5.

Objectives

1. To enable simultaneous operation of the BCPC and M203 range.
2. Increase the available training possibilities offered by the TSD to units.

Resources Required for Implementation

In-house Staff: In-house staff will be required to complete this goal. Estimated effort: 3 months.

Contractors: Contractors can be utilized to achieve this goal, although they are not required. Estimated effort: 3 months. Estimated costs: \$50,000 if a contractor is used.

Equipment: No anticipated equipment requirements are needed to complete this goal.

Materials: No anticipated material requirements are needed to complete this goal.

14.2.6.6 Project/Programs Priorities

Goal Number	Priority	Development Responsibilities
1	Important	In-house
2	Important	In-house
3	Less important	In-house
4	Less important	In-house or contractor

14.2.6.7 Cost Saving Opportunities

No direct cost saving opportunities are identified in the program, however, the increased allocation of responsibility proposed will lead to more efficient operation which will probably save costs.

14.2.6.8 Implementation Schedule

The implementation schedule shown below is specific for the intended life span of the INRMP. It should be noted that schedules may change through adaptive management and the availability of funds.

Goal Number	Year																			
	2000				2001				2002				2003				2004			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	■																			
2	■																			
3	■																			
4	■																			

This schedule shows the time required to complete the work for individual goals (not the man-time). It does not necessarily reflect the time when a particular project will start.

14.2.6.9 Implementation Funding Options

The table below shows the potential funding sources for the goals identified in this section. The funding vehicles noted are proposed in relation to the wording of the goals and the applicable INRMP timeframe. The precise boundaries for project qualification under these funding vehicles are not always clear due to the continuing evolution of environmental policy and the multi-faceted nature of some natural resources management issues. Further information about the funding vehicles is given in Section 14.1.

Goal	Possible Funding Vehicle
1	ITAM
2	ITAM
3	ITAM
4	ITAM

417th BSB staff will include additional programming information during the approval action by the Base Support Battalion Commander. In general, the aim is to program funding at least two years in advance of the INRMP development to encourage long-term planning.

14.2.6.10 Command Support

General information regarding command support can be found in Section 14.1. Additional information on command support for individual projects can be obtained from the EMO.

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14.2.7 Environmental Awareness (EA)

14.2.7.1 Program Overview and Status

The EA component is designed to improve the land user's understanding of the impacts of his/her mission, mission training, and other activities on the environment. The program targets tactical units, leaders, soldiers, installation staff, and other installation users. It is established at the installation level, but relies on environmental training provided by Army schools.

Many of the EA activities on the installation are conducted as part of in-processing for all new training units through the TSD with support from the EMO when necessary. The EMO and Range Control, however, have some positive environmental awareness building initiatives. An obvious example is Earth Week which takes place in May each year. It has traditionally embraced German and American School children but is now becoming more popular with soldiers. An extension of the Earth Week activities is the Klosterforst Nature Walk an important part of the walk is providing education to participants about the biotopes and species found on the installation.

14.2.7.2 Standard Operating Procedures

There are no SOPs for the EA component of the ITAM Program.

14.2.7.3 Inventorying and Monitoring

The LCTA component monitors the success of the ITAM Program projects (see Section 14.2.4).

14.2.7.4 Management Issues and Concerns

The biggest concern with the EA component of ITAM is how to ensure that the soldiers are being informed of their environmental responsibilities in compliance with local regulations and procedures.

The laminated Soldier's Field Cards, part of the Army-wide effort to educate soldiers of their environmental responsibilities, put the do's and don'ts of local environmental information into the hands of the field soldier. These cards have been used in the past at the 417th BSB with varying degrees of success. At the 417th BSB, an additional concern is the time required to receive updated standard Soldier's Field Cards.

A new type of Soldier's Field Card was tested at Ft. Carson and Pinon Canyon Maneuver Site, Colorado. The folded, 8.5-by-11-inch paper includes step by step instructions on subjects like fuel spills, protecting endangered species, and the phone numbers and radio frequencies of environmental officials. On the back is an installation map showing major vehicle trails, off-limits areas, and places most likely to contain plants and wildlife (Hodgens, December 1997).

14.2.7.5 Management Goals, Objectives, and Resources Required for Implementation

EA Goal #1 - Design new soldier field 'sheets'

The cards produced at Ft. Carson are similar to those used at many facilities, but they are cheaper and can be changed almost immediately as situations warrant. These types of field 'sheets' could easily be produced on-site using existing computer equipment. The A4 sized sheets should contain all necessary information used on the Ft. Carson prototype but should also include disposal sites for hazardous materials (hydraulic fluid, JP8, brake fluid, batteries, etc.) or anything the installation determines needs additional or special attention. The map on the back of the sheet is readily available from the EMO and could be modified to enlarge particular areas where training is known to occur for a particular maneuvering scenario.

Objectives

1. To provide the soldier with step-by-step instructions on all environmental issues as determined by the installation.
2. To provide cheap, easily modified soldier's sheet to all troops rotating through the installation in a timely manner.

Resources Required for Implementation

In-house Staff: In-house staff could perform this goal completely. Estimated effort: 2 weeks for initial template. Updates would require 2-3 days.

Contractors: No contractors are needed to complete this goal.

Equipment: No anticipated equipment requirements are needed to complete this goal.

Materials: No anticipated material requirements are needed to complete this goal.

EA Goal #2 – Create a nature trail in Klosterforst LA

The aim is to construct a nature trail in an underutilized portion of Klosterforst that will be complementary to the PT requirements of the soldiers. It would also provide a resource for walkers and as a means of providing access to local natural resources. The proposed trail will be 7 km in length, be 2.5 meters wide, have 4 wooden bridges with 2 meter spans and a bark type surface covering.

Objectives

1. To provide a natural resources awareness and education trail
2. To provide a more attractive route for PT training.

(It should be noted from a design perspective that these two objectives have some conflicting requirements. A nature trail will ideally have a bark type final covering to give a more natural appearance, however, the longevity of such a path would be seriously undermined with heavy use by soldiers for PT in boots.)

Resources Required for Implementation

In-house Staff: Estimated effort: 3 weeks to obtain internal agreement about the objectives for the trail and its nature; 2 weeks for consultation with forestry bodies; trail design 4 weeks; 2 weeks contract management. Total 11 weeks.

Contractors: Contractors are needed to build the trail. Estimated effort: 2 months for a small contractor; 1 month for a larger contractor. Estimated cost: \$105,000 (\$15,000 per kilometer).

Equipment: Ground clearing equipment, equipment for re-enforcing, light earth moving equipment and transport for cover material.

Materials: Bark, and probably imported sand and hardcore for foundations/drainage.

14.2.7.6 Project/Programs Priorities

Goal Number	Priority	Development Responsibilities
1	Less important	In-house
2	Less important	In-house or contractors

14.2.7.7 Cost Saving Opportunities

No direct cost saving opportunities were identified for this program.

14.2.7.8 Implementation Schedule

The implementation schedule shown below is specific for the intended life span of the INRMP. It should be noted that schedules may change through adaptive management and the availability of funds.

Goal Number	Year																			
	2000				2001				2002				2003				2004			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1		■																		
2		■	■																	

This schedule shows the time required to complete the work for individual goals (not the man-time). It does not necessarily reflect the time when a particular project will start.

14.2.7.9 Implementation Funding Options

The table below shows the potential funding sources for the goals identified in this section. The funding vehicles noted are proposed in relation to the wording of the goals and the applicable INRMP timeframe. The precise boundaries for project qualification under these funding vehicles are not always clear due to the continuing evolution of environmental policy and the multi-faceted nature of some natural resources management issues. Further information about the funding vehicles is given in Section 14.1.

Goal	Possible Funding Vehicle
1	ITAM
2	AG & ITAM

417th BSB staff will include additional programming information during the approval action by the Base Support Battalion Commander. In general, the aim is to program funding at least two years in advance of the INRMP development to encourage long-term planning.

14.2.7.10 Command Support

General information regarding command support can be found in Section 14.1. Additional information on command support for individual projects can be obtained from the EMO.

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14.3 FOREST MANAGEMENT PROGRAM

14.3.1 Responsibilities and Points of Contact

The U.S. Army has no direct responsibility for forest management on the military installations in Germany, this authority rests with the host nation. The responsibility for all forestry activities at the 417th BSB lies with the German Federal Government, state bodies or individual landowners. There are currently a total of 25 land owners inside the installation, including the forestry authorities (the Bundesforstamt and the Staatsforstamt), together with several municipal and private owners. More details are provided in Appendix C1, Volume 1.

The remaining part of this sub-section gives an overview of forestry management responsibilities in Germany and at the 417th BSB.

There are two types of contract between the German State and landowners which make land available to the U.S. Army for training purposes in accordance with ‘NV Wald’ within § 2 Landbeschaffungsgesetz (LBG). The first is locally referred to as a Number 19 type contract and, depending on the specific terms of the contract, permits military use by the U.S. Army as well as partial or total use by the Bundesforstamt for forestry. The second, a Number 18 type contract, allows military use and includes payment for maneuver damage, while the forestry management and game harvest are still the responsibility of the landowners. In general Number 19 type contracts are for more heavily used land areas and Number 18 type contracts for those areas exposed to less training. With Number 18 type contracts, for example, payments are only made following larger maneuvers if, and when, damage occurs.

The administrative body of the German State for these land contracts is the Bundesvermögensamt (Federal Assets Office). All landowners are required to make arrangements for the maintenance of any forest in their possession. This might be by undertaking the management themselves or by transferring this task to the Bundesforstamt.

The Bundesforstamt is administered by the German Treasury Department (Bundesfinanzamt). Germany is divided into three Forest Inspection Regions (Forstinspektionen) and further sub-

divided into a total of 36 Forestry Offices (Forstämter). These Bundesforstämter are managed by a Forest Superintendent (Bundesforstdirektor). The areas covered by the individual Federal Forestry Offices are each sub-divided into several Forest Districts (Forstreviere). The Forestry Superintendent's Office for the 417th BSB is located in Hammelburg-Reußenberg. To carry out Forestry Office tasks on the installations, a Forest District was created and responsibilities assigned to a District Officer (Revierförster) based in Würzburg.

The Bundesforstamt district office in Hammelburg-Reußenberg office is responsible for forest and wildlife management on the smaller proportion of training land owned by the Federal Republic of Germany in accordance to § 16, Abs. 3 of the Treasury Administration Act Finanzverwaltungsgesetz). In addition, the Bundesforstamt is responsible for forests and wildlife on land owned by the State of Bavaria which is exposed to a heavy training routine. This is governed by a Number 19 type contract. The Bundesforstamt areas are marked by a white ring around the trunks of the trees on the corners of the areas. Federal hunting responsibility, for example, includes the open area of Harvey Airfield as well as to areas of Klosterforst.

The State Forestry Office is part of the Bavarian State Forestry Service (Bayerische Staatsforstverwaltung) which is organized and administered by the Bavarian State Department for Food, Farming and Forests (Bayerisches Staatsministerium für Ernährung, Landwirtschaft und Forsten, ELF). Bavaria is divided into seven Oberforstdirektionen, of which the Oberforstdirektion Würzburg is responsible for Lower Franconia, and many forest offices (Forstämter). The State forest offices (Staatsforstämter) are usually managed by a Forest Superintendent (Forstdirektor). The areas covered by the individual State Forestry Offices are sub-divided into several Forest Districts (Forstreviere). The Forestry Superintendent's Office responsible for the 417th BSB is located in Wiesentheid.

The Staatsforstamt Wiesentheid has two separate responsibilities. It manages the forests and wildlife in less heavily utilized areas owned by the State of Bavaria under a Number 18 type contract. This responsibility is given under Bayerisches Waldgesetz (BayWaldG) Forest Law

of Bavaria. The Staatsforstamt is also responsible for the implementation of the Bayerisches Jagdgesetz (BayJG) Bavarian Hunting Law.

The municipal owners of forests on the installation include the City of Kitzingen and the municipalities of Gerlachshausen, Fahr, Grosslangheim, Haidt, and Hörblach. These public owners usually have their own forest service. Most of the 17 private owners have taken responsibility for their forests, relying on specialist and technical advice from the District Forester (Revierförster) in the State Forestry Office in line with the BayWaldG. These public and private forest areas are under Number 18 type contracts.

Although the EMO has no jurisdiction over forest management, it does have an opportunity to integrate military requirements into forestry management policies and plans by holding occasional meetings with the Bundesforstamt and Staatsforstamt.

TABLE 14.3.1.1
ORGANIZATIONAL COMPONENTS OF THE BUNDESFORSTAMT

Forestry Office	Forstdirektor	Telephone Number
Reußenberg near Hammelburg	Dr. Rudolph	Tel. 06654-7031
Forest district	Forstmeister	
Kitzingen	Mr. Heck	Tel. 0931 97777

TABLE 14.3.1.2
ORGANIZATIONAL COMPONENTS OF THE STAATSFORSTAMT

Forestry Office	Forstdirektor	Telephone Number
Wiesentheid	Mr. von Deuster	Tel. 09383 97610
Forest district	Forstmeister	
Reupelsdorf	Mr. Braun	Tel. 09383 316

TABLE 14.3.1.3
CONTACT POINTS FOR THE ADJACENT CITIES

Administration	Telephone Number
City of Kitzingen	09321 4857
City of Volkach	09381 2379
Mayor of Marktsteft	09332 1513

14.3.2 Regulatory Requirements and Enforcement

Key regulations and guidance associated with this management program are described below. These and other general regulations are discussed in Volume 1, Chapter 6. Some specific regulations and guidance are not listed in Volume 1, Chapter 6, because they are applicable only to this program.

U.S. Department of Defense and U.S. Army Regulations

- Final Governing Standards Germany (FGS-G). DoD. (March 1996).
- NATO SOFA. USAREUR and 7th Army. (2 August 1959, as amended by the agreements 21 October 1971, 18 May 1981, and 18 March 1993 and the Revised Supplementary Agreement effective 29 March 1998).

German Federal Laws

- Bundesnaturschutzgesetz (BNatSchG). *Federal Nature Protection Act*. (27th July 1984)
- Bundeswaldgesetz (BWaldG). *Federal Forest Act*, in particular § 45 BWaldG.
- NV Wald, Richtlinie für die Begründung von Nutzungsverhältnissen an Waldflächen für den Zweck der Verteidigung. (§ 2 Landbeschaffungsgesetz (LBG), Novelle der NV Forst von 1961). *Regulation for use of forest areas for defense purposes*. (17.3.1982).

German State Laws

- Bayerisches Waldgesetz (BayWaldG). *Forest Law of Bavaria*. (25 August 1985).
- Gesetz über den Schutz der Natur, die Pflege der Landschaft und die Erholung in der freien Natur; Bayerisches Naturschutzgesetz (BayNatSchG). *Bavarian Nature Protection Law*. (10 October 1982).
- Landesgesetz über Naturschutz und Landschaftspflege; Landespflegegesetz (LPfIG). *State Laws of Nature Protection and Care of the Landscape*. (5 February 1979).

Other Regulations

- Erlaß des Bundesfinanzministers. *Decree of the Secretary of the Treasury*. (28 August 1995).

14.3.3 Program Overview and Status

The main goal of the Bundesforstamt and Staatsforstamt is to maintain and develop sustainable and ecologically sound forests. The forestry management practices mainly of the Bundesforstamt which is responsible for the areas of extensive training shall fulfill particular (military) interests and limit the negative impacts on the civilian surroundings. The natural functions of the forest and its transition zones, with regard to soil, water economy, climate, landscape, plants and animals should be maintained and developed, and ecosystem development encouraged. These goals should be achieved within a balanced financial framework.

For the Revierförster of the Bundesforstamt and Staatsforstamt in the Klosterforst district, the main tools to achieve these goals are the following data collection activities:

- Forest Inventory (Forsteinrichtung)
- Forest Site Survey (Standortkartierung)
- Forest Biotope Inventory (Waldbiotopinventur)

By law, the Bundesforstamt and the Staatsforstamt have to manage the deer and wild boar populations based on an Animal Harvesting Plan. The responsibility actually rests with the Staatsforstamt Wiesentheid, as the Bundesforstamt area is too small to allow direct responsibility. The Staatsforstamt therefore suggests an Animal Harvesting Plan to the Bundesforstamt annually. As hunting is only permitted with a license and a Revierförster must be used as a guide during hunting, the results are provided by both forest officers and licensed hunting guests. For 1997, a total of 5 hares and 6 roe deer were harvested and one dead roe deer found. In 1998 the results have been 7 roe deer and 2 foxes.

The Animal Harvesting Plan of the Staatsforstamt within the forest district of Reupelsdorf includes the entire Klosterforst and the Bundesforstamt list mentioned above. The summary for 1997 and 1998, from April 1 to March 31 for each year, are included in Table 14.3.3.

There is a Federal Hunt program which is designed to present opportunities for joint hunting between German and American hunters. The basis for the program is the . Hunts must take place on installation lands and at least 50 per cent of the hunters are supposed to be American. At the 417th BSB these hunts take place once per year usually around Thanksgiving. The hunt is targeted at a few species mainly the hare, rabbit and fox, other species are harvested as part of the Animal Harvesting Plan.



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TABLE 14.3.3
SUMMARY OF ANIMAL HARVESTING PLAN

1997		1998	
Roebucks	16(2)	Roebucks	20(2)
Roe-deer, does	21(2)	Roe-deer, does	17(3)
Roe-deer, fawns	25	Roe-deer, fawns	27
Foxes	1(2)	Foxes	4
Badgers	1	Badgers	
Hares	29	Hares	55
Partridges	3	Partridges	-
Ducks	5	Ducks	-
Wild Boar, < 1 year	(1)	Wild Boar, < 1 year	1
		Wild Boar, > 1 and < 2 years	(1)

The numbers in brackets mean pieces found of animals assumed to be dead, number included in the total. Data are taken from the Staatsforstamt 'Abschussplan Plan' schedule of animals shot or dead animals found in the years mentioned.

14.3.4 Inventorving and Monitoring

The Forest Inventory translates general goals into definitive management instructions applying to distinct areas. The current Inventory dates from 1977, although a new one is being compiled for the Bundesforstamt area of the 417th BSB. It will be valid for 20 years when completed. The basis for this management manual is the Forest Site Survey. This survey maps the soils, together with soil attributes such as type, moisture and other facts influencing the growth potential of the area. The latest available maps are from 1992.

The Annual Forestry Plan is the main guide for the Revierförster's daily work. It shows the single management activities necessary to fulfill the goals of the 10-year Forest Management Regulation.

14.3.5 Standard Operating Procedures

The basis for agreements between the installations and the Bundesforst is the regulations within the number 19 type contract. Areas such as wetlands are fenced with wooden stakes and are off-limits to vehicles. Meetings are conducted on a regular basis and when necessary

by the EMO with the Bundesforstamt and other authorities when their involvement is required. When necessary, the Oberforstinspektion Süd (Higher Forestry Administration Office) and USAREUR participate in these meetings as well as other authorities like representatives of the county and adjacent municipalities.

14.3.6 Management Issues and Concerns

Since the U.S. Army has no authority or responsibility for forest management, the rest of this section has been intentionally left blank.

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14.4 FISH AND WILDLIFE MANAGEMENT PROGRAM

Currently, there are no fish resources on the installation. If, in the future, fish resources are identified, management practices would be included as part of the Kitzingen Rod and Gun Club Program (see Volume II, Section 11.11). Wildlife management is the responsibility of the Bundesforstamt, Staatsforstamt, private and public owners and is included in the Forest Management Program, Section 14.3. POC information for all relevant programs is given in Tables 13.3.1 and 13.3.2. Therefore, the rest of this section has been intentionally left blank.

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14.5 RARE, THREATENED AND ENDANGERED SPECIES MANAGEMENT PROGRAM

14.5.1 Responsibilities and Points of Contact

The responsibility for Threatened and Endangered Species rests with the EMO. All TES activities within the 417th BSB must be coordinated with landowners, the Bundesforstamt, the Staatsforstamt and the Nature Protection departments from the local government.

14.5.2 Regulatory Requirements and Enforcement

Key regulations and guidance associated with this management program are described below. These and other general regulations are discussed in Volume 1, Chapter 6. Some specific regulations and guidance are not listed in Volume 1, Chapter 6, because they are applicable only to this program.

U.S Department of Defense and U.S. Army Regulations

- Final Governing Standards Germany (FGS). DoD. (March 1996).
- NATO SOFA. USAREUR and 7th Army. (2 August 1959, as amended by the agreements 21 October 1971, 18 May 1981, and 18 March 1993 and the Revised Supplementary Agreement effective 29 March 1998).

German Federal Laws

- Bundesnaturschutzgesetz (BNatSchG). *Federal Nature Protection Act*, (No Date) in particular § 20c.
- Bundeswaldgesetz (BWaldG). *Federal Forest Act*, in particular § 45 BWaldG. (27th July 1984)
- Gesetz zum Schutz der Kulturpflanzen, Pflanzenschutzgesetz (PflSchG). *Plant Protection Law*.(14th May 1998)

German State Laws

- Gesetz über den Schutz der Natur, die Pflege der Landschaft und die Erholung in der freien Natur Bayerisches Naturschutzgesetz (BayNatSchG). *Bavarian Nature Protection Law*. (10 October 1982).
- Landesgesetz über Naturschutz und Landschaftspflege, Landespflegegesetz (LPfIG). *State Laws of Nature Protection and Care of the Landscape*. (18 August 1998)

Other Regulations

- Erlaß des Bundesfinanzministers. *Decree of the Secretary of the Treasury*. (28 August 1995).
- Flora, Fauna, Habitat-Guideline of the European Council (FFH). (21 May 1992).

Other References, Manuals, Books, and Guides

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14.5.3 Program Overview and Status

There is currently no formal Rare, Threatened and Endangered Species Management Program at the installation. However the EMO has initiated projects to inventory TES and provide management recommendations for their preservation, and has also removed trees where natural succession offers a threat to maintaining rare plant communities. These recommendations include special requirements for single species or animal groups and more general guidelines to solve complex problems through ecosystem management. In addition, there are inventories that have been initiated by the City of Würzburg and the County of Kitzingen, which cover parts of the installation. Projects to maintain valuable biotopes have

been conducted in cooperation with the Federal Forest Service and with guidance from the local Nature Protection Authorities.

14.5.4 Inventorving and Monitoring

14.5.4.1 Inventorving

There is a variety of background data which focuses mainly on Klosterforst, Giltholz, Harvey Barracks, Leighton Barracks and Giebelstadt. A list of some of these specific references is provided in Appendix C3.

Flora

A biotope mapping of the County of Kitzingen which included parts of the installation was completed in 1987 (Mengling, 1987). In 1993, an additional survey particularly on military installations was executed (Muehlhofer, 1993). According to the official method of biotope mapping in Bavaria, both surveys used selective methods. As a result, no comprehensive vegetation cover map of the installation is actually available for most of the areas. The main exception is the Ecosystem Mapping and Field Survey recently completed on Klosterforst Training Area and Harvey Barracks (Ogden, 1997). An additional report on areas of particular interest within the Klosterforst Training Area provides evidence about plant species as well as fauna (Kerzner, 1993). See Figures 14.5.1 and 14.5.2.

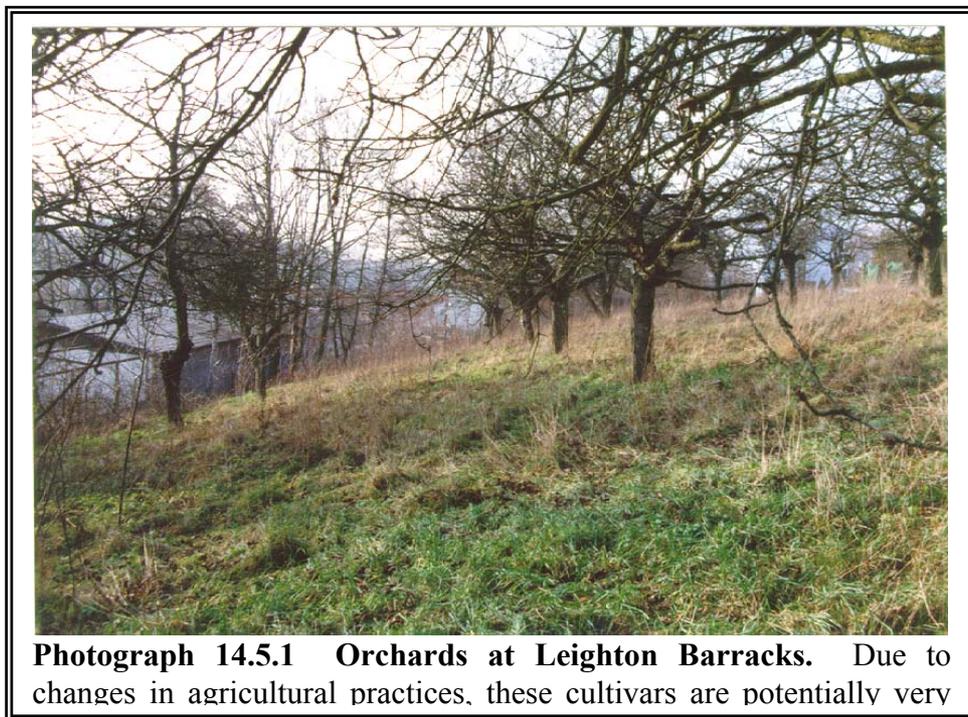
The results mainly focus on the Klosterforst and Giltholz areas. They show vegetation types of dry sand meadows, dune forests and pioneer formations of statewide importance. The ephemeral and perennial wetland structures are of comparable value. The area also shows a rich variety of forest communities from pine covers on dry sand dunes to deciduous riverine oak and hornbeam forests rich in undergrowth. However the historical importance of the site, with two plant species which have not been seen in the Klosterforst since 1960, has not been fully reviewed. Nordischer Drachenkopf (*Dracocephalum ruyschiana*), a small shrub with large blue flowers settling forest edges, and Black Rush (*Juncus atratus*), a large rush of shady forest ponds, have not been seen for decades and probably should be surveyed again thoroughly before they can be accepted as extinct.

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INSERT FIGURE 14.5.1

INSERT 14.5.2

Other remarkable areas are poor grasslands at the runways of Harvey Barracks and Giebelstadt, the deciduous forests of the Klingenforst and poor meadows on the eastern side and the deciduous forest at the rarely used area near Michelfeld. Further survey will be necessary to determine their importance. Orchards at Harvey Barracks and Leighton Barracks (see Photograph 14.5.1), with their apple and cherry cultivars, are also of interest as historical varieties have declined during this century and only recently been detected again.



Fauna

In the last decade the installation was the subject of many faunistic surveys which focussed on the Klosterforst area due to its outstanding variety of formations such as mixed deciduous and coniferous forests including dry dune areas, forest bogs and riverine parts, mixed with dry though to wet open areas with sand meadows, pioneer and old hydrosere successions and scrub is one major reason. The situation in the center of a depression with the hottest and most dry climate in the whole of Bavaria and the relative lack of pest control and fertilizers allow an abundance of insect species which is unique in Bavaria.

Many species of Mediterranean distribution show their only occurrence in Bavaria. This is the result of surveys on birds, bats, Reptiles, Amphibians, Grasshoppers and Locusts,

Butterflies & Moths, Xylobiontic Beetles, Forest Bees, Dragonflies, and Mollusks. Of particular importance are the results of Ogden (1997) on plants, birds, amphibians, insects, but as well of Pröse (1993 and 1994) on Butterflies and Moths, and Mandery *et al.* (1993) on Forest Bees, Dragonflies and Locusts.

The application of Dimilin was ordered by the forest department to avoid pest damage during the invasion of a certain Mediterranean caterpillar ('Schwammspinner'), in 1996. This may have damaged several species of insect larvae but the number and variety are unknown, due to fatal effects on insect larvae which shed their skins during the period of application.

Apart from the Klosterforst, only Harvey Barracks and Larson Barracks (including the Klingenforst Area) have sufficient evidence about the most important animal groups.

Colonies of rooks (*Corvus frugilegus*) have been recorded at Giebelstadt and Leighton Barracks. These species are endangered in Bavaria, and are listed in category 3 of the Bavarian Red List (see Volume I, Appendix D1).

Chapter 5, Section 5.10 and 5.11 of Volume I provide a summary of the number of species per animal group found within every area during the surveys.

14.5.4.2 Monitoring

In order to establish how TES management activities and other factors, such as recreational activities, influence the survival of threatened or endangered species it will be necessary to implement a monitoring system that would be responsive to changing situations. However, a monitoring scheme can not be devised and implemented until a TES survey has been delivered. It will provide the baseline upon which the targets and indicators utilized in any monitoring program will be based.

14.5.5 Standard Operating Procedures

For inventory and future monitoring activities no formal survey SOPs exist. However, all inventory and future monitoring activities should be undertaken using methods compatible with the methods described in past ecological surveys. For example, the Federal Forestry Administration Method for vegetation mapping.

14.5.6 Management Issues and Concerns

One of the most complicated issues regarding the TES surveys will be to combine all of the results and management recommendations of the individual reports into a single ‘consolidated’ document for the entire installation. This document would provide the BSB Commander and the EMO with comprehensive and effective steps to protect, enhance, and monitor known TES and their habitats while ensuring good stewardship of the training area.

The general decline of wet and dry sand habitats in Bavaria, due to destruction of habitats or changes of use, reduced the distribution area for many species which are adapted to sand habitats. Without a network of vital populations in the vicinity, the possibility of resettlement is quickly shrinking. It may be necessary therefore to have a regional management plan, for sand habitat to avoid further losses of species variety accidentally.

14.5.7 Management Goals, Objectives, and Resources Required for Implementation

TES Goal #1 - TES Survey Completion

To develop an effective database and enable an informed monitoring program, TES surveys need to be conducted on all the BSB training areas. These surveys will act as the baseline for the development and implementation of an efficient and effective TES management program. These surveys should include specific management recommendations.

Objectives

1. Maintaining a current list of known TES occurring on the site is required by the FGS-G (DoD, March, 1996) and implementing a monitoring system should achieve that goal.
2. Further survey is necessary for plants at Leighton Barracks, Harvey Barracks, Larson Barracks, Michelfeld Training Area and Giebelstadt Airfield.
3. Survey is necessary for basic animal groups, such as Birds, Amphibians, Locusts, Butterflies, Forest bees and Dragonflies, at Leighton Barracks, Harvey Barracks, Michelfeld Training Area, and Giebelstadt Airfield. It is only reasonable to survey wetland groups, like Amphibians and Dragonflies, where wetlands occur.
4. To provide management recommendation for TES species.

Resources Required for Implementation

In-house Staff: Monitoring the results of the survey should be performed by installation staff. Estimated effort: 1 month/year.

Contractors: Contractors could be utilized to assist the EMO with the survey of TES in the event no qualified biologist is available in-house to perform the survey. Estimated effort: 1-2 months/year. Estimated cost: \$10,000.

Equipment: No anticipated equipment requirements are needed to complete this goal.

Materials: No anticipated materials requirements are needed to complete this goal.

TES Goal #2 - Develop a Rare, Threatened and Endangered Species Program

The development of a Rare, Threatened and Endangered Species Program will consolidate the existing survey data into a single document/database. This will serve as a baseline from which future management activities are generated, and their efficacy assessed through monitoring program. Such a plan will enable the installation to benefit from previous experience.

There are two sub-programs of the whole management plan which can be started and monitored on the basis of current information levels. These are a Wetland Management Plan and Dry Sand Habitat Management Plan, at the Klosterforst and Harvey Training areas.

Objectives

1. Maintaining a current list of known threatened and endangered species occurring on the site is required by the FGS-G (DoD, March, 1996) and implementing a monitoring system should achieve that goal.
2. A collection of management recommendations for the suggested program wetland and sand habitats will probably show demands which might interfere with current needs of the military or forest use of the area. A commission of representatives of all authorities involved should be able to find a solution that fits all interests.
3. It should be kept in mind that stabilization of habitats demands a linkage between areas of own responsibility and related ones in the vicinity. It is necessary to build and maintain a network of involving areas beyond the borderlines of the installations. Coordinated monitoring should avoid misinterpretations of maintenance results (e.g. a breakdown of a monitored population is not likely to be caused by a particular management measure when similar monitoring points show the same effect without this measure).
4. Monitoring of areas where specific actions are taken to ensure the sustainability of the species and its habitat, in order to determine the success of those actions, complies with the FGS-G (DoD, March, 1996).

Resources Required for Implementation

In-house Staff: Monitoring the results of specific management recommendations and coordination of contact to other authorities should be performed by installation staff. Estimated effort: 1-2 weeks/year.

Contractors: Contractors could be utilized to assist the EMO with maintaining current TES lists or the definition and execution of management recommendations if a

qualified biologist is not available in-house. Estimated effort: 1 month/year. Estimated cost: \$8,000.

Equipment: It is important to have GIS running at the EMO to complete this goal.

Materials: No anticipated materials requirements are needed to complete this goal.

TES Goal #3 - TES survey on Bats

The monitoring of bat boxes placed in Klosterforst identified a variety of bat species in the summers of 1994 and 1995. Before an effective management program can be developed, however, more detail is required about the number of species, population number, distribution, summer habitats, breeding centers, and hibernation behavior. Professor Helverson at the University of Erlangen leads a group of bat specialists which would be capable of providing survey skill, management recommendations and support future actions.

A further step in bat management would be an assessment of opportunities to increase bat habitat. Possible action include the addition of new bat boxes, offering the now closed bunkers at Leighton Barracks and Giebelstadt for hibernation or the development of old facilities near Range Control Klosterforst. It is again necessary for experts to identify the most effective measures. Finally it will be necessary to develop a monitoring system to annually assess bat populations.

Objectives

1. Maintaining a current list of known TES occurring on the site is required by the FGS-G (DoD, March, 1996) and implementing a monitoring system should achieve that goal.
2. Stable and varied bat populations depend upon a huge variety and abundance of insects, as proof to be a good indicator for well-balanced ecosystems. However in many areas with good potential as bat habitats, there are structural factors such as a lack of hibernation possibilities or summer quarters which work as limiting factors. It is important to obtain this evidence, due to the declining population tendency of bats in Bavaria and elsewhere.

Resources Required for Implementation

In-house Staff: Monitoring the results of specific survey and management recommendations should be performed by installation staff. Estimated effort: 1 week/year.

Contractors: Contractors could be utilized to assist the EMO with special equipment and knowledge of the specific recording techniques, if no qualified biologist is available in-house. Estimated effort: 1 month/year. Estimated cost: \$8,000.

Equipment: Equipment required to record and amplify the ultrasonic sounds made by bats and a bat detectors.

Materials: No anticipated materials requirements are needed to complete this goal.

TES Goal #4 - TES Survey for recently lost species

*The Klosterforst is the last known habitat for two vascular plant species which occurred there until shortly after World War II but have been unrecorded for decades despite various efforts. These are Nordischer Drachenkopf (*Dracocephalum ruyschiana*), a small shrub with large blue flowers settling forest edges, and Black Rush (*Juncus atratus*), a large rush of shady forest ponds. It is still possible to find witnesses for their occurrence which will help to delineate the former – and probably also current – habitats.*

If thorough research fails to detect surviving specimens, but gives evidence about the last habitats, there is the second possibility to put the succession on these particular points to zero and hope for a reawakening of the species out of the seed potential sleeping in the upper soil. Experience in several cases of nutrition-poor hydroseres at the Pond District of central Frankonia suggests that, after a partial reopening of mostly overgrown wetlands and building a soft transition of bare organic to mineral soils, species which had not been recorded for decades grew again.

Objectives

1. Researching literature and asking witnesses about the location of former occurrence.
2. Restarting of succession on the former locations by clearing of small areas of forest edges and wetlands.
3. If the research is successful, it gives a fine example for the irreplaceable role that military installations play for the preservation of TES.

Resources Required for Implementation

In-house Staff: Monitoring the results of specific management recommendations should be performed by installation staff. Estimated effort: 1 week/year.

Contractors: Contractors could be utilized to assist the EMO with maintaining current threatened and endangered species lists in the event no qualified biologist is available in-house to perform monitoring. Estimated effort: 1-2 weeks/year. Estimated cost: \$2,500.

Equipment: No anticipated equipment requirements are needed to complete this goal.

Materials: No anticipated materials requirements are needed to complete this goal.

TES Goal #5 - Orchard survey

To support national fruit agriculture, a small number of cultivars with showy, well-selling fruit, sweetness, and low sensitivity to pressure and transport were recommended. A bonus was even paid for cleared fruit trees. As a result the number of fruit varieties has been in decline for more than a century in Germany. With the loss of taste and genetic variety from centuries of selection now recognized, old orchards of apples, plums, and cherries in the areas of Harvey Barracks and Leighton Barracks are potentially significant.

Objectives

1. Survey of the orchards on the installation for old, rare or actually unknown varieties.
2. Replanting of new fruit trees, preferably with high trunks.
3. Grafting of scions from recognized rarities of quality and interest on the newly planted.

Resources Required for Implementation

In-house Staff: Monitoring of results and maintaining of specific management recommendations should be performed by installation staff. Estimated effort: 1-2 days/year.

Contractors: Contractors could be utilized to assist the EMO with delineating fruit varieties in the event no qualified gardener is available in-house to perform recording. Estimated effort: 1-2 weeks/year. Estimated cost: \$2,500.

Equipment: No anticipated equipment requirements are needed to complete this goal.

Materials: A number of young fruit trees for grafting as needed.

14.5.8 Project/Programs Priorities

Goal Number	Priority	Development Responsibilities
1	Highest priority	In-house & contractor
2	Highest priority	Contractor
3	Highest priority	Contractor
4	Less important	Contractor & In-house
5	Less important	Contractor & In-house

14.5.9 Cost Saving Opportunities

No cost savings opportunities have been identified for goals 1,3,4 & 5 of this program. It is probable that goal 2 will lead to more efficient TES management so will lead to cost savings in the medium term.

14.5.10 Implementation Schedule

The implementation schedule shown below is specific for the intended life span of the INRMP. It should be noted that schedules may change through adaptive management and the availability of funds.

Goal Number	Year																			
	2000				2001				2002				2003				2004			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1		■	■			■	■			■	■			■	■			■	■	
2				■				■				■				■				■
3			■				■				■				■				■	
4			■				■				■				■				■	
5	■				■				■				■				■			

This schedule shows the time required to complete the work for individual goals (not the man-time). It does not necessarily reflect the time when a particular project will start.

14.5.11 Implementation Funding Options

The table below shows the potential funding sources for the goals identified in this section. The funding vehicles noted are proposed in relation to the wording of the goals and the applicable INRMP timeframe. The precise boundaries for project qualification under these funding vehicles are not always clear due to the continuing evolution of environmental policy and the multi-faceted nature of some natural resources management issues. Further information about the funding vehicles is given in Section 14.1.

Goal	Possible Funding Vehicle
1	VENN
2	VENN
3	VENN
4	VENN
5	VENN or AG

417th BSB staff will include additional programming information during the approval action by the Base Support Battalion Commander. In general, the aim is to program funding at least two years in advance of the INRMP development to encourage long-term planning.

14.5.12 Command Support

General information regarding command support can be found in Section 14.1. Additional information on command support for individual projects can be obtained from the EMO.

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14.6 WETLANDS MANAGEMENT PROGRAM

According to the information available at the current time, there are a bunch of areas within the installation which are designated as jurisdictional wetlands by the Biotope Mapping of Bavaria. Some of these areas, particularly within the ‘Klosterforst’, are classified as ‘Protected parts of the countryside’ (Geschützte Landschaftsbestandteile) according to Bavarian Nature Protection Law (number 24 and 25 within the Giltholz). Others, such as numbers 15, 22, and 27, are part of areas recorded as biotopes by the Biotope Mapping of Bavaria but have not been declared to be protected areas. In addition, a number of man-made structures within the extensive training zone have been identified (water retention basins, tank ruts, etc.) where wet biotope types have developed.

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14.7 WATER RESOURCES MANAGEMENT PROGRAM

Management of water resources is split between EMO and Utilities which are both under Directorate of Public Works. Drinking water quality, wastewater treatment, and storm water management within the cantonment area are managed by Chief of Sanitation within the Utilities Department. Surface water monitoring, protection of groundwater, and storm water management within the training area are managed by EMO. POC information relating to Water Resources Management is included in Table 13.3.1. In an effort to be concise all water resources information can be found in Volume II, Section 11.7. Therefore, the rest of this section has been intentionally left blank.

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14.8 AGRICULTURAL AND GRAZING OUTLEASING PROGRAM

14.8.1 Responsibilities and Points of Contact

The host nation is responsible for outleasing of lands within the boundaries of the 417th BSB. Contract management for agricultural and grazing leases is the responsibility of the German Federal Assets Office. The Bundesforstamt district Forstmeister are responsible for coordination and oversight of actual activities that occur on installation lands under the outlease program. Leases are responsible for obtaining training schedules from the 417th BSB Scheduling Office. The 417th BSB EMO provides recommendations on grazing practices and other program issues. However, EMO has no formal program authority or responsibility. Installation and German agency POC information is provided in Tables 13.3.1 and 13.3.2, respectively.

14.8.2 Regulatory Requirements and Enforcement

The U.S. Army has no authority or responsibility for outleasing lands that are not owned by the U.S. government. Accordingly, outleasing is not specifically addressed by the FGS-G. Several German regulations and programs address grazing and can be found in Volume I, Chapter 6.

14.8.3 Program Overview and Status

The outlease program at the 417th BSB provides for multiple use of training lands without interfering with the military mission. The program provides cost-effective maintenance and conservation functions; agricultural and grazing resources to local residents; as well as a source of income for the German government and USAREUR. A portion of the lease fees obtained from outleasing are available to USAREUR for natural resources management program funding. Further details on the current outleases are provided in Volume I, section 8.3.1. As the responsibility for outleasing lies with the host nation the rest of this section has been intentionally left blank.

14.9 PEST MANAGEMENT PROGRAM

There is no Pest Management by U.S. personnel in the training area. Occasionally the forest department orders applications to avoid pest damage, for example Dimilin in 1996 (see Section 14.5.4.1). Details on Pest Management within the cantonment areas are provided in Volume II, Section 11.9. Therefore the rest of this section has been intentionally left blank.

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14.10 FIRE MANAGEMENT PROGRAM

14.10.1 Responsibilities and Points of Contact

Fire management activities are implemented under the Fire Prevention and Protection (417th BSB) Standard Operating Procedure (SOP). The Fire Chief, under direction from The Directorate of Engineering and Housing (Community Fire Marshal), has primary responsibility for implementation of the fire management activities. Point of Contact (POC) information for the Fire Chief is provided in Table 13.3.1.

A Mutual Aid Agreement for fire protection exists between the 417th BSB and the civilian fire departments.

14.10.2 Natural Resources Management Using Controlled Burning

At the present time there is no program of controlled burning used for vegetation management in the training area of the 417th BSB. Therefore the rest of this section has been intentionally left blank.

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14.11 OUTDOOR RECREATION PROGRAM

In the training area the only natural resource-based activities available are hunting and fishing. The Bundesforstamt is responsible for all hunting and related activities at the 417th BSB. This information has therefore been briefly described in the Forest Management Program, Section 14.3. The Chief of Outdoor Recreation is responsible for fisheries management at the 417th BSB. These activities are described in the Outdoor Recreation Program, Volume II, Section 11.11. Point of Contact (POC) information for the Chief of Outdoor Recreation is provided in Table 13.3.1. The rest of this section has been intentionally left blank.

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14.12 GROUNDS MAINTENANCE PROGRAM

Most grounds maintenance and vegetation management work is carried out in the cantonment area but there is a small amount of reproofing and reseeding of ditches adjacent to the roads. To avoid repetition, all of the information for both the cantonment and training areas has been detailed within Volume II, Section 11.12. Therefore, the rest of this section has been intentionally left blank.

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CHAPTER 15.0

SUMMARY OF THE IMPLEMENTATION OF THE TRAINING AREA

PLAN

15.1 OVERVIEW

The training area plan focuses primarily on the ITAM Program, the Rare, Threatened, and Endangered Species Management Program, and the Agricultural Grazing and Outleasing Program.

The training area plan identifies several requirements, as defined by the FSG-G, NATO SOFA, USAREUR Regulations, and host nation laws, that are not currently implemented. The top priorities among them being erosion control and repair in Area 2C and the MOUT site (LRAM Goals #1 & #2), and identification of responsibility for the maintenance of the road network. Other important recommendations for natural resources concern threatened and endangered species management (TES Goals #1 and #2) as these will improve the efficiency of the conservation effort and the cost effectiveness of the threatened and endangered species program.

Table 15.1.1 gives a complete priority list and schedule for all goals identified in the training area plan.

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TABLE 15.1.1
PRIORITY LIST AND SCHEDULE FOR THE TRAINING AREA PLAN

Goal	Priority	Proposed Schedule																			
		2000				2001				2002				2003				2004			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
LCTA Goal #1	Important																				
LCTA Goal #2	Important																				
LRAM Goal #1	Important																				
LRAM Goal #2	Important																				
LRAM Goal #3	Important																				
LRAM Goal #4	Important																				
LRAM Goal #5	Important																				
TRI Goal #1	Important																				
TRI Goal #2	Less important																				
TRI Goal #3	Important																				
TRI Goal #4	Less important																				
EA Goal #1	Less important																				
TES Goal #1	Highest priority																				
	Highest priority																				
	Highest priority																				
TES Goal #4	Less important																				
	Less important																				

**APPENDIX A3:
BIBLIOGRAPHY**

BIBLIOGRAPHY

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**APPENDIX B3:
PERSONS CONTACTED**

PERSONS CONTACTED

Name	Title	Building Number	Telephone Number or (DSN)
Ms Assaad	Real Property (417 th BSB)	221	351 4588 (DSN)
Mr Corbin	Range Control – ITAM Program Manager (417 th BSB)	256 (Klosterforst)	351-8206 or 8668 (DSN)
Mr Von Deuster	Staatsforstamt Wiesentheid Balthasar-Neumann-Str. 28	N/A	09383/384 09383/2950 (Fax)
Mr Elyn	ODCSENG Environmental Division (USAREUR Heidelberg)	3796	370-7699 (DSN)
Mr Fink	98 th ASG	256 (Klosterforst)	355-8206 (DSN)
Mr Gentry	Rod and Gun Club, Kitzingen		09321 305609
Mr Henning	EMO (417 th BSB)	221	0931 296 4582 or 351 4582 (DSN)
Mr Holbrook	ODCSENG Environmental Division (USAREUR Heidelberg)	3796	370-7699 (DSN)
Mr Kreier	Forstrevier Main-Tauber Wilhelm-Wein-St. 33	N/A	0931 97777
Ms Koss	Geologist EMO (417 th BSB)	221	0931 296 4583 or 351 4583 (DSN)
Mr Köstner	Chief, Facility Engineer (417 th BSB)	144 (Harvey Barracks)	09321 305 652
Mr Neeb	Bundesvermögensamt Würzburg	N/A	0931 296 4394
Mr Nickel	Master Planning (417 th BSB)	221	351 4589 (DSN)
Mr Ohlenschlager	Chief, Buildings and Grounds (417 th BSB)	221	0931 296 4449 or 351 4449 (DSN)
Mr Rudolf	Landscape Architect (417 th BSB)	221	09321 296 4619 or 351 4619 (DSN)
Mr Scarbath	USAREUR ITAM Program Manager (Grafenwöhr Training Area)	621	475-6902 (DSN)
Mr Short	Range Control – LTA Manager (417 th BSB)	256 (Klosterforst)	355-8206 (DSN)
Mr Sims	Chief, EMO (417 th BSB)	221	0931 296 4581 or 351 4581 (DSN)
Mr Thal	Chief, Utilities (417 th BSB)	221	0931 2964451
Mr Wirth	Real Property Specialist		0931 296 4394 or 351 4394 (DSN)

**APPENDIX C3:
RARE, THREATENED AND ENDANGERED SPECIES ADDITIONAL
REFERENCES**

**APPENDIX D3:
FISHING AND HUNTING AGREEMENTS**