



MILITARY INTEGRATED TRAINING RANGE MANAGEMENT GUIDEBOOK



JULY 2000

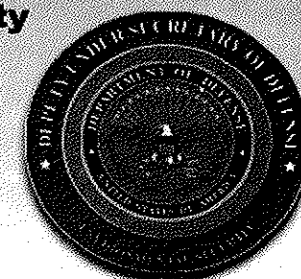


MILITARY INTEGRATED TRAINING RANGE MANAGEMENT GUIDEBOOK

A joint South Africa-United States project
under the auspices of the Environmental Security
Working Group, Defence Committee of the
SA-USA Binational Commission



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Foreword

Compiling a Military Integrated Training Range Management Guidebook



The relationship between the United States and South Africa, which has taken shape under the U.S.-South Africa Bi-National Commission, is a critical one to both countries. The collaboration we have forged in recent years has deepened our mutual understanding and served as a model for other nations.

Over the last several decades, we have repeatedly seen confirmation of the basic premise that bilateral and multilateral cooperation on topics of mutual interest reaps great rewards, including in saving time and money and being able to learn from the past experiences of others. Nowhere has this proved more true than in the area of international defense-related environmental cooperation. While a relatively new bilateral relationship, the environmental security activities between the South African Department of Defence and the United States Department of Defense have already created a number of specific products, including this guidebook.

We recognize that world dynamics are creating new requirements for military training. Environmental standards are placing growing restrictions on ranges. At the same time, military ranges are burdened by challenges such as base closures, more frequent and intense training requirements, and new technologies that require more space in which to operate. All militaries must train to achieve high operational standards, but also must be environmentally aware and responsible in their conduct so that future use can be assured. This guidebook aims to assist militaries throughout the world in developing a comprehensive range management process that integrates environmental considerations/criteria into day-to-day training activities, thus enhancing their ability to sustain long-term operations. It is written in a format that can be adapted to any site and is applicable to air, land and maritime operations.

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**COMPILING A MILITARY INTEGRATED TRAINING RANGE
MANAGEMENT GUIDEBOOK**

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COMPILING A MILITARY INTEGRATED TRAINING RANGE MANAGEMENT GUIDEBOOK

Introduction

As part of the U.S.-South Africa Bi-National Commission, the South African Department of Defence (SA DoD) and the United States Department of Defence (US DoD) have established a Defense Committee. The Defense Committee's *Environmental Security Working Group* will address issues relating to military land and environment, including Military Integrated Training Range Management.

Base commanders and operational commanders are ultimately accountable for the lands under their command. Their environmental managers and range commanders, among others, are responsible for the continuous management and maintenance of military training areas, including air maneuvering ranges, ground ranges, and maritime ranges. Therefore, they are additionally responsible for ensuring that military training exercises can be conducted in a sustained manner. This training inevitably allows military forces to be prepared and effective in a wartime situation. Prepared forces, in turn, represent the key to the Department's core business activity --**warfighting**. It, therefore, becomes evident that the value which is added by logistical support processes, one of these being range management, will directly support the successful execution of a military organization's core business.

One should realize that our defence businesses, to include training, warfighting, logistics, etc., do not rely on a profit motive and are often insulated from market forces. They are, therefore, somewhat indifferent toward client demands. Nevertheless, we certainly want our defence activities, including facilities management, to be available, responsive, cost effective, and well managed. Training range management is not simply the responsibility of environmental managers and range commanders.

What is Military Integrated Training Range Management?

International trends point to the fact that *environmental managers* need to establish and maintain a partnership with their military clients. It is further evident that non-core activities such as *environmental management* (EM) should relate to:

- the management of the life cycle elements (acquisition, utilisation planning, maintenance, disposal & conversion) of buildings, land and the natural environment

- in an integrated way so as to promote the success, and sustainability of the core processes of the Department of Defence,
- the management of the impact of Department of Defence activities on the environment in which they are carried out, including acquisition, operation, maintenance and disposal of equipment, and
- international, national, state/provincial environmental legislation as well as all applicable military laws and directives.

Military Integrated Training Range Management aims to enhance the defence sector's ability to sustain long term, cost effective range operations through the development of sound range management practices. This includes land, air and sea ranges.

The need for a Military Integrated Training Range Management Guidebook...

Military leaders usually receive new duty assignments after an average period of four years. At our bases or training areas, however, services must be delivered day after day, year after year. In the field of logistics and especially environmental management, a more continuous approach is needed. To operate effectively and efficiently, militaries worldwide rely on environmental managers and range commanders to provide the more mundane, continuous, albeit essential, service of managing the built and natural environment.

This guidebook provides military environmental managers with a process which will ensure the long term continuation of environmentally sound range management practices while simultaneously enhancing the defence sector's ability to accomplish sustained, cost effective range operations.

Who will use the guidebook?

The guidebook is primarily written for use by the range environmental managers. Outputs of the process described will be directed at the range commander (secondary client), in the form of standing operating procedures, and at forces being trained on the range (tertiary clients), in the form of annexes to exercise or operational orders and environmental training programs.

Benefits derived from implementation of principles contained in the guidebook

- Through a joint undertaking, invaluable expertise enriched by extensive experience on behalf of both the RSA and the US in terms of military integrated range management, is exchanged and combined for worldwide implementation.
- Statutory environmental legislation holds the environmental resources such as land user accountable for the stewardship of land, water, and air, in its custody. Such legislation was drafted by means of consultative processes and, therefore, reflects the views of civil society. Through sound implementation of integrated range management, militaries will demonstrate a commitment toward custodianship of state resources in their use.
- Due to increasing pressures on these environmental resources and subsequently decreasing tracts of land available to the militaries, it is important that resources are utilized and managed in such a way that is cost effective, and that long-term, sustained utilization is ensured. The goal of military integrated range management is to ensure the long-term, sustained potential of military ranges.
- Sound implementation of the military integrated range management guidelines and principles at military ranges yield obvious benefits to long term military use and force preparation. Moreover, it broadens the potential for alternative land use. This is clearly necessary in the event that military use of such land is relinquished in favour of alternative economic patterns of land use or implementation of national land reform policies.

Process followed to produce the first draft

A team of US, SA range management, and utilization experts convened at the School of Armour in Bloemfontein, South Africa from 18 to 22 January 1999 to compile a draft Military Integrated Range Management Guidebook.

Executive Summary

The new millennium will bring with it increased challenges for militaries around the world as they try to cope with a multitude of training requirements to meet new objectives, and to deal with the introduction of new technology. The use of military ranges on which to conduct these training activities will surely increase, and continue to present unique problems in terms of that use. One of the unique problems that will have to be addressed is the idea of environmentally sustainable use of air, land, and maritime ranges. This is critical as pressure mounts from the outside to reduce their size, eliminate them from active use through political action and/or base closure or realignment process, and to provide for the environmental practices that are required under various laws in each country. All militaries must be environmentally aware and responsible in their conduct of range operations to ensure the continued use of the areas.

The purpose of this guidebook is to assist militaries worldwide in developing an environmentally comprehensive and viable range management strategy that will enhance their ability to *sustain* long term operations. Although it is impossible to determine the differing requirements of military range use around the world it is nonetheless feasible to present a format that will provide the necessary guidance for universal use. The guidebook has been designed to be general enough in its content to accomplish this, and is applicable to air, land, and maritime scenarios. Inherently all militaries will be concerned with the same type of challenges in their day to day operations from an environmental perspective. The guidebook has been put together by an Integrated Training Area Management Work Group made up of subject matter experts from the South African Department of Defence, and the United States Department of Defense. This work group consisted of operational as well as environmental experts. The guidebook has been used in a field situation to determine its efficacy in terms of disseminating the information in as accurate and useful manner as possible. Figure 1 illustrates the process from its inception to its conclusion.

The guidebook begins with a process for determining the overall method for integrating operations and environmental considerations. This process is critical in providing the rationale for completing the work required under the following sections. The next section provides an inventory of environmental resources, followed by an impact analysis process. It is necessary to review the legal requirements of each country in order to successfully operate their range facilities; this is discussed in the next section. The next two sections discuss some management strategies and standard operation procedures to implement the program. An environmental training section that discusses ideas for promoting the program amongst commanders, troops, and the public follow this. A glossary of terms is provided in Appendix A.

The Military Integrated Training Area Management Process

The proposed integrated training area management process developed as a joint project of the US and SA Departments of Defence, consists of eight steps as depicted in the attached diagram. Each of these steps is expanded upon in the succeeding sections of this handbook.

Step 1: The identification of the "training package". The package describes the requirement for firing ranges and training areas based on the missions assigned by the national command authority and the resulting needs of training area users and their respective missions.

Step 2: The environmental resource inventory. This inventory captures in technical terms the components and conditions of the natural and cultural environment within the boundaries of the training area, forms a baseline for future comparisons and trend analysis, and dictates the environmental carrying capacity of the land.

Step 3: The review of Legal Compliance requirements. This review identifies all environmental laws that impact on the management and use of the training areas.

Step 4: Impact analysis. This analysis considers the relationship between the products of the first three steps. The analysis can be performed broadly for the entire training area or discretely for each firing range or training area parcel. It results in an optimum allocation of land, water, and air resources to perform mission requirements while resulting in the least negative impact on the environment.

Step 5: Management plans: These environmental plans for natural and cultural resources and socio/economic factors codify the processes that will support training area management for sustained use. The plans are based on the analysis and allocation in step 4.

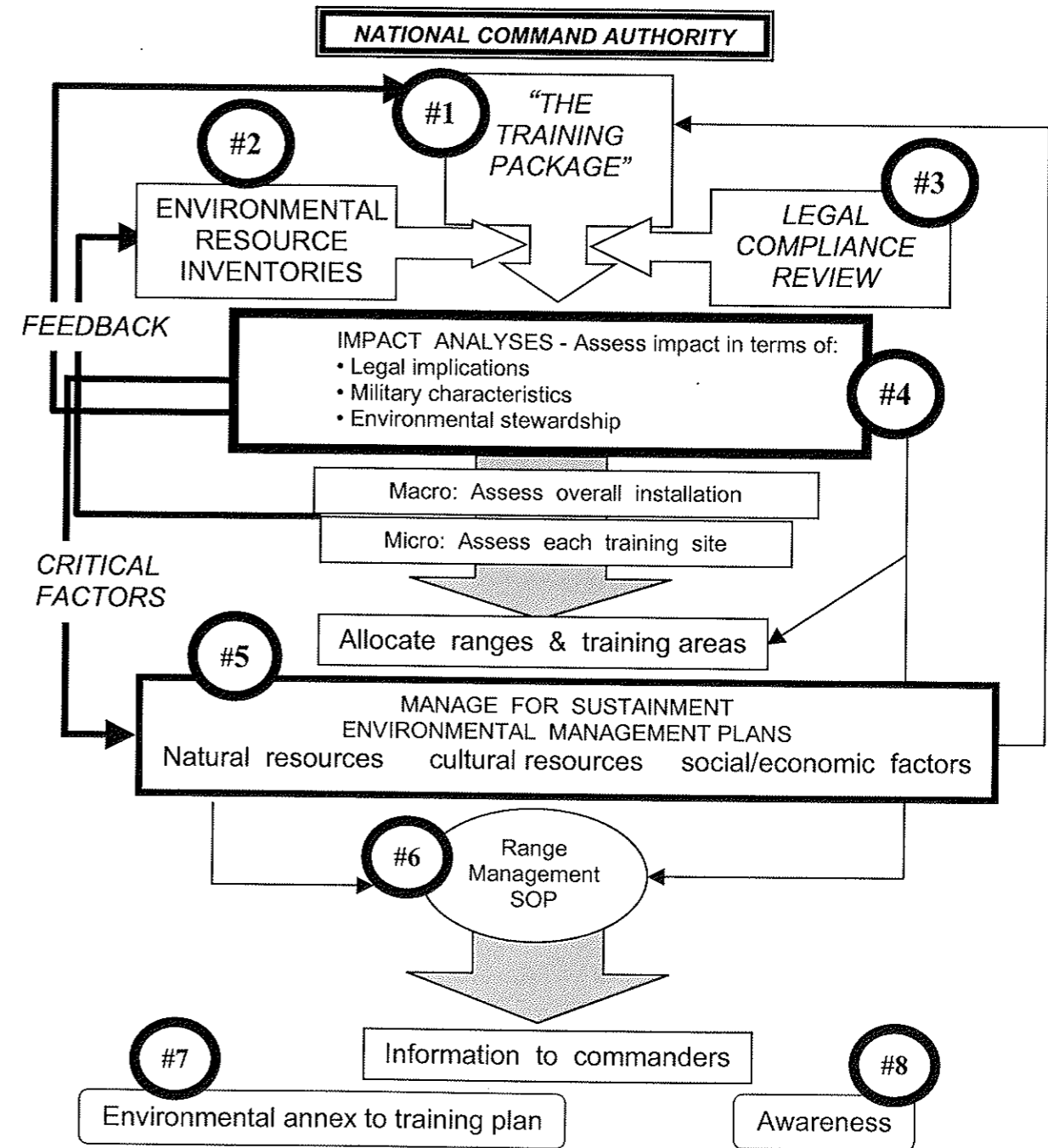
Step 6: Range Management SOP: This SOP is aimed at the military range and training area manager and users. It codifies procedures from the mission perspective.

Step 7: The environmental annex to the training plan: This is the unit commanders instructions to his command reflecting the procedures contained in the Range Management SOP. It conveys the commander's instructions concerning environmental protection during the execution of training by specific military units.

Step 8: Awareness: These are steps taken by the training area managers to make users (both military and civilian) aware of environmentally sensitive areas and environmental rules in

affect on the training area. It also includes steps taken to inform the public of actions taken by the military to protect the environment on military training areas.

Figure 1 MILITARY INTEGRATED TRAINING AREA MANAGEMENT PROCESS



Defining the Military Training Package

Introduction

This section addresses the question of training requirements. Specifically, this section provides guidelines and a process that:

- Describe the training package (types of training, intensity, duration, equipment, munitions, buffer areas, etc.) on a range and training area complex.
- Describe the process for compiling a range and training area activity and asset inventory.

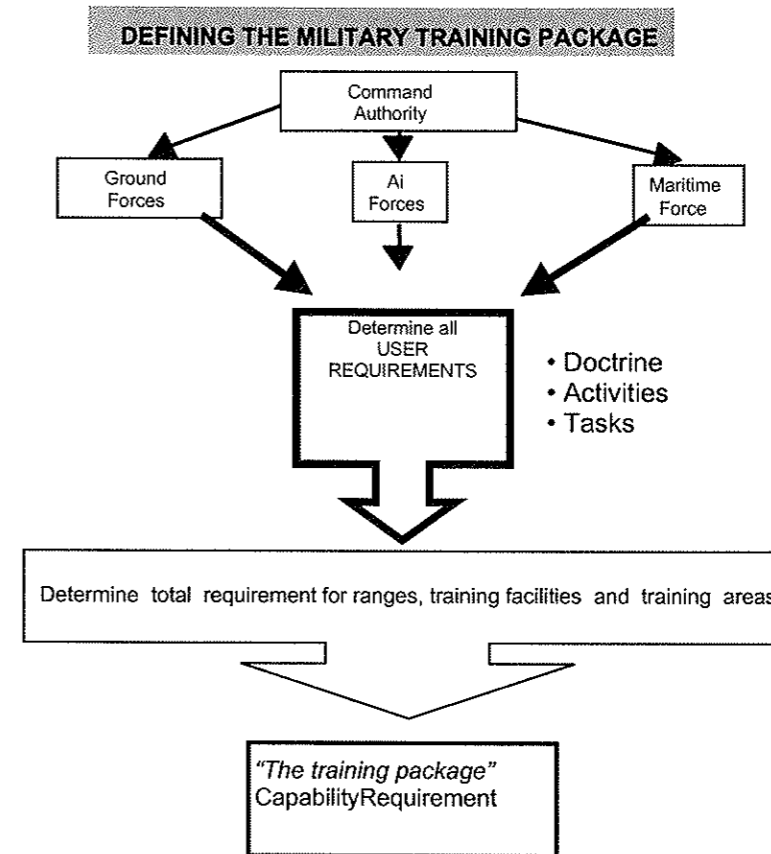
The training package is in fact the training mission capability requirement for range space.

Guidelines provided here assume that an installation range manager seeks to identify all range and training area requirements for his installation. These guidelines lead to development of a range and training area package or master plan. The management of that master plan through zoning allocation and scheduling is addressed in the SOP section of this guidebook.

Descriptive terminology

See the glossary in Appendix A for a description of the terms used in these sections.

Figure 2



Guidelines for defining the training package

- The determination of the installation training package and ultimately the installation range space (ranges and training areas) requirements start with the national command authority's "intent". That is, the missions assigned to both the training installation and to all units and range/land using agencies that use the installation. Identification of the installation's training "users" includes the ground, air and maritime forces and other military agencies that require range space. Within those service groups, users generally fall into the following two broad categories: Military Schools and Units (See Glossary).
- Once the users are known, the installation range manager determines the activities and tasks performed by the users based on service doctrine.
- In addressing the school or unit requirements, the installation range manager considers the service standards for each category of training.
 - School schedules or programs of instruction specify the blocks of instruction or classes that require training space and the number of tasks or events conducted during each class.
 - Unit training standards are prescribed by services. Such standards normally specify the events, frequency and number of repetitions required for a unit to maintain a minimum level of readiness.

Guidelines for defining an installation's spatial requirements

- By reviewing the users and the training standard for each user, the installation range manager can identify the total range and training area requirements for the installation.
- However, to complete the requirement, the range manager must also consider the following key factors:
 - Whether events are live fire, non-live fire, or both.
 - The safety template for all live fire events.
 - The topography required for certain events, e.g., mechanised/armour manoeuvre cannot traverse steep terrain.

- Spatial considerations - the doctrinal template required for certain manoeuvre training.
- Which event is most consumptive – requires the most space.
- The operational tempo of events – the number of repetitions executed on the same training space.
- Possibility of scheduling. Take the following into account:
 - Temporal requirements
 - Mutual non-compatibility of certain activities, i.e. Which actions cannot be carried out simultaneously = Restriction
 - Day or night scheduling
 - Seasonal requirements

Environmental Resources inventory

Introduction

The purpose of this section is to provide the user with a listing of features necessary for determining the baseline conditions found on and near the facility. The inventory must be consistent with national policy and service specific guidance and be within funding limitations. It is recommended that the inventory be conducted in conjunction with interested agencies and individuals that have interest in the range and its activities. Areas of special environmental importance should be identified and described. This data will provide the basis by which comparisons can be made in future years after activities have taken place on the range. It will allow for trend analysis as conditions change due to increased or decreased operations tempo, land acquisition or disposal, new requirements driven by legislation or regulation, or other situations, warranting such analysis, which may occur. The inventory is dynamic therefore: appropriate personnel (users, environmental staff, range operations, etc.) should formally review it on a periodic basis. It is recommended that this review is conducted on an annual basis, or as significant change of usage, frequency, or intensity occurs. The list provided is not meant to be totally inclusive as other resources may have to be considered given the location, nature of range use, or other conditions specific to a particular facility. The inventory provides an **essential** tool to measure success.

Why do it?

- Establish Baseline condition.
 - Status Quo.
 - Something to compare change with.
 - Control

- Continual update
- Environmental carrying capacity

What is it?

Analysis of current conditions on site.

**** Natural Resources***

Area location

- Location
- Size
- Area Description
 - Land Use
 - History of Land Use

Abiotic/physical

- Geology
 - Soil
 - Type
 - Location
 - Soil chemistry
 - Sensitivity
 - ◆ Compactibility
 - ◆ Erodibility
 - ◆ Water retention
 - Aquifers
 - Key geological features (Possibly sensitive)
- Topography
 - Aspect
 - Slope

- Elevation

- Water Resources
 - Types: Surface & Subsurface
 - Runoff
 - Quality
 - Seasonality
 - Source
- Air
 - Quality
 - Sources of pollution (Types)
- Climate
 - Precipitation
 - Temperature
 - Insulation
 - Seasonal fluctuations (Hazardous weather conditions)
 - Wind

Biotic

- Biome
- Flora
 - Veldtype
 - Distribution of communities
 - Sensitivity (Rare, threatened, and endangered)
 - Problem flora (invasive/ toxic/ bush encroachment)
- Fauna
 - Types
 - Distribution of communities
 - Sensitivity (Rare, threatened, and endangered)
 - Problem fauna (invasive etc)

**** Cultural Resources***

- Archaeological
 - Rock art, implements
- Architectural
 - Type of building/structure
 - Uniqueness
- Ethnic
 - Sacred Sites
 - Burial grounds
 - Worshipping sites
 - Medicinal gathering of plants
 - Areas potentially claimed by communities
- Site of historic importance
 - Famous battles
 - Monuments

OTHER CONSIDERATIONS

*** Socio-economic**

- Demographics
 - Income Levels
 - Housing
 - Industrial
- Noise
 - Air
 - Ordnance
 - Vehicles
- Adjacent land use
- Multiple Range use
 - Recreational
 - Grazing

- Mining
- Forestry-Agricultural
- Adjacent Human Population Distribution
- Water Resources
- Educational
- Research

*** Hazardous Materials**

- As defined by national law
 - Contaminated sites
 - Types
 - Storage (ID existing)
 - Disposal Sites

*** Solid Waste**

- Types
- Storage / collection points
- Recycling points on sites
- Disposal areas

***Waste Water**

- Types
- Disposal/Treatment facilities
- Chemical toilets

*** UXO and Range Debris**

- Type
- Distribution/location
- Disposal area
- Fate and Transport

*** Infrastructure**

- Types of man made features
 - Roads

- Firebreaks
- Fences
- Other
- Location

Management Processes

Overall responsibility and accountability rests with the commander of the installation. The day to day responsibility for completing and updating the inventory rests with the environmental staff and the range managers. Updating of the inventory should consider the frequency at which the inventory needs to be re-accomplished based upon change of range usage, intensity of activity, new land acquisition, ownership changes, etc. As a suggestion it is recommended that it be reviewed annually. This review should take place with other agencies and interested organizations.

Legal compliance review

This section will provide an analysis of those applicable laws and regulations that may impact environmental and military activities. The review should include applicable international, national, state/provincial and military laws and directives. The review will be conducted periodically as legislation is added or changed. One must be cognizant of the fact that a wide variety of legislation (environmental and others), is applicable to the operation of range facilities. Current trends in accountability indicate that militaries are no longer exempt from this legislation. This requires legal personnel in conjunction with the environmental personnel, to complete a comprehensive legal review to determine which legislation, conventions, and regulations are applicable to the successful operation of his facility. The scope of legislation can be very broad and include laws not specific to the environmental arena. Because base commanders and operational commanders are ultimately accountable for the lands under their command, legal and environmental personnel should keep them informed.

Scope of legal compliance review

The range users, range managers, and environmental staff must take note of the fact that laws to be complied with can include the following with some examples:

- International Law

- Whaling Activities
- Hazardous Wastes
- Treaties, Protocols and Conventions
 - Native Tribes/Peoples
 - Other Countries and Alliances
 - Biodiversity
- National or Public Laws
 - Environmental Impact Analysis
 - Endangered, Invasive and Other Sensitive Species
- Regional, District, State, Provincial, or Local Laws and Regulations
 - Agricultural / Erosion Control
 - Licensing and Certification
- Military Departments/Ministries Laws, Directives, Instruction or Regulations
 - Environmental Compliance
 - Implication of Military Activities

Being cognizant of land use activities on adjacent land

In addition to the above requirements, there may also exist areas of land, on or surrounding the facility, which are controlled by agencies outside of the military organization. In these cases, laws pertaining to their management may have direct or indirect implications on the types or intensity of military activity that may be conducted.

Ensuring relevance of legal compliance review

It is also recognised that the legal review process must be consistent with the comprehensive inventory conducted in the previous section on resource inventory and relevant military activities that will take place on the range.

Impact analyses

Introduction

During the impact analysis the environmental considerations have to be brought into perspective with the training function and the activities associated therewith. It is a method used to evaluate specific types of military activities against each applicable environmental component of the training area by using an impact analysis matrix. The impact analysis process followed must be consistent with legislative requirements and guideline of specific countries. It is imperative that the impact analyses is executed as a joint process involving all relevant role players such as range managers, environmental managers, training planners and exercise planners. By making an assessment of the severity of each military training activity against each component of the environment and giving it a relevant value will define the various degrees of impact e.g. low, moderate or significant. The advantage of the impact analysis by matrix is that it can be repeated periodically, which will enable the range scheduler to determine a set of standard values for each event, weapons system and unit.

Requirements of the impact analyses process

- Evaluate the military training activities against each applicable environmental component of the training area by using an impact analysis matrix.
- Make an assessment of the severity of impact of each military training activity against each component of the environment and give it a relevant value that will define the various degrees of impact e.g. low, moderate or significant impacts.
- Provision must be made for sub-zoning for example blunt end, impact area and unaffected areas within the boundaries of the safety template. Doing this will ensure cost effective utilisation of resources due to the fact that both significant and non-significant impacts, which require varying degrees of management, rehabilitation and monitoring inputs, can occur on different areas within the same safety template.
- The impact assessment must also provide for the assessment of macro level impacts as well as long term combined affects of various activities.
- The assessment in each box of the matrices should consider (in priority):
 - Impacts that affect environmental law.
 - Impacts that affect military characteristics of the training space.
 - Impacts that affect environmental stewardship of the training space.
- For each assessment of each activity on every zone, the impact analysis matrix should result in a comparable standard.

- Based on these assessments, decisions are made concerning allocation of training activities to specific zones in the training area.
- The ideal would be the development of a set of standard values established for each event, weapon system and unit type e.g. mechanised units. The training capacity unit of measure must be practical and usable by the range scheduler.
- The assessment of the environmental issues with the activities on each zone can be totalled in a value system to serve as an indicator for critical areas that have to be addressed during the compilation of the management plan.
- The impact analysis matrices for each zone must serve as a database to determine change in environmental conditions or military impacts.
- These impact analyses can be repeated periodically as desired by the relevant training areas or after significant changes in the environment or military activities.

Management Strategies (Plan)

Introduction

The Management Strategies are a series of plans that integrate the operational and environmental aspects of accomplishing the training area mission. The strategy will be incorporated into a plan which has several annexes which describes the goals, objectives, activities and milestones that must be accomplished to ensure that the training area provides sustained cost effective training opportunities. This management plan provides recommendations that can be included in the range managers standing operating procedures and in annexes and training orders used to execute detailed training events. Due to the integrative nature of military environmental management strategies it is imperative that structures and mechanisms are put into place at the highest level of command to ensure the involvement of all relevant role players such as range managers, environmental managers, training planners and exercise planners

Main document

- Introduction
 - Purpose
 - Overall goal
- Description of area to be managed
- Management Issues
 - Environmental inventory updating/review
 - Area reclamation/military features
 - Environmental management
 - Contingency planning
- Review and update plan
 - Use change
 - Negative trends

Annexes

- Title

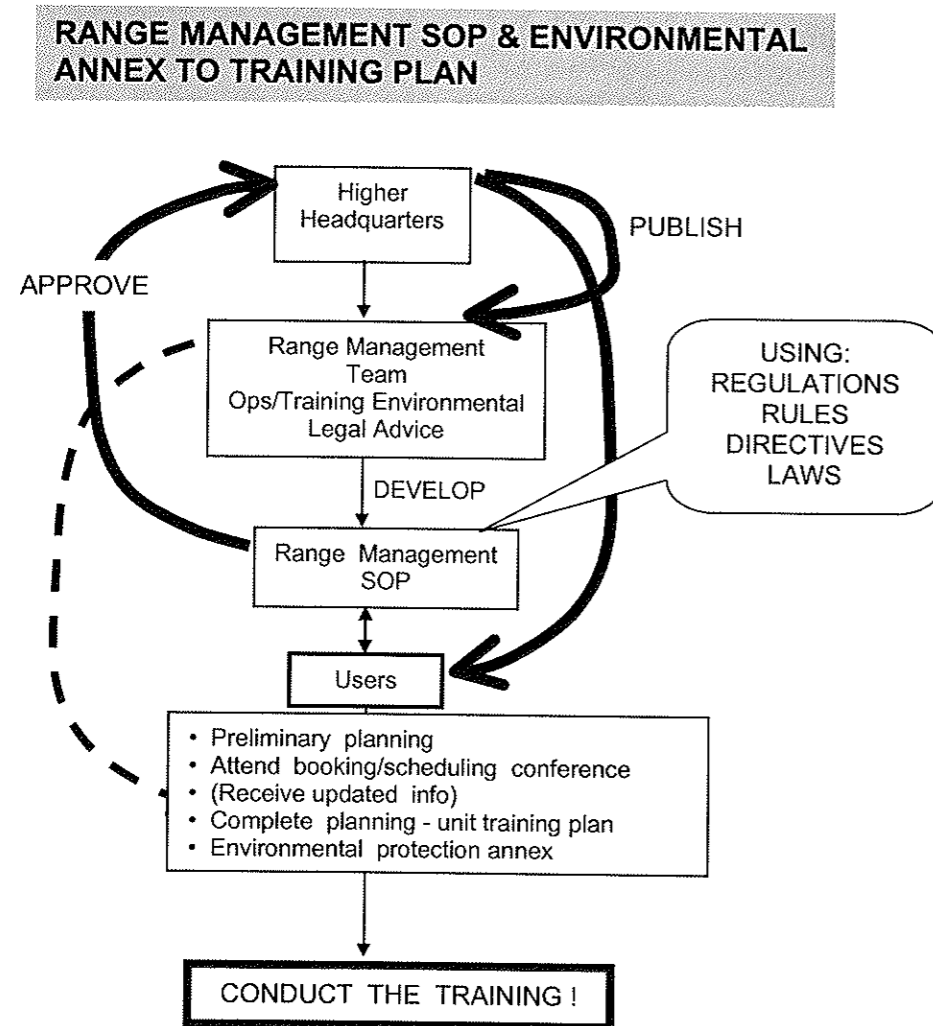
- Introduction
 - Overview of issue
 - Background
 - Issues/concerns
- Current management activities
- Assumptions
- Constraints
 - Mission
 - Resource
 - Off base
- Management strategy
 - Goals, objectives, activities, milestones, monitoring and research
 - Resources
 - SOP and range operations recommendations

Standing Operating Procedures (SOP's)

Introduction

All applicable rules, regulations, directives, policies, instructions, orders, laws, etc. are consulted and a SOP is drafted. These rules and regulations are listed in the SOP as references. The SOP is drafted by the range manager and a representative body of range users. The SOP addresses topics and issues that remain relatively constant/unchanged and that apply to everybody. Such topics/issues may include safety, responsibilities of personnel, maintenance of the training area, range scheduling, do's & don't's, briefings, handling of waste, and movement for purposes other than training.

Figure 3



Compiling a range management SOP

- A range management SOP is essential to the effective, integrated management of a military training area.
- In order to develop such a range management SOP, a military command responsible for a particular training area must establish a range management team. That team must be organized to integrate the work of the training/operations staff that determine the training package for the training area, and the environmental management staff that manages environmental aspects of the training area. The team must also be able to receive legal advice from appropriate sources.
- A range management SOP is a set of rules, procedures, policies, directives, laws, and instructions that regulate both the management and use of the training area. Therefore, it is both an internal tool for the range management team and an external tool for all users of the training area.
- The range manager has overall responsibility for the SOP. In developing it, he relies on the guidance from higher headquarters (or authority). [NOTE: Higher headquarters could mean the local operational commander.] He considers applicable military regulations, procedural guides and laws in developing the SOP. Sustainable use is an important component of integrated training range management – not only from an environmental perspective but also from an operator’s perspective.
- It is anticipated that the SOP will be reviewed and updated periodically (probably annually). It is also anticipated that the SOP will be reviewed and approved by the headquarters with responsibility for the training area in question. Among other additions, the update would integrate new environmental laws, regulations, and procedures into the SOP.
- The SOP contains the “standing” orders and instructions for management and use of the training area. Standing orders mean those that are always in effect during the period of time for which the SOP is in effect. For example, it specifies all applicable, permanent procedures for safe operations, booking/scheduling, and logistics support to users. Its periodic revision would include consideration of the annual impact analysis discussed previously in this handbook. Thus, when updated, the SOP will reflect the results of the most recent environmental impact assessment. This will be primarily reflected in the areas of range and training area allocation and carrying

capacity. Those factors provide the range scheduler with information needed during scheduling sessions over the upcoming year.

Contents of the range management SOP

The contents of a range management SOP includes:

- **References:** All military regulations, procedural documents, laws, etc applicable to the management and use of the training area
- **Introduction:** A general summary of the use of the SOP – purpose, applicability, aim, scope, etc.
- **General Description of the Training Area:** A description and capabilities (perhaps supported by annexes) of each firing range and training facility, and a description of how the training area is allocated for various training functions and activities.
- **Duties and Responsibilities:** The duties of all key range management and unit user personnel.
- **General Instructions and Procedures:** This section contains all specific, permanent instructions for range management and use. These instructions should be placed in the following three categories:
 - **Operational and logistics instructions:** These cover rules for obtaining logistics support as well as for operating ranges and conducting training.
 - **Environmental instructions:** These are the broad, permanent environmental protection and sustainment rules in effect for the applicable period of the SOP.
 - **Legal instructions:** These are the legal rules affecting the training and range management.

Annex to Exercise Operational Plan

Introduction

All training area users will normally prepare a training plan that establishes the training objectives, tasks, and schedules for a specific booked period of training. That plan should

include an environmental protection annex that provides the unit commander's instructions to personnel concerning environmental factors and protection during that specific training period on the training areas and ranges to be used. The annex is in the format of a special order. It addresses specific situations, units, activities, seasons etc. It can also be in the form of a contingency plan or address any relevant issue that does not occur regularly enough to be called a standing procedure. It should be updated more often than the SOP and is intended to provide specific, applicable information. The preparation of this annex is the responsibility of the user

Sources employed to develop the Annex to the operational order

The annex is based on two major sources:

- The training area management SOP.
- The specific environmental considerations in effect for the booked training period and locations.

Development process

- The Training Area Management team continuously assesses the condition and impacts on the training area. The team periodically reviews their assessment (normally at a time corresponding to the booking cycle). From that assessment, the team agrees on any unique (seasonal) environmental rules that will be applied during the upcoming booking period. Then, during the booking conference, the range scheduler informs all users of those rules. This information may be supplemented with specific briefings, aids to soldiers, and/or other "awareness" material.
- Based on the information provided to them at the booking conference and the permanent provisions of the SOP, the unit will prepare an appropriate environmental protection annex to its training plan. However, the focus of this annex is on the environmental aspects specific to the training period, locations and activities of the plan.

Awareness: Environmental Training and Education

Introduction

Guidelines are provided to Environmental Managers and Commanders regarding the establishments of Environmental Education and Training programs. The purpose of these programs will be:

- * Formal Environmental Training to educate users of the ecological status, usage of the terrain with the least amount of damage to the environment and the applicable laws regarding the environment.
- Less formal Environmental Education to inform interested groups of the efforts employed by the military to provide for the stewardship of those environmental resources entrusted in their care. The program must be focussed on a need to know base and be adapted to the different user groups.

Target groups

Internal targets

- * Commanders
- * Environmental Advisors/Managers
- Troops

External targets

- * General Public
- * Non-Military Users
 - Contractors
 - Industry
 - Researchers
 - Recreational Users
 - Non-Governmental Organizations
- * Statutory Authorities

Internal target groups

Reference framework for compiling Environmental Training programs for Internal Targets

- * Environmental related laws
- * Defense Environmental Policy
- * Defense Environmental Program

- * Structure / Goals

Environmental Training and Education aimed at Commanders

Aim

To provide the commander with knowledge to balance operational requirements with responsibilities to the public and environment.

Suggested Methods Include

- * Course on Environmental management systems
- * Orders
- * SOP's
- * Environment Related Newsletters
- * A Commanders Guidebook with general environmental info
- * Video

Environmental education for environmental advisors/managers

Aim

To provide environmental advisors/managers with necessary environmental training and information to carry out their tasks

Suggested Methods Include

- * environmental training courses
- * maintain professional development

Environmental training and education aimed at troops

Aim

To provide troops with the necessary environmental information, dependent on their requirements

Suggested Methods Include

- * Unit briefings
- * Unit Range Brief
- * Cards / handouts
- * Posters about env info
- * Orders
- * SOP's

Recommended actions

- * Integrate into Range Briefing
- # Handouts (brochures, pamphlets)
- # Video
- # Lecture

External targets: Communication***Environmental Education aimed at the Public******Aim***

To provide the general public / adjacent landowners with "need to know" information on relevant training and environmental activities.

Recommended actions

- * Local liaison/community outreach
- * Media events
- * Informational materials

Environmental Education and Training aimed at non-military users***Aim***

To provide the non-military users with relevant information on the environment.

Suggested Methods Include

Non-military users need to have some of the same information that troops require. Non-military users must be briefed by representatives of the facilities they will visit.

- * Visitor briefings
- * Cards / handouts
- * Posters about env info
- * SOP's

Environmental Education aimed at Statutory Authorities***Aim***

- * To provide statutory authorities with the information they need to make informed policy decisions

Suggested Methods Include

- * Informational papers or briefings
- * Site visits

Appendix A: Glossary of Terms

FUNCTIONS	Those training activities that are associated with a specific type of training, e.g. infantry training.
ACTIVITIES	Those actions associated with a specific training function, e.g. firing, maneuvering (land, sea, and air), etc.
STEWARDSHIP	The office, duties, and obligations of an agency to responsibly manage those environmental resources under their control.
RESOURCES	Those assets considered to be a natural source of wealth or revenue, e.g. air, water, forests, fish & wildlife, soil, etc.
TRAINING PACKAGE	The combination of military training activities that generate the requirement for range space (ranges and training areas) on or under the control of a given military installation.
RANGE	A defined facility on which weapons are fired to achieve military training objectives for live or inert fire.
TRAINING AREA	A parcel of land, airspace, or seaspaces (surface or subsurface) within or on which military training is carried out to achieve military training objectives
TRAINING FACILITIES	Training structures other than ranges, e.g., MOUT /FIBUA sites.
TRAINING MISSION CAPABILITY REQUIREMENT	The "training package". The total range space required on an installation based on its assigned missions and users.
RANGE SPACE	Any combination of ranges and training areas.
USERS	Those forces within the military and other agencies that require the use of range facilities. Can be divided into two broad categories: Military schools, and Units.
MILITARY SCHOOLS	Formal training facilities that conduct structured education for new members of the military. This includes technical and professional courses for soldiers, non-commissioned officers, and officers. This education may require classroom instruction as well as range space.
UNITS	Operational units e.g. battalions, air squadrons, ships, etc. that conduct training to maintain unit combat readiness and require range space.
BASELINE CONDITIONS	Those conditions that exist on a range at a given time, and from which all future conditions are measured.

ANALYSIS MATRIX	A tool by which one can assess the impact of a specific military training activity against a list of distinct environmental components.
INTEGRATED RANGE MANAGEMENT	A technique by which the manager of a range facility can view and analyze all of the activities that take place upon the range giving consideration to their impacts on all other activities.

Appendix B: Project team members

US DoD TEAM MEMBERS

Colonel Mark Hamilton - USA project leader DUSD (ES), Force Protection, Washington.
Colonel Donald P. Driggers, U.S. Army Medical Service Corps, DUSD (ES)/PMB, Office of the Deputy Under Secretary of Defense for Environmental Security, Director Defense Pest Management & Executive Director, Armed Forces Pest Management Board, 3400 Defense Pentagon, Washington.
Mr Tom Macia, HQDA, ODCSOPS (DAMO-TRS), 400 Army Pentagon, Washington, U.S.A.
Mr. Dick Masse, ANG/CEVp, ANDREWS AFB, USA
Commander Douglas J. Allen, U.S Naval Attaché, Embassy of the United States of America, Pretoria.

SA DoD TEAM MEMBERS

Lt Col J.H.J. (Hannes) Potgieter - RSA project leader, SO1 Specialist Environmental Services, Logistic Support Formation, Facilities Management Support, Pretoria.
Lt Col Riaan du Plessis, SO1 Supporting Services, Chief Military Policing Agency, Pretoria (Formerly : C ARMY, Force Preparation, Pretoria).
Lieutenant Commander Kathy Dearlove, SO2 Environmental Services, Naval Base Simon's Town, Simon's Town.
Major J.C. Greyling, SO2 Environmental Services, RFIM Pretoria, Pretoria (Formerly :Environmental Services Officer, AFB Swartkops, Pretoria).
Major Sonja Lemmer, SO2 Specialist Environmental Services, Logistic Support Formation, Facilities Management Support, Pretoria.
Major Philip Oosthuizen, Environmental Services Officer, AFB Hoedspruit, Hoedspruit.
Major San Oosthuizen, SO2 Specialist Environmental Services, Logistic Support Formation, Facilities Management Support, Pretoria.
Major Chris Putter, SO2 Force Structures, Armour Formation, Pretoria (Formerly :School of Armour, Tempe, Bloemfontein, South Africa.
Major Elmien Putter, SO2 Environmental Health, Orange Free State Medical Command, Bloemfontein.
Captain Leonie Baird, Environmental Services Officer, Northern Cape Command, Kimberley.
Captain Hugo van Niekerk, SO2 Environmental services, Bloemfontein RFIM, Bloemfontein (Formerly: Environmental Services Officer, Orange Free State Command, Bloemfontein)
WO1 Johnny Dreyer, Security WO, General Support Base Bloemfontein (Formerly: Training WO, Orange Free State Command, Bloemfontein)