

RPS

**External Audit Of Dartmoor Training Area's
Environmental Management System**



External Audit Of Dartmoor Training Area's Environmental Management System

Final Report

Impact Assessment, Gap Analysis &
Recommendations for Improvement

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Executive Summary

- S.1 RPS was commissioned in March 2005 by the Ministry of Defence (MOD) to undertake an independent audit of Dartmoor Training Area's (DTA's) Environmental Management System (EMS). [para 1.1]
- S.2 The two aims of this project, as set out in the Terms of Reference (see Appendix 1), are to:
- i) Externally audit DTA's EMS to ensure that all potentially significant impacts have been identified;
 - ii) Make recommendations for the further development of the EMS. [para 1.2]
- S.3 In June 2005 a first draft report was prepared, which addressed the first aim. This identified all potential, or perceived, significant impacts through consultation with statutory bodies at local level and NGOs selected by those statutory bodies. [para 1.4]
- S.4 Using recognised assessment methodologies, the **relative** significance of positive and negative impacts/concerns were assessed in environmental/social/economic terms within the context of Dartmoor. The outcome was a list of impacts/concerns prioritised by significance. [para 1.8]
- S.5 It is important to note that the terminology used provides a scalar for prioritising the impacts/concerns and is not necessarily a reflection of absolute impact. For example, 'major' is used to identify those impacts/concerns, which are identified as a priority through discussion with the stakeholders and in some cases are a matter of perception. It is not, therefore, a reflection of absolute impact resulting from the activity. [para 1.8]
- S.6 Following this assessment process a 'gap analysis' audit was undertaken, which compared the findings of the impact assessment against the current EMS and reviewed the management process and control measures of the current EMS. An overview assessment of the adequacy of the EMS is at Section 2 of this final report and the detailed findings of the audit are included within the tables in Section 3. [para 1.14]
- S.7 The Army Training Estate (ATE) is fundamentally important in supporting the MOD's primary purpose of defence of the nation state. Without areas to train, the Armed Forces would be unable to function effectively and fulfil this role. Dartmoor is an important part of the ATE and arguably exists in its current form as a result of its use by the Armed Forces. This is the broader context against which the EMS has been implemented for DTA. [para 4.1]
- S.8 Overall, the stakeholders consulted consider that through the implementation of the EMS, the proactive approach of the Commandant and the involvement of the Dartmoor Steering Group,

the management of DTA has improved over recent years demonstrating that MOD management of the DTA has due regard for the National Park's purposes. [para 2.10]

- S.9 DTA has followed the MOD's JSP 418 methodology correctly, although this process does not require the full assessment of social and economic issues such as the impacts of military activities upon public safety, recreation and access or economic impacts on local communities, which are particularly pertinent to DTA and are identified as significant issues by the stakeholders consulted. However, DTA's EMS has identified some of the social and economic impacts but these should now be more fully assessed. [para 2.3]
- S.10 The gap analysis audit, undertaken through discussion with stakeholders, has confirmed that the majority of the key issues have already been identified within the existing EMS impact assessment, although not all these issues had been given the same level of priority that has been identified within section 3.0 of this report. [para 2.4]
- S.11 The Environmental Programme Management Plan (EPMP) and Environmental Measurement Plan (EMP) include appropriate actions and research programmes to reduce the majority of the significant impacts. The gap analysis, however, has identified some outstanding issues, which either require improvement in the level of controls and/or have not been fully considered within the EMS. In some cases this can be attributed to insufficient resources and/or finance. [paras 2.5 – 2.9]
- S.12 Where the findings of the 'gap analysis' has highlighted the need d for further study and /or improvement in operational controls to improve the implementation of DTA's EMS, relevant recommendations have been made. These are listed in Section 4 of this report. The key recommendations are broadly grouped under 'Research Projects' and 'EMS Implementation' and can be summarised as follows. [para 4.7]

Research Projects

- A1. Assess the potential visual effect of military activities and their consequence on landscape character, including an assessment of 'tranquillity' and 'wildness'.
- A2. Evaluate and balance the environmental and socio economic impacts of Ten Tors with the National Park purposes.
- A3. Map sensitive ecological areas (using NVC data and other available information such as Dartmoor Forest Emergency Fire Plan).
- A4. Evaluate the current Tourism Associates' socio-economic study that includes an economic cost-benefit appraisal of military presence.
- A5. Evaluate the benefits of the reduction of human disturbance after the planned 2006 Bird Survey.

- A6. Investigate further measures that support the Vision for Dartmoor and the Rural Development Services' (RDS) Environmentally Sensitive Area (ESA) objectives with regard to clearing of stock from live firing areas.
- A7. Assess Tourism Associates socio economic study with regards to the cost-benefit of military presence with regard to tourism.
- A8. Agree future management of Loop Road with key stakeholders: Duchy of Cornwall, National Park Authority, English Nature and RDS.
- A9. Undertake a noise study building on the experience gained of that conducted at Cramber Tor.
- A10. Liaise with English Heritage to ensure effective protection of archaeological artefacts.
- A11. Undertake an historic environment assessment of specific buildings in ATE ownership.
- A12. Repeat aerial photographic survey, if appropriate, to establish the success of the reinstatement of tracks, trenches and residual damage from live firing. Demonstrate results to key stakeholders.

EMS Implementation

- B1. Improve the briefing and training of operatives on a number of issues such as the movement of tracked and other vehicles, the protection of archaeological artefacts, supervision of live firing and collection of military litter.
 - B2. Improve the implementation of the Environmental Programme Management Plan (EPMP) through the provision of funding and/or resources.
 - B3. Produce a management plan for military activities on Dartmoor in consultation with landowners and statutory bodies.
 - B4. Ensure that corrective action reports detailing the results of reinstatement are retained as records within the EMS using DTA's EMS Annex G as the basis for records.
 - B5. Continue to improve communication with all stakeholders through providing earlier notification of the programme of public access.
 - B6. Continue to clear surface UXO and clear buried UXO from areas of high risk and firebreaks.
- S.13 A series of recommendations (C1 – C6) have also been made with reference to Okehampton Camp.

1 Introduction

Introduction

- 1.1 RPS was commissioned in March 2005 by the Ministry of Defence (MOD) to undertake an independent audit of Dartmoor Training Area's (DTA's) Environmental Management System (EMS).
- 1.2 The two aims of this project, as set out in the Terms of Reference (see Appendix 1), are to:
- i) Externally audit DTA's EMS to ensure that all potentially significant impacts have been identified;
 - ii) Make recommendations for the further development of the EMS.
- 1.3 In support of these aims, the project has addressed a series of objectives as outlined below:
- i) In consultation with statutory bodies at local level and NGOs selected by those statutory bodies, determine the scope of environmental, economic and social impacts pertinent to DTA.
 - ii) Understand and review data relating to identified social, economic and environmental impacts.
 - iii) Using a recognised approach to risk assessment, examine and assess the significance of both positive and negative social, economic and environmental impacts of military training on Dartmoor. Produce a document presenting the findings of the impact assessment.
 - iv) Compare findings with the existing EMS and produce a 'gap analysis' audit report.
 - v) Recommend improvements, if any, to DTA's EMS, changes to the management processes and control measures and identify the need for additional studies.
- 1.4 In June 2005 a first draft report addressing the first three of the above objectives was issued. This presented the findings of the impact assessment, reflecting the consultation undertaken and was issued in draft to the consultees involved for their comment. Following this a second draft was issued which included any comments received and also contained the findings of the 'gap analysis', which compared the key findings of the impact assessment against the current EMS,. It also reviewed the management process and control measures of the current EMS. This report is the final report including the findings of all the above stages.

Methodology

- 1.5 The general approach to determining the scope of environmental, economic and social impacts pertinent to DTA, has been to review the activities of DTA under relevant topic headings. These topic headings were identified based on current guidance on undertaking Sustainability and Environmental Appraisals and Assessments (e.g. "A Handbook for Scoping Projects - Environmental Impact Assessment", [Environment Agency, May 2002]; "Guide to Sustainability Appraisals", [TCPA/Entec, 2002]; "Sustainability Handbook for the MOD Estate", [MOD, Oct 2003]). The topics chosen have been selected depending on their relevance to this project and are as follows: -
- Climate Change and Air Quality (including Energy and Transport)
 - Noise and Vibration
 - Water and Drainage
 - Waste
 - Geology and Soils
 - Biodiversity and Nature Conservation
 - Archaeology and Historic Environment
 - Landscape
 - Health and Safety
 - Tourism and Recreation
 - Economy and Employment
- 1.6 The information required to complete the impact assessment has been drawn together based on consultations with relevant stakeholders, identified by their roles and responsibilities in relation to Dartmoor. Details of the stakeholders consulted, along with a summary of their initial responses and any response made to the first draft report, are included in Appendix 2. Copies of letters received during this consultation are also included in Appendix 3.
- 1.7 The methodology followed in evaluating the relative significance of the impacts and concerns identified and in undertaking the subsequent gap analysis is set out below.

Significance Assessment Method

- 1.8 The aim of this assessment is to assess the impacts/concerns in terms of **relative** significance in environmental/social/economic terms within the context of Dartmoor. The outcome is a list of prioritised impacts/concerns against which action should be taken. The methodology is not seeking to establish scientific relationships and models but to define association between cause and effect, and is in some instances subjective, based on the professional judgement of the assessor, in consultation with the relevant stakeholders. It is important to note in this context that the terminology used is to provide a scalar for prioritising

the impacts and is not necessarily a reflection of absolute impact. For example, 'major' is used to identify those impacts or concerns, which are identified as a priority through discussion with the stakeholders and in some cases are a matter of perception. It is not, therefore, a reflection of absolute impact resulting from the activity.

- 1.9 The methodology adopted for this process is in line with risk assessment methodologies used both for EMS and for Environmental Impact Assessment (e.g. "Guidelines for Ecological Impact Assessment", [Institute of Ecology and Environmental Management (IEEM), Nov 2002], and "Transport Assessment Guidance (TAG)", [Department for Transport, Dec 2004]). The terminology used reflects the accepted terminology of these guidelines.
- 1.10 Firstly, impacts/concerns are identified as being either positive or negative. Positive impacts (sometimes also referred to as beneficial) are those that, as a result of a positive input of time and/or resources, result in an enhancement of the environment and/or social/economic baseline of the area. Negative impacts (sometimes also referred to as adverse) are those that, as a result of particular activities, lead to or have the potential to lead to the degradation of the environment and/or social/economic baseline.
- 1.11 Each impact/concern is then assessed based on its relative importance, defined as Low, Medium, High or Very High. The table below defines the scale against which this assessment was carried out. Impacts/concerns defined as 'Low' are those which affect receptors that are important at a local level (e.g. local designation) or which are an issue of local importance. Conversely, impacts/concerns defined as 'Very High' are those that affect receptors that are internationally important (e.g. international designation) or which are of material consideration to an issue of international concern. Further information on the relative importance is provided in the introductory text for each topic in Section 2.

Table 1.1 Importance/Sensitivity

Importance/Sensitivity Level	Description
Low	Local designation/importance
Medium	Regional designation/importance
High	National designation/importance
Very High	European/International designation/importance

- 1.12 The magnitude of the impact/concern is then defined against the hierarchy of scale set out in the table below. The magnitude is a function of the nature of the impact/concern, its force on the potential receptors and duration, and actual or anticipated frequency of occurrence taking into account the assessed efficacy of existing controls. For negative impacts, this reflects the

level of controls that are in place to manage the impact. For positive impacts, this reflects both the level of positive input and/or proactive management that is currently provided by the MOD. Proactive management may not always involve the extensive input of resources; positive decisions may in themselves result in high positive impact e.g. protection of breeding bird nesting areas.

Table 1.2 Magnitude

Magnitude Level		Description
POSITIVE	High	High level of positive impact resulting from proactive management (may involve extensive input of time/resources)
	Medium	Medium level of positive impact based on standard practice and/or reasonable input of time/resources
	Low	Low level of positive impact based on minimal input of time/resources
Negligible		No noticeable impact
NEGATIVE	Low	Minor impact with comprehensive control measures in place
	Medium	Noticeable impact with minimal control measures in place
	High	Major impact with ineffective control measures in place

1.13 The level of significance is then determined by combining the Importance and the magnitude, to define each impact/concern as either Insignificant (Neutral) or of Minor, Moderate, Major or Substantial Significance (Positive or Negative). How the factors are combined, and the resulting level of significance is defined, is set out in the matrix below. The results of this assessment are presented in Section 2.

Table 1.3 Significance Assessment Matrix

		IMPORTANCE/SENSITIVITY				
		LOW	MEDIUM	HIGH	VERY HIGH	
MAGNITUDE	POSITIVE	HIGH	MINOR	MODERATE	MAJOR	SUBSTANTIAL
		MEDIUM	MINOR	MODERATE	MODERATE	MAJOR
		LOW	MINOR	MINOR	MINOR	MODERATE
	NEGLECTIBLE		INSIGNIFICANT	INSIGNIFICANT	INSIGNIFICANT	INSIGNIFICANT
	NEGATIVE	LOW	MINOR	MINOR	MINOR	MODERATE
		MEDIUM	MINOR	MODERATE	MODERATE	MAJOR
		HIGH	MINOR	MODERATE	MAJOR	SUBSTANTIAL

Gap Analysis Methodology

1.14 DTA’s EMS Manual August 2003 (v1.2) was reviewed against the findings of the Significance Assessment in order to assess the level of existing controls. This was supported by site visits to Okehampton and Willsworthy Camps and selected parts of the DTA, as well as structured interviews with the Commandant, Lt Col (Retd) AH Clark to gain a full understanding of the existing level of controls and procedures in place. An overall review of the EMS is provided in Section 2 of this report and detailed findings from the audit are included within the tables in Section 3.

Recommendations

1.15 Section 4 of this report sets out recommendations for improvement to specific elements of DTA’s EMS. The MOD should review these recommendations and revise its EMS and controls where appropriate.

2 Review of EMS

2.1 The 'gap analysis' audit of DTA's EMS Manual (August 2003) and its implementation confirmed that all the elements are in place as required by JSP 418: MOD EMS Manual and the overall requirements of ISO 14001: 1996 (any additions required under ISO 14001: 2004 have not been considered as part of this audit).

Adequacy of Impact Assessments

2.2 Impact assessments have been undertaken for the following activities:

- Provision and use of accommodation/offices (excluding cookhouses/stores)
- Receipt, storage, preparation of food, kitchens, field cooking kitchens, operational ration packs etc.
- Receipt, storage, dispensing and use of fuel
- Receipt, storage, issue and use of ammunition
- Receipt, storage and issue of stores
- Dry and adventurous training
- Live firing including battle simulation, dry fighter ground attack and lasers
- Agricultural tenancies
- Ten Tors

2.3 The approach to impact assessment is consistent with that advocated by JSP 418, which was devised to assist military units in the implementation of EMSs for a wide range of Camp types. Consequently the impact assessment methodology is biased towards the assessment of Camp based environmental issues such as oil storage and energy use. DTA's EMS follows the JSP 418 methodology correctly but this process does not require the full assessment of social and economic issues such as the impacts of military activities upon public safety, recreation and access or economic impacts on local communities, which are particularly pertinent to DTA and are identified as significant issues by the stakeholders consulted. DTA's EMS has identified some of the social and economic impacts but these should now be more fully assessed.

2.4 Nevertheless, the 'gap analysis' audit, undertaken through discussion with stakeholders, has confirmed that the majority of the key issues have been identified within the existing EMS impact assessment, although not all had been given the same level of priority that has been identified within Section 3.0 of this report.

Implementation of Environmental Programme Management Plan

- 2.5 Annex D to DTA's EMS Manual (August 2003), the Environmental Programme Management Plan (EPMP), correctly includes defined improvement plans for all the significant environmental impacts identified through the risk assessment process. Objectives, targets, actions, responsibilities and target dates for completion have all been identified.
- 2.6 In some cases the improvement programmes have been completed or are ongoing. In other cases the programmes have not been fully implemented. This may be attributed to a number of reasons including insufficient funds and/or resources. The recommendations at Section 4 of this report identify where either the management programmes need to continue, and/or be improved or where additional programmes need to be implemented.

Environmental Measurement Plan

- 2.7 At Appendix 1 of Annex H to DTA's EMS Manual (Aug 2003) is the Environmental Measurement Plan (EMP), which has been devised by the Commandant, Lt Col (Retd) AH Clark, to specifically monitor and check the following:
- Ensure that existing control measures remain in place and are being enforced.
 - Determine the effectiveness of existing control measures.
 - Validate the environmental impacts and the ratings given.
 - Assess any environmental impacts not identified in the EMS.
- 2.8 The EMP is a useful document that identifies a number of surveys and other research initiatives to sustain the collection of data that can be assessed to quantify the significant environmental impacts. Again the recommendations at Section 4 of this report identify where these initiatives either need to continue and/or be improved, or where additional surveys or research programmes need to be undertaken.
- 2.9 One area that needs improvement is the keeping of records of accidents, incidents and non-conformances. Where corrective actions have been implemented reports should be retained within the EMS with supporting detailed records.

Overall Implementation

- 2.10 Consultation with the stakeholders confirmed that overall the EMS was achieving its objectives of improving the management of DTA by ATE. In particular, the Commandant, Lt Col (Retd) AH Clark was considered to be pivotal in the implementation of the EMS and was considered to be doing an excellent job. In the view of the Dartmoor Steering Group the MOD is demonstrating due regard for the National Park's purposes as set out in Section 62 of the *Environment Act 1995*¹. Concerns were however expressed by the stakeholders as to the transferability of responsibility should Lt Col (Retd) AH Clark cease to occupy this role.

¹ Reference: Dartmoor Steering Group Eighteenth Annual Report (Jan 03 – Dec04)

3 Detailed Findings

Climate Change and Air Quality (including Energy and Transport)

Introduction

- 3.1 Climate change is a key priority for the UK Government (as defined in UK Government Strategy – Securing Our Future (March 2005)) and actions are placed on Government Departments through:-
- UK Climate Change Programme;
 - Framework for Sustainable Development for Government Departments (sets targets on energy and transport);
 - Climate Change Levy (as a fiscal measure);
 - Part L of Building Regulations (guiding energy standards for new buildings and refurbishments, about to be revised to bring in EU Directive on Energy Performance of Buildings);
 - Government Transport Policies and Local Authority Plans (e.g. Dartmoor National Park Local Plan, Dartmoor National Park Management Plan and Devon Local Transport Plan 2001 – 2006).
- 3.2 Carbon dioxide (CO₂) is a major contributor to climate change, and therefore the release of CO₂ through energy use and vehicle emissions is an issue of national importance.
- 3.3 The use of ozone depleting substances is regulated by the Environmental Protection (Controls on Ozone-Depleting) Regulations 2002.
- 3.4 Local air quality is regulated through:-
- Air Quality Regulations '97 / Local Air Quality Management (responsibility of Local Authorities)
 - EPA 1990 Part III – Statutory Nuisance including odour fumes and dust emissions.
- 3.5 The air quality on Dartmoor is generally good in comparison to the rest of England as a result of the rural, low population nature of the area.

Climate Change and Air Quality (including Energy and Transport) con't

Relevant Consultees

- No issues raised by consultees.

Significance Assessment Table

Negative

Climate Change and Air Quality (including Energy and Transport)			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
CC1 Generators on DTA (diesel powered)	Global warming gases and local air emissions Significance: <i>Minor</i>	<ul style="list-style-type: none"> ▪ Generators at Bagga Tor & Holming Beam only used when huts occupied, serviced in accordance with manufacturer's instructions. ▪ User units' generators regularly serviced and used infrequently as part of operational training. ▪ See <i>Geology & Soils</i> for spillage issues. 	<ul style="list-style-type: none"> ▪ None required Controls adequate
CC2 Vehicle movements	Global warming gases and local air emissions Significance: <i>Minor</i>	<ul style="list-style-type: none"> ▪ HQ DTA has no control over user unit's or supplier's vehicles travelling to and from Dartmoor. ▪ User unit's vehicles involved in training on DTA are overseen by HQ DTA. ▪ DTA staff vehicles used for command & control; collection & distribution of stores; communication visits. ▪ DTA staff vehicles' mileage recorded and analysed. ▪ System in place to coordinate vehicle movements & maximise sharing. 	<ul style="list-style-type: none"> ▪ None required Controls adequate

Climate Change and Air Quality (including Energy and Transport)			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
CC3 Aircraft activity	Global warming gases and local air emissions Significance: <i>Minor</i>	<ul style="list-style-type: none"> ▪ HQ DTA only has responsibility for helicopters and fixed wing aircraft cooperating with ground troops. ▪ Quantity of aircraft training with ground troops is small. ▪ Aircraft serviced and maintained efficiently. 	<ul style="list-style-type: none"> ▪ None required Controls adequate
CC4 Fridges, freezers and fire extinguishers	Ozone depleting substances Significance: <i>Insignificant</i>	<ul style="list-style-type: none"> ▪ Redundant refrigeration units disposed of under licence. ▪ Fire extinguishers do not use ODSs. 	<ul style="list-style-type: none"> ▪ None required Controls adequate
CC5 Paints etc	Local air emissions from volatile organic compounds Significance: <i>Insignificant</i>	<ul style="list-style-type: none"> ▪ Limited use of paints for general maintenance. 	<ul style="list-style-type: none"> ▪ None required Controls adequate
CC6 Cookhouse	Global warming gases Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ LPG, an energy efficient fuel, used. ▪ High use gas cookers (LPG) switched off during night. 	<ul style="list-style-type: none"> ▪ Research availability & cost of more efficient appliances (Ref: Annex D – Serial 4)
CC7 Boilers for heating	Global warming gases Significance: <i>Minor</i>	<p>Each building has own LPG powered thermostatically controlled boiler – allows greater control. Serviced regularly. Energy saving initiatives in place include:</p> <ul style="list-style-type: none"> ▪ Agreement on temperatures to be maintained. ▪ Heating reduced when buildings not in use. ▪ Double glazing in some buildings. ▪ Thermostats on some radiators. ▪ Timed taps and fixed thermostats on some showers. 	<ul style="list-style-type: none"> ▪ A Building Management System (BMS) would reduce energy use by allowing more precise control of heating to suit occupancy levels. ▪ Timed taps and fixed thermostats on all showers would reduce energy use. ▪ Installation of double glazing on all heated buildings would reduce energy use. (Ref: Annex D – Serial 4)

Climate Change and Air Quality (including Energy and Transport)			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
CC8 Electricity use	Global warming gases Significance: <i>Minor</i>	No record of a formal external energy survey but various energy saving initiatives including: <ul style="list-style-type: none"> ▪ Automatic lights in some locations ▪ Reduction of wattage on security lights ▪ Energy wardens ▪ Energy awareness raising through teaching ▪ Double glazing fitted to some windows 	<ul style="list-style-type: none"> ▪ Undertake energy survey to identify any further potential savings ▪ Use long life lamps where cost effective. ▪ Use automatic switching wherever effective (Ref: Annex D – Serial 4)

Noise and Vibration

Introduction

- 3.6 Noise and vibration can be considered to have an impact on the surrounding environment through the effects of nuisance or disturbance on the local community and the natural environment in the local vicinity. This is currently regulated by Part III (Statutory Nuisance) of the Environment Protection Act 1990. This regulatory framework is currently being strengthened by the Noise Mapping project, which is the first stage in the development of a National Ambient Noise Strategy for England. The project aims to establish the environmental noise climate across England.
- 3.7 Noise generated in the work environment and the impact this can have on workers, is also regulated, by the Health & Safety at Work Act 1974 and the Noise at Work Regulations 1989.

Relevant Consultees

- Dartmoor Local Access Forum – Alan Taylor (Chair) and Jeff Haynes (Secretary)

Noise and Vibration (con't)

Significance Assessment Table

Negative

Noise and Vibration			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
NV1 Ten Tors	Noise from helicopters & support vehicles (not all of which are military) used to provide safety and support the deployment of check points for the Ten Tors Expedition (See also <i>Recreation & Access</i>) Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ Helicopter sorties controlled by Ten Tors Director. ▪ Pilots briefed by HQ DTA to avoid habitation, riders and stock. 	<ul style="list-style-type: none"> ▪ Include noise assessment as part of overall evaluation of the environmental and socio economic impact of Ten Tors.

Noise and Vibration			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
NV2 Military activities	Noise from firing, helicopters & other aircraft (changes character of the moor, detracts from the experience of 'wildness' & affects 'tranquillity') (See also <i>Recreation & Access, Landscape</i>) Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ Military aircraft activity, cooperating with ground troops, regulated by HQ DTA including dates of training, quantity of aircraft, flying heights, areas used for tactical flying and transit routes. ▪ Helicopters required by Standing Orders to avoid riders and stock where safe to do so. ▪ Low flying to achieve operational capability has to be authorised by senior officer. If not authorised, aircraft transit above 250 feet MSD. ▪ Range danger areas closed during live firing and little impact of firing noise beyond that area. ▪ Military required to be considerate of other users when training. ▪ Standing Orders prohibit blank firing and use of pyrotechnics within 100m of civilians and within 200m of habitation. ▪ Times and locations of intense firing activity likely to cause inconvenience carefully considered by HQ DTA when dry tactical training exercises are being planned but dawn and dusk are the opportune times for attacks and ambushes are more successful by night. ▪ Observations communicated to HQ DTA are recorded. 	<ul style="list-style-type: none"> ▪ Undertake noise survey, building on knowledge of that conducted at Cramber. ▪ Undertake landscape character and visual impact analysis to include an assessment of 'tranquillity' and 'wildness'

Water and Drainage

Introduction

- 3.8 The blanket bogs of Dartmoor are the source of many of Devon's major rivers. In north Dartmoor, this includes the Lyd, Tavy, East and West Okement and the Taw. These rivers provide vital water supplies to Devon, as well as providing a recreational resource and ecological habitats. The water quality is generally very good. Dartmoor is also above a Minor Aquifer with Low Vulnerability.
- 3.9 The water quality and pollution risks are regulated by:-
- Water Resources Act 1991
 - Objectives of the Dartmoor National Park Management Plan.
- 3.10 The use of water is also controlled under the Framework for Government Departments for Sustainable Development.

Relevant Consultees

- Environment Agency (EA)
- South West Water

Water and Drainage (con't)

Significance Assessment Table

Negative

Water and Drainage			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
WD1 Water use	Use of natural resource Significance: <i>Insignificant</i>	<ul style="list-style-type: none"> ▪ Water sourced off moor, treated at Okehampton and Willsworthy Camps. ▪ Timed automatic taps used for some sinks and showers. 	<ul style="list-style-type: none"> ▪ Timed automatic taps should be used for all sinks and showers (Ref: Annex D – Serial 4)
WD2 Disposal of waste water	Pollution of surface water Significance: <i>Minor</i>	<ul style="list-style-type: none"> ▪ At both Okehampton and Willsworthy on site sewage works treat effluent & at Okehampton discharge to river with consent from South West Water. ▪ Plant is maintained by South West Water to industry standards and inspected regularly. 	<ul style="list-style-type: none"> ▪ None required Controls adequate
WD3 Spillage in camp	Pollution of surface water Significance: <i>Minor</i>	<p>Potential impact from spillage in Okehampton Camp was major now a number of controls in place:</p> <ul style="list-style-type: none"> ▪ Spillage plan promulgated and practised. ▪ Interceptor tank and gullies installed around main vehicle parking area, and around helicopter and vehicle refuelling points. ▪ Spill response kit at the POL point or carried by user/operator. ▪ Oil traps & grease traps in place and maintained. ▪ Personnel trained and competent. ▪ POL Point inspected and licensed by Defence Fuel Group. ▪ POL Point operated in accordance with Standing Orders including lid and fuel nozzles locked when not in use, fuel tanks dipped twice a week. 	<ul style="list-style-type: none"> ▪ Cooking oils should be stored in a bunded area.

Water and Drainage			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
WD4 Spillage on DTA	Pollution of surface water Significance: <i>Minor</i>	<ul style="list-style-type: none"> ▪ Refuelling on training area, relatively infrequent activity (see also <i>Geology & Soils</i>). ▪ Location of refuelling other than jerry can refuelling of individual vehicles controlled by HQ DTA. ▪ Spill response kits carried by user/operator. ▪ No recorded incidents. 	<ul style="list-style-type: none"> ▪ None required Controls adequate

Waste

Introduction

- 3.11 The main current disposal method for waste generated in the UK is by landfill. The Environmental Protection (Duty of Care) Regulations 1991 and Special Waste Regulations 1996 (soon to be replaced by the Hazardous Waste Regulations 2005) are in place to ensure this process is carried out following safe and secure methods.
- 3.12 In addition to following these basic regulatory requirements, the generation of waste and the environment problems associated with disposal by landfilling is governed by the following strategies and fiscal measures:
- Waste Strategy 2000 (sets out the Government's vision for sustainable waste management)
 - Framework for Sustainable Development for Government Departments
 - Finance Act 1996 (introduced the Landfill Tax).
- 3.13 The essence of these is to promote the adoption of the waste hierarchy: Reduce, Reuse, Recycle.

Relevant Consultees

- 3.14 Environment Agency (EA)

Waste (con't)

Significance Assessment Table

Negative

Waste			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
<p>W1 Disposal of general waste:</p> <p>Waste streams include: cardboard packaging, office waste, canteen waste i.e. cans, bottles etc</p>	<p>Use of landfill space</p> <p>Significance: <i>Moderate</i></p>	<ul style="list-style-type: none"> ▪ All disposed to landfill by contractor in accordance with regulations with small amount of recycling e.g. bread trays, ink cartridges, laser drums. ▪ Training area waste collected off the moor. ▪ Ammunition containers and cartridge cases put into military salvage system. 	<ul style="list-style-type: none"> ▪ Research potential for segregation of waste streams and increase volume recycled <p>(Ref: Annex D – Serial 3)</p>
<p>W2 Disposal of hazardous waste:</p> <p>Including:</p> <ul style="list-style-type: none"> ▪ Human effluent collected from training area ▪ Waste cooking oil ▪ Small volumes of engine oil (no vehicle maintenance on site) & Spilsorb ▪ Clinical waste ▪ Fluorescent tubes & Ni cad batteries 	<p>Use of landfill space</p> <p>Significance: <i>Minor</i></p>	<ul style="list-style-type: none"> ▪ Disposed of by authorised contractors in accordance with regulations. 	<ul style="list-style-type: none"> ▪ None required <p>Controls adequate</p>

Geology and Soils

Introduction

- 3.15 As stated in the Dartmoor National Park Management Plan, “*Dartmoor is an area of very high geological and geomorphical importance with many natural rocky outcrops and artificial exposures in quarries and mines*”. There are 2 geological Sites of Special Scientific Interest (SSSI), protected under the Wildlife and Countryside Act 1981 and Countryside and Rights of Way Act 2000. In addition, the protection of the geological features of Dartmoor is included in Dartmoor National Park Management Plan (Policy WG3).
- 3.16 Contaminated land is regulated by the Contaminated Land (England) Regulations 2000, which prohibits any activity contaminating land or buildings and requires any contamination to be properly cleaned up.

Relevant Consultees

- Environment Agency (EA)

Significance Assessment Table

Negative

Geology and Soils			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
GS1 Spillage of oil/diesel in camp	Land contamination Significance: <i>Minor</i>	<ul style="list-style-type: none"> ▪ No evidence of historic contamination. ▪ See <i>Water & Drainage</i> for controls. 	<ul style="list-style-type: none"> ▪ None required Controls adequate

Geology and Soils			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
GS2 Spillage of oil/diesel in DTA	Land contamination Significance: <i>Minor</i>	<ul style="list-style-type: none"> ▪ No EA or MOD records of any incidences on DTA. ▪ Refuelling on training area, relatively infrequent activity. ▪ Location of refuelling other than jerry can refuelling of individual vehicles controlled by HQ DTA. ▪ Spill response kit carried by user/operator. 	<ul style="list-style-type: none"> ▪ None required Controls adequate
GS3 Digging trenches on DTA	Damage to mineral soil strata Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ Other sites allocated in preference to DTA for basic military skill of digging when possible. ▪ Geology considered when digging sites selected and approved by HQ DTA. ▪ User units required to backfill trenches and re-turf. DTA staff supervise reinstatement. ▪ See also <i>Biodiversity</i>. 	<ul style="list-style-type: none"> ▪ Monitoring of reinstatement should be demonstrated to concerned stakeholders.

Geology and Soils			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
GS4 Military vehicles and other activities that cause tracks and paths	Erosion Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ Standing Orders and maps set out restrictions on military vehicle transit routes. ▪ HQ DTA controls vehicle movement off permitted tracks and limits to those having an operational training need. ▪ Any rutting caused is repaired. ▪ Tracks and roads inspected and repaired. ▪ Allocated users conduct reconnaissance and consult with HQ DTA before finalizing the training required to achieve their training objectives. ▪ Allocated users submit traces of their intended routes and activity areas. ▪ HQ DTA consults with DNPA about routes for large groups (>30) outside of the training area. ▪ Erosion of footpaths monitored by DTA staff in collaboration with DNPA Rangers. ▪ Military users encouraged to locate check points off the tops of tors so that movement is off paths and sheep tracks – as well as increasing the difficulty of navigation. ▪ Periodic monitoring using aerial photography. Last series was in 1980s. ▪ Monitored by DTA staff & Statutory Bodies. 	<ul style="list-style-type: none"> ▪ Aerial or other appropriate techniques should be periodically undertaken and comparisons made over time to assess level of recovery from erosion. ▪ Improve briefing and/or control of operatives.

Biodiversity and Nature Conservation

Introduction

- 3.17 The majority of the high moorland, blanket bog and raised mires of north Dartmoor falls within the Dartmoor Special Area of Conservation (SAC) and SSSI. SAC is a European designation, under the European Habitats and Species Directive, controlled in the UK under the Conservation (Natural Habitats & Conservation) Regulations 1994 (as amended 1997 and 2000). SSSI is a national designation, controlled under the Wildlife and Countryside Act 1981 and Countryside and Rights of Way Act 2000. These Acts control the impact on all nationally and internationally designated habitats and species. "Action for Wildlife – The Dartmoor Biodiversity Action Plan", produced by the Dartmoor National Park Authority on behalf of the Dartmoor Biodiversity Steering Group, sets out actions to conserve and enhance the species and habitats of Dartmoor.
- 3.18 The Framework for Sustainable Development for Government Departments places further responsibilities on relevant Government Departments to protect and enhance the biodiversity of their estate.

Relevant Consultees

- National Park Authority (NPA) – Sue Goodfellow
- English Nature (EN) – Simon Bates
- Rural Development Service (RDS) – Eamon Crowe & Pete Stevens
- Duchy of Cornwall – Chris Gregory & Ian Lamb

Biodiversity and Nature Conservation (con't)

Significance Assessment Table

Negative

Biodiversity & Nature Conservation			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
BNC1 Live firing/dry training	Physical effects e.g. damage to blanket bog (Merrivale & Okehampton have blanket bog & upland heath) Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ Use of artillery high explosive rounds on DTA ceased in Sep 98, hence less incidence of direct damage ▪ 81mm Mortar ground burst, that does not make a hole, normally used. Delayed fuse only used for safety when raining. ▪ User units required to clear up any debris and to backfill any major holes. DTA staff supervises user units. ▪ DSG monitors MOD's performance. ▪ Significant changes require consultation with stakeholders, EIA and/or Appropriate Assessments. Major changes would require planning consultation. ▪ EN issues Potentially Damaging Operation consents. 	<ul style="list-style-type: none"> ▪ Institute more rigorous programme of monitoring re-instatement of damaged areas ▪ Improve training of DTA staff who are responsible for supervision ▪ Complete corrective action reports to be held in EMS ▪ Habitat sensitivity map should be provided to HQ DTA. (Ref: Annex D – Serial 1) ▪ Management plan for all military activities on Dartmoor should be produced in consultation with landowners and Statutory Bodies. (Ref: Annex D – Serial 1)
BNC2 Trench digging	Physical damage to vegetation (also issue of SSSI consent) Significance: <i>Major</i>	<ul style="list-style-type: none"> ▪ HQ DTA controls locations in which trench digging may take place, avoiding heather areas. ▪ See <i>Geology</i>. 	<ul style="list-style-type: none"> ▪ Habitat sensitivity map should be provided to HQ DTA (Ref: Annex D – Serial 1) ▪ Demonstrate monitoring of reinstatement to stakeholders ▪ Complete corrective action reports to be held in EMS.

Biodiversity & Nature Conservation			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
<i>BNC3</i> Military presence & activities	Disturbance of nesting birds during breeding season Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ Military access restricted during breeding season to golden plover and dunlin nesting areas agreed with DNPA and published on MOD Dartmoor map. ▪ Military access not restricted to certain areas e.g. ring ouzel nesting areas at Tavy Cleave, Steeperton Gorge & Black-a-tor Copse ▪ Raven nesting sites notified to HQ DTA avoided by military ▪ MOD supportive of Operation Wader (led by NPA) includes monitoring & improvement of habitat management through agreement ▪ DTA military conservation group monitors flora and fauna, working closely with EN and DNPA. 	<ul style="list-style-type: none"> ▪ Provide additional mapping of sensitive areas. ▪ Consider instituting restrictions to ring ouzel nesting areas.
<i>BNC3</i> Movement of tracked vehicles	Physical impact of movement of tracked vehicles on blanket bog/heathland Also issue of SSSI consent Significance: <i>Major</i>	<ul style="list-style-type: none"> ▪ Standing Orders limit vehicle transit to roads and tracks. Movement on other tracks and cross country is only authorised by HQ DTA when there is an operational training need. However, it is perceived by stakeholders that not all operatives follow the Standing Orders adequately. ▪ Supervised by DTA staff ▪ Lessons learned from BV206 movement in 2003 implemented ▪ In 1980s programme of restoring tracks, monitored using aerial photos ▪ Screening Viking activities to see if an appropriate assessment is required prior to use on DTA. 	<ul style="list-style-type: none"> ▪ Improve briefing and/or control of operatives. ▪ Repeat process of monitoring to see how well tracks have recovered using aerial photos ▪ Improvement in controls regarding the interpretation of the single EN consent document for Dartmoor – North Dartmoor SSSI. The standard consent does not list all activities e.g. tracked vehicles. Therefore <ul style="list-style-type: none"> - ATE should have check list to see if things are covered by consent - If not consultation with EN necessary

Biodiversity & Nature Conservation			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
<i>BNC4</i> Movement of other vehicles	Physical impact of movement of vehicles on blanket bog/heathland Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ See <i>Geology</i> 	<ul style="list-style-type: none"> ▪ See <i>Geology</i>
<i>BNC5</i> Use of pyrotechnics	Potential uncontrolled fires burning vegetation & peat [For 2004-05 – 4 fires contained (a few sq metres) 1 fire several acres] Significance: <i>Substantial</i>	<ul style="list-style-type: none"> ▪ HQ DTA's Red/Amber/Green warning system used to highlight risk periods and to warn user units of additional controls that need to be put in place. ▪ Two yearly approx swaling of tracer impact areas at Willsworthy fixed ranges. ▪ Limitations (but not necessarily a total ban) on use of pyrotechnics during red periods. ▪ Restrictions on use of pyrotechnics during amber periods including trialling use and siting. ▪ Fire beaters issued during periods of higher risk. ▪ All terrain fire appliances deployed during periods of higher risk. ▪ Emergency response plans being developed with Commoners, NPA, RDS, Duchy of Cornwall and Fire Service 	<ul style="list-style-type: none"> ▪ Implement emergency response plans (Annex D – Serial 6) ▪ Fully train operatives ▪ Develop further with partners fire prevention and fighting procedures <p>(Ref: Annex D – Serial 6)</p>

Biodiversity & Nature Conservation			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
BNC6 UXO	Fire risk Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ Surface inspections of areas used by military, location of surface UXO and their detonation or removal. ▪ Clearance of UXO from high risk areas & trial firebreak. ▪ Close control of any blinds including searches, identification and removal. ▪ Importance of firebreaks on blanket bog (but conflict with landscape objectives). ▪ See also <i>Health & Safety</i>. 	<ul style="list-style-type: none"> ▪ None required ▪ Controls adequate
BNC7 Ten Tors (Army organised & sponsored event & associated training)	Disturbance of nesting birds during breeding season (see also impact on graziers in Economy & Employment) Significance: <i>Major</i>	<ul style="list-style-type: none"> ▪ Managers training held annually. ▪ Training period limited to 1st Feb until expedition in mid May. ▪ Teams encouraged to train in other areas and to only include Dartmoor as part of a progressive training package. ▪ Training supervised by team managers and 43 Bde staff. ▪ Participants encouraged to understand and respect moor as described in Ten Tors Charter. DNPA assist with educational materials and video distributed. ▪ Exclusion zones are supplied to teams and policed by 43 Bde staff during weekends and by the Moor Group during the expedition. ▪ Participation in expedition limited to 2400. 	<p>Now isolated as only event that takes place against the NPA Code of Conduct (1st Mar – 15th July). The Duchy considered holding the event in Autumn but headteachers suggest that this is not suitable. The following are outstanding issues for stakeholders:</p> <ul style="list-style-type: none"> ▪ Unclear how well the exclusion zones are policed & protected ▪ There is an issue with number of support teams including helicopters etc. <p>Recommended improvements:</p> <ul style="list-style-type: none"> ▪ Investigate potential for enhancing existing controls ▪ Evaluate and balance the environmental and social impact of Ten Tors with the NPA purposes

Biodiversity & Nature Conservation			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
BNC8 Movement of stock during firing	Reduced grazing pressure resulting in increased molinia. (Particularly need cattle in centre of moor). Also results in increased intensity of grazing on edge of moor Significance: <i>Major</i>	<ul style="list-style-type: none"> ▪ ATE liaises with commoners to clear stock when live firing is programmed, where possible, into areas where grazing supports their ESA management plans. Close liaison is also maintained with RDS and EN to ensure that agreements match their environmental objectives. ▪ Local farmers, employed as clearers, move stock to out of the live firing exercise weapon danger area to agreed locations. ▪ Where possible, live firing exercise are planned to enable stock to be moved to areas requiring grazing. ▪ Where commoners have requested, the clearers encourage stock to start moving back at the end of live firing. ▪ Allocated users advised to be careful of stock when dry tactical training. Stock will move short distances when people walk by and slightly further if blank ammunition is fired but soon returns. 	<p>Current regime is an improvement on previously but it is recommended that:</p> <ul style="list-style-type: none"> ▪ MOD could improve management of clearing to encourage stock to preferred areas. ▪ RDS have suggested changes to non firing periods for Okehampton to optimise grazing management to “facilitate improvements to the environmental benefits that we are attempting to realise through the ESA scheme”. ▪ Consideration should be given to reducing clearing to only the weapons impact area and providing compensation for any injuries or deaths caused. <p>(Ref: Annex H – Serial 6)</p>

Positive

Biodiversity & Nature Conservation			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
BNC9 Proactive partnering	Provision of financial and physical resources Significance: <i>Major</i>	<ul style="list-style-type: none"> ▪ Monitoring surveys and management programmes. ▪ Implementation of MOD's Rural Element of the Estate Strategy for example rebuilding of Reddaford Farm dry stone walls, Willsworthy's heather restoration project, East Okement Farm tree planting, bracken control etc. ▪ Funds for Dartmoor Military Conservation Group and Operation Wader. ▪ Support for Forest Fire Project. 	<ul style="list-style-type: none"> ▪ Continue existing strategy
BNC10 Military presence	Reduced human disturbance Significance: <i>Major</i>	<ul style="list-style-type: none"> ▪ Difficult to quantify as no baseline for comparison i.e. even if improved access, level of tourism and consequent human disturbance unlikely to increase significantly due to inhospitable nature of moor – needs to be quantified. 	<ul style="list-style-type: none"> ▪ Evaluate the benefits of the reduction of human disturbance after the 2006 Breeding Bird Survey (Ref Annex H – Serial 6)
BNC11 ILMP @ Willsworthy	The achievement of 'favourable condition' on MOD's freehold Willsworthy Training Area, part of North Dartmoor SSSI Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ Working with EN to implement management plan. ▪ Maintain heather & bilberry with granite outcrops through no grazing or burning on parts. ▪ Species encouragement. ▪ Species rich hay meadows restoration@ Reddaford Farm. 	<ul style="list-style-type: none"> ▪ Continue existing strategy

Archaeology and Historic Environment

Introduction

- 3.19 As stated in the Cramber Tor Environmental Statement, *“Dartmoor’s landscape is one of the best-preserved and most complete upland archaeological landscapes in Britain”*. Dartmoor, as a whole, includes 1,200 Scheduled Ancient Monuments, which is a national designation protected by the Ancient Monuments and Archaeological Areas Act 1979. In addition, there are over 11,000 entries on the County Sites and Monuments Register (SMR), which records archaeological sites or areas of significant local importance.
- 3.20 The importance of the archaeological landscape and the need for protection is reflected in the policies and objectives of the Dartmoor National Park Local Plan and Management Plan.
- 3.21 The Framework for Sustainable Development for Government Departments places further responsibilities on relevant Government Departments on the protection of the Government’s historic estate.

Relevant Consultees

- National Park Authority – Debbie Griffiths & Andy Crabb
- English Heritage (EH) – Ian Morrison

Archaeology and Historic Environment (con't)

Significance Assessment Table

Negative

Archaeology and Historic Environment			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
<p><i>AHE1</i> Use of archaeological artefacts to make shelters etc</p>	<p>Modification of ancient monuments:</p> <ul style="list-style-type: none"> ▪ Generally 1 report a year if not a SAM it is not recorded ▪ NB. Not always proven to be attributable to Army <p>Significance: <i>Moderate</i></p>	<ul style="list-style-type: none"> ▪ Standing Orders. ▪ Education: <ul style="list-style-type: none"> - Posters displayed where service personnel gather and pause. - Leaflet, produced jointly with DNPA, to educate Service personnel on importance of historic environment. - Maps from English Heritage of sensitive areas. - Information Centre set up at Okehampton Camp. ▪ DTA staff enforce Standing Orders by supervising training. ▪ DTA staff monitor historic environment at least every 6 months. Results are shared with DNPA/EH. ▪ English Heritage inspects Scheduled Monuments every 7 years. ▪ Corrective actions identified within complaints file. ▪ ATE contributed resources to undertake repairs – all noted on reports. ▪ Reports made by members of the public. 	<ul style="list-style-type: none"> ▪ Improve training of DTA staff to ensure that are able to enforce controls ▪ English Heritage's historic environment surveys of DTA should be completed. ▪ An effective GIS with historic environment overlays should be provided to HQ DTA to assist in exercise planning and briefing. ▪ The national significance of DTA's military historic artefacts should be assessed by English Heritage in order that funds can be attributed to maintaining the most significant. <p>(Ref: Annex H – Serial 3-4)</p>

Archaeology and Historic Environment			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
<i>AHE2</i> Using archaeological artefacts for "loos"	Disturbance/digging NB. Difficult to attribute solely to military Significance: <i>Minor</i>	<ul style="list-style-type: none"> ▪ Portalooos provided when troops are gathered together for a number of days. ▪ See also <i>Landscape</i>. 	<ul style="list-style-type: none"> ▪ Pursue ATE approval for new design of Portalooos.
<i>AHE3</i> Military projectiles	Disturbance of monuments Significance: <i>Minor</i>	<ul style="list-style-type: none"> ▪ Standing Orders prohibit the use of historic sites and tors as targets. ▪ UXO clearance conducted with due regard for historic environment and in accordance with protocol/Standing Order agreed with DNPA. 	<ul style="list-style-type: none"> ▪ See recommendations for archaeological artefacts to make shelters etc.
<i>AHE4</i> Wheel tracks	Proximity to ancient monument Significance: <i>Minor</i>	<ul style="list-style-type: none"> ▪ Vehicle movement limited to permitted roads and tracks unless HQ DTA authorises in order to achieve operational training objective. 	<ul style="list-style-type: none"> ▪ See recommendations for archaeological artefacts to make shelters etc.
<i>AHE5</i> Trench digging	Disturbance/digging (See also Biodiversity) Significance: <i>Moderate</i>		<ul style="list-style-type: none"> ▪ See <i>Biodiversity</i>.

Positive

Archaeology and Historic Environment			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
AHE6 Proactive partnering	Provision of financial and physical resources. Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ EH historic environment condition survey initiated and partly funded by ATE. ▪ Problems noted by DTA staff's frequent (at least 6 monthly) monitoring of all upstanding historic environment passed to NPA. ▪ Military artefacts that EH, NPA and MOD have agreed as significant, maintained by DTA. 	<ul style="list-style-type: none"> ▪ Continue existing strategy.
AHE7 Dartmoor Military Conservation Group & Willsworthy ILMP	Positive management (See also <i>Biodiversity</i>) Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ More pertinent for ecology through managed grazing, but also desirable to have scrub management in Dartmoor for benefit of archaeology. 	<ul style="list-style-type: none"> ▪ Continue existing strategy.
AHE8 Okehampton Camp	Conservation of Military artefacts Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ Information centre at Okehampton Camp. ▪ Camp viewed by some stakeholders as 'blot on landscape' from Yes Tor but history means that buildings potentially justify listing. ▪ Camp has been assessed and buildings of historic significance identified. ▪ Buildings of historic significance maintained appropriately, as if listed. EH's work to identify the national significance of military structures on hold. ▪ Some sites of historic interest (identified by EH's survey of the Okehampton Deer Park) within Okehampton Camp limiting planting of trees and shrubs to merge Camp into Dartmoor's landscape. 	<ul style="list-style-type: none"> ▪ Potential for NPA and ATE to work in partnership to enhance information provision at Okehampton Camp to expand on existing historical display. ▪ See also <i>Tourism & Recreation</i>.
AHE9 Other historic buildings in MoD ownership	Conservation of historic buildings Significance: <i>Minor</i>		<ul style="list-style-type: none"> ▪ Undertake historic environment assessment of Bearwalls, Doe Tor, East Okement and Standon Farms.

Landscape

Introduction

3.22 Dartmoor Training Area is situated within Dartmoor National Park, as designated under the National Parks and Access to the Countryside Act 1949, (amended by the Environment Act 1995). National planning policy states that “*The Government regards National Park designation as conferring the highest status of protection as far as landscape and scenic beauty are concerned*” (Planning Policy Statement (PPS) 7: Sustainable Development in Rural Areas). The policies and objectives of the Dartmoor National Park Local Plan and Management Plan reflect the importance of this national designation.

Relevant Consultees

- National Park Authority (NPA) – Sue Goodfellow, Alison Kohler & Ian Brooker (NPA North Moor Ranger)
- Dartmoor Local Access Forum – Alan Taylor (Chair) & Jeff Haynes (Secretary)
- Duchy of Cornwall – Chris Gregory & Ian Lamb
- Countryside Agency (CA) – Lesley Pearman
- RDS – Eamon Crowe & Pete Stevens

Landscape (con't)

Significance Assessment Table

Negative

Landscape			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
L1 Military Debris	Includes flare cases, cartridge cases, survival equipment, kit, tin boxes. Incidence of debris and litter has increased over the past 2 years. Significance: <i>Major</i>	<ul style="list-style-type: none"> ▪ Users required to clear up after activities. ▪ DTA staff check that clear up is completed. ▪ Periodic area clean up by DTA staff & clearers including civilian litter if in areas used by military. 	<ul style="list-style-type: none"> ▪ More rigorous supervision needs to be imposed by DTA staff.
L2 Military Infrastructure including look out shelters, stables flag poles	Visual intrusion Significance: <i>Major</i>	<ul style="list-style-type: none"> ▪ Shelters and stables painted grey to reduce visual intrusion. ▪ Stables sited out of view. ▪ Some shelters constructed of granite and built into tors reducing visual intrusion. ▪ Flag poles painted green to reduce visual intrusion. ▪ Warning signs around range danger area are, as an exemption, permitted to be smaller than the military norm. 	<ul style="list-style-type: none"> ▪ Undertake landscape character and visual impact assessment. ▪ Continue to review and optimise locations of military range infrastructure to ensure that visual intrusion is minimised while achieving purpose. <p>(Ref: Annex D – Serial 7)</p>

Landscape			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
L3 Camp	Landscape character & visual impact Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ Draft ATE Okehampton Camp Landscape Management Plan submitted to NPA – already started to implement ideas e.g. reducing signs, changing colours of buildings. ▪ Some areas of planting remain under discussion to minimise impacts on areas of archaeological interest. 	<ul style="list-style-type: none"> ▪ Continue implementation of Draft ATE Okehampton Camp Landscape Management Plan. <p>(Ref: Annex D – Serial 6)</p>
L4 Loop Road & Access Tracks	Visual intrusion/loss of character & indirect impacts Significance: <i>Major</i> <i>NB</i> Local community and tourists value Loop Road for access especially the less able and are opposed to its deterioration. (see <i>Tourism & Access</i>)	<ul style="list-style-type: none"> ▪ Duchy/MOD licence requires MOD to manage decline of Loop Road, but also permits MOD to maintain it to a standard suitable for its purposes. ▪ MOD/Duchy and DNPA work together under auspices of DSG to agree management plan and works. ▪ MOD/DNPA have constructed parking constraints to prevent vehicles being driven onto open moor. ▪ MOD has bouldered off tracks to prevent use by military and civilian vehicles allowing terrain to recover. 	<ul style="list-style-type: none"> ▪ Duchy, MOD and NPA need to agree schedule of work that will allow road to degrade to a track suitable for military and farmer's purposes without causing environmental damage or increasing visual intrusion. ▪ Suggested solution for compromise for all interests: Smaller ring road that is maintained.

Landscape			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
L5 Military vehicles	Erosion – visual intrusion <ul style="list-style-type: none"> Tracks established and encourages unofficial use. Other military vehicles going off road & going beyond licensed tracks. <p>Significance: <i>Major</i></p>	<ul style="list-style-type: none"> See <i>Geology</i>. 	<ul style="list-style-type: none"> See <i>Geology</i>.
L6 Fixed range infrastructure such as stop butt and firing points.	Landscape character <p>Significance: <i>Moderate</i></p>	<ul style="list-style-type: none"> Willsworthy (MOD freehold) has 3 fixed ranges; Gallery, ETR and MMTT. Okehampton has an Anti Tank Range, the target for which was incorporated into the target railway bank to reduce visual intrusion and the firing points fenced to ensure vegetation grew to blend them into the surrounding moorland. 	<ul style="list-style-type: none"> Undertake landscape character and visual impact assessment.
L7 Portaloos	Visual intrusion <p>Significance: <i>Major</i></p>	<ul style="list-style-type: none"> Where possible sited by contractor in non visually intrusive locations but limited by use of 2 wheel drive lorry to being close to hard tracks. Positioned and removed to minimise time on site but contract allows contractor to leave for 3 days after contract ends. New field portaloos design will resolve the issue but provision not yet agreed by HQ ATE. 	<ul style="list-style-type: none"> Field portaloos with small visual signature that can be positioned by the user unit close to their camp and removed after use should be introduced.
L8 Trench digging	Visual intrusion & change in landscape character <p>Significance: <i>Moderate</i></p>	<ul style="list-style-type: none"> See <i>Geology & Biodiversity</i>. 	<ul style="list-style-type: none"> See <i>Geology & Biodiversity</i>.

Landscape			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
L9 Paths caused by trampling	Visual intrusion from creation of paths through trampling etc Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ See <i>Geology</i>. 	<ul style="list-style-type: none"> ▪ See <i>Geology</i>. ▪ Undertake landscape character and visual impact assessment.
L10 Military activities	Noise from firing, helicopters & other aircraft (changes character of the moor, detracts from the experience of 'wildness' & affects 'tranquillity') (See also <i>Recreation & Access</i> , <i>Noise</i>) Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ See <i>Noise</i>. 	<ul style="list-style-type: none"> ▪ Undertake landscape character and visual impact assessment, including assessment of 'tranquillity' and 'wildness'.

Positive

Landscape			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement
L11 Kitty Tor Restoration	Restoration of eroded track to peat works Significance: <i>Minor</i>	<ul style="list-style-type: none"> ▪ Military licensed track, which became badly eroded. Military reinforced with granite. 	<ul style="list-style-type: none"> ▪ Continue existing strategy.
L12 Clearance of civilian litter	Landscape character Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ Periodic area clean up by wardens & clearers includes all litter including non-military - assists in keeping the Moor clean. 	<ul style="list-style-type: none"> ▪ Continue existing strategy.
L13 Car removal	Visual intrusion Significance: <i>Minor</i>	<ul style="list-style-type: none"> ▪ Dumped cars removed with help by MOD. 	<ul style="list-style-type: none"> ▪ Continue existing strategy.
L14 Military resources	Management/ maintenance Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ Military groups used for bridge building etc throughout the training areas. 	<ul style="list-style-type: none"> ▪ Continue existing strategy.
L15 ILMP @ Willsworthy	Positive Landscape Management Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ Maintain heather & bilberry with granite outcrops through no grazing or burning on parts. ▪ Species encouragement. ▪ Redaford Farm – stone walled & enclosed. Species rich hay meadows. 	<ul style="list-style-type: none"> ▪ Continue existing strategy.

Health and Safety

Introduction

- 3.23 All activities undertaken in the workplace are regulated by the Health and Safety at Work Act 1974 and associated regulations. These place responsibilities on employers and employees to operate under safe working conditions. The Government's 'Revitalising Health and Safety' Strategy (published in 2000) sets out a 10-year strategy to improve further health and safety at work.

Relevant Consultees

- National Park Authority (NPA) – David Campkin & Ian Brooker (NPA North Moor Ranger)
- Dartmoor Local Access Forum – Alan Taylor (Chair) and Jeff Haynes (Secretary)

Health & Safety (cont'd)

Significance Assessment Table

Negative

Health & Safety			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement
HS1 General	Health & safety of military & civilians Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ Secretary of State for Defence cascades personal direction on safety, health and environment down to HQ DTA and units. ▪ Comdt DTA issues annual personal statement on Safety, Health Environment and Fire. ▪ Military set out to achieve health and safety standards that exceed best practice and the law. ▪ Inspections and monitoring are conducted on behalf of CinC Land by specialists. 	<ul style="list-style-type: none"> ▪ None required Controls adequate
HS2 UXO	Health & safety <ul style="list-style-type: none"> ▪ Residual UXO risk to walkers and riders ▪ Perception of danger from UXO ▪ Buried UXO prevents fire fighting Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ Authorised users sweep areas used, clear safe military debris and civilian litter, and report UXO to HQ DTA for disposal by specialists. ▪ DTA staff and clearers carry out periodic sweeps to collect safe military debris and civilian litter and report UXO to HQ DTA for disposal by specialists. ▪ Because of the clearance, HQ DTA assess that there is little chance of finding dangerous UXO on the moor's surface within DTA but because it does rise to the surface, there is always the possibility of finding an item. ▪ Primary school children within West Devon briefed on UXO as part of Junior Life Skills. ▪ Warnings about the danger to life from UXO given in DTA publications, web site, firing notices, on warning signs around the range danger areas, in talks to the public etc. ▪ Incident reports held from April 03. 	<ul style="list-style-type: none"> ▪ Continue to clear surface UXO. ▪ Clear buried UXO from areas of high risk and fire breaks. (Ref: Annex D – Serial 8)

Health & Safety			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement
HS3 Dry Training/Live firing	Health & safety of military & civilians Significance: <i>Moderate</i>	For military users: <ul style="list-style-type: none"> ▪ MOD publications and local standing orders. ▪ Safe System of Training in place including training and risk assessments. For Dry Training Standing Orders require military to be considerate to other users. In addition for live firing caution provided to civilians in: <ul style="list-style-type: none"> ▪ Walks and Rides on Dartmoor leaflet. ▪ NPA's Dartmoor Visitor. ▪ DTA's website. ▪ Information boards. ▪ 60 contact points e.g. pubs & shops NPA and Local Authority Tourist Information Centres. ▪ Local newspaper. ▪ DTA Telephone Helpline. ▪ Intervisible warning signs on poles around range danger areas. ▪ Warning signals hoisted (red flags by day and red lamps by night) to indicate live firing programmed. ▪ Observation maintained over 70% of range danger area boundary including main access routes. ▪ Live firing authorised by HQ DTA and overseen by DTA staff. 	<ul style="list-style-type: none"> ▪ None required Controls adequate

Tourism and Recreation

Introduction

- 3.24 The Dartmoor Commons Act 1985 established a legal right of access on foot and horseback over all unenclosed common land on Dartmoor. In addition, the National Park Authority (NPA) has negotiated with landowners access arrangements on most other unenclosed moorland. As stated in the Dartmoor Military Ranges and Training Areas – A Guide to Walkers and Riders, *“the public has access rights over the Dartmoor Training Area except when the Ranges are notified for live firing”*.
- 3.25 The Countryside and Rights of Way Act 2000 reinforces the access rights under the Dartmoor Commons Act 1985, creating new rights for people to walk on areas of open country and registered common land.
- 3.26 The purposes of the National Park designation are: *“to conserve and enhance the natural beauty, wildlife and cultural heritage;”* and *“to promote opportunities for the understanding and enjoyment of the special qualities by the public”*. Where there is conflict, the former has precedence. In achieving these purposes, the NPA has a duty to support the local community. The Dartmoor National Park Local Plan and Management Plan set policies and objectives to reflect these two purposes and their relative importance.

Relevant Consultees

- National Park Authority (NPA) – David Campkin, Alison Kohler & Ian Brooker (NPA North Moor Ranger)
- Dartmoor Local Access Forum – Alan Taylor (Chair) and Jeff Haynes (Secretary)
- Countryside Agency (CA) – Lesley Pearman

Tourism & Recreation (cont'd)

Significance Assessment Table

Negative

Tourism & Recreation			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
TR1 Military Presence (including dry training)	<p>Perceived by some to be intrusive to the enjoyment of Dartmoor. Potentially off putting to some tourists.</p> <p>Conflict with access objectives of statutory bodies: Optimising use of open access land is a principal objective of both CA and NPA. CA would also like to improve linkages with other long distance routes and investigate potential for improvement of car parking facilities.</p> <p>Significance: <i>Major</i></p>	<ul style="list-style-type: none"> ▪ MOD uses leaflets and information boards to encourage access unless live firing programmed (see below). ▪ Military required to be considerate to other users. 	<p>Awaiting findings of Tourism Associates' study which should:</p> <ul style="list-style-type: none"> ▪ Assess level of use and public perceptions re. military presence. ▪ Provide cost-benefit analysis to identify benefits/losses for tourism.

Tourism & Recreation			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
TR2 Live firing	<p>Limit to access & use of moor</p> <ul style="list-style-type: none"> ▪ Issue of cancellation. At present notice of live firing, the moor is closed and no sign of military activity <p>NB. No response from riding groups, but limited more by ground conditions.</p> <p>Significance: <i>Major</i></p>	<ul style="list-style-type: none"> ▪ There is guaranteed public access to Okehampton on 245 days each year, Willsworthy on 130 days a year and Merrivale 186 days a year. This information is made available on the web, in military and civilian publications, on information boards around the moor, at DNPA Information and Tourist Information Centres. ▪ Training programme tailored for units to use on permitted days under licence. Main variable is weather conditions – cannot fire if cannot observe range danger area (RDA) boundary, so have to allow for days where may not be able to see. ▪ Cancellations due to: <ul style="list-style-type: none"> - Bad visibility preventing observation of RDA boundary to ensure public safety. - User cancellation e.g. operational reasons prevent use at short notice. - Good weather, days that were programmed in case of bad visibility but become available at short notice, normally at the end of a week of good weather. ▪ Cancellations are notified on web, helpline telephone, NPA Information Centres and Radio Devon. ▪ Few complaints from general public regarding military activities. 	<p>Awaiting findings of Tourism Associates' study but could also consider:</p> <ul style="list-style-type: none"> ▪ Review methods of communication (Ref: Annex D – Serial 5). ▪ Greater notice of the live fire programme should be given. Discussion is already under way within the DSG to determine the implications and benefits of such a change.
TR3 Military activities	<p>Noise from firing, helicopters etc – impact on 'tranquillity' of area and consequent recreation enjoyment</p> <p>Significance: <i>Moderate</i></p>	<ul style="list-style-type: none"> ▪ See <i>Noise</i>. 	<ul style="list-style-type: none"> ▪ See <i>Noise</i>.

Positive

Tourism & Recreation			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
TR4 Facilitate Ten Tors	Recreation benefit and positive social benefit as good event for young people Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ Military involvement valued by access groups & CA as Ten Tors encourages youngsters to appreciate the moor safely. 	<ul style="list-style-type: none"> ▪ Evaluate and balance the environmental and socio economic impact of Ten Tors with NPA's purposes.
TR5 Loop Road & Access Tracks	Improved access to moor: <ul style="list-style-type: none"> ▪ Local residents, tourist and commoners use loop road for vehicle access to moor ▪ Reported benefits for access by less able Significance: <i>Minor</i>	<ul style="list-style-type: none"> ▪ See <i>Landscape</i>. 	<ul style="list-style-type: none"> ▪ See <i>Landscape</i>.
TR6 Okehampton Camp	Conservation of Military artefacts Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ See <i>Archaeology & Historic Environment</i>. 	<ul style="list-style-type: none"> ▪ Potential for NPA and ATE to work in partnership to enhance information provision at Okehampton Camp to expand on existing historical display.

Economy and Employment

Introduction

- 3.27 Farming has underpinned the economy of Dartmoor for most of its history and is important for the long term management of the area for both environmental and social benefit. It is recognised that the economy and employment of Dartmoor are highly dependent on the agricultural and rural nature of the local area. As stated in the Dartmoor National Park Management Plan, *“farming, forestry and tourism are important providers of employment in the National Park”*. The UK Strategy for Sustainable Development promotes economic development through one of the four main objectives:- *“maintenance of high and stable levels of economic growth and employment”*.
- 3.28 The Dartmoor National Park Management Plan supports this strategy, with a stated objective *“to ensure wherever possible that the employment needs of local communities are met, and in the most appropriate locations.”*

Relevant Consultees

- RDS – Eamon Crowe & Pete Stevens
- Dartmoor Local Access Forum – Alan Taylor (Chair) and Jeff Haynes (Secretary)
- Dartmoor Commoners Council
- West Devon Borough Council

Economy and Employment (cont'd)

Significance Assessment Table

Negative

Economy & Employment			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
EE1 Ten Tors	Economic – impact on stock [Some anecdotal evidence that commoners lose young stock (foals/lambs) as a result of disturbance from numbers of people on the moor] Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ Instructions remind participants not to interfere with stock especially young. ▪ Managers' weekends held annually with managers required to attend at least every 5 years. 	<ul style="list-style-type: none"> ▪ Evaluate and balance the environmental and socio economic impact of Ten Tors with NPA's purposes.
EE2 Live firing – clearance of stock	<ul style="list-style-type: none"> ▪ Economic – impact on stock during calving & lambing ▪ Disturbance in the spring (lose lambs etc) Significance: <i>Minor</i>	<ul style="list-style-type: none"> ▪ MOD pays commoners for rights to train and pays compensation for stock injured or killed. ▪ Incident reports and claims kept by MOD. Only 2 without prejudice payments made in past 10 years. 	None required Controls adequate

Positive

Economy & Employment			
Military Activity	Impact/Concern and Relative Significance	Existing Controls/Procedures	Adequacy of Controls & Recommended Improvement (Ref. in DTA EMS Manual)
EE3 Military purpose	Defence of the nation state allows areas such as Dartmoor to be National Parks Significance: <i>Substantial</i>	<ul style="list-style-type: none"> ▪ ATE function is to support this national objective. 	
EE4 Military presence in Okehampton	Economic benefits through jobs & purchasing West Devon Borough Council "has a formal policy, which is supportive of the military training activities on the moor as it is perceived to make an important and significant contribution towards the health of the local economy". Significance: <i>Major</i>	<ul style="list-style-type: none"> ▪ Total of 54 staff employed on DTA. ▪ Preference given to local purchasing where cost effective. 	<ul style="list-style-type: none"> ▪ Economic benefits estimated but no cost-benefit study to confirm this nor comparison with potential tourist benefits if there was no military presence and Okehampton was promoted for tourism. Therefore awaiting findings of Tourism Associates' study
EE5 Payments to farmers for clearing	Economic support for local farmers Significance: <i>Moderate</i>	<ul style="list-style-type: none"> ▪ Compensation paid for right to train (and for stock injured or killed). ▪ Payments to 21 clearers. 	<ul style="list-style-type: none"> ▪ Continue existing strategy.

4 Conclusions and Recommendations

- 4.1 The ATE is fundamentally important in supporting the Armed Forces' primary purpose of defence of the nation state. Without areas to train, the Armed Forces would be unable to function effectively and fulfil this role. Dartmoor is an important part of the ATE and arguably exists in its current form as a result of its use by the military. This is the broader context against which the EMS has been implemented for DTA.
- 4.2 From the consultation process with the stakeholders, the feedback generally indicates that through the implementation of the EMS, the proactive approach by the Commandant and the involvement of the Dartmoor Steering Group, the management of DTA has improved over recent years demonstrating that MOD management of the DTA has due regard for the National Park's purposes.
- 4.3 DTA has followed the MOD's JSP 418 methodology correctly, although this process does not require the full assessment of social and economic issues such as the impacts of military activities upon public safety, recreation and access or economic impacts on local communities, which are particularly pertinent to DTA and are identified as significant issues by the stakeholders consulted. However, DTA's existing EMS has identified some of the social and economic impacts but these should now be more fully assessed.
- 4.4 The gap analysis audit, undertaken through discussion with stakeholders, has confirmed that the majority of the key issues have been identified within the existing EMS impact assessment, although not all had been given the same level of priority that has been identified within section 3.0 of this report.
- 4.5 The Environmental Programme Management Plan and Environmental Measurement Plan include appropriate actions and research programmes to reduce the majority of the significant impacts. The gap analysis, however, has identified some outstanding issues, which either require improvement in the level of controls and/or have not been fully considered within the EMS. In some cases this can be attributed to insufficient resources and/or finance.
- 4.6 This Section draws out the key recommendations identified within the gap analysis. These are divided into those applicable to DTA or Okehampton Camp. Where these recommendations are building on existing programmes identified within the EMS, the relevant cross-reference to DTA's EMS Manual is provided.
- 4.7 The recommendations can be broadly grouped into the following two types:

- **Research projects** where there is insufficient information either to fully assess the degree of impact/concern or to identify suitable mitigation measures e.g. the need for a landscape character and visual impact assessment.
- **EMS Implementation** which encompasses:
 - *Training and improvement of controls* where there is a need for improvement because operatives are not adhering adequately to controls e.g. collection of military debris is considered by some stakeholders not to be as effective as it could be.
 - *Monitoring & Corrective Action* where the process of checking and reporting on the implementation of the EMS needs improvement e.g. completing corrective action reports for the reinstatement of damaged vegetation after vehicle movements.

Research Projects

No.	DTA EMS reference	Recommendation	Issues addressed (reference in Section 3)
A1	Annex H Serial 4	Assess the potential visual intrusion of military activities and their impact on landscape character (to include assessment of impacts on 'tranquillity' and 'wildness').	<ul style="list-style-type: none"> ▪ Erosion effects from tracks after tracked vehicle movement (L5) ▪ Trench digging (L8) ▪ Military infrastructure - look out posts, stables, and flag poles (L6) ▪ The impact of portaloos (L7) ▪ The effect of the military presence on 'tranquillity' and 'wildness' (L10&TR3) ▪ The impact of the Loop Road and other access tracks (L4) ▪ The impact of paths created/exacerbated by military activities (L9)
A2		Evaluate and balance the environmental and socio economic impact of Ten Tors with National Park purposes	<ul style="list-style-type: none"> ▪ Disturbance of nesting birds during breeding season (BNC7) ▪ Noise from helicopters & support vehicles (NV1) ▪ Economic impact on graziers due to loss of stock (EE1) ▪ Positive socio-economic impacts to local community and young people (TR4)
A3	Annex D Serial 1- Maintain the balance between military impacts and NP purposes	Map sensitive ecological areas (using NVC data and other available information such as Dartmoor Forest Emergency Fire Plan)	<ul style="list-style-type: none"> ▪ The impact on blanket bog and heathland vegetation from trench digging, movement of tracked vehicles, live firing and fire (BNC1-BNC5) ▪ Disturbance of nesting birds (BNC3)
A4	Annex D Serial 10 – Effect of military training on Dartmoor & local communities	Evaluate the current Tourism Associates socio economic study that covers economic cost/benefit of military presence	<ul style="list-style-type: none"> ▪ Economic cost/benefit through jobs & purchasing (EE4)
A5	Annex H Serial 6d – Impact of military training on wildlife	Evaluate the benefits of the reduction of human disturbance after the planned 2006 Bird Survey	Positive benefits of military presence: <ul style="list-style-type: none"> ▪ Reduced human disturbance on nesting birds (BNC10)

Key: NV=Noise & Vibration (pp13-15); BNC=Biodiversity & Nature Conservation (pp24-30); L= Landscape (pp35-40); TR= Tourism & recreation (pp44-47); EE=Economy & Employment (pp48-50)

Research Projects (con't)

No.	DTA EMS reference	Recommendation	Issues addressed (ref. in Section 3)
A6	Annex H Serial 6c – Impact of military training on habitats	Investigate further measures that support the Vision for Dartmoor and RDS's ESA objectives e.g. Consideration should be given to reducing clearing to only the weapons impact area.	<ul style="list-style-type: none"> ▪ Impact on grazing patterns caused by clearance of stock from live firing areas (<i>BNC8</i>)
A7	Annex D Serial 5 – Public perception of military training Annex D Serial 10 – Effect of military training on Dartmoor & local communities	Assess, using Tourism Associates socio economic study: <ul style="list-style-type: none"> ▪ Level of use and public perceptions re. Military presence. ▪ Cost-benefit analysis to identify benefits/losses for tourism. ▪ Socio economic impact of current use and the potential impact if the military was not present. 	Limits on access to the moor from: <ul style="list-style-type: none"> ▪ Perception that military presence potentially off putting to tourists (<i>TR1</i>) ▪ Live firing (<i>TR2</i>)
A8		Agree future management of Loop Road with Duchy, MOD, National Park Authority (NPA), EN and RDS.	<ul style="list-style-type: none"> ▪ Management of Loop Road (<i>L4</i>)
A9	Annex H Serial 8	Undertake noise study, building on experience gained at Cramber.	<ul style="list-style-type: none"> ▪ Noise from military activities (<i>NV2</i>)
A10	Annex D Serial 1- Maintain the balance between military impacts and NP purposes	Liaise with English Heritage to achieve the following: <ul style="list-style-type: none"> ▪ Completion of historic environment surveys of DTA. ▪ Provision of an effective GIS with historic environment overlays to HQ DTA to assist in exercise planning and briefing. ▪ Assessment by English Heritage of the national significance of DTA's military historic artefacts in order that funds can be attributed to maintaining the most significant. 	<ul style="list-style-type: none"> ▪ Protection of archaeological artefacts(<i>AHE1-AHE5</i>)
A11	Annex H Serial 3a – Impact of military training on historic environment	Undertake historic environment assessment of Bearwalls Farm, Doe Tor Farm, East Okement Farm and Standon Farm.	<ul style="list-style-type: none"> ▪ Historic buildings in ATE ownership (<i>AHE9</i>)
A12		Repeat aerial photographic survey and demonstrate results to stakeholders.	<ul style="list-style-type: none"> ▪ Reinstatement of tracks after movement of tracked vehicles (<i>GS4 & BNC3</i>) ▪ Reinstatement of areas after trench digging (<i>GS3 & BNC2</i>) ▪ Reinstatement of any damaged areas after live firing (<i>BNC1</i>)

Key: NV=Noise & Vibration (pp13-15); BNC=Biodiversity & Nature Conservation (pp24-30); AHE= Archaeology & Historic Environment (pp31-34) L= Landscape (pp35-40); TR= Tourism & recreation (pp44-47)

EMS Implementation : DTA

No	DTA EMS Reference	Recommendation	Issues addressed (reference in Section 3)
B1	Annex F Appendix 1 – Environmental Training Action Plan)	Improve training & supervision of operatives.	<ul style="list-style-type: none"> ▪ Implementation of emergency response plan for fires (<i>BNC5</i>) ▪ Supervision of live firing to protect sensitive areas (<i>BNC1</i>) ▪ Collection of military debris (<i>L1</i>) ▪ Movement of tracked and other military vehicles (<i>BNC3 & BNC4</i>) ▪ Protection of archaeological artefacts (<i>AHE1-AHE5</i>)
B2	Annex D Serial 7- Reduce the visual impact of military infrastructure	Improve implementation of Environmental Management Plan (through provision of funding and resources).	<ul style="list-style-type: none"> ▪ Pursue ATE approval for Portaloos (<i>AHE2 & L7</i>)
B3	Annex D Serial 1 – Maintain the balance between military impacts and NP purposes	Produce management plan for military activities on Dartmoor in consultation with landowners and Statutory Bodies.	<ul style="list-style-type: none"> ▪ Live firing/dry training, trench digging, movement of vehicles etc and the potential effects upon sensitive habitats, sites of historic interest etc (<i>General</i>) ▪ Improve controls regarding the interpretation of the single EN consent document for Dartmoor – North Dartmoor SSSI (<i>BNC3</i>)
B4	Annex G	Continue to use DTA's EMS Annex G to provide statistical data to demonstrate implementation and documentation of corrective actions. Ensure information is supported by detailed records.	<ul style="list-style-type: none"> ▪ Reinstatement of tracks after movement of tracked vehicles (<i>GS4 & BNC3</i>) ▪ Reinstatement of areas after trench digging (<i>GS3 & BNC2</i>) ▪ Reinstatement of any damaged areas after live firing (<i>BNC1</i>)
B5	Annex D Serial 5 – Maintain effective communications with stakeholders	Continue to improve communication with all stakeholders.	<ul style="list-style-type: none"> ▪ Provide earlier notification of the programme of public access (<i>TR2</i>) ▪ Monitoring of reinstatement should be demonstrated to concerned stakeholders (<i>GS3</i>)
B6	Annex D Serial 8 – Reduce risk from residual UXO	Continue to clear surface UXO and clear buried UXO from areas of high risk and fire breaks.	<ul style="list-style-type: none"> ▪ Health and safety and fire risk from UXO (<i>HS2</i>)

Key: GS= Geology & Soils (pp21-23); BNC=Biodiversity & Nature Conservation (pp24-30); AHE= Archaeology & Historic Environment (pp31-34); L= Landscape (pp35-40)

EMS Implementation : Okehampton Camp

No	DTA EMS Reference	Recommendation	Issues addressed (reference in Section 3)
C1	Annex D Serial 4 – Continue energy reduction improvements	Undertake energy survey to identify any further potential savings e.g. consider following options: <ul style="list-style-type: none"> ▪ Timed taps and fixed thermostats on all showers would reduce energy use. ▪ Installation of double glazing on all heated buildings would reduce energy use. ▪ Long life lamps used where cost effective. ▪ Automatic switching used wherever effective. 	<ul style="list-style-type: none"> ▪ Improve energy efficiency in camp (CC6-CC8)
C2	Annex D Serial 4 – Continue energy reduction improvements	Investigate feasibility of installing a Building Management System (BMS) in Okehampton Camp and re-activating that in Willsworthy Camp to reduce energy use by allowing more precise control of heating to suit occupancy levels.	<ul style="list-style-type: none"> ▪ Improve energy efficiency in camp (CC7)
C3	Annex D Serial 4 – Continue energy reduction improvements	Research cost/benefit of more efficient cook house appliances.	<ul style="list-style-type: none"> ▪ Improve energy efficiency in camp (CC6)
C4	Annex D Serial 3- Reduce waste to landfill	Pursue segregation of waste streams and increase volume recycled.	<ul style="list-style-type: none"> ▪ Reduce waste disposed to landfill (W1)
C5		Store cooking oils in a bunded area.	<ul style="list-style-type: none"> ▪ Risk of spillage in camp (WD3)
C6	Annex D Serial 5 – Maintain effective communications with stakeholders	Research potential for NPA and ATE to work in partnership to enhance information provision at Okehampton camp to expand on existing historical display.	<ul style="list-style-type: none"> ▪ Conservation of military artefacts (AHE8) ▪ Provision of facilities for tourism and recreation (TR6)

Key: CC= Climate Change (pp9-12); WD= Water & Drainage (pp16-18); W= Waste (pp19-20); AHE= Archaeology & Historic Environment (pp31-34); TR= Tourism & recreation (pp44-47)

APPENDICES

Appendix 1

Terms of Reference

EXTERNAL AUDIT OF DARTMOOR TRAINING AREA'S ENVIRONMENTAL MANAGEMENT SYSTEM

Terms of Reference

1.0 Project Background and Context

- 1.1 The Environmental Management System (EMS) for Dartmoor Training Area (DTA) was produced in 2002 in consultation with the local statutory bodies.
- 1.2 Endorsed by the Dartmoor Steering Group, the EMS promises an external audit to ensure that all potentially significant impacts of current military activity have been identified and adequate management processes are in place.
- 1.3 To ensure an independent review, the audit should shadow the environmental impact assessment process to identify key impacts and assess the significance of those impacts.
- 1.4 The scope of the audit will include the environmental, social and economic impacts of all military activities within the Dartmoor National Park except those associated with:
 - i) Procurement of goods and services that are managed outside of ATE SW's responsibilities;
 - ii) Aircraft, unless operating with ground troops.

2.0 Aims and Objectives

- 2.1 The two aims of this project are to:
 - i) Externally audit DTA's EMS to ensure that all potentially significant impacts have been identified;
 - ii) Make recommendations for the further development of the EMS.
- 2.2 In support of these aims the project is to address a series of objectives as outlined below:
 - i) In consultation with statutory bodies at local level and NGOs selected by those statutory bodies, determine the scope of environmental, economic and social impacts pertinent to DTA.
 - ii) Understand and review data relating to identified social, economic and environmental impacts.
 - iii) Using a recognised approach to risk assessment, examine and assess the significance of both positive and negative social, economic and environmental impacts of military training on Dartmoor. Produce a document presenting the findings of the impact assessment.

- iv) Compare findings with the existing EMS and produce a 'gap analysis' audit report.
- v) Recommend improvements, if any, to DTA's EMS, changes to the management processes and control measures and identify the need for additional studies.

3.0 Deliverables and Timescale

3.1 The following will be the deliverables from the project:

- i) Document presenting findings of the impact assessment following consultation with statutory bodies – draft to be issued 8 weeks from project commencement.
- ii) Gap analysis audit report – draft to be issued 12 weeks from project commencement.
- iii) Programme of recommendation of improvements – draft to be issued 16 weeks from project commencement.

Appendix 2

Table of Consultees and Responses

CONSULTEE ADDRESSES & RESPONSES

Organisation	Contact attempts	Response	Response to Report
<p>Simon Bates English Nature (Devon Team)</p>	<p>Phone back on 23.3.05 Spoke – promised bullet point response by 12th April meeting Meeting held 12th April 2005</p>	<p>Letter received 23rd March:</p> <ul style="list-style-type: none"> ▪ Achievement of favourable recovering condition on Willsworthy through burning plan to ensure none on bog & review current grazing & range clearance ▪ Welcome commitment to produce sensitivity map to aid risk assessment ▪ NVC of Okehampton (1st priority) and Merrivale (2nd priority) ▪ Clearance of UXO from higher risk areas & strategic fire breaks ▪ Re-instatement of vegetation after digging trenches ▪ Complete formal 'Corrective Action Report' to demonstrate mitigation of impacts of the BV206 tracks. <p>Meeting findings included within assessment tables</p>	<p>Attending meeting on 16th June.</p>

Organisation	Contact attempts	Response	Response to Report
<p>Ian Morrison English Heritage</p>	<p>Phone back on 23.3.05; message left 30.3.05 – provisional meeting for 13th Aril with Debbie Griffiths of NPA 1.4.05 – meeting set up for 13th April Meeting held 13th April 2005</p>	<p>Issues to consider:</p> <ul style="list-style-type: none"> ▪ Majority of areas of archaeological importance outside the DTA. ▪ Some evidence of monuments ‘reorganised’ by cadets – MoD aware ▪ Management of vegetation is key but restriction on livestock access can limit this. Encroachment of scrub and bracken is of particular concern and damages archaeology ▪ Tracked vehicles over monuments and problems of erosion – not sure of supporting evidence for this ▪ ‘Going on Dartmoor’ – issue of digging pits for toilet needs within scheduled monuments <p>Meeting findings included within assessment tables</p>	<p>Received: 3 June 2005</p> <ul style="list-style-type: none"> ▪ Cannot attend meeting ▪ Happy with content. The relevant historic environment issues are appropriately summarised in the Significance Assessment Table ▪ No further observations to make.

Organisation	Contact attempts	Response	Response to Report
<p>Dr N H Atkinson National Park Officer Dartmoor National Park Authority</p> <p>Sue Goodfellow: ecology Debbie Griffiths & Andy Crabbe: historical Alison Kohler: recreation David Campkin: information Ian Brooker: ranger of North Moor</p>	<p>21.3.05 spoke to secretary will get back with suggested meeting dates 30.3.05 left message with Deborah Griffith 31.3.05 spoke, will ring re meeting 5.4.05 left messages with Alison Kohler & David Campkin</p>	<p>Meetings as follows:</p> <ul style="list-style-type: none"> ▪ Sue Goodfellow before 12pm meeting on 12th April ▪ Debbie Griffiths & Andy Crab - 12pm on 13th April ▪ David Campkin – 2.30pm 13th April. ▪ Ian Brookner – 27th April ▪ Alison Kohler - 2pm 6th May <p>Meeting findings included within assessment tables.</p>	<ul style="list-style-type: none"> ▪ Sue Goodfellow – attended meeting on 16th June. ▪ Debbie Griffiths – responded verbally 16th June, comments incorporated within report ▪ Alison Kohler – unable to attend meeting due to short notice
<p>Eamon Crowe Senior Advisor Rural Development Service (RDS)</p>	<p>23.3.05 left message off sick 28.3.05 away – phone back next Monday Meeting set for 6th May 2005 with Eamon Crowe & Pete Stevens</p>	<p>ESA & how it cuts through the military training area.</p> <p>Meeting findings included within assessment tables.</p>	<p>Pete Stevens attended meeting on 16th June</p>
<p>Environment Agency</p>	<p>Map sent to Heather Holland 21.3.05 Information received 10.5.05</p>	<p>Spoke 28.3.05! Spoke again 5th April – will now send standard search information which includes groundwater & abstraction licences etc.</p> <p>Information included within assessment tables.</p>	

Organisation	Contact attempts	Response	Response to Report
<p>Miss L Thornhill Countryside Agency</p> <p>John Butterfield - Liaison with MoD Lesley Pearman</p>	<p>22.3.05 – left message 30.3.05 – left message again 5.4.05 – left message 30.4.05 – spoke with Lesley Pearman</p>	<p>Email received from John Butterfield saying that not directly involved on 4th May 2005</p> <p>Spoke with Lesley Pearman 30th April & received verbal feedback included within assessment tables.</p>	<p>Response received: 3 June 2005</p> <p>1. The landscape section should refer to the physical impacts listed in other sections including: trench digging, holes and debris from firing, litter, fire, movement of vehicles, changes to grazing levels. These all have a high level of importance in their visual impact on landscape character/natural beauty and the significance is high.</p> <p>2. Reduction in landscape quality as well as tranquility from the noise of military activities will also have a significant impact on the quality or enjoyment of recreational pursuits.</p>
<p>Mr Tim Render Director of Sustainability & Rural Affairs Government Office of South West</p> <p>Helen Thompson, Acting Head of Food, Farming and Rural Development Government Office South West</p>	<p>22.3.05 – passed to new contact as opposite 31.3.05 – spoke to Tamsin Fraser (PA) 0117 900 1912. Passed to planning team for comment 20.4.05 Email response</p>	<p>Email response received from Helen Thompson stating that they do not get involved at such a local level and support the organisations that we have consulted</p>	<p>Apologies received from Helen Thompson and Heather McBeth</p>

Organisation	Contact attempts	Response	Response to Report
<p>Mrs C Sage Secretary Dartmoor Commoners Council</p>	<p>23.3.05 – spoke, undertook to distribute to largest graziers on moor. Meeting 27.4.05 Phoned back on 29.4.05</p>	<p>No feedback at meeting, advised direct contact with principal graziers:</p> <ul style="list-style-type: none"> ▪ Mary Alford – (spoke 10th May) ▪ Able brothers (Merrivale) ▪ Philip Coaker ▪ John Cooper ▪ Crispin Alford (spoke 10th May, employed as clearer) <p>Verbal feedback included within assessment tables.</p>	<p>Mary Alford and Nick and Phil Able attended meeting on 16th June</p>
<p>Chief Executive County Hall Devon County Council</p>	<p>30.3.05 – passed to Peter Chamberlin, County Ecologist (01392 382257) 31.3.05 – directed to Steve Church for recreation 12.5.05 – response still outstanding but promised to despatch immediately</p>	<p>Peter Chamberlin collating response including from individual responsible for Sustainable Tourism – need to check website of activities, specific points of contact will be identified if need to make further contact. NB. County Council promoting long distance cycle ways & footpaths e.g. Granite Way skirting the DTA, so in fact conflict is limited.</p> <p>Response not yet received.</p>	

Organisation	Contact attempts	Response	Response to Report
<p>Chief Executive West Devon Borough Council</p>	<p>31.3.05 – spoke to PA, will see where letter has gone: passed to Nick Payne 01822 813710</p> <p>6.4.05 – response received</p>	<p>Borough Council policy is to support the military activity on Dartmoor because of economic benefits to the area. Letter received to this effect. Suggested the following contacts: Mr Ian Bowkey, The Sticklepath & Okehampton Conservation Group, Endsleigh, Sticklepath, Okehampton, EX20 2NJ Jim White, South West Forests, Cookworthy Moor, Beaworthy EX21 5UK</p>	<p>Received: 3 June 2005.</p> <ul style="list-style-type: none"> • Cannot attend meeting. • Will forward your document to relevant colleagues in the Borough Council
<p>Dartmoor Local Access Forum c/o Dartmoor National Parks Authority</p>	<p>22.3.05 – spoke to Jeff Haynes will coordinate a response/meeting</p> <p>31.3.05 meeting set up 13th April with Jeff Haynes (Secretary) & Alan Taylor (Chair)</p>	<p>Meeting findings included within assessment tables.</p>	
<p>CM Gregory Land Steward Duchy of Cornwall</p>	<p>25.4.05 Letter received suggesting a meeting</p> <p>19.5.05 Meeting held with CM Gregory & Ian Lamb</p>	<p>Meeting findings included within assessment tables.</p>	<p>Attended meeting on 16th June</p>

Organisation	Contact attempts	Response	Response to Report
Bob Trivett Property & Services Manager South West Water	25.4.05 Letter received 25.5.05 Spoke with Mike Green	<p>Response stated that happy to cooperate with study and stated that previous experience indicates virtually no impact on land owned by South West Water Ltd.</p> <p>Further telephone conversation confirmed that recreation groups using SW Water owned land confirm that there is no conflict with MoD activities.</p>	
Jim Skelton South West Forest	21.4.05 Letter received	Response confirmed that there are no potential impacts pertinent to South West Forest's direct interest	

Appendix 3

Letters from Consultees

