

## **B10. How is sustainable development integrated into good environmental management? A case study with the Ministry of Defence**

**Anne Miller**

Sustainable development is core to the concept of effective environmental management. In this case study, students explore at first hand how large organisations are integrating environmental conservation with other routine operational activities in order to fulfil their obligation to implement sustainable development policy. The Ministry of Defence (MoD) is the UK Government's sustainable development lead organisation so this case study gives students first hand exposure to how sustainability policies are being implemented on the ground and the sorts of tools being employed to ensure the goals are achieved.

### **Aims**

The activity aims to develop both knowledge and skills for sustainable environmental management. In particular, intended learning outcomes include:

- For students to develop an appreciation of the conflicting demands between different land uses and conservation objectives and how dull-sounding tools such as management plans, evaluation and monitoring can help to achieve the objectives of sustainable development
- For students to understand more about the operational realities and scope for reducing impacts and delivering the goals of sustainable development
- For students to explore and understand the extent of stakeholder engagement and the role of different agents and conventions in protecting valued environments
- For students to develop their skills in landscape evaluation.

## Rationale

Students studying the module *Conserving Valued Environments* are challenged first to identify what society values and wishes to conserve, then to examine the variety and potentially conflicting values that are ascribed to landscapes and features within them. Students and staff also discuss the difficulties in balancing a pluralism of views and objectives at an operational level. Reconciling these different perspectives is, of course, central to the reality of sustainable development.

Lectures within the module refer to various tools such as land management plans, which are used to help organisations document all the processes and procedures through which they can address sustainable land use, using objective and effective ways of balancing the conflicting demands on the same land area. However, without following this through in practice this all remains just abstract concepts to most students, so an engaging case study is required to bring all of this to life. What more dramatic example could be found than balancing military training with the conservation of highly valued environments?

Salisbury Plain as a military training area has preserved a substantial archaeological landscape dating back about 6,000 years, including some 2,300 monuments, many of inestimable value, and with some of the densest concentrations of long and round barrows in the UK. It also has around 20,000 hectares of Sites of Scientific Interest, land of very high ecological value and is home to rare species of animals and plants. It is the largest remaining single area of chalk grassland in Western Europe (Defence Estates, 2006). So a field trip to Salisbury Plain, hosted by Defence Estates (DE), gave students the opportunity of exploring at first hand the potentially serious conflicts between military activities and the conservation of landscape, biodiversity and archaeology, as well as the approaches and tools that the military are using to successfully tackle these issues, achieving sustainable management of the estate and its conservation interest. The exercise also explored the 'beyond simple conservation' projects that MoD undertake, such as the re-introduction of the Great Bustard to the plain area and restoration of the habitat and food plants of the Marsh Fritillary butterfly.

As the officer in charge of Salisbury Plain, told the students 'The military requirements are now equally weighted with the requirement for conservation', something that was greeted with incredulity at the outset but

which by the end of the visit had been demonstrated with a great variety of convincing evidence. Students were astonished to see very large scale military manoeuvres being planned around nesting times, avoidance of archaeological sites, the wetness of the terrain and hence its vulnerability to damage by tank tracks and so on.

This observational part of the day was combined with some learning by doing within a landscape evaluation exercise.

### **Implementation**

Staff time was required two months before the field trip to discuss with DE staff what was possible within a one-day visit, how accessible sites of interest would be between live firing range operations and other operational details. Further staff time went into accompanying the students on the trip and teaching them at first hand about landscape evaluation by carrying out the necessary field sketches and analysis on site, followed up by a half-day laboratory session to convert this data for GIS analysis with scoring in accordance with Government guidance.

A further day of staff time was required to plan and evaluate the activities, and to feed back to the colleagues from Defence Estates who had hosted the visit. The time input from DE staff was considerable: a whole day of the Ecologist's time was needed first to plan things ahead and undertake the necessary liaison, then for going around the site to demonstrate the various initiatives they had to undertake to ensure maintenance of their SSSI status. There was also input from a Lieutenant Colonel who addressed the students and answered their questions. Both were invaluable in giving the students direct exposure to how the senior management as well as the ground staff operate to work towards the sustainable development of the Plain.

### **Sustainability focus**

The activity contributed to students' knowledge of the three aspects of sustainability and how they interrelate in practice.

For example, the army has developed a good relationship with their tenant farmers so that the different uses of the land are truly integrated. With military manoeuvres timed to fit in with ecological and farming requirements, the land is grazed in a way that allows the farmers to make a living, while also maintaining the grassland and preventing scrub

invasion, with timing that allows flowering and seed set of the Devil's Bit Scabious, food plant for the rare and protected marsh fritillary butterfly. The social, economic and environmental components of sustainability were all traced through this, demonstrating how all three can be achieved effectively so long as good lines of communication are maintained.

Students also learned at first hand about the difficulties of maintaining public access whilst also making the site safe and operational for military purposes. Dog walkers have long valued and enjoyed access to many large open areas of the Plain, so in the interests of maintaining good relationships and also with regard to hygiene and safety issues, the army have for some time been installing portable toilet facilities for their personnel to use during training manoeuvres. However, the deposit left by the dogs creates serious potential hazards for military personnel on night manoeuvres, with infantry advancing face down and crawling across the land. Consequently the social and economic aspects of sustainability were again explored, revealing the critical role of communication and education in ensuring that everyone understands the different risks posed by and to different land users, in order to ensure sustainable use by all parties.

The module also develops understanding of sustainability *per se*, in the University and beyond, and assists students to see a relevance and application for the skills that they are developing during their studies.

### **Active learning**

This activity links across to many of the criteria identified in the University of Gloucestershire checklist for active learning:

- Linking the thinking, doing and reflecting for both students and staff
- Active involvement of external agencies, in this instance Defence Estates and the Army Training Estate
- Involvement nationally with an organisation that has many other sites which present similar challenges
- Maintaining inclusivity
- Making learning enjoyable for everyone: hearing the different views of staff working with radically different missions who are united in pursuit of common objectives.
- Embedding active learning in teaching

## Feedback

Student evaluations were solicited *via* an informal discussion on the return journey while everything was fresh in mind, in which great enjoyment was expressed and the general consensus was that it had been a very good trip and well worth the long journey. Responses stressed that the day had offered a totally different view of both the military and how seriously they took their responsibilities in sustainable development, and of how tools like 'land management plans' worked on the ground and what stakeholder engagement meant in practice.

Subsequent evaluation in an end of course workshop reinforced this. Responses included:

Positive outcomes:

- *Interesting to see the conservation value of destructive activities*
- *Developed an understanding how many stakeholders were involved in management and conservation*
- *Conflict management was very interesting: between the military and the public and the military and the ecologists*
- *Contrasting attitudes of the Lt Col and the Ecologist: appreciated seeing it from both perspectives*
- *Good explanation of how management works effectively*
- *Somewhere very different*
- *Great talk by the Lt Col: really understood his approach to management*

Things for improvement:

- *Limited access to sites where really negative impacts occurring: would have liked to see these (there was direct firing going on at the ranges the day we were there so we did not get onto these)*
- *Want to go on a tank and make tracks!*
- *More preparation needed to understand what landscape assessment is before going there*

With respect to the latter point, it had been thought that students would benefit by doing first and then covering the theory, but several felt they would have liked the reverse. As a result the sequence of the course will be revised to reflect this in future years.

Defence Estates were happy overall with the visit, have said that they are willing to host us again and hope to get postgraduate students to work there in future, so developing an on-going link and contribution to sustainability.

### **Strengths and weaknesses**

One of the major advantages of this activity is the dramatic location and the wide variety of conflicts that are studied here. The fact that this is a very practical demonstration of how things work 'in the real world' and that it engages the interest of students and staff alike is another strong feature. The site is particularly well resourced in terms of supporting documentation, since it has been part of an EU Life Study Project for five years, and also has a great deal of supporting web-based information developed to promote all the different aspects of sustainable land management: from public information about range access through to ecological and archaeological evaluations.

Furthermore, the government guidance documents on landscape evaluation include a case study located on Salisbury Plain, so students could subsequently match their efforts to evaluate this site with those in the published guidance: first hand benchmarking for their efforts! The other real strength was seeing students getting a real sense of the applicability of the skills and understanding that they had been developing within the module, and in other elements of their studies. One unexpected bonus was that the study opened up links for future collaborative project work for postgraduate students and may lead into more collaborative research as a result.

The list of weaknesses is shorter: it was a long trip, and that made significant demands on both staff and students to manage their other commitments accordingly. The other problem was non-attendance by some students: those who missed the trip lost a significant core element which could not easily be replaced, and of course when the hosts have put a lot of time and commitment into developing an effective visit programme, if insufficient students were to attend this would be embarrassing, losing goodwill and reducing the possibility of follow up visits in future years. Fortunately, this was not the situation in this instance.

## **Programmes**

*Conserving Valued Landscapes* is a Level 3 undergraduate module (15 CATS points). It is open to and taken by students of Environmental Management, Environmental Science, Landscape Architecture, Geography, Biology, Tourism, Heritage Management and History.

---

### **Key words:**

Landscape assessment; Salisbury Plain; MoD; environmental management; active learning

### **References**

Ministry of Defence (2007) *About the estate*, [online], Available from: <[http://www.defence-estates.mod.uk/about\\_estate/index.htm](http://www.defence-estates.mod.uk/about_estate/index.htm)> [Accessed 11/03/07].

### **Contact:**

Anne Miller  
Faculty of Education, Humanities and Sciences  
University of Gloucestershire  
Francis Close Hall  
Cheltenham  
GL50 4AZ  
UK  
+44 (0) 1242 724566;  
[amiller@glos.ac.uk](mailto:amiller@glos.ac.uk)