

CHAPTER 1
INTRODUCTION

1 INTRODUCTION

Agri-environment (AE) schemes in England have been run by DEFRA (previously MAFF) since 1987, when the first Environmentally Sensitive Areas (ESAs) were introduced under the 1986 Agriculture Act. Since then, further ESAs have been introduced along with other schemes such as the Habitat Scheme and Moorland Scheme. Agri-environment schemes now come under the England Rural Development Programme (ERDP), along with the Countryside Stewardship Scheme (CSS), the Arable Stewardship Pilot Scheme (ASPS), the Organic Farming Scheme, the Farm Woodland Premium Scheme and the Hill Farming Allowance Scheme.

Since their first introduction, DEFRA has been committed to monitoring the performance of agri-environment schemes in relation to their stated objectives. As part of this monitoring programme, botanical data have been collected from most schemes. The methods for sampling, field data collection and data interpretation have varied. However, in addition to reporting of scheme performance *per se*, there is now a requirement for DEFRA to report within a wider policy context including, for example, the UK Biodiversity Action Plan (BAP). This will require reporting at national or regional levels, so it will be necessary to use monitoring methods that are compatible between schemes.

The aim of this project is to make recommendations for the future botanical monitoring programme of AE schemes, scheduled to run from 2003 onwards. However, at the time of writing, the future strategy for AE schemes in England is under review and the exact structure of the forthcoming schemes is uncertain. Because of this, the assumption has been made here that the maintenance and enhancement of habitats that are of biodiversity value will continue to be one of the main aims of the schemes. In addition, it is assumed that management agreements similar to those currently administered under the CSS and ESAs will continue. The recommendations for future monitoring have been made within that scenario, but any major change in the objectives or format of AE schemes might necessitate some modification to the monitoring programme. However, the principles should still be applicable even if AE schemes are substantially modified in the future.

Future monitoring will need to be scientifically valid, but also economical. There is a requirement to optimise the use of existing botanical samples and time series data, whilst also taking account of recent developments in botanical monitoring methods. This includes the emergence of Rapid Condition Assessment (RCA) as a means of allocating individual sites or interest features to a predetermined set of condition categories, using standardised procedures.

To date, there has been no comprehensive review that has attempted to compare different methods in terms of their effectiveness, and to link their methodologies to the targets towards which AE schemes now must work. More limited reviews of monitoring methods were carried out previously by Land Use Consultants (1996) for the National Audit Office review of ESAs, and more recently by Ecoscope (2002) in a review of the results of AE scheme monitoring for DEFRA. However, neither of these draft reports was available for consideration in this project. In addition, Graves (1999) carried out a provisional review of botanical monitoring.

This report is the result of a two-stage process. The first stage involved the review and evaluation of existing methods of botanical monitoring in AE schemes. This covered current AE botanical monitoring methods, methods for analysing and interpreting change in the context of policy objectives, and recent developments in approaches to botanical monitoring. Results of the review are in Chapter 2. Botanical data from the previous AE monitoring programmes were classified according to their species composition and geographical location, to assess their continued usefulness in the future programme. Statistical power analysis was also used to estimate the sample sizes required to detect specified magnitudes of change. The classification and power analyses are described in Chapter 3.

In the second stage of the project, the recommendations for the future botanical monitoring programme have been formulated. This takes into account the policy background and the results of the review and data analyses carried out in the first stage. A workshop was also held to seek views from a wide range of experts. The final recommendations include detailed proposals for a core monitoring programme, along with a suggested list of separate targeted studies. The recommendations include a detailed consideration of the application of RCA. Development work that will be required before the monitoring programme can be implemented, particularly in relation to RCA, is also highlighted. The future recommendations are in Chapter 4.