



ROYAL AGRICULTURAL COLLEGE

BIODIVERSITY STRATEGY
2011

ROYAL AGRICULTURAL COLLEGE BIODIVERSITY STRATEGY – OUR OBJECTIVES

WHAT IS BIODIVERSITY?

Biodiversity (or 'biological diversity') describes the variety of life on Earth. It can be broken down into three elements:

- 1) species variation: the variety of species which exist on the planet;
- 2) genetic diversity: the range of genetic differences which exist between, and within, species, and which result in the uniqueness of each individual and each species; and
- 3) ecosystem variation: the variety of ecosystems in which all life forms co-exist and interact.

THE ROYAL AGRICULTURAL COLLEGE & BIODIVERSITY

As an academic institution with a heavy focus on the land-based sectors, natural resource management and the conservation of biodiversity is core to much of what we do. It forms a key element of our teaching, research and consultancy activities. We also farm around 490 hectares of land using both conventional and organic approaches, integrating sympathetic natural resource and environmental management with commercial farming. We participate in Natural England's Higher and Entry Level Environmental Stewardship Schemes, and we are also a LEAF (Linking Environment and Farming) Innovation Centre.

We have a long-standing commitment to the conservation and enhancement of biodiversity; for example, prior to entering the current Environmental Stewardship Schemes, our farms were in the Natural England Countryside Stewardship Scheme. Nonetheless, we recognise that conserving and enhancing biodiversity is an ongoing process and our aim is therefore to continually aspire to further improvements in this area, both in our activities as an educational institution, and as land and property managers.

OBJECTIVES

The College's objectives are to:

- 1) Continue to identify and take opportunities to integrate biodiversity considerations into all of our relevant activities including teaching, research, consultancy, and the management of our farms and other property
- 2) Continue to ensure that biodiversity is protected and enhanced in line with our current statutory obligations
- 3) Develop further awareness of biodiversity issues amongst staff, students, and other stakeholders
- 4) Develop a detailed College Biodiversity Action Plan and GIS College Biodiversity Map, accessible to all staff and students, which is based on appropriate surveys and national and local Biodiversity Action Plans, and which integrates our Environmental Stewardship objectives, research projects, teaching and property management activities
- 5) Identify, within the College Biodiversity Action Plan and Map, key biodiversity indicators and targets, as well as further opportunities to enhance biodiversity within the College estate, and monitor and record progress against these indicators and targets
- 6) Review these objectives, and progress in meeting them, on an annual basis and, where appropriate, set further targets to achieve continual improvement in this area.

DELIVERY

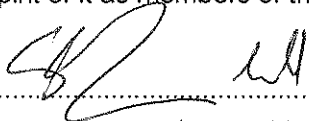
The College's Biodiversity Strategy identifies the mechanisms for delivering our objectives in relation to biodiversity. These mechanisms are reviewed annually at the same time as we review our biodiversity objectives, and our progress in meeting them.

OWNERSHIP

The College's Biodiversity Strategy sits underneath the College's Environmental and Sustainability Policy. Overall responsibility for implementing the Environmental and Sustainability Policy has been delegated, by the Principal, to the Environmental and Sustainability Strategy Group (ESSG). The ESSG, therefore, also has overall responsibility for the implementing and reviewing the College's Biodiversity Strategy. However, because of the nature and breadth of the Biodiversity Strategy, and its related objectives, review and implementation of it is undertaken in conjunction with the College's Farms and Research Committees and Estates Department.

Whilst the nature of the Strategy is such that some staff have a more direct responsibility for its implementation than others, all staff and students are made aware of it and are expected, and encouraged, to act within the spirit of it as members of the College community.

Signature of the Principal:



Date:

17.2.12

ROYAL AGRICULTURAL COLLEGE BIODIVERSITY STRATEGY – ACHIEVING OUR OBJECTIVES

The Importance of Biodiversity to the College

Agriculture and forestry have been, and continue to be, dominant land uses throughout the world and therefore have a major influence on biodiversity and natural resources, creating and supporting a range of habitats, landscapes and recreational activities. Equally, the management of more urban and semi-urban property can also provide extensive opportunities for the conservation and enhancement of biodiversity. As land owners and farmers in our own right, and as educators of the next generation of farmers, property managers and rural business managers, we therefore regard it as highly important that we support biodiversity directly through our actions in managing our own farms and campus, as well as in our education and research activities.

What Are We Already Doing in Relation to Biodiversity?

As noted above, our commitment to the conservation and enhancement of biodiversity is a long-standing one. Our Biodiversity Strategy also sits within the framework of our overall Environmental and Sustainability Policy which commits the College to achieving a range of wider environmental and sustainability objectives.

We already undertake a number of activities to protect and enhance biodiversity at a practical level, as well as raise awareness amongst students, staff and stakeholders. Some examples are given below:

- *Environmental Stewardship on Our Farms*
The 490 hectares of College farms are farmed using a combination of organic and conventional approaches, integrating sympathetic environmental management with commercial farming. Our farms are in a combination of Natural England's Higher Level Stewardship (HLS), Entry Level Stewardship (ELS) and Organic Entry Level Stewardship (OELS) schemes, all of which commit the College to delivering a range of environmental management measures.

The College farms lie within a target area for The Cotswold Farmland Bird Project and this has been a key consideration in deciding on management options for our environmental stewardship scheme agreements. The Cotswold Farmland Bird Project is a joint initiative between Natural England and the Cotswold Conservation Board and has the objective of helping to reverse the decline in farmland birds. It focuses on six bird species – the grey partridge, lapwing, turtle dove, yellow wagtail, tree sparrow and corn bunting – and aims to encourage land managers to adopt measures that provide nesting habitat as well as summer and winter food. In order to play its role in helping to deliver the objectives of the Cotswold Farmland Bird Project, the College has, through its environmental stewardship agreements, committed to a range of management options designed to benefit these species and other farmland birds covering, in total, around 7% of the arable area. These include fixed and rotational wild bird covers, beetle banks, over-winter stubbles and floristically enhanced field margins.

In addition to these management options, the College has further committed to a range of other environmental management options. These include the beneficial management of hedge and field boundaries, resource protection options and cultivated fallow plots to promote opportunities for rare arable plants. This range of options was chosen, not only to reflect and enhance the particular natural characteristics of the College farms (for example, the requirements of specific Biodiversity Action Plan species such as the brown hairstreak butterfly), but also to illustrate, for demonstration and educational purposes, the range of opportunities available to conserve and enhance biodiversity within the farming context.

- *Biodiversity in Our Teaching*
The conservation and enhancement of biodiversity is an important element in many of our courses at undergraduate and postgraduate level as well as in a significant number of our short / professional development courses. A number of our programmes have a sizeable focus on environmental and biodiversity issues (for example, our conservation and countryside management courses); however, biodiversity is also integrated into many of our other programmes – including our more general agriculture and rural land management degrees. Our farms are a key resource in delivering this teaching and they host an extensive number of visits from our students throughout the year with a number of these focusing specifically on biodiversity issues and our environmental stewardship schemes. Our students and staff are also able to access details of our environmental stewardship schemes through our College intranet.
- *Biodiversity & Our Research & Consultancy Activities*
We have significant expertise amongst our staff relating to the conservation and enhancement of biodiversity and are engaged in a wide range of research and consultancy activities in this area. This ranges from practical projects investigating the development of habitats, to research looking at the economics of agri-environment schemes. The College is also a LEAF (Linking Environment and Farming) Innovation Centre and we have also undertaken consultancy work in this sphere for a number of clients including Defra and Cotswold AONB Partnership.
- *Managing our Campus*
Our main College buildings sit in extensive grounds in a semi-rural location, and over the last few years we have been engaged in an ongoing process of developing grounds management systems which have less impact on the environment. For example, we have moved away from what was previously the widespread use of fertilizers, by changing to self-mulching mowers and a natural composting system. We also now restrict the use of pesticides and weed killers to only those situations where alternative, less harmful, means have been tried and have proved unsuccessful.

Whilst we are already doing a number of things well in terms of the conservation and enhancement of biodiversity, we also recognise that this is an area in which we can develop further.

What Are Our Objectives With Regard To Biodiversity?

Our Biodiversity Strategy has been designed to facilitate the implementation of the College's six biodiversity objectives, which are to:

- 1) Continue to identify and take opportunities to integrate biodiversity considerations into all of our relevant activities including teaching, research, consultancy, and the management of our farms and other property
- 2) Continue to ensure that biodiversity is protected and enhanced in line with our current statutory obligations
- 3) Develop further awareness of biodiversity issues amongst staff, students, and other stakeholders
- 4) Develop a detailed College Biodiversity Action Plan and GIS College Biodiversity Map, accessible to all staff and students, which is based on appropriate surveys and national and local Biodiversity Action Plans, and which integrates our Environmental Stewardship objectives, research projects, teaching and property management activities
- 5) Identify, within the College Biodiversity Action Plan and Map, key biodiversity indicators and targets, as well as further opportunities to enhance biodiversity within the College estate, and monitor and record progress against these indicators and targets

- 6) Review these objectives, and progress in meeting them, on an annual basis and, where appropriate, set further targets to achieve continual improvement in this area.

The over-riding aim behind these objectives is to build upon what has already been achieved in this area, and to continue to aspire to further improvements, both in our activities as an educational institution, and as managers of the built and natural environment.

How Will We Deliver Our Objectives?

In order to deliver our objectives, we have identified a number of steps we need to take. Several of these are already under way, whilst others will either need to be developed further, or started from new. Appendix 1 contains a schedule which describes in detail the various steps, together with timings; however, the main steps are set out below:

- *Develop a College Biodiversity Action Plan & Biodiversity Map*

Relevant Objectives: 1, 2, 3, 4, 5, 6

As well as representing an objective in itself, the establishment of a formal College Biodiversity Action Plan (BAP) and GIS Biodiversity Map will also make a significant contribution towards delivering a number of the College's other objectives in relation to biodiversity. The process of developing a BAP is discussed in more detail below; however, in brief, it involves the collection and assimilation of desktop information relating to biodiversity (including relevant national and local BAPs), followed by the carrying out of a phase 1 baseline biodiversity survey to identify habitats and inform the need for any further specialist species surveys. Once carried out, this then enables measurable biodiversity indicators and targets to be developed, together with recommendations for further actions to conserve and enhance biodiversity. Figure 1 (at the end of this section) shows, in diagrammatic form, the overall process of developing the College BAP and biodiversity map.

It is intended that the BAP report will be available to students, staff and the general public, via the College website. It will also be accompanied by a GIS Biodiversity Map which will form a central record of biodiversity across the College estate which will be accessible by all students and staff, and will also link to other College maps, such as the (O)ELS and HLS options maps, as well as recording relevant research projects. Whilst we already have a significant amount of information on biodiversity at the College as a result of various research projects, our environmental stewardship schemes and previous surveys that have been undertaken in connection with development projects, this information has yet to be formalised into a systematic, and easily accessible format, and there are areas of our estate where we have relatively little baseline data. The College BAP and GIS Biodiversity Map will combine, ground-truth, and where necessary update and develop, the information we already have, into an easily-accessible, measurable and monitorable system which will be suitable to integrate into a College environmental management system at a future date.

As well as being a management and research tool, the BAP and accompanying GIS biodiversity mapping will also be important teaching resources, and will assist in the development of further awareness of biodiversity amongst students, staff and stakeholders. The baseline data produced will also be crucial in enabling the College to be able to develop, and monitor, additional measurable indicators and targets in relation to biodiversity and will assist us in meeting our statutory obligations.

- *Undertake appropriate recommendations relating to the conservation and enhancement of biodiversity, as identified in the College BAP*

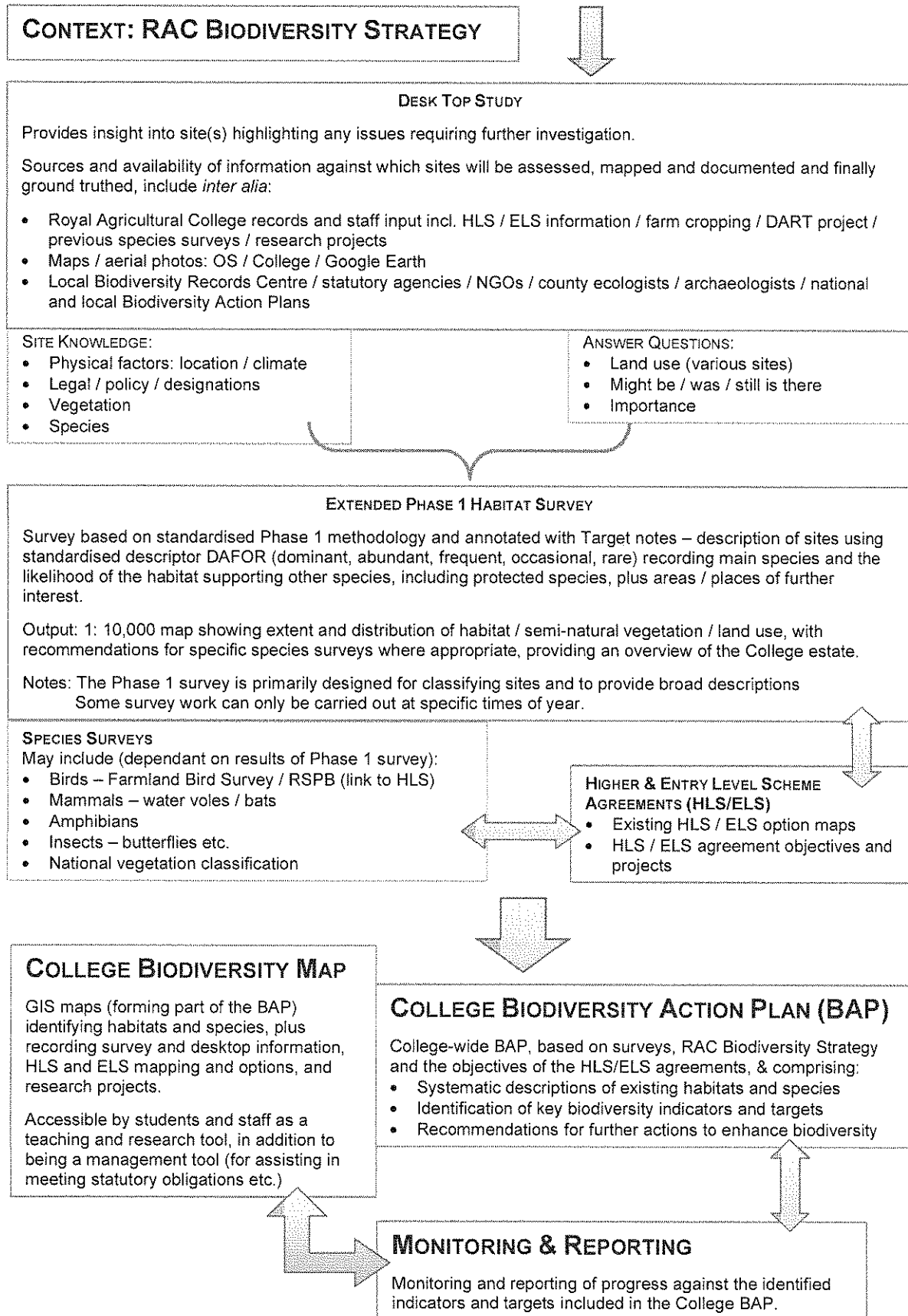
Relevant Objectives: 1, 2, 3, 4, 5, 6

As the College BAP is completed it is anticipated that it will include recommendations of projects which can be undertaken in order to further conserve and enhance biodiversity on the College estate. As well as delivering direct biodiversity benefits, it is anticipated that some of these projects will provide further visible indications of the

ways in which the College is working to develop biodiversity, and hence contribute to raising further awareness amongst students, staff and stakeholders.

- Monitor any related targets and indicators, and where appropriate, set new targets
Relevant Objectives: 1,2,3,5,6
In order to identify the degree to which we are delivering continual improvements in relation to biodiversity it is important to be able to monitor indicators and targets (and set new targets where appropriate). It is envisaged that detailed biodiversity indicators and targets will be formulated once we have detailed baseline data as part of the College BAP. However, in the interim, our progress towards our general objectives (establishing the College BAP, and any specific objectives/requirements included within our environmental stewardship agreements etc.) will be monitored by ESSG. As noted above, our indicators and targets will also sit within the College environmental management system, once developed.
- Continue to comply with the requirements of the College's environmental stewardship schemes
Relevant Objectives: 1,2,3,4,5,6
As discussed above, our environmental stewardship agreements form a key part of our biodiversity activities and we have committed, within them, to a number of specific measures to conserve and enhance biodiversity.
- Continue to ensure that biodiversity is protected and enhanced in line with our statutory obligations
Relevant Objective: 2
We will continue to comply with our statutory obligations across our estate.
- Continue to raise awareness of biodiversity issues amongst students, staff and stakeholders
Relevant Objectives: 1,2,3,4,5,6
As noted above, biodiversity forms a key part of many of our activities; for example, it is already integrated into many of our courses and students and staff are able to access details of our environmental stewardship agreements through our intranet. However, the College BAP and Biodiversity Map will provide further opportunities to develop this – by providing for the first time a centralised point of information on biodiversity across the College estate, which is accessible by all staff and students, and can therefore be used as a management tool, and for teaching and research. Information on biodiversity will also be included in the new College website sustainability section, and biodiversity will form one element of the wider College sustainability awareness and communication strategy.
- Continue to pursue opportunities for undertaking research and consultancy in the area of biodiversity (where relevant with outside partners, such as LEAF)
Relevant Objectives: 1,3,4,5,6
As an institution with significant expertise in conserving and enhancing biodiversity, we will continue to pursue, and develop, opportunities for research in this area, working with outside partners, where appropriate, and utilising our own College estate for projects where it is feasible and appropriate to do so. The College Biodiversity Map and baseline data provided by the BAP survey work will be a useful tool in delivering this objective.
- Review and update the Biodiversity Strategy and objectives
Relevant Objective: 6
This will be done on an annual basis.

Figure 1: The Overall Process of Developing the College Biodiversity Action Plan & Map



Developing The College Biodiversity Action Plan & Biodiversity Map

Because of the size and complexity of the College estate, the detailed College Biodiversity Action Plan will be developed in a number of stages which relate to different geographical areas of the College estate (a breakdown of these stages is given in the schedule at Appendix 1):

- 1) Main College Campus (the main College campus, located on the outskirts of Cirencester, and where the College's accommodation, teaching, administration and leisure facilities are located)
- 2) Harnhill Manor Farm (a mixed arable and grassland farm located approximately 4 miles from the main College campus)
- 3) Coates Manor & Field Barn Farms (predominantly arable farms with some grassland, which are managed as one unit and are located approximately 1 mile from the College campus)
- 4) Fossehill Farm (the College's equine unit, also located around 1 mile from the College campus)
- 5) Corinium Campus (an area located close to the main College campus, and scheduled in the College's Property Master Plan for potential development in the future)

This 'staging' is primarily driven by the length of time it is likely to take to carry out the phase 1 survey work for all of the College's estate, given its size (and also because most ground-survey work can only be undertaken at specific times of year).

The formal College BAP, and phase 1 survey work for Harnhill and the main College campus will be developed first, with the other areas to follow subsequently (see schedule at Appendix 1). The College campus will be surveyed and a detailed BAP developed early on as it is likely to offer the most 'high profile' opportunities to raise awareness of biodiversity (given that it is used by all staff and students).

In terms of the College farms, Harnhill will be prioritised for a number of reasons. Firstly, we are owner-occupiers of the farm, rather than tenants (as is the case with some of our other farms) and therefore we have significant flexibility in managing it. It is also regularly used for teaching, and there are a number of biodiversity-related research projects currently being undertaken on site. Harnhill is also part of the College's Entry Level and Higher Level schemes (and the biodiversity objectives included within the College's scheme agreements will be incorporated into the College BAP). Furthermore, part of the farm is currently entering a transition between organic and conventional systems and establishing baseline data through ground-survey work will provide opportunities for monitoring whether any changes in biodiversity occur at the same time as this change in management.

Although the phase 1 survey work and detailed College BAP will be developed over various stages, in the interim the whole College estate will continue to be managed in line with the College's biodiversity objectives – for example, biodiversity considerations will continue to be integrated into all of the College's relevant activities and appropriate opportunities to enhance biodiversity will be taken where identified (even if these relate to parts of the College estate which have yet to be formally surveyed and incorporated into the detailed College BAP).

Appendix 1 – Schedule of Activities

<i>Overall Aim (& Relevant College Biodiversity Objectives)</i>	<i>Stages (where appropriate)</i>	<i>Responsibility (delegated to staff members where appropriate)</i>	<i>Proposed Timing</i>
<p>To produce a College Biodiversity Action Plan (BAP) which covers the whole College estate and is informed by relevant desktop information, appropriate local and national BAP's, phase 1 habitat surveys and additional specialist surveys. The College BAP will contain appropriate and timely biodiversity indicators and targets, as well as recommendations of further ways in which biodiversity can be conserved and enhanced. Because of the size of the College estate, and the limitations in terms of suitable times when surveys can be conducted, the College BAP will be developed in various stages.</p> <p>1,2,3,4,5,6</p>	Complete an inventory of available desktop information relating to biodiversity across the whole College estate	ESSG / Estates	Summer 2011
	Complete an extended phase 1 habitat survey of Harnhill Manor Farm	ESSG / Estates	Summer 2011
	Undertake additional species surveys in relation to Harnhill Manor Farm, including RSPB Farmland Bird survey	ESSG / Estates	Commencing Summer 2011
	Develop the Harnhill section of the College BAP, including the development of appropriate and timely biodiversity targets, indicators and recommendations.	ESSG / Estates	Summer 2011
	Develop Campus section of College BAP (following relevant phase 1 surveys and specialist species surveys)	ESSG / Estates	Summer 2011
	Develop Coates Manor & Field Barn Farms section of College BAP (following relevant phase 1 surveys and specialist species surveys)	ESSG / Estates	Summer 2012
	Develop Fossehill Farm section of College BAP (following relevant phase 1 surveys and specialist species surveys)	ESSG / Estates	Summer 2012
	Develop Corinium Campus section of College BAP (following relevant phase 1 surveys and specialist species surveys)	ESSG / Estates	Summer 2013 (timing may be influenced by any potential development)
<p>To establish a GIS mapping system, which is accessible by students and staff, recording biodiversity across the College estate and incorporating information relating to appropriate indicators and targets, HLS and ELS mapping and relevant research projects.</p> <p>1,2,3,4,5,6</p>	GIS maps to be set up for the whole College estate	ESSG / Estates	Summer 2011
	Where relevant, desktop information added to GIS maps covering the whole estate	ESSG / Estates	Summer 2011
	All ELS and HLS information added to GIS maps	ESSG / Farms Committee	Autumn 2011
	Extended phase 1 survey information for Harnhill added to GIS maps, plus any other available specialist survey information (RSPB survey etc.)	ESSG / Estates / Farms Committee	Summer 2011
	Information relating to existing research projects to be added to GIS maps	ESSG / Research Committee / Academic Staff	Summer 2011
	Information relating to phase 1 & other surveys added to GIS for Campus, Coates/Field Barn Farms and Corinium Campus	ESSG / Estates	Summer 2012 onwards (see BAP stages)

Royal Agricultural College Biodiversity Strategy: 2011

<i>Overall Aim (& Relevant College Biodiversity Objectives)</i>	<i>Stages (where appropriate)</i>	<i>Responsibility (delegated to staff members where appropriate)</i>	<i>Proposed Timing</i>
To undertake appropriate recommendations relating to the conservation and enhancement of biodiversity, as identified in the College BAP. 1,2,3,4,5,6	Stages link to the stages in which the College BAP will be developed.	Farms Committee / Estates / Research Committee	Commencing Autumn 2011 (timing informed by College BAP)
To monitor any related targets and indicators, and where appropriate, set new targets 1,2,3,5,6	System of formal indicators and targets (and therefore monitoring) will be developed in the same stages as the College BAP.	ESSG	Commencing Summer 2012 – targets and indicators reviewed annually
To continue to comply with the requirements of the College's Environmental Stewardship schemes 1,2,3,4,5,6	Links to College BAP, and raising awareness	Farms Committee	Ongoing (membership of schemes commenced 2010 – schemes last between 5 and 10 years)
To continue to ensure that biodiversity is protected and enhanced in line with our statutory obligations 2	Cross-cuts all the other activities	Estates / Farms Committee	Ongoing
To continue to raise awareness of biodiversity issues amongst students, staff and stakeholders 1,2,3,4,5,6	Section on biodiversity to be part of new 'sustainability' section on College website	ESSG /Marketing	Summer 2011 – ongoing updating
	College BAP to be added to College website (as the BAP is developed), plus reports on progress in relation to indicators and targets	ESSG / Marketing	Autumn 2011 plus ongoing updating
	College GIS Biodiversity Map to be made available to all staff and students to use as a resource (& updated as appropriate)	ESSG /Estates	Autumn 2011
	Biodiversity to be included within wider College sustainability awareness and communication strategy	ESSG / Marketing	Autumn 2011
	Biodiversity to continue as a core element in relevant teaching activity	Academic Staff	Ongoing
To continue to pursue opportunities for undertaking research and consultancy in the area of biodiversity (where relevant with outside partners, such as LEAF) 1,3,4,5,6		Research Committee / Academic Staff / BDC	Ongoing

Royal Agricultural College Biodiversity Strategy: 2011

<i>Overall Aim (& Relevant College Biodiversity Objectives)</i>	<i>Stages (where appropriate)</i>	<i>Responsibility (delegated to staff members where appropriate)</i>	<i>Proposed Timing</i>
To review and update the Biodiversity Strategy and objectives.		ESSG	Annually