

Species and Habitat Action Plan Assessment Form

Please refer to the accompanying guidance for information about how to complete this form and an explanation of terms used

Field 1: Action Plan details

Species/Habitat Action Plan	<i>This form details 'over-arching work' that has been carried out on the Arable plants and bryophyte species in the Biodiversity Action Plan. It refers in a generic way to the species listed below, those marked with a * will also have individual assessment forms submitted by the appropriate Lead Partner. Centaurea cyanus*; Didymion tomaculosus; Ephemelum stellatum; Fumaria purpurea*; Fumaria occidentalis*; Galeopsis angustifolia; Galium tricornutum; Scandix pecten-veneris; Silene gallica; Torilis arvensis; Valerianella rimosa.</i>
Lead Partner/Agency	Plantlife (except for the two <i>Fumaria</i> species)
Steering Group/Other organisations	<i>Steering group in existence? Please state yes or no. Please list the organisations represented.</i> Yes – British Agrochemical Assoc. English Nature, CCW, FRCA, Long Ashton Research Centre, MAFF, Plantlife, RSPB, RBG Kew, SNH, University of Reading.
Work programme in existence?	<i>Please state yes or no. If in existence, please use the agreed work programme to update Field 3 and Table B.</i> There is not yet an official work programme directed by the steering group, but some 'arable initiatives' are already taking place within the organisations represented. These are outlined in field 3 and table B

Field 2: Objectives and targets overview

Please list the targets for the action plan, indicating in which country/region the target is applicable, and additional comments including the rationale for new targets. For each new target please add new sequential paragraph numbers and target text. Please provide information about progress and country disaggregation in Table A for all targets.

Number and text	UK	E	NI	S	W	Comments
4.1 Develop and maintain viable populations at all extant native sites where these species are long established		✓		✓	✓	Data and knowledge of extant sites still incomplete for most species. Where populations are present within SSSIs, these are being maintained.
4.2 Facilitate the natural colonisation of new sites		✓		✓	✓	More land is being bought into agri-environment schemes but benefits to plants are not known.
4.3 Regenerate the populations of these species from the seed-bank at eight historic sites 2003		✓		✓	✓	Need to acquire up to date status of most species before doing this and research into the seed bank.
4.4 Establish an <i>ex-situ</i> programme to protect genetic diversity, create a reserve population and provide experimental material		✓		✓	✓	Some arable plants in Kew seed bank and Suffolk Wildlife Trust has cultivated Breckland arable plants in demonstration area – but not any of above species.

Field 3: Proposed actions overview

Please list the proposed actions for the action plan, indicating in which country/region the action is applicable. For each new action please add new sequential paragraph numbers and action text. If the action is regarded as significant (please see guidance) indicate this in the box and provide further details in Table B. For actions not

regarded as significant simply state if the action is ongoing or complete. Remember any action which is being dropped from the workplan will be regarded as significant for the first round of reporting.

Number and text	UK	E	NI	S	W	Action significant?	Action complete or ongoing? (Please state yes, not started, or ongoing.)
5.1.1 Encourage the development of relevant agri-environment schemes, such as the pilot Arable Stewardship Scheme in England, as a potential means of reestablishing these species in the countryside. When reviewing such schemes, consider whether changes are needed to increase their potential benefits for this and other threatened arable species (CCW, EN, MAFF, WOAD)		✓		✓	✓	Yes	Ongoing
5.1.1*** (<i>Valerianella rimosa</i> only) consider this species for Schedule 8 of the Wildlife and Countryside Act (DETR/JNCC)	✓					Yes	Not started
5.1.2 As far as possible ensure that any seed of these species included in wildflower seed mixture is of native origin (MAFF, WOAD)		✓		✓	✓	Yes	Ongoing
5.2.1 Continue with beneficial management at key sites, implement management at other extant sites and refine techniques as the results of research continue to emerge (EN)		✓		✓		Yes	Ongoing
5.2.2 Seek to develop a network of suitable habitats within the vicinity of these species sites, thereby providing opportunities for its spread. Favourable management will include the relevant options under the appropriate agri-environment schemes e.g. uncropped headlands (CCW, EN, MAFF, WOAD)		✓		✓	✓	Yes	Ongoing
5.3.1 Undertake experimental management at eight carefully selected historic sites with the aim of regenerating these species from the seed bank, seeking opportunities through appropriate agri-environment schemes (EN, MAFF)		✓		✓	✓		Not started
5.3.2 Collect seed from all extant native sites and deposit in the Millennium Seed Bank at Wakehurst Place (Kew) (CCW, EN, RBG Kew)		✓		✓	✓	Yes	Ongoing
5.3.3*** (<i>Galeopsis angustifolia</i> , <i>Galium tricorutum</i> , <i>Scandix pecten-veneris</i> , <i>Silene gallica</i> , <i>Torilis arvensis</i> , <i>Valerianella rimosa</i> only) Assess the feasibility and desirability of reintroducing these species at selected sites should regeneration from the seed bank prove unsuccessful (EN, JNCC)		✓		✓		Yes	Not started
5.4.1 On sites where these species are a significant consideration, advise landowners and managers of the presence and importance of this species, specific management for its conservation and any potentially damaging actions. Particular attention should be given to optimal cultivation and harvest times. (EN)		✓		✓		Yes	Ongoing

5.4.2 As far as possible ensure that all relevant agri-environment project officers are advised of locations of this species, their importance, management requirements and potential threats. (EN, MAFF)		✓		✓	✓	Yes	Ongoing
5.5.1 Collate information and resurvey extant and historic sites where necessary in order to gain a more complete understanding of the current distribution and status of these species. This will determine the range over which conservation action is appropriate and help to clarify the threats to remaining populations.(CCW, EN, JNCC, SNH)		✓		✓	✓	Yes	Ongoing
5.5.2 Continue with monitoring and research work extend to sites with extant and restored populations with a view to refining conservation management techniques. Where possible monitoring visits should be combined with meeting landowners to discuss conservation management for these species. (EN, JNCC)		✓		✓	✓	Yes	Ongoing in some areas
5.5.3 Undertake research to determine the selectivity of all graminicides currently in use so as to identify which, if any, are suitable for use in field margins that support these species and other threatened arable species (EN, JNCC)		✓				Yes	Ongoing – only small amount started
5.6.1 Publicise the plight of these and other threatened arable species. Articles should be written for relevant conservation and farming magazines and newsletters. Botanists should be encouraged to record any new records eg through Atlas 2000 recording. (CCW, EN)		✓		✓	✓	Yes particularly in England	Ongoing
5.6.2 Develop links with European ecologists working to conserve threatened plants of arable habitats (JNCC)	✓					Yes	Ongoing
5.6.3 Establish arable conservation display and education centres with the aim of raising public awareness of this threatened group of the UK flora. (CCW, EN)		✓		✓	✓	Yes	Ongoing
5.7.1 Implementation will benefit other arable species <i>Arabis glabra</i> , <i>Bromus interruptus</i> , <i>Filago lutescens</i> , <i>F. pyramidata</i> , <i>Fumaria occidentalis</i> , <i>F. purpurea</i> , <i>Galeopsis angustifolia</i> , <i>G. tricorutum</i> , <i>Scandix pecten-veneris</i> , <i>Silene gallica</i> , <i>Torilis arvensis</i> and <i>Valerianella ramosa</i>	✓					No	Ongoing
5.7.2 Should consider in conjunction with the plan for cereal field margins	✓					No	Ongoing

Field 4: Assessment of status

Please tick the appropriate category to indicate the assessment of status of the species or habitat, for each country/region where appropriate, and provide a statement supporting the category selected.

	Not appropriate	Recovered	Signs of recovery	No change	Declining	Lost	Insufficient information
UK							✓
England							✓
Northern Ireland							✓
Scotland							✓
Wales							✓
Brief text description justifying assessment of status: (~ no more than 100 words for each country/region)							
Arable plant species are under recorded in the UK until this situation is improved it is very difficult assess their status with any certainty. The most recent literature survey compared records between 1970 and 1994 (for the Scarce Plant Atlas and RDB) and the situation on paper remains as recorded in this atlas. There have been some comparisons between shorter time periods for some arable species. It is widely believed that this data set is unlikely to represent the situation in the field. Although data are lacking, the best knowledge available strongly suggests all arable species are declining.							

Field 5: Summary statement

Please provide an overview of plan implementation, including new factors affecting the species or habitat which will accelerate or constrain progress towards meeting of the targets. Where a factor results in new action(s) please cross-reference back to the relevant numbers under Field 3 and Table B.

The first steering group meeting for Arable plants (and associated bryophytes) was held on 23rd September 1999. (This group works closely with the Cereal Field Margins HAP.) It was agreed at this meeting that following the collation of known arable plant initiatives (facilitated by this form) Plantlife would begin to draft a work programme bringing these initiatives together. This work programme will be fully discussed and if possible finalised at the next steering group meeting (March 22nd 2000). A key part of the work programme (and its successful implementation) will be finding sources of funding. Most of the species (except *Centaurea cyanus*, *Filago* spp., *Fumaria occidentalis*) were only recently published in the second tranche of plans and therefore little or no progress has been made.

Field 6: Signing off

Please 'sign off' the form below to confirm that steering group members or key contacts have been consulted and agreed the information provided.

Contact details	Lead Partner	Contact Point
Name	Martin Harper	John Osmond
Organisation	Plantlife	MAFF
Assessment date (dd/mm/yy)	20/10/99	21/10/99

Completed forms should be submitted to JNCC

Biodiversity Information Service
 Joint Nature Conservation Committee
 Monkstone House
 City Road
 Peterborough PE1 1JY
 Tel: 01733 562626
 Fax: 01733 555948
 E-mail: lpr99@jncc.gov.uk

Table A: Action Plan objectives and targets (Copiable table)

For each target please state how, if applicable, it has been disaggregated to the country level. Please insert the paragraph number, UK target and country-specific disaggregated target(s) into the table. Please tick the appropriate category to indicate progress against published and disaggregated targets. For each target please copy the table and detail the (existing or new [new paragraph numbers should run sequentially, under relevant headings in the published volumes]) paragraph number, target text and an assessment of progress.

Objective/target (For new or revised targets please provide the new paragraph number and target text.)	4.1 Develop and maintain viable populations at all extant native sites where these species are long established				
Country	Not appropriate	Target achieved	Some progress	No progress	Insufficient information
UK					✓
England					✓
Northern Ireland					✓
Scotland					✓
Wales					✓
Text description of target progress (separate for each country/region):					
As this plan was published recently it is too early to effectively assess progress towards targets.					
Successful implementation of this target will depend on obtaining up to date status and distribution data for all these species – as yet these are only available for Cornflower (see detailed form for this species), <i>Valerianella ramosa</i> , <i>Galium tricornerutum</i> and possibly <i>Fumaria occidentalis</i> . English Nature and Plantlife have provided funding to the Botanical Society of the British Isles to collate and clean all known/available records for the BAP arable plant species.					
England: Agri-environment scheme agreements have the potential to secure favourable management of land for arable plant species, principally through the management of arable field margins. These species are most likely to occur on agreement land in the Cotswolds, South Wessex Downs, South Downs and Breckland ESAs. Measures specifically targeted at rare arable plants are included in the pilot Arable Stewardship Scheme areas in East Anglia and the West Midlands. Information on the area of arable field margins under agri-environment scheme agreement is available from the Cereal Field Margins group. More quantitative estimation of the contribution that agri environment schemes make to this target is dependent on the availability of digitised national distribution data.					

Objective/target (For new or revised targets please provide the new paragraph number and target text.)	4.2 Facilitate the natural colonisation of new sites				
Country	Not appropriate	Target achieved	Some progress	No progress	Insufficient information
UK					✓
England					✓
Northern Ireland					✓
Scotland					✓
Wales					✓
Text description of target progress (separate for each country/region):					
To early to have much to report					

Objective/target (For new or revised targets please provide the new paragraph number and target text.)	4.3 Regenerate the populations of these species from the seed-bank at eight historic sites 2003				
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Country	Not appropriate	Target achieved	Some progress	No progress	Insufficient information
UK				✓	
England					
Northern Ireland					
Scotland					
Wales					
Text description of target progress (separate for each country/region):					
This target is appropriate only if it is possible to regenerate these species from the seed bank, if indeed these species are present in the seed bank, and if historic sites are still in a favourable condition for regeneration. Historic sites need collation of information. Seeds of all species except <i>Torilis arvensis</i> are present in the Millennium Seed Bank at Kew					
Objective/target (For new or revised targets please provide the new paragraph number and target text.)	4.4 Establish an <i>ex-situ</i> programme to protect genetic diversity, create reserve populations and provide experimental material				
Country	Not appropriate	Target achieved	Some progress	No progress	Insufficient information
UK					
England			✓		
Northern Ireland					
Scotland			✓		
Wales			✓		
Text description of target progress (separate for each country/region):					
Work such as that described requires sources of funding outside those available.					
England: RBG Kew is currently seeking funding for work on endangered plants including two arable species through an appeal, one of these <i>Centaurea cyanus</i> is part this arable plant group.					

Table B: Proposed actions (Copiable table)

For each significant action please copy and complete the table below.

Published action/organisation(s) responsible (For new or revised actions please provide the new paragraph number and action text.)	5.1.1 Encourage the development of relevant agri-environment schemes, such as the pilot Arable Stewardship Scheme in England, as a potential means of re-establishing these species in the countryside. When reviewing such schemes, consider whether changes are needed to increase their potential benefits for this and other threatened arable species (CCW, EN, MAFF, WOAD)
Work plan/organisation(s) responsible (Summary of work plan agreed by the steering group, broken down by year if possible.)	
Action/workplan undertaken? (Please state yes or no.)	Not applicable

Description of work taken and organisation responsible	<i>Please provide details of progress to date, including information about outputs, deadlines, which organisations and where action is being undertaken.</i>	
	MAFF/FRCA: The requirements of BAP priority species were taken into account in recent (1996-1998) quinquennial ESA scheme reviews and some tier options were modified accordingly. These are summarised in the BAP tables published in individual ESA Consultation Documents. One output of these reviews was the introduction of new Conservation Headland tiers in several ESAs. CS scheme consultation is carried out at regular intervals to define regional targets which in many cases address regional BAP priorities. The three year pilot Arable Stewardship within Countryside Stewardship is trialing a number of management measures some of which are designed to specifically benefit the conservation of rare arable plants.. Uptake of the more demanding whole field options of potential benefit for arable plants has been limited. Cultivated margins have, however proved popular and provide beneficial management.	
Output and timescale	<i>Ongoing</i>	<i>Action by</i>
Constraints to action <i>(Please provide an explanation of the significant issues or difficulties encountered and how they have been or will be resolved. Any constraints which the steering group are unable to resolve should also be detailed.)</i>	MAFF/FRCA: ESA and CS schemes have to balance wildlife objectives with others concerning landscape, historic features and access; and spending is inevitably limited by budgetary constraints. As voluntary schemes they cannot guarantee full coverage of all eligible sites with this habitat. Further development of the pilot Arable Stewardship Scheme will be subject to the outcome of an evaluation due to be completed in 2001.	
	Lack of knowledge to enable targeting of important sites	
Action complete or ongoing? <i>(Please state yes, not started, or ongoing.)</i>	Ongoing.	
Next steps	<i>Please outline future action/work including an indication of expected output, timescale and organisation responsible.</i>	
	MAFF/FRCA: BAP priority habitats and species will be taken into consideration in future scheme reviews and regional consultations when these take place.	
Output and timescale		<i>Action by</i>
Published action/organisation(s) responsible <i>(For new or revised actions please provide the new paragraph number and action text.)</i>	5.1.1***(<i>Valerianella rimosa</i> only) consider this species for Schedule 8 of the Wildlife and Countryside Act (DETR/JNCC)	
Work plan/organisation(s) responsible <i>(Summary of work plan agreed by the steering group, broken down by year if possible.)</i>		
Action/workplan undertaken? <i>(Please state yes or no.)</i>	Clarification of the true status of this species is needed.	
Description of work taken and organisation responsible	<i>Please provide details of progress to date, including information about outputs, deadlines, which organisations and where action is being undertaken.</i>	
Output and timescale	<i>Not started</i>	<i>Action by</i>
Constraints to action <i>(Please provide an explanation of the significant issues or difficulties encountered and how they have been or will be resolved. Any constraints which the steering group are unable to resolve should also be detailed.)</i>		
Action complete or ongoing? <i>(Please state yes, not started, or ongoing.)</i>	Ongoing	
Next steps	<i>Please outline future action/work including an indication of expected output, timescale and organisation responsible.</i>	

Output and timescale		<i>Action by</i>
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Published action/organisation(s) responsible <i>(For new or revised actions please provide the new paragraph number and action text.)</i>	5.1.2 As far as possible ensure that any see of these species included in wildflower seed mixture is of native origin (MAFF, WOAD)	
Work plan/organisation(s) responsible <i>(Summary of work plan agreed by the steering group, broken down by year if possible.)</i>		
Action/workplan undertaken? <i>(Please state yes or no.)</i>	Some action undertaken	
Description of work taken and organisation responsible	<p><i>Please provide details of progress to date, including information about outputs, deadlines, which organisations and where action is being undertaken.</i></p> <p>MAFF/FRCA: FRCA produced guidance on arable reversion for ESA and CS scheme Project officers in 1999, which includes detailed explanation of the need to seek seed of local provenance and guidance on how to source such seed.</p> <p>The <i>Flora Locale</i> project provides information on wild flower seed suppliers. This material is available and disseminated on request from Plantlife.</p> <p>There has been some progress but the schemes still allow imported seed where necessary.</p>	
Output and timescale	<i>Ongoing</i>	<i>Action by</i>
Constraints to action <i>(Please provide an explanation of the significant issues or difficulties encountered and how they have been or will be resolved. Any constraints which the steering group are unable to resolve should also be detailed.)</i>	<p>MAFF/FRCA: FRCA Project officer awareness of this guidance will be reinforced at appropriate opportunities , such as on training courses</p> <p>The availability of seed is unreliable, there is little information on generic variation between populations. There is no mechanism for enforcing the use of native seed mix. The cost of this seed is often prohibitive compared to European stock.</p>	
Action complete or ongoing? <i>(Please state yes, not started, or ongoing.)</i>	Ongoing	
Next steps	<p><i>Please outline future action/work including an indication of expected output, timescale and organisation responsible.</i></p> <p>[Our schemes currently require use of native seed where appropriate - this does not necessarily seem the only and best next step.] Consider options to further promote use of native seed in agri-environment schemes.</p>	
Output and timescale		<i>Action by</i>

Published action/organisation(s) responsible <i>(For new or revised actions please provide the new paragraph number and action text.)</i>	5.2.1 Continue with beneficial management, implement management at other extant sites and refine techniques as the results of research continue to emerge (EN)	
Work plan/organisation(s) responsible <i>(Summary of work plan agreed by the steering group, broken down by year if possible.)</i>		
Action/workplan undertaken? <i>(Please state yes or no.)</i>		

Description of work taken and organisation responsible	<i>Please provide details of progress to date, including information about outputs, deadlines, which organisations and where action is being undertaken.</i> Beneficial management continues under the Arable incentive, ESA scheme and on SSSI where these cover arable sites. This is probably most of the cornflower sites and the site for <i>Valerianella rimosa</i> . These are however just a tiny proportion of arable sites.	
Output and timescale	<i>Ongoing</i>	<i>Action by</i>
Constraints to action <i>(Please provide an explanation of the significant issues or difficulties encountered and how they have been or will be resolved. Any constraints which the steering group are unable to resolve should also be detailed.)</i>		
Action complete or ongoing? <i>(Please state yes, not started, or ongoing.)</i>		
Next steps	<i>Please outline future action/work including an indication of expected output, timescale and organisation responsible.</i>	
Output and timescale		<i>Action by</i>

Published action/organisation(s) responsible <i>(For new or revised actions please provide the new paragraph number and action text.)</i>	5.2.2 Seek to develop a network of suitable habitats within the vicinity of these species sites, thereby providing opportunities for their spread. Favourable management will include the relevant options under the appropriate agri-environment schemes e.g. uncropped headlands (CCW, EN, MAFF, WOAD)	
Work plan/organisation(s) responsible <i>(Summary of work plan agreed by the steering group, broken down by year if possible.)</i>		
Action/workplan undertaken? <i>(Please state yes or no.)</i>		
Description of work taken and organisation responsible	<i>Please provide details of progress to date, including information about outputs, deadlines, which organisations and where action is being undertaken.</i> MAFF/FRCA: see 5.1.1 The presence of rare arable plants on land adjacent to agri-environment agreement land can be taken into account by the Project Officer where this information is made available.	
Output and timescale		<i>Action by</i>
Constraints to action <i>(Please provide an explanation of the significant issues or difficulties encountered and how they have been or will be resolved. Any constraints which the steering group are unable to resolve should also be detailed.)</i>	There is a limited extent to which agri-environment schemes can contribute to this action because agreements need to balance this with the other objectives of the schemes and because there are budgetary constraints.	
Action complete or ongoing? <i>(Please state yes, not started, or ongoing.)</i>	Ongoing	
Next steps	<i>Please outline future action/work including an indication of expected output, timescale and organisation responsible.</i>	
Output and timescale		<i>Action by</i>

Published action/organisation(s) responsible (For new or revised actions please provide the new paragraph number and action text.)	5.3.1 Undertake experimental management at eight carefully selected historic sites with the aim of regenerating these species from the seed bank, seeking opportunities through appropriate agri-environment schemes (EN, MAFF)	
Work plan/organisation(s) responsible (Summary of work plan agreed by the steering group, broken down by year if possible.)		
Action/workplan undertaken? (Please state yes or no.)		
Description of work taken and organisation responsible	Please provide details of progress to date, including information about outputs, deadlines, which organisations and where action is being undertaken. MAFF/FRCA: Not appropriate for MAFF/FRCA to have a lead role in this action. The Arable Stewardship scheme pilot is testing various prescriptions for arable plants.	
Output and timescale		Action by
Constraints to action (Please provide an explanation of the significant issues or difficulties encountered and how they have been or will be resolved. Any constraints which the steering group are unable to resolve should also be detailed.)	The basic data on historic sites needed to start this work will not be available until December 1999, then further funding will be needed to implement this work. Sources of funding to investigate known historic sites for these species will then be required. Research is needed to establish if there is a sufficient seed bank for these species, there is a difference of opinion as to whether this is the case in the UK to find out need to carry out management and see if it is successful.	
Action complete or ongoing? (Please state yes, not started, or ongoing.)	Ongoing. Experimental management not started. Data is being collated on historic sites	
Next steps	Please outline future action/work including an indication of expected output, timescale and organisation responsible. Seek funding for surveying the historic sites	
Output and timescale		Action by

Published action/organisation(s) responsible (For new or revised actions please provide the new paragraph number and action text.)	5.3.2 Collect seed from all extant native sites and deposit in the Millennium Seed Bank at Wakehurst Place (Kew) (CCW, EN, RBGKew)	
Work plan/organisation(s) responsible (Summary of work plan agreed by the steering group, broken down by year if possible.)		
Action/workplan undertaken? (Please state yes or no.)		
Description of work taken and organisation responsible	Please provide details of progress to date, including information about outputs, deadlines, which organisations and where action is being undertaken. EN/RBG Kew there are collections of seeds from one population of all of the arable plant species except <i>Torilis arvensis</i> in the Millennium Seed Bank at Wakehurst Place. <i>Centaurea cyanus</i> is represented by more than one population. (The arable bryophyte species are potentially part of the <i>ex situ</i> conservation of BAP bryophytes at RBG Kew)	

Output and timescale	<i>Ongoing</i>	<i>Action by</i>
Constraints to action <i>(Please provide an explanation of the significant issues or difficulties encountered and how they have been or will be resolved. Any constraints which the steering group are unable to resolve should also be detailed.)</i>	Costs to cover collecting/motivating volunteers to collect seed.	
Action complete or ongoing? <i>(Please state yes, not started, or ongoing.)</i>	Ongoing	
Next steps	<i>Please outline future action/work including an indication of expected output, timescale and organisation responsible.</i> The two arable bryophyte species are potentially part of a project soon to commence at Kew on <i>ex situ</i> conservation of bryophytes.	
Output and timescale		<i>Action by</i>

Published action/organisation(s) responsible <i>(For new or revised actions please provide the new paragraph number and action text.)</i>	5.3.3*** Assess the feasibility and desirability of reintroducing these species at selected sites should regeneration from the seed bank prove unsuccessful (<i>Galeopsis angustifolia</i> , <i>Galium tricornutum</i> , <i>Scandix pecten-veneris</i> , <i>Silene gallica</i> , <i>Torilis arvensis</i> , <i>Valerianella ramosa</i> only) (EN, JNCC)	
Work plan/organisation(s) responsible <i>(Summary of work plan agreed by the steering group, broken down by year if possible.)</i>		
Action/workplan undertaken? <i>(Please state yes or no.)</i>		
Description of work taken and organisation responsible	<i>Please provide details of progress to date, including information about outputs, deadlines, which organisations and where action is being undertaken.</i>	
Output and timescale		<i>Action by</i>
Constraints to action <i>(Please provide an explanation of the significant issues or difficulties encountered and how they have been or will be resolved. Any constraints which the steering group are unable to resolve should also be detailed.)</i>	Lack of funding/interest by research institutions for research on these issues.	
Action complete or ongoing? <i>(Please state yes, not started, or ongoing.)</i>		
Next steps	<i>Please outline future action/work including an indication of expected output, timescale and organisation responsible.</i>	
Output and timescale		<i>Action by</i>

Published action/organisation(s) responsible <i>(For new or revised actions please provide the new paragraph number and action text.)</i>	5.4.1 On sites where these species are a significant consideration, advise landowners and managers of the presence and importance of these species, specific management for its conservation and any potentially damaging actions. Particular attention should be given to optimal cultivation and harvest times. (EN)	
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Work plan/organisation(s) responsible <i>(Summary of work plan agreed by the steering group, broken down by year if possible.)</i>	
Action/workplan undertaken? <i>(Please state yes or no.)</i>	
Description of work taken and organisation responsible	<i>Please provide details of progress to date, including information about outputs, deadlines, which organisations and where action is being undertaken.</i> EN give general advice on arable plant conservation. FRCA will give advice to owners of those sites that are under stewardship (approximately seven).
Output and timescale	<i>Ongoing</i> <i>Action by</i>
Constraints to action <i>(Please provide an explanation of the significant issues or difficulties encountered and how they have been or will be resolved. Any constraints which the steering group are unable to resolve should also be detailed.)</i>	Insufficient data on current sites. Research into conservation management and 'potentially damaging actions' needed.
Action complete or ongoing? <i>(Please state yes, not started, or ongoing.)</i>	Ongoing.
Next steps	<i>Please outline future action/work including an indication of expected output, timescale and organisation responsible.</i>
Output and timescale	<i>Action by</i>

Published action/organisation(s) responsible <i>(For new or revised actions please provide the new paragraph number and action text.)</i>	5.4.2 As far as possible ensure that all relevant agri-environment project officers are advised of locations of this species, its importance, management requirements and potential threats. (EN, MAFF)
Work plan/organisation(s) responsible <i>(Summary of work plan agreed by the steering group, broken down by year if possible.)</i>	
Action/workplan undertaken? <i>(Please state yes or no.)</i>	
Description of work taken and organisation responsible	<i>Please provide details of progress to date, including information about outputs, deadlines, which organisations and where action is being undertaken.</i> MAFF continues to provide funding for FWAG and ADAS to carry out free initial conservation advice to farmers in England. Data collation carried out by PJW for MAFF in Arable Stewardship in 1998 EN: This has been completed in Oxfordshire and a few selected <i>Centaurea cyanus</i> sites and SSSIs but it is patchy and for very few species
Output and timescale	<i>Action by</i>
Constraints to action <i>(Please provide an explanation of the significant issues or difficulties encountered and how they have been or will be resolved. Any constraints which the steering group are unable to resolve should also be detailed.)</i>	There are no formal links in process for the passing data between the Threatened Plant Database and other nodes of the National Biological Network (NBN) to the geographical databases of FRCA/WOAD/SOAEFD. Plantlife will not be able to facilitate production of reports for this group of arable species without sufficient funding/staff.

Action complete or ongoing? <i>(Please state yes, not started, or ongoing.)</i>	Ongoing
Next steps	<i>Please outline future action/work including an indication of expected output, timescale and organisation responsible.</i> MAFF/FRCA: It will be desirable to seek to acquire appropriate species distribution data in a digital form where available so that it can be integrated in to the routine assessment of agri-environment scheme applications. [<i>Constraint is the availability of data in digital form. FRCA already collect together such data on behalf of MAFF where it is available.</i>]
Output and timescale	<i>Action by</i>

Published action/organisation(s) responsible <i>(For new or revised actions please provide the new paragraph number and action text.)</i>	5.5.1 Collate information and resurvey extant and historic sites where necessary in order to gain a more complete understanding of the current distribution and status of these species. This will determine the range over which conservation action is appropriate and help to clarify the threats to remaining populations. (CCW, EN, JNCC, SNH)
Work plan/organisation(s) responsible <i>(Summary of work plan agreed by the steering group, broken down by year if possible.)</i>	
Action/workplan undertaken? <i>(Please state yes or no.)</i>	
Description of work taken and organisation responsible	<i>Please provide details of progress to date, including information about outputs, deadlines, which organisations and where action is being undertaken.</i> EN/Plantlife are funding BSBI to collate and clean all known and available information on sites for these BAP arable species. The EN/Plantlife project should cover all of the UK. EN/BSBI/Plantlife/Northmoor Trust are drafting an arable sampling strategy, which would help 'fill gaps' in the data should funding become available. RSPB: have done much collation in SW especially in Wiltshire.
Output and timescale	This data will be available by December 1999 <i>Action by</i>
Constraints to action <i>(Please provide an explanation of the significant issues or difficulties encountered and how they have been or will be resolved. Any constraints which the steering group are unable to resolve should also be detailed.)</i>	Current sources are not comprehensive enough to provide sufficient information on the current distribution of these species. More detailed survey is needed. Funding is a major constraint here.
Action complete or ongoing? <i>(Please state yes, not started, or ongoing.)</i>	
Next steps	<i>Please outline future action/work including an indication of expected output, timescale and organisation responsible.</i>
Output and timescale	<i>Action by</i>

Published action/organisation(s) responsible <i>(For new or revised actions please provide the new paragraph number and action text.)</i>	5.5.2 Continue with monitoring and research on extant sites and restore populations with a view to refining conservation management techniques. Where possible monitoring visits should be combined with meeting landowners to discuss conservation management for the species. (EN, JNCC)
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Work plan/organisation(s) responsible <i>(Summary of work plan agreed by the steering group, broken down by year if possible.)</i>		
Action/workplan undertaken? <i>(Please state yes or no.)</i>	Scattered sites covered for all species but informally in many cases. (except see <i>Centaurea cyanus</i> separate reporting form)	
Description of work taken and organisation responsible	<i>Please provide details of progress to date, including information about outputs, deadlines, which organisations and where action is being undertaken.</i>	
Output and timescale	Ongoing	Action by
Constraints to action <i>(Please provide an explanation of the significant issues or difficulties encountered and how they have been or will be resolved. Any constraints which the steering group are unable to resolve should also be detailed.)</i>	Insufficient information available on where the sites are. Current initiatives should help clarify this. As yet there is no co-ordination of monitoring.	
Action complete or ongoing? <i>(Please state yes, not started, or ongoing.)</i>		
Next steps	<i>Please outline future action/work including an indication of expected output, timescale and organisation responsible.</i>	
Output and timescale		Action by

Published action/organisation(s) responsible <i>(For new or revised actions please provide the new paragraph number and action text.)</i>	5.5.3 Undertake research to determine the selectivity of all graminicides currently in use so as to identify which, if any, are suitable for use in field margins that support these species and other threatened arable species (EN, JNCC)	
Work plan/organisation(s) responsible <i>(Summary of work plan agreed by the steering group, broken down by year if possible.)</i>		
Action/workplan undertaken? <i>(Please state yes or no.)</i>		
Description of work taken and organisation responsible	<i>Please provide details of progress to date, including information about outputs, deadlines, which organisations and where action is being undertaken.</i> Small scale research has been carried out by EN/Phil Wilson/Game Conservancy Trust on Cornflower with two graminicide chemicals. CIBA-GEIGY have screened Clodinafop-propangyl against several species. More work is needed.	
Output and timescale		Action by
Constraints to action <i>(Please provide an explanation of the significant issues or difficulties encountered and how they have been or will be resolved. Any constraints which the steering group are unable to resolve should also be detailed.)</i>	Funding for the research needed. For e.g. on the effects of specific graminicides versus general herbicides on the broadleaved species	
Action complete or ongoing? <i>(Please state yes, not started, or ongoing.)</i>	Not started	
Next steps	<i>Please outline future action/work including an indication of expected output, timescale and organisation responsible.</i> Seek funding and expertise for this type of work	

Output and timescale		<i>Action by</i>
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Published action/organisation(s) responsible <i>(For new or revised actions please provide the new paragraph number and action text.)</i>	5.6.1 Publicise the plight of this and other threatened arable species. Articles should be written for relevant conservation and farming magazines and newsletters. Botanists should be encouraged to record any new records eg through Atlas 2000 recording. (CCW, EN)	
Work plan/organisation(s) responsible <i>(Summary of work plan agreed by the steering group, broken down by year if possible.)</i>		
Action/workplan undertaken? <i>(Please state yes or no.)</i>		
Description of work taken and organisation responsible	<p><i>Please provide details of progress to date, including information about outputs, deadlines, which organisations and where action is being undertaken.</i></p> <p>EN: article written for Herb Society web site; arable plant strip planted outside offices; press release on plight of Cornflower; notes on arable plant decline passed to press office.</p> <p>Plantlife: GMO report stresses decline of arable plants.</p> <p>The Game Conservancy Trust has produced a field guide to rare arable flowers and other guidelines have been produced by EN.</p> <p>PJW: several articles over last 10 years</p>	
Output and timescale		<i>Action by</i>
Constraints to action <i>(Please provide an explanation of the significant issues or difficulties encountered and how they have been or will be resolved. Any constraints which the steering group are unable to resolve should also be detailed.)</i>		
Action complete or ongoing? <i>(Please state yes, not started, or ongoing.)</i>		
Next steps	<i>Please outline future action/work including an indication of expected output, timescale and organisation responsible.</i>	
Output and timescale		<i>Action by</i>

Published action/organisation(s) responsible <i>(For new or revised actions please provide the new paragraph number and action text.)</i>	5.6.2 Develop links with European ecologists working to conserve threatened plants of arable habitats (JNCC)	
Work plan/organisation(s) responsible <i>(Summary of work plan agreed by the steering group, broken down by year if possible.)</i>		
Action/workplan undertaken? <i>(Please state yes or no.)</i>		
Description of work taken and organisation responsible	<p><i>Please provide details of progress to date, including information about outputs, deadlines, which organisations and where action is being undertaken.</i></p> <p>Phil Wilson – (Plantlife Project officer/Wessex Environmental Associates) has links with ecologists in Europe. Plantlife have links throughout Europe on all matters of plant conservation concern through the Planta Europa steering committee.</p>	

Output and timescale	<i>Ongoing</i>	<i>Action by</i>
Constraints to action <i>(Please provide an explanation of the significant issues or difficulties encountered and how they have been or will be resolved. Any constraints which the steering group are unable to resolve should also be detailed.)</i>		
Action complete or ongoing? <i>(Please state yes, not started, or ongoing.)</i>		
Next steps	<i>Please outline future action/work including an indication of expected output, timescale and organisation responsible.</i>	
Output and timescale		<i>Action by</i>

Published action/organisation(s) responsible <i>(For new or revised actions please provide the new paragraph number and action text.)</i>	5.6.3 Establish arable conservation display and education centres with the aim of raising public awareness of this threatened group of the UK flora. (CCW, EN)	
Work plan/organisation(s) responsible <i>(Summary of work plan agreed by the steering group, broken down by year if possible.)</i>		
Action/workplan undertaken? <i>(Please state yes or no.)</i>		
Description of work taken and organisation responsible	<i>Please provide details of progress to date, including information about outputs, deadlines, which organisations and where action is being undertaken.</i> RBG Kew Centre of millennium seedbank will have a display of Cornflower and Shepherds Needle in 2000 – see also 5.6.1 Cambridge University Botanic has a display showing arable flowers and the impacts of agricultural 'improvements' on their survival. EN Northminster House, Northmoor Trust, BBONT, Norfolk Wildlife Trust.	
Output and timescale	<i>Ongoing</i>	<i>Action by</i>
Constraints to action <i>(Please provide an explanation of the significant issues or difficulties encountered and how they have been or will be resolved. Any constraints which the steering group are unable to resolve should also be detailed.)</i>		
Action complete or ongoing? <i>(Please state yes, not started, or ongoing.)</i>		
Next steps	<i>Please outline future action/work including an indication of expected output, timescale and organisation responsible.</i>	
Output and timescale		<i>Action by</i>