Conservation objectives and definitions of favourable condition for designated features of interest

These Conservation Objectives relate to all designated features on the SSSI, whether designated as SSSI, SPA, SAC or Ramsar features.

Somerset & Dorset
Riverside Chambers
Castle Street
Taunton TA1 4AP
0300 060 2570

Name of Site of Special Scientific Interest (SSSI)	
KING'S SEDGEMOOR	
Names of designated international sites	
Special Area of Conservation (SAC)	
Special Protection Area (SPA)	Somerset Levels & Moors
Ramsar	Somerset Levels & Moors
Relationship between site designations	
Whole SSSI forms part of Somerset Levels and Moors SPA and Ramsar Site	

Version control information		
Status of this Version (Draft, Consultation Draft, Final)	Draft **Sections still to be completed (BLUE)**	
Prepared by	Liz McDonnell	
Date of this version	January 2008	
Date of generic guidance on favourable condition used	Birds CSM January 2004 Lowland Grassland CSM February 2004 Lowland Wetland Habitats CSM Aug 2004 Mammals CSM Aug 2004 Invertebrates Sept 2006 & updates Oct 2007	
Other notes/version history		
Quality assurance information		
Checked by	**Name**	**Date**
	Signature	

Conservation Objectives and definitions of Favourable Condition: notes for users

Conservation Objectives

SSSIs are notified because of specific biological or geological features. Conservation Objectives define the desired state for each site in terms of the features for which they have been designated. When these features are being managed in a way which maintains their nature conservation value, then they are said to be in 'favourable condition'. It is a Government target that 95% of the total area of SSSIs should be in favourable condition by 2010.

Definitions of Favourable Condition

The Conservation Objectives are accompanied by one or more habitat extent and quality definitions for the special interest features at this site. These are subject to periodic reassessment and may be updated to reflect new information or knowledge; they will be used by Natural England and other relevant authorities to determine if a site is in favourable condition. The standards for favourable condition have been developed and are applied throughout the UK.

Use under the Habitats Regulations

The Conservation Objectives and definitions of favourable condition for features on the SSSI may inform the scope and nature of any 'appropriate assessment' under the Habitats Regulations. An appropriate assessment will also require consideration of issues specific to the individual plan or project. The habitat quality definitions do not by themselves provide a comprehensive basis on which to assess plans and projects as required under Regulations 20-21, 24, 48-50 and 54 - 85. The scope and content of an appropriate assessment will depend upon the location, size and significance of the proposed project. Natural England will advise on a case by case basis.

Following an appropriate assessment, competent authorities are required to ascertain the effect on the integrity of the site. The integrity of the site is defined in paragraph 20 of ODPM Circular 06/2005 (DEFRA Circular 01/2005) as the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified. The determination of favourable condition is separate from the judgement of effect upon integrity. For example, there may be a time-lag between a plan or project being initiated and a consequent adverse effect upon integrity becoming manifest in the condition assessment. In such cases, a plan or project may have an adverse effect upon integrity even though the site remains in favourable condition.

The formal Conservation Objectives for European Sites under the Habitats Regulations are in accordance with paragraph 17 of ODPM Circular 06/2005 (DEFRA Circular 01/2005), the reasons for which the European Site was classified or designated. The entry on the Register of European Sites gives the reasons for which a European Site was classified or designated.

Explanatory text for Tables 2 and 3

Tables 2, 2a and 3 set out the measures of condition which we will use to provide evidence to support our assessment of whether features are in favourable condition. They are derived from a set of generic guidance on favourable condition prepared by Natural England specialists, and have been tailored by local staff to reflect the particular characteristics and site-specific circumstances of individual sites. Quality Assurance has ensured that such site-specific tailoring remains within a nationally consistent set of standards. The tables include an audit trail to provide a summary of the reasoning behind any site-specific targets etc. In some cases the requirements of features or designations may conflict; the detailed basis for any reconciliation of conflicts on this site may be recorded elsewhere.

Conservation Objectives

The Conservation Objectives for this site are, subject to natural change, to maintain the following habitats and geological features in favourable condition (*), with particular reference to any dependent component special interest features (habitats, vegetation types, species, species assemblages etc.) for which the land is designated (SSSI, SAC, SPA, Ramsar) as individually listed in Table 1.

Habitat Types represented (Biodiversity Action Plan categories)

Neutral Grassland – lowland
Fen Marsh & Swamp
Standing Open Water and Canals

Geological features (Geological Site Types)

(*) or restored to favourable condition if features are judged to be unfavourable.

Standards for favourable condition are defined with particular reference to the specific designated features listed in Table 1, and are based on a selected set of attributes for features which most economically define favourable condition as set out in Table 2, Table 2a and Table 3

Table 1 Individual designated interest features

BAP Broad Habitat type / Geological Site Type	Specific designated features	Explanatory description of the feature for clarification	SSSI designated interest features	SAC designated interest features	SPA bird populations dependency on specific habitats			Ramsar criteria applicable to specific habitats			
					Annex 1 species	Migratory species	Waterfowl assemblage	1a Wetland characteristics	2a Hosting rare species &c	3a 20000 waterfowl	3c 1% of population
Neutral Grassland - Lowland	Grassland MG5 (Cynosurus cristatus – Centaurea nigra)		*		(*)	(*)	(*)		(*)	(*)	
Neutral Grassland - Lowland	Grassland MG8 (Cynosurus cristatus – Caltha palustris)		*		(*)	(*)	(*)		(*)	(*)	
Neutral Grassland - Lowland	Grassland MG13 (Agrostis stolonifera – Alopecurus geniculatus)		*		(*)	(*)	(*)		(*)	(*)	
Neutral Grassland - Lowland	Agrostis stolonifera – Carex spp. grassland		*		(*)	(*)	(*)		(*)	(*)	
Neutral Grassland - Lowland	Grassland MG9 (Holcus lanatus-Deschampsia cespitosa) & MG10 (Holcus lanatus – Juncus effusus)	Not monitored, but part of the whole site on which the breeding and wintering birds depend	(*)		(*)	(*)	(*)		(*)	(*)	
Fen Marsh & Swamp	Fen Meadow M22 Juncus subnodulosus – Cirsium palustre		*		(*)	(*)	(*)		(*)	(*)	
Standing Open water & Canals	Lowland Ditch Systems		*		(*)	(*)	(*)		(*)	(*)	
Standing Open water & Canals	Invertebrate Assemblage		*						(*)		
Neutral Grassland – Lowland, Fen,	Assemblage of Breeding Birds Lowland damp grassland.		*								

BAP Broad Habitat type / Geological Site Type	Specific designated features	Explanatory description of the feature for clarification	SSSI designated interest features	SAC designated interest features	SPA bird populations dependency on specific habitats			Ramsar criteria applicable to specific habitats			
					Annex 1 species	Migratory species	Waterfowl assemblage	1a Wetland characteristics	2a Hosting rare species &c	3a 20000 waterfowl	3c 1% of population
Marsh & Swamp & Standing Open water & canals											
Neutral Grassland – Lowland Fen, Marsh & Swamp & Standing Open water & canals	Aggregations of Non-breeding **Bewick's Swan**		*		*	*	*				* ?
As above	Aggregations of Non-breeding **Dunlin**		*			*	*			*	
As above	Aggregation of non breeding **Teal**		*			*	*			*	* ?
As above	Aggregations of non-breeding **Golden Plover**		*		*	*	*			*	
As above	Aggregations of non-breeding **Lapwing**		*			*	*			*	*
As above	Aggregation of non-breeding **Green Sandpiper**		*			*	*			*	
As above	Aggregation of non-breeding **Jack Snipe**		*			*	*			*	
As above	Aggregation of non-breeding **Snipe**		*			*	*			*	
As above	Aggregation of non-breeding **Mallard**		*			*	*			*	
As above	Aggregations of non-breeding					*	*			*	

BAP Broad Habitat type / Geological Site Type	Specific designated features	Explanatory description of the feature for clarification	SSSI designated interest features	SAC designated interest features	SPA bird populations dependency on specific habitats			Ramsar criteria applicable to specific habitats			
					Annex 1 species	Migratory species	Waterfowl assemblage	1a Wetland characteristics	2a Hosting rare species &c	3a 20000 waterfowl	3c 1% of population
	Wigeon										
As above	Aggregations of non-breeding **Shoveler**					*	*			*	
As above	Aggregations of non-breeding **Gadwall**					*	*			*	
As above	>20,000 non breeding waterfowl assemblage	All species in column to the left above				*	*			*	
Neutral Grassland – Lowland, Fen, Swamp & Marsh & Standing Open water & canals	Otter	Otters use both grassland & ditch habitats	*								

NB. Features where asterisks are in brackets (*) indicate habitats which are not notified for specific habitat interest (under the relevant designation) but because they support notified species.

Table 2 Habitat extent objectives

Conservation Objective for habitat extent	To maintain the designated features in favourable condition, which is defined in part in relation to a balance of habitat extents (extent attribute). Favourable condition is defined at this site in terms of the following site-specific standards:
Extent - Dynamic balance	On this site favourable condition requires the maintenance of the extent of each habitat type (either designated habitat or habitat supporting designated species). Maintenance implies restoration if evidence from condition assessment suggests a reduction in extent.

Habitat Feature (BAP Broad Habitat level, or more detailed level if applicable)	Estimated extent (ha) and date of data source/estimate	Site Specific Target range and Measures	Comments
Neutral Grassland – Lowland & Fen, Marsh & Swamp Complex mosaic of neutral grassland/coastal & floodplain grazing marsh comprising MG5, MG8, MG13, Ag-Cx grassland and M22 Fen Meadow	**Approximately 468ha (Estimated from 1995 survey, 2005 survey and refinement of both these surveys by NE staff. See below)**	No reduction in area and any consequent fragmentation without prior consent Total area (ha), mapped in relation to a reference level to be determined, in period May - end of August (before hay cut in meadows).	Recoverable reduction = unfavourable; non-recoverable reduction = partially destroyed. Temporary reductions related to natural variation in hydrological conditions should be noted as such where information allows. Of the 822 hectares notified, approximately 354 hectares (43%) is recognised as being species poor grassland. Of the remaining 468 hectares, the majority is associated with infield botanical interest with some fen marsh and swamp habitat associated with the ditches.
Standing Open water & Canals (Ditches)	**Approximately 122,864m** of ditch habitat (as measured from aerial photos dated 2006	No reduction in channel length During the structured walk note any changes caused by active management, such as infilling or channel diversion.	These observations do not include drying out or successional change, which are covered under other attributes.
Birds Breeding and Wintering Aggregations	**822 ha** (whole SSSI area)	Maintain the area of habitats that are used by the wintering birds within acceptable limits: Losses of 5% or more of any relevant habitat type unacceptable	The whole of King's Sedgemoor should be available for wintering birds, but the priority areas are defined by the attached maps.

Otter	**822 ha** grassland **122,864m** ditches	Maintain the area of habitats that are used by the otters within acceptable limits: Losses of 5% or more of any relevant habitat type unacceptable	Otters use both grassland and ditch habitats

Audit Trail
Rationale for habitat extent attribute (Include methods of estimation (measures), and the approximate degree of change which these are capable of detecting).
The aim is to maintain a mosaic of neutral grassland and fen meadow habitats across the site. It is not possible or desirable to define the extent of each community across the site as the mosaics are complex and liable to change. Neutral grassland & fen meadow extent is difficult to estimate as there has not been a complete survey of the site, but is based on a combination of sources; Somerset Levels & Moors Survey (Walls 1995), NVC Survey King's Sedgemoor (in part) (Prosser & Wallace 2005) and personal knowledge by NE staff. . It includes only the areas approximating to MG5, MG8 (or variants of MG8), MG13, Agrostis- Carex and M22.
Rationale for site-specific targets (including any variations from generic guidance)
Other Notes
The grassland type B16 on Criteria sheet is named as 'Centaurea nigra/Anthoxanthum oderatum/Thalictrum flavum variants'. B16 code is usually translated as MG4 grassland, but as this type has not been recorded on any site on the Somerset Levels, the grassland type likely to have been intended at this site is MG5 Centaurea nigra/Cynosurus cristatus meadow & pasture. The two swamp communities S5 & S22 (identified on Criteria sheet as F27 & F28) have been omitted as Notified Features as they are found mostly on the ditch edges and are covered in Lowland Ditch attributes. S22 (Glyceria plicata/Alopecurus geniculatus/Eleocharis palustris) is akin to MG13, so as MG13 is known to be an important wet grassland community on King's Sedgemoor, it has been included as a Notified Feature.

Table 2a Species population objectives

Conservation Objective for species populations	To maintain the designated species in favourable condition, which is defined in part in relation to their population attributes. Favourable condition is defined at this site in terms of the following site-specific standards:
Population balance	On this site favourable condition requires the maintenance of the population of each designated species or assemblage. Maintenance implies restoration if evidence from condition assessment suggests a reduction in size of population or assemblage.

Species Feature (species or assemblage)	**List supporting BAP Broad Habitats**	**Population Attribute (eg presence/absence, population size or assemblage score)**	**Site Specific Target range and Measures (specify geographical range over which target applies ie site, BAP broad habitat or more specific)**	**Comments**
Invertebrate Assemblage	Standing Open Water & Canals (Ditch Systems)	Isis score	Monitor the assemblage once in every 6 year monitoring cycle Using defined invertebrate sampling protocols, thresholds to be met: W211 open water on disturbed sediments: score=4 W314 rich fen: score=10	This attribute is to be assessed through specialist survey
Birds Wintering Aggregations	Neutral Grassland – Lowland, Fen, Swamp & Marsh, Standing Open Water & Canals (Ditch Systems)	Bird population size (mean max seasonal count) **Bewick's swan 14** **Golden plover 447** **Teal 116** **Lapwing 5320** **Gadwall 2** **Wigeon 20** **Shoveler 8** **Dunlin ??** **Green**	Maintain population within acceptable limits (in this context population can be that of an individual species or the total population of an assemblage): ¨ Based on the known natural fluctuations of the population in the site, maintain the population at or above the minimum for the site (see 3.5). ¨ Counts or estimates of numbers of individuals. Standard monitoring methods are widely published and appropriate species-specific surveys are listed in Part 2 (available on JNCC website).	Existing survey data, e.g. from WeBS, may be available for species on many sites (see Section 5 and Part 2 (available on JNCC website)).

Species Feature (species or assemblage)	List supporting BAP Broad Habitats	Population Attribute (eg presence/absence, population size or assemblage score)	Site Specific Target range and Measures (specify geographical range over which target applies ie site, BAP broad habitat or more specific)	Comments
		Sandpiper? **Jack Snipe ??** **Mallard ??** **Snipe ??** >20,000 (part of SPA population)		
Breeding Birds – Lowland damp grassland	Neutral Grassland – Lowland Standing Open Water & Canals (Ditch Systems)	Maintain assemblage diversity: ¨ If the total score calculated for a breeding bird assemblage falls by the equivalent of 25% or more in points then the assemblage is in unfavourable condition. **BTO score 23**	Maintain assemblage diversity: ¨ If the total score calculated for a breeding bird assemblage falls by the equivalent of 25% or more in points then the assemblage is in unfavourable condition. Record presence/absence of breeding species within the assemblage. Methods of survey will be a combination of those given in Part 2 depending on the species within the assemblage. Breeding must be confirmed as proven or probable according to generic proof of breeding codes (Appendix 1). A count of the numbers of breeding pairs/units in a site is not needed. On the basis of presence/absence recalculate the assemblage score using the SSSI Guidelines for the relevant habitat. The species present at designation and each monitoring event do not need to be the same as this is a score-based assessment only.	Data on rare and common species will be needed. Many data may already be available - see Section 5 and Part 2 (available on JNCC website).
Otters	Neutral Grassland –	otter populations	Otters present on site Regular surveys. Use local County recorder	

Species Feature (species or assemblage)	List supporting BAP Broad Habitats	Population Attribute (eg presence/absence, population size or assemblage score)	Site Specific Target range and Measures (specify geographical range over which target applies ie site, BAP broad habitat or more specific)	Comments
	Lowland Standing Open Water & Canals (Ditch Systems)		records	
		otter populations	Population maintained or increasing. Regular surveys. Use LRR SAC monitoring scheme for river SACs in England, Wales and Northern Ireland. In Scotland follow the recommendations of the BioSS report. Annual survey recommended for first five years of LRR method.	

Audit Trail
Rationale for species population attributes (Include methods of estimation (measures), and the approximate degree of change which these are capable of detecting).
Population size of **Bewick's Swan, Golden Plover, Teal, Lapwing, Gadwall, Wigeon & Shoveler** taken from SPA & Ramsar document 'Habitat requirement for overwintering waterfowl of national & international importance on the Somerset Levels & Moors' Nov 1996. Source of population data of other non-breeding birds as follows: ????
Rationale for site-specific targets (including any variations from generic guidance)
Breeding and Wintering Birds and Otters use all the grassland types, both species-rich & species-poor, so extent target is of whole site. Otters are a wide-ranging species and are known to use the site. The Somerset Otter Group, and other records from SERC database will be used for monitoring populations
Other Notes

Table 3a Site-Specific definitions of Favourable Condition

CONSERVATION OBJECTIVE FOR THIS HABITAT / GEOLOGICAL SITE-TYPE	To maintain the **Lowland Neutral Grassland** at **KING'S SEDGEMOOR** in favourable condition, with particular reference to relevant specific designated interest features. Favourable condition is defined at this site in terms of the following site-specific standards:
Site-specific details of any geographical variation or limitations (where the favourable condition standards apply)	

Site-specific standards defining favourable condition					
Criteria feature	**Attribute term in guidance**	**Measure**	**Site-specific Targets**	**Comments**	**Use for CA?**
MG5 *Cynosurus cristatus-Centaurea nigra* lowland meadows	Sward structure: bare ground	Record extent of bare ground (not rock) distributed through the sward, visible without disturbing the vegetation. Record in period late May -early July, before hay cut, or mid-May - late July (pastures). Also record sometimes in aftermath grazing period in hay meadows.	No more than 5%	Outside target indicates problems with stock management eg poaching, supplementary feeding.	
MG5 *Cynosurus cristatus-Centaurea nigra* lowland meadows	Sward structure: litter	Record cover of litter where in a more or less continuous layer, distributed either in patches or in one larger area. Record in period late May -early July, before hay cut, or mid-May - late July (pastures). Also record sometimes in aftermath grazing period in hay meadows.	Total extent no more than 25% of the sward	Outside target indicates biomass removal is insufficient eg not cut for hay or insufficient grazing.	
MG5 *Cynosurus cristatus-Centaurea nigra* lowland meadows	Sward structure: average height	Record sward height in period mid-May - late July. Upper target refers to pastures only.	Sward 5-15 cm	Sward height above upper target shows that habitat is not being managed sufficiently eg lack of or insufficient grazing or if below lower target, is being overgrazed.	

Site-specific standards defining favourable condition					
Criteria feature	**Attribute term in guidance**	**Measure**	**Site-specific Targets**	**Comments**	**Use for CA?**
MG5 *Cynosurus cristatus-Centaurea nigra* lowland meadows	Sward composition: grass/herb ratio	Proportion of non-Graminae ("herbs"), in period mid- May - early July, before hay cut (meadows), or mid-May - late July (pastures).	40-90% herbs	Low proportion outside target indicates eutrophication, usually from fertilisers, or insufficient removal of biomass, leading to dominance by grasses.	Yes
MG5 *Cynosurus cristatus-Centaurea nigra* lowland meadows	Sward composition: positive indicator species	Record the frequency of positive indicator species in period mid May -early July, before hay cut, (meadows), or mid-May - late July (pastures). Agrimonia eupatoria, Alchemilla spp., Anenome nemorosa, Centaurea nigra, Euphrasia spp., Filipendula ulmaria, Filipendula vulgaris, Galium verum, Genista tinctoria, Lathyrus linifolius (=montanus), Lathyrus pratensis, Leontodon hispidus/L. saxatilis, Leucanthemum vulgare, Lotus corniculatus, Pimpinella saxifraga, Polygala spp., Potentilla erecta, Primula veris, Rhinanthus minor, Sanguisorba minor, Sanguisorba officinalis, Serratula tinctoria, Silaum silaus, Stachys officinalis,Succisa pratensis, Tragopogon pratensis, small blue-green Carex spp. (leaves less than 5mm wide) (C. flacca).	At least two species/taxa frequent plus at least four species/taxa occasional throughout the sward.	Choice of species related to NVC type and restriction to unimproved grassland, considered satisfactory when inside target. Among possible species that could be used, choice further restricted by ease of identification, visibility in recording period.	Yes

Site-specific standards defining favourable condition					
Criteria feature	**Attribute term in guidance**	**Measure**	**Site-specific Targets**	**Comments**	**Use for CA?**
MG5 *Cynosurus cristatus-Centaurea nigra* lowland meadows	Sward composition: indicators of waterlogging	Record % cover of Juncus spp, Deschampsia cespitosa, large Carex spp. (leaves more than 5mm wide) eg Carex acutiformis, large grasses (leaves more than 10mm wide, stout stems) ie Glyceria maxima, Phalaris arundinacea, Phragmites australis. Record in period late May -early July, before hay cut, or mid-May - late July (pastures). Note: Care is required on ridge-and-furrow fields where the furrows may support a different interest feature (eg wet grassland).	No species/taxa together or singly covering more than 10% of the sward	Species chosen to indicate waterlogging problems when outside target eg from raised water tables	Yes
MG5 *Cynosurus cristatus-Centaurea nigra* lowland meadows	Sward composition: negative indicator species	Record the frequency and % cover of negative indicator species in period mid May -early July, before hay cut, (meadows), or mid-May - late July (pastures). Anthriscus sylvestris, Cirsium arvense, Cirsium vulgare, Galium aparine, Plantago major, Pteridium aquilinum, Rumex crispus, Rumex obtusifolius, Senecio jacobaea ,Urtica dioica.	No species more than occasional throughout the sward or singly or together more than 5% cover	Invasive species chosen to indicate problems of eutrophication and disturbance from various sources when outside target eg poaching, stock feeding.	Yes

Site-specific standards defining favourable condition					
Criteria feature	**Attribute term in guidance**	**Measure**	**Site-specific Targets**	**Comments**	**Use for CA?**
MG5 *Cynosurus cristatus-Centaurea nigra* lowland meadows	Sward composition: negative indicator species	Record the frequency and % cover of all tree and scrub species, considered together. NB If scrub/tree species in pastures are more than occasional throughout the sward but less than 5% cover, they are soon likely to become a problem if grazing levels are not sufficient or if scrub control is not being carried out.	No more than 5% cover.	Invasive species outside target shows that habitat is not being managed sufficiently eg not cut for hay each year or inadequately grazed	Yes
MG8 *Cynosurus cristatus – Caltha palustris* Grassland	Sward structure: bare ground	Record extent of bare ground (not rock) distributed through the sward, visible without disturbing the vegetation, eg from the seasonal effects of flooding. Record in period May - end of August (before hay cut in meadows). Also record sometimes in aftermath grazing period in hay meadows.	MG8, MG8-related: No more than 15% in May-early June or no more than 5% in mid-June-July	Outside target indicates problems with stock management eg poaching, supplementary feeding or excessive flooding.	
MG8 *Cynosurus cristatus – Caltha palustris* Grassland	Sward structure: litter	Record cover of litter where in a more or less continuous layer, distributed either in patches or in one larger area. Record in period May - end of August (before hay cut in meadows). Also record sometimes in aftermath grazing period in hay meadows.	Total extent no more than 25% of the sward	Outside target indicates biomass removal is insufficient eg lack of or insufficient grazing or not cut for hay.	

Site-specific standards defining favourable condition					
Criteria feature	**Attribute term in guidance**	**Measure**	**Site-specific Targets**	**Comments**	**Use for CA?**
MG8 *Cynosurus cristatus – Caltha palustris* Grassland	Sward structure: average height	Record sward height in period May - end of August (before hay cut in meadows). Upper target refers to pastures only.	MG8, MG8-related Sward 5 - 15 cm	Sward height above upper target shows that habitat is not being managed sufficiently eg lack of or insufficient grazing or if below lower target, is being overgrazed.	
MG8 *Cynosurus cristatus – Caltha palustris* Grassland	Sward composition: positive indicator species	Record the frequency of positive indicator species from the list below to give an overall total of 2 frequent and 4 occasional or locally abundant. Record in period May - end of August (before hay cut in meadows). Achillea ptarmica, Berula erecta, Caltha palustris, Cardamine pratensis, Cirsium dissectum, Eupatorium cannabinum, Filipendula ulmaria, Galium palustre/G. uliginosum, Geum rivale, Hydrocotyle vulgaris, Lotus pedunculatus, Lychnis flos-cuculi, Mentha aquatica, Orchidaceae spp., Potentilla palustris, Ranunculus flammula, small blue-green Carex spp. (leaves less than 5mm wide) (C. flacca, C.nigra, C.panicea), Succisa pratensis, Thalictrum flavum, Valeriana dioica,Viola palustris.	Overall total of at least two species/taxa frequent plus at least four species/taxa occasional throughout the sward or locally abundant in more than 10% of the sward	Choice of species related to NVC types, restriction to unimproved grassland and wetness characteristics of habitat, all satisfactory when inside target. Among possible species that could be used, choice further restricted by ease of identification, visibility in recording period.	Yes

Site-specific standards defining favourable condition					
Criteria feature	**Attribute term in guidance**	**Measure**	**Site-specific Targets**	**Comments**	**Use for CA?**
MG8 *Cynosurus cristatus – Caltha palustris* Grassland	Sward composition: indicators of waterlogging MG8, MG8-related only	Record % cover of Juncus spp, Deschampsia cespitosa, large Carex spp. (leaves more than 5mm wide) eg Carex acutiformis, large grasses (leaves more than 10mm wide, stout stems) ie Glyceria maxima, Phalaris arundinacea, Phragmites australis. Record in period May - end of August (before hay cut in meadows).	No species/taxa together or singly covering more than 10% of the sward	Species chosen to indicate waterlogging problems when outside target eg from raised water tables.	Yes
MG8 *Cynosurus cristatus – Caltha palustris* Grassland	Sward composition: negative indicator species.	Record the % cover of negative indicator species. Record in period May - end of August (before hay cut in meadows). Senecio aquaticus	No species more than occasional throughout the sward or more than 5% cover	Outside target can discourage hay/grazing management because the species is toxic to livestock, and is palatable when dry.	
MG8 *Cynosurus cristatus – Caltha palustris* Grassland	Sward composition: negative indicator species	Record the frequency and % cover of negative indicator species. Record in period May-end of August (before hay cut in meadows). Cirsium arvense, Cirsium vulgare, Rumex crispus, Rumex obtusifolius,Urtica dioica.	No species more than occasional throughout the sward or singly or together more than 5% cover	Invasive species chosen to indicate problems of eutrophication and disturbance from various sources when outside target eg poaching, stock feeding.	Yes

Site-specific standards defining favourable condition					
Criteria feature	**Attribute term in guidance**	**Measure**	**Site-specific Targets**	**Comments**	**Use for CA?**
MG8 *Cynosurus cristatus – Caltha palustris* Grassland	Sward composition: negative indicator species	Record the % cover or frequency of negative indicator species in period May - end of August (before hay cut in meadows). All tree and scrub species excluding Salix repens, considered together. NB If scrub/tree species in pastures are more than occasional throughout the sward but less than 5% cover, they are soon likely to become a problem if grazing levels are not sufficient or if scrub control is not being carried out.	No more than 5% cover.	Invasive species outside target shows that habitat is not being managed sufficiently eg lack of or insufficient grazing/cutting	Yes
M13 *Agrostis stolonifera – Alopecurus geniculatus* grassland & *Agrostis stolonifera – Carex* spp. grassland	Sward structure: bare ground	Record extent of bare ground (not rock) distributed through the sward, visible without disturbing the vegetation, eg from the seasonal effects of flooding. Record in period May - July (before hay cut in meadows). Also record sometimes in aftermath grazing period in hay meadows.	No more than 15% in May-early June or no more than 10% in mid-June-July	Outside target indicates problems with stock management eg poaching, supplementary feeding or excessive flooding.	
M13 *Agrostis stolonifera – Alopecurus geniculatus* grassland & *Agrostis stolonifera – Carex* spp. grassland	Sward structure: litter	Record cover of litter where in a more or less continuous layer, distributed either in patches or in one larger area. Record in period May - July (before hay cut in meadows). Also record sometimes in aftermath grazing period in hay meadows.	Total extent no more than 25% of the sward	Outside target indicates biomass removal is insufficient eg lack of or insufficient grazing or not cut for hay.	
M13 *Agrostis stolonifera –*	Sward structure:	Record sward height in period May - July (before hay cut in	Sward 5 - 15 cm (excluding Juncus spp.)	Sward height above upper target shows that habitat is not being managed	

Site-specific standards defining favourable condition					
Criteria feature	**Attribute term in guidance**	**Measure**	**Site-specific Targets**	**Comments**	**Use for CA?**
Alopecurus geniculatus grassland & *Agrostis stolonifera – Carex* spp. grassland	average height	meadows). Upper target refers to pastures only.		sufficiently eg lack of or insufficient grazing or if below lower target, is being overgrazed.	
M13 *Agrostis stolonifera – Alopecurus geniculatus* grassland & *Agrostis stolonifera – Carex* spp. grassland	Sward composition: positive indicator species	Record the frequency of positive indicator species from the list below to give an overall total of 2 frequent and 2 occasional or locally abundant. Record in period May - July (before hay cut in meadows). Achillea ptarmica, Caltha palustris, Cardamine pratensis, Eleocharis spp., Filipendula ulmaria, Galium palustre/G. uliginosum, Juncus acutiflorus/ J. articulatus/ J. subnodulosus (jointed rushes), Leontodon autumnalis, Lychnis flos-cuculi, Lysimachia nummularia, Mentha aquatica, Myosotis laxa cespitosa/M. scorpioides, Oenanthe fistulosa, Persicaria amphibia, Ranunculus flammula, small blue-green Carex spp. (leaves less than 5mm wide) (C. flacca, C.nigra, C.panicea), Thalictrum flavum.	Overall total of at least two species/taxa frequent plus at least two species/taxa occasional throughout the sward or locally abundant in more than 10% of the sward	Choice of species related to grassland types, restriction to unimproved grassland and wetness characteristics of habitat, all satisfactory when inside target. Among possible species that could be used, choice further restricted by ease of identification, visibility in recording period.	Yes
M13 *Agrostis stolonifera – Alopecurus geniculatus* grassland & *Agrostis stolonifera – Carex* spp. grassland	Sward composition: indicators of waterlogging	Record % cover of Juncus spp, Deschampsia cespitosa,large (leaves more than 5mm wide) Carex spp. (eg Carex acutiformis), large grasses (leaves more than 10mm wide, stout stems) ie Glyceria maxima,	No species/taxa together or singly covering more than 25% of the sward	Species chosen to indicate waterlogging problems when outside target eg from raised water tables.	Yes

Site-specific standards defining favourable condition					
Criteria feature	**Attribute term in guidance**	**Measure**	**Site-specific Targets**	**Comments**	**Use for CA?**
		Phalaris arundinacea, Phragmites australis. Record in period May - July (before hay cut in meadows).			
M13 *Agrostis stolonifera – Alopecurus geniculatus* grassland & *Agrostis stolonifera – Carex* spp. grassland	Sward composition: negative indicator species.	Record the frequency and % cover of negative indicator species. Record in period May - July (before hay cut in meadows). Senecio aquaticus	No more than occasional throughout the sward or more than 5% cover	Outside target can discourage hay/grazing management because the species is toxic to livestock, and is palatable when dry.	
M13 *Agrostis stolonifera – Alopecurus geniculatus* grassland & *Agrostis stolonifera – Carex* spp. grassland	Sward composition: negative indicator species	Record the frequency and % cover of negative indicator species. Record in period May - July (before hay cut in meadows). Cirsium arvense, Cirsium vulgare, Rumex crispus, Rumex obtusifolius,Urtica dioica.	No species more than occasional throughout the sward or singly or together more than 5% cover	Invasive species chosen to indicate problems of eutrophication and disturbance from various sources when outside target eg poaching, stock feeding.	Yes
M13 *Agrostis stolonifera – Alopecurus geniculatus* grassland & *Agrostis stolonifera – Carex* spp. grassland	Sward composition: negative indicator species	Record the % cover or frequency of negative indicator species in period May - July (before hay cut in meadows). All tree and scrub species, considered together. NB If scrub/tree species in pastures are more than occasional throughout the sward but less than 5% cover, they are soon likely to become a problem if grazing levels are not sufficient or if scrub control is not being carried out.	No more than 5% cover.	Invasive species outside target shows that habitat is not being managed sufficiently eg lack of or insufficient grazing/cutting	Yes

Audit Trail
Rationale for species population attributes (Include methods of estimation (measures), and the approximate degree of change which these are capable of detecting).
Rationale for site-specific targets (including any variations from generic guidance)
Other Notes

Table 3a Site-Specific definitions of Favourable Condition

CONSERVATION OBJECTIVE FOR THIS HABITAT / GEOLOGICAL SITE-TYPE	To maintain the **[Fen, Swamp & Marsh]** at **[KING'S SEDGEMOOR]** in favourable condition, with particular reference to relevant specific designated interest features. Favourable condition is defined at this site in terms of the following site-specific standards:
Site-specific details of any geographical variation or limitations (where the favourable condition standards apply)	

Site-specific standards defining favourable condition					
Criteria feature	**Attribute term in guidance**	**Measure**	**Site-specific Targets**	**Comments**	**Use for CA?**
M22 *Juncus subnodulosus – Cirsium palustre* Fen Meadow	Sward structure: bare ground	Record extent of bare ground (not rock) distributed through the sward, visible without disturbing the vegetation, eg from the seasonal effects of flooding. Record in period May - end of August (before hay cut in meadows). Also record sometimes in aftermath grazing period in hay meadows.	M22, M23: No more than 10%		
M22 *Juncus subnodulosus – Cirsium palustre* Fen Meadow	Sward structure: litter	Record cover of litter where in a more or less continuous layer, distributed either in patches or in one larger area. Record in period May - end of August (before hay cut in meadows). Also record sometimes in aftermath grazing period in hay meadows.	Total extent no more than 25% of the sward	Outside target indicates biomass removal is insufficient eg lack of or insufficient grazing or not cut for hay.	

Site-specific standards defining favourable condition					
Criteria feature	**Attribute term in guidance**	**Measure**	**Site-specific Targets**	**Comments**	**Use for CA?**
M22 *Juncus subnodulosus – Cirsium palustre* Fen Meadow	Sward structure: average height	Record sward height in period May - end of August (before hay cut in meadows). Upper target refers to pastures only.	M22, M23 Sward 2 cm or greater (excluding Juncus spp.) but no more than 25% over 40 cm (including Juncus species)		
M22 *Juncus subnodulosus – Cirsium palustre* Fen Meadow	Sward composition: positive indicator species	Record the frequency of positive indicator species from the list below to give an overall total of 2 frequent and 4 occasional or locally abundant. Record in period May - end of August (before hay cut in meadows). Achillea ptarmica, Berula erecta, Caltha palustris, Cardamine pratensis, Cirsium dissectum, Eupatorium cannabinum, Filipendula ulmaria, Galium palustre/G. uliginosum, Geum rivale, Hydrocotyle vulgaris, Lotus pedunculatus, Lychnis flos-cuculi, Mentha aquatica, Orchidaceae spp., Potentilla palustris, Ranunculus flammula, small blue-green Carex spp. (leaves less than 5mm wide) (C. flacca, C.nigra, C.panicea), Succisa pratensis, Thalictrum flavum, Valeriana dioica,Viola palustris.	Overall total of at least two species/taxa frequent plus at least four species/taxa occasional throughout the sward or locally abundant in more than 10% of the sward	Choice of species related to NVC types, restriction to unimproved grassland and wetness characteristics of habitat, all satisfactory when inside target. Among possible species that could be used, choice further restricted by ease of identification, visibility in recording period.	Yes

Site-specific standards defining favourable condition					
Criteria feature	**Attribute term in guidance**	**Measure**	**Site-specific Targets**	**Comments**	**Use for CA?**
M22 *Juncus subnodulosus – Cirsium palustre* Fen Meadow	Sward composition: indicators of waterlogging M22, M23 only	Record % cover of large Carex spp. (leaves more than 5mm wide) eg Carex acutiformis. Record in period May - end of August (before hay cut in meadows).	No species/taxa together or singly covering more than 20% of the sward	Species chosen to indicate waterlogging problems when outside target eg from raised water tables.	Yes
M22 *Juncus subnodulosus – Cirsium palustre* Fen Meadow	Sward composition: indicators of waterlogging M22, M23 only	Record % cover of Deschampsia cespitosa, large grasses (leaves more than 10mm wide, stout stems) ie Glyceria maxima, Phalaris arundinacea, Phragmites australis. Record in period May - end of August (before hay cut in meadows).	No species/taxa together or singly covering more than 10% of the sward	Species chosen to indicate waterlogging problems when outside target eg from raised water tables.	Yes
M22 *Juncus subnodulosus – Cirsium palustre* Fen Meadow	Sward composition: negative indicator species.	Record the % cover of negative indicator species. Record in period May - end of August (before hay cut in meadows). Senecio aquaticus	No species more than occasional throughout the sward or more than 5% cover	Outside target can discourage hay/grazing management because the species is toxic to livestock, and is palatable when dry.	
M22 *Juncus subnodulosus – Cirsium palustre* Fen Meadow	Sward composition: cover of Juncus spp M22, M23 only	Record the % cover of Juncus species from groups A and B. Record in period early June - end of August (before hay cut in meadows). Group A: jointed rushes (Juncus acutiflorus, J. articulatus, J. subnodulosus) Group B: Juncus conglomeratus, J. effusus and J. inflexus.	Species from group A at least occasional throughout the sward. All species combined no more than 80% cover, of which no more than 50% made up of species from Group B	Juncus spp can be characteristic components of the communities. However, increasing cover is indicative of insufficient management by grazing or cutting. Group B species may indicate problems of eutrophication from various sources when outside target eg stock feeding, fertiliser use.	Yes

Site-specific standards defining favourable condition					
Criteria feature	**Attribute term in guidance**	**Measure**	**Site-specific Targets**	**Comments**	**Use for CA?**
M22 *Juncus subnodulosus – Cirsium palustre* Fen Meadow	Sward composition: negative indicator species	Record the frequency and % cover of negative indicator species. Record in period May-end of August (before hay cut in meadows). Cirsium arvense, Cirsium vulgare, Rumex crispus, Rumex obtusifolius,Urtica dioica.	No species more than occasional throughout the sward or singly or together more than 5% cover	Invasive species chosen to indicate problems of eutrophication and disturbance from various sources when outside target eg poaching, stock feeding.	Yes
M22 *Juncus subnodulosus – Cirsium palustre* Fen Meadow	Sward composition: negative indicator species	Record the % cover or frequency of negative indicator species in period May - end of August (before hay cut in meadows). All tree and scrub species excluding Salix repens, considered together. NB If scrub/tree species in pastures are more than occasional throughout the sward but less than 5% cover, they are soon likely to become a problem if grazing levels are not sufficient or if scrub control is not being carried out.	No more than 5% cover.	Invasive species outside target shows that habitat is not being managed sufficiently eg lack of or insufficient grazing/cutting	Yes

Table 3b Site-Specific definitions of Favourable Condition

CONSERVATION OBJECTIVE FOR THIS HABITAT / GEOLOGICAL SITE-TYPE	To maintain the **Ditches** at **KING'S SEDGEMOOR** in favourable condition, with particular reference to relevant specific designated interest features. Favourable condition is defined at this site in terms of the following site-specific standards:
Site-specific details of any geographical variation or limitations (where the favourable condition standards apply)	

Criteria feature	Attribute term in guidance	Measure	Generic Target	Comments	Use for CA?
Ditch systems	**Habitat structure: extent/composition of in-channel vegetation**	Make an assessment for each of the structured walk sub-sections of the percentage (to nearest 5%) of channel length in early, mid and late successional stages. The overall results are the means of the three sets of values.	Mix of early, mid and late succession ditches: 10-25% early 35-75% mid 10-25% late	Characteristic faunal assemblages require a range of successional stages, from open water, through domination by submerged higher plants, to swamp communities. Some open water plant species require early and mid-successional stages, but late succession ditches are important for emergents. Early succession ditches are defined here as those that have been desilted or reprofiled in the same year as the monitoring visit. Late succession ditches have >70% cover of emergents. This may not be apparent if ditch vegetation has been cut in the season of the site visit. The large amount of organic debris and stems under the water will indicate this.	Yes
Ditch systems	**Habitat structure: extent/composition of bankside vegetation**	For each of the structured walk sub-sections, assess the percentage (to nearest 5%) of channel length that is heavily shaded (i.e. over 50% of the channel surface	Where aquatic vegetation is a key feature of the site, no more than 10% of the channel length should be heavily shaded.	Although some bankside shading can provide habitat for some invertebrate species, heavy shading is detrimental to characteristic ditch flora and fauna. It shades out aquatic plants, leading to the loss of plant diversity and vegetated habitat for aquatic invertebrates and vertebrates. Where ditch vegetation is the chief interest (i.e. excluding areas where	Yes

Criteria feature	Attribute term in guidance	Measure	Generic Target	Comments	Use for CA?
		overhung) by coarse ruderal vegetation, scrub or hedges. The overall result is the mean of the values recorded for the sub-sections.		woodland is the key interest) shading should be limited. Ditches may be shaded by vegetation for only half their width, completely shaded for part of the day only, or densely and continuously shaded. Heavy shading (the feature assessed here) is defined as >50% of the ditch surface being overhung by bankside vegetation.	
Ditch systems	**Habitat structure: channel form**	During the structured walk, note variation in ditch profiles and make an estimate of the percentage (to the nearest 5%) of ditch length with trapezoidal and non-trapezoidal cross sections in each sub-section of the route. The overall result is calculated by taking the mean of the figures for the sub-sections.	A range of variation in ditch profiles. If ditches are the only wetland feature, no more than 75% of ditch length with a trapezoidal cross-section. (This target may be adjusted according to the characteristics of the site.)	Shallow, as well as deep water, is important for the maintenance of diverse plant and invertebrate assemblages. The context and traditional management practices of the site should be taken into consideration when deciding on the target for non-trapezoidal ditch length. In a fenland site with ample areas of shallow standing water, trapezoidal ditch profiles may be acceptable. Non-trapezoidal profiles include those where the banks have been trampled by stock, where the ditch has been allowed to silt up but still contains water, or where berms have been constructed. Berm creation is especially desirable in sites where there is little opportunity for extensive stands of emergent vegetation to develop by leaving some ditches unmanaged, where trampling of the banks by stock is limited, or where ditches are the only permanent wetland feature present.	Yes
Ditch systems	**Aquatic vegetation composition: native species richness**	5 to 10 fixed sampling points are established in each ditch. Between mid June and mid August,	Native aquatic flora of ditches species-rich: freshwater ditches - mean at least 7 species per 20m;	If the site is designated for the botanical interest of the ditches, in-channel vegetation should be rich in native plant species. Appendix 2 of the common standards	Yes

Criteria feature	Attribute term in guidance	Measure	Generic Target	Comments	Use for CA?
		record (on DAFOR scale) all native aquatic plant taxa in each 20 m sampling site. Calculate the mean number of species to give the overall result. For fresh and brackish ditches calculate separate means.	brackish ditches - mean at least 5 (only to be applied to sites which are known to have a saline influence)	guidance should be used as a checklist of native aquatic plants (submerged, floating and emergent) when counting the number of species present. Some difficult vascular plant groups (e.g. Utricularia spp., Callitriche spp.), charophytes and mosses need only be identified to genus. Plants are recorded using the DAFOR scale of abundance. This enables trends in relative species abundance to be detected over a series of monitoring cycles, if required. In sites of exceptionally high quality, ditches may contain considerably more species per 20 m length than the target numbers. If this is the case, the mean number of taxa per sample should be used as the target in subsequent monitoring visits. If there is then a decrease of two or more species on average, compared with the initial visit, the condition of the ditch should be graded as unfavourable, even if the generalised target (freshwater: 7, brackish: 5) is met.	
Ditch systems	**Indicators of local distinctiveness: rare species and quality indicators** ***Oenanthe fistulosa Hydrocharis morsus-ranae***	Record for each sub-section of the structured walk the presence of rare aquatic plant species and other species/ communities chosen as 'quality indicators'. Where possible, take note of the size and condition of the	Populations of rare species and other species/ communities characteristic of high quality ditch systems should persist. For Vascular Plants use survey data from the Somerset Rare Plants Group and Somerset Environmental Records Centre as well as survey results by NE staff.	Each statutory site will have its own characteristic aquatic plant flora, varying according to geographical location, history and management regime. The aquatic flora may include internationally or nationally protected, nationally threatened or scarce species and should include other species indicative of high quality ditch systems. All these are listed in Appendix 2 of the CSM. A suite of these species should be selected. Other notable plants mentioned on	Yes

Criteria feature	Attribute term in guidance	Measure	Generic Target	Comments	Use for CA?
		population and the extent of flowering. ***Oenanthe fistulosa Hydrocharis morsus-ranae*** are widespread on the Somerset Levels and are frequent on King's Sedgemoor		the SSSI citation may also be included in the observations, if desired. The monitoring system should be designed to pick up those that are relatively widespread on the site, to check that populations persist. Ditches may also support uncommon characteristic plant communities, the most notable of which are communities containing the following species Spirodela polyrhiza, Hydrocharis morsus-ranae, Stratiotes aloides, Ceratophyllum submersum, Ranunculus baudotii, and the emergents Carex elata and Cladium mariscus. The persistence of these should be confirmed.	
Ditch systems	**Indicators of negative change:** **introduction of or natural colonisation by non-native plants**	For each structured walk sub-section estimate abundance of non-native or introduced aquatic plant species: (a) for each of the four most invasive non-native species (see Appendix 3 of the common standards guidance): separate percentage cover values (b) for all non-native and introduced species: a combined percentage cover value (to the nearest 5%). Occasionally sampling vegetation with a grapnel will be necessary. The overall results (for a and b) are	Mean cover of each very aggressive non-native plant not exceeding 1%. Mean total combined cover of all non-native species and introduced species less than 30%.	Non-native plant invasions may result in gross distortions to aquatic plant communities. The very aggressive *Azolla* spp., *Crassula helmsii* and *Hydrocotyle ranunculoides* can blanket sections of ditch and out-compete native species, resulting in a significant loss in diversity. *Myriophyllum aquaticum* may also have this potential in ditches. A more stringent target may be necessary on large ditch systems. Native plants are able to co-exist somewhat more easily with other non-native species, such as Acorus calamus, Elodea spp. and Lagarosiphon major. The non-native Lemna minuta is not included in this assessment unless it is found to be dominant, because it is very difficult to distinguish from Lemna minor. Where invasive native plants with a restricted natural distribution in the UK (e.g. Stratiotes aloides and Nymphoides peltata) are introduced to a site outside their natural range,	Yes

Criteria feature	Attribute term in guidance	Measure	Generic Target	Comments	Use for CA?
		the mean of the cover values for the sub-sections.		these species should be treated as 'non-native'.	
Ditch systems	**Habitat functioning: water quality a) water clarity**	Along the structured walk note unnatural turbidity or discoloration of water. For each sub-section, record % of the length (to nearest 5%) with clear water, % with slight turbidity/coloration and % with marked turbidity/coloration. The overall result is the mean of each set of figures from the sub-sections.	Water clear or only slightly turbid/discoloured in at least 90% of channel length	Both turbidity and coloration are recorded under this attribute. Blooms of planktonic algae cause reduced water clarity. Ochre deposits in peaty areas can also cause discoloration. Brown coloration of the water in acid peat areas is natural, so should not be regarded as discoloration.	Yes
Ditch systems	**Habitat functioning: water quality b) extent of algal dominance**	For each structured walk sub-section, in freshwater ditches only, estimate % cover of the channel (to nearest 5%) by filamentous algae and *Enteromorpha* species taken together. Occasional sampling of the vegetation by grapnel may be necessary. The overall result is the mean of cover values for the sub-sections.	Mean cover of filamentous macro-algae and *Enteromorpha* not more than 10% (mid June to end August)	The effect of excessive nutrient enrichment is often signified by increased prevalence of algae, either filamentous or planktonic. Algae such as *Enteromorpha* are not good indicators in saline conditions. Charophytes are not included in the group of macro-algae indicative of nutrient enrichment because they need clear water.	Yes
Ditch systems	**Habitat functioning: water quality c) water chemistry**	Water chemistry should be assessed by reference to existing	Total phosphorus <0.1 mg L^{-1}; Biological GQA Class 'a' or 'b'	If water sampling and analysis are carried out routinely on the site or on waters feeding the ditch system these results should be	Yes

Criteria feature	Attribute term in guidance	Measure	Generic Target	Comments	Use for CA?
		Environment Agency monitoring data either for the site or, where this is not available, for the feeding waters.	depending on reach type. In addition, no drop in class from existing situation. Chemical GQA Class 'A' or 'B' depending on reach type. In addition, no drop in class from existing situation	assessed. Total phosphorus levels for groundwater-fed systems should be considerably less than 0.1 mg L-1 consult the national specialist for advice. Further work is being undertaken to develop Dutch ditch water quality modelling work to inform SSSI ditch targets . This work suggests preliminary acceptable phosphorus loads to ditch systems that allows for variations in ditch type. Reference should be made to these loads in setting conservation objectives. Toxic substances are of concern, but there is currently no relevant standard biological monitoring technique or surveillance programme for ditches. For basic parameters (dissolved oxygen, biochemical oxygen demand and total ammonia) a minimum equivalent to biological and chemical GQA classes a/b and A/B respectively should be maintained, with no drop in class.	
Ditch systems	**Habitat functioning: water availability** **There is an agreed water Level Management Plan.**	Ideally, depth gauges should be inserted in ditches at strategic points, including the main feeder. During the structured walk, water levels should be recorded using these gauges and/or by probing ditches with a pole marked in quarter metre intervals.	Characteristic water levels to be maintained. Generally, in wet ditches summer water depth at least 0.5 m in minor ditches and 1 m in major drains. 90% of channel length should reach this target. **Water Management Plan requirements must be followed**	The levels characteristic of the site, in relation to both freeboard and water depth, should be maintained. High water levels are particularly important in spring and early summer for semi-aquatic riparian invertebrates. Except for parts of the ditch system that dry up naturally in the summer or are being allowed to succeed to swamp in a long management rotation or are influenced by tidal flow, a good depth of water should be maintained. If the site is used as a wash, or if ditches within it are used as reservoirs by the drainage authorities or the land manager, periodic flooding or high water	Yes

Criteria feature	Attribute term in guidance	Measure	Generic Target	Comments	Use for CA?
				levels will be encountered. Where there is a Water Level Management Plan for the site, satisfactory implementation of the plan should be included as a target within the conservation objectives.	
Otter populations	Food availability1	EA, local fishery trusts and/or SFCC data	Fish biomass stays within expected natural fluctuations.	1. Accurate information on fish stocks is difficult to obtain according to a recent review of data from England, produced by the Environment Agency (Research and Development Technical Report TR W256, Otters- Fish Prey Availability, Biomass and Sustainability) and may be extremely difficult to interpret. However, there is an obligation to monitor fish communities under the Water Framework Directive and a more comprehensive monitoring system is being instigated by the Environment Protection Agencies.	Yes
Otter populations	Toxic chemicals	Monitoring by relevant Environment Protection Agency. Specialist group to meet at intervals to identify national trends and extract information on individual SACs.	No increase in pollutants potentially toxic to otters.	Liaison between Country Agency Staff and EA/SEPA essential.	Yes
Otter populations	Anthropogenic mortality 2 (Discretionary)	Road and rail casualties. Deaths due to fishing gear etc. Any site where there is a feature causing otter mortality. Data from EA's reporting system. Obtain views from EA on implications of recent data. JNCC otter data on the CITES database.	Otter populations not significantly impacted by human induced kills.	Monitoring this attribute, where appropriate should provide data for installing mitigation.	

INVERTEBRATES

Habitat Type	Surface 1	Surface 2	Surface 3	Surface 4	Surface 5	Surface 6	Surface 7
Wetland: Grazing marsh / levels	**for surfaces - refer to open water and grassland tables**						
Preferred Features							
ditches with fairly shallow water (ca 30cm)		cattle trampled ditch edges		small areas of poaching in wet grassland element with water filled hoof prints and bare wet mud		salinity gradients - brackish ditches and seaward edges of marshes	
at any one time a full cycle of ditch management phases from recently cleaned to choked		emergents with flowers					
flowery areas, including those on other habitats (verges, sea banks, ruderal areas etc) including 'unwelcome' weeds such as ragwort and thistles							
Negative Features							
clearance of all ditches at once with no rotation		steep ditch margins		all ditches deep (> 30cm)		scrub shading ditches	
Invasives: aquatic invasives, parrot's feather *Myriophyllum aquaticum*, New Zealand pygmyweed *Crassula helmsii*, *Hydrocotyle ranunculoides*, floating fern *Azolla* spp, invasive duckweed *Lemna* species							

Water bodies - Ponds, Pools, Ditches, Reens & Lakes							
Habitat Type	**Layer 1 Surface 1**	**Layer 2 Surface 2**	**Layer 3 Surface 3**	**Layer 4 Surface 4**	**Layer 5 Surface 5**	**Layer 6 Surface 6**	**Layer 7 Surface 7**
Water body : Preferred Layers	**Bare substrate or detritus**	Benthic layer	Water Column layer	Water Surface layer	Low emergent layer	High emergent layer	
typical species	Algal mats, sparse higher plants	*Chara spp,*	*Ceratophyllum, Calitriche, Myriophyllum, Potamogeton spp*	*Nuphar, crowfoots Ranunculus etc Glyceria fluitans, Polygonum amphibium*	*Alisma, Ranunculus flammula, Mentha, etc etc Eleocharis*	*Sparganium, Phragmites, Typha, Glyceria maxima Schoenoplectus sp Butomus, Sagittaria*	

Margins : Preferred Surfaces	Wet muds, peats or thin water covered substrates	marginal hygrophilic vegetation - forbs	young to medium-aged scrub - often maintained by rotational coppice	mature scrub, developing wet woodland & wet woodland edge			
typical species	Bare, maybe with algal mats, sparse higher plants	*Lycopus, Scutellaria etc, grazed grassy vegetation*	*marginal Salix spp, Alnus, Frangula*	mature 2.5m + shrubby *Salix, Alnus, Salix* tree spp			
Targets	Which Surfaces and Layers required critically depends on the successional stage required						
	single surface present in no more than 5 out of 10 SRSs						
	>3 different surfaces present in at least 20% of SRSs						
Preferred Features							
(in oligotrophic waters) good benthic vegetation structure	complex structure of submerged vegetation (where appropriate)	areas with high proportion of macrophytes with floating leaves	any emergents with abundant flowers				
small patches of marginal scrub or trees	fallen wood in water	'beach' areas of bare wet sediment					
Negative Features							
steeply shelving banks	deepening of shallow water	excessive stock access to banks	eutrophication characterised by green algal blooms				
addition of large fish (trout & coarse fish) to otherwise fish-free water	removal of fallen timber from water	excessive marginal trees and scrub leading to excess shading >50% of margin					
aquatic and marginal invasive species - *Azolla, Lemna minuta, Crassula, Hydrocotyle* etc etc							

Audit Trail
Rationale for limiting standards to specified parts of the site
Inverts – Tables for 'Water bodies – Ponds, Pools, Ditches, Rhynes & Lakes' has been adapted for the SLM by omitting some of the species in Layers 2 & 4 which do not occur on The Somerset Levels.
Rationale for site-specific targets (including any variations from generic guidance)
Lowland Ditch Systems: Salinity attribute omitted as site has no coastal influences **Lowland Ditch Systems: References.** *The Aquatic Flora of the Somerset Levels and Moors by Wolseley, Palmer & Williams 1994. Somerset Levels and Moors Botanical Survey of Ditches and Rhynes by Andrew Nisbet 2000.*

Rationale for selection of measures of condition (features and attributes for use in condition assessment) **(**The selected vegetation attributes are those considered to most economically define favourable condition at this site for the broad habitat type and any dependent designated species).
Other Notes

Annex