APPENDIX 2 – FAVOURABLE CONDITION TABLES (Source: Natural England, May 2008)

AVON VALLEY SPECIAL PROTECTION AREA AND RAMSAR

RAMSAR DETAILS

Avon Valley (UK11005)		**RAMSAR Area:**	1390.42
Broad category:	Freshwater; Lowland grassland	**Local Authority:**	Dorset; Hampshire
Vulnerabilities:			
Criteria:	Ramsar criterion 1: Diverse range of habitats associated with chalk river , including fen, mire, lowland wet grassland and woodland. Ramsar criterion 2: Diverse assemblage of wetland flora and fauna including nationally-rare species. Ramsar criterion 6: Overwintering Gadwall , Anas strepera strepera, NW Europe		
Physical Loss	Drainage/land-claim for agriculture (data form)		
Physical damage	Disturbance to vegetation through cutting / clearing (data form) Sedimentation/siltation (data form)		
Non physical disturbance	Recreational/tourism disturbance esp to wintering birds (EN and data form)		
Water Table	Water abstraction (data form) Problems with retaining floodwater-summer drying (data form) Reservoir/barrage/dam impact: flow regime (data form)		
Toxic Contamination	Pollution – agricultural fertilisers (data form)		
Non toxic contamination	Pollution – domestic sewage (data form)		
Biological	Introduction/invasion of non-native plant species (data form)		

Disturbance	Vegetation succession (data form)

SPA DETAILS

Avon Valley (UK9011091)		**SPA Area:**	1351.10
Broad Category:	Freshwater; Lowland grassland	**Local Authority:**	Dorset; Hampshire
Vulnerabilities:			

Physical Loss	Drainage/land-claim for agriculture (data form)
Physical damage	Sedimentation/siltation (data form) Reservoir/barrage/dam impact: flow regime (data form)
Non physical disturbance	Recreational/tourism disturbance esp to wintering birds (EN comments)
Water Table	Water abstraction (data form) Problems with retaining floodwater-summer drying (data form)
Toxic Contamination	Agricultural fertilisers (prof judgement)
Non toxic contamination	Domestic sewage (prof judgement)
Biological Disturbance	Introduction/invasion of non-native plant species (prof judgement) Disturbance to vegetation through cutting / clearing (prof judgement) Vegetation succession (data form)
Annex I Birds	Bewick's Swan Cygnus columbianus bewickii
Migratory Species	Gadwall Anas strepera

CHILMARK QUARRIES SPECIAL AREA OF CONSERVATION (SAC)

European Interest: **Bechstein's bat, barbastelle bat, greater horseshoe bat, lesser horseshoe bat**

OBJECTIVE: ***To maintain the site in favourable condition for hibernation by Bechstein's bats, barbastelle bats, greater horseshoe bats, and lesser horseshoe bats.***

FAVOURABLE CONDITION TABLE

Criteria feature	Attribute	Measure	Target	Notes
Bat hibernation site	State of entrance	Size of entrance(s) available to bats	Unobstructed; no unplanned new entrances causing a change to ventilation. No change in size sufficient to affect air-flow and internal temperature.	Needs comparison with previous reports or photographs
	Entrance security	State of security fence (and grilles when present)	Security fence in sound condition. Grilles not present. If installed they should remain in good condition with no evidence of forced entry through or around the grilles and no damage caused by attempts at entry.	Repairs should be effected as soon as practicable.
	External conditions	Presence of vegetation or artificial lighting around entrance.	Vegetation present close to entrance but not obstructing it. No artificial lights shining on entrance.	Depends greatly on history of the site. Significant changes may require management.
	Disturbance	Noise, human activity, unauthorised access	Human access to site controlled and limited; no significant increase since previous visit.	Acceptable limits will depend on what bats have traditionally accepted.
	Internal conditions	Temperature, light level, ventilation.	Cool (6-10_) and dark, once beyond the entrance zone. No significant unplanned change to ventilation or temperature regime. No toxic substances present.	Requires specialist input to provide measurements and to interpret their significance.
	Use by bats	Hibernating bats present in winter	Bats seen on at least 1 occasion per winter	Optional, as requires specialist input. Licence

Criteria feature	Attribute	Measure	Target	Notes
				needed to disturb bats + H&S issues.

Notes

1 These attributes refer only to simple measures of the physical condition of the site and do not attempt to measure the status of the associated bat population. For the latter, specialist input will be required.

2 The variation between hibernation sites and the strong adherence of the bats to their traditional sites makes it difficult to devise attributes that do not refer to the previous condition of the site; this emphasises the importance of keeping file notes on the condition of the site.

3 If condition assessment requires an internal inspection, avoid disturbing bats, particularly between October and March.

Favourable condition table awaited from Natural England.

DORSET HEATHS SPECIAL AREA OF CONSERVATION (SAC), SPECIAL PROTECTION AREA AND RAMSAR

European Interest:

SPECIAL AREA OF CONSERVATION -
North Atlantic wet heaths
European dry heaths
Depression on peat substrates of the *Rhynchosporion*
Annex I – non-primary
Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae)*
Calcareous fens with Cladium mariscus and species of the Caricion Davallianae Alkaline fens
Old acidophilous oak woods with Quercus robur on sandy plains
Annex II – primary
Southern Damselfly *(Coenagrion mercuriale)*
Annex II – non-primary
Great crested newt (*Triturus cristatus)*

SPECIAL PROTECTION AREA
Dartford Warbler
Nightjar
Hen Harrier
Merlin

RAMSAR
Ramsar criterion I:
Particularly good examples of northern Atlantic wet heaths with cross-leaved heath, acid mire with *Rhynchosporian*, southern Atlantic wet heaths with Dorset heath and cross-leaved heath.

Ramsar criterion 2: Supports I nationally rare and 13 nationally scarce wetland plant species and at leat 28 nationally rare wetland invertebrate species.

Ramsar criterion 3: has a high species richness and high ecological diversity of wetland habitat types in one of the most biologically-rich wetland areas of lowland Britain

OBJECTIVE:
To maintain the designated interest features in favourable condition.

Favourable condition table awaited from Natural England.

FONTMELL AND MELBURY DOWNS SPECIAL AREA OF CONSERVATION (SAC)

European Interest:

OBJECTIVE:

Favourable condition table awaited from Natural England.

GREAT YEWS SPECIAL AREA OF CONSERVATION (SAC)

European Interest: ***Taxus baccata* yew woods of the British Isles**

OBJECTIVE: To maintain the **Yew woodland** habitat at this site in favourable condition, with particular reference to relevant specific designated interest featu
Favourable condition is defined at this site in terms of the following site-specific standards

FAVOURABLE CONDITION TABLE

Criteria feature	Attribute	Measure	Site-specific Targets	Comments / notes
Taxus baccata woodland (NVC W13)	Structure and Natural processes	Assess by field survey using structured walk and/or transects.	Understorey (2-5m) present over at least 20% of total stand area (except in parkland). Canopy cover present over 30-90 % of stand area (except in parkland stands). At least three age classes spread across the average life expectancy of the commonest trees. some areas of relatively undisturbed mature/old growth stands or a scatter of large trees allowed to grow to over-maturity/death on site (e.g. a minimum of 10% of the woodland or 5-10 trees per ha). A minimum of 3 fallen lying trees >20 cm diameter per ha and 4 trees per ha allowed to die standing.	Different woodland types will differ in their expected cover in different layers e.g. in beech or oak woods the shrub layer is often sparse. This should be reflected in the tailoring of these targets to particular sites. In coppiced stands a lower canopy cover (of standards) can be accepted, as will also be the case in parkland. More detailed targets for deadwood may be appropriate where this is an important element of the woodland (see section 5.9). Note however that assessment of dead wood targets may be difficult to carry out and caution should be exercised in judging condition for this element.
Taxus baccata woodland (NVC W13)	Composition	Assess by field survey using structured walk and/or transects.	At least 95% of cover in any one layer of site-native or acceptable naturalised species. Minimum levels of particular native tree/shrub species (where important and appropriate – see text) Death, destruction or replacement of native woodland species through effects of	In sites where there might be uncertainty as to what counts as site-native or as acceptable naturalised species this must be made clear (e.g. the position of sycamore). Where cover in any one layer is less than 100% then the 95% target applies to the area actually covered by that layer. Factors leading to the death or replacement of woodland species could include pollution or new

			introduced fauna or other external unnatural factors not more than 10% by number or area in a five year period.	diseases. Damage to species by non-native species that does not lead to their death is not necessarily unacceptable. Excessive browsing/grazing, even by native ungulates, may be undesirable if it causes shifts in the composition/ structure of the stand.
Taxus baccata woodland (NVC W13)	Regeneration potential	Assess by field survey using structured walk and/or transects.	Signs of seedlings growing through to saplings to young trees at sufficient density to maintain canopy density over a 10 yr period (or equivalent regrowth from coppice stumps). No more than 20% of areas regenerated by planting. All planting material of locally native stock No planting in sites where it has not occurred in the last 15 years.	A proportion of gaps at any one time may develop into permanent open space; equally some current permanent open space/glades may in time regenerate to closed canopy. Regeneration may often occur on the edges of woods rather than in gaps within it. The density of regeneration considered sufficient is clearly less in parkland sites than in high forest; in coppice most of the regeneration will be as stump regrowth. The minimum level of regeneration to be acceptable from a nature conservation viewpoint is likely to be much less than that needed where wood production is also an objective.

MELLS VALLEY SPECIAL AREA OF CONSERVATION (SAC)

European Interest:

OBJECTIVE:

Favourable condition table awaited from Natural England.

MENDIP WOODLAND SPECIAL AREA OF CONSERVATION (SAC)

European Interest:

OBJECTIVE:

Criteria feature	Attribute term in guidance	Measure	Generic Target	Comments
Broadleaved, mixed and yew woodland W7, W8 and W10	Habitat extent	Field survey and/or aerial photography, in relation to baseline map.	No loss of ancient semi-natural stands. At least current area of recent semi-natural stands maintained, although their location may alter. No loss of ancient woodland. No reduction in the number of veteran trees.	Different targets may be appropriate, depending on the woodland type (see text). Stand loss due to natural processes e.g. in minimum intervention stands may be acceptable. Stand destruction may occur if the understorey and ground flora are irretrievably damaged even if the canopy remains intact. As a guideline, loss can be defined as at least 0.5 ha or 0.5% of the stand area, whichever is the smaller. 20% canopy cover is conventionally taken as the lower limit for an area to be considered as woodland. Targets for extent may be modified where a target has been set to increase the extent of other habitat features on the site at the expense of woodland

Criteria feature	Attribute term in guidance	Measure	Generic Target	Comments
Broadleaved, mixed and yew woodland W7, W8 and W10	Structure and Natural processes	Assess by field survey using structured walk and/or transects.	Understorey (2-5m) present over at least 20% of total stand area . Canopy cover present over 30-90 % of stand area . At least three age classes spread across the average life expectancy of the commonest trees. Some areas of relatively undisturbed mature/old growth stands or a scatter of large trees allowed to grow to over-maturity/death on site (e.g. a minimum of 10% of the woodland or 5-10 trees per ha). A minimum of 3 fallen lying trees >20 cm diameter per ha and 4 trees per ha allowed to die standing.	Different woodland types will differ in their expected cover in different layers e.g. in beech or oak woods the shrub layer is often sparse. This should be reflected in the tailoring of these targets to particular sites. In coppiced stands a lower canopy cover (of standards) can be accepted, as will also be the case in parkland. More detailed targets for deadwood may be appropriate where this is an important element of the woodland (see section 5.9). Note however that assessment of dead wood targets may be difficult to carry out and caution should be exercised in judging condition for this element.
Broadleaved, mixed and yew woodland W7, W8 and W10	Composition	Assess by field survey using structured walk and/or transects.	At least 95% of cover in any one layer of site-native or acceptable naturalised species. Sycamore and beech are not site native. Death, destruction or replacement of native woodland species through effects of introduced fauna or other external unnatural factors not more than 10% by number or area in a five year period.	In sites where there might be uncertainty as to what counts as site-native or as acceptable naturalised species this must be made clear (e.g. the position of sycamore). Where cover in any one layer is less than 100% then the 95% target applies to the area actually covered by that layer. Factors leading to the death or replacement of woodland species could include pollution or new diseases. Damage to species by non-native species that does not lead to their death is not necessarily unacceptable. Excessive browsing/grazing, even by native ungulates, may be undesirable if it causes shifts in the composition/ structure of the stand.

Criteria feature	Attribute term in guidance	Measure	Generic Target	Comments
Broadleaved, mixed and yew woodland W7, W8 and W10	Indicators of local distinctiveness	Assess by field survey using structured walk and/or transects, or as appropriate to feature.	80% of ground flora cover referable to relevant NVC community Target(s) also to be set to maintain distinctive elements at current extent/levels and/or in current locations, e.g. to maintain important microhabitats (other than dead wood), patches of associated habitats, transitions between habitats, or existing populations of locally notable species (other than trees/shrubs).	This attribute is intended to cover any site-specific aspects of this habitat feature (forming part of the reason for notification) which are not covered adequately by the previous attributes, or by separate guidance (e.g. notified species features). For notable species it is not intended to set a target for detailed species monitoring, rather to provide a rapid indication of presence/ absence and/or approximate extent, allowing for natural fluctuations in population size. Distinctive elements and patches should be marked on maps for ease of checking in the field where possible.
Broadleaved, mixed and yew woodland W7, W8 and W10	Regeneration potential	Assess by field survey using structured walk and/or transects.	Signs of seedlings growing through to saplings to young trees at sufficient density to maintain canopy density over a 10 yr period (or equivalent regrowth from coppice stumps. No planting .	A proportion of gaps at any one time may develop into permanent open space; equally some current permanent open space/glades may in time regenerate to closed canopy. Regeneration may often occur on the edges of woods rather than in gaps within it. The density of regeneration considered sufficient is clearly less in parkland sites than in high forest; in coppice most of the regeneration will be as stump regrowth. The minimum level of regeneration to be acceptable from a nature conservation viewpoint is likely to be much less than that needed where wood production is also an objective.

MONTISSFONT BATS SPECIAL AREA OF CONSERVATION (SAC)

European Interest: Barbastelle bats

OBJECTIVE: To maintain the maternity colonies of Barbastelle bats at Mottisfont Bats 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:

Criteria feature	Attribute term in guidance	Measure	Site-specific Targets	Comments
Maternity colonies of Barbastelle bats.	Presence of bats (only required if it is not possible to count bats by other means)	Undertaken by a licensed bat worker. Annual counts preferable –minimum every 2 years. Assess once in 6 years.	Droppings pile beneath roost, with fresh droppings on top. No decrease in area covered by droppings	Measuring dropping production can give an indication of roost usage.
Maternity colonies of Barbastelle bats.	Woodland site	Extent/location of stands as identified on map. Note age/size class variation within and between stands. Random quadratting in area of roost site noting percentage cover and number of species in understorey. Use woodland guidance to assess % canopy cover and woodland structural diversity. Note if standing dead trees present in site. Random quadratting of gaps and edges in woodland to note and count successful establishment of young stems. Refer to woodland guidance. Note number and position of ponds or streams on OS, phase 1 or site maps.	Woodland maintained in suitable condition for bats with: No loss of ancient semi-natural stands; At least the current level of structural diversity, including understorey; Canopy cover present over 50-90% of area; A minimum of 4 trees per ha allowed to die standing and not removed or cut down; Signs of seedlings growing through at sufficient density to maintain required canopy cover over a 10-year period; No overall loss of open water.	A dense understorey around trees with crevices may be essential in some climatic regimes but less so in others.
Maternity colonies of Barbastelle bats.	Disturbance1	Degree of human activity around the roost area, particularly the access points. Look for public access near roost entrance, proximity to roads/tracks, level of use by people/vehicles etc. Use OS and site maps to note position of existing paths and rides. Baseline level will need to be established at first survey and then there should be no increase in that level thereafter.	No increase since previous visit. No new rights of way, paths or rides close to the roosting area(s) in woodland sites	Acceptable limits will depend on what the bats have traditionally accepted. The variation between sites and the strong adherence of the bats to their traditional sites makes it difficult to devise attributes that do not refer to the previous condition of the site; this emphasises the

Criteria feature	Attribute term in guidance	Measure	Site-specific Targets	Comments
				importance of keeping file notes and on the condition of the site and photographs to allow comparison between assessments.
Maternity colonies of Barbastelle bats.	Site security1	Ability to prevent unauthorised access. External inspection of security features (doors, gates, fences, grilles and any defects noted).	Access to the site under control of the owner/occupier or site secured against unauthorised access.	Unauthorised access refers to non-residential sites. The variation between sites and the strong adherence of the bats to their traditional sites makes it difficult to devise attributes that do not refer to the previous condition of the site; this emphasises the importance of keeping file notes and on the condition of the site and photographs to allow comparison between assessments.

NEW FOREST SPECIAL AREA OF CONSERVATION, SPECIAL PROTECTION AREA AND RAMSAR

European Interest:

SAC

Annex I primary

- Oligotrophic waters containing very few minerals of sandy plains *(Littorelletalia uniflorae)*
- Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or the *Isoeto-Nanojuncetea.*
- Northern Atlantic wet heaths with *Erica tetraliz*
- European dry heaths
- *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae)*
- Depressions on peat substrates of the *Rhynchosporion*
- Atlantic acidophilious beech forests with *Ilex* and sometimes also *Taxus* in the shrublayer *(Quercion robori-petraeae* or Ilici-Fagenion).
- *Asperulo-Fagetum* beech forests
- Old acidophilous oak woods with Quercus robur on sandy plains.
- Bog woodland
- Alluvial forests with *Alnus glutinosa* and Fraxinus excelsior *(Alno-Padion, Alnion incanae, Salicion Albae).*

Annex I non primary

- Transition mires and quaking bogs
- Alkaline Fens

Annex II – primary

- Southern damselfly *Coenagrion mercuriale*
- Stage beetle *Lucanus cervus*

Annex II – non-primary

- Great crested newt *Triturus cristatus.*

SPA

During the breeding season the area regularly supports the;

- Nightjar *(Caprimulgus europaeus)*
- Woodlark (*Lullula arborea)*
- Honey buzzard *(Pernis apivorus)*
- Dartford warbler (*Sylvia undata)*
- Hobby (*Falco subbuteo)*
- Wood warbler

RAMSAR
Criterion 1
Valley mires and wet heaths are found throughout the site and are of outstanding scientific interest. The mires and heaths are within catchments whose uncultivated and undeveloped state buffer the mires against adverse ecological change. This is the largest concentration of intact valle mires of their type in Britain.

Criterion 2
The site supports a diverse assemblage of wetland plants and animals including several nationally rare species. Several species of nationally rare plant are found on the site, as are at least 65 British Red Date book species of invertebrate.

Criterion 3
The mire habitats are of high ecological quality and diversity and have undisturbed transition zones. The invertebrate fauna of the site is important due to the concentration of rare and scare wetland species. The whole site complex, with its examples of semi-natural habitats is essential to the genetic and ecological diversity of southern England.

OBJECTIVE:
SAC
- To maintain, in favourable condition: mires with particular reference to depressions on peat substrates (Rhynchosporion).
- To maintain in favourable condition: transition mires and alkaline fens for southern damselfly
- To restore Alluvial forests and Pasture Woodland from an unfavourable condition to a favourable condition, with particular reference to: beech forests with holly.
- To restore alluvial Forests and Pasture Woodland from an unfavourable condition to a favourable condition, with particular reference to: yew rich lichens and mosses as w acidophilous oak woodlands with pedunculate on sandy plains, Asperulo-Fagetum beech forests, stag beetle

SPA
To maintain in favourable condition, habitats for honey buzzard.
To maintain in favourable condition habitats for nightjar.

RAMSAR
To maintain in favourable condition Mires with particular reference to depressions on peat substrates (Rhynchosporion).

CONSERVATION OBJECTIVE FOR THIS HABITAT / GEOLOGICAL SITE-TYPE	**To maintain the PASTURE WOODLAND at The New Forest 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:**

Criteria feature	Attribute term in guidance	Measure	Site-specific Targets	Comments	Use for CA?
Pasture Woodland NVC: W15, W16, W14, W10/11, W8. Atlantic acidophillous beech, Old acidophillous oak and Asperulo-fagetum beech forests; Invertebrate assemblages – A11 arboreal canopy A21 wood decay F11 unshaded early successional mosaic Non-vascular plants Lichen assemblages in woodpasture & parkland (Special habitat 30) Non-vascular plants Bryophyte(Mosses and liverworts) assemblages in: Western Oceanic woodland	Structure and Natural processes	Assess by field survey using structured walk and / or transects.	No evidence of recent activity (last 5 years) such as felling of native species or tree planting, artificial ground disturbance (other than small insignificant patches), new drainage ditches or their maintenance.	The pasture woodlands are under a minimum intervention management regime except for specific conservation measures (such as holly or selected tree pollarding) restoration works and essential safety works. Therefore we should accept whatever patterns of woodland develop subject to it being composed of native species and the maintenance of certain characteristic elements. Essential safety maintenance should be recorded, and while unavoidable may, if large scale, lead to a part of a unit being considered unfavourable.	Yes
Pasture Woodland NVC: W15, W16, W14, W10/11, W8. Invertebrate assemblage – A11 arboreal canopy A21 wood decay F11 unshaded early successional mosaic	Structure and Natural processes	Assess by field survey using structured walk and / or transects.	Canopy cover present over 20-90 % of stand area (except in parkland stands).	A canopy of less than 20% should be regarded as parkland, and may require restorative action.	
	Composition	Assess by field survey using structured walk and / or transects.	At least 95% of cover in any one layer of site-native species.	The objective is that the pasture woodland should consist predominantly of locally native trees and shrubs, (mainly oak, beech and holly). Scots pine does not count as native to the site.	Yes

Criteria feature	Attribute term in guidance	Measure	Site-specific Targets	Comments	Use for CA?
	Indicators of local distinctiveness	Assess by field survey using structured walk and / or transects.	Anything over 55% of trees greater than 80cm dbh showing severe stress (premature leaf drop) or death attributable to desease or pollution should be treated as unfavourable.	If a unit contains this amount already this should be noted so that further detiorioration or recovery (if he stress is only temporary) can be assessed.	Yes
	Indicators of local distinctiveness	Assess by field survey using structured walk and / or transects.	Deadwood: Favourable when fallen dead wood is classed as average to good.	Good: 1 0r 2 large fallen trees or trunks (>50cm dia) visible, plenty 5-50cm pieces in view. Average: 1 or 2 large pieces, little smaller pieces or only smaller material (5-50cm) in view. Poor: Even small material (5-50cm) scarce. Absent: Nothing >15cm diameter.	Yes
	Indicators of local distinctiveness	Assess by field survey using structured walk and / or transects.	Holly thickets occasional or frequent but not dominant over most of unit (<50% of ground cover).	Shading by excess holly is very detrimental to ancient tree epiphyte communities.	Yes
	Indicators of local distinctiveness	Assess by field survey using structured walk and / or transects.	<10% soil surface poached or trampled	A greater amount may be indicative of over-grazing.	Yes
	Indicators of local distinctiveness	Assess by field survey using structured walk and / or transects.	<10% vegetation heavilly modified, improved or exhibiting disturbed communities attributable to recreational activities.	Includes path gravelling, multiple path creation, etc.	Yes
	Regeneration potential	Assess by field survey using structured walk and/or transects.	At least one native sapling/young tree (>1.5m high, <15cm dbh) (excluding birch) or leader out of reach of grazing anilmals seen within 30 minutes of walking; and both oak and beech contributing at least 10% of the saplings seen. Fallen branch wood present allowing scrub and sapling development.	Regeneration requires only a thin scatter of native species getting through the sapling/young tree phase. Open space for regeneration is unlikely to be lacking in any unit, nor is there likely to be a shortage of seedlings. Damage to young trees from squirrels or deer may threaten the long-term survival of many of them but as long as some are currently present then this attribute is favourable. The presence of fallen branch wood may be a critical factor in promoting regeneration in the protection it provides from grazing animals. Exclude birch regeneration from this assessment as it is not a canopy species	Yes

CONSERVATION **OBJECTIVE FOR THIS HABITAT / GEOLOGICAL SITE-TYPE**	To maintain the **RIVERINE WOODLAND** at The New Forest 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:

Criteria feature	Attribute term in guidance	Measure	Site-specific Targets	Comments	Use for CA?
Riverine Woodland NVC: W7, W8	Structure and Natural processes	Assess by field survey using structured walk and / or transects.	No evidence of recent activity (last 5 years) such as felling of native species or tree planting, artificial ground disturbance (other than small insignificant patches), new drainage ditches or their maintenance.	The aim is that riverine woodland corridors should be subject to minimum intervention once necessary restoration work is completed.	Yes
Riverine Woodland NVC: W7, W8	Structure and Natural processes	Assess by field survey using structured walk and / or transects.	Canopy cover present over 20-90 % of stand area.	A canopy of less than 20% would indicate loss of woodland cover.	
Riverine Woodland NVC: W7, W8	Composition	Assess by field survey using structured walk and / or transects.	At least 95% of cover in any one layer of site-native species.	Stands should be composed of appropriate native species including the ground flora. Species such as Himalayan Balsam are negative indicators.	Yes
Riverine Woodland NVC: W7, W8	Indicators of local distinctiveness	Assess by field survey using structured	Stream dynamics classed as good, medium or poor as appropriate for the site. Generally favourable when classed as good-	Natural stream dynamics must be maintained or restored because of the influence these will have on woodland communities.	Yes

Criteria feature	Attribute term in guidance	Measure	Site-specific Targets	Comments	Use for CA?
		walk and / or transects.	medium. No evidence of pollution. No signs of channel over-deepening. Debris dams, pools and riffles present. Signs of seasonal out of bank flooding. Braided channels present, meanders present. No signs of artificial channels.		
Riverine Woodland NVC: W7, W8	Indicators of local distinctiveness	Assess by field survey using structured walk and / or transects.	Deadwood: Favourable when fallen dead wood is classed as average to good.	Good: 1 0r 2 large fallen trees or trunks (>50cm dia) visible, plenty 5-50cm pieces in view. Average: 1 or 2 large pieces, little smaller pieces or only smaller material (5-50cm) in view. Poor: Even small material (5-50cm) scarce. Absent: Nothing >15cm diameter.	Yes
Riverine Woodland NVC: W7, W8	Indicators of local distinctiveness	Assess by field survey using structured walk and / or transects.	5% dead tress attributable to alder die-back preent.	Alder die-back is a threat to may wet woodland types.	Yes
Riverine Woodland NVC: W7, W8	Indicators of local distinctiveness	Assess by field survey using structured walk and / or transects.	<10% soil surface poached or trampled	A greater amount may be indicative of over-grazing.	Yes
Riverine Woodland NVC: W7, W8	Indicators of local distinctiveness	Assess by field survey using structured walk and / or transects.	<10% vegetation heavilly modified, improved or exhibiting disturbed communities attributable to recreational activities.	Includes path gravelling, multiple path creation, camping etc.	Yes
Riverine Woodland NVC: W7, W8	Regeneration potential	Assess by field survey using structured walk and/or transects.	At least one native sapling/young tree (>1.5m high, <15cm dbh) or leader out of reach of grazing anilmals seen within 30 minutes of walking. Fallen branch wood present allowing scrub and sapling development.	Regeneration requires only a thin scatter of native species getting through the sapling/young tree phase. Open space for regeneration is unlikely to be lacking in any unit, nor is there likely to be a shortage of seedlings. Damage to young trees from squirrels or deer may threaten the long-term survival of many of them but as long as some are present this attribute is favourable. The presence of fallen branch wood may be a critical factor in promoting regeneration in the protection it provides from grazing animals.	Yes

CONSERVATION **OBJECTIVE FOR THIS HABITAT / GEOLOGICAL SITE-TYPE**	To maintain the **BOG WOODLAND** at **The New Forest** 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:

Criteria feature	Attribute term in guidance	Measure	Site-specific Targets	Comments	Use for CA?
Bog Woodland W4	Structure and Natural processes	Assess by field survey using structured walk and / or transects.	No evidence of recent activity (last 5 years) such as felling of native species or tree planting, artificial ground disturbance (other than small insignificant patches), new drainage ditches or their maintenance.	The aim is that bog woodland should be subject to non-intervention once necessary restoration work is completed.	Yes
Bog Woodland W4	Composition	Assess by field survey using structured walk and / or transects.	At least 95% of cover in any one layer of site-native species.	Stands should be composed of appropriate native species including the ground flora. Scots pine is not native.	Yes
Bog Woodland W4	Composition	Assess by field survey using structured walk and / or transects.	Sallow and alder are dominant in the canopy; <5% cover of birch.	Old growth bog woodland should consist largely of alder and sallow, though other native species (eg birch) may be present.	Yes
Bog Woodland W4		Assess by field survey using structured walk and / or transects.			
Bog Woodland W4	Regeneration potential	Assess by field survey using structured walk and / or transects.	No expanse of woodland cover at expense of the mire as evidenced by sapling spread beyond tree canopy.	Regeneration of bog wooodland will occur through gaps in the woodland canopy. Secondary spread of saplings over he mire may indicate a problem with the mire if they survive through to young trees.	Yes
Bog Woodland	Indicators of local distinctiveness	Assess by field survey using structured walk and / or transects.	Consistently high water levels all year , with quaking or at least soft wet surface.	Drainage will rapidly destroy the interest and encourage the spread of Myrica gale.	Yes
Bog Woodland	Indicators of local distinctiveness	Assess by field survey using structured walk and / or transects.	Sphagnum cover of at least 10%, Molinia < 75% cover Myrica gale < 50% cover	Grazing is an important tool, controlling Molinia and encouraging a diverse flora.	Yes

CONSERVATION **OBJECTIVE FOR THIS HABITAT / GEOLOGICAL SITE-TYPE**	To maintain the **WET HEATH** at The New Forest 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:

Criteria feature	Attribute term in guidance	Measure	Site-specific Targets	Comments	Use for CA?
Lowland wet heathland *H5, M14, M15, M16. Also includes H3, H4, M21 with Erica ciliaris Non-vascular plants Bryophyte(Mosses and liverworts) assemblages Lowland heath	Vegetation structure: growth phase composition for ericaceous spp.	Visual assessment of cover, using structured walk or transects	Presence of heather in all stages of growth.	No one growth form should be dominant.Annual variation and succession should be accounted for within the targets. This attribute should be assessed only where it is possible to differentiate the growth phases.	
Lowland wet heathland *H5, M14, M15, M16. Also includes H3, H4, M21 with Erica ciliaris	Bare ground (%)	Visual assessment of cover, using structured walk or transects	At least 1% but not more than 10% cover of the area of the feature should consist of muddy exposed bare ground	Bare ground should form a patchwork with vegetation and be present mainly in south-facing slopes. Exclude rock, stone, litter or bryophyte/lichen mats or heavily trampled soil.	Yes
Lowland wet heathland *H5, M14, M15, M16. Also includes H3, H4, M21 with Erica ciliaris	Indicators of local distinctiveness: e.g. transitions, pools or notable species. Discretionary attribute – for any site-specific quality indicators not considered above	As appropriate to feature.	Targets to be set to maintain distinctive elements at current extent/levels and/or in current locations, e.g. (to maintain transitions between habitats), or to maintain existing populations of notable species.	This attribute is intended to cover any site-specific aspects of this habitat feature (forming part of the reason for notification) which are not covered adequately by the other attributes, or by separate guidance e.g. for notified species features. For notable species (vascular plants) it is not intended to set a target for detailed species monitoring, rather to provide a rapid indication of presence/ absence and/or approximate extent, allowing for natural fluctuations in population size.	
Lowland wet heathland *H5, M14, M15, M16. Also includes H3,	Vegetation composition: bryophytes and lichens	Visual assessment of cover, using structured walk or transects	>10% cover of Sphagna (if naturally present)>5% cover of lichens (if naturally present)	Not applicable on all sites.	

Criteria feature	Attribute term in guidance	Measure	Site-specific Targets	Comments	Use for CA?
H4, M21 with Erica ciliaris					
Lowland wet heathland *H5, M14, M15, M16. Also includes H3, H4, M21 with Erica ciliaris	Negative indicators: Species	Visual assessment	<10% Ulex europaeus	Species in this list may be beneficial for a range of invertebrates and only become indicators of negative quality if they are over the established limit.	Yes
Lowland wet heathland *H5, M14, M15, M16. Also includes H3, H4, M21 with Erica ciliaris	Vegetation composition: dwarf shrubs	Visual assessment of cover, using structured walk or transects	At least two species of dwarf shrubs present and at least frequent.Dwarf-shrubs include: Calluna vulgaris, Erica ciliaris, E. cinerea, E. tetralix, E. vagans, Ulex gallii, U. minor, Vaccinium spp.	In naturally species-poor sites the presence of just one dwarf-shrub species may be enough to meet the target. For species-rich sites a higher target may be appropriate (see text).	Yes
Lowland wet heathland *H5, M14, M15, M16. Also includes H3, H4, M21 with Erica ciliaris	Vegetation structure: % cover of dwarf shrubs	Visual assessment of cover, using structured walk or transects	Dwarf shrub cover 25-90% (see section 10.4)Dwarf-shrubs include: Calluna vulgaris, Erica ciliaris, E. cinerea, E. tetralix, E. vagans, Ulex gallii, U. minor, Vaccinium spp.	Assess over whole feature. Annual variation and succession should be accounted for within the targets.	Yes
Lowland wet heathland *H5, M14, M15, M16. Also includes H3, H4, M21 with Erica ciliaris	Vegetation composition: graminoids	Visual assessment of cover, using structured walk or transects	At least 1 species at least frequent and 2 species at least occasional throughout the sward; Graminoids include: Carex panicea, Carex pulicaris, Eleocharis spp., Eriophorum angustifolium, Juncus acutiflorus, Juncus articulatus, Molinia caerulea, Rhynchospora alba, Schoenus nigricans, Trichophorum cespitosum.	Molinia no more than occasional and Schoenus at least occasional when naturally present. In naturally species-poor sites, the presence of just one graminoid species may be enough to meet the target. For species-rich sites a higher target may be appropriate (see text).	Yes
Lowland wet heathland *H5, M14, M15, M16. Also includes H3, H4, M21 with Erica ciliaris	Vegetation composition: desirable forbs	Visual assessment of cover, using structured walk or transects	At least 2 species at least occasional throughout the sward Desirable forbs include: Anagallis tenella, Drosera spp., Galium saxatile, Genista anglica, Myrica gale, Narthecium ossifragum, Pinguicula spp., Polygala	In naturally species-poor sites, the presence of just one forb species may be enough to meet the target. For species-rich sites a higher target may be appropriate (see text).	

Criteria feature	Attribute term in guidance	Measure	Site-specific Targets	Comments	Use for CA?
			serpyllifolia, Potentilla erecta, Serratula tinctoria, Succisa pratensis.		
Lowland wet heathland *H5, M14, M15, M16. Also includes H3, H4, M21 with Erica ciliaris	Indicators of local distinctiveness: e.g. transitions, pools or notable species. Discretionary attribute – for any site-specific quality indicators not considered above	As appropriate to feature.	Targets to be set to maintain distinctive elements at current extent/levels and/or in current locations, e.g. to maintain transitions between habitats, (or to maintain existing populations of notable species).	This attribute is intended to cover any site-specific aspects of this habitat feature (forming part of the reason for notification) which are not covered adequately by the other attributes, or by separate guidance e.g. for notified species features. For notable species (vascular plants) it is not intended to set a target for detailed species monitoring, rather to provide a rapid indication of presence/ absence and/or approximate extent, allowing for natural fluctuations in population size.	
Lowland wet heathland *H5, M14, M15, M16. Also includes H3, H4, M21 with Erica ciliaris	Negative indicators: Species	Visual assessment, using structured walk or transects	<1% exotic species Negative indicators – exotics include: Rhododendron ponticum, Gaultheria shallon, Fallopia japonica.	Exotic species should be eradicated if possible.	Yes
Lowland wet heathland *H5, M14, M15, M16. Also includes H3, H4, M21 with Erica ciliaris	Negative indicators: Species	Visual assessment	<5% bracken (dense canopy)	Species in this list may be beneficial for a range of invertebrates and only become indicators of negative quality if they are over the established limit.	Yes
Lowland wet heathland *H5, M14, M15, M16. Also includes H3, H4, M21 with Erica ciliaris	Negative indicators: Species	Visual assessment of cover, using structured walk or transects	Acrocarpous mosses < occasional	Species in this list may be beneficial for a range of invertebrates and only become indicators of negative quality if they are over the established limit.	Yes
Lowland wet heathland *H5, M14, M15, M16. Also includes H3, H4, M21 with Erica ciliaris	Negative indicators: Species	Visual assessment	< 1 % ragwort, nettle, thistles and other herbaceous spp Negative indicators – other herbaceous spp include: Apium nodiflorum, Cirsium arvense, Digitalis purpurea, Epilobium spp. (excl. E. palustre), Glyceria fluitans, Juncus	Species in this list may be beneficial for a range of invertebrates and only become indicators of negative quality if they are over the established limit.	Yes

Criteria feature	Attribute term in guidance	Measure	Site-specific Targets	Comments	Use for CA?
			effusus, J. squarrosus, Oenanthe crocata, Phragmites spp., Ranunculus repens, Fallopia japonica, Senecio jacobaea, Rumex obtusifolius, Typha spp., Urtica spp.		
Lowland wet heathland *H5, M14, M15, M16. Also includes H3, H4, M21 with Erica ciliaris	Negative indicators: Species	Visual assessment	< 10% trees & scrub Tree and scrub spp include: Alnus glutinosa, Betula spp., Pinus spp., Prunus spinosa, Quercus spp., Rubus spp., Salix spp..	Up to 25% scrub cover can be accepted if indicated in conservation objectives or management plan.	Yes
Lowland wet heathland *H5, M14, M15, M16. Also includes H3, H4, M21 with Erica ciliaris	Negative indicators: signs of disturbance	Visual assessment, using structured walk or transects	<1% of habitat showing signs of trampling/paths	See text for further details of overgrazing indicators.Burning should be carried out in a controlled manner on a 10-20 year cycle.	Yes
Lowland wet heathland *H5, M14, M15, M16. Also includes H3, H4, M21 with Erica ciliaris	Negative indicators: signs of disturbance	Visual assessment, using structured walk or transects	No silt or leachate	See text for further details of overgrazing indicators.	Yes
Lowland wet heathland *H5, M14, M15, M16. Also includes H3, H4, M21 with Erica ciliaris	Negative indicators: signs of disturbance	Visual assessment, using structured walk or transects	No artificial drains	Drains can adversely affect hydrology	Yes

CONSERVATION **OBJECTIVE FOR THIS HABITAT / GEOLOGICAL SITE-TYPE**	To maintain the **FEN, MARSH SWAMP (MIRES & BOGS)** at The New Forest 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:

Criteria feature	Attribute term in guidance	Measure	Site-specific Targets	Comments	Use for CA?
Lowland fens (including basin, flood-plain, open-water transition and valley fens, springs and flushes): M1, M6, M9, M10, M14, M21, M29, S1-28, W5 Invertebrate assemblages of Wetland W31 permanent wet mire Non-vascular plants Bryophyte(Mosses and liverworts) assemblages Mires	Habitat structure	Visual estimate of % cover.	Total extent of bare ground across the area assessed should be no more than 10%. Higher covers of between 5% (min.) and 25% (max.)_should be considered for those communities listed under comments.	A high frequency and cover of exposed substrate will usually be undesirable and may indicate, inter alia, over-grazing, and water scour. Patches of exposed substrate are likely to be more typical/desirable for M10, 14, 37, S1-23 and some examples of M1and M6. M29 is often based on unconsolidated sloppy peat exposed beneath a water film. More than 25% litter cover indicates insufficient removal of biomass by grazing.	YES
Lowland fens (including basin, flood-plain, open-water transition and valley fens, springs and flushes): M1-6, M9, M10, M13, M14, M21-29, M32, M35-37, S1-28, W1-7.	Habitat composition	Use Westerhoff & Clarke baseline map to judge extents. Aerial photographs can offer a convenient means of rapidly assessing extent in some cases.	No loss of component wetland features including bog pools, valley mires (fens), seepage mires, soakways, poor fen, moorgrass mires, marl flushes and transition mires. Loss includes that apparent from artificial drainage channels or grips displaying nick points and headward erosion with loss of peat. At transitions no significantly eroded peat and exposed gravels.	Water levels should be consistently high all year with quaking or at least wet surface. There should be natural channels with water levels at or above surface on bigger mires. Open bog pools with standing water in mires >5ha area.	YES
Lowland fens (including basin, flood-plain, open-water transition and valley fens, springs and flushes): M1-6, M9, M10, M13, M14, M21-29, M32, M35-37, S1-28, W1-7.	Vegetation composition: positive indicators	Visual assessment of cover, using structured walk or transects and recording quadrats.	At least 3 of the following species frequent and a further 3 at least occasional:	The suite of key communities to be monitored is chosen on a site-specific basis. Characteristic and rare communities would be chosen, e.g. those indicative of Annex I habitat types where these are SAC interests (although note that these must be reported on separately). Site-specific targets should be set using Table 5 as a framework. See text (section 3.5) for examples of instances where this	YES

Criteria feature	Attribute term in guidance	Measure	Site-specific Targets	Comments	Use for CA?
				attribute is critical.	
Lowland fens (including basin, flood-plain, open-water transition and valley fens, springs and flushes): M1-6, M9, M10, M13, M14, M21-29, M32, M35-37, S1-28, W1-7.	Vegetation composition: positive indicators	Visual assessment of cover, using structured walk or transects and recording quadrats.	Spahgnum (and or brown mosses) cover at least 10%. No one species dominant to the exclusion of all others. Molinia less than 75% cover. Myrica gale less than 50% cover.		YES
Lowland fens (including basin, flood-plain, open-water transition and valley fens, springs and flushes): M1-6, M9, M10, M13, M14, M21-29, M32, M35-37, S1-28, W1-7.	Vegetation composition: indicators of negative change - undesirable non-woody species	Visual assessment of cover, using structured walk or transects and recording quadrats	<1% cover Rhododendron spp. Rubus fruticosus, Ulex europaeus rare or absent. <1% cover Pinus or Betula spp.	(a) Invasive non-native species[1] should be absent, or no more than rare if present . These species are all indicative of drainage.	YES
Lowland fens (including basin, flood-plain, open-water transition and valley fens, springs and flushes): M1-6, M9, M10, M13, M14, M21-29, M32, M35-37, S1-28, W1-7.	Vegetation composition: indicators of negative change - woody species	Visual assessment of cover of the whole feature, using structured walk or transects. Aerial photography may be a useful aid though will not pick up small saplings and seedlings.	As a generic target for open fen (excluding wet woodland), woody species (including Betula, Salix, Rhododendron, Pinus, other gymnosperms) should be no more than scattered, predominantly <1.5m high. Cover should be <10% on open fen Saplings/seedlings should be no more than rare. None of these species should be present on flushes & springs, although Salix is acceptable at least 5m from petrifying springs.	Scrub and woodland are integral components of many fen systems and may be particularly important for invertebrates. However invasion by woody species and their development to maturity may indicate drying out, dereliction, disturbance and/or enrichment for both fen. Trees and shrubs may also exacerbate drying out.	YES

Feature	Attributes	Targets	Method of assessment	Comments	

Feature	Attributes	Targets	Method of assessment	Comments	
Great crested newt - Triturus cristatus Permanent ponds / associated scrub	Eggs	Present in all or sample[1] breeding ponds[2] at least once every 4 years. (i.e. acceptable for eggs to be absent from individual ponds 3 years out of 4; fail if any breeding pond lacks eggs for 4 years)	Record presence by one day or night visit Mid-March – Mid-May. Survey for 4 consecutive years within 6 year reporting cycle. 1 visit per assessment year required.	Eggs normally laid starting mid-February (southern England) but increasing numbers present (and therefore easier to find) through spring. Best to combine with visit for adult attribute.	
Great crested newt - Triturus cristatus	Adults	At least 20% of peak[3] count for 4 consecutive years (i.e. fail if total falls below 20% of peak for 4 consecutive years).	Record sum total of number of adults detected in all or sample[1] ponds in spring. Record for 4 consecutive years within each 6 year reporting cycle. 3 visits per year required. Timing based on known peak season for the area, and in-year weather conditions; likely to be Mid-April to Mid-May in central areas. Derive peak by summing counts across site on "best" night for each season.	Considerable between-year variation is frequent; see Overview.	
Permanent ponds / associated scrub	Presence of ponds (permanent and temporary)	Give minimum figure, to be selected on site basis. No net loss of ponds from date of designation.	Record number of ponds present. Record once every 3 years. Any time of year.	Ponds to include breeding ponds as well as non-breeding ponds, since the latter may be used for foraging or for sustaining prey populations. In exceptional cases, a net loss may be acceptable if enhancements are made to remaining ponds.	
Great crested newt - Triturus cristatus	Aquatic macrophyte cover	"Good" cover of marginal vegetation, emergent, submerged and/or floating vegetation to be present in at least 50% of breeding ponds.	Visual assessment between May and mid-September. Record for 4 consecutive years within each 6 year reporting cycle. 1 visit per year required. "Good" defined as: • 25% - 100% of margin covered by marginal and emergent species, and • 25% - 75% of pond bottom/ midwater/ surface covered by submerged or floating species.	This attribute allows for considerable variation in aquatic vegetation, but should prohibit a majority of ponds becoming overgrown, or suffering severe macrophyte die-back. Short-term algal blooms and duckweed *Lemna* coverage not normally problematic. Attribute should also serve as a proxy for detecting eutrophication, toxic spills, catastrophic reduction in invertebrate community, or underlying water quality issues; however if other evidence confirms one of these is a serious problem in >50% of ponds and the vegetation cover measures are nonetheless acceptable, then the attribute should fail.	

Feature	Attributes	Targets	Method of assessment	Comments	
Great crested newt - Triturus cristatus Permanent ponds / associated scrub	Pond persistence	Generic target for most sites: Minimum summer water depth 10cm for at least 50% of all or sample[1] breeding ponds on each year of assessment. Note: the target may be adjusted downwards at sites where early desiccation is a natural feature (eg sand dunes, with many small, shallow ponds in close proximity) and where previous records demonstrate this is consistent with population viability. Target may be adjusted upwards at sites supporting ponds that do not normally dry out in summer.	Record approximate depth of water in identified breeding ponds between mid-August and mid-September. Visual assessment is suitable. Record once every 3 years.	High inter-site variation. Note the requirement for setting site-specific objectives with deviation from the standard target at sites where ponds naturally desiccate more frequently and earlier in the season without negatively affecting population viability. Target setting may require examination of historical site records and weather conditions to assess normal desiccation pattern.	
Great crested newt - Triturus cristatus	Pond shading by scrub/trees	Sites with <20 breeding ponds: <25% of breeding ponds to have >20% of southern margin solidly shaded. Sites with >20 breeding ponds: Use above target in most cases, but if the habitat type and previous newt monitoring suggest a higher extent of shading is acceptable, <50% of breeding ponds to have >20% of southern margin solidly shaded.	Visual assessment of extent and orientation of pond margin solidly shaded by scrub/trees directly overhanging or adjacent to margin (not floating or emergent macrophytes). Assess April to June. Record once every 3 years. Shade should only be counted if relatively solid (and therefore likely to cause lower light levels and lower water temperatures).	Shading of southern margin is detrimental. Some shading of northern margin is often beneficial. Note that site context is important to consider (eg woodland sites should have higher threshold for shading than sand dune sites).	
Lucanus cervus – stag beetle		Quality of the appropriate habitat, including breeding and foraging habitat See section 3 on indirect monitoring Mapped	No more than 25% reduction from baseline in core habitat area or abundance of foodplant *where the ecology is sufficiently fully understood for this to be meaningfully surveyed*. No Baseline!	For most species information may be available from invertebrate specialist support staff Survey carried out by HWT 2000? indicated that the species is more common on habitats adjacent to the Forest.	

PORTON DOWN SPECIAL PROTECTION AREA (SPA)

European Interest: **Stone-curlew** *Burhinus oedicnemus*

OBJECTIVE: ***T***o maintain in favourable condition the habitats for the **internationally important populations of the regularly occurring Annex 1 bird species Stone curlew (*Burhinus oedicnemus*),** under the Birds Directive, with particular reference to:

FAVOURABLE CONDITION TABLE

Operational Feature	Criteria Feature	Attribute	Measure	Target	Comments
Semi-natural chalk grassland	Internationally important Annex 1 species	Food availability	Abundance on invertebrates from soil and dung	Presence and abundance of prey should not deviate significantly from an established baseline, subject to natural change.	Including beetles, grasshoppers, flies, earthworm, snails, slugs.
		Vegetation cover/density	Open stony ground with sparse vegetation and bare soil (nesting and feeding)	Unrestricted views over 200m with vegetation of < 2cm tall and approximately <30% overall. <10cm (feeding).	Breeding habitat maintained by rabbit grazing.
		Vegetation height	Short to medium	Dense vegetation of 10-30cm locally frequent within roosting areas.	

PRESCOMBE DOWN SPECIAL AREA OF CONSERVATION (SAC)

EUROPEAN INTERST: Semi-natural dry grasslands and scrubland facies; on calcareous substrates (*Fesuco-Brometalia),* Early gentian, Marsh Fritillary butterfly

OBJECTIVE: Maintain the unimproved calcareous grassland of the site in favourable condition with particular reference to early gentian *(Gentianella anglica)* and the *Festuca ovina- Helictotrichon pratense* grassland sub comm: *Succisa pratensis-Leucanthemum vulgare(CG2b) Holcus lanatus- Trifolium repens (CG2c)* grassland type.

No favourable condition data available on Early Gentian and Marsh Fritillary butterfly.

FAVOURABLE CONDITION TABLE

Operational Feature	Criteria Feature	Attribute	Measure	Target	Comments
Unimproved calcareous grassland	CG2	*Extent	Total area NNR 39 ha, plus an additional 8.5 ha on the SSSI. Taken from Chalk Grassland survey 1989/90	No reduction in area and any consequent fragmentation without prior consent	Recoverable reduction = unfavourable; non-recoverable reduction = partially destroyed. Excludes bare ground associated with rabbit warrens (see below).
		*Sward composition: positive indicator species	Record the frequency of positive indicator species in period May- July. *Anthyllis vulneraria, Asperula cynanchica, Campanula glomerata, Cirsium acaule, Filipendula vulgaris, Gentianella spp., Helianthemum nummularium, Hippocrepis comosa, Leontodon hispidus/L. saxatilis, Leucanthemum vulgare, Linum catharticum, Lotus corniculatus, Pilosella officinarum (Hieracium pilosella), Plantago media, Polygala* spp.*, Primula veris, Sanguisorba minor, Scabiosa columbaria, Serratula*	**For the NNR** At least seven species/taxa **frequent** plus at least three species/taxa **occasional** throughout the sward. **For the SSSI** At least four species/taxa **frequent** plus at least three 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. NNR has higher density and variety of herbs than SSSI, hence the higher attributes for presence of species.

Operational Feature	Criteria Feature	Attribute	Measure	Target	Comments
			tinctoria, Succisa pratensis, Thymus spp.		
		*Sward composition: grass/herb ratio	Proportion of non-Graminae ("herbs"), in period May -July.	**40-90%** NNR 65 - 90% SSSI 40 - 90%	Low proportion outside target indicates eutrophication, usually from fertilisers, or insufficient removal of biomass, leading to dominance by grasses.
		*Sward composition: negative indicator species	Record % cover of *Brachypodium pinnatum* and *Bromopsis erecta,* in period May-July.	Neither species at more than **5%** cover	Outside target indicates insufficient removal of biomass eg under-grazing.
		*Sward composition: negative indicator species	Record the frequency and % cover of negative indicator species. Record in period May-July. *Cirsium arvense*, *Cirsium vulgare*, *Rumex crispus, Rumex obtusifolius, Senecio jacobaea, Urtica dioica.*	No species/taxa 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.
		*Sward composition: negative indicator species	Record the frequency and % cover of all tree and scrub species excluding *Juniperus communis*, considered together, in period May-July. NB If scrub/tree species 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. Scrub only found on north end of NNR (unit 1).	Invasive species outside target shows that habitat is not being managed sufficiently eg under-grazed.
		Sward structure: average height	Record sward height in period May-July.	Sward **2-10** cms. NNR 2- 8 cms	Outside target indicates insufficient grazing or over-grazing.
		Sward structure: litter	Record cover of litter where in a more or less continuous layer, distributed either in patches or in one larger area, in period May-July.	Total extent no more than **15%** of the sward	Outside target indicates biomass removal is insufficient eg under-grazed.
		Sward structure:	Record extent of bare ground (not	No more than **10%**.	Outside target indicates

Operational Feature	Criteria Feature	Attribute	Measure	Target	Comments
		bare ground	rock) distributed through the sward, visible without disturbing the vegetation, in period May-July.		management problems eg over-grazing.
		Sward structure: localized bare ground	Record extent of localized bare ground around rabbit warrens.	No more than **0.05** ha ie approximately 20x20 metres	Outside target indicates rabbit grazing and disturbance levels are too high.

RIVER AVON SPECIAL AREA OF CONSERVATION (SAC)

EUROPEAN INTERST: Water courses to plain to montane levels with Ranunculion fluitantis and Callitricho-Batrachion vegetation. Desmoulin's whorl snail *(Vertigo moulinsiana),* Atlantic Salmon *(Salmo salar),* Bullhead *(Cottus gobio),* Sea lamprey *(Petromyzon marinus) and* Brook lamprey *(Lampetra planeri*

OBJECTIVE: The conservation objectives for the European interests on the SSSI are:
subject to natural change to maintain*, in favourable condition
- the river habitat: Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation
- the river as a habitat for:
    - populations of Atlantic salmon (*Salmo salar*) and bullhead (*Cottus gobio*)
    - populations of brook lamprey (*Lampetra planeri*) and sea lamprey (*Petromyzon marinus*)

and the river and adjoining land as habitat for:

- populations of Desmoulin's whorl snail (*Vertigo moulinsiana*)

* maintenance implies restoration, if the feature is not in favourable condition.

The Conservation Objectives for the River Avon SAC are, in accordance with para C 10 of PPG 9, the reasons for which the SAC was classified/designated.

Other component SSSIs within the River Avon SAC:
- Jones Mill
- Porton Meadows
- Lower Woodford Water Meadows

Characteristics of the River Avon System

The River Avon System is almost entirely semi-natural in character, having been managed over centuries for agricultural, industrial and sporting purposes. The Upper Avon, Wylye and Bourne are primarily "chalk stream" in character, while the Nadder is naturally flashier, being derived from a clay and sandstone catchment and the Dockens Water (the least modified part of the system) runs off the New Forest gravels. The river system is relatively low energy, with erosive patterns only evident in the lower reaches. It is thought that natural erosion in the upper reaches has been contained over centuries by bank reinforcement and manipulation of flows; however there is less history of this activity in the Lower Avon.

The significant modifications to the rivers have been

- the creation and manipulation (including bank stabilisation) of a network of channels across the river valleys to feed water meadows and mills (south of Ringwood water meadow systems are replaced by grazing marsh systems, still with a network of channels and ditches)
- manipulation of flows using an elaborate system of hatches, sluices and weirs (affecting the whole channel network)
- management of in-channel and marginal vegetation, primarily for fishing purposes
- removal of woodland
- conversion of swamp and fen habitats to agriculture (including pasture)
- abstraction of ground water for agricultural and public water supply
- fishery management including stocking, weed cutting and manipulation of wild populations (especially for control of coarse fish in the chalk stream reaches)
- built development
- disposal of waste products (e.g. sewage)
- water-cress farming using the headwater springs

Changes in agricultural practice post WW2 impacting on the river systems are

- substantial widening and deepening of the river channels for agricultural drainage and flood relief (this has resulted in the river becoming functionally separate from the flood plain in places, in particular on the Wylye
- intensified grazing management adjacent to the rivers, especially north of Salisbury, leading to bank erosion
- conversion of river valley pastures to arable or improved grassland, exacerbating the requirement for drainage and increasing runoff
- development of intensive fish farms
- intensification of arable cultivation in the wider catchment, increasing erosion of soils and siltation of the river

The Avon System is considered to be one of the most biodiverse in lowland Britain, with exceptionally rich flora, fish and invertebrate fauna. There is concern that the cumulative impacts of increasingly intensive land use are causing problems of reduced water quality and flow which, especially where combined with insensitive engineering and/or management are significantly affecting the ecology. External factors such as deep sea salmon fishing and water resource on a regional basis are impacting on the ecology. At present the most directly influential factor on the Upper Avon is salmonid fishery management (including bank stabilisation, fish stocking, control of predators/competitors, weed cutting and bank vegetation cutting). On the lower Avon management is more directed to land drainage, through manipulation of water flows and weed cutting, although fishery management is carried out. The operation of hatches, sluices etc has a significant influence throughout the system.

Notes on Features within the River Avon System SSSI

Watercourse (*Ranunculus*) habitat

This habitat (characterised by *Ranunculus pseudofluitans* ssp *penicillatus*) occurs throughout the River Avon System, and is dominant in the Upper Avon, Wylye, Bourne and Nadder. In the lower Avon *Ranunculus* is still present but other species form a greater proportion of the community.

The vegetation has historically been heavily managed for fishing purposes in the trout stream reaches, typically being cut by hand to form a patchwork of *Ranunculus* (and other species such as *Callitriche*) and open water (ie creating a mosaic of open "lies" and shelter). Carried out sensitively this helps concentrate flow and clean gravels between the vegetation patches, with sediment accreting in the base of the plants. However, it alters the life cycle of *Ranunculus* by promoting vegetative growth and in some cases preventing flowering.

The distribution and range of *Ranunculus* throughout the SSSI has been mapped by English Nature over 1999 and 2000. This provides a snapshot of distribution with a basic assessment of the condition of the *Ranunculus* vegetation, but has not measured other attributes of the habitat.

Atlantic Salmon

Atlantic salmon use all the rivers within the SSSI for spawning, with the upstream extent varying each year with the prevailing conditions (especially flow). The population is considered to be a pristine form of the southern chalk stream type, and its genetic base is considered to be the purest for this form (no stocking with non-Avon fish is known to have been carried out, and only very limited stocking with Avon derived stock over a short period, now ceased). The Nadder is considered to be particularly important to the Avon population, with consistently the largest number of redds, and usually meets its conservation limit (Minimum Biological Acceptable Limit, MBAL).

The population has suffered a severe decline over the last 10 years, with a crash occuring in the late 1980s-early 1990s. It is thought that this is related to increased marine fishing pressure, although there is significnat concern about condition of the breeding habitats within the river system, especially in respect of sedimentation of redds. Current performance against the MBAL is poor. Rod and net catch data from the last few years indicate a stabilisation, albeit at a much reduced level from that recorded until the late 1980s.

The Environment Agency produced a Salmon Action Plan in 1997, which identifies actions to address the key issues thought to be affecting the population.

Bullhead

Bullhead are found in suitable conditions thoughout the River Avon System, although in the lower Avon they are found in smaller side channels. There has been little specific collection of data although EA electrofishing surveys have yielded useful information. The EA's work on the Avon has indicated a strong habitat preference for coarse substrates, including woody debris, especially for riffles in fast flowing waters, with a corresponding avoidance of still and slow water habitats. In addition, this species is associated with less vegetated habitats (with <=40% channel vegetation). Work is required to determine breeding habitat requirements and bullhead distribution and status.

Brook and Sea Lamprey

Brook lamprey have been found in each of the rivers, although survey to date has been very limited and range and distribution are not fully known. Concentrations of larvae have been found on the Bourne and upper Wylye.

Sea lampreys are known to be common on the lower Avon, although the exact upper limit of their distribution has not been determined.

Much of the river system is intrinsically suitable for lampreys, with a mixture of gravels for spawning and sediment accumulations in slacker water for nursery habitat

Desmoulin's whorl snail

Vertigo moulinsiana is found in widely distributed colonies in the Avon Valley, especially north of Salisbury, and in the Bourne Valley. It has also been found in habitat adjacent to the River Wylye.

The key habitat feature is densely growing tall monocotyledonous vegetation, eg Glyceria, Carex or Iris, in waterlogged ground. This occurs as marginal vegetation along the river itself, in ditches in the floodplain and in small patches of adjacent land.

FAVOURABLE CONDITION TABLE

Common targets for river habitat and selected species

Operational feature	Criteria features	Attribute	Measure	Targets	Comments
River	Water courses with floating formations of water crowfoot (*Ranunculus*) Atlantic salmon bullhead Sea and brook lamprey	Flow	Limits on licensed abstractions after modelling impacts. Audit every 6 years, if possible via CAMS.	Flow regime should be characteristic of the river. As a guideline,at least 90% of the naturalised daily mean flow should be maintained throughout the year at all points in the river system. Residual flows at Knapp Mill should not fall below 9 cumecs (to protect the upstream migration of adult salmon)	River flow affects a range of habitat factors of critical importance to designated interest features, including current velocity, water depth, wetted area, substrate quality, dissolved oxygen levels and water temperature. The maintenance of both flushing flows and base flows, based on natural hydrological processes, is vital. Detailed investigations of habitat-flow relationships may indicate that a more or less stringent threshold may be appropriate for a specified reach; however, a precautionary approach would need to be taken to the use of less stringent values. Naturalised flow is defined as the flow in the absence of abstractions and discharges. The availability and reliability of data is patchy - long-term gauged data can be used until adequate naturalised data become available, although the impact of abstractions on historical flow records should be considered. Flows in the Avon system are known to be impacted by historical engineering works that have modified the channel, and by surface and ground water abstractions. Springs are characteristic of chalk rivers and should be maintained. Headwater sections are particularly vulnerable to abstraction, and downstream migration of perennial heads, other than in drought conditions, is a sign of unfavourable condition.
	Water courses with floating formations of water crowfoot	Water quality	Biological class - Environment Agency's General Quality Assessment	salmon -'a' bullhead - >='b'	Generally, water quality should not be injurious to any life stage. A wide range of water quality parameters can affect the status of interest features, but standard biological monitoring techniques provide a reasonable integrated

Operational feature	Criteria features	Attribute	Measure	Targets	Comments
	(*Ranunculus*) Atlantic salmon bullhead sea and brook lamprey		scheme. Assess every 5 years. River Ecosystem Class. Assess against Environment Agency monitoring results. Suspended solids (annual average).	lamprey species - >='b' In addition, no drop in class from existing situation salmon -RE1 bullhead - >=RE2 lamprey species - >=RE2 In addition, no drop in class from existing situation (current status is shown in the LEAP 2000-2005) salmon <=10mgl l^{-1} - check EA report bullhead - <=25 mgl l^{-1} lamprey species <=25 mgl l^{-1}	picture in relation to many parameters. The Biological Module of the Environment Agency's General Quality Assessment scheme is based on assessment of the macroinvertebrate community. All classified reaches within the site that should contain the interest feature under conditions of high environmental quality should comply with the targets given. The River Ecosystem Classification 1995 sets standards for dissolved oxygen, biochemical oxygen demand, total and un-ionised ammonia, pH, copper and zinc. It covers a number of water quality parameters which can cause problems within river systems. All classified reaches within the site that should contain the interest feature under conditions of high environmental quality should comply with the targets given. Elevated levels of suspended solids can clog the respiratory structures of the listed species, with salmon being the most susceptible. Suspended solids measurements are also essential to the estimation of particulate loads within the river network (in combination with gauged flow data), which provides an indication of the risk of siltation problems. The target of 25mgl^{-1} is based on the EC Freshwater Fish Directive - a more precautionary figure has been used for salmon to help protect substrates used for salmon spawning. Elevated levels of suspended solids are thought to be entering the river through point (eg sewage) and diffuse (eg runoff from arable land/roads) discharges.
			Soluble Reactive Phosphorus (annual mean)	0.06mg/l Upper Avon, Wylye (to confluence with Avon) and Bourne	Elevated phosphorus levels interfere with competitive interactions between different higher plant species and between higher plants and algae, leading to the loss of characteristic higher plants and large diurnal sags in dissolved

Operational feature	Criteria features	Attribute	Measure	Targets	Comments
			(Total Reactive Phosphorus as measured by the Environment Agency is acceptable)	0.1mg/l Nadder, Lower Avon (d/s of Wylye and Nadder Confluence) 0.2mg/l interim target, pending results of improvements to key STWs in AMP3	oxygen levels. *Ranunculus* habitat is extremely vulnerable. The respiration of artificially large growths of benthic algae may generate poor substrate conditions for species such as the lampreys (in the larval stage). The Avon system is considered to be impacted by elevated levels of phosphorus from point (mainly sewage) and diffuse (arable runoff/soil) discharges
	Water courses with floating formations of water crowfoot (*Ranunculus*) Atlantic salmon bullhead sea and brook lamprey	River substrate	Silt content (optimal form of measurement to be decided in consultation with the Environment Agency.)	Channels should be dominated by clean gravels. Maximum silt content: Ranunculus - <20% in top 10cm of mid-channel gravels; salmon -<10% in top 30cm of spawning substrates; lampreys - salmon target but with associated beds of aerated silt present; bullhead - no excessive siltation on the surface of or within coarse substrates.	Siltation of riverine sediments, caused by high particulate loads (fines of <60 microns) and/or reduced scour within the channel, is a major threat to interest features. Elevated silt levels can interfere with the establishment of *Ranunculus* plants, and with egg and larval survival in salmon, lampreys and bullhead. The requirements of species vary depending upon use of the substrate. Some relate to the level of aeration within the substrate and some to the ability of the substrate to physically catch eggs or plant fragments in surface interstices. The target for salmon has been used for lamprey species in the absence of species-specific information (although it is recognised that lamprey utilise only the top few centimetres for spawning). Where there are upwelling springs within the river bed, the target for salmon can be revised upwards, due to increased substrate aeration. Sources of silt include - run-off from arable land and land trampled by livestock, sewage, and fish farm discharges.
		River form	Assess channel form by hydro-geomorphological survey; identify degraded stretches where restoration is	Channels should be generally characteristic of river type and appropriate to naturalised flow conditions.	Widening or deepening of channels, and extensive artificial reinforcement of banks, are likely to cause unfavourable condition. Headwater sections are particularly vulnerable to reprofiling. Where previous channel engineering is contributing to or causing unfavourable condition, appropriate restoration to a

Operational feature	Criteria features	Attribute	Measure	Targets	Comments
			required and would be practical. Audit progress with restoration every 6 years.		more characteristic state should be undertaken, where practical, within a strategic framework and using techniques that work with nature. This may include removal of existing structures within rivers, after individual assessment.

Extra targets for water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation

Operational feature	Criteria feature	Attribute	Measure	Targets	Comments
River	Water courses with floating formations of water crowfoot (*Ranunculus*) This feature is a habitat not a single species	Extent and composition	Mapping of representative sample stretches (to be identified) in June or July every 3 years.	Presence of characteristic plant species; absence of indicators of unfavourable condition.	The chalk river component of this plant community comprises *Ranunculus penicillatus* var *pseudofluitans*, associated in the channel with *Callitriche obtusangula* or *C. platycarpa,* rarely with *Oenanthe fluviatilis* or *Potamogeton lucens*, and up to 5% cover of *Myriophyllum spicatum*. In shallow bankside margins the following plants may be present: *Berula erecta*, *Apium nodiflorum*, *Rorippa nasturtium aquaticum*, *Myosotis scorpioides*, *Veronica anagallis-aquatica* and *Veronica beccabunga.* In-channel vegetation of the river should be dominated by this community. The absence of *Ranunculus* together with the presence of blanketweed and other algae, or the dominance of *Potamogeton pectinatus* are signs of unfavourable condition.
		Reproduction ***NB Ongoing EA R&D project on Ranunculus may lead to amendment of this limit***	Annual Spot-checks observations in June/July. Information will also be obtained from mapping of sample stretches for extent and composition. Audit Code of Practice every 3 years (Environment Agency and	A significant proportion of *Ranunculus* and other characteristic species should be able to grow and reproduce naturally in suitable habitat. (ie *Ranunculus* flowering and seed set should take place	Any in-channel vegetation management should ensure that a significant proportion of the *Ranunculus* community is allowed to flower and set seed naturally. Management should therefore aim to leave a patchy distribution of *Ranunculus* at all points in its range within the river system (with a guideline of at least 25% allowed to flower in any 100m stretch). Practices which do not achieve this are likely to lead to unfavourable

Operational feature	Criteria feature	Attribute	Measure	Targets	Comments
			English Nature)	before mid July)	condition Use of herbicides should be avoided.

Extra targets for Atlantic salmon (*Salmo salar*)

Operational feature	Criteria features	Attribute	Measure	Targets	Comments
River	Atlantic salmon	Habitat structure	Distribution and area of spawning habitat. *(Form of assessment to be decided for measures in this column.)*	Maintain and where necessary restore (Hampshire Avon Salmon Action Plan shows salmon usage of the Avon System)	This habitat is defined as stable coarse substrate without an armoured layer, in the pebble to cobble size range (16-256mm) but with the majority being <150mm. Water depth during the spawning and incubation periods should be 15-75cm. Flow velocity should be within the range 50-90cm/sec
			Distribution and area of nursery habitat.	Maintain and where necessary restore	Fry habitat is indicated by water of less than 20cm deep and a gravel/pebble/cobble substrate. Parr habitat is indicated by water of 20-40 cm depth and similar substrate. Flow velocity should be within the range 25-40cm/sec
			Presence of adult holding areas.	Ensure that holding areas occur throughout the salmon range	Holding areas are defined as pools of at least 1.5 m depth, with cover from features such as undercut banks, vegetation, submerged objects and surface turbulence. They are not considered to be a critical feature on the Avon System, although river management should aim to maintain a number distributed throughout the river system.
			Extent of submerged and marginal plants	Maintain patchy cover	Submerged and marginal vegetation is used by juvenile salmon in chalk rivers. Cutting operations should aim to leave a proportion of this vegetation
	Atlantic salmon		Extent of bankside tree cover with submerged tree root systems	Maintain to an extent characteristic of the river type (this feature is very limited on the Avon system, except the	Overhanging trees provide valuable shade and food sources, whilst tree root systems provide important cover and flow refuge for juveniles. Historical management of the chalk stream stretches of the Avon and the water meadows in the floodplain has resulted in a very limited

Operational feature	Criteria features	Attribute	Measure	Targets	Comments
				Nadder and the Dockens Water)	extent of this habitat feature.
			River form	Maintain and where necessary restore degraded reaches to a more varied form and semi-natural form.	A diversity of water depths, current velocities and substrate types necessary to fulfil the spawning, juvenile and migratory requirements of the species. Close proximity of different habitats facilitates movement to new preferred habitats with age. Operations that widen, deepen and/or straighten the channel reduce variations in habitat. New operations that would have this impact are not acceptable within the SAC, whilst restoration will be needed in some reaches.
		Access	Artificial obstructions (Baseline survey, then check every 6 years).	No artificial barriers significantly obstructing adults from reaching existing and historical spawning grounds, and smolts and kelts from reaching the sea.	Artificial barriers should not exceed 45cm unless sufficient depth exists below the obstruction to enable salmon to leap the barrier. Appropriate steps should be taken to ensure that migrating smolts and kelts are not significantly entrapped in off-takes from the river (such as fish-farm intakes or water meadow systems).
		Biological disturbance	Fish introductions	No stocking of salmon, unless agreed by English Nature to be in the best interests of the population.	The Avon population of Atlantic salmon is considered to be a pristine chalk stream form which has not been altered by stocking. Within the Avon system genetic differences may exist between the different tributaries. These differences may have adaptive significance and, therefore, need to be conserved. Population enhancement by habitat improvement and control of exploitation is the main nature conservation focus; stocking should only be considered as an emergency interim measure, and it is not currently considered to be in the best interests of the SAC.
				No stocking of other species at excessively high densities in salmon spawning and nursery areas.	The presence of artificially high densities of other salmonids creates unacceptably high levels of predatory and competitive pressure on juvenile salmon. Guidance will be produced on the definition of excessive in this context.
				Effective screening on all	Escapes from fish farms are a form of uncontrolled

Operational feature	Criteria features	Attribute	Measure	Targets	Comments
				fish farm intakes and discharges.	introduction and should be prevented.
			Exploitation (Application of voluntary agreements and Environment Agency byelaws.)	Steps taken to ensure that exploitation does not interfere significantly with the ability of the river to achieve its Minimum Biological Acceptable Limit	Where an SAC is not achieving its MBAL 4 years out of 5, river-specific controls on exploitation need to be put in place irrespective of the underlying causes of poor performance. These should consist of a package of measures operating over a period of 10 years, to be implemented as a matter of urgency (preferably within 1 year). The choice of exploitation controls depends on the degree of non-compliance with the MBAL and a range of river-specific considerations. The Avon is currently performing very poorly in relation to its MBAL, achieving only 35.1, 21.5 and 30.4% of the required level of spawning in 1997, 1998 and 1999 respectively. Controls on exploitation should cover migratory passage to the SAC within territorial waters, including estuarine and coastal net fisheries. Controls currently in place on the Avon are by voluntary agreement with nets in Mudeford Harbour to release all salmon and catch and release operated voluntarily by +/- all rods

Extra targets for bullhead (*Cottus gobio*)

Operational feature	Criteria feature	Attribute	Measure	Targets	Comments
River	Bullhead (*Cottus gobio*)	Habitat structure	Extent of gravel/pebble-dominated substrate.	Maintain and where necessary restore riffle habitats throughout range	Females lay sticky eggs on the underside of stones. Larger stones on a hard substrate, providing clear spaces between the stream bed and the underside of pebbles/cobbles are therefore important. There should be >5 cm water depth over riffles in the summer.
			Extent of refuges	Maintain and where necessary restore refuge features	Refuges are important for shelter against high flow conditions. Suitable refuges in the Avon System include cobbles*, side channels*, pools, woody debris, submerged tree root systems and marginal vegetation with >5cm water depth. (*EA studies showed these habitats are preferred)
			Extent of high canopy tree cover	Maintain intermittent cover where characteristic of the river system	The relative importance of shade compared to the provision of woody debris is unclear, but the maintenance of intermittent tree cover in conjunction with retention of woody debris ensures that habitat conditions are suitable. *In lowland reaches without any riparian trees, it may be desirable to introduce a limited amount of cover.*
			Extent of submerged higher plants	Maintain patchy cover where characteristic of the river/reach (<40% cover appears to be preferred on the Avon system, with <20% optimum)	The importance of submerged higher plants to bullhead survival is unclear, but it is likely that where such vegetation occurs it is used by the species for cover against predators. Cutting operations or other perturbing activities should aim to leave a significant proportion of vegetation in a mosaic with clean gravels.
			Extent of woody debris	Should be retained where characteristic of the river/reach	Bullheads are particularly associated with woody debris where it is likely that it provides an alternative source of cover and spawning substrate.
			River form	Maintain and, where necessary, restore the characteristic physical form of the river channel. Water depth in range 0-60cm (0-20cm is preferred in Avon system)	A diversity of water depths, current velocities and substrate types necessary to fulfill the spawning, juvenile and migratory requirements of the species. Close proximity of different habitats facilitates movement to new preferred habitats with age. Operations that widen, deepen and/or straighten the channel reduce variations in habitat. New operations that would have this impact are not acceptable within the SAC, whilst restoration is needed in some

					reaches.
		Access	Artificial obstructions	No significant impediment to essential fish movement between reaches. Where sluices/weirs etc present a potentially damaging barrier, alternative routes should be ensured (eg back channels, streams, ditches), or management ensured that allows access at important times of year.	Vertical drops of more than 18-20 cm are sufficient to prevent upstream movement of adult bullheads. They will therefore prevent recolonisation of upper reaches affected by lethal pollution episodes, and will also lead to constraints on genetic interactions that may have adverse consequences. There are many controlling structures on the Avon system and their significance in controlling bullhead movement is unclear. Assessments should be made in light of bullhead distribution, focussing on headwaters.
		Biological disturbance	Introductions	No stocking/transfers of bullhead unless agreed by English Nature to be in the best interests of the population.	Bullheads are relatively sedentary and interactions between populations in different parts of the catchment and in different catchments are likely to be limited, suggesting the existence of genetically discrete populations. Since they are of no angling interest, deliberate transfers between sites are unlikely to have been undertaken in the past, such that the genetic integrity of populations is likely to be intact.
				No stocking of other fish species at excessively high densities in bullhead spawning and nursery areas.	The presence of artificially high densities of salmonids and other fish will create unacceptably high levels of predatory and competitive pressure on juvenile and adult bullhead.
				Effective screening on all fish farm intakes and discharges	Escapes from fish farms are a form of uncontrolled introduction and should be prevented.
				Absence of non-native crayfish	Bullhead densities have been found to be negatively correlated with densities of non-native crayfish in the River Great Ouse, suggesting competitive and/or predator-prey interactions.

Extra targets for brook lamprey (*Lampetra planeri*) and sea lamprey (*Petromyzon marinus*)

Operational feature	Criteria feature	Attribute	Measure	Targets	Comments

Operational feature	Criteria feature	Attribute	Measure	Targets	Comments
River	Brook and sea lamprey	Habitat structure	Area of spawning habitat.	Maintain and where necessary restore	This habitat is defined as well-oxygenated gravel/pebble-dominated (1.5-11cm) substrate of at least 10cm depth, overlain by a range of water depths (0.2-1.5m). Typical spawning locations are upstream of riffles and downstream of weirs. Sea lamprey typically spawn in deeper water than brook lamprey, but in larger river reaches brook lamprey also spawn in deeper areas.
			Area of nursery habitat	Maintain and where necessary restore	This habitat is defined as open-structure, aerated, silty and sandy substrates, between 2 and 40cm depth, typically overlain by less than 0.5m of water. Slack-water channel margins are particularly important, whilst silt accumulations behind weirs can also be valuable in impounded sections. The requirements of the two species are similar and so they are often found in the same nursery beds, but in deeper water (up to 2.2m) sea lamprey are more likely to dominate.
			Area of emergent riparian vegetation	Maintain a high extent throughout the river system	Emergent vegetation within marginal nursery habitat stabilises the substrate and greatly increases habitat suitability.
			Extent of bankside tree cover	Maintain to an extent characteristic of the river type	This helps to provide temperature micro-gradients within the channel, which provides greater flexibility in habitat selection.
			River form	Maintain and where necessary restore the characteristic physical form of the river channel	Diversity of water depths, current velocities and substrate types is necessary to fulfil the spawning, juvenile and migratory requirements of the species. Proximity of different habitats facilitates movement to new preferred habitats with age. Operations that widen, deepen and/or straighten the channel reduce variations in habitat. New operations that would have this impact are not acceptable within the SAC, whilst restoration may be needed in some reaches.

Operational feature	Criteria feature	Attribute	Measure	Targets	Comments
		Access	Artificial obstructions	No artificial barriers significantly impairing adults from reaching existing and historical spawning grounds.	Lampreys can pass some potential barriers by attaching themselves to structures or river banks by their suctorial discs and creeping up or by strong bursts of swimming. The passability of barriers by different species and sizes of lampreys should be assessed on a site-specific basis, most sensibly by survey of the upstream limit of distribution of each species.
		Biological disturbance	Introductions	No stocking/transfers of lampreys unless agreed by English Nature to be in the best interests of the population.	It is uncertain whether there are significant genetic differences between lamprey populations of the same species. Since they are of no angling interest, deliberate transfers between sites are unlikely to have been undertaken in the past, such that the natural genetic character of populations is likely to be intact. The degree of fidelity to natal spawning grounds in unclear. Any agreed introductions should involve local stock as a precaution.
			Exploitation	Zero exploitation until further notice	Lampreys have recently become popular in the UK as bait for pike-fishing. There are also indications that UK populations are sought after as a delicacy in Europe, where stocks are declining. Adult lampreys are usually caught by trapping, whilst juvenile lampreys can be removed by sieving, netting or digging out nursery habitat. Anecdotal evidence of adult trapping suggests heavy losses of fish on some rivers. In the absence of adequate knowledge of population dynamics and sustainable yields, exploitation is not acceptable within cSACs.

Extra targets for Desmoulin's whorl snail

Operational Feature	Criteria Feature	Attribute	Measure	Target	Comments

Operational Feature	Criteria Feature	Attribute	Measure	Target	Comments
Rivers	*Vertigo moulinsiana*	structure and composition of marginal vegetation	Extent of habitat, comprising unbroken stands of appropriate vegetation.	Maintain overall extent of unbroken stands of *Glyceria maxima* and/or *Carex riparia* and/or *acutiformis* on river banks and drainage ditches, subject to natural change.	This includes existing known sites for *Vertigo m* but should also apply to all suitable habitat elsewhere in the cSAC
Fens/swamp	*Vertigo moulinsiana*	structure and composition of tall fen and swamp vegetation	Area of stand of appropriate vegetation, as mapped in Avon Valley survey 1994-5, and Ian Killeen survey 1996	Maintain extent of suitable habitat including tall ungrazed blocks of *Glyceria maxima,* sparse *Phragmites* and/or *Carex riparia* and/or *acutiformis* extending in unbroken stands.	

Additional parameters to consider within appropriate assessments

A range of specific parameters may be relevant to the assessment of the likely impact of a plan or project in addition to those specified in the favourable condition table. This should not be considered as an exhaustive list but indicates some keys areas of concern.

Water column parameters

Consideration of the effects of **heavy metals**, **herbicides**, **pesticides** (particularly **sheep dip chemicals**) and **hydrocarbons** is essential. In particular, species such as white-clawed crayfish and salmon are highly susceptible to even very low concentrations of sheep dip. The risks of impact on *Ranunculus* habitat of riparian applications of atrazine and isoproturon on maize crops are also of particular concern.

Water hardness is a key issue on chalk river systems such as the Avon. The activity most likely to interfere with water hardness is the mass transfer of water from areas with different geologies.

Effects on **temperature regime** may have important consequences for a number of species. For instance, crayfish breeding is initiated by an extended period of water temperatures below 10 deg C during the autumn, and may be adversely affected by heated discharges.

Substrate quality

Elevated **sediment phosphorus** levels may lead to excessive growths of tolerant rooted-macrophytes and benthic algae, and may also result in enhanced release of soluble phosphorus to the water column.

Sediment oxygen levels are important to the survival of salmon eggs and fry, lamprey eggs and ammocoetes and probably juvenile pearl mussels. Inorganic silt can interfere with aeration within coarse substrate, but in both coarse and fine substrate the sediment oxygen demand is a key consideration, driven by the presence of degradable organic matter. In siltbeds, levels of organic matter that generate anoxia or near-anoxia will make the habitat unsuitable for lampreys.

Guidance on verifying favourable condition in relation to designated species

Assessment of the population will help to determine whether the measures taken within the site to protect the population and its habitat are adequate. The following criteria are suggested for determining whether a population is in a favourable state both within SACs and in its wider range. This guidance may also be useful when considering possible effects on site integrity (in relation to the potential for off-site impacts to affect the population within the SAC). This guidance will be refined, when further planned research into monitoring and population assessment protocols has been undertaken.

Guidance on verifying favourable condition of designated species

English Nature is putting forward criteria for discussion with the Environment Agency and others. No decision has been taken on the frequency and extent of any monitoring programme.

Species	Attribute	Target	Comments
Atlantic salmon	Adult run	Total run size at least matching the Minimum Biological Acceptable Level (MBAL) for the river in 4 years out of 5, including a seasonal pattern of migration characteristic of the river and maintenance of the multi-sea-winter component.	A MBAL is set for each catchment by the Environment Agency, in terms of eggs per unit area of river, which can be extrapolated to an adult run size necessary to achieve it. Total run-sizes are reported annually in relation to the MBAL for each river. It is important that the MBAL takes account of the full potential of the catchment to support spawning *under conditions of low anthropogenic impact - this will require investigation at the national level of the derivation of MBALs.*
	Juvenile densities	These should not differ significantly from those expected for the river type/reach under conditions of high physical and chemical quality.	Expectation needs to be tempered by the intrinsic ability of the river type to support salmon. Fish classification schemes operated regional and nationally by the Environment Agency should permit an interpretation of performance.
Bullhead	Adult densities	There should be no reduction in densities from existing levels, and in any case no less than 0.5 m^{-2} in lowland rivers.	Routine Environment Agency monitoring is not capable of providing suitable data. A least-cost methodology for monitoring this attribute is being investigated, involving the sampling of representative reaches within an SAC.
	Age structure	At least 3 year-classes should be present at significant densities in upland rivers, 4 in lowland rivers.	As above
Lampreys		No advice available at present	As above

SALISBURY PLAIN SPECIAL AREA OF CONSERVATION AND SPECIAL PROTECTION AREA

EUREOPEAN INTEREST

- Stone Curlew
- Hen Harrier
- Common Quail
- Hobby
- *Juniperus communis* formations on heaths or calcareous grasslands
- Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuca-Bromeliad)*
- Semi-natural dry grasslands and srubland facies on calcareous substrates *(Festuca-Bromeliad)*- important orchid sites
- Marsh fritillary butterfly (*Euphydryas aurinia)*

OBJECTIVE: To maintain the designated interest feature in favourable condition

No favourable condition data available for the Festuca Bromeliads

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FAVOURABLE CONDITION TABLE

CONSERVATION **OBJECTIVE FOR THIS HABITAT / GEOLOGICAL SITE-TYPE**	To maintain the **Lowland Calcareous Grassland** habitat at this site in favourable condition, with particular reference to **Juniper.** Favourable condition is defined at this site in terms of the following site-specific standards:

Criteria feature	Attributes - direct	Measure	Site-specific Targets	Comments	Use for CA?
Juniper - *Juniperus communis*	**Presence/absence.**	Identification of species.	Species should be present.	If all other targets are met but the species cannot be found then the feature should be referred to the Country Agency botanical specialists.	Yes
Additional discretionary attributes:					
Juniper - *Juniperus communis*	**Population size: number.**	Count of individuals. 11,100 juniper bushes in 2002	No marked reduction in population level.	This provides a separate but complimentary check to the 'extent' attribute. Aim should be to maintain population at least above the	Yes

Criteria feature	Attributes - direct	Measure	Site-specific Targets	Comments	Use for CA?
		(mainly Beacon Hill and Bulford Ranges) - see Fig 4, Juniper Management Plan Review & Update 2005		lower 10% variation from the average, derived from average of counts of bushes in 20 years since site was notified (or shorter period depending on notification date).	
	Population structure.	Record age structure of population.	Old growth bushes (> 100 years old) no more than occasional. Building to mature bushes at least frequent. Pioneer phase bushes (< 5 cm girth) at least occasional.	Regeneration of *J. c.* is a key issue, with many populations now consisting of mostly moribund bushes. Within populations on SSSIs there is a need to ensure a proportion of pioneer and 'building' stages. Rabbit exclosures are being used on the Plain – are these encouraging regeneration?	Yes
	Sex ratio.	Ratio of male to female bushes	Neither sex should exceed ratio of 2:1.	This attribute needs to be assessed in April, when bushes can be readily sexed.	Yes
Criteria feature	**Attributes - indirect**	**Measure**	**Site-specific Targets**	**Comments**	**Use for CA?**
Juniper - *Juniperus communis*	Vegetation structure.	Record proportion of scrub : field layer.	No more than 75% closed juniper scrub.	Need to ensure some areas of open ground to provide germination and establishment sites for *J. c.*	Yes
	Negative indicators: shading.	Record overtopping by saplings of tree species.	Overtopping species no more than occasional within juniper stands.	*J. c.* is sensitive to shading and will decline if succession allowed to proceed to woodland. Presence of overtopping *Taxus baccata*, *Fraxinus excelsior*, *Acer pseudoplatanus*, *Quercus* species, *Fagus sylvatica*, etc., should be taken as an important negative indicator.	Yes

CONSERVATION **OBJECTIVE FOR THIS HABITAT / GEOLOGICAL SITE-TYPE**	To maintain the **Lowland Calcareous Grassland** habitat at this site in favourable condition, with particular reference to **aggregations of breeding bird species, namely stone-curlew, quail and hobby.** Favourable condition is defined at this site in terms of the following site-specific standards:

Criteria feature	Attributes	Measure	Site-specific Targets	Comments	Use for CA?
Aggregations of breeding bird species: Stone Curlew-*Burhinus oedicnemus,* Quail-*Coturnix coturnix,* Hobby-*Falco subbuteo*	**Bird population size**	Counts or estimates of numbers of breeding individuals, pairs or calling males, occupied breeding sites or occupied territories. Standard monitoring methods are widely published and recommended species specific surveys are listed in Part 2 (available on JNCC website).	Use generic threshold approach, comparing population size at time intervals and deriving the change, using baseline value at time of designation - loss of 25% or more unacceptable. See Table 2b above for recent figures.	See Wessex Stone-curlew Recovery Project for stone-curlew information. See Breeding Bird Survey 2005 for quail counts. See WOS records for hobby records.	Yes
	Habitat extent	Record the extent of all habitat types used by the feature (the habitat reporting categories are a useful guide to categorising habitat types for birds). See recommended methods in section 3.10. Methods could include aerial photographs to assess extent of broad habitat types, mapping of broad habitat types, Phase 1 habitat survey, NVC.	Maintain the area of habitats that are used by the feature in the site within acceptable limits: ♦ Extent of all habitats used by the feature should be maintained - losses of 5% or more of any relevant habitat type are unacceptable.	When sites have designated habitat features the data for assessing this attribute may need to be collected according to the relevant habitat guidance. In these cases additional data may not be needed for this attribute. Stone-curlew uses managed plots, scrapes, other bare ground, set-aside derogation, Countryside Stewardship Scheme plots on the military training area. In 2007, there were 5 chalk scrapes and 59 tilled plots. See Wessex Stone-curlew Project report. Quail breed in cereal and hay fields, particularly winter cereals and meadow-like wild grasslands with a vegetation structure that allows good movement with protection	Yes

Criteria feature	Attributes	Measure	Site-specific Targets	Comments	Use for CA?
				from avian predators and with a source of insect food. Hobby is a migrant raptor using variety of woodland habitats from those associated with heaths to parkland,.hunt over varied habitats, nest in old Corvid nests, in trees.	

CONSERVATION **OBJECTIVE FOR THIS HABITAT / GEOLOGICAL SITE-TYPE**	To maintain the **Lowland Calcareous Grassland** habitat at this site in favourable condition, with particular reference to **hen harrier.** Favourable condition is defined at this site in terms of the following site-specific standards:

Criteria feature	Attributes	Measure	Site-specific Targets	Comments	Use for CA?
Aggregation of non-breeding bird species: Hen Harrier - *Circus cyaneus*	**Bird population size**	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).	Maintain population within acceptable limits based on the known natural fluctuations of the population in the site (see 3.5). See Table 2b above for recent figures.	Wiltshire Ornithological Society	Yes
	Habitat extent	Record the extent of all habitat types used by the feature (the habitat reporting categories are a useful guide to categorising habitat types for birds). See recommended methods in section 3.10. Methods could include aerial photographs to assess extent of broad habitat types, mapping of broad habitat types, Phase 1 habitat survey, NVC.	Maintain the area of habitats that are used by the feature in the site within acceptable limits: ♦ Extent of all habitats used by the feature should be maintained - losses of 5% or more of any relevant habitat type unacceptable.	When sites have designated habitat features the data for assessing this attribute may need to be collected according to the relevant habitat guidance. In these cases additional data may not be needed for this attribute. Habitat requirements for birds are described in Part 2 (available on JNCC website).	Yes

CONSERVATION **OBJECTIVE FOR THIS HABITAT / GEOLOGICAL SITE-TYPE**	To maintain the **Lowland Calcareous Grassland** habitat at this site in favourable condition, with particular reference to **marsh fritillary.** Favourable condition is defined at this site in terms of the following site-specific standards:

Criteria feature	Attributes	Measure	Site-specific Targets	Comments	Use for CA?
Marsh Fritillary- *Euphydryas aurinia*	**Presence/absence**	Identification of species.	Species should be present within site/specific areas of site.		Yes
Additional discretionary attributes:					
	Population size	Butterfly Conservation survey methodology	n/a	If any population estimate is to be made, the species should be known to be readily countable, quantifiably and replicably, and there should be a realistic likelihood that the number of individuals counted bears a true relationship to the health of the population.	No
	Habitat extent	*Succisa pratensis* distribution	No more than 25% reduction from original baseline in core habitat area.	Only where ecology is sufficiently well understood for this to be meaningfully surveyed. Seek advice from invertebrate specialist staff.	Yes
	Habitat assessment as per Section 3, CSM invertebrate guidance.		*Succisa pratensis* present in 30% of SRS.		Yes