European Community Directive
on the Conservation of Natural Habitats
and of Wild Fauna and Flora
(92/43/EEC)

Second Report by the United Kingdom under Article 17

on the implementation of the Directive from January 2001 to December 2006

Conservation status assessment for :

H3260: Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation

H3260 Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation

Audit trail compiled and edited by JNCC and the UK statutory nature conservation agencies Freshwater Lead Coordination Network.

This paper and accompanying appendices contain background information and data used to complete the standard EC reporting form (Annex D), following the methodology outlined in the commission document "Assessment, monitoring and reporting under Article 17 of the Habitats Directive, Explanatory Notes and Guidelines, Final Draft 5; October 2006". The superscript numbers below cross-reference to the headings in the corresponding Annex D reporting form. This supporting information should be read in conjunction with the UK approach for habitats (see 'Assessing Conservation Status: UK Approach').

1. National-biogeographic level information

1.1 General description and correspondence with NVC and other habitat types

Table 1.1.1 provides a summary description of H3260 and its relations with UK classifications.

This habitat type covers all rivers in which there is a characteristically high abundance of water-crowfoots *Ranunculus* spp., subgenus *Batrachium (Ranunculus fluitans, R. penicillatus ssp. penicillatus, R. penicillatus ssp. pseudofluitans, and R. peltatus and its hybrids*) and associated plant species. There are several variants of this habitat in the UK, depending on geology and river type. In each, *Ranunculus* species are associated with a different assemblage of other aquatic plants, such as water-cress *Rorippa nasturtium-aquaticum*, water-starworts *Callitriche* spp., water-parsnips *Sium latifolium* and *Berula erecta*, water-milfoils *Myriophyllum* spp. and water forget-me-not *Myosotis scorpioides*. In some rivers, the cover of these species may exceed that of *Ranunculus* species, and indeed *Ranunculus* species may not be present. Three main sub-types were defined in JNCC Report 312, based on substrate and the dominant species within the *Ranunculus* community.

Sub-type 1: This variant is found on rivers on chalk substrates. The community is characterised by pond water-crowfoot *Ranunculus peltatus* in spring-fed headwater streams (winterbournes), stream water-crowfoot *R. penicillatus* ssp. *pseudofluitans* in the middle reaches, and river water-crowfoot *R. fluitans* in the downstream sections. *Ranunculus* is typically associated in the upper and middle reaches with *Callitriche obtusangula* and *C. platycarpa*.

Sub-type 2: This variant is found on other substrates, ranging from lime-rich substrates such as oolite, through soft sandstone and clay to more mesotrophic and oligotrophic rocks. There is considerable geographic and ecological variation in this sub-type. Faster-flowing western rivers on harder rocks, for example in Wales and south-west England, support stream water-crowfoot *Ranunculus penicillatus* ssp. *penicillatus*, while western and northern rivers on sandstone or alluvial substrates often support both *R. penicillatus* ssp. *penicillatus* and river water-crowfoot *R. fluitans.* Sub-type 2 rivers elsewhere in the UK contain a mixture of species, and often hybrids, but rarely support *R. penicillatus* ssp. *penicillatus* or *R. fluitans*. Associated species which may be present include lesser water-parsnip *Berula erecta*, blunt-fruited water-starwort *Callitriche obtusangula*, and, in more polluted rivers, curled pondweed *Potamogeton crispus*, fennel pondweed *P. pectinatus* and horned pondweed *Zannichellia palustris*. Flowering-rush *Butomus umbellatus* is an occasional bank-side associate.

Sub-type 3: This variant is a mesotrophic to oligotrophic community found on hard rocks in the north and west. Rivers in Wales, Northern Ireland and south-west England are significant for the occurrence of

stream water-crowfoot *Ranunculus penicillatus* ssp. *penicillatus*. Other typical species include the aquatic moss *Fontinalis squamosa*, alternate water-milfoil *Myriophyllum alterniflorum* and intermediate water-starwort *Callitriche hamulata*. More oligotrophic examples of this community lack *Ranunculus* spp. and are dominated by *M. alterniflorum*, *C. hamulata* and bog pondweed *Potamogeton polygonifolius* together with a range of aquatic bryophytes.

A more recent analysis of UK river macrophyte data has generated a specific Callitricho-Batrachian (CB) classification for UK rivers, recognising six sub-types of the Annex I habitat (Hatton-Ellis *et al*. 2003). These are largely encapsulated by the three sub-types above, although the CB classification extends further into plant communities lacking *Ranunculus* species and dominated by lower plants (aquatic mosses).

Table 1.1.1 Summary description of habitat H3260 and its relations with UK vegetation/habitat classifications.

Classification	Correspondence with Annex I type	Comments
Phase 1 Habitat Classification	G2 Running water	The G2 category is broader than the Annex I habitat definition, including rivers naturally devoid of abundant submerged vegetation.
BAP	Broad reporting category: Rivers and streams. Priority habitat type: Chalk rivers (part).	The broad BAP reporting category is analogous to Phase 1 G2 category so the same comments apply. The Chalk Rivers BAP priority habitat constitutes sub-type 1 of the Annex I habitat.
NVC	NVC types A16, A17, A18, A19, and A20 all fall within the Annex 1 type.	These NVC types do not collectively fully encompass the Annex 1 type.
EU Interpretation Manual	PAL.CLASS: 24.4 Description: Water courses of plain to montane levels, with submerged or floating vegetation of the *Ranunculion fluitantis* and *Callitricho-Batrachion* (low water level during summer) or aquatic mosses.	PAL.CLASS: Palaearctic codes from the classification of Palaearctic habitats, based upon the CORINE classification.
JNCC	10-type classification covering all UK river types, divided into 35 sub-types.	Sites within all 10 categories and 35 sub-types conform to the Annex I habitat definition, but many sites (those with low submerged plant abundances) do not. This is partly due to anthropogenic impacts on sites within the database on which the JNCC typology is based. The JNCC typology is therefore not a good discriminator of the Annex I habitat.
CSM reporting categories	For ASSI/SSSIs/SACs, the closest corresponding feature category as used for 2006 reporting to JNCC is 'River Habitat'.	The condition of 'River Habitat' is defined by a range of indicators, using various environmentally based and biologically based river typologies.
UK classification of Callitricho-Batrachian (CB) communities	Six CB sub-types defined, intended to characterise the Annex 1 habitat exactly in the UK. These encapsulate the original sub-types used for designating SACs and extend further into plant communities dominated by lower plants (aquatic mosses).	

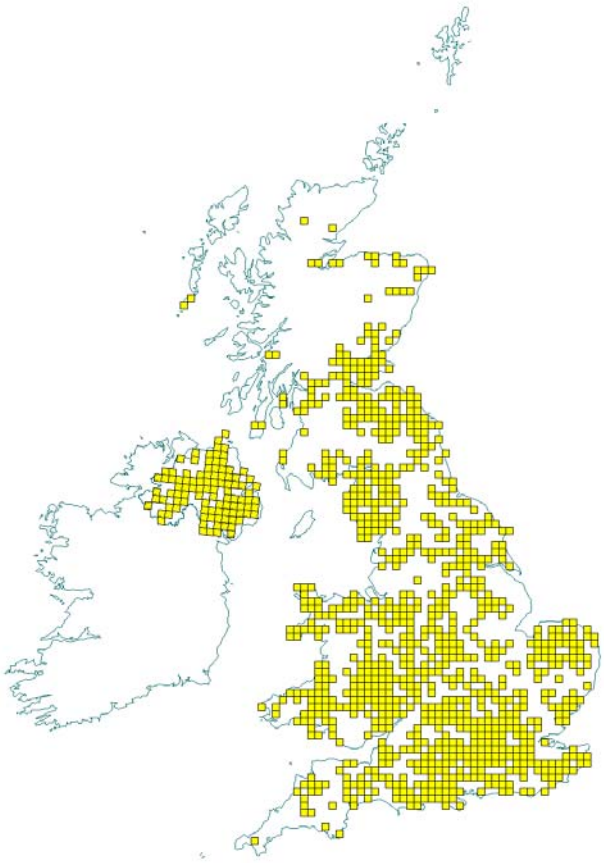
2. Range [2.3]

2.1 Current range

Range surface area [2.3.1]: **191, 978 km²**
Date calculated [2.3.2]: **May 2007**
Quality of data [2.3.3]: **Moderate**

The surface area estimate was calculated within alpha hull software, using extent of occurrence as a proxy measure for range (see Map 2.1.1). The value of alpha was set at 25 km; the alpha was clipped to include inland areas only.

Maps 2.1.1 and 2.1.2 show the range and distribution of H3260 in the UK. Some records are from standing waters, not rivers, but this is not considered to affect the representation of the distribution of the habitat. Despite not properly representing those rivers conforming to the habitat type that do not contain Ranunculus species, H3260 can be seen to be widely distributed in the UK. Note that the occurrence of *Ranunculus* in the River Spey, north-east Scotland, is believed to result from an introduction, and is not shown on the map.

Map 2.1.1 Habitat range map for H3260	**Map 2.1.2** Habitat distribution map for H3260
	
Range envelope shown in blue/grey shade in above map is a minimum convex polygon constructed using JNCC Alpha Shapes tool (see Technical note I for details of methodology)	Each yellow square represents a 10x10-km square of the National Grid and shows the known and/or predicted occurrence of this habitat 10-km square count: 1,032

See Section 7.1 for map data sources

2.2 Trend in range since c.1994

Trend in range[2.3.4]: **Stable**
Trend magnitude[2.3.5]: **Not applicable**
Trend period[2.3.6]: **1994-2006**
Reasons for reported trend[2.3.7]: **Not applicable**
The broad range of H3260 has remained stable since 1994 with no reduction in overall range.

2.3 Favourable reference range

Favourable reference range[2.5.1]: **191, 978 km^2**
Section 3.2.1.3 of 'Assessing Conservation Status: UK Approach' sets out how favourable reference range estimates for habitats have been determined in the UK. Based on this approach, the current surface area, 191,978 km^2, has been set as the favourable reference area. Reasons for this are discussed below.

The habitat occurs in suitable catchments wherever drainage pathways converge to create river channels, from incised upland valleys to lowland floodplains. The habitat broadly covers the entirety of its potential range, since river habitat cannot be fully lost from a catchment but becomes degraded through a range of anthropogenic pressures. Channelisation works lead to the loss of ecological variation throughout the habitat, but H3260 still has adequate representation of its ecological variants. The current range, which matches the 1994, range is therefore considered viable and equates to the favourable reference range.

2.4 Conclusions on range

Conclusion[2.6.i]: **Favourable**
Losses in habitat area (due to channelisation work) have resulted in localised shortening of river length, not complete elimination of the river habitat within a geographical area. The range has remained stable since 1994 and the current range is considered viable.

3. Area [2.4]

3.1 Current area

Total UK extent [2.4.1]: **Unknown**
Date of estimation [2.4.2]: **May 2007**
Method [2.4.3]: **Not applicable**
Quality of data [2.4.4]: **Poor**
Table 3.1.1 provides information on the area of H3260 in the UK.

Table 3.1.1 Area of H3260 in the UK.

	Area (ha)	Method [2.4.3]	Quality of data [2.4.4]
England	Unknown	Not applicable	Poor
Scotland	Unknown	Not applicable	Poor
Wales	Unknown	Not applicable	Poor
Northern Ireland	Unknown	Not applicable	Poor
Total UK extent [2.4.1]	Unknown	Not applicable	Poor

Method used to estimate the habitat surface area: 1 = only or mostly based on expert opinion; 2 = based on remote sensing data; 3 = ground based survey. Only the most relevant class is given if more than one applies.
Quality of habitat surface area data: 'Good' e.g. based on extensive surveys; 'Moderate' e.g. based on partial data with some extrapolation; 'Poor' e.g. based on very incomplete data or on expert judgement.

There are no comprehensive data available for the extent of this habitat type in the UK. However, it has been previously estimated that there are about 2,500 km length of river which have records of *Ranunculus* cover in England and Wales (JNCC report 312). This is based on records within the JNCC rivers database, which only covers a proportion of the UK river network (albeit many of those with the highest abundances of submerged macrophytes). In particular, headwaters are generally poorly represented in the database – headwaters account for a large proportion of total river length. In addition, *Ranunculus* cover does not characterise the whole H3260 resource, since some communities falling under the H3260 definition contain no *Ranunculus* species. For all of these reasons, a value of 2500km is likely to under-estimate the resource by a considerable amount, particularly if headwaters are considered. No similar attempt to quantify the habitat resource has been undertaken in Scotland or Northern Ireland. In Scotland, the length of river with *Ranunculus* cover as a native habitat is considered to be insignificant outwith the River Tweed, but H3260 habitat without *Ranunculus* species occurs in Scotland. A reasonable quantitative assessment of current area could be produced by resolving available data on CB community sub-types in the UK river macrophyte dataset into a suitable physical typology of UK rivers, determining the percentage of macrophyte sites in each river type that conforms to the H3260 definition, then extrapolating this to the wider river network using the physical typology. It has not been possible to undertake this assessment due to insufficient resources.

3.2 Trend in area since c.1994

Trend in area[2.4.5]: **Decreasing**
Trend magnitude[2.4.6]: **0.15% per annum**
Trend period[2.4.7]: **1994-2006**
Reasons for reported trend[2.4.8]: **3 – Direct human influence**
4 – Indirect anthropogenic or zoogenic influence

There has been a significant historical loss of habitat area caused by channelisation works, resulting in direct loss of river length. The majority of this has occurred in lowland areas in floodplains. Channelisation works can easily result in a halving of river length in lowland meandering river reaches. In 1998, 7.3% of lowland UK sites in the River Habitat Survey database suffered from channel straightening. If it is assumed that the estimated 2500km of H3260 habitat is equally divided into upland and lowland categories, that 7.3% of the lowland category has been straightened, and that such straightening results in a halving of river length, then an estimated 46km river length of H3260 has been lost as a result of channelisation, focused in lowland England. Channelisation works have occurred in phases through history, with a recent major phase having occurred in the aftermath of World War II. If it is assumed that much of the estimated loss occurred in a 20 year period of drainage works in the 1960s and 70s, an annual loss rate of around 0.15% can be calculated, following which stabilisation of habitat area occurred. There has been a recent trend towards physical restoration of river channels in the UK, but to date this has focused on small-scale mitigation works and has not made a significant impression on river length.

Since 1994, there has been a decline in area, but with estimated losses of less than 1% per annum.

3.3 Favourable reference area 2.5.2

Favourable reference area: **Unknown**

Naturally meandering river sections occur on river floodplains – the larger the floodplain, the greater the meandering. This behaviour not only increases habitat area by increasing river length, but also adds habitat complexity through increased variation in current velocities, water depths, substrate types and marginal profiles.

Across the H3260 resource as a whole, the current area occupied by the habitat is less than the potential range, but not by a considerable amount nationally (channelisation accounting for an estimated 2% of the total resource – see Section 3.1). The area is considered to be less than 10% below the favourable reference area.

This loss has to be considered in the context of an associated loss of habitat complexity in the remaining river habitat of channelised river sections. It is of concern that channelised sections induce a higher fragmentation of the habitat along river courses and the loss of complexity of the remaining habitat leads to increased vulnerability to other pressures such as pollution. However, the overall habitat area is considered viable in the foreseeable future.

Table 3.2.1 Summary of trends in habitat area

Country	Trend	Accuracy	Data Source/Comments
England	Significant historical declines but currently stable	Moderate	River Habitat Survey database illustrates extent of channelisation works in England. In 1998, 7.3% of lowland sites in England and Wales suffered from channel straightening. The majority of this is likely to have occurred in England.
Scotland	Some historical declines but currently stable	Moderate	In 1998, 0.5% of lowland RHS sites in Scotland suffered from channel straightening.
Wales	Some historical declines but currently stable	Moderate	In 1998, 7.3% of lowland sites in England and Wales suffered from channel straightening. The majority of this is likely to have occurred in England.
Northern Ireland	Some historical declines but currently stable	Moderate	In 1998, 0.4% of lowland RHS sites in N Ireland suffered from channel straightening.
UK	Some historical declines but currently stable	Moderate	

3.4 Conclusions on area covered by habitat

Conclusion[2.6.ii]: Unfavourable – Inadequate

There has been a decline in area, due to reductions in river length as a result of land drainage activities and flood risk management and resultant loss of ecological variation in the remaining river length subject to these activities. However, the area of H3260 is considered to be viable. The majority of habitat loss is historical, taking place in a number of phases throughout history but most recently in the period of agricultural intensification following World War II. Peak rates of loss at a UK level have been estimated at 0.15% per year, and overall loss is estimated at less than 10% of Favourable Reference Area. The risk of further loss is currently low and the habitat area is considered stable.

4. Specific structures and functions **(including typical species)**

4.1 Main pressures [2.4.10]

The main pressures affecting H3260 are listed below. The related EC codes are shown in brackets.

- Pollution (**110 Use of pesticides, 120 Fertilisation, 422 Disposal of industrial waste, 421 Disposal of household waste, 701 Water pollution**)

The habitat suffers from a wide range of pollution impacts, including organic pollution, eutrophication, siltation, acidification, and other forms of toxic pollution (industrial discharges, sheep dip and other agrochemicals). Pollution may arise from atmospheric sources, consented effluents, catchment land uses (particularly agriculture), or small point sources such as septic tanks. Most of these impacts act more on certain sub-types of the Annex 1 habitat, and on certain parts of the biota, than on others.

- Hydrological interventions (**130 Irrigation, 852 Modifying structures of inland water courses**)

These include major upland impoundments, which have flooded the Annex 1 habitat and severely affected the hydrological and thermal regime of the habitat downstream, and abstractions (either direct from the river habitat or from groundwaters supplying them) that intensify ecological stress at times of natural low flows. Headwater impoundment is widespread in upland catchments, whilst abstraction stress is significant across most of lowland England.

- Physical interventions (**830 Canalisation, 852 Modifying structures of inland water courses, 910 Silting up**)

The Annex I habitat resource has been subject to extensive physical modification, including channel widening, channel deepening, channel straightening, and the construction of in-channel structures that impound flows, enhance siltation and prevent movement of species. Overall, there has been a widespread loss of habitat niches for characteristic flora and fauna, involving loss of characteristic diversity in current velocities, water depth and substrates, direct loss of coarse substrates through dredging, loss of riparian hydrological transition zone and loss of floodplain connectivity. Even in relatively unmodified examples of the habitat type, river channels are frequently fossilised by an on-going programme of bank reinforcement and repair that prevents movement within the floodplain.

- Biological interventions (**220 Leisure fishing, 954 Invasion by a species, 971 Competition)**

A considerable proportion of the Annex I habitat is affected by non-native species. Himalayan balsam (*Impatiens glandulifera*) and Japanese knotweed (*Fallopia japonica*) are widespread along many river corridors falling under the Annex I habitat definition. Various species of non-native crayfish (but particularly signal crayfish) have over-run the calcareous component of the habitat type, having a devastating effect on the native white-clawed crayfish (itself an Annex II species) as well as serious consequences for the wider food web. Fish stocking is an issue on many rivers falling under the habitat definition, most notably in relation to brown and rainbow trout stocking into salmonid and rheophilic cyprinid fisheries.

4.2 Current condition

Description of current condition is divided into four components: i., the condition of the SAC network for the habitat; ii., the condition of the wider SSSI network for river habitat (which includes data from i); iii., the condition of the wider river network (which includes consideration of i. and ii.); and iv., the condition of typical species.

The condition of the SAC and SSSI network is assessed through Common Standards Monitoring (CSM) by the UK conservation agencies. Assessments are made on the basis of compliance with a range of environmental and biological attributes of critical importance to river habitat. The condition assessment for SAC river habitat is the same as the assessment for SSSI river habitat, and features targets for key chemical, hydrological and physical environmental attributes, as well as for attributes relating to plant community composition and invasive species. Sites are judged to be in one of a number of condition categories, comprising Favourable, Unfavourable and Destroyed with subcategories for the first two of these indicating trends (Recovering and Declining). Details of CSM for SSSI and SAC river habitat can be found at www.jncc.gov.uk.

The status of the wider river network will in future be assessed in relation to ecological status under the Water Framework Directive (WFD). The relationship between judgements of High and Good Ecological Status (the basic objectives of the WFD) under the WFD and Favourable Condition under CSM is not simple. It is likely to vary between environmental and biological attributes, depending on the precise decision-making process used to derive each target as well as the scale of the management task (at a national level). Sometimes FC will equate to HES, sometimes (and probably in the longer term) it may equate to near GES, sometimes it will sit at points between the two, and sometimes it will sit above HES.

Quantitative definitions of HES and GES are still under development. To give an example of the level of protection that GES might provide, the boundary between Good and Moderate Ecological Status that has been proposed in the UK for evaluating the status of the riverine macroinvertebrate community is set at the loss of two invertebrate orders (e.g. stoneflies, caddis-flies) compared to the reference (unimpacted) community. This would clearly be unacceptable as a basis for FC.

The best national assessment currently available in relation to the wider river network is the River Basin Characterisation study undertaken by the UK environmental agencies, which evaluates the risk of not achieving Good Ecological Status across the river network. Details of this can be found on the websites of the UK environmental agencies, e.g. www.environmentagency.gov.uk.

Note that it is unclear what proportion of the total H3260 habitat resource lies within SACs and SSSIs, although it is likely to be less than 10%.

4.2.1 Common Standards Monitoring condition assessments

Condition assessments based on Common Standards Monitoring (see http://www.jncc.gov.uk/page-2199) provide a means to assess the structure and functioning of H3260 in the UK. The following attributes were examined for all CSM assessments relevant to the habitat:

- Extent
- Composition of macrophyte community
- Macrophyte community structure
- Water quality
- Hydrology

SAC condition assessments

Table 4.2.1 and Map 4.2.1 summarise the Common Standards Monitoring condition assessments for UK SACs supporting habitat H3260. These data were collated in January 2007. The maps give an impression of the overall spread of where Unfavourable and Favourable sites exist (summary statistics for the map are given in Section 7.2). The combined assessments show that of the SACs assessed:

- 97% of the area and 94% of the number of assessments was Unfavourable;
- the total UK habitat area in Unfavourable condition is not known.

Causes of Unfavourable condition vary, but eutrophication, siltation and physical habitat modification feature strongly. Abstraction and impoundment-related stresses are less often recorded but are poorly assessed at present, so are likely to become more prominent as reasons for Unfavourable condition as evaluations are improved. The significant presence of a range of non-native species, particularly invasive plants of the river margins and banks, is also an important reason for Unfavourable condition.

Table 4.2.1 Common Standards Monitoring condition assessment results for UK SACs supporting H3260. See notes below table for details. Information on the coverage of these results is given in Section 7.2.

Condition	Condition sub-categories	Area (ha)	Number of site features
Unfavourable	Declining	195	2
	No change	1,871	10
	Unclassified	434	4
	Recovering		
	Total	2,500	16
	% of all assessments	***97%***	***94%***
	% of total UK resource	***unknown***	***unknown***
Favourable	Maintained		
	Recovered		
	Unclassified	69	1
	Total	69	1
	% of all assessments	***3%***	***6%***
	% of total UK resource	***unknown***	***unknown***

Notes

1. Data on features that have been partly-destroyed have been excluded from this table because they are not relevant to the consideration of present condition.
2. The data included are from CSM assessments carried out between April 1998 and December 2006. NB: These include additional and some up-date data from those used in the six year report produced by JNCC. (Williams, J.M., ed. 2006. *Common Standards Monitoring for Designated Sites: First Six Year Report*. Peterborough, JNCC).
3. Only assessments made for qualifying interest features on SAC have been included in this analysis.
4. Area figures for CSM assessments have been calculated using the data presented on the standard Natura 2000 data forms submitted to the EU.

SSSI/ASSI condition assessments

Table 4.2.2 and Maps 4.2.2 and 4.2.3 summarise the Common Standards Monitoring condition assessments that were judged to be either strongly or weakly indicative of the condition of the Annex I habitat on SSSI/ASSIs (see Technical note II for details of methodology behind this). These data were collated in January 2007. The maps give an impression of the overall spread of where Unfavourable and Favourable sites exist (summary statistics for the maps are given in Section 7.2). The combined condition assessments show that of the SSSI/ASSI assessments considered:

- 91% of strongly indicative assessments were Unfavourable.

Table 4.2.2 Common Standards Monitoring condition assessment results for UK SSSI/ASSIs that were judged to be either strongly or weakly indicative of the condition of H3260 on SSSI/ASSIs. See notes below table and Technical note II for further details.

Condition	Condition sub-categories	Number of assessments	
		Strongly indicative assessments (Category 1)	Weakly indicative assessments (Category 2)
Unfavourable	Declining	8	
	No change	47	
	Unclassified		
	Recovering	7	
	Total	62	
	% of all assessments	***91%***	***%***
Favourable	Maintained	5	
	Recovered		
	Unclassified	1	
	Total	6	
	% of all assessments	***9%***	***%***

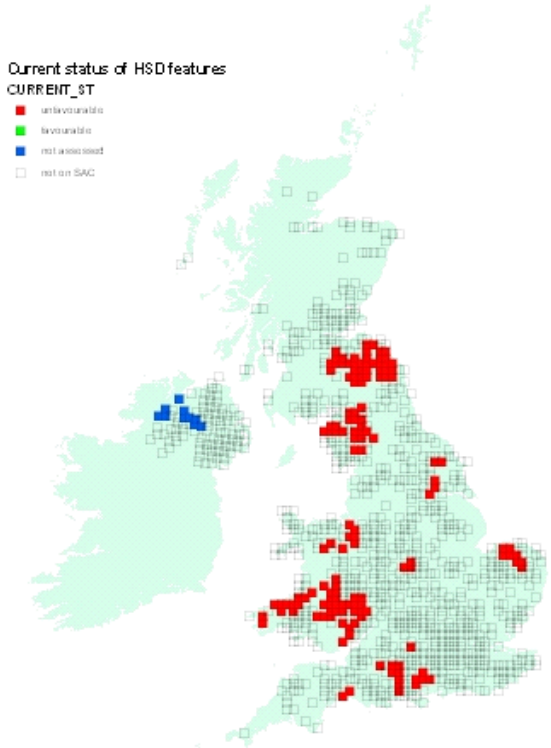
Notes

1. Data on features that have been partly-destroyed have been excluded from this table because they are not relevant to the consideration of present condition.
2. The data included are from CSM assessments carried out between April 1998 and December 2006.

Wider H3260 habitat resource

There is no analogous holistic assessment of the structure and function of the wider Annex 1 habitat resource. However, various evaluations of specific factors on structure and function are generated within different parts of the UK, such as those contained with the Environment Agency's State of the Environment Report. These factors can be categorised into pollution (point source and diffuse source), hydrological interventions (catchment land management, flow regulation and abstraction), physical interventions (river engineering, riparian land use), and biological interventions (non-native species introductions, fish stocking, fish removals), and are discussed in Section 5. The most comprehensive account of these factors is the River Basin Characterisation (RBC) study undertaken as part of the implementation of the Water Framework Directive. The assessments of factors within the RBC study are combined to give an overall judgement of the risk of failing Good Ecological Status (GES). Although the operational definition of GES for rivers in the UK is set at lower level of condition than that used to judge the favourable condition of SACs and SSSIs, the RBC risk assessment is a good broad indicator of risks to structures and function of the Annex 1 Habitat. Under this assessment, a large proportion of the river network has been found to be at significant risk of failing GES.

Current Condition of H3260 based on Common Standard Monitoring condition assessments (See Sections 4.2 and 7.2 for further information)

Map 4.2.1 SAC assessments	**Map 4.2.2** Assessments strongly indicative of the condition on SSSI/ASSIs	**Map 4.2.3** Assessments weakly indicative of the condition on SSSI/ASSIs
		Not applicable
Key Red = Unfavourable, i.e. the square contains at least one SAC where this feature is present and has been judged to be Unfavourable Green = Favourable, i.e. the square contains at least one SAC where this habitat feature is present and has been assessed as Favourable but there are no Unfavourable SAC features Blue = SAC not assessed, i.e. the square contains at least one SAC supporting this habitat feature but no assessment has been reported Transparent = SAC feature not present, i.e. the square does not contain any SAC features of this habitat type	Key* Green – 80 – 100% of assessed features on 10-km square are Favourable Yellow - 50 – 80% of assessed features on 10-km square are Favourable Orange - 20 – 50% of assessed features on 10-km square are Favourable Red - 0 – 20% of assessed features on 10-km square are Favourable *This is the same key as was used for JNCC CSM Report 2006	

4.3 Typical species

Typical species[2.5.3]: None used

Typical species assessment[2.5.4]: Not applicable

Ranunculus species have been identified as potential species for informing on the conservation status of H3260. Unfortunately it was not possible to assess their faithfulness to related NVC types A16, A17, A18, A19, and A20. No typical species have been assessed.

Table 4.3.1 Trends and faithfulness of selected typical species for H3260

Typical species [2.5.3]	Faithfulness to habitat H3260 (based on analysis of NVC synoptic tables)	Trend over last 25 years from BSBI atlas – based on change in 10 km square occupancy across UK (see http://www.jncc.gov.uk/page-3254)
Ranunculs pelatatus	No information	Increasing
Ranunculus penicillatus pseudofluitans	No information	Increasing
Ranunculs fluitatntis	No information	Increasing
Ranunculus penicillatus penicillatus	No information	Increasing

The condition of *Ranunculus* species is a concern in many rivers of the habitat type, particularly in lowland examples. Any stresses that reduce the availability of shallow, turbulent flows of clear, un-enriched water over clean gravels will affect the habitat suitability for *Ranunculus* beds – factors include abstraction, river engineering, siltation and nutrient enrichment.

Atlantic salmon (*Salmo salar*) is an Annex II species characteristic of many of the rivers of the habitat type. This species is failing its conservation limits on many of these rivers (see for example Environment Agency annual salmon and trout catch statistics) – whilst exploitation at sea is a major issue, siltation of spawning gravels and eutrophication are additional stresses.

Allis shad (Alosa alosa, another Annex II species) historically occurred in the main channels of many rivers in the UK, including those conforming to the H3260 habitat. In-channel impoundments have contributed greatly to their decline, preventing access to their natural spawning grounds which can be hundreds of miles upstream from the estuary. This species has much lower swimming strength than salmon or sea trout, such that fish pass solutions for migratory salmonids are generally inadequate for shad.

White-clawed crayfish (*Austropotamobius pallipes*, again Annex II) has suffered catastrophic losses in range in the UK over the past 20 years, as a result of the spread of non-native crayfish species and associated crayfish plague. This is symptomatic of the effect that biological introductions can have on aquatic habitats such as H3260. These non-native crayfish species have a wider impact on the impact through the destabilisation of riverbanks and high levels of predation on invertebrate species and fish eggs and fry.

4.4 Conclusions on specific structures and functions (including typical species)

Conclusion[2.6.iii]: Unfavourable – Bad and deteriorating

The EC Guidance states that where "more than 25% of the area of the habitat is Unfavourable as regards its specific structures and functions", the conclusion should be Unfavourable – Bad. In the UK this was generally taken to mean that more than 25% of the habitat area is in Unfavourable condition.

On the basis of the condition of the designated site network (SAC and SSSI) and the available information on the wider river network, it is considered that substantially more than 97% of SAC resource is at Unfavourable status and that 8% is still declining. The ASSI/SSSI data shows that 91% of features assessed are Unfavourable. Although this judgement is based on designated site data, it is reasonable to consider that the state of SACs and ASSIs/SSSIs is representative of the state of the wider UK resource. The structures and function are heavily degraded by a range of anthropogenic chemical, hydrological, physical and biological interventions on a large scale. The geographical influence of these interventions varies but cover the entire range of the habitat, with some being most keenly felt in the uplands (such as acidification), and others being most keenly felt in the lowlands (physical habitat degradation).

5. Future prospects

5.1 Main factors affecting the habitat

5.1.1. Conservation measures

- Protection within designated sites

An unknown amount of the total current UK resource lies within SACs and SSSIs with management measures specifically aimed at maintaining and enhancing the features for which they are designated, particularly to address hydrological, biological and geomorphological issues (see 5.1.2).

- Water Framework Directive

In addition to the drive for improvement generated by the SAC and SSSI network, the Water Framework Directive (WFD) is adding considerable impetus for widespread action on issues affecting the resource of this habitat such as abstraction licences and pollution (see 5.1.2).

- UK BAP

The habitat is covered by the Rivers and streams action plan under the UK Biodiversity Action Plan (see http://www.ukbap.org.uk), as well as under country and local biodiversity action plans and strategies, with targets to maintain, improve, restore and expand the resource.

- Channel modification

If channelised river sections were restored to their characteristic meandering state, the total area covered by the habitat would increase by a modest amount. The complexity (and hence quality) of the existing habitat degraded by channelisation works would also increase. However, channel straightening is often associated with on-going uses of the river (particularly flood management) and its floodplain which this makes large-scale restoration a difficult and costly operation. Efforts to restore the physical condition of rivers have so far been of a highly limited nature and have not affected the total area of H3260.

- England Catchment Sensitive Farming Delivery Initiative

In England, a major supportive campaign (the England Catchment Sensitive Farming Delivery Initiative, ECSFDI) has been launched to help farmers adopt practices that control nutrient and silt pollution, in advance of the application of new policies including reserve regulatory powers. The ECSFDI is focused on the catchments of SACs and SSSIs under particular threat from agricultural pollution, including the majority of river SACs. It is likely that the supportive approach of the ECSFDI will bring about limited improvement, and that new regulatory measures will need to be applied to control agricultural sources effectively. Action is also likely to be required on smaller point sources, such as those serving small villages and hamlets, as well as clusters of non-sewered dwellings.

- Wales Sensitive Farming Project

5.1.2 Main future threats[2.4.11]

The most obvious major future threats to H3260 are listed below, several of which are referred to in Section 4.1. The related EC codes are shown in brackets.

- Pollution (**110 Use of pesticides, 120 Fertilisation, 422 Disposal of industrial waste, 421 Disposal of household waste, 701 Water pollution**)

Levels of organic pollution and industrial pollution (including that resulting in acidification of upland watercourses) have generally been reducing in recent decades, as a result of a decline in heavy industry and progressive investment in the treatment of sewage effluents. Some progress has been made in reducing phosphorus loads through improved treatment at major sewage works under the Urban Waste Water Treatment Directive and (for SACs and SSSIS) under the Habitats Directive and national legislation. However, actions to control sources and smaller point sources of phosphorus, silt loads from the catchment, and sheep dip and other agrochemical impacts are in their early stages. In addition, the role of nitrogen pollution in riverine eutrophication is unclear – if this needs to be controlled at levels that will limit plant growth, measures beyond the existing UK action plan for the Nitrates Directive will be required to achieve this. In England and Wales, a review of all discharge consents affecting SACs is being undertaken, which should lead to significant reductions in pollution stress on this Annex 1 habitat. A considerable amount of improvement work is also being undertaken on SSSI rivers falling under the Annex I habitat definition.

- Hydrological interventions (**130 Irrigation, 852 Modifying structures of inland water courses**)

In England and Wales, a review of all abstraction licences affecting SACs is being undertaken, which should lead to significant reductions in abstraction stress on this Annex 1 habitat. However, due to the essential nature of many of these abstractions, there may be a significant number of cases made for Over-riding Public Interest (OPI). A considerable amount of improvement work is also being planned on SSSI rivers falling under the Annex I habitat definition, although again OPI may be a barrier to hydrological restoration. The Water Framework Directive is adding impetus to the drive for controlling the ecological impacts of abstraction stress. However, watercourses involved in essential water supply are likely to fall under the definition of heavily modified water bodies, making it unclear how much ecological improvement will be secured. Similarly, the prospects of removing impoundment effects in headwater catchments are generally poor, due to the essential water supply function that many serve. Most action is likely to be restricted to mitigating the effects of impoundment through mimicking natural hydrological and thermal regimes in compensation flows.

- Physical interventions (**830 Canalisation, 852 Modifying structures of inland water courses, 910 Silting up**)

Strategic, whole-catchment, river restoration is necessary to mend the damage caused by past engineering works. Pilot studies are currently being conducted in England, with the intention of establishing a programme of work on SAC and SSSI rivers. Even then, there are some major constraints to widescale restoration, associated with on-going uses of river channels for flood risk management and land drainage. The Water Framework Directive should add impetus to restoration efforts, but much of the river length that has been subjected to channelisation is likely to fall within the heavily modified water bodies definition and so have modest environmental objectives.

- Biological interventions (**220 Leisure fishing, 954 Invasion by a species, 971 Competition**)

So far, no national strategic response to these invasive species has been mounted. Site-specific mitigation has been attempted, but has generally had little effect. Strategic approaches to the control of the most invasive plant species are being piloted in the catchments of certain SAC rivers, involving the establishment of a coordinating project officer and the marshalling of local volunteer effort. However, biological control agents may be the only way in which these species can be effectively countered, necessitating focused research. Fish stocking guidelines are being established for SAC rivers in England and Wales to prevent adverse effects on the habitat type and associated Annex II species, including salmon, crayfish, bullhead, twaite and allis shads. A nationally applicable trout stocking policy has also

been put in place to avoid any further intensification of stocking into rivers, although the potential of this policy to reduce stocking intensity appears limited.

- Climate change (**910 Silting up**, **952 Eutrophication**)

Based on the literature review (Technical note IV) climate change is considered a major threat to the future condition of this habitat especially in the long term. Predicted climate change will add further drought and thermal stress on rivers already suffering from multiple stressors. More intense rainfall events will deliver greater amounts of fine sediment and phosphorus from the catchment, adding to siltation and eutrophication pressures. They will also increase the pressure for the maintenance and enhancement of channel modifications for flood risk management that degrade physical habitat. To counter these prospects, there is an increasing emphasis on catchment-based solutions to freshwater management and a focus on restoring natural hydrological processes as a means of increasing the ability of catchments to cope with climate change. This should provide a drive towards targeted river restoration and floodplain re-wetting in strategic parts of catchment where flooding can be accepted, in order to prevent flooding in other parts of the catchment to protect people and property.

However, there is a high degree of uncertainty in defining future climate threats on habitats and species due to uncertainty in: future greenhouse gas emissions; the consequential changes in climatic features (for instance temperature, precipitation CO_2 concentrations); the responses of habitats and species to these changes (for instance location, phenology, community structure) and the role of other socio-economic drivers of environmental change. The scale of change in habitats and species as a result of climate change will vary across ecosystems. Small changes in the climate are more likely to have a substantial impact on habitats and species which exist within a narrow range of environmental conditions. The future impacts of climate change on UK biodiversity will be exacerbated when coupled with other drivers of environmental change.

5.2 Future condition **(as regards range, area covered and specific structures and functions)**

5.2.1 Common Standards Monitoring condition assessments

The Common Standards Monitoring condition assessments reported in Sections 4.2.1-2. provide a basis to predict the potential future condition of H3260 in the UK. This involved treating all assessments currently identified as either Favourable or Unfavourable recovering as future-favourable: remaining categories were treated as future-unfavourable – see Table 5.2.1.1. There are a number of caveats to this approach, which are set out beneath this table.

SAC condition assessments

Table 5.2.1 and Map 5.2.1 summarise the predicted potential future condition of H3260 on UK SACs. This is based on the approach described above. The maps give an impression of the overall spread of where future-unfavourable and future-favourable sites are predicted to occur (summary statistics for the map are given in Section 7.2). The combined assessments show that of the SACs assessed:

- 3% of the area and 6% of the number of assessments fall within the future-favourable category;
- the total UK habitat area expected to fall within the future-favourable category is not known.

Table 5.2.1 Predicted future condition of UK SACs supporting H3260 based on current Common Standards Monitoring condition assessments. See notes below table for details. Information on the coverage of these results is given in Section 7.2.

Future condition	Present condition	Area (ha)	Number of site features
Future-unfavourable	Unfavourable declining	195	2
	Unfavourable no change	1,871	10
	Unfavourable unclassified	434	4
	Total	***2,500***	***16***
	% of assessments	***97%***	***94%***
	% of total UK extent	***unknown***	***unknown***
Future-favourable	Favourable maintained		
	Favourable recovered		
	Unfavourable recovering		
	Favourable unclassified	69	1
	Total	69	1
	% of assessments	***3%***	***6%***
	% of total extent	***unknown***	***unknown***

Note that the scenario presented above is based on the same information as used to construct the Table 4.2.1. It is based on the following premises:
(i) the unfavourable-recovering condition assessments will at some point in the future become Favourable.
(ii) all unfavourable-unclassified sites will remain Unfavourable, which is probably overly pessimistic;
(iii) sympathetic management will be sustained on sites already classified as Favourable and these will not be seriously damaged by any unforeseen events.
IMPORTANT NOTE: we do not have information on the timescale of the predicted recovery, which may be influenced by many past, natural and human related factors. A sustained, sympathetic management regime is more likely to result in 'Favourable' condition being attained.

The prognosis for H3260 habitat within the SAC network is poor, However, there is a considerable amount of effort being invested in the UK to determine the necessary management action to bring SACs into Favourable Condition, and to secure that management (see Section 5.1). The inclusion of SACs as Protected Areas under the Water Framework Directive provides important added impetus to this work. Whilst some of the management issues are complex and costly to address, it is hoped that this work will allow parts of the SAC network to achieve a condition of Unfavourable recovering by 2010. This will make the prospects for the SAC network appear more optimistic.

SSSI/ASSI condition assessments

Table 5.2.2 and Maps 5.2.2 and 5.2.3 summarise the predicted potential future condition of H3260 on UK SSSI/ASSIs. This is based on the approach described above and utilises condition assessments that were judged to be either strongly or weakly indicative of the condition of the Annex I habitat on SSSI/ASSIs (see Technical note II for details of methodology behind this). The maps give an impression of the overall spread of where Unfavourable and Favourable sites exist (summary statistics for the maps are given in Section 7.2). The combined condition assessments show that of the SSSI/ASSI assessments considered:

- 19% of strongly indicative assessments fall within the future-favourable category.

Table 5.2.2 Predicted future condition of H3260 on SSSI/ASSIs based on Common Standards Monitoring assessments that were judged to be either strongly or weakly indicative of the condition. See notes below table and Technical note II for further details.

Future condition	Present condition	Number of assessments	
		Strongly indicative assessments (Category 1)	**Weakly indicative assessments (Category 2)**
Future-unfavourable	Unfavourable declining	8	
	Unfavourable no change	47	
	Unfavourable unclassified		
	Total	***55***	
	% of assessments	***81%***	***%***
Future-favourable	Favourable maintained	5	
	Favourable recovered		
	Unfavourable recovering	7	
	Favourable unclassified	1	
	Total	13	
	% of assessments	***19%***	***%***

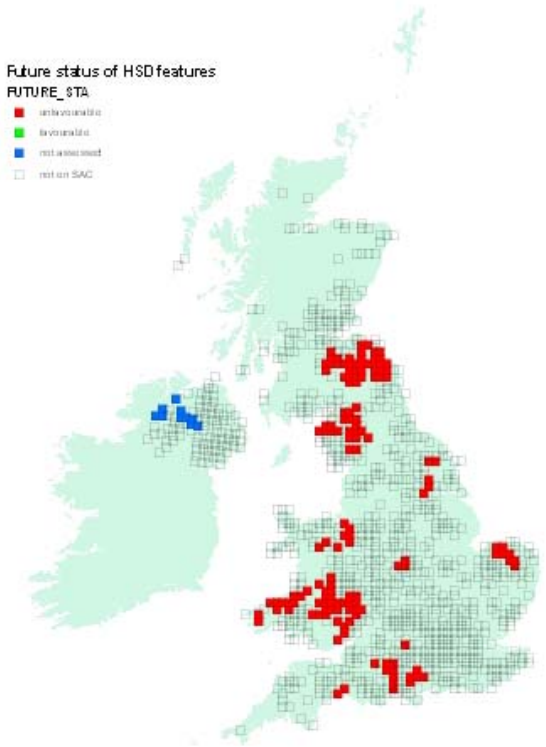
Note that the scenario presented above is based on the same information as used to construct the Table 4.2.2. It is based on the following premises:
(i) the unfavourable-recovering condition assessments will at some point in the future become Favourable.
(ii) all unfavourable-unclassified sites will remain Unfavourable, which is probably overly pessimistic;
(iii) sympathetic management will be sustained on sites already classified as Favourable and these will not be seriously damaged by any unforeseen events.
IMPORTANT NOTE: we do not have information on the timescale of the predicted recovery, which may be influenced by many past, natural and human related factors. A sustained, sympathetic management regime is more likely to result in 'Favourable' condition being attained.

This shows a slightly better prognosis, although it is not clear why since SSSI/ASSI rivers are generally subject to the same pressures as SACs at similar levels of intensity. In fact, a worse prognosis than for SAC rivers might be predicted, on the basis that SSSIs have no European Status and are therefore dependent on national Governmental commitments for their restoration. Importantly, aquatic SSSIs have no special status under the Water Framework Directive. In England and Wales there are Governmental targets for restoring the SSSI network by 2010, with associated processes to identify and implement 'Remedies'. Whilst aquatic SSSIs present particular challenges due to the complexity of the management issues, remedies for achieving Favourable Condition are being agreed with responsible bodies in England and Wales and it can be hoped that more SSSI rivers will be classed as Unfavourable recovering in the next few years if this work continues to have momentum and resources.

Wider H3260 habitat resource

The prospects for the wider river network will not become clear until the Programmes of Measures to be implemented under the Water Framework Directive (WFD) are defined. Whilst the WFD contains all of the tools necessary to bring about the necessary improvements in the condition and extent of the H3260 resource, the extent to which these tools will be used in the UK, and to what timescales, is unclear. Current indications are that, in terms of achieving Good Ecological Status (the basic objective of the WFD), there will be only modest expenditure of resources on some of the key management issues in the first round of management measures to be implemented over the period 2009 to 2015. On issues such as physical restoration of rivers, riverine eutrophication and siltation, hydrological stress on rivers, and the control of non-native species, it is likely that the majority of progress will be made on the designated river network.

Predicted Future Condition of H3260 based on Common Standard Monitoring condition assessments (See Sections 5.2 and 7.2 for further information on these maps)

Map 5.2.1 SAC assessments	**Map 5.2.2** Assessments strongly indicative of the condition on SSSI/ASSIs	**Map 5.2.3** Assessments weakly indicative of the condition on SSSI/ASSIs
		Not applicable
Key Red = future-unfavourable, i.e. the square contains one or more SACs where this habitat feature is present and has been predicted to be future-unfavourable Green = future-favourable, i.e. the square contains at least one SAC where this habitat feature is present and has been predicted to be future-favourable Blue = SAC not assessed, i.e. the square contains at least one SAC supporting this habitat feature but no assessment has been reported Transparent = SAC feature not present, i.e. the square does not contain any SAC features of this habitat type	Key* Green – 80 – 100% of assessed features on 10-km square are Favourable Yellow - 50 – 80% of assessed features on 10-km square are Favourable Orange - 20 – 50% of assessed features on 10-km square are Favourable Red - 0 – 20% of assessed features on 10-km square are Favourable *This is the same key as was used for JNCC CSM Report 2006	

5.3 Conclusions on future prospects (as regards range, area covered and specific structures and functions)

Conclusion[2.6.iv]: Unfavourable – Bad and deteriorating

The EC Guidance states that where "habitat prospects are bad, with severe impacts from threats expected and long-term viability not assured", the judgement should be Unfavourable – Bad. In the UK, this was generally taken to mean that habitat range and/or area are in decline, and/or less than 75% of the habitat area is likely to be in Favourable condition in 12-15 years.

CSM site assessment data predict that a large (97%) part of SAC area supporting habitat H2170 and 81% of SSSI assessments will remain Unfavourable in future. However there are reasonable prospects for hydrological, chemical and physical restoration of some of the designated components of the habitat type, particularly the SAC network, if the momentum and resources for action on designated sites can be maintained; however, this is not currently reflected in judgements of site condition trends. The extent to which the wider habitat resource will be restored through the implementation of Water Framework Directive is unclear, but in the medium-term is likely to fall well short of what is required. The definition of Good Ecological Status, the use of lesser objectives (including the definition of 'Heavily Modified Waterbodies') and time derogations are key issues. However, the UK BAP, working towards enhancing future viability, has targets to bring shingle structures into Favourable or recovering condition by 2010 while maintaining the current extent. Despite progress already made and some additional recovery once further conservation measures are put into place, the expectation is that more than 25% of the habitat will be in Unfavourable condition in the next 10-15 years.

6. Overall conclusions and judgements on conservation status [2.6]

Conclusion[2.6.iv]: Unfavourable – Bad and deteriorating

On the basis of the Structure and Function and Future Prospects assessments, the overall conclusion for this habitat feature is Unfavourable – Bad.

Table 6.1 Summary of overall conclusions and judgements

Parameter	Judgement	Grounds for Judgement	Confidence in judgement*
Range	Favourable	Current range is stable and not less than the favourable reference range.	2
Area covered by habitat type within range	Unfavourable – Inadequate	Current extent is below the favourable reference area, but not by more than 10%.	3
Specific structures and functions (including typical species)	Unfavourable – Bad and deteriorating	More than 25% of the habitat area is considered to be Unfavourable as regards its specific structures and functions. Significantly more of the resource in Unfavourable condition is improving than declining.	3
Future prospects (as regards range, area covered and specific structures and functions)	Unfavourable – Bad and deteriorating	Habitat prospects over next 12-15 years considered to be bad, with severe impact from threats expected and long term viability not assured. Further measures are required to address threats to future extent and structure and function for the overall UK resource.	2
Overall assessment of conservation status	Unfavourable – Bad and deteriorating	Two of the individual judgments are Unfavourable – Bad, and deteriorating.	3

Key to confidence in judgement: 1 = High; 2 = Medium; 3 = Low

7. Annexed material (including information sources used 2.2)

7.1 References

CORINE. Biotopes manual, Habitats of the European Community. EUR 12587/3, Office for Official Publications of the European Communities, 1991.

DEVILLERS, P. & DEVILLERS-TERSCHUREN, J. 1993. *A classification of Palaearctic habitats*. Strasbourg: Council of Europe.

ENVIRONMENT AGENCY. 2005. River Basin Characterisation for the Water Framework Directive. See www.environment-agency.gov.uk

ENVIRONMENT AGENCY. 2005. Fisheries Statistics 2005. Salmonid and freshwater fisheries statistics for England and Wales.

ENVIRONMENT AGENCY. 1998. River habitat quality: the physical character of rivers and streams in the UK and Isle of Man. Environment Agency, Bristol.

EUROPEAN COMMISSION DG ENVIRONMENT. 2003. *Interpretation manual of European Union habitats* version EUR25. European Commission DG Environment, Brussels. http://ec.europa.eu/environment/nature/nature_conservation/eu_enlargement/2004/pdf/habitats_im_en.pdf

HATTON-ELLIS, T.,GRIEVE, N. & NEWMAND, J. 2003. Ecology of watercourses characterised by Ranunculion fluitantis and Callitricho-Batrachion vegetation. Conserving Natura 2000 rivers, Ecology series No 11. English Nature, Peterborough.

HOLMES, N.T., Boon, P.J. & Rowell, T.A. 1999. *Vegetation communities of British rivers - a revised classification,* 120 pages A4 softback 10 colour photographs, ISBN 1 86107 458 1.

JACKSON, D.L. & MCLEOD, C.R. (eds.). 2002. Handbook on the UK status of EC Habitats Directive interest features: provisional data on the UK distribution and extent of Annex I habitats and the UK distribution and population size of Annex II species. *JNCC Report*, No. 312. Version 2. www.jncc.gov.uk/page-2447

JOINT NATURE CONSERVATION COMMITTEE. 2003. *2002 Reporting system for Lead Partners*. Joint Nature Conservation Committee, Peterborough. www.ukbap.org.uk

JOINT NATURE CONSERVATION COMMITTEE. 2005. *Common Standards Monitoring CSM*. Joint Nature Conservation Committee, Peterborough www.jncc.gov.uk/page-2217

MCLEOD, C.R., YEO, M. BROWN, A.E., BURN, A.J., HOPKINS, J.J. & WAY, S.F. (eds.). 2007. *The Habitats Directive: selection of Special Areas of Conservation in the UK*. 2nd edn. Joint Nature Conservation Committee, Peterborough www.jncc.gov.uk/SACselection

SCOTTISH ENVIRONMENT PROTECTION AGENCY. 2005. River Basin Characterisation for the Water Framework Directive. See www.sepa.org.uk.

WILLIAMS, J.M. (ed.). 2006. *Common Standards Monitoring for Designated Sites: First Six Year Report*. Joint Nature Conservation Committee, Peterborough. http://www.jncc.gov.uk/page-3520

Map data sources

JNCC International Designations Database. Joint Nature Conservation Committee.

Ranunculus distribution in Northern Ireland 1970-99. Centre for Environmental Data and Recording.

Water courses of plain to montane levels data. 2000. Biological Records Centre.

Water courses of plain to montane levels data.1999. Biological Records Centre.

7.2. Further information on Common Standards Monitoring data as presented in Sections 4.2 and 5.2

Table 7.2.1 Summary of the coverage of the data shown in Tables 4.2.1 and 5.2.1

Data	Value
Number of SACs supporting feature (a)	23
Number of SACs with CSM assessments (b)	17
% of SACs assessed (b/a)	74
Extent of feature in the UK – hectares (c)	
Extent of feature on SACs – hectares (d)	2,903
Extent of features assessed – hectares (e)	2,569
% of total UK hectarage on SACs (d/c)	
% of SAC total hectarage that has been assessed (e/d)	88
% of total UK hectarage that has been assessed (e/c)	

Notes

1. Extent of features on SACs (d) includes only those features that have been submitted on the official Natura 2000 data form as qualifying features. This figure is based on the habitat extent figures presented on standard Natura 2000 data forms.
2. The data included are from CSM assessments carried out between April 1998 and December 2006. NB: these include additional and some up-date data from those used in the six year report produced by JNCC (Williams, J.M., ed. 2006. *Common Standards Monitoring for Designated Sites: First Six Year Report*. Peterborough, JNCC).

Table 7.2.2 Summary of grid square map data shown in Maps 4.2.1-3 and 5.2.1-3

Status	Number of squares	Proportion of all squares
Current – Unfavourable (red)	143	14%
Current – Favourable (green)		
On SAC but not assessed (blue)	10	1%
Not on SAC (transparent)	874	85%
Total Number of 10-km squares (any colour)	1027	
Future – Unfavourable (red)	143	14%
Future – Favourable (green)		