

Section 10

Additional Issues

10.1 Communication and Accessibility

Ineffective communication has been identified as an issue that undermines co-operation between stakeholders and statutory bodies. There is confusion about the numerous initiatives in progress and a perceived lack of co-ordination between different organisations. Improving communication will create an identity and sense of ownership for the river in the wider community, and improve levels of co-operation from key groups.

Possible solutions are:

- Production of a River Avon website and publication, explaining why the river is special, the issues affecting it, how these are being addressed and ways that people can get involved. The website would be authored by a partnership of organisations and ideally hosted by a non-statutory body.
- A seminar related to the River Avon, giving riparian owners and managers an opportunity to learn about ongoing initiatives in the catchment

Because of the large number of riparian owners and managers with an influence on the River Avon cSAC, it has been difficult for regulatory and statutory bodies to work with this group in a structured way. The groups related to hydrological units used in implementation of the WLMPS could be a useful structure for addressing future management issues in the river and valley.

Public access to and involvement with the river is currently relatively limited. Physical access to the river, such as that provided by the Avon Valley path, has potential impacts on the cSAC, and access must be carefully managed to minimise disturbance to the site. However, there are several possible ways in which managed access to the river system and understanding of its biodiversity could be enhanced:

- Enhancement of sites where managed access is possible, for example the rehabilitation project at Netton Bridge.
- Opportunities for the public to get involved in practical work (restoration, monitoring problem species).
- Provision of interpretative material in a variety of media at suitable locations, such as car parks that overlook the river.
- Public events hosted by project partners.

Action required	Delivery		
	By whom	Mechanism	Date
Investigate how best to improve communication between stakeholders and statutory bodies.	EA, EN, WTs, fisheries and landowner interests, LA	?	2004
Depending on the outcome of the WLMP initiative, consider using a similar structure for future consultation between parties (statutory, regulatory and riparian owners/tenants) involved in management of the River Avon cSAC.		-	2003+
Investigate how best to improve public understanding and managed access to the river system.		?	2003+

10.2 Data Management

Large amounts of data exist for the River Avon cSAC, but they are dispersed between organisations and are often not in the most useable format. A possible solution is collating existing data and storing them in a useful format (GIS-based) that would ensure long-term management of the data resource – for example by placing the database with a record centre that would maintain it and distribute regular updates to subscribers. This would provide a tool for management decisions and enable elements of the data resource to be publicly available via a website.

Disseminating elements of the collated data to the wider public would contribute to improving public access to information about the river. There are several possible routes for making data more widely available; the Chalk Rivers website (under development), the Southern Regional Observatory site, or the National Biodiversity Network.

Action underway	Delivery		
	By whom	Mechanism	Date
Data collation and management is currently being investigated by a number of organisations, and as part of Life in UK Rivers .	EA, EN, CERCs	?	?
Action required			
Collate data related to the River Avon cSAC, put in place a database management system and investigate options for making elements of the database publicly available	EA, EN, CERCs, NBN	?	2004

10.3 Boundary of the River Avon cSAC and River Avon System SSSI

English Nature has responsibility for identifying and notifying SSSIs under the Wildlife and Countryside Act. It also carries out the designation of SACs and SPAs, although the government itself is responsible for selection of international sites. All designations are made in accordance with published guidance. The boundaries of the River Avon cSAC/SSSI were based on the available scientific knowledge at the time of notification. If in future new information indicates that the site's interests extend beyond the current boundary English Nature will examine relevant information against the SAC and SSSI selection guidelines, and consider if the designated site should be amended. Any amendment would require formal consultation with all interested parties.

Action required	Delivery		
	By whom	Mechanism	Date
Review the boundary of the cSAC/SSSI if new information indicates that additional parts of the river system fulfil the criteria for inclusion in the cSAC/SSSI.	EN	Routine	?

10.4 Monitoring River SACs in Relation to Conservation Objectives

10.4.1 Favourable Condition Tables

In 2000, English Nature drew up conservation objectives for all SACs, following common standards developed by the statutory conservation agencies in the UK, working through the Joint Nature Conservation Committee (JNCC). These comprise an overall aim – to maintain at (or restore to)

favourable condition the habitats and species for which the SAC was designated – and a set of targets designed to achieve this aim is contained in a favourable condition table (FCT). In rivers, these targets cover attributes such as water quality, flows, morphology and substrate, extent of the plant community, management, disturbance and access for migratory fish.

10.4.2 Assessment Techniques

English Nature has set 2003 as a deadline for completion of the first six-yearly reporting cycle on the condition of SACs and SSSIs. Guidance on the assessment of condition is being drawn up through the JNCC. This involves the development of robust and cost-effective techniques for assessing, for example, plant communities and morphological aspects, such as silt. Some of these are being developed and tested through **Life in UK Rivers**, which will finish at the end of 2003. These include a fluvial audit of channel structure, which was pioneered on the River Wylye, part of the Avon system. This will facilitate the targeting of restoration work.

At present, the only attributes for which there is a tried-and-tested monitoring approach is water quality and the identification of barriers to access by fish. While the water quality targets can be accurately assessed, English Nature has developed a questionnaire approach for the other attributes, based on existing knowledge of the rivers. This is standardised across England to provide a basis for the next cycle of assessment, and to help identify the impacts that are causing unfavourable condition. Measures will be identified – such as those outlined in this conservation strategy – to help achieve the government's target that 95% of SSSIs should be in favourable condition by 2010.

10.4.3 Dividing the Avon into Units

Monitoring depends upon having a unit to monitor. English Nature has divided the Avon system into 13 units, reflecting the slightly changing character of the river and its tributaries. Each one will have an Environment Agency monitoring point for water quality. Other attributes will be assessed, either for the whole reach or at standardised monitoring points.

Action underway	Delivery		
	By whom	Mechanism	Date
Undertake surveys to improve knowledge on the range, distribution and number of bullhead and lamprey in the Avon catchment.	EN, EA	Survey programme	2003
<i>Survey of Ranunculus communities</i>	EN	Survey programme	2002
Surveys of Desmoulin's whorl snail	EN	Survey	2000
Geomorphological audit of River Wylye	EA/EN	Survey	2002
Complete condition assessment of Avon	EN	Assessment	2003
Undertake surveys to improve knowledge on the range, distribution and number of bullhead and lamprey in the Avon catchment.	EN, EA	Survey programme	2003
Action required			
Develop a monitoring strategy for the River Avon cSAC in order to report on favourable condition	EN, EA		2003/4

10.5 Climate Change

Changes in climate have affected the world, and the distribution and abundance of its plants and animals, since the beginning of time. However, during the 20th Century, the rate of climate change increased

dramatically (the greatest in the last 1,000 years), with the 1990s being the warmest decade on record. This coincided with industrial and social development increasing the level of greenhouse gases in the atmosphere and accelerating what is essentially a natural process. Indeed, a recent report by the Intergovernmental Panel on Climate Change concluded that “there is now strong evidence that most of the warming over the last 50 years is attributable to human activities” (IPCC 2001).

This trend is set to continue for at least the first half of the 21st Century, even if a global reduction in greenhouse gases is achieved. IPCC expects average global temperatures to rise between 1.4°C and 5.8°C by 2100, depending on future levels of greenhouse gas emissions. Warming will be accompanied by changing precipitation patterns and increased frequencies of extreme weather events, such as floods and storms. Sea levels will also continue to rise as ice sheets and glaciers melt, and as sea water expands in response to higher temperatures.

Climate change presents a series of important and immediate challenges to scientists, policy makers and the public. In nature conservation, there is already clear evidence to show that plants and animals, including those characteristic of the British countryside and seas, are being affected by climate change. This includes changes in populations, ranges, migration patterns, and seasonal and reproductive behaviour of certain species. Such effects are likely to become more apparent and extensive as climate continues to change, with local species’ extinctions and habitat loss.

Conservation organisations in the UK and Ireland are working together to understand the scientific and policy implications of climate change for nature conservation. A programme of research is underway to evaluate the impacts of climate change on nature conservation resources and propose actions to accommodate these, either by complementing existing activities or through new approaches.

10.5.1 Modelling Natural Resources Response to Climate Change

Conservation organisations in the UK and Ireland commissioned the MONARCH (Modelling Natural Resources Response to Climate Change) study to provide quantitative evidence to complement the



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The New Forest forms part of a case study into climate change and its effect on the River Avon cSAC.

biodiversity assessments based on expert judgement already carried out. In Phase 1 of the study, complex computerised models were developed to estimate changes in the distribution of species under climate change conditions. The Phase 1 study covers the impacts of climate change on a broad range of species (including plants, birds and amphibians) and geological features in terrestrial, freshwater, coastal and marine environments in Britain and Ireland, and considers the implications for nature conservation policy.

The findings of Phase 1 of the MONARCH study can be obtained from the UKCIP Programme Office, or downloaded from www.ukcip.org.uk/model_nat_res/model_nat_res.html.

A Phase 2 study is now underway. It aims to advance the science of predicting possible responses of species to climate change, by adapting the previous approach to a local scale. This will take into account factors such as the suitability of the climate for species distribution, and the capacity for species dispersal, given potential land-use change and restrictions. The outcomes are being assessed for selected case-study areas, including an evaluation of policy and management problems relating to conservation objectives.

The New Forest forms part of one of the case-study areas, and the River Avon cSAC marks its western boundary. Although the focus of the work will be on the species and habitats of a wider area of Hampshire, it may help us to understand the potential impacts of climate change on part of the cSAC.

10.5.2 Potential impacts

Although predictions of the exact impacts of climate change are still uncertain, they all show a similar pattern of changed rainfall and temperature. The consensus for the impact of climate change on the weather in southeast England is drier summers, wetter winters and increased likelihood of extreme events such as storms and droughts (Hampshire's Water Project 2002).

Several studies indicate that projected climate change will have important impacts on freshwater fisheries and aquatic ecosystems. The exact impact of climate change on the River Avon cSAC is not known. However, based on current knowledge, the following may have a direct or indirect impact on the cSAC habitats and species:

- Heavier, more prolonged winter rainfall, increasing frequency and degree of flooding.
- Decrease in summer rainfall leading to drying out of wetland areas, and a decrease in summer flows, including important flushing flows.
- Higher intensity and frequency of summer storms, resulting in flash flooding.
- Groundwater flooding, causing longer-term flooding.
- Increased evaporation and less frequent rain in summer, leading to lower summer flows.
- Impacts on water quality due to reduced dilution of effluent from point and diffuse sources in summer.
- Higher turbulence and silt loads due to increased runoff.
- Changes in water temperature and light levels.
- Increased temperature leading to increased demand for water for domestic and agricultural use.
- Changes in survival, reproductive capacity, and growth of fish and the organisms and habitats on which they depend.

It is outside the scope of this strategy to recommend particular actions to address climate change. However, it is vital that the actions recommended throughout this strategy are implemented using sustainable solutions, which take into consideration climate change.

Action required	Delivery		
	By whom	Mechanism	Date
All actions recommended in the River Avon cSAC Strategy to be implemented using sustainable solutions, which take into consideration climate change.	All	All	Ongoing

