

# Section I

## Introduction

The River Avon and its tributaries are of national and international importance for their wildlife communities. The River Avon was one of the first seven rivers selected as Special Areas of Conservation (SACs) in the UK and was confirmed as a candidate SAC (cSAC) in 2000.

Natura 2000 is a network of areas designated to conserve natural habitats that are rare, endangered or vulnerable in the European community. The Natura 2000 network includes two types of area: An SAC may be designated where the site supports certain rare, endangered or vulnerable species or habitats. If an area supports significant numbers of wild birds and their habitats it may become a Special Protection Area (SPA).

The term Natura 2000 comes from the 1992 European Commission Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora, known as the Habitats Directive. This symbolises the conservation of precious natural resources from the year 2000 and beyond. In the UK the implementation of the Habitats Directive is through the 1994 Conservation (Natural Habitats, & c.) Regulations, known as the Habitats Regulations.

### I.1 Life in UK Rivers

**Life in UK Rivers** was set up by a partnership comprising English Nature, the Environment Agency, the Countryside Council for Wales, Scottish Natural Heritage, the Scottish Environment Protection Agency, and the Scotland and Northern Ireland Forum For Environmental Research. The partners and the European Commission's LIFE Nature Fund jointly funded the project.

The aim of the project was to support the implementation of the Habitats Directive on rivers designated as SACs throughout the UK. As part of this work, conservation strategies were established on seven cSAC rivers. The experience gained will be used to demonstrate good practice to others.

The project also undertook a programme of work to develop knowledge and understanding of ecological requirements of 13 riverine species and one habitat listed on Annexes I and II of the Habitats Directive. Guidance and practical tools for achieving, monitoring and reporting on these species and habitats were also developed.

### I.2 Background to the River Conservation Strategy

The main aim of the Habitats Directive is to promote the maintenance of biodiversity. In particular, member states must work towards the maintenance or restoration to favourable conservation status of the threatened habitats and species listed on Annexes I and II respectively of the Habitats Directive.

The Habitats Directive specifies;

- Member states must establish conservation measures for SACs, including management plans.
- Appropriate steps must be taken to protect designated sites from deterioration of the protected habitats; deterioration of habitats required by species; and disturbance of species.

**Life in UK Rivers** developed river conservation strategies to address the requirement for management plans for river SACs. The strategies place considerable emphasis on identifying appropriate management to maintain or restore individual sites to favourable condition. This will contribute to achieving favourable conservation status of the features at a national and European level.

### I.3 River Avon Conservation Strategy

This conservation strategy aims to identify the issues affecting the River Avon cSAC, existing mechanisms to address these issues, whether these are working, and any further action required. It creates a framework for achieving favourable condition for the designated features, and extends in scope beyond the cSAC boundaries where off-site impacts warrant this. Achieving favourable condition in the River Avon cSAC will depend on the subsequent implementation of the strategy and other ongoing related initiatives.

The strategy was developed in partnership with organisations and individuals involved in managing the river. The first stage in the process was to set up a working group to agree the objectives of the strategy, set parameters for the process, and to define the issues on which the strategy should focus. Topic groups involving a wider range of participants with specialist knowledge of key issues identified by the working group were then established.

### I.4 The River Avon cSAC

The River Avon cSAC site was notified as of European importance for the following internationally rare or threatened features:

- Watercourses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation
- Populations of Atlantic salmon (*Salmo salar*)
- Populations of bullhead (*Cottus gobio*)
- Populations of brook lamprey (*Lampetra planeri*) and sea lamprey (*Petromyzon marinus*)
- The river and adjoining land as habitat for populations of Desmoulin's whorl snail (*Vertigo moulinsiana*).



David Fraser/English Nature

**The rivers and streams in the River Avon cSAC are considered of European importance for their flowing water vegetation habitat, such as here on the River Till.**

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The River Avon is one of the most biodiverse chalk streams in the UK, with over 180 species of aquatic plant having been recorded, one of the most diverse fish faunas, and a wide range of aquatic invertebrates.

The river rises in the Pewsey Vale as a network of clay streams fed by chalk springs, which converge to form the main Avon. The River Avon then flows through Salisbury Plain to Salisbury, to its confluence with the rivers Nadder, Wylde and Bourne. South of Salisbury it develops into a large calcareous river flowing over more acid sands and clay as it passes the New Forest and the Dorset Heaths.

The River Avon cSAC includes the rivers Avon, Bourne, Nadder, Wylde, Till and the Dockens Water. The cSAC is underpinned by five component Sites of Special Scientific Interest (SSSIs): the River Avon system (rivers Avon, Nadder, Wylde, Bourne), River Till, Jones Mill, Porton Meadows, and Lower Woodford Water Meadows, as shown in Figure 2.

Where land adjoining the river (mainly small areas) provides suitable habitat for Desmoulin's whorl snail it has been included in the cSAC boundary.

The River Avon System SSSI was notified in December 1996. At the same time, consultations were conducted on the proposed River Avon SAC, based on existing knowledge and some additional survey. Tributaries were included if known to add representation of different river vegetation communities and SAC features. English Nature's knowledge (both locally and nationally) of the river system has developed considerably since that time, and new information indicates that the site's interests extend beyond the current boundary. See Section 10.3 for further details.

Full details of the cSAC and SSSI designations including flora and fauna, and a list of Operations Likely to Damage the SSSI (OLDs list) are given in Appendix A.

The River Avon cSAC is almost entirely semi-natural in character, having been managed over centuries for agricultural, industrial and sporting purposes. The Upper Avon, Wylde and Bourne are primarily 'chalk stream' in character, while the Nadder is primarily derived from a clay and greensand or sandstone catchment and therefore has a different character. The cSAC also includes the River Till, which is a winterbourne on chalk, and the Dockens Water, running off the New Forest gravels.

Throughout this document reference is made to the upper and lower Avon, meaning the river system north and south of Salisbury respectively.

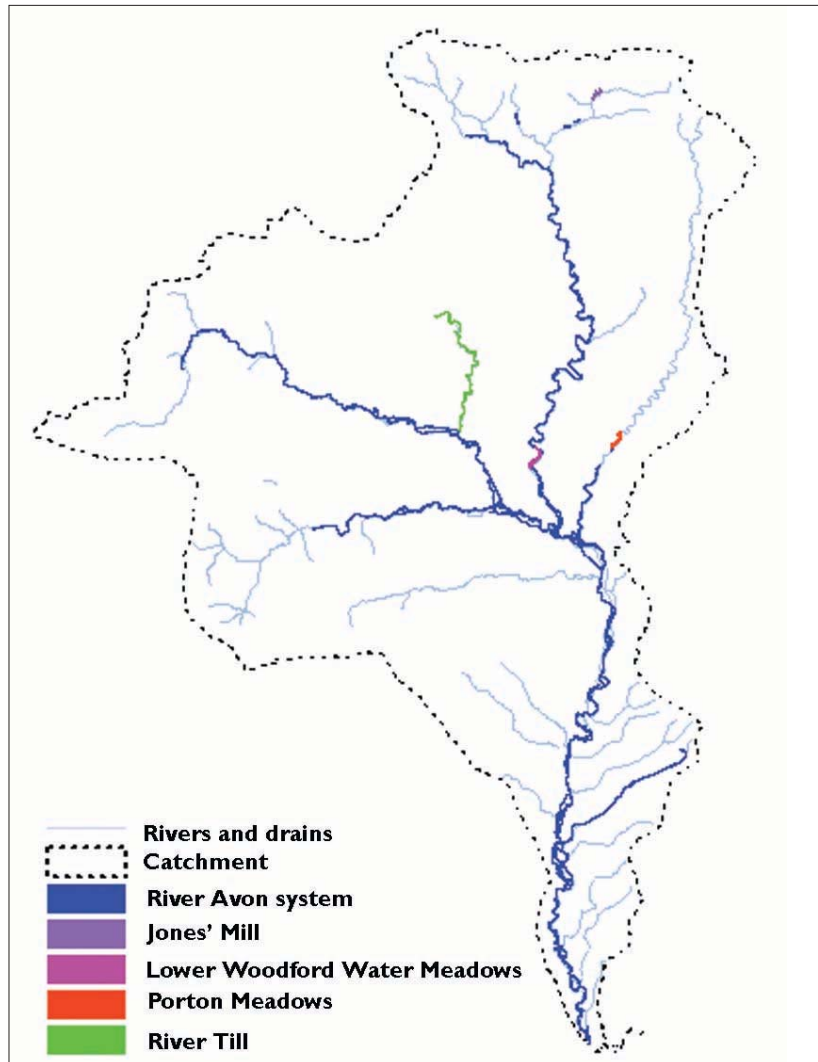


Figure 2. River Avon cSAC component SSSIs

### 1.4.1 Catchment Land Use

In the north of the catchment, the main influence on the rolling chalklands and sheltered chalk river valleys is intensive farming and military activity on and around Salisbury Plain. In the upper reaches of the system the rivers support outstanding chalk stream fisheries. The surrounding land is mainly grazed or arable. The land adjacent to the upper Avon includes small fragments of agriculturally unimproved flood pasture, swamp, fen and wet woodland.

In the south of the catchment, the Avon valley is a flat-bottomed floodplain of primarily low-lying pasture, the exception being waterbodies created by sand and gravel extraction. From Salisbury to Ringwood the floodplain is much broader and the river becomes braided where old water meadow channels exist. The floodplain grassland of the lower Avon Valley is of international importance for wintering wildfowl (see Section 1.5.2).

### 1.4.2 Historic and Current Influences

Although the River Avon is considered to be one of the most biodiverse in lowland Britain, there is concern that a combination of factors is affecting the ecology. Problems include reduced water quality due to increasingly intensive land use, especially where combined with insensitive engineering and/or management. Factors such as climate change and water resource exploitation on a regional basis are also impacting on the ecology.

The River Avon cSAC is a highly managed system and there have been significant historic and ongoing modifications to the river and its floodplain:

- 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 and flood defence purposes.
- Removal of woodland.
- Conversion of swamp and fen habitats to agriculture (including pasture).
- Abstraction of groundwater for agricultural and public water supply.
- Fishery management including stocking, weed cutting and manipulation of wild fish populations, especially for control of coarse fish in the chalk stream reaches.
- Built development.
- Disposal of waste products, such as sewage.
- Watercress farming using the headwater springs.
- 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 floodplain 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.

## 1.5 The Local Natura 2000 Network

The River Avon cSAC is closely linked to several Natura 2000 sites, influencing both supply of water to, and drainage from, these sites. The main Natura 2000 sites related to the Avon are shown in Figure 3 and detailed below.

### 1.5.1 Salisbury Plain cSAC and SPA

Salisbury Plain supports the largest known expanse of unimproved chalk downland in northwest Europe, and is 41% of Britain's remaining area of this rich wildlife habitat. Salisbury Plain is important to the river Avon as it forms much of the catchment of the upper Avon, Bourne, Wylde and Till. Salisbury Plain cSAC is consistent with the Salisbury Plain and Porton Down SPAs, and the area as a whole is of national and international importance for breeding and wintering birds.

A LIFE partnership project recently begun on Salisbury Plain aims to restore the cSAC and SPA site to favourable condition. The £2.3 million project will focus on clearing 294 ha of scrub and 120 ha of plantation, and restoring grazing to 3,663 ha of grassland.

### 1.5.2 Avon Valley SPA

The Avon Valley SPA encompasses the lower reaches of the River Avon and its floodplain between Bickton and Christchurch. The site follows the boundary of the Avon Valley SSSI with the exception of a few small areas to the east and west of the river. The Avon Valley SPA comprises one of the largest expanses of unimproved floodplain grassland in Britain and also includes a series of gravel pits known as the Blashford Lakes.

Features supported by the site include breeding waders and migratory birds. Further details of the SPA and SSSI are given in Appendix A. The Avon Valley is also designated as a Ramsar site.

The Avon valley is intrinsically linked to the River Avon and the drainage ditches connected to it, which form a complex network that determines water levels in the valley. The Avon Valley SPA is suffering a decline, due to a combination of management factors associated with current land use and seasonal variations producing a decrease in water levels on the floodplain.

### 1.5.3 The New Forest cSAC

The New Forest cSAC is one of the most important sites for wildlife in the UK, and is recognised as being of exceptional importance for nature conservation across the European Union. The New Forest is scheduled to become a National Park, which will provide additional protection and status. The proposed park will include a

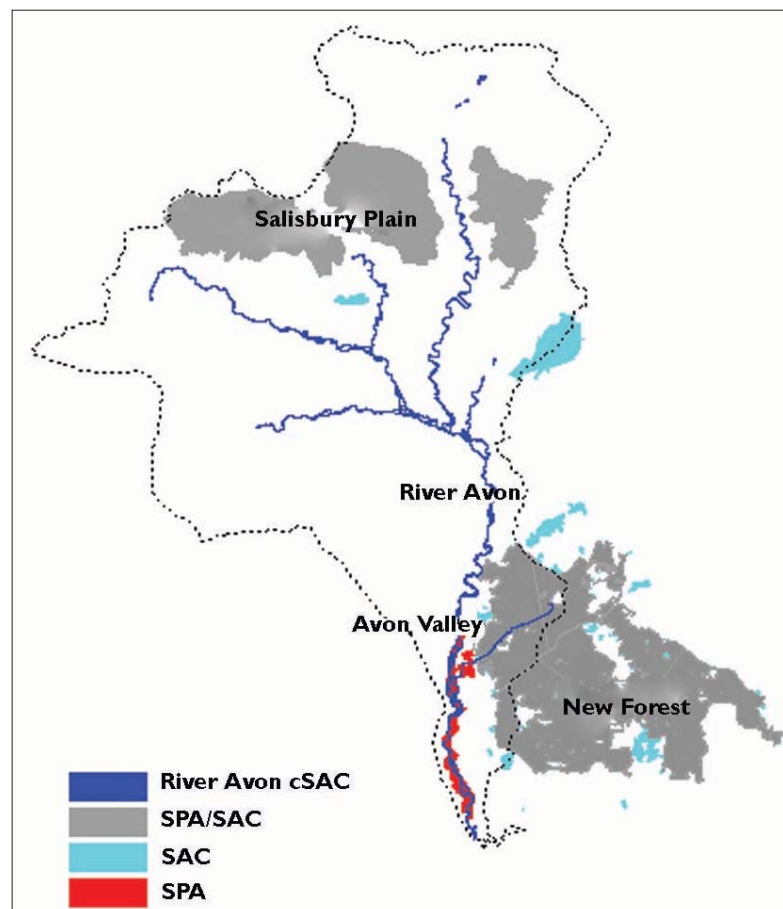


Figure 3. Major local Natura 2000 sites.



Jenny Wheeldon/English Nature

**The New Forest drains to the River Avon through six streams, including the Dockens Water.**

which is part of the River Avon cSAC. New Forest streams are characterised by high winter flood flows and very low summer flows due to the underlying clay strata. (Wright & Westerhoff 2001).

substantial part of the lower Avon valley.

The New Forest cSAC supports a complex mosaic of habitats. Major components are the extensive wet and dry heaths, with rich valley mires and associated wet and dry grasslands, the ancient pasture and enclosed woodlands, rivers and streams, and permanent and temporary ponds. Excellent examples of 13 habitats of European interest are represented, including two priority habitat types.

The drainage pattern of the New Forest is determined largely by three main drainage basins. The New Forest drains to the River Avon via six streams including the Dockens Water,

## 1.6 Statutory Management of the River Avon cSAC

The River Avon is managed either directly or indirectly by a large number of organisations, each with different roles and responsibilities under the Habitats Regulations.

### 1.6.1 Conservation Objectives

The purpose of selecting and managing SACs across Europe is to contribute to sustaining natural resources by maintaining or restoring interest features to favourable conservation status. On an individual SAC level, this term is translated as favourable condition.

In the UK the Joint Nature Conservancy Council (JNCC) has instigated a process through which common standards for establishing conservation objectives and associated monitoring programmes are applied. This has led to the development of a UK approach to establishing SAC conservation objectives.

Conservation objectives set the standard for favourable condition for each feature in a cSAC. They provide the targets that management of the site should achieve, and can be used to report on the effectiveness of measures to maintain or achieve favourable condition.

Conservation objectives are described by a set of attributes that describe or support the features of European importance. English Nature has advised what these attributes should be and their associated targets based on best available knowledge. These attributes are set within draft Favourable Condition Tables (FCTs). For many features, the level of current understanding means that it is not possible to set exact numerical targets and ranges. Therefore, the FCTs may be subject to future modifications as our knowledge develops. The full draft FCTs for the cSAC can be found in Appendix B.

### 1.6.2 Condition Assessment and Reporting

In order to assess the status of the habitats and species listed in the Habitats Directive, member states must report every six years on the condition of their Natura sites. 2002 is the last in the six-yearly reporting cycle on condition of cSACs. In the UK, it will be possible to report on a number of riverine attributes, but methodologies for certain others will not be finalised. There will be an evolutionary process in which attributes are brought on-line for assessment as and when methodologies are ready. Discussions are ongoing to decide who will monitor particular attributes.

**Life in UK Rivers** has established the ecological requirements of 13 freshwater SAC species and one habitat, and developed methodologies for monitoring these features. This work will contribute to refining the FCTs for SACs and establishing monitoring protocols for the features.

Further information on SAC site selection, conservation objectives and monitoring can be found on the JNCC website ([www.jncc.gov.uk](http://www.jncc.gov.uk)).

### 1.6.3 Role of Statutory Authorities

The Habitat Regulations place a general duty on all statutory authorities exercising legislative powers to perform them in accordance with the Habitats Directive. Additionally, relevant and competent authorities in the Avon catchment have particular duties under the Habitats Regulations and Wildlife and Countryside Act.

The Habitat Regulations identify relevant authorities as having particular and special roles in the management of a site. They are defined as statutory bodies having powers and functions that have, or could have, an impact on the area within or adjacent to a European site.

Relevant authorities include the following organisations, with the main relevant authority on the Avon in parentheses:

- Country nature conservation agencies (English Nature)
- Local authorities (relevant district, county, borough and parish councils in Hampshire, Dorset, Wiltshire)
- Environmental agencies (the Environment Agency)
- Sea fisheries committees (the Environment Agency and DEFRA)
- Port, harbour and navigation authorities (Christchurch Borough Council)
- Land drainage authorities (the Environment Agency, local authorities)
- Water companies (Wessex Water, Thames Water, Bournemouth and West Hants Water, Cholderton and District Water).

Competent authorities are those entitled to give an authorisation or consent to a plan or project. They are defined in the Habitats Regulations and include any public or statutory body, including ministers, government departments, public or statutory undertakers, public bodies of any description, any person holding public office, and any person exercising a function of a competent authority. All relevant authorities are competent authorities. Competent authorities have a major role in appropriate assessment of plans or projects and the Review of Consents.

The River Avon System is also designated as an SSSI. Under the Wildlife and Countryside Act (WCA), as amended by the Countryside and Rights of Way Act (2000), English Nature must secure favourable condition of the SSSI and may enforce management to achieve this. Other statutory bodies also have a duty to conserve and enhance SSSIs in carrying out their own works and any consents that they issue.

### 1.6.4 Consideration of New Plans or Projects

Unless directly connected with the management of the site, any new plan or project likely to have a significant effect on the cSAC, either alone or in combination with others, must be subject to an appropriate assessment, even if a plan or project is not located within the cSAC. Appropriate assessment must be carried out in consultation with English Nature as part of a wider decision-making framework required by the Habitat Regulations, as shown in Figure 4.

The scope and content of an appropriate assessment will be determined by the location, size and significance of the proposed plan or project. In general terms, the assessment must consider the implications of the proposal in relation to the site's conservation objectives and should enable the competent authority to ascertain if the proposal will adversely affect the integrity of the site.

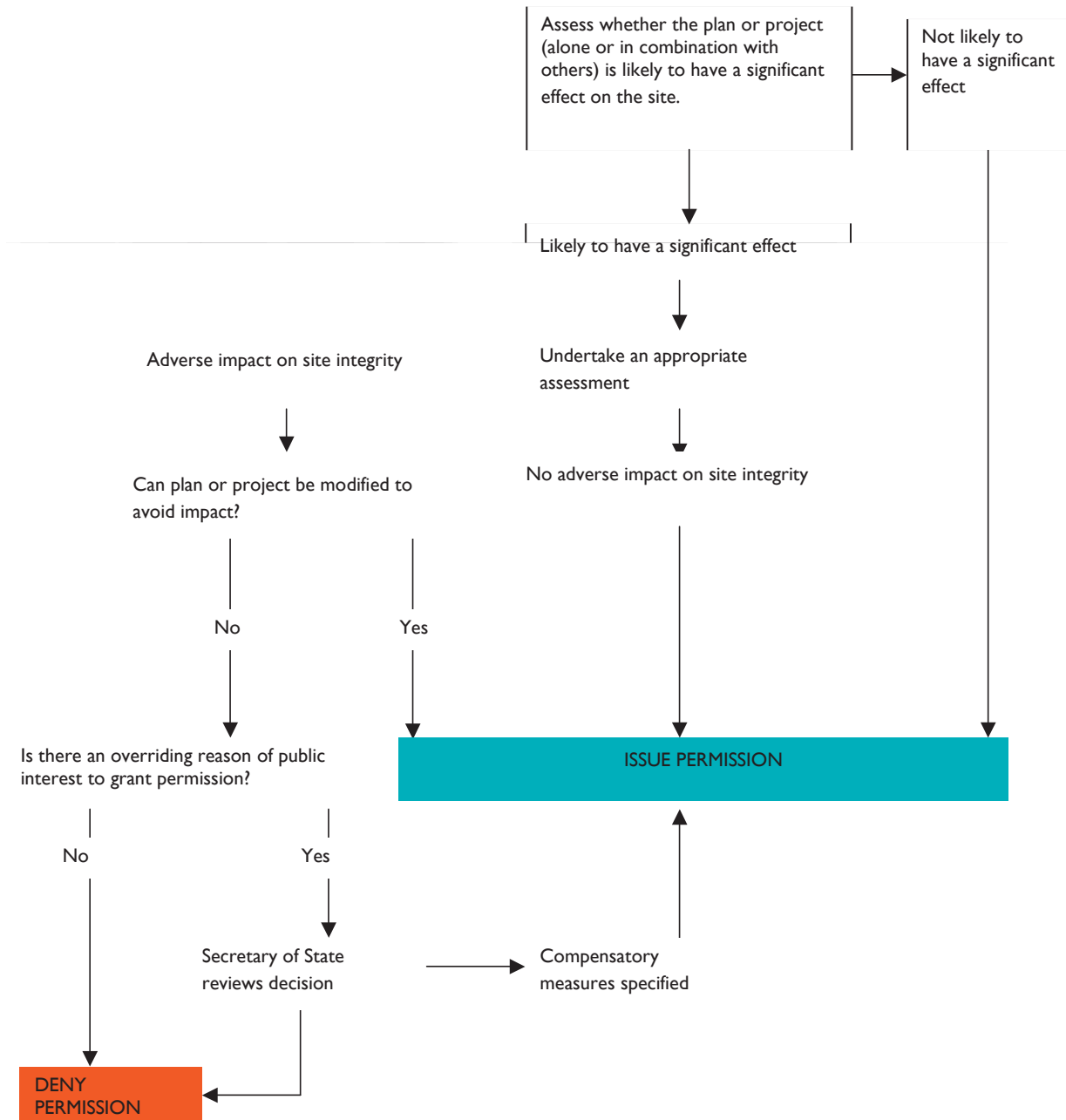


Figure 4. The decision-making framework required by the Habitats Regulations.

The decision-making framework required by the Habitats Regulation, and in particular the appropriate assessment, can be a complex task, particularly where any in-combination effects must be considered. In many cases, competent authorities will not have the expertise to assess the effect of plans or projects, and will need to take advice from English Nature.

The decision-making framework provides a powerful mechanism to ensure that future plans and projects (including consents to discharge, water abstraction licenses, waste management licences, Integrated Pollution Control authorisations and planning permissions) do not have a significant effect on the River Avon cSAC.

### 1.6.5 Review of Consents

Under the Habitats Directive, all competent authorities have a duty to review all outstanding decisions, permissions, consents or authorisations likely to have a significant effect (alone or in combination) on a Natura 2000 site. On the River Avon cSAC the Environment Agency has responsibility for the majority of the existing consents relevant to the site. Planning authorities must also review all outstanding planning permissions granted but not yet fully implemented. The Review of Consents Process is outlined in Figure 5.

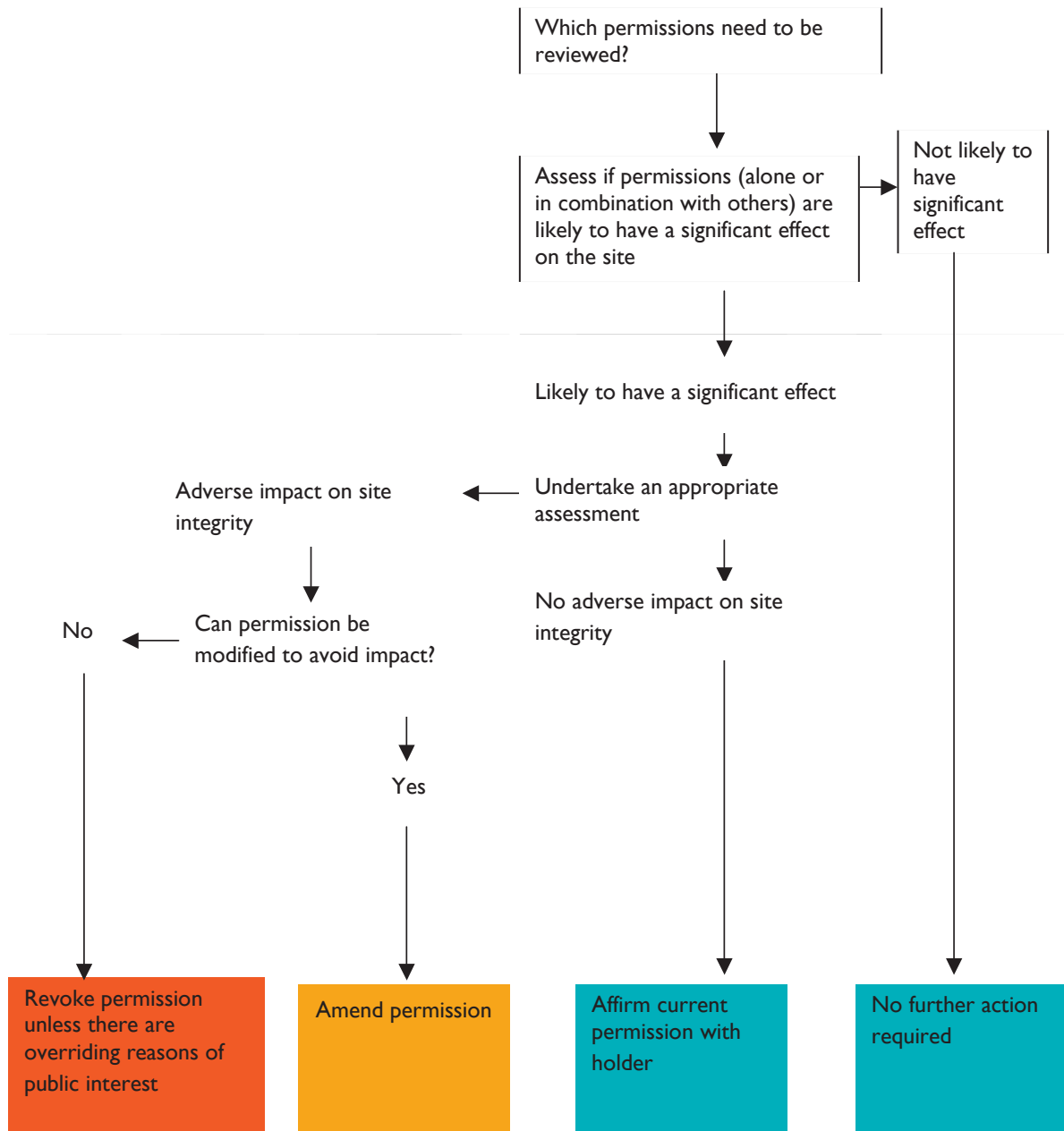


Figure 5. The Review of Consents Process (adapted from Environment Agency 2000)