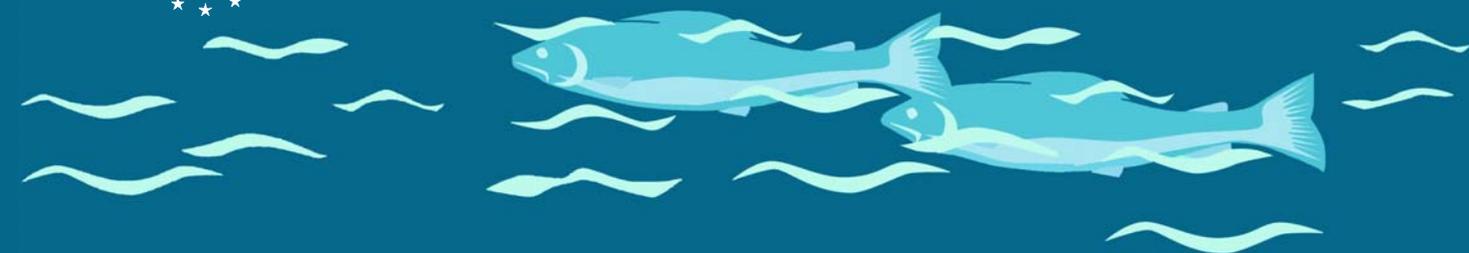


# Developing River Conservation Strategies

*Model Guidance for Special Areas of Conservation*



Conserving Natura 2000 Rivers



# Developing River Conservation Strategies: Model Guidance for Special Areas of Conservation

Conserving Natura 2000 Rivers Conservation Techniques Series No. 7

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## Conserving Natura 2000 Rivers

This model guidance on River Conservation Strategies has been produced as part of **Life in UK Rivers** – a project to develop methods for conserving the wildlife and habitats of rivers within the Natura 2000 network of protected European sites.

The project's focus has been the conservation of rivers identified as Special Areas of Conservation (SACs) and of relevant habitats and species listed in annexes I and II of the European Union Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC) (the Habitats Directive).

### Conservation strategies

These have been produced for seven SAC rivers in the UK to meet the need for management plans. The strategies demonstrate how the statutory conservation and environment agencies have developed conservation objectives, and drawn up action plans with their local partners for achieving 'favourable conservation status' under the terms of the directive for its listed habitats and species.

For SAC sites, the Directive requires:

- Conservation measures to be established that correspond to the ecological requirements of the annex I and II habitats and species present.
- Appropriate steps to avoid the deterioration of habitats and the habitats of species, as well as the disturbance of the species.
- Appropriate assessment – in view of the site's conservation objectives – of the implications of any plan or project likely to have a significant effect on the SAC.

Each river conservation strategy identifies the conservation measures necessary for its SAC, describes appropriate safeguards against deterioration or disturbance, and represents an aid to assessing any plan or project affecting the SAC.

In essence, the strategies set out a management plan for securing conditions whereby a SAC site can contribute to the achievement of favourable conservation status for its designated habitats and species at a national and European level.

This report seeks to summarise the lessons learned in producing the seven UK strategies and to suggest some model guidance for establishing management plans for river SACs elsewhere.

### Complementary reports

The project has also produced a set of reports collating the best available information on the ecological requirements of each species and habitat, while a further series contains advice on monitoring and assessment techniques. Each report has been compiled by ecologists who are studying these species and habitats in the UK, and has been subject to peer review, including scrutiny by a Technical Advisory Group established by the project partners. In the case of the monitoring techniques, further refinement has been accomplished by field-testing and workshops involving experts and conservation practitioners.

Life in UK Rivers is a demonstration project and, although the reports have no official status in the implementation of the directive, they are intended as a helpful source of information for organisations trying to set conservation objectives and to monitor for 'favourable conservation status' for these habitats and species.

Titles in the Conserving Natura 2000 Rivers ecology and monitoring series are listed inside the back cover of this report, and copies of these, together with other project publications are available via the project website: [www.riverlife.org.uk](http://www.riverlife.org.uk).

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# I Introduction

The implementation of the Habitats Directive has the potential to secure significant benefits for wildlife in European rivers but it also brings many challenges. Designating river Special Areas of Conservation (SACs) has increased the need for improved scientific understanding of the species and habitats of interest and for management measures to conserve them. In turn, the generation of management plans has created a requirement for new partnerships among those statutory and non-statutory bodies with interests in these rivers.

Life in UK Rivers was a project set up in 1999 to tackle many of these challenges by establishing river conservation strategies – effectively, management plans – on a sample of seven sites to demonstrate and test approaches. Through the course of developing the strategies, the project has produced a wealth of experience. While a full evaluation may only be achievable after several years, a number of lessons can be drawn.

The purpose of this report is to provide all those engaged in establishing appropriate management in river SACs with the learning and good practice generated by the Life in UK Rivers project.

## A unique habitat

There are a number of characteristics that distinguish running waters from other habitats, even other aquatic habitats (Giller & Malmqvist 1998):

- Unidirectional – This means that downstream reaches are influenced to a greater or lesser extent by upstream ones.
- Linear form – Rivers are long, thin systems, often divided, poorly integrated with each other and occupying a relatively small area of the landscape.
- Unstable channel and bed morphology – The shearing action of flowing water transports and deposits material from the bank and bed and continually changes the physical environment.
- Openness of the ecosystem – Transport of dissolved and particulate organic matter occurs from source to mouth and there is a close linking of the stream with the surrounding terrestrial ecosystem. This link is largely one-way from land to water in the headwaters, but two-way between water and floodplains in the lower reaches.
- High degree of spatial and temporal heterogeneity at all scales – This varies in space from small-scale variations in substrate size, instream vegetation, and more importantly, current velocity, to larger-scale longitudinal gradients in flow rates, bankside vegetation, and water chemistry that influence both biodiversity and nature of the biota. Over time, relatively short-term fluctuations in current velocity and seasonal changes in allochthonous inputs and discharge are common in many systems. Carrying relatively small volumes of water at any one time, rivers are liable to be disturbed by climatic extremes, thus the occurrence of droughts or catastrophic floods are typical of nearly all lotic systems over longer time-frames. Over historical/ geological timescales, entire drainage patterns may be altered and river flows reversed by geological upheavals.
- The apparent hierarchical organization of the ecosystem – The different systems within the river are nested at successively smaller spatio-temporal scales (from the whole stream system to the individual particle), each influenced by the processes operating at the scale above.
- Inter-river variability is high – Each river will tend to differ from the next. Basic characteristics are determined by the river's setting within the particular geology, soil type, and geomorphology of the

catchment, the latitude and altitude, and, at a more local scale, the nature of the surrounding land use and riparian vegetation, plus the instream use made of the system by man.

- The unique biota, specialized to life in running waters.

Rivers are highly variable both within and between systems and in both space and time. All are different, as no two streams have exactly the same complement of species or physicochemical conditions at the same relative abundance or levels. This, of course, poses unique challenges to conservation management.

## Model guidance

This report is offered to all those involved in the policies or practical delivery of management of river SACs in the UK and in other European countries. It is based predominantly on the experiences of establishing management plans on the seven Life in UK Rivers project sites. The successes and learning have been gathered from project officers and relevant authorities through written reports, individual discussions and two project-officer workshops.

The approach taken by the UK, while compliant with the overall aims and objectives of the Habitats Directive, will be different in detail to that of other member states because of differences in the implementing legislation. Where possible, the guidance addresses the generic principles and good practice underpinning the UK experiences, much of which will be generally relevant to river SACs in other countries.

The Life in UK Rivers project has sought to develop the management of its SAC rivers up to the point of having a comprehensive, agreed plan for the future management needs of the site: the River Conservation Strategy. This is the first stage of the management process. The real test of the effectiveness of these strategies will be whether they deliver favourable conservation status for the habitats and species of European importance.

This guidance is produced as part of a set of reports prepared by the Life in UK Rivers project, all of which can be downloaded from the project website at [www.riverlife.org.uk](http://www.riverlife.org.uk):

- River conservation strategies for seven SAC rivers;
- Ecological requirements of the *Ranunculion fluitantis/Callitriche-Batrachion* habitat type and 13 riverine species of European interest;
- Monitoring protocols for the *Ranunculion fluitantis/Callitriche-Batrachion* habitat type and 13 riverine species of European interest;
- Conservation techniques – a number of practical management tools to aid the conservation of river habitats and species.

## Background

The main aim of the Habitats Directive is to promote the maintenance of biodiversity taking account of economic, social, cultural and regional requirements. In particular, it requires member states to work towards the maintenance of or restoration to "favourable conservation status" of certain rare, threatened, or typical natural habitats and species. These are listed in Annexes I and II of the Habitats Directive respectively.

One of the ways in which member states are expected to achieve this aim is through the designation and protection of a series of sites, known as Special Areas of Conservation (SACs). Article 6 of the Directive specifies the actions required of member states in connection with these sites (see Appendix I for relevant extracts from the Directive).

The Habitats Directive is complemented by the Birds Directive (Council Directive 79/409/EEC on the

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conservation of wild birds) which requires member states to protect rare or vulnerable bird species by designating Special Protection Areas (SPAs). Together, the SPAs and SACs are intended to form a coherent ecological network of sites of European importance, referred to as Natura 2000 sites.

## Management plans

A management plan may be established by the relevant authorities for an SAC site as a key measure in meeting the requirements of Article 6 (specifically 6.1 and 6.2 - see Appendix 1) of the Habitats Directive. The management plan is a process of determination of management needs on a site undertaken by the relevant authorities. This process provides a framework through which the habitats and species and activities that may affect them are clearly identified and any appropriate management undertaken.

## Plans and projects

The Habitats Directive requires the relevant authorities to provide appropriate assessment of any plans or projects likely to have an impact on the SAC (Article 6.3 and 6.4). The term 'plans and projects' is not defined in the Directive, though subsequent guidance (European Commission 2000) indicates a broad interpretation to include interventions in the natural environment requiring some form of consent or authorisation together with sectoral plans or programmes.

## Project sites

This guidance is based primarily on the experiences of seven river SACs in the UK: the Hampshire Avon and Cumbrian Eden in England; the Teifi in west Wales; and four Scottish rivers – the Endrick in the southern Highlands, and the Borgie, Kerry and Moidart in the northern and western Highlands. The habitats and features for which the project sites were designated and their catchments characteristics are summarised in Table 1.

**Table 1. The features and characteristics of the seven project SAC rivers and the main issues affecting them.**

| <b>SAC</b> | <b>Length</b> | <b>Interest features</b>                                                                                                                                                                                                                                 | <b>Catchment characteristics</b>                                                                                                                                                                                                                       | <b>Main issues</b>                                                                                                                                                                           |
|------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Avon       | 205 km        | <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation; <i>Cottus gobio</i> ; <i>Lampetra planeri</i> ; <i>Petromyzon marinus</i> ; <i>Salmo salar</i> ; <i>Vertigo moulinsiana</i> .                                                | Longest chalk river habitat in Europe. Winterbourne northern tributaries; southern tributaries over acid sands of the New Forest. Intensive arable farming and grazing in much of catchment. Several large towns.                                      | Diffuse pollution from agriculture; Point-source discharges; Abstraction and water-level management; Flood management; Invasive species; Managing fish stocks; Development and road schemes. |
| Borgie     | 14 km         | <i>Margaritifera margaritifera</i> ; <i>Salmo salar</i> ; <i>Lutra lutra</i> .                                                                                                                                                                           | Flows through Caithness and Sutherland peatlands SAC. Varied channel/substrate forms representing ideal habitats for salmonids and pearl mussel. Extensive hill livestock farming, mostly sheep. Forestry plantation along some stretches.             | Siltation; Forestry management; Fishery management; River engineering.                                                                                                                       |
| Eden       | 410 km        | <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation; <i>Salmo salar</i> ; <i>Petromyzon marinus</i> ; <i>Lampetra fluviatilis</i> ; <i>Lampetra planeri</i> ; <i>Cottus gobio</i> ; <i>Austropotamobius pallipes</i> .            | Flows over hard limestone of Yorkshire Dales and then over Cumbrian sandstones, mudstones and glacial deposits. Relatively slow-flowing, highly diverse river with 184 aquatic plant species and alluvial woodland. Grazing and intensive agriculture. | Grazing in river corridor; Siltation; Nutrient enrichment; Abstraction and low flows; Invasive species; Fisheries management.                                                                |
| Endrick    | 40 km         | <i>Salmo salar</i> ; <i>Lampetra fluviatilis</i> ; <i>Lampetra planeri</i> .                                                                                                                                                                             | Flows over basaltic lava in upper reaches and then over Old Red Sandstones. The major inflow to Loch Lomond. Predominantly agricultural catchment lower down and a relatively high-nutrient river for the area.                                        | Diffuse pollution from agriculture; Gravel extraction; Grazing; Fisheries management; Water levels and abstraction.                                                                          |
| Kerry      | 4 km          | <i>Margaritifera margaritifera</i>                                                                                                                                                                                                                       | Fast-flowing with a steep, wooded gorge in its upper reaches. Lower stretches fringed by deciduous woodland and some grazing.                                                                                                                          | Water levels and flow regime; Grazing; Siltation; Fisheries management; Invasive species; Forestry management.                                                                               |
| Moidart    | 13 km         | <i>Margaritifera margaritifera</i>                                                                                                                                                                                                                       | Drains the central hills of Moidart in a wide U-shaped valley before entering a wooded gorge. Margins mostly deciduous woodland but with some grazing in upper reaches.                                                                                | Grazing; Forestry management; Fisheries management; Invasive species; Road scheme.                                                                                                           |
| Teifi      | 185 km        | <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation; <i>Salmo salar</i> ; <i>Cottus gobio</i> ; <i>Luronium natans</i> ; <i>Lutra lutra</i> ; <i>Lampetra fluviatilis</i> ; <i>Lampetra planeri</i> ; <i>Petromyzon marinus</i> . | Descends from Cambrian mountains through moorland and forestry to the ecologically important peat basin of Tregaron bog. Lower reaches mainly mixed stock and dairy farming with some wooded gorges.                                                   | Diffuse pollution from agriculture; Water levels and abstraction; Channel morphology; Grazing; Nutrient enrichment; Recreational use.                                                        |

## 2 Building Partnerships

Effective partnerships are crucial to the successful development and implementation of river conservation strategies. In the UK, the responsibility for managing river SAC sites is shared between all the relevant authorities. No single body has overall responsibility or control, though government retains an ultimate power to direct action if need be, and has the ultimate responsibility for compliance with the Directive.

In practice, the support of wider stakeholders in decisions on the uses of these sites is needed if management is to be sustained in the long term (Kelleher 1999).

The main participants in developing river conservation strategies are:

- relevant authorities and, in many instances, other competent authorities under the regulations implementing the Habitats Directive in the UK;
- stakeholders - the collective term for the wider users and their representatives, local communities, interest groups such as voluntary conservation organisations, and research organisations.

The Directive does not prescribe exactly what structures should be used to involve these different participants in developing a management plan. In practice, a range of structures has been adopted under the Life in UK Rivers project – from working groups, where formal consultation and collaboration leads to joint decision-making, to more informal arrangements whereby authorities and stakeholders exchange information.

This section considers:

- the influence of the nature of sites on the selection of consultative/management structures;
- the development of effective consultation;
- means of securing participation of stakeholders.

### Appropriate consultation and management structures

#### Different types of participation

Participation in consultation and decision-making can take a number of forms. Table 2 shows various levels of participation experienced in the development of management schemes for European marine sites in the UK (English Nature *et al.* 2001).

Given the legislative frameworks operating in the UK, relevant authorities will normally engage in decisions at level 4. The participation of stakeholders is not specified. It varies both between sites and the different stakeholder types within a site.

The type of participation adopted on a site has a profound impact on the consultation and management process, especially the management structures and the decision-making processes. It should be considered and planned in advance, with the involvement of the relevant authorities and stakeholders themselves. What is achievable will depend to an extent on the local political culture and in particular on the willingness of relevant authorities to share responsibility in decision-making. It will also depend on the opportunities for relevant authorities and other stakeholders to identify common goals.

Two other characteristics of the effectiveness of the process are important in determining the type of participation appropriate on a site, and consequently the management structures. These are:

- **levels and types of socio-economic activity.**

There is a wide spectrum of socio-economic activity on and adjacent to river sites, from major

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commercial and industrial centres at one end to small, remote communities at the other. Sites with large, urban populations nearby tend to have a wider range of human activities and a greater potential for impacts on features. User groups and local communities normally participate in the management decisions through representatives. These groups are often accustomed to working with statutory authorities in consultative and collaborative ways. Sites in more rural locations, with smaller populations tend to have fewer differing activities and impacts. Here, the users and members of the communities often have a direct interest in the river as a resource and are accustomed to participating closely in the decisions that affect them. The statutory bodies themselves increasingly recognise the need to involve the local communities in decisions. Of course, a site may not fall neatly into one category and development of the river conservation strategy may involve both formal representation and individual direct input.

- **existing levels of trust and confidence.**

Trust in fellow participants and confidence in each others' competence have a major influence, and may be conditioned by how participants have worked together in the past. Where trust and confidence is high, there is often an informal network already in place through which issues can be discussed and agreed. On such sites, a less hierarchical and more consultative approach between relevant authorities and stakeholders can work successfully. On sites where trust and confidence is low it is important to ensure openness in decision-making. It is vital that stakeholders do not feel alienated from the process and the eventual implementation of the river conservation strategy. This can be achieved by having stakeholder groups in the same forum as the relevant authorities or by giving the responsibility for reviewing and developing management proposals more directly to the users and interest groups.

**Table 2. Levels of participation experienced in the development of management schemes for European marine sites in the UK.**

| <b>Level of participatory activity</b> | <b>Techniques</b>                                                                                                                                                                            | <b>Objective</b>                                                    |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| 1. Information-sharing                 | Newsletters, websites, leaflets, videos, public displays, presentations, media briefings.                                                                                                    | To place information in the public domain.                          |
| 2. Consultative                        | Management group consisting of relevant authorities consulting with stakeholders through surveys, focus groups, public meetings, one-to-one briefings with key individuals or organisations. | To encourage a two-way exchange of information.                     |
| 3. Collaborative                       | Hierarchical management groups whereby relevant authorities collaborate with stakeholders through topic groups to scope problems and solutions.                                              | To engage the knowledge and resources of stakeholders.              |
| 4. Empowering                          | Flat management groups combining relevant authorities and stakeholders, co-opting individuals from relevant authorities and stakeholder groups.                                              | To share power and responsibility for decisions and their outcomes. |

## Stakeholder engagement

As river conservation strategies are management plans, prepared by public bodies, using public money and implemented with public funds, those affected should be able to access the plan-making process and make representations. Stakeholders are considered to be all those with an interest in the preparation of a strategy or affected by the policies produced (including agencies, authorities, organisations and private persons). In engaging stakeholders, those responsible for river conservation strategy preparation should seek to:

- Improve the information base by accessing information held by other stakeholders, including local planning authorities.
- Extend stakeholder understanding of river wildlife and ecosystem processes.
- Establish links and networks useful in strategy implementation.
- Improve decision-making, validate approaches, and enable scrutiny and testing.
- Develop consensus by identifying and acknowledging shared views and objectives.
- Acknowledge that agreement to a river conservation strategy increases its legitimacy.
- Resolve differences of view through early and open discussion and through clear, transparent procedures.

To achieve these objectives, stakeholders should be engaged early in the process, should be representative of the communities affected, and be encouraged to participate in dialogue.

## Principles

Times, methods and procedures for stakeholder engagement need to be planned before work starts on the river conservation strategy. A 'stakeholder engagement plan' can be a helpful tool. It sets out the approach to stakeholder engagement, the stakeholders involved, the methods employed and the responsibility for implementation at each stage of the strategy process. Establishing the strategy requires balancing the needs for inclusion of stakeholders and minimisation of conflicts with the willingness to allow others to help shape the process. Decision-making and administrative responsibilities, opportunities for representation and mechanisms to resolve differences of view should all be clearly identified.

## Different types of stakeholder engagement: participation and consultation

Those responsible for river conservation strategy preparation must decide whether a participatory or a consultative approach is appropriate. A participatory approach implies that other bodies contribute to the decision-making process.

Even if a participatory approach is adopted, wider consultation will still probably be required. This involves seeking third party views and comments and considering their representations. It may, or may not, result in strategy information, ideas or policy being amended. The consultative approach leaves decision-making with the working group or their representatives, but "consultative partnerships" can be developed, bringing individuals and groups together to provide advice through topic groups or working committees.

## Definition and identification of stakeholders

In selecting the people and organisations to engage in the production of the strategy, it is important to remember the need for inclusivity and the context of the strategy in question. Local knowledge should be used to identify people and groups who are likely to be affected by the plan's policies. It is sensible to anticipate from where interest is likely to come during this stage and to include the appropriate people, organisations or groups as stakeholders so that their issues and concerns can be raised and considered at the earliest stages of plan preparation. This should help to minimise undue delay to the plan's progress in its later stages. It can be extremely effective to use an external consultant to undertake a stakeholder and situation analysis – an identification of stakeholders and issues – as in the example of the Avon strategy (see case study).

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## Stages of engagement

While it may appear self-evident when the views of stakeholders need to be sought, it is important to consider the type of engagement at each stage of river conservation strategy preparation and to plan ahead, not least because some of the mechanisms employed will require a long lead-in time. Also, it needs to be organised in the way that allows best use to be made of information and comments received.

The first contact is likely to be an initial invitation to participate in strategy development. A questionnaire to obtain basic information could be included as well. Early engagement will concentrate on information gathering, including obtaining information from stakeholders on the extent and nature of their interests and critical data about their operations or areas of concern.

The next or possibly concurrent element of engagement should establish which issues those responsible for preparing the strategy need to be considering. Some issues may emerge from the review of existing management plans and, typically, they will build on issues derived from an examination of river processes and reflect the areas of interest of the stakeholders. As well as identifying the features and the issues attached to them, it is important to assess and, where possible, quantify each issue so that they can be prioritised.

From the understanding of issues, a draft set of specific objectives can be prepared for the strategy. The working group may feel that further feedback should be obtained from stakeholders, particularly if a more participatory model of stakeholder engagement has been adopted. The policies to be included in the draft strategy should demonstrate the impact of their adoption on the points of issue raised earlier by stakeholders. Early comment on the policies will give the opportunity to identify errors earlier, reassure consultees or to reinforce the arguments for adoption. Care taken at this stage may prevent relatively minor points of difference growing disproportionately once into the public consultation.

The form and content of the draft strategy should be reviewed with the working group before it is issued to ensure accuracy and that the presentation is appropriate to the target audience. It may be appropriate to include another round of consultation if the plan is significantly amended once the results of the public consultation stage have been considered.

Guiding principles influencing stakeholder engagement:

- **Inclusivity.** The initiation of the river conservation strategy process should indicate whether a participatory or a consultative approach is adopted and outline the extent of wider community involvement.
- **Transparency.** Timely, accurate, comprehensive and accessible recording of representations, decisions and their justification is required to track decisions.
- **Appropriateness.** The range of stakeholders, their level of involvement and likely knowledge, the potential for differences of view and the opportunity for awareness raising will influence the approach adopted.
- **Clarity.** The roles of different players, including where final decision-making lies, must be made clear.
- **Comprehensiveness.** All stages of strategy development, including dissemination and arrangements for reporting on stakeholder engagement, should be planned.

## Consultation and management structures

The consultation and management structures have differed on each of the project sites, reflecting various degrees of participation and consultation. In essence, two main types of structure can be recognised: separate or consultative groups and participatory or joint groups. In practice, many of the structures on the sites had elements of both.

Separate but related consultative groups and management groups can be effective:

- where there are high levels of trust and confidence between the participants; and/or
- on sites with large populations and multiple interest groups where stakeholders are familiar with working through advisory structures.

In some instances, the management group may include organisations other than relevant authorities. These may be stakeholders or competent authorities who have substantial influence over the use and management of the site. This structure relies upon a continuity of trust and confidence between the participants. There are risks in adopting it where such trust and confidence is not already established. Where this is weak, it is particularly important that there are good communications and a clear functional link between the consultative and management groups. This can be achieved by publicising agendas and minutes of meetings or for the chairs of the groups to be participants in both consultative and management groups.

A non-hierarchical, fully participatory structure can be effective where:

- trust and confidence between the participants needs building; and/or
- stakeholders are relatively few in number, have direct connections with the site, and are accustomed to being involved directly in decision making.

Single consultation and management structures are easier to operate on small or rural sites where there may be fewer participants, although they can be adopted on large urban sites. Typically, the lack of familiarity of stakeholders and statutory bodies with this wider participation means that commitment and perseverance are needed to convince participants of this way of working and specialist facilitation skills may be required aid the process.

## Effective consultation and management structures

The framework for consultation needs to reflect the characteristics of the site, particularly the presence of any existing management structures and networks, and the site's physical geography.

On some sites, there may be existing management fora and groups already in place for other purposes. These partnerships and their networks have provided some sites with ready-made structures on which the river conservation strategy has been able to build. However, there can be resistance from the authors of existing plans if it is perceived that the new strategy is to replace them. More commonly, stakeholders may exhibit the symptoms of 'strategy fatigue', a condition caused by an excess of development or conservation plans in a particular locality.

Adopting the existing consultation/management structures wholesale may not always be appropriate, particularly if they have been set up for different objectives from that required for the river conservation strategy, or cover a different area or have clearly failed to develop adequate trust and confidence.

A number of specific good practice measures are indicated by the experience on project sites:

- The proliferation of existing designations and initiatives on sites means that the role of the SAC designation and strategy needs to be explained;
- Emphasise how the river conservation strategy will strengthen existing compatible plans and provide a mechanism for progressing long-standing nature conservation objectives;
- Continue to liaise throughout the strategy process with existing initiatives;
- Regular communication between project officers for the SAC site and for other initiatives is important.

## Nature of sites

The type of site may influence the composition of consultative structures and their effectiveness as vehicles for participation. On large sites, on top of the extra logistical and resourcing demands, there

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can be a significant variation across a site in the interests and concerns of stakeholders and relevant authorities. Communities in one part may feel little in common with those of another. Rather than one single body for getting the involvement of stakeholders, there may need to be several in different parts of the sites.

## Promoting participation

Participation does not automatically flow from setting up the right consultative structures. It needs to be encouraged. The experiences on sites has shown that if people are provided with the opportunity to influence decisions on their site, they are likely to take it, especially if it will clearly affect their interests.

Clearly, different stakeholders vary in terms of the level of their interest in the site and the degree of their ability to commit time to the strategy process. An important part of building partnerships between relevant authorities and other stakeholders is to enable stakeholders as far as possible to 'select' themselves and determine their own type and degree of involvement.

## Initial perceptions

The perceptions of the potential participants are affected by their recent contacts with relevant authorities, their experiences with nature conservation or developments, and often with the SAC site selection process. Within the same site, different groups and organisations can take different views and may include:

- Approval - support for the site and the prospect of better conservation of wildlife and habitats.
- Accolade - local pride that their previous efforts and their site are recognised externally and internationally.
- External interference in local practices - the management of some activities for nature conservation is relatively new and therefore sometimes resisted.
- Threats to local economy and tradition - the fear of potential threats to local livelihoods, pursuits and developments.
- Cost and bureaucratic complication - unnecessary intervention on top of existing layers of management and with new demands on resources.

## Meeting expectations

Viewing the production of the river conservation strategy as a short-term project can undermine organisations' commitment. Demonstrations of a longer-term vision, including the provision of resources over time, where available, for project officers and monitoring can help to diminish such fears. Placing an emphasis on strategic conservation management rather than the production of a document may underline the long-term nature of the commitment required.

## Operation of consultative and working groups

The appointment of key post-holders can be crucial. A strong, well-respected chairperson and an effective secretariat can be critical to winning support for the process. A rotating chair may be appropriate to help spread a sense of common responsibility.

An organisation's representative on the consultative structures may need to represent the interests of several sections and individuals within that organisation. Organisations need to put in place arrangements for internal briefings, and for ensuring that their representatives are mandated to speak for the organisation. Commitment to the process at a senior level in all relevant authorities is essential, even if the SAC raises conflicts of interest within an individual authority. Defining and agreeing terms of reference by the group can help clarify for representatives their role and responsibilities.

## Operation of stakeholder groups

Thought needs to be given to the most effective forum for stakeholder organisations and groups to contribute - topic groups, workshops, advisory groups – and to the potential obstacles to participation.

- Ability to attend meetings. The timing of meetings may exclude certain stakeholder groups from participating.
- No acknowledged representatives. Special events or one-to-one meetings may be needed for certain groups.
- Under-involvement may be exhibited because people feel their concerns are already being addressed or, alternatively, because they feel they no have real opportunity for influencing decisions. It is good practice to check throughout the process on stakeholders' motivation.

## Personalities

The role of key personalities can have a substantial bearing on the process:

- local government members or officers carrying influence within authorities;
- respected individuals who are trusted by key user groups;
- project officers.

It is important to identify and involve such individuals from an early stage; they may encourage involvement from particular individuals and organisations, but can also act as intermediaries if communication between relevant authorities and stakeholders breaks down.

## Promoting the River Conservation Strategy

The need to promote the river SAC and the strategy may occur for a number of reasons:

- raising awareness about the importance and value of a site;
- informing stakeholders about the consultation process;
- inviting participation and information;
- updating stakeholders on progress.

Promotion and interpretation are essential tools for justifying the objectives of SAC sites and winning support and commitment. Many of these involve time and resources to prepare products of appropriate quality, and skills to identify the effective approach.

Promotional initiatives took place on all the project rivers. It is generally true that, providing information about sites, especially visual material, helps to engage relevant authorities and stakeholders. All stages in the process of promotion offer ways of involving the community. Promotion planning can be a joint exercise that in itself can be used to raise ownership and understanding. The preparation of material can use local groups, children and enthusiasts. Using local businesses to carry out the work can also contribute to a positive regard for the site and the benefits it can bring.

- An early priority is to build awareness of the site and its features. At this stage, cheap and quick approaches are best, such as leaflets or factsheets, and educational projects involving local schools;
- The project officer role in meeting people, giving talks and discussing the site is invaluable at the start of the process.
- Once initial awareness has been established, publicity in the local print and broadcast media can be very worthwhile. However, it is important that these approaches take account of any sensitive issues, particularly among stakeholders;
- When the development of the strategy is fully underway, newsletters and websites are potential options. In both cases, the investment of time and money can be high and require a long-term commitment. At this stage, more glossy publications extolling the site and its features can build commitment and new partnerships, such as with the local tourist information service.

## Key lessons for building partnerships

- Consider the most appropriate form of consultation and/or participation in advance;
- develop consultative/management structures that reflect the site's characteristics;
- value the existing networks and partnerships;
- research attitudes of stakeholders, particularly in light of previous conservation initiatives;

- hold meetings – including one-to-one meetings between the project officer and relevant authorities and influential stakeholders;
- identify causes of disinterest and maintain a focus on partnership-building;
- identify and involve the key personalities;
- appoint an effective and respected chair to all key groups, and ensure effective information exchange between meetings and groups;
- carefully target promotional activities.

## 3 Information needs

The establishment of a river conservation strategy demands information on the species and habitats, site activities, key players and their aspirations. Survey and data gathering exercises will be necessary – often requiring substantial resources.

Sufficient information to justify management decisions is all-important and this is a function of the required level of certainty and the quality of the information. The balance between continuing to carry out activities with unknown effects on features and implementing new management measures which may restrict those activities needs to reflect the precautionary approach.

Planning, storing and managing the information are critical in establishing the river conservation strategy. The process of collection and collation must also benefit the wider process. The site's conservation objectives may provide a focus for information requirements, although the provision of this advice itself requires certain baseline information. It also provides critical information for developing and implementing the strategy.

This section considers:

- key information requirements for developing a river conservation strategy;
- processes for capturing and disseminating information;
- developing advice on conservation objectives.

### Key information requirements

Each stage in the process of developing the RCS requires certain types of information. Those relating to the features and activities on the sites are set out in Table 3. The Life in UK Rivers documents on species' ecological requirements have provided a good deal of this information. Other types of information are site-based, such as data on population distribution and abundance and supporting ecosystem processes, and must be collated or new data collected locally.

In addition to feature and activity-based information, information on the stakeholders and relevant authorities is also needed. This information includes the views and aspirations of stakeholders and relevant authorities, the individuals with strong knowledge about the site, the personalities that shape and drive local policies, the successful networks and the history of recent management initiatives. This information is highly valuable in establishing the right conservation measures on sites and in collating other site-based information. The costs of embarking on management measures in the absence of adequate information needs to be weighed against the costs of gathering that information.

### Capturing information and disseminating knowledge

The elements in successfully meeting information needs are:

- identify information needs in the long term;
- collate and review existing information;
- fill knowledge gaps;
- consolidate the results of data collation and gap-filling.

### Identifying information needs

Collation of existing data and the capture of new data can be laborious and costly tasks. It is therefore critical to review information needs carefully and consider them against longer-term management requirements, in particular:

- defining the favourable condition of the feature on the site;
- identifying whether or not features are in favourable condition; and
- managing those activities likely to have a significant impact on features on the site.

## Collating and reviewing existing information

A great deal of information is already held by the relevant authorities and stakeholders. Occasionally, there may be commercial or administrative barriers to acquiring some data and here the project officer can play a role in negotiating its acquisition. Gathering information, often anecdotal, from stakeholders is an important activity that can also be a powerful means of building a sense of local ownership amongst participants. Finally through the process of collating the information, insights can be gained into the aspirations and values of the stakeholders. Topic groups or workshops are more efficient for gathering information quickly amongst large groups of relevant authorities and stakeholders.

Some techniques used in topic groups and workshops to assist in gathering information are:

- **Matrices** – A simple matrix of activities versus features provides a framework for exploring potential impacts and for gathering information on activities within the site.
- **Topic group papers** – The preparation of topic group papers works as a means of keeping such groups focused on the end-product and ensuring there is a useful product to take forward. These products can include reviews of human activities across sites and the identification by stakeholders of potential impacts and management shortfalls.
- **Consultants** can be used to collate and review information. As facilitators, their impartiality and skills can be helpful in collecting information.

## Filling knowledge gaps

The collation of new data should be carefully planned so that the interpretation of data from later work is informed by the outputs of earlier collation exercises. Information collection provides excellent opportunities for collaboration that can strengthen local partnerships and maximise the use of resources.

## Consolidation of information

Effective dissemination of data is important to further understanding and acceptance of particular management action. Maps capturing the data collected from biological surveys are very useful tools in getting authorities and stakeholders to identify activities and potential interactions. Overlaying feature

**Table 3. Types of information required to inform the various stages of strategy development.**

| Stage                           | Information required                                                                                                                                                                |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Setting conservation objectives | Attributes that describe condition of the features on the site: extent of habitat, size of populations, data on supporting physical processes.                                      |
| Determining management measures | Location and sensitivity of features.<br>Location, intensity and timing of activities.<br>Current management and monitoring regimes on site.<br>Any other current management plans. |
| Determining monitoring regime   | Target values for attributes that equate to favourable condition for each feature.<br>Techniques that are effective in detecting change in attributes.                              |

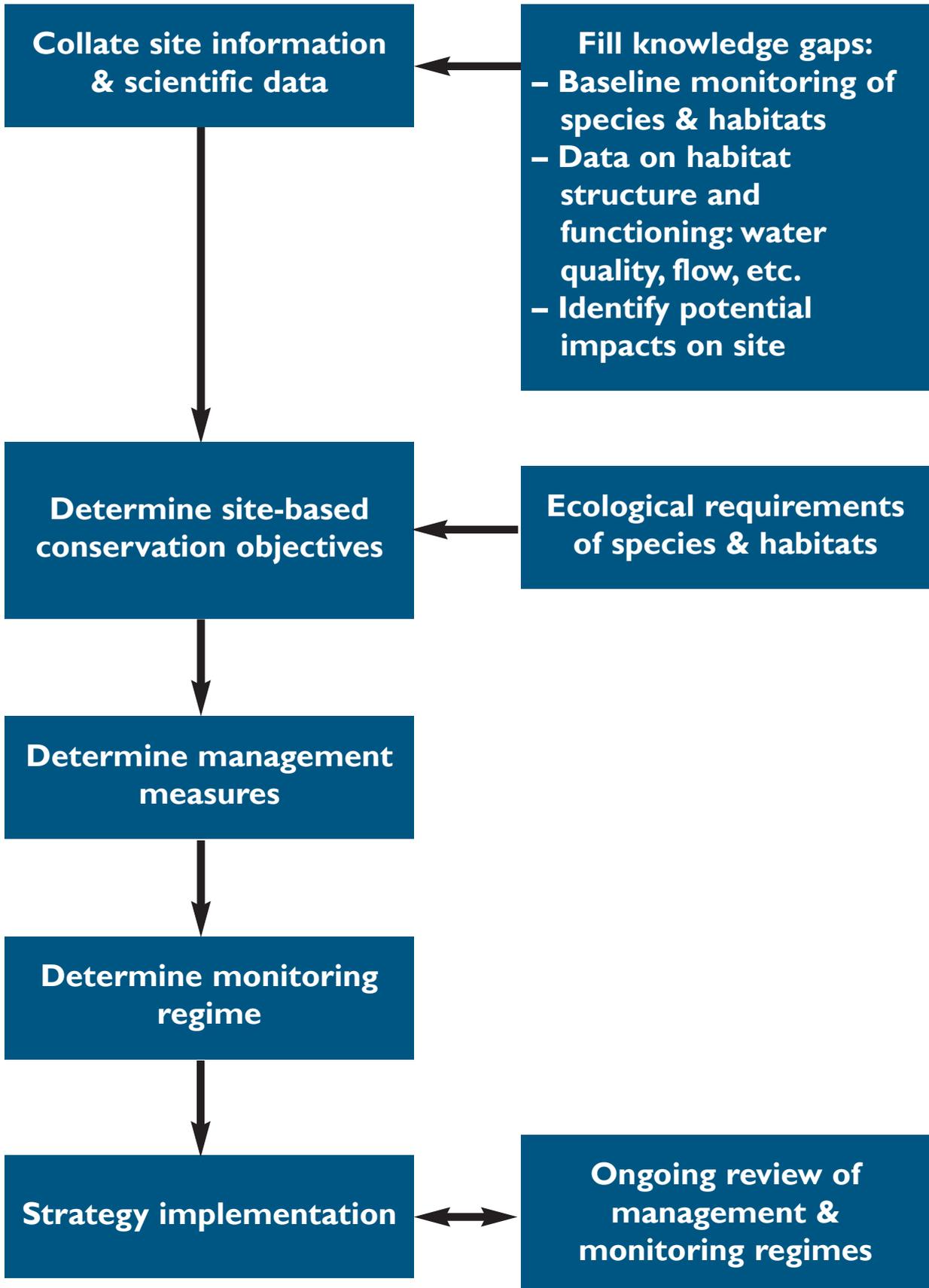


Figure 1. Developing a river conservation strategy – key stages and information needs.

and activity information can also assist relevant authorities in determining management requirements.

The visual outputs from geographic information systems (GIS) and their versatility in assessing how human activities may interact with the features have been enormously useful on many sites, such as the Eden and Endrick. The value of these systems depends upon the degree and complexity of spatial analysis required on a site. As a shared tool, a system may also support wider objectives for relevant authorities beyond the river SAC site. GIS can be a costly but effective tool.

## Conservation objectives

The purpose of selecting and managing river SAC sites is to maintain or restore the interest features to favourable conservation status. The translation of this term to a feature at a site level is described in the UK by the term 'favourable condition'. Conservation objectives set the standard for favourable condition for each interest feature at the site level. In so doing they also provide the goal for management measures and set the standard by which the effectiveness of that management is to be measured. The key stages in this process are identified in figure 1.

## Selecting attributes

The conservation objectives for a site describe the favourable condition of the interest features. The objective for a feature is developed by identifying the 'attributes' which describe or support the feature and the target value for each of these attributes that reflect the best judgement as to what condition is considered favourable. Given the number of attributes that may be set for a feature, they need to be prioritised. The attributes that best define the condition of a feature will continue to evolve as understanding of the feature improves.

## Setting target values

In order to provide a standard that can be monitored, the attributes that define condition must each have a target value representing favourable condition. The definition of these target values needs to take account of the fact that attributes fluctuate in response to natural processes as well as human impacts. For some features, current understanding means it is not possible to set numerical targets and ranges. However, the Life in UK Rivers project series of monitoring protocols for riverine species and *Ranunculus fluitantis*/*Callitriche-batrachion* vegetation communities sets out assessment methods and indicates target values for attributes.

## Site-based conservation objectives

The nature conservation agencies are responsible in the UK for providing the statutory advice on conservation objectives. The involvement of other relevant authorities and stakeholders in the development of site-based conservation objectives has been good practice for a number of reasons:

- Sharing information – Many other authorities and stakeholders have a good understanding about the location of the interest features, distribution and intensity of human activities and the potential impacts.
- Developing commitment – An open process that acknowledges the views, knowledge and concerns of others is more likely to promote trust and understanding between participants.

Workshops and individual meetings with relevant authorities and stakeholders can be used successfully to generate information about the pattern of human activities on sites and the potential impacts. This information can then be applied in preparing conservation objectives for the site.

The conservation objectives advice can range from the minimum of a set of objectives and a list of management activities to more detailed supporting information on the sensitivity and vulnerability of features to activities, definitions of favourable condition and a link to the monitoring requirements. It is good practice to include such detailed information in the river conservation strategy document.

## Key lessons for meeting information needs

- plan the need for information with regard to the potential impacts and management requirements;
- involve stakeholders and relevant authorities in determining the information gaps;
- consider how information collection exercises might also build support locally;
- disseminate collated information - common databases and visual products are very effective;
- draw on local knowledge - one-to-one meetings, workshops or topic groups;
- investigate university research interests in the site and seek collaborative research projects;
- involve relevant authorities and stakeholders through informal consultation in the development of the site-based conservation objectives.

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## 4 Determining management measures

Responsibility for deciding the management of activities commonly rests with the particular relevant or other competent authority that has statutory powers of control or regulation for the activity. There will often be no designated lead agency or other body to coordinate or take an overall decision-making role; though government retains ultimate powers to direct a relevant authority to take specified actions if the management plan is failing.

Given a situation where it can take time to build up a conclusive scientific case for management action, by which time the damage may be in practice irreversible, the use of the precautionary principle is recommended.

This section considers:

- Determining management measures.
- Preparation of the river conservation strategy document.

### Determining management measures

River conservation strategies need to guard against any deterioration or significant disturbance of the SAC features within the site. In practice, the strategies have aimed to address significant impacts. The resolution of all potential impacts and improvement in condition of features is generally a longer-term ambition. The identification of all these impacts, and the development of understanding and commitment amongst participants, are essential in achieving the longer-term goals.

#### Knowledge

Understanding of the distribution and intensity of activities is commonly a constraint to developing effective management measures. Similarly, knowledge of cause/effect relationships is often incomplete and developing the necessary level of understanding may involve considerable time and expense.

Given the mosaic of activities occurring on sites, it can be difficult to identify any one activity as the cause of an adverse effect and to separate its impacts from natural changes. The research to gather sufficient evidence to identify the causes of detrimental change and to justify substantial management action can be significant.

In circumstances of uncertainty, a valid approach is to instigate a measure based upon the current best available knowledge and, in accordance with the precautionary principle, implement it and review its effectiveness through a monitoring programme.

#### Resources and policies

Even when understanding of cause and effect is reasonably sound, and sufficient information on activities is available, there can be a resistance by relevant authorities to take appropriate firm initial action as required under the precautionary principle. This may be for reasons of:

- costs - the relevant authorities having to find the extra resources to fund new measures or adequate enforcement;
- political sensitivities toward local user and community groups, particularly where there may be negative impacts on inward investment or local jobs; and/or
- differing understanding of the precautionary principle and the level of information needed to justify management action.

A number of measures, individually or in combination may help address these obstacles. Building commitment throughout a relevant authority is important. The promotion of the river conservation strategy, its wider benefits to local communities and interests and the legal obligations need to reach all

levels within relevant authorities. Support can be increased if the measures proposed will contribute to wider initiatives affecting the site. Such wider benefits need to be identified and communicated.

Importantly, strategy documents should acknowledge but not be constrained by existing budgetary levels or even necessarily by existing policies and legislation. The documents need to be viewed as a mechanism for securing funds and/or identifying the need for policy or legislative change, rather than necessarily working within current constraints. In practice the six-year time frame adopted by most strategy documents (to coincide with the government reporting cycle) exceeds most relevant authorities' capacity to forward commit funds and therefore the costs are provisional costs rather than confirmed.

## External impacts

Some impacts may arise outside the boundary of the site. Similarly, mobile species such as otter, lamprey and salmon may be affected by impacts during periods of their life cycle in other locations. Strategies need to identify such impacts and develop appropriate management measures where possible. This may necessitate the involvement of relevant authorities and other bodies in adjacent areas. These bodies need to be involved alongside the local relevant authorities in the development of the scheme. There must also be a clear process whereby competent authorities operating at national levels are informed of and able to react to potential impacts within their jurisdiction.

## Achieving good management measures

River conservation strategies are meant to make a difference on sites. Where there are no clear impacts currently occurring, the strategy may be most significant in the partnerships and awareness it has promoted for managing future impacts and plans and projects, and for the monitoring programme it has established. Where there are impacts, the steps below can be taken to ensure the management measures adequately deal with them. Figure 2 illustrates an example of the process of devising and reviewing management measures.

### **Focus**

There must be clarity over the key impacts that are affecting the site and leading to deterioration or disturbance to interest features.

### **Marshal the science**

The scientific basis for identifying deleterious effect needs to be clearly provided.

### **Adopt a methodology to assigning management measures**

It is useful to review management against potential impacts in terms of those management measures that need to: stop, continue or be implemented.

### **Provide for consultation**

The measures devised by a relevant authority should be considered by other relevant authorities and competent authorities with overlapping interests - and in particular the nature conservation agency. They need to comment specifically on the improvements needed to rectify potentially inadequate management measures.

The definition of management measures involves determining that an impact is occurring, or potentially will occur, and then designing the proper measures to address it. The former is best undertaken jointly between relevant authorities and the nature conservation body. In view of the likely delays that can arise, it is preferable for the appointment of project officers to assist relevant authorities with their management assessments, to offer technical advice on the effects of activities on features and to chase them for their input to the scheme.

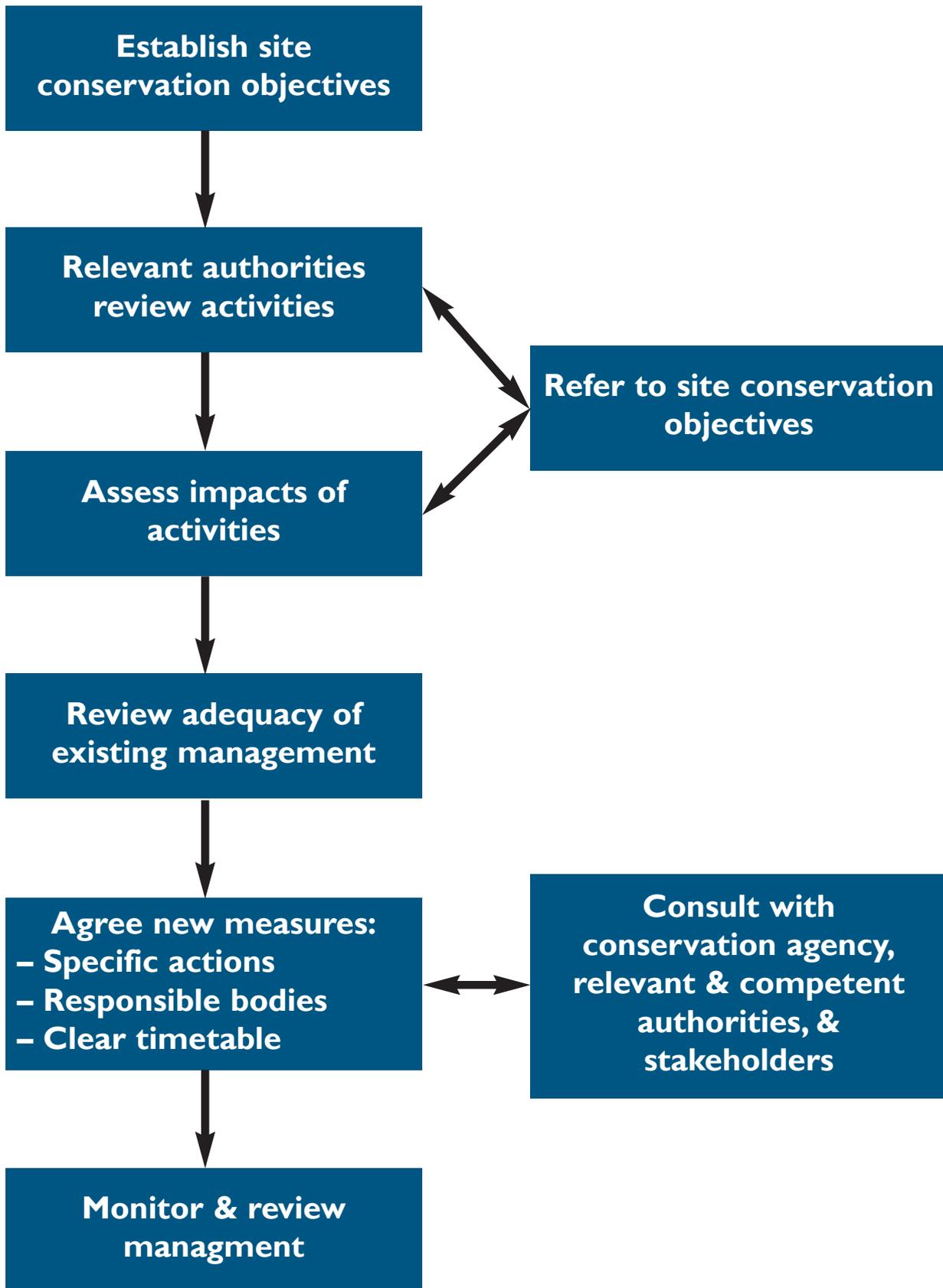


Figure 2. The stages in devising and reviewing management measures as part of a river conservation strategy.



Figure 3. Stages in the process of developing and reviewing a river conservation strategy document.

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## The river conservation strategy document

On the great majority of sites, the development of a river conservation strategy will be a sensible and practical tool in guiding relevant authorities in the proper exercise of their functions. On all sites there will need to be some evaluation of the actions required to meet the conservation objectives. Therefore, in its broadest sense, there is likely to be some management plan or revision of an existing plan, though its scale will depend on the number and complexity of the management issues.

The primary function of the strategy document is to set out the framework for the relevant authorities through which they will manage activities on or off the site. It acts as a tool with which the authorities perform their functions. The document itself is, however, only part of the process. The document may serve a number of functions including promoting and interpreting the site, its features and impacts, subject to the needs of the site. Figure 3 provides an example of a process that might be used to develop a strategy document.

The river conservation strategy document should include the following information:

- site conservation objectives, including targets against which the effectiveness of management can be evaluated;
- main issues or potential impacts on the features;
- a management strategy for meeting the conservation objectives;
- an action plan providing:
  - precise actions to be taken to implement the strategy;
  - lead organisations responsible for each action, together with organisations in a supporting role;
  - timetable for implementation of each action;
- a framework for:
  - monitoring compliance with the action plan;
  - assessing achievement of the conservation objectives;
  - periodic review of the scheme.

### Format of the strategy document

Given that the strategy is a tool to primarily support local delivery of responsibilities, Life in UK Rivers adopted the approach that relevant authorities and stakeholders should determine the format and content of their document. This has led to the local ownership of these documents, and is a pragmatic necessity given the variation between sites in their management issues and local culture.

However, within this context of local discretion, there are certain features of strategy documents that are more critical to their effectiveness in the long term in managing the sites:

#### **Actions**

An action plan containing a set of specific management measures, which allocates responsibility to particular authorities and timescales, is the heart of the river conservation strategy. Actions should be expressed so as to enable their completion to be recorded.

#### **Time frames**

It would seem sensible to adopt a six-yearly review corresponding to the cycle of reports to the European Commission on the conservation status of the features specified in the Habitats Directive. Within this cycle, it is important to have more regular reviews of progress to allow adjustments to management measures and to promote momentum.

#### **Dynamic documents**

The principle that strategies will be dynamic documents, reviewed over time, should be embraced. It is inevitable that the required management actions will change over time in light of new circumstances or

scientific knowledge. Likewise, the implications of the Habitats Directive are likely to evolve. For example, a the review of the Natura 2000 site network may necessitate a review of potential impacts and measures where a site is designated for additional interest features.

### **Integrated management**

On all the sites, there may be a range of existing mechanisms which could deliver aspects of the management regime required on the SAC, including plans on water-level management, abstraction, flood management, and fisheries. Integrating the strategy with these other mechanisms is important for maximising the effectiveness of resources and reducing 'strategy fatigue' among stakeholders.

### **Assessing plans and projects**

The Habitats Directive requires an appropriate assessment of any plan or project that may have a significant effect on the site. The strategy document can be an important tool in making such an assessment:

- providing guidance on the process for assessing plans and projects with links to appropriate advice on conservation objectives;
- providing guidance on the strategic planning and management of new developments.

### **Periodic review**

The arrangements for reviewing the effectiveness of the strategy need to be set out. In many cases this will simply be a continuation of the consultation/management structures that have overseen the development of the strategy.

## **Key lessons in determining management measures**

- identify all potential impacts on features;
- aim to identify initial remedial actions for potential impacts in the light of uncertainty rather than solely commissioning further surveys or research;
- view strategy documents as potential bidding documents for further funding;
- provide a process for consultation on draft measures;
- involve stakeholders in the development of management measures relating to activities of particular concern to them;
- ensure that competent authorities are kept informed and involved in the development of management measures;
- seek good integration of the river conservation strategy with other relevant management plans;
- management actions should be defined precisely with specific timescales and with responsibility allocated to particular authorities.
- set out the process for reviewing the efficacy of the strategy;
- view the river conservation strategy as a dynamic, evolving document, subject to change in the light of new knowledge.

## 5 Resources

### Timescales

River conservation strategies have been established on the project sites over a two-year period, though a longer time may be needed for sites without dedicated project officers. Similarly, timescales will vary substantially according to the size and complexity of the site, the amount of information on the features, management issues and the legacy of any previous conservation initiatives. It is important to have a clear timetable. In the case of the seven UK rivers, it was one determined by the duration of the Life in UK Rivers project, but partners are likely to be more committed to a timetable if it is one which they themselves have determined.

### Personnel

Development of a river conservation strategy requires one, or more, individuals to co-ordinate the overall process and the inputs from the relevant authorities and stakeholders. A project officer, with the specific responsibility to undertake this co-ordination has proved invaluable on the seven sites. Depending on the size and complexity of the issues, there may not be need for a full-time officer or it may be possible for a single project officer to support more than one site.

Project officers need a wide range of skills and competencies ranging from the scientific to the diplomatic. Consensus-building, advocacy, negotiating, legal understanding – all these are facets of the role, along with a facility for public relations and information management.

The project officer needs to be an enthusiast for river conservation and be able to act independently of any one organisation, even if employed by one of the authorities. There may be benefits to be gained from appointing a local person to the post of project officer as existing staff can bring good networks, knowledge and trust to the table, and may be more accepted within a close-knit community.

### Funds

The seven project sites were able to benefit from funds provided through the European LIFE-Nature programme and the UK statutory nature conservation and environment agencies. These funds supported many costs associated with survey work, the collation of existing information and the employment of project officers. In short, these sources considerably simplified the financing of the strategies which, if it had been necessary to secure all the necessary funds from across the relevant authorities, would have been more difficult to achieve within short timescales.

Table 4 provides a rough estimate of the cost of establishing a strategy - the range will clearly depend on the scale of the site and the amount and quality of existing information available. Obviously, these figures do not include the on-going costs involved in the implementation of the management measures contained in the strategy.

|                  |                                                          |                 |
|------------------|----------------------------------------------------------|-----------------|
| Project officer  | Salary for two years                                     | £45,000         |
| Operating budget | Meetings, database development, promotions, publications | £12,000         |
| Monitoring       | Baseline surveys of interest features                    | £10,000-£50,000 |

**Table 4. Approximate costs of developing a river conservation strategy document.**

## 6 Conclusions

Under the Life in UK Rivers project, seven conservation strategies have been produced for a varied series of rivers, adopting differing approaches that were appropriate to the local circumstances. The real test for these strategies will be whether they are successfully implemented to provide an effective management framework for the features of European interest on these sites. The strategies will evolve to accommodate changing circumstances and fresh conservation challenges. However, it is hoped that some of the lessons learned may provide guidance for developing river conservation strategies for other Natura 2000 rivers across Europe.

To provide a framework for conservation management, a river conservation strategy document is likely to be prove invaluable and, as a minimum, it should include:

- conservation objectives for the site;
- a summary of main issues and potential impacts on the features of European interest;
- a timetable of management actions by relevant authority;
- mechanisms for monitoring and reviewing the implementation of the strategy.

In addition to providing a management plan, strategies can have other important benefits. Establishing a network of statutory and non-statutory bodies can help build a real partnership committed to conserving the wildlife of the river. And integrating the conservation objectives and management actions of any existing plans represents a further step towards integrated river management.

Relevant authorities and stakeholders can participate through a variety of consultation and management structures with the characteristics of the sites themselves being important determinants of these structures.

Engaging the interest of relevant authorities and stakeholders is a core task and a variety of fora can be adopted to ensure that stakeholders are involved in the creation of the strategy and, as importantly, are committed to seeing it through to implementation.

An appropriate commitment of resources and staff time by the nature conservation agencies has been required to mobilise support for the strategy process. And the project officers have been integral to this effort, deploying a rare mix of scientific, organisational and 'people' skills to successfully oversee the disparate elements that constitute an effective river conservation strategy.

However, once a river conservation strategy has been embraced by local stakeholders, it can become much more than a dry management plan. At best, it will embody a community's aspirations for its river and inspire bold plans for future wildlife gain. River conservation strategies can build high expectations among local people, and conservation organisations need to prepare themselves to meet those expectations.

## 7 Case study: River Avon SAC

(Produced from a summary report by project officer, Jenny Wheeldon)

A stakeholder and situation analysis was undertaken in the Avon catchment. From the analysis, principles for the process and the role of stakeholders were developed and a method for prioritising issues proposed. The recommendations informed the development of the Strategy and resulted in a participative approach being adopted.

### Selecting principles for consultation and participation

Between November 2000 and February 2001 interviews were carried out by an external researcher (Studd 2002) with representatives of competent authorities, organisations, associations and individuals with an involvement and interest in the River Avon. The objectives of these interviews were both academic and practical:

- To help understand and analyse the different factors which must be considered when devising a participation/consultation process.
- To use this information to advise the conservation agency, English Nature, on possible processes it could use to devise the strategy.
- To gain insight into the perceptions and experiences of stakeholders working with English Nature staff on the Avon relating to the management of the system.

These interviews were analysed and, along with information gathered through informal conversations, several meetings and document review, produced the following stakeholder and context analysis and recommendations.

### Methods

The analysis of the interviews was based on the concept of 'fitness for purpose'. An attempt was made to identify the most appropriate consultative or participatory process for generating a river conservation strategy given historical, cultural, socio-economic, institutional and environmental factors, as well as the range of different interests involved. Stakeholder and situation analysis are both intuitive processes that conservation agency staff conduct before undertaking any sort of project. The analysis tried to make these processes more explicit.

Stakeholder analysis is increasingly seen as an important tool in project design for scoping the feasibility of proposed initiatives and reaching an understanding of the attitudes of interested parties who may affect or be affected by the project. A stakeholder analysis helps to design a process that is considerate of other interests, uses the experience, knowledge and ideas of others to its advantage, and is equipped to deliver multiple benefits.

Situation analysis looks at institutional, socio-economic, historical, cultural, environmental, political factors and tries to understand the effects they may have on the conservation management of the river, and how these factors may affect or be affected by a participation process.

The methods used for the analysis of the Avon included informal discussions, semi-structured interviews, observation and document review. Interviews were carried out with representatives from competent authorities, conservation, fisheries, agricultural and community interests, and with landowners and managers.

The following topics were covered:

- Interests and involvement in the river;
- What is important about the river to them;
- What needs doing to improve the river;

- Extent of influence over the river in terms of management and the decisions made about it;
- Experiences of working with other interests (what works, what doesn't?);
- Relationships with other organisations (Environment Agency and English Nature particularly);
- Attitudes to SAC and regulation;
- Thoughts about river conservation strategy (only raised if thought appropriate).

## Integrated management and decision-making

The Avon SAC requires integrated decision-making because of its complex administration and regulation. No single organisation holds all the power and there are multiple inter-related interests and issues (economic, social and environmental). The governance of the river is characterised by a division of responsibilities between various organisations. This tends to encourage a fragmented approach to decision-making.

However, the period leading up to the development of the river conservation strategy had seen increased efforts to bring these different functions together and manage the system in a more integrated way. This was partially driven by an awareness among the conservation and environment agencies that an integrated approach was increasingly required to meet statutory obligations.

Three key requirements relating to the future management of the Avon were identified in the stakeholder and background analysis:

- Increased synergy between the agencies in terms of their advice to land and river managers, their knowledge of the system, and their awareness of opportunities for multiple gains.
- Co-ordination of advice provision, consultation and decision-making among the competent authorities to simplify administration, minimise the overlap of roles, and ensure that all secondary stakeholders work towards the same goals.
- A mechanism to capture the aspirations of the local community for the river and involve them in any decision-making process.

## Identifying mechanisms to deliver the conservation objectives

Ensuring that the river was maintained in favourable condition was clearly the core purpose of the river conservation strategy process. However, it was felt that a sustainably-managed river system requires more than just good administration. There needed to be a change in behaviour by both primary and secondary stakeholders to ensure that their activities were driven by the needs of the whole river system. This approach would move beyond meeting the minimum requirements of the Habitats Directive to embracing a vision of a functioning ecological system. Behavioural changes could be achieved through regulation, incentives or changed perceptions on the part of stakeholders:

- The conservation agency, English Nature, was able to ensure through existing UK legislation that certain operations were not damaging to conservation interests.
- Interviewees identified the need for adequate consideration of the socio-economic issues of the river, which were felt to be the key to modifying some activities, partly through the incentives of UK agri-environment schemes such as Landcare or ESA.
- The most sustainable method of enhancing conservation interests in the long term was felt to be through education, awareness-raising and identifying common objectives. Deliberative processes where a range of stakeholders share different experience, values and ideas could have social learning benefits.
- A one-way transfer of information from 'the experts' was not seen to be an effective mechanism for changing behaviour.
- The role of key stakeholder groups, which could act as an intermediary between the statutory agencies and stakeholders on the ground was identified as a potentially invaluable resource.

## Issues on the Avon

There is an overlap in the interests of fishery-owners, anglers and conservationists in the Avon SAC. This has meant that some of the SAC interests are valued highly by those other than conservationists,

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and that the level of knowledge about these species is distributed widely. Important information is held by local stakeholders as well as by the conservation agencies. This can mean that decision-making about these interests is more complex and potentially more volatile.

## Recommendations for the river conservation strategy process

Based on situation and stakeholder analysis, the following aims, objectives and principles were identified:

### Aims

- To reach a shared understanding of the effects of human impacts on the river's conservation and any changes required of the river's management to deliver the Habitats Directive and related UK legislation.
- To move away from the perception of the SAC designation as a bureaucracy to something that delivers benefits for the river.

### Objectives

- To understand the strengths and weaknesses of current conservation initiatives, and any gaps in provision.
- To encourage inter and intra-organisational co-operation and communication amongst competent authorities and secondary stakeholders, and to reach a shared understanding of and commitment to an agreed vision of how to achieve and enhance the river's conservation interest.
- To build on, and where necessary create, the sense of ownership and responsibility that exists among owners, managers and users of the river
- To encourage more collaboration in order to increase environmentally-sensitive management and joined-up thinking at a local level.

### Principles

- Experiences of participation suggest that a way to improve the effectiveness of decisions – increasing support for their implementation and ensuring proposed actions are locally feasible – is to involve those who will be required to co-operate in the implementation of the decisions. It was suggested that local stakeholders should be included (or represented) in decisions regarding proposed actions that could affect them.
- Giving stakeholders the opportunity to increase understanding through discussion is a particularly effective way of increasing social learning and enabling stakeholders to develop a wider awareness of the effects of their activities on the interests of others. Discussion and exchange is understood to be much more effective than one-way provision of information and one-to-one consultation can miss this opportunity. Because the need for more joined up thinking had been identified as an important need, a focused, discursive approach should be applied wherever levels of this sort of understanding did not exist.
- Using the experience and knowledge of others to help design the process helps to develop ownership of the process and its outcomes and helps to engender long-lived support for any resulting initiatives. It was suggested that key stakeholders and those with strategic-level knowledge and experience of the Avon system should be involved in designing the process.
- By involving different stakeholders with different knowledge, experiences and expertise in the decision-making process, decisions were likely to be more innovative and more 'joined-up'.
- Because there were good communication networks on the Avon already, and because primary stakeholders had not shown much interest in becoming involved in more strategic level discussions about the river's management, it was suggested that primary stakeholders should not be involved in strategic level discussions unless they held particular knowledge.
- Because of the danger of stakeholder fatigue, any meetings should be carefully planned and focused on reaching certain targets, and alternative means of communication should be used where appropriate. The partnership should have a fairly flexible membership and meeting arrangements.
- Because of the high density of fora through which issues relating to the Avon are debated it was

suggested that existing fora were used wherever possible for consultation and discussions with stakeholders.

- Special mechanisms would need to be identified to engage with those interests who were not well represented on existing fora. This might require specially organised stakeholder meetings for groups such as councils, the Ministry of Defence and water companies.
- The approach to stakeholder involvement suggested was basically a flexible partnership, with core members (English Nature, the Environment Agency, Wildlife Trusts, etc.) and other stakeholders joining the process depending on the issue under discussion. This approach would demand transparency and an emphasis on communication throughout to keep all interests informed.
- Any decisions made through the river conservation strategy should be based on consensus. Issues which are identified as non-negotiable by a competent authority for statutory or other reasons, should not be opened for discussion, but the constraints explained. Similarly, issues which when raised with certain interests would cause antagonism and strain relationships should only be tackled if these discussions were essential.
- Because of the complexity of the Avon there should be continual reflection throughout the process on what the strategy could achieve, who should be involved, the most effective processes, and issues arising.
- Discussions and decisions should take into account the social, economic, and political dimensions of issues. The availability of resources to tackle issues was seen as an important potential constraint. It was also viewed as important to guard against the strategy document becoming a wish-list with ideas unfeasible for economic or social reasons.

## Stakeholders and the strategy – The Partnership

The role of the partnership initially was to:

- Reach agreement on the aims and objectives of the river conservation strategy, set the parameters of the process, and identify issues for negotiation.
- Identify stakeholder representatives to be involved in in-depth discussions on issues identified by the steering group.
- Monitor and evaluate the process as it developed, feeding back comments to the project officer.
- Undertake the final prioritisation of any actions and agreements.

The role of the project officer was to:

- Collate and consolidate information between meetings.
- Record issues arising in the meetings.
- Carry out one-to-one negotiations and communication with individual stakeholders.
- Act as a neutral facilitator whose goal was to complete the strategy, but with no preference for particular actions or outcomes.
- Keep the process focused.
- Ensure all interests had opportunity to communicate their views.

## Development of the strategy

Key organisations involved in the management of the River Avon SAC were brought together in a Working Group to identify objectives for the strategy and the issues it should focus on. The Working Group was made up of county, district and borough councils, the Department for the Environment, Food and Rural Affairs, the Wildlife Trusts, water companies, representatives of riparian owners and fishing interests, English Nature and the Environment Agency (figure 4).

The Working Group first identified issues affecting the SAC and assessed existing measures in place to address these issues. Topic groups made up of participants with specialist knowledge of, or involvement in, these areas were then set up to discuss issues not fully addressed by existing measures. The Topic Groups considered diffuse pollution from agriculture, habitat rehabilitation, Christchurch Harbour, problem species, ways for fishery managers to help conserve the SAC, and abstraction issues.

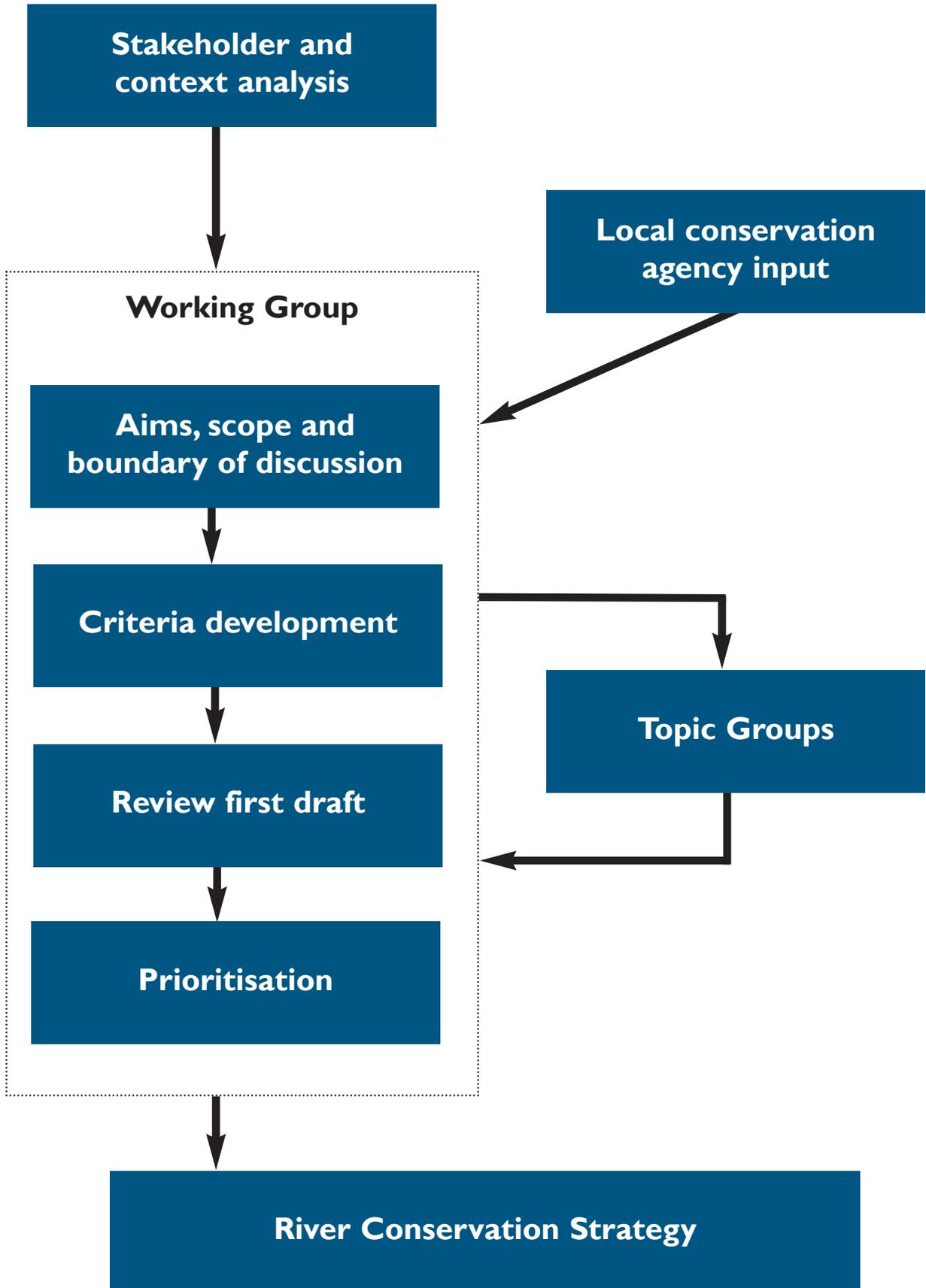


Figure 4. The structures and processes employed in developing the Avon strategy.

The information produced by topic groups and other sources was brought together in an initial draft strategy. From this document, a summary of twenty three main issues and actions was produced. Through a series of workshops, the Working Group then prioritised these issues by considering each against a set of criteria. The process resulted in the identification of four groups of priorities for further action: key major, major, intermediate and minor.

## Defining scope, aims and framework – Working Group I

The aim of the first Working Group was to establish the objectives of the strategy and boundaries of the debate. The working group developed the following objectives for the strategy.

- Develop the strategy in partnership with others, raising awareness of the SAC, sharing knowledge and strengthening the links between existing initiatives and bodies.
- Identify where the SAC is not in favourable condition and why not.
- Identify initiatives already in place to achieve favourable condition and assess their effectiveness and additional resource needs (information, funds, policy or communications) or where further action is required.
- Identify implementation options, and include a system for reviewing the strategy document and progress with its implementation.
- Specify monitoring required for assessment and reporting of the status of the interest features in the SAC, and to inform decisions or further actions.
- Disseminate the strategy to relevant parties and ensure the document is widely available.

The following national constraints on the strategy process were explained to the Working Group:

- statutory responsibilities towards the site.
- conservation objectives for the site, developed nationally and not negotiable locally.
- outputs required by the Life in UK Rivers project.

These national constraints and others imposed locally were captured in a framework developed by the Working Group, which effectively spelt out what the strategy could and could not do:

- The strategy will focus on the designated area and species. However, offsite activities that may impact on the SAC can be considered.
- Strategy recommendations must be compatible with existing statutory, regulatory and policy frameworks and processes. (These aspects being subject to future change at a national level).
- The strategy must be based on the conservation objectives for the River Avon SAC (which are targets that must be reached in order to attain favourable condition according to best current knowledge). Favourable condition has been defined nationally by the conservation agencies, and may not be altered by the strategy.
- A monitoring protocol will be produced for the SAC, outlining the monitoring method, frequency, and location of data collection. Monitoring will assist in assessing the status of the SAC and informing management decisions.

## Prioritisation of issues

The recommended approach to prioritising the issues identified for the River Avon SAC was adapted from a method used in development of the New Forest Local Environment Action Plan. The method combined discussion and negotiation between stakeholders with a systematic decision analysis approach. Through discussion, criteria were agreed that allowed objective prioritisation of issues. Through a series of workshops, the working group developed the criteria, assessed issues against the criteria and reviewed and agreed the final list priorities for action. Figure 2 below shows the approach taken to carrying out the methodology.

## Rationale

The rationale behind using this approach to prioritising strategy issues is to:

- provide a systematic method for prioritisation of issues.
  - be inclusive of people involved in managing the river and catchment.
-

- promote negotiation and consensus building.
- ensure all the issues are appraised on the same terms.
- be open and transparent.
- create a decision-making path that can be re-traced if outcomes are disputed.

## Development of Criteria – Working Group 2

The first step in the prioritisation process was to draw up a set of value-based judgements (criteria) that people felt were important in decision making about the River Avon SAC. A second working group meeting was held, attended by a selection of working group members to develop criteria. Professional facilitators were employed to assist at the meeting and this was felt to be crucial to its success.

Where the working group contained more than one representative of a particular interest group, one person was nominated to attend. The attending interests were the Wildlife Trusts, English Nature, County and District Councils, the Environment Agency, Avon and Stour Rivers Association, Wiltshire Fishery Association and the water companies.

Before the meeting, each representative was asked to draft several criteria that they felt were important in decision-making about the SAC. At the meeting, members worked in pre-determined pairs (people with similar interests) to discuss their draft criteria. They then moved into smaller groups to develop the criteria further and finally the whole group discussed the suggested criteria and agreed a final list of 11, shown in table 5.

It should be noted that none of the criteria included direct consideration of costs and availability of funding for resolution of issues. In keeping with the Habitats Directive, it was agreed that the strategy should prioritise issues according to their impact on the SAC, not according to how expensive they were to resolve. A proposed way to incorporate the cost of resolving issues was suggested whereby a “money screen” would be applied to the list of issues after prioritisation to identify those that would not be resourced.

Following the development of the criteria set, members of the working group scored each criteria according to its relative importance. The scores submitted by individuals were then normalised: scores assigned by an individual are totalled (T) and each score is then multiplied by  $100/T$  to give a normalised score. These were then averaged to give a group weighting to each criteria as shown in Table 6.

## Prioritising issues

The next stage in the process was to evaluate issues against the criteria. Before this took place, the project officer created and circulated a summary of 23 general issues arising from the strategy process so far. A careful balance had to be struck between retaining enough detail to make the results meaningful, and making sure the process remained manageable. Before production of the summary, the working group agreed the level at which the issues were defined. An example of the type of information in the issue summary would be (figure 5):

Issue 11: Water level management to benefit the Avon Valley SPA must take into account any potential conflicts with the ecological requirements of the River Avon SAC.

Summary: The implementation of the Water Level Management Plans is essential in ensuring wildlife gain in the SAC and SPA. However care must be taken to ensure that measures required to benefit the Avon Valley SPA do not adversely affect the SAC.

**Table 5. Criteria used to judge issues affecting the Avon SAC.**

| Criteria                                                                                                                            | Reasoning                                                                                                                                        |
|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Is the issue being addressed by other organisations in the catchment?                                                            | To avoid organisations duplicating effort.                                                                                                       |
| 2. To what extent is the issue backed up by reliable evidence?                                                                      | Increased confidence in prioritisation of issues and proposed actions.                                                                           |
| 3. To what extent can the issue be resolved by the existing statutory, regulatory, policy and legal framework?                      | Higher priority to address issues that can not be resolved satisfactorily within the existing statutory, regulatory, policy and legal framework. |
| 4. To what extent will the action taken to resolve the issue enhance the general public's perception of the SAC?                    | Develop and maintain a positive public perception of the SAC and be aware of public interest as a factor in decision making.                     |
| 5. To what extent will the action taken improve the level of cooperation from the main users of the river?                          | Maintain/ improve levels of support and co-operation of main users of the river.                                                                 |
| 6. To what extent will the resolution of this issue improve the economic potential [income generation or capital value] of the SAC? | Resolve issues in a way that has a neutral or positive impact on economic potential of the SAC.                                                  |
| 7. To what extent will the resolution of this issue generate stakeholder commitment?                                                | Working in partnership increases the likelihood of addressing issues effectively.                                                                |
| 8. To what extent can the issue be resolved in a sustainable way (social, environment, economic).                                   | Sustainable (socially, economically and environmentally) solutions to issues are needed.                                                         |
| 9. To what extent does the resolution of this issue benefit wider biodiversity?                                                     | Resolve issues in a way that has a neutral or positive impact on the SPA/Ramsar and wider biodiversity.                                          |
| 10. To what extent will resolving the issue contribute to favourable condition of the SAC?                                          | Issues having negative impacts on favourable condition across a range of indicators need to be addressed.                                        |
| 11. To what extent is the issue a driver for real change?                                                                           | The more powerful the driver, the more chance of improvements.                                                                                   |

Members of the working group then evaluated issues against the criteria using the following procedure:

- Groups evaluated issues against three highest weighted criteria.  
Participants broke into three groups, each taking one of three highest weighted criteria and evaluating all issues against this criteria. Issues were scored against criteria using high, medium, low, or not applicable. The following scale was used to convert scores into numerical values: 0 = not applicable, 1 = low, 2 = medium, 3 = high.
- Pairs/threes evaluated issues against remaining criteria.
- Plenary 1 - Review issue evaluations.  
The scores assigned were considered and consensus reached on any modifications to scores.
- Calculation of total scores (project officer).  
All the scores were entered into a pre-prepared spreadsheet, multiplied by the criteria weights and a total calculated for each issue.
- Plenary 2 – Review final, ranked issues list and decide boundaries.

The list of ranked issues was discussed, resulting in four priority groups for further action: key major, major, intermediate and minor (table 7).

Consensus on the priorities and priority groups was reached quickly and participants agreed that results were logical and reasonable. It was stressed that the results should be presented carefully, in particular explaining that:

- the context in which the priorities were developed and that they apply where action is required over and above what is already taking place.
- because of the criteria used, issues with a localised impact, or not directly relevant to the SAC tended to come out as a lower priority.

## Future of the River Avon Conservation Strategy

Many of the actions identified in the strategy can be delivered in the day-to-day work of the organisations involved in managing the river. However, several issues cannot be resolved without large injections of capital. The Working Group will continue to meeting in order to co-ordinate the implementation of the strategy. English Nature and the Environment Agency, with the working group as project partners, are seeking funding for further projects to implement particular strategy actions.

## Observations on the process

### Use of Stakeholder and Situation analysis

The analysis carried out by the external researcher could be done intuitively by someone with knowledge of the stakeholders in the catchment, for example the local conservation agency officer. However, the management of the Avon is administered across three counties, making assessment difficult for one person. In fact, the analysis was an invaluable aid in assessing the complex relationships between the numerous stakeholders across the catchment. The information produced helped the project officer establish relationships with stakeholders and to engage them in the process in the most appropriate way.

Table 6. Weighted criteria.

| Code   | Weight | Criteria                                                                                                                         |
|--------|--------|----------------------------------------------------------------------------------------------------------------------------------|
| A (10) | 12.02  | To what extent will resolving the issue contribute to favourable condition of the SAC?                                           |
| B (8)  | 10.95  | To what extent can the issue be resolved in a sustainable way, social, environment, economic?                                    |
| C (9)  | 10.64  | To what extent does the resolution of this issue benefit wider biodiversity?                                                     |
| D (1)  | 9.88   | Is the issue being addressed by other organisations in the catchment?                                                            |
| E (5)) | 9.85   | To what extent will the action taken improve the level of co-operation from the main users of the river?                         |
| F (7)  | 9.14   | To what extent will the resolution of this issue generate stakeholder commitment?                                                |
| G (2)  | 8.87   | To what extent is the issue backed up by reliable evidence?                                                                      |
| H (3)  | 8.47   | To what extent can the issue be resolved by the existing statutory, regulatory, policy and legal framework?                      |
| I (11) | 7.94   | To what extent is the issue a driver for real change?                                                                            |
| J (4)  | 6.49   | To what extent will the action taken to resolve the issue enhance the general publics perception of the SAC?                     |
| K (6)  | 5.77   | To what extent will the resolution of this issue improve the economic potential [income generation or capital value] of the SAC? |

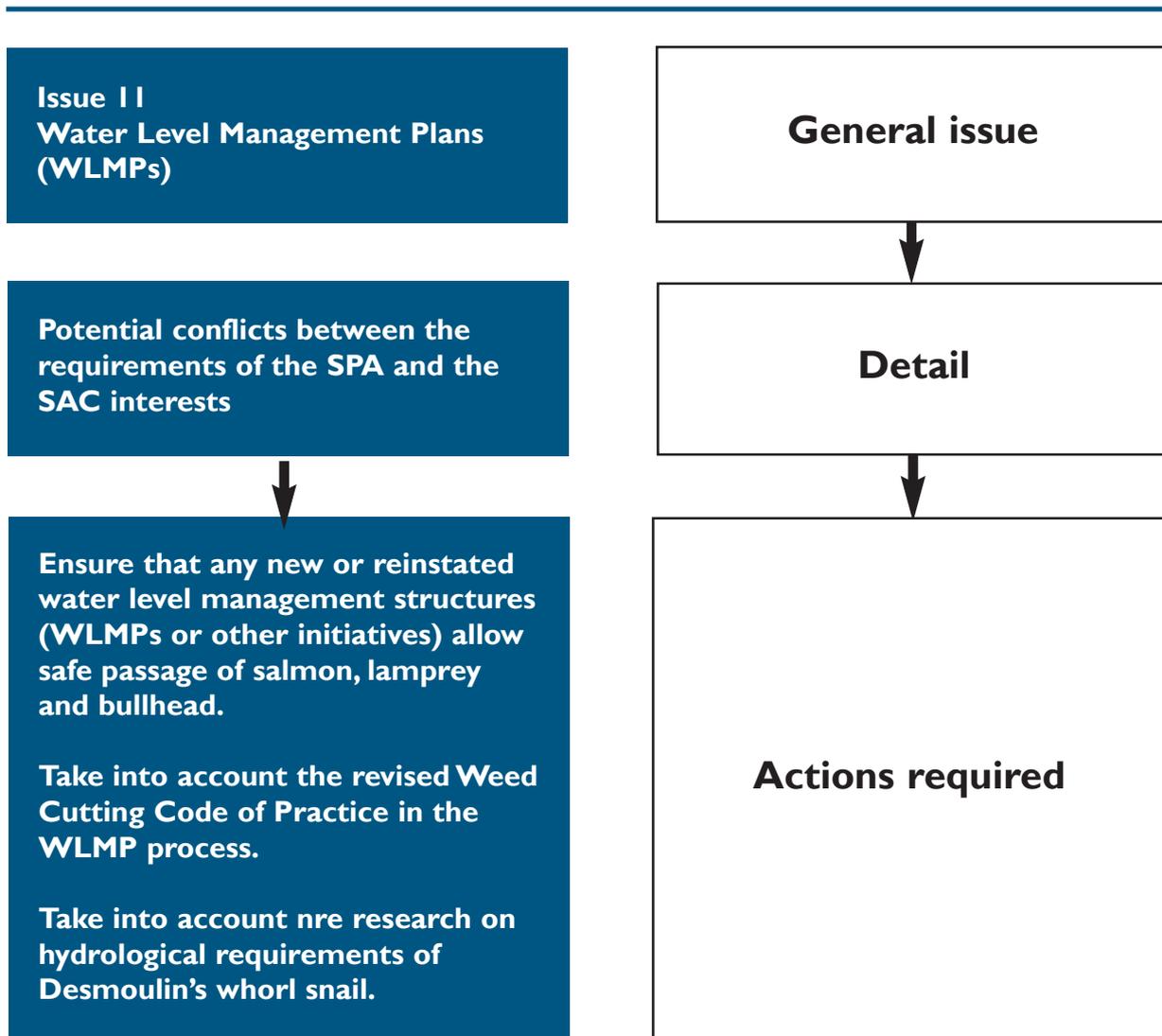


Figure 5. An example of evaluating issues against criteria.

### Application of principles

How the original principles proposed were translated into the actual process used is detailed in table 8.

### Working group and topic groups

The choice of chair for the working group and topic groups was particularly important, given the wide range of interests involved in the process. Originally it was thought that the project officer would fulfil this role. However, it quickly became apparent that the chair should be an experienced and respected local figure who was well-known to the members of the group and the chair chosen met these requirements. Where potentially volatile subjects were under discussion in topic groups, a suitable external chair was invited. For all other topic groups a more relaxed format was successfully adopted, with the project officer acting as a facilitator, remaining neutral but recording the meeting, providing factual information and ensuring discussion remained focussed.

The Christchurch Harbour group was particularly well attended, possibly due to the fact that those involved felt they did not normally have opportunities for discussion. This was in contrast to the ‘strategy fatigue’ articulated by stakeholders in the main Avon catchment. A Harbour forum made up of competent authorities has since begun to operate independently of the strategy.

Table 7. The four groups of priorities for further action identified for the Avon SAC.

| Priority group      | Issue                                                                                                                                                                                |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Key major</b>    | There is need to approach rehabilitation on a catchment scale to maximis ecological gain for the SAC                                                                                 |
|                     | Diffuse pollution is impacting adversely on the SAC                                                                                                                                  |
| <b>Major</b>        | Existing abstractions should not have a significant effect on the SAC either alone or in combination with other abstractions                                                         |
|                     | Ineffective communication undermines co-operation between stakeholders and statutory bodies                                                                                          |
|                     | Current and future developments or road schemes must not have a significant effect on the SAC either alone or in combination                                                         |
|                     | Recreational fisheries management activities must not have a significant effect on the SAC                                                                                           |
|                     | Flood defence and land drainage acitivities must not have a significant effect on the SAC                                                                                            |
|                     | Existing point source discharges must not have a significant effect on the SAC either alon or in combination with other discharges                                                   |
|                     | Future abstractions must not have a significant effect on the SAC either alone or in combination with other abstractions                                                             |
|                     | There is inadequate survey and monitoring of certain features and attributes of the SAC to allow reporting on favourable condition                                                   |
|                     | Future point source discharges must not have a significant effect on the SAC either alone or in combination with other discharges                                                    |
|                     | The available data on the River Avon needs to be collated, stored and managed more effectively                                                                                       |
| <b>Intermediate</b> | Flood risk management in the catchment should take into account the requirements of the SAC and deliver net wildlife gain where possible                                             |
|                     | Guidance on appropriate rehabilitation techniques is required                                                                                                                        |
|                     | Exploitation of salmon stocks needs to be managed to ensure health stock levels are achieved and subsequently maintained                                                             |
|                     | Improved accessibility (physical and intellectual) to the River Avon SAC is required to enhance understanding of the ecology of the river                                            |
|                     | Water level management to benefit the Avon Valley SPA must take into account any potential conflicts with the ecological requirements of the SAC                                     |
|                     | Salmon smoults may be vulnerable to avian predation at particular times and locations                                                                                                |
|                     | Invasive plant species have the potential to significantly affect the SAC                                                                                                            |
|                     | The boundaries of the River Avon SAC/SSSI were based available scientific at the time of notification and in future new information may indicate that the boundary should be revised |
|                     | Grazing by large flocks of mute swans has been observed to have a marked local effect on <i>Ranunculus</i> beds, reducing structural and biological habitat diversity                |
| <b>Minor</b>        | There is a risk that the operation of eel traps may delay the upstream migration of salmon                                                                                           |
|                     | Escapes from fish farms are of concern due to potential impacts on SAC features                                                                                                      |
|                     | Signal crayfish populations in the SAC may impact on the SAC features, in particular bullhead and <i>Ranunculus</i>                                                                  |

One of the working group recommendations was a topic group to address issues related to agricultural diffuse pollution. Within the Avon catchment there is an established Landcare partnership, which aims to combat diffuse pollution by encouraging the adoption of best farming practices. In keeping with the principle of using existing fora where possible, the agricultural topic group only took place after the working group had decided that it was necessary despite the existence of Landcare.

Twelve months into the strategy process, a topic group on abstraction issues was requested. This illustrated that some of the initially sceptical stakeholders now viewed the strategy as both useful and influential.

### **Prioritisation process**

The benefit of using the prioritisation process was that it provided a systematic method for prioritisation of issues and created a decision-making path that could be re-traced if the outcomes were disputed. Because of the number and range of organisations with an interest in management of the River Avon, the priorities in the strategy could have been disputed. It was extremely useful to be able to trace how these priorities were assigned and to demonstrate that they resulted from a process that was inclusive of numerous stakeholders, rather than being determined by one organisation or individual.

Implementing the recommended process was complex and time consuming, both administratively and conceptually, particularly as the project officer and the local conservation agency team had no experience of using this approach. Particular problems were:

- Initial explanation of the prioritisation process to the Working Group, as initially the strategy was perceived as a project resulting in a document, rather than a product – a management strategy – and an ongoing process.
- Ensuring that the working group understood how the criteria and scoring would be applied to issues in the strategy, as many found this initially a rather abstract concept.
- Lack of continuity in attendance at the Working Group, including changes of personnel by several organisations.
- Linked to the point above, organisations were keen to influence the prioritisation of issues even if they had not previously contributed to development of the strategy. This presented difficulties in ensuring everyone fully understood the process.

### **Managing expectations**

Expectation management before, during and after the production of the strategy was an important consideration. The original project bid document included some practical habitat restoration work, which was of particular interest to stakeholders keen to see practical rather than strategic action taken. This element was removed from the final project and the local conservation agency team had to minimise the effect of this on the engagement of stakeholders in the strategy.

The Working Group Partnership will remain involved in the implementation of the strategy, and funding will be sought for measures required over and above statutory measures. The Group is keen to see action on the ground, and care must be taken to ensure that this begins as soon as possible after completion of the strategy. This is particularly important in order to maintain the levels of trust between statutory organisations and representatives of riparian owners and fisheries.

### **Project officer**

The process used to develop the River Avon Conservation Strategy relied to a large extent on the existing relationships between stakeholders, and on strengthening these and building new relationships – so-called ‘capacity building’. This requires a project officer with strong interpersonal skills, political awareness and the ability to facilitate and mediate in situations where the underlying science may be disputed. In the case of the River Avon, many of the issues were related to technical matters such as water resources management and water quality. The project officer’s technical background (civil and

**Table 8. Principles originally identified and their ultimate application within the strategy process.**

| Principles                                                                                                                                                                                                                     | Application                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| It is suggested that local stakeholders should be included (or represented) in decisions made regarding proposed actions that could affect them.                                                                               | The use of an open process                                                                                                                                |
| Because the need for more joined up thinking has been identified as an important social need in the catchment, a focused discursive approach should be applied wherever levels of this sort of understanding does not exist.   | Topic group and working group                                                                                                                             |
| Key stakeholders and those with strategic level knowledge and experience of the Avon system are involved in designing the process.                                                                                             | Advice form key local English Nature and Environment Agency staff.                                                                                        |
| By involving different stakeholders with different knowledge, experiences and expertise, decisions are likely to be more innovative and more 'joined-up'.                                                                      | The use of an open process, topic and working groups.                                                                                                     |
| Suggested that primary stakeholders are not involved in strategic level discussions unless they hold particular knowledge.                                                                                                     | The use of an open process, topic and working groups.                                                                                                     |
| Any meetings should be carefully planned and focused on reaching certain targets, the use of alternative means of communication (email) should be used where useful. The partnership should have a fairly flexible membership. | E-mail used extensively for communication. Meetings planned carefully with clear aims stated. Membership of working group altered throughout the process. |
| Existing fora are used wherever possible to consult and discuss the strategy with stakeholders.                                                                                                                                | Done where possible, but not for the whole process as strategy had a very specific focus.                                                                 |
| Special mechanisms must be identified to engage with those interests who are not well represented on existing fora.                                                                                                            | Local authorities actively recruited to the working group. Failed to engage farming community other than through mediators (DEFRA, NFU, FWAG).            |
| Must be transparency and an emphasis on communication throughout all aspects the process to keep all interests informed.                                                                                                       | All decisions, minutes of meetings and communications circulated.                                                                                         |
| Any decisions made through the RCS should be based on consensus.                                                                                                                                                               | Facilitation undertaken by project officer and contractors.                                                                                               |
| Continual reflection throughout the process.                                                                                                                                                                                   | Regular contact with the external researcher to evaluate progress.                                                                                        |
| It is important that discussions and decisions take into account the social, economic, and political dimensions to the issues.                                                                                                 | One criteria specifically addressed this aspect. Consideration is being given to availability of funds.                                                   |

environmental engineering, specialising in rivers) was useful in understanding and assimilating the technical information associated with these issues.

### **Summary of benefits of using a participative approach**

Despite the difficulties experienced, the following benefits accrued by developing the strategy using a participative process:

- Initial background analysis helped form effective engagement with stakeholders.
- New relationships between 'influencers' were developed and existing relationships strengthened.
- participatory approach triggered significant progress towards tackling outstanding and often difficult issues.
- The process laid the foundations of an ongoing partnership to achieve strategic management of the River Avon.

## 8 Case study: River Endrick SAC

(Produced from a summary report by project officer, Louise Bond)

### Identification of issues and proposed management actions

At the beginning of the river conservation strategy process a review of existing plans and established management and consultation structures was undertaken. It was clear that it would be sensible to develop the Endrick river conservation strategy alongside the Loch Lomond Catchment Management Plan (LLCMP) and the Stirling Council Local Biodiversity Action Plan (LBAP). This would minimise duplication of effort, and allow the strategy process to utilise the networks, relationships and expertise already established. In general, there was a good deal of cross-fertilisation. For example, the lamprey species action plan within the Stirling Council LBAP was written by the river conservation strategy project officer.

Within the Loch Lomond and Endrick catchment the LLCMP consultation process allowed the identification of issues affecting freshwaters and the subsequent development of management actions to address the issues through wide stakeholder involvement. The LLCMP project was managed by a steering group comprising representatives of the three funding bodies – Scottish National Heritage, Scottish Water and the Scottish Environment Protection Agency – and the Loch Lomond and Trossachs National Park. The LLCMP development process is summarised in figure 6.



Figure 6. Stages in the development of the Loch Lomond Catchment Management Plan.

The catchment management plan consultation process began with an exercise to establish the issues that were of most concern. The views of around 50 organisations and individuals were sought and the resulting responses were brought together in a Loch Lomond Issues Report in June 2000.

Seven consultation groups covering the areas of water resources, water quality, fish and fisheries, agriculture, forestry, tourism and recreation, and development were then established to explore these issues in greater depth. Each group produced a report setting out proposed management actions, lead organisations and timescales. These were subsequently collated by the project steering group in the Loch Lomond Consultation Report in December 2001.

The Consultation Report was sent to around 100 statutory agencies, stakeholders and interest groups. The 53 responses received were used to produce the refined list of management proposals presented in the Endrick river conservation strategy document. While many of the suggestions made by consultees were incorporated, not all were taken up because they fell outside the scope of the catchment management plan.

The river conservation strategy proposes a total of 67 separate actions, and 30 of these are derived directly from the LLCMP. Another 37 actions needed to specifically address the impacts facing the SAC qualifying interest features were added. Issues specific to the SAC fish species were identified through the use of the salmon and lamprey ecological requirements reports produced by the Life in UK Rivers project. Issues and subsequent actions were determined where discrepancies between the ecological requirements of the SAC interest features and the current status of the Endrick Water occurred. Where information on the status of the Endrick and its salmon and lamprey populations was unavailable, actions to address these gaps in the data or monitoring regime were included in the river conservation strategy monitoring section.

Meetings took place with the Scottish Environment Protection Agency to discuss the process of adapting features' generic attribute targets for use at site level. These discussions focused on what parameters are currently monitored within the catchment, and the site's conservation objectives. The Endrick river conservation strategy sets out the guidance ranges for the three fish species and for indirect attributes. These targets are based on the ecological requirements of the species and will be subject to review and modification.

## **Involvement of stakeholders**

As already noted, there was considerable overlap between the river conservation strategy and the LLCMP and it was possible to use the consultation process for the catchment management plan to ensure that river conservation issues were discussed by stakeholders. Endrick land-owners and occupiers were involved in the LLCMP consultation process and so influenced the development of the river conservation strategy. Land owners and occupiers were also contacted by the project officer and individual site visits took place to talk about their concerns, note their activities and discuss current management practices. The strategy document was considered to be a technical and complex, containing detailed scientific information that would be subject to further change. It was therefore intended that a more user-friendly strategy would be produced for public consultation in the future.

Three farms adjacent to the river channel were included in the Endrick Farming and Wildlife Advisory Group Farm Plan Project. As the majority of the Endrick catchment is used for agriculture, funding was made available to identify the main farming issues and the potential effects of these on the SAC. Whole-Farm Plans were then developed for three individual farms, selected as typical of the agricultural and land use practices found in the catchment. The plans were tailored to address management practices affecting the watercourse, and included waste minimisation plans and nutrient budgets. These plans also helped to inform the Endrick Water river conservation strategy by identifying local and catchment-wide issues having an impact on the SAC interest features.

## Public events

It was felt that raising awareness among local communities of the importance of the SAC was essential so a number of events and publicity were organised:

- Agricultural shows at Drymen and at Doune and Dunblane – displays, posters, lamprey badge-making for children, leaflets, best practice guides, free riparian trees, and merchandise.
- The Endrick Green day was held in April 2002 and aimed at local communities, including many activities for children. Representatives from SNH, SEPA and the local angling club talked with local people and a guided walk to the Endrick SAC and Loch Lomond National Nature Reserve was organised.
- A 'planning for real' exercise was conducted whereby local people were invited to discuss current river management issues and pin-point their concerns on a giant map of the river.

## Consultation on the draft strategy

The Endrick river conservation strategy was be subject to two periods of consultation. The first consultation period on an issues paper took place in May and June 2002, and was restricted in circulation to the conservation agency (the SNH Freshwater group, SNH Natura, SNH Stirling Area) and the Life in UK Rivers project. Comments were then incorporated, and management proposals in a tabular form were included for each issue, such as water quality or flow. The revised river conservation strategy was re-circulated in September prior to a meeting to discuss the document.

The river conservation strategy was amended and a draft was distributed in October 2002 to competent authorities and other agencies having responsibilities within the Endrick catchment and identified as leading on management actions set out in the river conservation strategy. These organisations were invited to attend an informal meeting in November 2002 to discuss the proposed management actions, suggested lead agencies and timescales. A separate meeting was also held in November for those bodies involved with fish and fisheries issues within the catchment. The session highlighted the need for further research into the status of fish species and their habitat within the catchment, and for scientific monitoring to inform fisheries management decisions.

Following these meetings the river conservation strategy consultation period for lead agencies ran until the end of December, with each agency having the opportunity to carry out appropriate internal discussions prior to submitting a formal written response, which was considered for incorporation in the final strategy document.

## Review and Monitoring of the Strategy

The Endrick river conservation strategy was produced in parallel with the Loch Lomond Catchment Management Plan, and it is hoped that relationships established through the consultation process will be developed in the future. It is hoped that the review of both the Loch Lomond Catchment Management Plan and the river conservation strategy can be conducted jointly. In addition, the river conservation strategy will be reviewed in light of the further development of monitoring protocols for riverine SAC interest features.

## **9 Case study: Borgie, Kerry and Moidart SACs** (Produced from a summary report by project officer, Kjersti Birkeland)

The rivers were considered to be similar in terms of designated species, small size, catchment characteristics and adjacent land-use. One project officer was therefore employed to cover all three rivers. However, working closely with stakeholders on three widespread rivers over a relatively short period of time proved logistically difficult and time consuming. As a result the project officer spent most time on the two closest rivers, the Kerry and the Moidart. Borgie site visits were limited to a couple of days at a time, and meetings with stakeholders had to be organised well in advance. Furthermore, as working relations and practical projects on the River Kerry and Moidart increased it became more difficult for the project officer to leave the area to focus on a third river.

### **Building partnerships and developing practical projects**

It was recognised that securing effective conservation on the rivers meant involving stakeholders. Partnership involvement was therefore a fundamental principle of the project, and was very well received and developed for the River Kerry and the River Moidart. The limited numbers of stakeholders involved in these two river systems meant that the project officer was able to spend considerable time with almost every person whose activities could have an impact on the SAC. This was extremely helpful in identifying issues and spreading awareness of the interest features and their requirements. On some occasions specific changes to ongoing management practices were made as a result of meetings and discussions.

Further engagement with local people was achieved through practical partnership projects, where people with mutual interests worked together towards common goals:

- A native salmon brood stock and kelt reconditioning programme on the River Kerry. The project was developed in partnership with Wester Ross Fisheries Trust, Gairloch Anglers Association, Fisheries Research Services at Aultbea, and SNH. The purpose of the programme is to restore the population of salmon – the host for pearl mussel larvae and an important economic resource for the local community.
- A rhododendron eradication programme along the River Kerry SAC. Removal of this invasive, alien species will help restore native plant communities and subsequently improve water quality and conditions for salmon and pearl mussels. Partners included the riparian land-owners, the Forestry Commission, the British Trust for Conservation Volunteers.
- On the River Moidart an agreement on the management of riparian areas under the Natural Care programme was negotiated with land-owners and tenants.

### **Raising awareness**

Early in the project it became clear that many adverse impacts on SAC features and their supporting habitats were caused by a general lack of understanding of the interest features themselves and their ecological requirements. In order to raise awareness a best practice management guide was developed for the Rivers Kerry and River Moidart that addresses local and catchment-wide issues and provides practical advice on how to manage land and river in a way that is compatible with the requirements of the SAC features.

### **Developing the river conservation strategies**

The strategies were developed as stand-alone documents since there were few, if any, local initiatives, such as catchment or biodiversity plans, already in existence on the three SACs. At the outset, information was gathered on the interest features, including any existing survey data, and on the relevant stakeholders. Further information was thereafter obtained through site visits and meetings with the relevant stakeholders such as owners, occupiers, competent authorities and non-governmental conservation organisations.

Due to the relatively small size of the three rivers and the low numbers of stakeholders involved, the project officer opted to organise one-to-one meetings with stakeholders rather than setting up management forums or topic groups.

On the River Moidart and the River Kerry the project officer met with all the stakeholders at least once, and with several on a regular basis, to discuss the SAC designation, activities that could adversely affect the SAC, current management of the river and adjacent land, and issues affecting the long-term survival of the interest species. Activities both within and beyond the SAC that could have an adverse impact on the SAC features were covered. These relevant issues were listed in the river conservation strategy together with an action/management proposal to resolve them. Several of these actions were taken forward during the development of the strategy. As far as possible, the needs of stakeholder groups were discussed and taken into account, as the strategy is also committed to taking account of the economic, cultural, social and recreational needs of those living and working in the area.

## **Consultation on draft river conservation strategies**

Draft strategy documents were produced following the period of interaction between the project officer, relevant authorities and stakeholders. These were then subject to consultation within SNH and the Life in UK Rivers project. After internal consultation, the draft strategies were revised accordingly, and then sent to local stakeholders for comment. Although few comments were received, the feedback was generally positive and the competent authorities were supportive of the suggested management objectives and actions.

River conservation strategies were seen as making a valuable contribution to conserving populations of threatened species. The project on the three Highland rivers used novel approaches and tools to raise awareness and engage with owners and occupiers. Direct contact with local communities, partnership-led projects and production of strategic documents outlining the future management of the SACs met with a positive response locally and are viewed as having strengthened conservation efforts on all three rivers. In addition, the strategies are viewed by the competent authorities as a valuable tool for assessing the potential impact of proposed projects or plans on the SACs. Partnership projects and best practice guidance will, however, be more useful to the people on the ground.

The role of the project officer was clearly important on these three remote rivers, not only in developing the strategies but in initiating and co-ordinating local involvement in the conservation effort. It represented the provision of a new resource for the duration of the Life in UK Rivers project and, clearly, maintaining this momentum will be a challenge for the local conservation agency.

## Acknowledgements

The author would like to thank the Life in UK Rivers project officers – Kjersti Birkeland, Louise Bond, Stuart Davis, Liz Locke and Jenny Wheeldon – whose sterling work formed the basis of this report, and the rest of the project team past and present for all their help: David Withrington, Ann Skinner, Gareth Morgan, George Hinton, Lynn Parr, Mandy Richardson, Jerry Sisican, and Eva Leck..

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## 10 Glossary

### **Annex I habitat**

A natural habitat listed in Annex I of the Habitats Directive for which Special Areas of Conservation can be selected.

### **Annex II species**

A species listed in Annex II of the Habitats Directive for which Special Areas of Conservation can be selected.

### **Attribute**

A characteristic of a habitat, biotope, community or population of a species which most economically provides an indication of the condition of the interest feature to which it applies. For species these may include measures of population size, structure, habitat requirements and distribution. For habitats attributes may include measures of area covered, composition and structure and supporting processes such as ecosystem structure, tidal streams, salinity, sediment accretion/erosion, water quality, and the presence of typical species.

### **Birds Directive**

The abbreviated term for Council Directive 79/409/EEC of 2 April 1979 on the Conservation of Wild Birds. This Directive aims to protect bird species within the EU through the conservation of populations of certain birds and the habitats used by these species.

### **Competent authority**

Any Minister, government department, public or statutory undertaker, public body or person holding a public office that exercises statutory powers.

### **Conservation objective**

A statement of the nature conservation aspirations for the features of interest on a site, expressed in terms of the favourable condition that the species and/or habitats for which the site has been selected should attain. Conservation objectives for sites relate to the aims of the Habitats and Birds Directives.

### **Country agencies**

The statutory national nature conservation bodies: the Countryside Council for Wales, English Nature, Scottish Natural Heritage and their Joint Nature Conservation Committee and the Environment & Heritage Service, (an agency within the Department of the Environment, Northern Ireland).

### **Favourable condition**

The target condition for an interest feature in terms of abundance, distribution and/or quality of that feature within a site. A measure of the contribution that the site makes to the favourable conservation status of the feature. Interest features may be considered to be in: favourable condition; unfavourable-recovering; unfavourable-no change; or unfavourable-declining.

### **Favourable conservation status**

A range of conditions for a natural habitat or species at which the sum of the influences acting upon that habitat or species are not adversely affecting its distribution, abundance, structure or function throughout the EU in the long term. The condition in which the habitat or species is capable of sustaining itself on a long-term basis.

### **Habitats Directive**

The abbreviated term for Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora. It is the aim of this Directive to promote the conservation of

certain habitats and species within the EU.

**Interest feature**

A natural or semi-natural feature for which a European site has been selected. This includes any Habitats Directive Annex I habitat and any Annex II species and any population of a bird species for which an SPA has been designated under the Birds Directive.

**Monitoring**

Surveillance undertaken to ensure that formulated standards are being maintained. The term is also applied to compliance monitoring against accepted standards to ensure that agreed or required measures are being followed.

**Natura 2000 network**

The European network of protected sites established under the Birds Directive and the Habitats Directive.

**Plans and projects**

Any proposed development that is within a relevant authority's function to control, or over which a competent authority has a statutory function to decide on applications for consents, authorisations, licences or permissions.

**Precautionary principle**

The assumption that where there are real threats of serious damage to the environment, lack of full scientific information should not be used as a justification for postponing measures to prevent such damage occurring.

**Relevant authority**

The specific competent authority which has powers or functions which have, or could have, an impact on the environment within, or adjacent to, a Natura 2000 site.

**Special Area of Conservation (SAC)**

A site of Community importance designated by the Member States where the necessary conservation measures are applied for the maintenance or restoration, at a favourable conservation status, of the habitats and/or species for which the site is designated.

**Special Protection Area (SPA)**

A site designated under the Birds Directive by the Member States where appropriate steps are taken to protect the bird species for which the site is designated.

**Statutory nature conservation agencies**

The UK statutory nature conservation bodies: the Countryside Council for Wales, English Nature, Scottish Natural Heritage, and their Joint Nature Conservation Committee and the Department of the Environment (Northern Ireland).

## Appendix I – Habitats Directive key extracts

### Article 1(e)

Conservation status of a natural habitat means the sum of the influences acting on a natural habitat and its typical species that may affect its long term natural distribution, structure and functions as well as the long term survival of its typical species within the territory referred to in Article 2.

The conservation status of a natural habitat will be taken as 'favourable' when:

- its natural range and the areas it covers within that range are stable or increasing, and the specific structure and functions which are necessary for its long term maintenance exist and are likely to continue to exist for the foreseeable future, and
- conservation status of typical species is favourable as defined in [Article] 1(i).

### Article 1(i)

Conservation status of a species means the sum of the influences acting on the species concerned that may affect the long-term natural distribution and abundance of its populations within the territory referred to in Article 2;

The conservation status will be taken as 'favourable' when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long term basis.

### Article 1(l)

Special area of conservation means a site of community importance designated by the Member States through a statutory, administrative and/or contractual act where the necessary conservation measures are applied for the maintenance or restoration, at a favourable conservation status, of the natural habitats and/or the populations of the species for which the site is designated.

### Article 2

1. The aim of this Directive shall be to contribute towards ensuring bio-diversity through the conservation of natural habitats and of wild fauna and flora in the European territory of the Member States to which the Treaty applies.
2. Measures taken pursuant to this Directive shall be designed to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest.
3. Measures taken pursuant to this Directive shall take account of economic, social and cultural requirements and regional and local characteristics.

### Article 3

1. A coherent European ecological network of special areas of conservation shall be set up under the title Natura 2000. This network, composed of sites hosting the natural habitat types listed in Annex I and habitats of the species listed in Annex II, shall enable the natural habitat types and the species' habitats concerned to be maintained or, where appropriate, restored at a favourable conservation status in their natural range.

The Natura 2000 network shall include the special protection areas classified by the Member States pursuant to Directive 79/409/EEC.

2. Each Member State shall contribute to the creation of Natura 2000 in proportion to the

representation within its territory of the natural habitat types and the habitats of species referred to in paragraph 1. To that effect each Member State shall designate, in accordance with Article 4, sites as special areas of conservation taking account of the objectives set out in paragraph 1.

3. Where they consider it necessary, Member States shall endeavour to improve the ecological coherence of Natura 2000 by maintaining, and where appropriate developing, features of the landscape which are of major importance for wild fauna and flora, as referred to in Article 10.

#### **Article 6**

1. For special areas of conservation, Member States shall establish the necessary conservation measures involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans, and appropriate statutory, administrative or contractual measures which correspond to the ecological requirements of the natural habitat types in Annex I and the species in Annex II present on the sites.
2. Member States shall take appropriate steps to avoid, in the special areas of conservation, the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated, in so far as such disturbance could be significant in relation to the objectives of this Directive.
3. Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.
4. If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.

#### **Article 11**

Member states shall undertake surveillance of the conservation status of the natural habitats and species referred to in 2 with particular regard to priority natural habitat types and priority species.

#### **Article 17**

1. Every six years from the date of expiry of the period laid down in Article 23, Member States shall draw up a report on the implementation of the measures taken under this Directive. This report shall include in particular information concerning the conservation measures referred to in Article 6 (1) as well as evaluation of the impact of those measures on the conservation status of the natural habitat types of Annex I and the species in Annex II and the main results of the surveillance referred to in Article 11. The report, in accordance with the format established by the committee, shall be forwarded to the Commission and made accessible to the public.
  2. The Commission shall prepare a composite report based on the reports referred to in paragraph 1.
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This report shall include an appropriate evaluation of the progress achieved and, in particular, of the contribution of Natura 2000 to the achievement of the objectives set out in Article 3. A draft of the part of the report covering the information supplied by a Member State shall be forwarded to the Member State in question for verification. After submission to the committee, the final version of the report shall be published by the Commission, not later than two years after receipt of the reports referred to in paragraph 1, and shall be forwarded to the Member States, the European Parliament, the Council and the Economic and Social Committee.

3. Member States may mark areas designated under this Directive by means of Community notices designed for that purpose by the committee.

# Conserving Natura 2000 Rivers

## Ecology Series

- 1 Ecology of the White-clawed Crayfish, *Austropotamobius pallipes*
- 2 Ecology of the Freshwater Pearl Mussel, *Margaritifera margaritifera*
- 3 Ecology of the Allis and Twaite Shad, *Alosa alosa* and *A. fallax*
- 4 Ecology of the Bullhead, *Cottus gobio*
- 5 Ecology of the River, Brook and Sea Lamprey, *Lampetra fluviatilis*, *L. planeri* and *Petromyzon marinus*
- 6 Ecology of Desmoulin's Whorl Snail, *Vertigo moulinsiana*
- 7 Ecology of the Atlantic Salmon, *Salmo salar*
- 8 Ecology of the Southern Damselfly, *Coenagrion mercuriale*
- 9 Ecology of the Floating Water-plantain, *Luronium natans*
- 10 Ecology of the European Otter, *Lutra lutra*
- 11 Ecology of Watercourses Characterised by *Ranunculion fluitantis* and *Callitriche-Batrachion* Vegetation

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- 1 A Monitoring Protocol for the White-clawed Crayfish, *Austropotamobius pallipes*
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- 4 A Monitoring Protocol for the Bullhead, *Cottus gobio*
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These publications can be obtained from:

The Enquiry Service  
English Nature  
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They can also be downloaded from the project website: [www.riverlife.org.uk](http://www.riverlife.org.uk)



The Life in UK Rivers project was established to develop methods for conserving the wildlife and habitats of rivers within the Natura 2000 network of protected European sites.

Set up by the UK statutory conservation bodies and the European Commission's LIFE Nature programme, the project has sought to identify the ecological requirements of key plants and animals supported by river Special Areas of Conservation.

In addition, monitoring techniques and conservation strategies have been developed as practical tools for assessing and maintaining these internationally important species and habitats.



The Life in UK Rivers project has developed conservation strategies for seven river Special Areas of Conservation. Each of these management plans identifies conservation measures, describes safeguards against deterioration or disturbance and represents an aid to assessing projects or plans that might affect the site.

The strategies demonstrate how the statutory conservation and environment agencies have produced conservation objectives and action plans with their local partners to achieve 'favourable conservation status' under the terms of the Habitats Directive for protected river habitats and species.

This report seeks to summarise the lessons learned in producing the seven UK strategies and to suggest some model guidance for establishing management plans for river Special Areas of Conservation elsewhere.

Information on Conserving Natura 2000 Rivers and Life in UK Rivers can be found at [www.riverlife.org.uk](http://www.riverlife.org.uk)

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