

Navigation restoration and environmental appraisal: a guidance note



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Contents

Navigation restoration and environmental appraisal: a guidance note

1	1	Introduction
1	2	The Role of the Environment Agency
2	3	The Benefits of Environmental Appraisal
3	3.1	Key Stages in the Environmental Appraisal Process
5	4	The Benefits of Local Involvement
5	5	Environment Agency Scoping Guidance

Appendix 1

9	Case study examples of navigation restoration projects and summary of environmental appraisal requirements
10	Environmental appraisal for a canal navigation restoration project - Level 3 case study
13	Environmental appraisal for a canal navigation restoration project - Level 2 case study
16	Environmental appraisal for a canal navigation restoration project - Level 1 case study

Appendix 2

20	Preparing an environmental appraisal report/environmental statement
----	---

25 References

26 Navigation Restoration Policy

Navigation restoration and environmental appraisal: a guidance note

1 Introduction

Numerous opportunities exist to restore navigation to waterways, on both canal and river systems. Many individuals and groups are keen to promote projects to realise these opportunities. The Environment Agency has prepared this guidance note to assist anyone planning to undertake navigation restoration projects in England and Wales. It also applies to the development of new navigations. The note provides information on the roles and interests of the Agency, and describes the benefits of undertaking an environmental appraisal at an appropriate level at an early stage in the project planning process.



A typical weir and lock on the River Avon (Lower)

Case study examples are included in Appendix 1 to give an indication of the level of environmental appraisal appropriate for different types of restoration project. The examples also illustrate some of the issues likely to arise, and how opportunities and constraints may be managed to everyone's best advantage.

Consultants are often commissioned to undertake feasibility, engineering design, economic and

environmental studies because they provide specialist expertise not always held by those planning larger restoration projects. The environmental appraisals should be undertaken in parallel with the engineering and economic aspects of the studies, throughout the development and appraisal of options. This ensures that the preferred option is desirable economically, technically and environmentally. A structure and contents list for the environmental aspects of such work is included in Appendix 2.

2 The Role of the Environment Agency

The Environment Agency exists to protect and improve the environment in England and Wales. Under the Environment Act (1995), it has a general duty to promote the recreational use of inland waters and associated land; specific responsibilities as the navigation authority for some waterways; and powers to issue byelaws on some other waterways where there is no body controlling navigation. We also have a wider role in integrated river management, taking account of flood defence, water resources, water quality, fisheries, recreation, nature conservation, landscape and built heritage sites.

In principle the Agency welcomes navigation (including commercial navigation) restoration initiatives; we seek to work in partnership with those promoting such schemes, aiming to optimise benefits for navigation and recreation while recognising the other legitimate uses of the waterways.

3 The Benefits of Environmental Appraisal

Environmental appraisal is a process which ensures that the environmental impacts of proposals are identified before a decision is taken on whether, and how, a project should proceed. It provides a procedural framework within which opportunities can be developed and issues resolved. This may be statutory environmental impact assessment (EIA) required by planning law, or smaller-scale studies. The term environment means the environment in its broadest sense, encompassing for example economic, recreational, cultural heritage and social issues as well as those associated with nature conservation and landscape.

Most navigation restorations (other than those undertaken by a navigation authority) will require local planning authority consent under the town and country planning system. However, they will not usually require EIA. Nevertheless, the "Construction of inland waterways and canalisation" is included in the Town and Country Planning (Environmental Impact Assessment) Regulations 1999 (SI No. 293) ⁽⁷⁾ on the list of projects which require EIA where *significant* environmental impacts are likely to arise from the development. Advice on the need for EIA for individual projects should be sought from the local planning authority.

Where EIA is not required, the environmental appraisal process, applied at an appropriate level, provides an excellent framework within which to address environmental issues and to meet the requirements of interested parties. These include statutory organisations such as the local planning authority, English Nature, the Countryside Council for Wales and the Environment Agency as well as other stakeholders such as local wildlife



Typical waterside flora

trusts, access groups, heritage groups, local residents and landowners.

The Agency, as the consenting authority for impoundment, water abstraction, discharge to water, navigation (where it is the navigation authority) and land drainage (where the watercourse is classified as *main river*) may ask for environmental information to be made available in order to determine such consent. Some level of environmental appraisal often forms the most appropriate framework within which you can collate and present relevant information to the Agency.

Undertaking environmental appraisal in parallel with engineering and economic studies in the planning of navigation restoration projects will help you achieve the following benefits:

- gaining local ownership of and support for schemes, and identifying partnership opportunities (see section 4.0 below);
- identifying and managing issues at an early stage in project development, thereby avoiding spending significant time and resources on inappropriate courses of action;
- identifying and integrating the views and expertise of interested parties, including the Agency;

- identifying the requirements of, and obtaining, approvals and consents required from, regulatory authorities such as the Agency and the local planning authority;
- delivering sustainable restoration projects which take account of environmental constraints (usually by means of tried and tested techniques, albeit sometimes at a cost) and maximise environmental opportunities.

3.1 Key stages in the environmental appraisal process

The process can be divided into a number of stages, where specific activities are undertaken. These are shown in Figure 1 below. In practice, however, the environmental appraisal process is iterative and can be difficult to divide into such distinct stages.

Figure 1

Stage	Key Questions	Key Tasks
Scoping	<ul style="list-style-type: none"> • What are the main issues of concern? • What level of environmental appraisal is required? • What type of report? 	To decide what level of environmental appraisal is required you need to know whether the works fall within the ambit of the Environmental Impact Assessment Regulations ^(5,6) as well as the likely significance of environmental impacts. Key issues are identified in the scoping phase as a focus for subsequent stages in the process. The stage should identify possible impacts, both favourable and adverse, and opportunities for environmental enhancement. Consultation is most frequently used as a basis for scoping and should be targeted at those with an interest in the project and those likely to provide baseline information. Checklists are useful to structure scoping activities and can be supplied by the Agency on request.
Baseline surveys and data collection	<ul style="list-style-type: none"> • What information is required? • What desk or field studies are necessary? 	Collect baseline data in order to predict the impact of options and for comparison with the outcomes of future monitoring. Additional surveys of the site and surroundings may need to be commissioned.
Evaluation of options	<ul style="list-style-type: none"> • What is the best practical option? 	At this stage in the process evaluate and compare the environmental impacts of alternative options, including a "do nothing" option.
Impact and prediction and assessment	<ul style="list-style-type: none"> • What are the key environmental impacts? 	Predict the likely impacts of the project upon the environment. The magnitude and significance of these need to be ascertained. Impacts may result from both construction activities and the operational or "end-state" phase of the project.

Stage	Key Questions	Key Tasks
Design of mitigation and enhancement measures	<ul style="list-style-type: none"> • How can effects be avoided or minimised? • What opportunities exist for enhancement? 	Identify ways of minimising or eliminating adverse impacts. These can relate to the design of the project or to methods of working. The magnitude and significance of the residual impacts after mitigation should also be assessed. Additional environmental enhancement opportunities beyond the original objectives should be sought and specified in the project design.
Report preparation	<ul style="list-style-type: none"> • What type of report is needed? 	You need to document the environmental appraisal/environmental impact assessment in a report - either an environmental appraisal report or an environmental statement. This documentation provides information for the decision-maker, for example the local planning authority, Environment Agency, other consultees and the public.
Submission and decision	<ul style="list-style-type: none"> • What procedures must be followed? 	Submit the report with an application for approval by the appropriate regulator.
Detailed design and implementation	<ul style="list-style-type: none"> • Are all the approved environmental constraints and mitigation and enhancement measures covered in the contract documents? 	Implement the agreed designs and mitigation measures. The contract should be managed by staff with the appropriate environmental and other expertise.
Monitoring and audit	<ul style="list-style-type: none"> • What happened in practice? 	You may need to monitor the development and surroundings to ensure that mitigation measures have been successful and that any unanticipated adverse impacts are dealt with. This provides a continuous record of change in the environment as a result of the project.

4 The Benefits of Local Involvement

Liaison with local interest groups is essential if issues and concerns of importance to them are to be identified and taken into account. Liaison also provides the opportunity to foster partnership opportunities, for example to carry out collaborative work and take advantage of new sources of funding.



Cycling on the towpath

Interest groups include Inland Waterways Association branches, waterway societies and trusts, landowners, local residents, other waterway local groups, for example cruising, canoeing, angling, rambling and cycling clubs, and county and local wildlife trusts. They also include statutory organisations such as English Nature or the Countryside Council for Wales, local planning authorities, the navigation authority, for example British Waterways, the

Broads Authority, and the Agency. Local knowledge of these and others may be invaluable when planning a scheme, to identify potential difficulties and opportunities. Moreover, interested parties are less likely to object to a proposal when their views have been canvassed and taken into account.

5 Environment Agency Scoping Guidance

Scoping is probably the most important element of effective environmental appraisal. Scoping is a multi-disciplinary activity designed to identify key constraints and opportunities at an early stage when alternatives are still being considered, and to establish the level of environmental appraisal appropriate to the proposal. A progressively decreasing range of issues should be considered, but in increasing detail. Early consultation with all relevant parties is fundamental to successful scoping.

The Environment Agency has produced guidance for people proposing to undertake navigation restoration projects and their consultants. The guidance is also for local planning authorities, Agency staff and others involved in developing projects likely to affect the water environment.

Notes, in checklist form and more detailed narrative form, have been produced ^(3 & 4) for 63 project types. They include *Navigation Issues*, *Navigation Works*, *Channel Works*, *Flood Diversion Canals*, *Fluvial Dredging*, *Water Based Recreation*, *Vegetation Management* and *Canal Restoration*. The scoping guidance focuses on issues related to the water environment and includes information on Agency licences, major potential impacts, baseline surveys and mitigation measures.

Copies of the notes are available free of charge on request from Agency customer services managers located at Area offices (contact details on the following page).

A booklet, *Environmental Assessment: Scoping Handbook for Projects* (Environment Agency, HMSO London 1996) ⁽²⁾ explains the role of the Agency in the environmental appraisal process



Waterway Recovery Group volunteers
clearing wide lock chamber

and the importance and benefits of effective scoping. It also explains the availability and use of the guidance notes. Copies are available from the Stationery Office (0207 873 0011).

The scoping guidance is general in nature and does not replace the need for consultation with the Environment Agency over individual projects. It will, however, help you identify key areas of concern and assist you in the scoping process.

The Agency is currently revising the scoping guidance to include issues related to land, air and water. Copies of the revised guidelines will be available from the Agency in paper and CD format after summer 2000.

Environment Agency Environmental Assessment Contacts

For technical enquiries related to environmental appraisal/assessment you can contact the environmental assessment contact in each region at the addresses shown. For enquiries concerning specific development proposals you will need to contact the appropriate Area Office of the

Environment Agency by phoning 0645 333111 (all calls charged at local rate).

If the development proposal extends to more than one Agency area or region, contact your local office in the first instance and they will establish who the Agencies lead contact will be.

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Appendix 1.

Case-study examples of navigation restoration projects and summary of environmental appraisal requirements

To indicate the level of environmental appraisal appropriate to different navigation restoration projects, the following fictitious case-study summaries show three different levels of environmental appraisal.

Level 1 - is the most detailed, and would be required for schemes likely to have significant environmental impacts almost certainly requiring a formal environmental impact assessment.

Level 3 - would be carried out for works on a small scale, with relatively few environmental implications.

Level 2 - falls between these two, and would be carried out for schemes where there are a number of environmental issues to be addressed but which fall below the threshold of being "significant".

These levels follow the levels of environmental appraisal carried out for Agency internal works and activities, for example flood

defence, navigation (such as lock refurbishment and mooring facilities), conservation, fisheries and water resources works. The levels of environmental appraisal follow the recommendations made in the Environment Agency, *National Environmental Assessment Handbook, Environment Agency Internal Works and Activities*, 1998 ⁽⁵⁾.

The examples each include a brief description of the proposed project, the local environment and the uses/value of the area. Some of the main environmental issues likely to arise from each project are listed, along with details of how these might be managed. The examples are not comprehensive, but cover a range of issues, likely to arise in restoration, giving an indication of what is required and illustrating how issues may be resolved.

Environmental appraisal for a canal navigation restoration project - Level 3 case study

Project Description

The proposal is for the restoration of a navigation along a 2.5km stretch of canal. The restoration will involve minor works to restore the upstream and downstream locks, a turning basin at the upstream limit, and building two 48hour mooring platforms. Water levels will not be affected. Materials will need to be brought in via the local road system.

The Existing Environment

Land use

There are towns at the up and downstream limits of the study area. Between the towns the land use is mainly arable.

Hydrology

The Environment Agency has stated that the water resource is sufficient to support a restoration scheme.

Ecology and nature conservation (biodiversity)

Nature conservation designations

There are no statutory or non-statutory protected sites within the study area.

The canal corridor

The botanical value of the canal corridor is generally poor. Several willow trees overhang the canal.

Aquatic invertebrates

Routine macro-invertebrate monitoring undertaken by the Agency has not identified any rare or protected species.

Birds

Various common birds use the stretch during the bird breeding season.

The Human Environment

The local community

There are towns at the up and downstream limits of the study area.

Recreation

There is a footpath along the top of the western embankment. A short stretch is also a cycle-way recently built by Sustrans.

Some key issues likely to arise from the Level 3 case study

Permissions required

- Planning permission for mooring facilities

Some key impacts which may arise from construction

- Construction of moorings:
 - Employment for local construction firms
 - Noise from construction activities
- Construction traffic:
 - Disturbance to wildlife
 - Increased water turbidity
 - Disruption to local traffic
 - Dirt on the road
 - Noise affecting local residents

Some key impacts which may arise from operation/end state

- Use of locks:
 - Improve access for boaters
 - Changes in flow characteristics and water quality
- Moorings:
 - Improved access to canal
 - Local economic benefits
- Pollution from accidental spillages, for example, oil, fuel

- Boat passage:

Access for boaters

Added interest for walkers/cyclists/
local residents

Use of waterside path

Disturbance to local people



Dredging from floating plant

Surveys

Surveys and/or information required are likely to include the following:

- survey of terrestrial and aquatic flora and fauna, for example birds and water voles within and adjacent to the proposed development. This could take the form of a river corridor survey ⁽⁹⁾;
- analysis of water quality;
- views/concerns of local people.

Mitigation measure ideas

- Avoid construction during the bird breeding season (April to July, breeding birds are protected by law)
- Restrict construction working hours to minimise disturbance to local residents
- Where erosion protection is required, employ "soft" options, for example spiling or coir, to protect bank and bankside habitats.

Enhancement ideas

- Work with nature conservation representatives to incorporate excavation of areas adjacent to the channel to create ponds/wetland areas while construction plant is on site

- Work with landowners, conservation organisations and the local community to plant native trees along the canal to enhance landscape, amenity and habitat (for example for birds)
- Work with waterway-user organisations and the Ramblers Association to improve the waterside path where appropriate. The groups could advise on width, type of surface, match funding, etc.
- Encourage development of moorings, waterside gardens, etc. at public houses
- Canoe access and egress platforms.

Environmental appraisal for a river navigation restoration project - Level 2 case study

This case study is the same as for the previous Level 3 example but has the additional complications, set out below.

Project Description

The proposal is for the restoration of a navigation along a 5km stretch of an embanked river system. Water levels will be raised and the restored navigation will increase the current upstream navigable limit. The restoration will involve restoring an upstream lock, rebuilding a downstream lock and building a new turning basin at the upstream limit (in addition to the building of two 48hour mooring platforms with waste disposal facilities.)

The Existing Environment

The waterway is a river and not a canal.

Land Use

There is a country wildlife site adjacent to the river over a 50m stretch. There are various houses adjacent to the river.

Hydrology

Flows are thought to be sufficient to support a restoration scheme. Seepage occurs from the river system both through the riverbed and through the embankments.

Ecology and nature conservation (biodiversity)

Nature conservation designations

There is one non-statutory county wildlife site which is listed by the local Wildlife Trust due to areas of open water and reedbed. The site relies on seepage through the embankment.

Fisheries

The river supports a small fishery including populations of roach and bream.

The landscape

One side of the river is designated an Area of Outstanding Natural Beauty (AONB).

The Human Environment

Recreation

A local school uses the area between the two derelict locks for canoeing.

Archaeology and cultural heritage

There is a windmill adjacent to the road that is designated a Scheduled Monument (SM).

Some key issues likely to arise from the Level 2 case study

Permissions required

- Planning permission for mooring and sanitary facilities
- Land drainage byelaw consent for lock work, moorings, and sanitary disposal
- Impoundment licence for lock/weir structures

Some key impacts which may arise from construction

- Construction of moorings:
 - Employment for local construction firms
 - Noise from construction activities
- Construction traffic:
 - Disturbance to wildlife
 - Vibration impacts on Scheduled Monument (SM)
 - Disruption to local traffic
 - Dirt on the road
 - Noise affecting local residents
- Increased water turbidity

Some key impacts which may arise from operation/end state

- Use of locks:
 - Improved access for boaters
 - Changes in flow characteristics and water quality

- Moorings:

Improved access to river

Local economic benefits

May benefit local economy, for example, shops, public houses

Pollution from accidental spillages, for example, oil, fuel

Sanitary disposal will need to go to sewer

Impact on landscape designation (AONB)

- Boat passage:

Access for boaters

Added interest for walkers/cyclists/local residents

Erosion of banks and bankside habitats from wash

Disturbance to local residents, fisheries and anglers

Disruption to school canoeists



Brandon Lock on the Little Ouse

- Management of willows overhanging river:

Changed visual amenity

Habitat change-removal of cover and shade from channel

- Improved depths for canoeists and reduced danger at derelict weir

Surveys

Surveys and/or information required are likely to include the following:

- survey of terrestrial and aquatic flora and fauna, for example birds and water voles within and adjacent to the proposed development. This could take the form of a river corridor survey ⁽⁹⁾;
- analysis of water quality;
- survey of recreation and amenity activities;
- views/concerns of local residents.

Mitigation measure ideas

- Avoid construction during the bird breeding season (April to July, breeding birds are protected by law)
- Willows - manage rather than remove
- Imposition of speed limits on boats to minimise erosion and disturbance
- Where erosion protection is required, employ "soft" options, for example spiling or coir, to protect bank and bankside habitats
- Dispersion of sediments caused by dredging should be minimised by construction of a temporary silt and sediment trap

Enhancement ideas

- Work with angling and fisheries representatives to incorporate disabled angling platforms
- Work with nature conservation representatives to incorporate excavation of areas adjacent to the channel to create ponds/wetland areas while construction plant is on site. Possible enhancement of Wildlife Trust site
- Work with waterway-user organisations, Ramblers Association and Sustrans to improve the waterside path where appropriate. They could provide guidance on width, type of surface, match funding, etc.
- Develop low-head hydropower system at weirs; power can be fed into national grid
- With district council - toilets, car park, picnic areas
- Work with landowners, conservation groups and local community to plant native trees along watercourse to enhance visual amenity and habitat value (for example for birds)
- Provision for path users to cross weir
- Trip boat for visitors as an amenity
- Encourage development of moorings, waterside gardens, etc. at public houses
- Canoe access and egress platforms

Environmental appraisal for a river navigation restoration project - Level 1 case study

This case study is the same as for the previous Level 2 example, but has the additional complications as set out below.

Project Description

The proposal is on a river within a chalk catchment. Water levels will be raised and the restored navigation will complete a circular navigable route. The restoration will involve dredging parts of the river channel and rebuilding a downstream weir which will affect upstream water levels. The proposed mooring platforms will be for permanent moorings.

The Existing Environment

Hydrology

- The river is spring fed.

Ecology and nature conservation (biodiversity)

Protected, rare and Biodiversity

Action Plan species

Otters and water voles are thought to be present in this stretch of river. There is an unidentified plant community in the channel which is thought to include rare species.

Fisheries

The river supports a valuable fishery including an important population of native brown trout.

The Human Environment

Archaeology and cultural heritage

A Roman settlement site lies adjacent to the river. Several finds are recorded on the county sites and monuments record.

Recreation

There is one angling club with rights to the fishery.

Some key issues likely to arise from the Level 1 case study

Permissions required

- Planning permission for mooring and sanitary facilities
- Land drainage byelaw consent for locks/weir work, piling, moorings, turning basin and sanitary disposal, dredging
- Impoundment licence for weirs/locks

Some key impacts which may arise from construction

- Construction of moorings and piling:
 - Damage to archaeological remains associated with Roman settlement
 - Employment for local construction firms
 - Noise from piling and construction activities
 - Vibration from piling may damage nearby houses
- Construction traffic:
 - Disturbance to wildlife including sensitive/protected species
 - Increased water turbidity
 - Vibration impacts on Scheduled Monument (SM)
 - Disruption to local traffic
 - Dirt on the road
 - Noise affecting local residents
- Dredging:
 - Boat passage
 - Damage to instream habitats, for example spawning areas
 - Disturbance to sensitive species

Damage to known/unknown archaeological features

Changed bank stability

Release to suspension of contaminants on riverbed

Need to dispose of dredgings appropriately



Waterway Recovery Group volunteers reconstructing lock byewash

Some key impacts which may arise from operation/end state

- Use of locks:
 - Improved access for boaters
 - Changes in flow and water quality
- Weirs:
 - Barrier to migration of trout up and downstream
 - Water levels and flow changes affecting instream and bankside ecology, for example water voles, otters, reedbed

- Moorings:
 - Improved access to river
 - Local economic benefits
 - Pollution from accidental spillages, for example oil, fuel
 - Sanitary disposal will need to go to sewer
 - Impact on landscape designation (AONB)
- Piling:
 - Reduction of seepage to Wildlife Trust site
 - Prevention of use of banks for habitat, for example water voles/kingfishers
 - Change in visual amenity
- Boat passage:
 - Access for boaters
 - Added interest for walkers/cyclists/local residents
 - Improved depths for canoeists and reduced danger at derelict weir
 - Erosion of banks and bankside habitats from wash
 - Disturbance to local residents, fisheries and anglers
 - Disruption to school canoeists
 - Damage to instream plants
- Management of willows overhanging river:
 - Changed visual amenity
 - Habitat change: removal of cover and shade from channel

Surveys

Surveys and/or information required are likely to include the following:

- survey of terrestrial and aquatic flora and fauna, for example birds, water voles,

otters, fisheries, and boats adjacent to the proposed development. This could take the form of a river corridor survey ⁽⁹⁾;

- analysis of sediments undertaken where dredging operations are intended;
- analysis of water quality;
- survey of recreation and amenity activities;
- survey of landscape characteristics. This could take the form of a river landscape assessment ⁽¹⁰⁾;
- views/concerns of local residents;
- ground/structural survey to determine risks to houses from piling vibration.

Mitigation measure ideas

- Fish pass
- Canoe-friendly weir and platforms to reduce bank wear
- Avoid construction during the bird breeding season (April to July, breeding birds are protected by law)
- Imposition of speed limits on boats to minimise erosion and disturbance
- Dispersion of sediments caused by dredging should be minimised by construction of a temporary silt and sediment trap
- Watching brief for archaeology
- Willows - manage rather than remove
- Avoid construction during fish spawning season (February to June)
- Where erosion protection is required, employ "soft" options, for example spiling or coir, to protect bank and bankside habitats
- Maintenance of wetness of Wildlife Trust site, for example by irrigation
- "Silent" hydraulic jacking piling techniques to minimise noise and vibration

Enhancement ideas

- Work with angling and fisheries representatives to incorporate disabled angling platforms
- Work with nature conservation representatives to incorporate excavation of areas adjacent to the channel to create ponds/wetland areas while construction plant is on site. Possible enhancement to Wildlife Trust site
- Work with archaeological interests to incorporate interpretative facilities
- Work with waterway-user organisations, Ramblers Association and Sustrans to improve the waterside path where appropriate and seek guidance on width, type of surface, match funding, etc.
- Archaeology - tourism potential
- Develop low-head hydropower system at weirs; power can be fed into national grid
- Bird and bat boxes can be installed on existing trees and structures. Crevices may be created under ledges for the same purpose
- With district council - toilets, car park, picnic area
- Water-bus as public transport
- Plant trees along watercourse to enhance visual amenity and habitat value
- Provision for path users to cross weir
- Trip boats for visitors as an amenity
- Encourage development of moorings, waterside gardens, etc. at public houses
- Canoe access and egress platforms



Swan and cygnets

Appendix 2.

Preparing an environmental appraisal report/environmental statement

Background Information

The following guidance outlines what is normally included in an environmental appraisal report/environmental statement. It gives an overview of the work required and may be useful to form the basis of a consultant's terms of reference. The structure and contents are comprehensive, equating to a statutory environmental impact assessment resulting in the production of an environmental statement (Level 1). You will need to amend it to meet the requirements of your individual project, and will probably need to reduce its size.

Consultants' Tendering Information

The following information will be of use when for assessing tenders from potential consultants:

- costs-fixed/variable
- relevant experience and recent schemes
- project organisation and staffing, including CVs
- detailed work programme, approach and methodology
- quality assurance
- other resources, for example use of sub-consultants
- demonstration of sufficient understanding of the task and ability to undertake the study
- environmental policy.

Consultants should also be asked to suggest approaches based on their experience and

understanding of the project in question.

Where consultants are to be commissioned to undertake the work, refer to the IWA publication *Managing Consultancies on Inland Waterway Projects* ⁽¹⁾.

Contents and Suggested Structure

1 Non-technical Summary

This should ideally be no more than five pages. It should read as a stand-alone document so that it can be distributed as a scheme summary if necessary.

In non-technical language, it should outline why an environmental impact assessment/environmental appraisal has been undertaken, referring to relevant legislation. It will give an outline of both the project and location, referring to a map. It should summarise the environmental impact assessment/environmental appraisal process and findings.

Maps and diagrams of the proposals should be included.

2 Introduction

This will clearly indicate the rationale underlying the project, setting out the need or opportunity, success criteria and objectives, with quantification wherever possible.

The background to the study should be described briefly, as should the study area, for example drawing attention to the existence of environmental designations, relevant plans and policies.

A brief description should be given of relevant legislation, plans and policies with which the project conforms, for example local authority, local unitary or structure plans, Local Environment Agency Plans, Countryside Stewardship schemes and any other related projects and strategies.

3 Scoping

The scope of the Environmental Impact Assessment/Environmental Appraisal should be determined by:

- pooling the knowledge of the project team, including any consultants;
- consulting other bodies with knowledge of the character of the waterway, in order to identify:
 - their concerns;
 - the most environmentally favourable scheme option;
 - sources and gaps in information.

You should prepare a scoping document to form the basis of consultation. This will set out the objectives of the project, options under consideration, known and perceived opportunities and constraints, the project programme and any issues that need to be resolved through the impact assessment or appraisal process. The document should be appended to the final impact assessment or appraisal report.

Where a statutory environmental impact assessment is being prepared, a formal "scoping opinion" may be requested from the local planning authority on the coverage of the study.

It is important to consider the potential impacts of any works outside the immediate study area.

During the first round of the scoping consultation, where applicable, consult the appropriate organisation in order to ascertain

their interests and concerns and obtain their views on options and assess data availability for the study area. Such organisations might include:

- the navigation authority;
- Environment Agency;
- English Nature;
- County Wildlife Trust;
- landowners;
- relevant local authority departments (likely to include planning, archaeology, environmental health, recreation and tourism);
- Working Party on Industrial Archaeology;
- County Records Office;
- Clean Rivers Trust;
- English Heritage;
- Inland Waterways Association
- Association of Waterways Cruising Clubs;
- British Canoe Union;
- local amenity and interest groups;
- National Trust;
- Council for British Archaeology;
- Sustrans;
- Royal Commissions on the Historical Monuments Records.



River Thames, typical private craft

Consultations should be with those likely to be affected by the scheme and those likely to provide baseline information. The above list is not exhaustive and it may be appropriate to contact other bodies.

The consultation exercise should be documented in the final report to include the following:

- bodies and organisations contacted;
- means of communication (letters, leaflets, public display, questionnaires, etc.);
- stage in project planning and date when they were contacted.

A summary table should include a complete list of all bodies and individuals who have been consulted, and their responses, detailing the areas of concern highlighted and how these concerns have been or will be addressed.

4 Baseline Information

As part of the scoping exercise, collect and present baseline data as appropriate for the following parameters: recreation (including public rights of way); tourism; ownership and access; land use; navigation; centres of population and proximity of residents; conservation areas and sites (designated and undesignated); water quality (chemical and biological); fisheries; ecology; soils; geology; hydrology; hydrogeology; water resources; licensed abstractions; consents to discharge; waste operations/disposal sites; agricultural land classification; contaminated land; material assets; archaeology and landscape. This list is not exhaustive and should include any other data relevant to the impact assessment or appraisal.

You should include a section on the relevant legislative and policy framework. Where appropriate, summarise the policies from each relevant plan in the form of a table. Make sure

that there are no uncertainties or omissions in this data. For example, if it was collected out of season or is out of date, you may need to carry out further surveys to remedy this. Wherever possible, illustrate baseline data on a map(s).

5 Options

This section will give an outline of:

- the full range of options considered (this may include design, location and strategic options). The options should be evaluated against the objectives and success criteria established which should include environmental considerations;
- the “do nothing” option-the effect/result of not undertaking the project, for instance on recreational use of the waterway, ecology, access and land use;
- the criteria for rejecting options which do not require detailed study (this may be on technical, economic or environmental grounds). If possible, include supporting data or refer to appropriate documentation such as survey work, conservation and engineering feasibility studies. Identify the stage in the planning process when discarded options were rejected;
- the full range of options should be illustrated graphically and cartographically.

6 Preferred Option(s)

The preferred option(s) should be described in non-technical terms, that are still sufficiently detailed to give a full understanding of the nature of the works. It will include:

- the design, size and scale of the project;
- method of working and operations involved;
- timing and duration of construction with details of the different phases of the work;

- diagrams, sketches, photographs, photomontages or landscape architect's impression of the project in the receiving environment.

7 Prediction and Assessment of Environmental Impacts

In this section, indicate what effects the proposed development is likely to have upon the environment. The statement or appraisal report should emphasise the **key issues** identified during the scoping phase and indicate why these are felt to be crucial. Lesser impacts should be mentioned but the amount of space devoted to them should be proportional to their perceived importance. Although direct impacts will be the most obvious, indirect and cumulative effects should not be overlooked, for example the use of resources and mineral extraction. For clarity, divide impacts into site preparation; construction; operation; decommissioning; and, where possible, **quantify** with an indication of their **magnitude** and **significance**. Any **uncertainty** in prediction should also be made explicit.

A matrix may serve to indicate whether impacts are:

- long/short term;
- strategic/local;
- direct/indirect;
- irreversible/reversible;
- adverse/or beneficial.

8 Mitigation Measures

For each adverse impact, the environmental impact assessment/environmental appraisal will identify:

- steps which may be taken to avoid or reduce it (mitigation measures);
- the timescale over which any measure will achieve its predicted performance;

- confidence limits in each measure for it to achieve its predicted performance;
- any policies or strategies to which the mitigation measures link;
- mitigation measures in as much detail as necessary to transfer them into the detailed design stage.

8.1 Timing of works

Timing is an important mitigation; for example, works should be timed to avoid the fish, bird and other wildlife breeding seasons. Such mitigations need to be written into the statement or appraisal report.

8.2 Changes in timing

As the programme for construction often changes, it is important to ensure that recommendations within the environmental statement/environmental appraisal report take account of this possibility.

The safeguards required when considering timing change are:

- i) the work cannot be done at certain times;
- ii) if the work is done outside the preferred season, special working arrangements apply.

9 Residual Impacts

The statement or appraisal report will indicate all unavoidable impacts, that is, those that cannot be reduced or eliminated by mitigation measures.

10 Enhancement Opportunities

Details should be given of any enhancement work planned. This will be distinguished from mitigation measures, which are integral to the project. Describe enhancement measures in as much detail as is necessary to ensure that they can be incorporated into detailed designs and construction.

11 Monitoring and Maintenance

Include the following details:

- recommendations that take on board the views of the consultees, including details of methodologies and timing. This should be linked clearly with the baseline information, predicted environmental impacts and mitigation and enhancement measures;
- provision made for on-site monitoring of the construction work;
- future maintenance requirements, particularly with regard to mitigation and enhancement measures;
- any provisions for audit after completion of the scheme.

NB: if the need for detailed monitoring is identified such that a separate monitoring contract should be let, you should identify the scope of monitoring in as much detail as is required to form a brief for the proposed monitoring programme.

12 Second Round Consultation

Prior to completing the environmental statement/environmental appraisal report documentation, statutory and other consultees

expressing interest or concern at the scoping stage of the study should be contacted again when a preferred option has been identified. This may be by means of circulating a draft final document for comment. The comments of consultees should be obtained in writing and appended to the final document.

13 Conclusions and Recommendations

You should summarise all conclusions and recommendations which require implementation in an action plan in tabular form or similar, with details of how they will be carried forward.

14 Appendices

These will include information which would clutter the main body of the text, such as:

- consultant's terms of reference;
- scoping consultation document;
- supporting documentation and references;
- plans and maps;
- species lists;
- written consultation responses to the project;
- engineering drawings;
- landscape plans.

References

- 1 The Inland Waterways Association (IWA) (1999) *Technical Restoration Handbook* Chapter: "Managing Consultancies as Inland Waterway Projects", IWA, Rickmansworth
- 2 Environment Agency (1996) *Environmental Assessment: Scoping Handbook for Projects*, Environment Agency, HMSO London
- 3 National Rivers Authority (1995) *Scoping Guidance for the Environmental Assessment of Projects*, NRA, Bristol
- 4 National Rivers Authority (1995) *Further Guidance for the Environmental Assessment of Projects*, NRA, Bristol
- 5 Environment Agency (1998) *National Environmental Assessment Handbook - Environment Agency Internal Works and Activities*, Environment Agency, London
- 6 Environment Agency, Anglian Region (1999) *Environmental Action Plans - Good Practice Guidelines*, Environment Agency, Anglian Region, Peterborough
- 7 Statutory Instrument (1999) 293 *The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999*
- 8 Statutory Instrument (1999) No. 1783 *The Land Drainage Improvement Works (Environmental Impact Assessment) (England and Wales) Regulations 1999*.
- 9 National Rivers Authority (1992) *River Corridor Surveys - Methods and Procedures*, NRA, Bristol
- 10 National Rivers Authority (1993) *River Landscape Assessment - Methods and Procedures*, NRA, Bristol

Navigation restoration policy

1 Purpose

1.1 The purpose of this section is to outline the policy of the Environment Agency on proposals for the restoration of navigation on rivers and canals. This section should be read in conjunction with the Environment Agency guidance note: *Navigation Restoration and Environmental Appraisal: A Guidance Note*. The policy will be equally applicable to proposals for the creation of new river or canal navigations.

2 Background

2.1 There is considerable interest in the restoration of navigation, both on rivers and canals. It is therefore appropriate, and timely, that the Agency should have a clear and consistent policy with respect to restoration projects.

2.2 The Agency has a wide range of statutory duties and regulatory powers with respect to the water environment. Proposals for the restoration of navigation, which will inevitably impact on the water environment, will therefore always be of interest to the Agency and require detailed consideration.

2.3 The Agency has a duty generally to promote the use of water and associated land for the purpose of recreation; we also support the concept of promoting sustainable transport on our inland navigation network. We will therefore support, in principle, proposals for navigation restoration, which will enhance the recreational use of waterways, within our overall aims of

protecting the environment and promoting sustainable development.

2.4 Our duty to promote recreation cannot be delivered in isolation from all our other responsibilities related to the management of water. The key concept, which will condition our response to all restoration proposals, is that of sustainable development. This means "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (after Brundtland). In the context of navigation restoration, this will require consideration of the different recreation, water management and environmental issues involved. These issues will, by definition, be specific to each restoration proposal.



Great Ouse, typical Old Bedford River scene

2.5 The Agency will always require an appraisal of these issues when considering a detailed response. The most convenient and effective approval mechanism is through the process of environmental assessment. Detailed guidance on environmental assessment is given by the Agency document *Navigation Restoration and Environmental Appraisal: A Guidance Note*.

3 Rivers and Canals

Rivers are natural (or at least semi-natural) features in the landscape, whereas canals were artificially made for the purpose of navigation, proposals for the restoration of navigation on rivers, which are not naturally navigable, will, in general, be inherently more environmentally sensitive than such proposals on canals.

It is therefore likely that a more stringent environmental assessment will be expected for navigation restoration proposals which affect rivers, than will generally be the case for canals.

This is not to say that canals have no environmental value beyond use as navigations; indeed there are some 23 Sites of Special Scientific Interest (SSSIs) on the canal network. Restoration proposals that might affect such sensitive sites will also require a detailed assessment of potential environmental impacts.

4 Key issues for the Agency

In addition to recreational interests, under our general duty to promote the use of water and associated land for recreation, we will consider the following:

4.1 Navigation - the Agency is the navigation authority for a number of river navigations across the country (the River Thames; the Great Ouse, the Nene, the Welland, the Glen, the Ancholme and the Stour in Anglian Region; and the River Medway in Southern Region). The Agency will have a particular interest in projects that link to, and extend, these navigations, as well as those linking into the wider inland waterways network.

4.2 Water Resources - the availability of water will always be of paramount interest, both to the

Agency and to those promoting the restoration. This is particularly the case for canal restorations, as they generally do not have a natural water supply. Before we can issue an abstraction licence the promoters of the project will need to satisfy us that sufficient water is available to sustain navigation, without significantly affecting other legitimate users of water or causing environmental damage elsewhere.

4.3 Flood Defence - the protection of people and property is essential. Navigation restoration will therefore always be required to demonstrate no adverse impact on target standards of flood protection. Agency consent may be required for any impoundment of, or construction adjacent to a watercourse.

4.4 Conservation - the restoration of navigations may benefit nature conservation interests or present a threat to them; it may also have an impact on built heritage. It is the role of the environmental assessment process to establish the balance between the benefits and disbenefits, and to examine ways of mitigating adverse impacts. The protection and enhancement of both biodiversity and built heritage should form an integral part of any restoration project.

4.5 Fisheries - the restoration of a waterway can have both positive and negative impacts on fisheries and angling. Although new fisheries can be created and biodiversity enhanced, for example by flooding a dry length of canal, fish populations can be damaged; notably in rivers where the natural "riffle pool" habitat type is replaced by a deeper, "ponded" habitat. Where angling is established on a waterway, navigation restoration may provide benefits to anglers or cause conflict. These impacts will need to be assessed and satisfactorily managed as part of the scheme.

4.6 Water quality - subject to appropriate management, the existence of navigation should not, of itself, affect water quality. It will be necessary to have the appropriate level of pollution control measures in place, for example to prevent fuel spillage, but this should not present a significant blockage to the restoration project. Major dredging operations or impoundment of rivers can adversely affect water quality. Agency advice should be sought on this issue.

4.7 Other Agency responsibilities - we have other responsibilities with respect to environmental protection, including waste disposal. Dredging arisings, particularly from urban environments, may require special arrangements for disposal, under licence. The Agency will advise, and where appropriate, issue the appropriate licence.

5 Policy

5.1 We will, in principle, support the restoration of navigation, subject to a satisfactory appraisal of environmental issues and acceptable minimisation of any adverse environmental impacts.

5.2 We will include all navigation restoration proposals and proposals for new navigations, in the appropriate Local Environment Agency Plan (LEAP). The IWAAC document, *Waterway Restoration Priorities* (IWAAC June 1998), provides a useful summary of proposed navigation restoration projects within the UK.

5.3 We will assist promoters of restoration projects by advising on the potential availability of water.

5.4 When presented with a summary of the technical and environmental aspects of specific restoration proposals we will provide an early opinion on their likely acceptability.

5.5 Where LEAPs have already been completed, the issue of restorations will be addressed during the process of annual review. The appropriate Area Planning Liaison section should be the first point of contact in the Agency for restoration project managers.

5.6 Active support from the Agency will depend on the magnitude of the predicted recreational and other benefits, and the predicted environmental impact. The availability of Agency resources will also be a key factor.

5.7 Where it is requested by the applicant, we will give advice on the scope of the environmental assessment required and provide information held by the Agency which could help with the process.

Note: More detailed information on all Agency roles and duties is available from Agency offices.

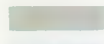
LEVEL 2

Map of case study



KEY

Willows overhanging river



Piling (existing)



Weir



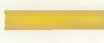
Lock



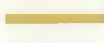
Mooring



Roads



Cycleway



Footpath



Wildlife Trust Site



Houses

River has coarse fish fishery

Map not to scale

AONB

RIVER

B505



Embankment

Turning Basin

To be built

48-hour mooring

To be built

Lock in disrepair, weir in working order

Lock to be restored

Lock and weir in disrepair

To be rebuilt



LEVEL 1

Map of case study



KEY

Willows overhanging river



Piling



Weir



Lock



Mooring



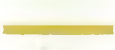
Roman settlement



Roads



Cycleway



Footpath



Wildlife Trust Site



Unidentified plant community



Houses

River has brown trout fishery

Map not to scale



AONB

RIVER (spring fed)

BSOS

Embankment

Piling

To be put in

Lock in disrepair,
weir in working order
Lock to be restored

Turning Basin
To be built

Permanent mooring
To be built
with waste disposal facilities

Lock and weir in disrepair
To be rebuilt



LEVEL 3

Map of case study



KEY

Willows overhanging canal



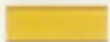
Piling



Lock



Mooring



Roads



Cycleway



Footpath



Houses

Map not to scale

Existing
Turning
Basin

CANAL

B505



Lock requires minor work
Weir in good repair

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