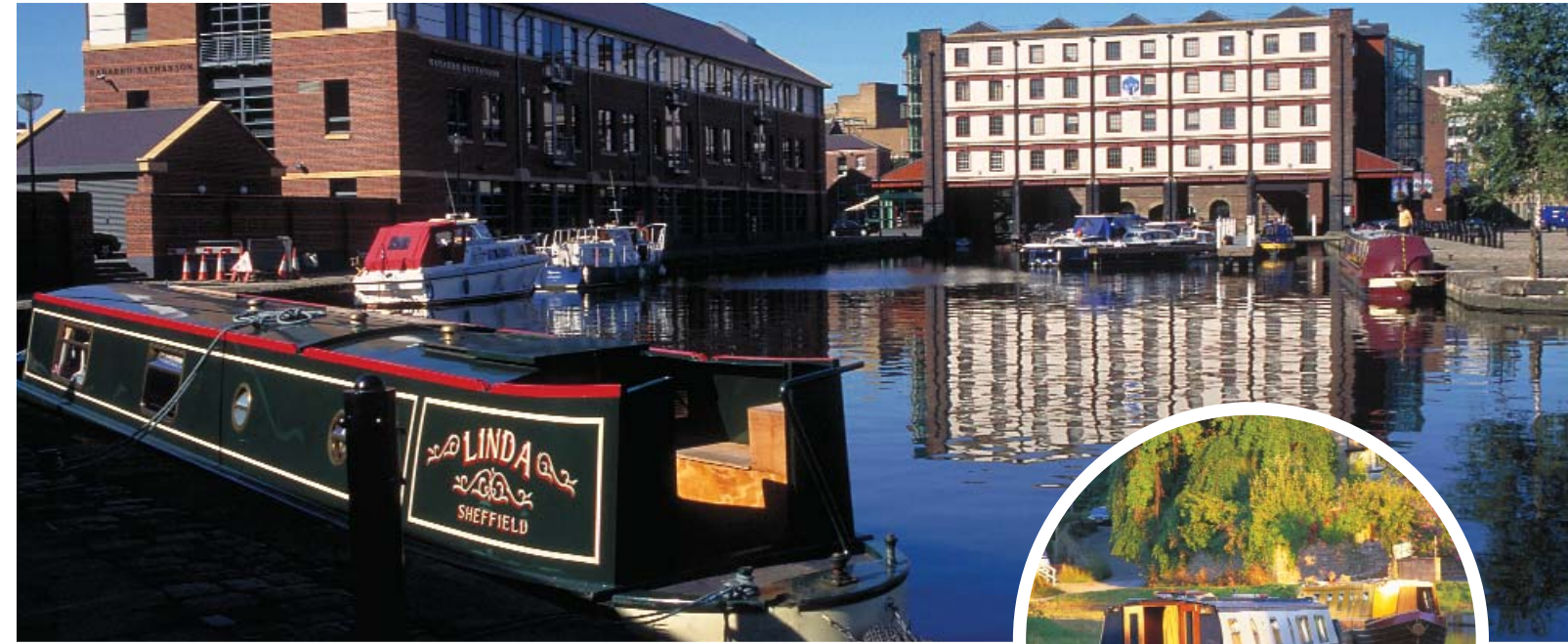


# Demonstrating the value of waterways:

A good practice guide to the appraisal of restoration and regeneration projects



Association of  
Inland  
Navigation  
Authorities

## Foreword

With the disappearance of freight from most inland waterways navigation authorities now get the bulk of their income from recreational uses, chiefly boating. That income may be sufficient to cover operational expenditure - but it's never enough to pay for major new capital works or regeneration projects.

Many schemes designed to improve waterways or to make them more accessible to the public don't make sense in purely commercial terms. However they often make a valuable contribution to the environment and the community which should not be ignored.

Deciding whether a project is 'worth doing' therefore requires more than just calculating the financial rate of return. It requires tools which are capable of analysing and presenting the great wealth of environmental, social and economic benefits that waterways deliver - whilst also assisting in the proper management of the inevitable losses (beyond the simple costs in pounds and pence) which any project must incur.

This guide has been written to try and help provide those tools. It is intended for navigation authorities, waterway societies and any other groups of people who manage or have proposals for waterway projects. It presents a stage by stage guide to thinking about and assessing the value of a regeneration project with a view to seeking financial or other support.

The guide also provides help in two other areas:

- It gives an introduction to some of the most common surveying and research techniques. These include landscape assessment, ecological and heritage surveys, water quality research, economic analysis and social research.
- It explains the importance of community involvement throughout the project development cycle, and provides some tips and ideas about how to 'engage' local people and interest groups.

Deciding what a project achieves and why it's important will never be an easy task. But AINA believes this guide presents an approach which is as straightforward and easy-to-use as is possible to get. It does not involve the complications or problems of 'valuing' the environment in monetary terms - but neither does it shirk the responsibility of dealing with economic, social and environmental issues in an integrated way.

At times starting out on these stages may feel like a tough commitment. But projects which can show what benefits they deliver will be those most likely to win backing, secure funding and enjoy support.

AINA gratefully acknowledges the contribution of British Waterways' Economic Development Unit and Waterway Conservation and Regeneration Group with whom this guidance has been prepared. Thanks are also recorded to the Department for the Environment, Food and Rural Affairs as this document is a product of their research funding.



**Dr D J Fletcher CBE**  
**AINA Chairman**

March 2003

## About AINA

The Association of Inland Navigation Authorities (AINA) was set up in December 1996 with strong encouragement from Government to provide, for the first time ever, a single voice on waterway management issues. The broad purpose of AINA is to facilitate the management, maintenance and development of the inland waterways for navigation as an economic, environmental, recreational and social resource.

AINA has 29 members including the three large Government-sponsored navigation authorities - British Waterways, the Environment Agency, the Broads Authority - and also local authorities, drainage commissioners, property development companies, port authorities, original canal companies, national parks, the National Trust, and other charitable trusts.

Between them, AINA members own, operate and manage some 5,000 km of waterway representing almost a complete UK coverage. Each member has its own constitution, aims and objectives and, in many cases, Acts of Parliament regulating the operation of their waterways.

AINA's key objectives are to:

- provide a forum for the sharing of best practice, advice and expertise,
- represent the views of the Association to Government, EU, statutory agencies and other relevant bodies,
- develop links with its European neighbours,
- secure adequate investment in inland waterways,
- promote public awareness of the value and potential of inland waterways and gain support for their development and conservation,
- enhance the amenity and environmental quality of inland waterways,
- coordinate aspirations and plan in the context of a national strategy for exploiting the potential of inland waterways.

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## 1. Introduction

- 1.1 The role that waterways can play in improving peoples' well-being and the quality of life is now widely recognised. Waterways are contributing to all kinds of regeneration work in urban and rural settings. They are now seen as a valuable component of the landscape, as places of rich biodiversity and of great cultural significance, whilst their role in promoting economic regeneration - through the benefits of property development and through tourism and leisure - is also widely accepted.
- 1.2 All these benefits - and frequently the ways in which they can be combined and delivered together - have helped to win large amounts of public and private money for waterway projects, particularly those aimed at restoration or regeneration. However, for this to continue, navigation authorities will need to continue to build partnerships with the aim of levering-in funding from external sources. A vital part of this process will be to demonstrate the value of waterway projects in terms of the benefits they will bring.
- 1.3 In its recent report *A Second Waterway Age – Review of Waterway Restoration and Development Priorities*<sup>1</sup>, the Inland Waterways Amenity Advisory Council (IWAAC) noted the importance of promoters taking a professional approach to the design and implementation of waterway projects. It recommended that the widest possible view of the public benefits of restoration should be taken, and that applications should be clearly focussed on the objectives of the funder.
- 1.4 This type of appraisal and advocacy work requires considerable amounts of time, effort and experience and thus has cost implications. It would therefore be to the advantage of promoters of projects to work closely with navigation authorities in building partnerships to help secure funding and to use British Waterways or other consultants to carry out key professional studies.
- 1.5 Having said this, many of the techniques used are straightforward and can be readily understood. In many cases they could be successfully applied by local volunteers and enthusiasts - particularly to produce a first-stage report designed to win wider support for a scheme.
- 1.6 This report has been written as a guide for this type of work. It lays out a methodical approach to thinking about the value of waterways - why they are important, and to whom. It is intended to provide an understanding of the stages through which, ideally, a project feasibility and appraisal study should pass. It also presents a sample 'toolkit' of the techniques that are used along the way.
- 1.7 The terminology involved in project appraisals can be confusing with many words having uses which, at first sight appear interchangeable. This guide uses terminology which aims to be consistent with that used by Regional Development Agencies and Government Departments. However, other potential funders may have their own terminologies and these need to be understood if one is going to - quite literally - 'speak their language'. A note about the terminology used in this guide is included as Appendix 1.

<sup>1</sup>See Section 6: Further reading, note 1.

## 2. Defining the value of inland waterways

### The benefits approach to project appraisal

- 2.1 AINA advocates adopting a benefits-led approach to project appraisal. The great thing about waterways is the wide variety of economic, social and environmental benefits which they provide. It is advantageous to try to make a complete assessment of these benefits when carrying out an appraisal.
- 2.2 The larger navigation authorities have experience of environmental economic techniques that place a monetary value on the benefits delivered by waterways. But current thinking is that - in most circumstances - these techniques are neither practical or cost-effective. Instead, AINA proposes a more simple approach.
- 2.3 This rests on the idea that it is possible to break down the overall value of a waterway into separate, identifiable benefits. It is this 'flow' of benefits, based on a 'stock' of waterway assets, which is important - and which any restoration or regeneration project should enhance, whilst minimising any costs or dis-benefits. The advantage of this approach is that it allows different aspects of 'quality of life' - economic, social and environmental - to be combined within the same framework, without trying to reduce 'value' to a single number or price. It provides a systematic way of looking at a project, ensuring that 'nothing gets left out' and that any conflicts between different types of benefit are addressed.
- 2.4 The other, key part of this approach is that it becomes possible to measure or quantify each of the separate benefits. This measurement provides us with a set of sustainability indicators, which are useful in several ways: -
- They describe an existing baseline picture of economic, social and environmental conditions within a waterway corridor
  - Predicted improvements in the indicators can form the basis of funding applications
  - The indicators can provide a framework for subsequent monitoring and management plans.
- 2.5 The benefits approach is very useful in encouraging a methodical way of looking at what a project can deliver and ensures that the appraiser concentrates on providing answers to the question of why a project should receive public or private money. It enables individual outputs and outcomes to be matched with objectives of funders and other partners.
- 2.6 Benefit assessments can aid community involvement. The benefits framework is straightforward and can be used by community groups and experts alike. It does not attempt to provide a single 'right' answer and so can be used to gather opinions from local people about the commonplace benefits of a waterway which they value. This means the judgements of different groups of people are able to sit alongside each other, to be compared and ultimately - through consultation - to be combined.

### Outputs and outcome

- 2.7 By concentrating on benefits the focus is on the economic, social and environmental outcome of a project as well as its more narrowly defined outputs.
- 2.8 Outcomes gauge a project's effect. For example, in the case of waterway regeneration, outcomes might include extra recreation use, improved community attitudes, new income for local tourism businesses, employment in the local area, the diversity of wildlife supported by new habitats and the enhancement of historical character.
- 2.9 Outputs, by contrast, measure a project's effort. They are counts of physical work or activities carried out - such as trees planted, channels dredged, locks repaired, events held or training weeks provided. Although more easy to assemble, outputs do not get to the heart of what a project has achieved or the difference it has made.
- 2.10 In developing their own project indicators, British Waterways has tried to steer a course away from a reliance on things which are simple to count. This has meant placing a greater emphasis on community-based surveying techniques - speaking to all people living within waterway neighbourhoods, not just those who use the waterway or visit towpaths. It also means a greater concentration on building links with local community groups, and involving them in the design and management of projects.
- 2.11 There are difficult challenges here. Both social and environmental outcomes can be very difficult to monitor confidently and cost-effectively, but progress is being made all the time.
- 2.12 The benefits-led approach has been recognised and adopted by a number of organisations.
- 2.13 For example, there are strong links between this approach and a technique called 'Quality of Life Capital' (QoLC) which was developed by CAG Consultants' and Land Use Consultants and subsequently endorsed by the Countryside Agency, English Nature, English Heritage and the Environment Agency. References to QoLC are made several times during the rest of this report. It is a very useful tool for evaluating environmental resources and has the great advantage of lending itself to both professional and community use.
- 2.14 The approach is also at the heart of the UK government's set of national indicators, *Quality of Life Counts*<sup>2</sup>. The government has a sustainable development strategy called *A better quality of life*<sup>3</sup> and a set of 15 'headline' indicators backed up by a more comprehensive list of 147 'core' indicators. It has said it will use these to assess its progress in implementing the sustainable development strategy. The framework of benefits and indicators contained in this document are heavily based on this government framework.
- 2.15 Connecting to the work of other people means that this approach fits well with current regeneration thinking, for example within government offices, regional development agencies, lottery boards and local authorities. Outputs and outcomes can be matched with objectives of funders and other partners.
- 2.16 It should be borne in mind that it is very difficult to generalise about where indicators should be treated as outputs and where as outcomes, results or other definitions used by funding bodies. Anybody looking to approach or talk to funders needs to have a clear understanding of these distinctions, and how the particular funder uses them. The only general distinction is that all physical work to the waterway environment is almost certain to be considered only as an output.

<sup>2</sup>See Section 6: Further reading, note 2.

<sup>3</sup>See Section 6: Further reading, note 3.

<sup>4</sup>See Section 6: Further reading, note 4.

### 3. Identifying benefits and costs

- 3.1 The stages described below represent an ideal scenario. They outline how to approach a project appraisal from a position where little or no work has been carried out and, significantly, where there are plentiful resources.
- 3.2 In reality, the situation is almost certain to be more complex. Resources will no doubt be tight, and some studies may already exist (though perhaps be a little out-of-date). It is quite common for example, for there to be some existing work on the structural condition of the waterway, perhaps with a preliminary assessment of the engineering feasibility of the project.
- 3.3 Another complication is that local circumstances may dictate what work needs doing first — to build support within the local community, perhaps, or to show economic benefits, or identify environmental and heritage improvements. For all these reasons it may well be necessary to prioritise different parts of the process. However, it is recommended that all parts be carried out, to some degree.
- 3.4 The process of carrying out an appraisal will never be as simple as the linear exercise described; it will, in practice, involve going back over and amending work as new information becomes available. A summary of the stages described below is given in Appendix 2.
- Stage 1 - Waterway corridor audit**
- 3.5 The starting point for any project appraisal needs to be a description of features and activities as they already exist. This audit stage identifies 'what we have'. It is concerned with identifying the current state of the corridor environment - but also with profiling local economic and community conditions.
- 3.6 The audit will involve a range of research methods and survey work, carried out through separate 'stand-alone' studies. These studies also contribute to subsequent stages of work. For example, at the same time as identifying 'what is there' it will be necessary to explore opportunities for improvement - 'what could be there'. Data will need to be produced to provide the baseline information for indicators.
- 3.7 Typically an audit will comprise studies of: -
- landscape features,
  - water quality,
  - nature conservation interest,
  - heritage and archaeology features,
  - existing ease of access to the waterway and waterside, including public transport,
  - local socio-economic and demographic conditions,
  - recreational use of the waterway; both towpath and water-based,
  - visitor attitudes to the waterway,
  - community use of the waterway, for example through community projects, events or within education,
  - local community attitudes towards the waterway,
  - existing economic activity based on waterway tourism and leisure,
  - the extent of other, non-tourism businesses adjacent to or using the waterway,
  - the existence and availability of sites for commercial and residential development, in accordance with Structure and Local Plan policies.

- 3.8 This list of studies does not represent an order of merit for any project. The elements of a waterway corridor audit will be project dependent.
- 3.9 British Waterways has developed the concept of 'corridor studies' which are very useful during this stage. The studies lead to the production of mapped diagrams of the waterway corridor, illustrating the presence of significant features, making connections with other local points of interest, relating the waterway to transport routes and nodes, and marking out locations for development and/or protection.

#### Stage 2 - Project feasibility

- 3.10 There is no point in working up detailed project plans if there are specific reasons why it is unlikely to even get off the ground. Alongside the baseline research, therefore, a basic 'project feasibility' study can provide the 'ground rules' for a project - and will explain the basic constraints within which it will have to operate.
- 3.11 Components of the feasibility check are: -
- engineering study - to check on any major engineering obstacles and provide estimates of costs.
  - water resources study - if the project has water supply implications, where will it come from?
  - a check on major environmental issues in the area covering nature conservation, built heritage and earth science features. This is particularly to identify statutory and non-statutory designations for protection.
  - this check is closely linked with a review of the planning framework, to explore how the project 'fits' with regional strategies, local authority plans and community strategies.
  - review of likely financial sources - private and/or public, to see how the project might be paid for.

#### Stage 3 - Identifying benefits

- 3.12 The next step is to move beyond the first, essentially descriptive stage, towards a framework which allows an assessment of the waterway's benefits to be made. A good way to start this is to compile a matrix or table that lays out the benefits and services that the waterway can provide, based on the results of the audit.
- 3.13 Each of these benefits or services should be given an indicator that summarises and quantifies its current 'state'.
- 3.14 The exact contents of the benefits matrix will depend on the local circumstances, whilst the 'state' of each benefit will vary along different sections of a waterway according to local characteristics (e.g. rural/urban, level of recreation use, surrounding land use). Even so, it is possible to define a general set of benefits that is likely to apply.
- 3.15 Appendix 3 provides an example of a matrix, showing project objectives and benefits along with appropriate suggestions for indicators. It is not a comprehensive list and could be amended to suit local circumstances. At the same time, it is unlikely that all the benefits or indicators referred to would be included within a single project or funding application.

#### Stage 4 - Designing the project

- 3.16 By this stage project managers will have a good understanding of
- the existing benefits provided by the waterway,
  - the opportunities offered by the restoration or regeneration project,
  - the constraints that a project will need to work within.
- 3.17 They will now be in a position to develop the details of a project. This work should not focus exclusively on physical tasks but should also build up the social aspects of the project through realistic ideas for programmes of work with local community groups, schools, businesses, volunteers, local authorities and other partners.
- 3.18 Deciding on aspects of the project, therefore, depends on making judgements about which are the most important benefits for the project to address.
- 3.19 The benefits matrix will provide a starting point for these judgements, and many opportunities are likely to emerge during the separate studies carried out during the audit. But it is vital that the process does not rely exclusively on the opinion of experts: it needs to incorporate community and user group opinions as well.
- 3.20 A good approach to exploring the values and priorities held by community and user groups is to work with the evaluation techniques in the Quality of Life Capital toolkit. This evaluation begins with a benefits matrix similar to that outlined, but with the addition of a series of questions. These will ask:

- to whom does the benefit or service matter, why, and at what spatial scale (i.e. local or national)?
- how important is the benefit/service?
- do we have enough of the benefit/service?
- what (if anything) could make up for the loss or damage of the benefit or service? (NB many features with historical or cultural significance cannot be substituted).

- 3.21 These questions will provide clear messages about which of the waterway's economic, social and environmental benefits should be developed and prioritised within the project. Ideas for how the project can achieve these improvements are also sure to emerge from the consultation.
- 3.22 More could be said about this stage of the process - for example, the importance of finding a 'vision' that can be shared by all partners, of identifying project aims and objectives and (as important) the methods by which those aims and objectives will be delivered. This may be a good time to bring in professional help on marketing and tourism development. There are many guides available on how to produce project and management plans. For example, *Site Management Planning*<sup>5</sup> produced by the Countryside Agency and *Planning a Future for the Inland Waterways: A Good Practice Guide*<sup>6</sup> produced by IWAAC which describes the 'corridor studies' approach developed by British Waterways.

#### Stage 5 Refining the design

- 3.23 Waterway restoration and regeneration may, as well as having a financial cost, also have economic, social or environmental costs. It is best to be open about these from the start to show how thought and effort has been put into minimising and mitigating such costs.
- 3.24 Environmental losses will be identified by a formal 'Environmental Impact Assessment' (EIA), where this is legally required. Where it is not, similar methods need to be considered that will perform the same task. The EIA will use much of the material gathered during the audit and feasibility stages.
- 3.25 The Quality of Life Capital approach is again very useful here, by embedding the principle of substitution into the whole project design and appraisal process. Where environmental costs are identified, the mitigation measures suggested through the 'substitutability' question within the QoLC approach can be incorporated into the project.
- 3.26 Incompatibilities between different benefits also need to be addressed. Much of the time economic, social and environmental benefits can be delivered alongside each other. Frequently they will support and bolster one another - for instance, environmental improvements can make commercial and residential property developments more successful. In other cases conflicts will need to be managed - perhaps most obviously between recreation uses and wildlife interest.
- 3.27 It is essential that an attempt is made to understand the implications of different parts of a project, and to make these consistent with one another — amending the original feasibility and benefit reports as necessary.

#### Stage 6 - Establishing outputs

- 3.28 The project proposal can now be put together. This proposal should provide a set of easily measurable outputs, which will be a combination of physical works and organised activities. An idea of their range is given in Appendix 4 and is based on examples from government-funded regeneration initiatives. It is not meant to be comprehensive and more may be added with local knowledge.
- 3.29 No general rules can be made about the definition of outputs as opposed to outcomes - it depends on the nature of the project and the requirements of the funder. Outputs will always include the physical works and actual activities directly paid for by the funder. However, sometimes projects are expected to bring forward physical work and/or activities — rather than providing them directly.

#### Stage 7 - The 'sustainability impact' report

- 3.30 At this stage it is appropriate to return to the 'benefits matrix' developed in Stage 3. All the benefits that the project is expected to deliver should be pulled together, checked one last time to ensure they are compatible with each other, and presented within a single summary or 'sustainability impact' report.

<sup>5</sup>See Section 6: Further reading, note 5.

<sup>6</sup>See Section 6: Further reading, note 6.

- 3.31 At the outset the different disciplines can work separately, but in time their work does need to be brought together, and checked for inconsistencies. Has the economic study, for example, assumed a number of new moorings for the waterway which is inconsistent with the plan to create a new reed-bed habitat included in the ecological appraisal? Does the project need to be re-jigged to give a greater emphasis on community initiatives or tourism development? These inconsistencies and alterations will happen! They necessitate going back to the original plan and making changes until all of the elements of the project 'fit' together.
- 3.32 Losses too should be explicitly included in the 'sustainability impact' report. Ideally these should include an assessment of resources used during the project and the management of any wastes generated. Losses can be described in the same way as benefits, and should be similarly measured through indicators that can be incorporated into monitoring and management plans.
- 3.33 There are three advantages in producing such a sustainability benefit/loss report: -
- (a) Combining all the benefits and indicators is a good starting point for potential funders and partners, who will want to see the project 'in the round'. It allows the case for funding to be based on the full range of economic, social and environmental benefits and even provides the ability to make direct links with the objectives of potential funders — many of whom will have similar indicator sets.
- (b) Producing a single report is also a good, final route to ensuring inconsistencies between different components of a project are addressed. The report, therefore, must not be a simple matter of summarising the conclusions from a set of stand-alone studies - but is a process of checking the assumptions in each for any contradictions or inconsistencies between them, and amending as necessary.
- (c) By clearly identifying objectives we help ourselves understand what type of monitoring needs to be put in place - including any monitoring needed to identify a 'baseline' scenario which was not carried out as part of the original audit. The objectives and indicators can feed into subsequent management plans and help with the growing need to demonstrate that claims made in funding bids have been met.
- Stage 8 - Report writing**
- 3.34 The information compiled during the above stages can now be used to produce a range of different public reports:-
- project summary (sustainability impact),
  - detailed project work plan (including construction and business / finance plans),
  - funding applications and public intervention case,
  - post-project management including, for example, monitoring, visitor, conservation and marketing plans.
- 3.35 The quantified benefits and losses can effectively form the basis of a 'contract' for delivery - a commitment which extends beyond the simple undertaking of physical work and really gets to grips with the difference the project will make to peoples' lives.

## 4. Community involvement

- 4.1 Sustainability involves both product and process. In other words, the way a project is planned and implemented is as important as what is built. Indeed, the long-term impact of a project will greatly depend on its success in involving different communities.
- 4.2 Each of the technical studies will involve some consultation and dialogue with other organisations. For example, the Wildlife Trusts and other nature conservation organisations would be consulted during the ecological studies, whilst local businesses would be approached to identify what their response to waterway improvements might be. Local authorities are bound to be involved in the process of the technical audit as well.
- 4.3 Furthermore, the community audit involves some preliminary testing of local attitudes, through survey techniques along the towpath and within waterside neighbourhoods. This level of involvement, however, is not a substitute for a more dedicated programme of community consultation. This programme of consultation is needed so that local opinions can be set alongside the judgements of technical experts.
- 4.4 The most useful tools for undertaking the consultation are likely to be workshops and focus groups. Workshops, aided by a facilitator, bring local people together to explore issues and develop ideas, whilst focus groups tend to be smaller groups, dedicated to exploring single issues. Choosing who attends a focus group needs to be done with care, particularly if the issue involves some conflict of interest. In more difficult circumstances, 'two tier' focus groups can be planned, with different user groups meeting separately at first and then being brought together to develop a consensus agreement between them.
- 4.5 Both workshops and focus groups can work with the information provided by the technical audit studies, complementing them with their own knowledge, and so contributing to the compilation of the 'benefits matrix' produced in stage 3. Stage 4 — project design — can also involve local community views, by following the Quality of Life capital 'evaluation' questions: Who does the benefit matter to and why? How important is it? Is there enough of it? Is it substitutable?
- 4.6 As well as involving local communities in project planning and preparation, some people believe communities should also take part in the task of monitoring and evaluating the success of the project. This approach has been recommended by two organisations very active in regeneration - Groundwork UK and the New Economics Foundation (NEF). Their view is that involving local people in measuring the success of regeneration initiatives means that local knowledge is drawn upon that would be missed by professional researchers. The Groundwork / NEF approach places great emphasis on 'intangible' measures of trust and the strength of neighbourhood relationships to show if regeneration projects have worked. It also makes a distinction between 'community participants' and 'wider community'.
- 4.7 This participative approach to monitoring and evaluation may have a useful role to play where projects involve a core group of people that have come together to work on the ideas and implementation of a regeneration project - or where a relatively small and clearly identifiable waterside neighbourhood has been involved. In these cases it seems quite possible that waterway regeneration can help to improve what researchers call 'social capital' - the bonds of trust and co-operation that underpin successful communities.

## 5. Technical guidance

5.1 The studies that contribute to the baseline audit and project design are linked to professional disciplines in the fields of landscape architecture and design, engineering, ecology, archaeology, economics, hydrology, and social and market research. To put together a thorough economic, social and environmental appraisal of a waterway restoration or regeneration project, therefore, requires a wide range of skills and techniques.

5.2 The following is an introductory guide to some of the working methods currently used by British Waterways analysts working on economic, social and environmental audits and project appraisals. All the indicators in table one can be obtained through a combination of these counting, research, surveying and modelling techniques.

### Landscape

5.3 Landscape assessment is a general term for the process of describing, classifying and evaluating landscapes. A good text on the technique is *Landscape Character Assessment Guidance*<sup>7</sup> produced by the Countryside Agency, the latest version of which was published in 2002. British Waterways has developed 'waterway corridor studies' as a means of examining and accommodating competing demands on the waterways and adjoining land. The assessment combines desk and field work to provide a mapped report of the waterway corridor, and the potential opportunities for enhancing its value.

5.4 The basic information for carrying out a baseline survey of landscape character should be found in the local planning authority statutory plans. These lay out relevant planning policy and strategy for the area. Increasingly, local authorities are incorporating landscape appraisals within these plans, describing the quality of the

local landscape and outlining the forces which are changing it. A set of long-term management objectives may then be detailed, which should incorporate the waterway.

5.5 The starting point for any mapping process is the *Character Map of England*, produced in 1996 by the Countryside Commission and English Nature, which identifies the character, wildlife and natural features of 159 areas in England. Although the Map is too broad for Local Plans or Waterway Corridor Studies, it provides the national 'framework' within which smaller-scale landscape assessments can sit.

5.6 Landscapes can be designated for special protection, either as National Parks, Areas of Outstanding National Beauty, Country Parks or Heritage Coasts. The management and development of waterways that form a part of these designations will therefore be affected by the special planning and management arrangements they confer.

5.7 Latest advice from the Countryside Agency, contained in its *Landscape Character Assessment Guidance*, suggest that specific landscape features or attributes should be selected as indicators. These need to be:

- central to the distinctive character of the landscape,
- liable to experience change, either in extent or condition,
- capable of measuring key landscape objectives.

5.8 Clear examples for waterways would include woodland cover, hedgerows, isolated trees, walls and other boundary features, towpath surfacing, vernacular buildings, communication features, and prominent or important views both across and within the landscape.

### Design

5.9 Design is important for the future of the waterways. New structures while they may be contemporary and even innovatory should respect the waterway heritage. Design is important for all aspects of a project - commercial, residential, leisure or tourism, and at all scales, from the towpath access point to the large development.

5.10 Design audits will therefore form a vital part of project planning. The Commission on Architecture and the Built Environment (CABE) and the Civic Trust can assist with these audits, along with British Waterways' Waterways Conservation and Regeneration team. There will always be a need to involve professionals - designers, architects, landscape architects - in project development.

5.11 Within project evaluations awards, submissions, or recognition by outside organisations can all help. If AINA members can submit (and win) awards it will provide evidence of good design and high planning standards will be demonstrated.

### Water resources and water quality

5.12 The monitoring regime for water quality is operated by the Environment Agency. Its classification system is known as the General Quality Assessment (GQA) scheme, and uses four different techniques:

**Biological quality** - an overall measure of waterway 'health' based on macro-invertebrates that can be seen with the naked eye like mayflies, snails and worms. Assessment is on a six-point scale, A = very good to F = bad.

**Chemical quality** - based on the incidence of three components: biological oxygen demand (BOD), ammonia and dissolved oxygen (DO). Again there are six classes, A to F.

**Nutrient status** - based on phosphate and nitrate content in the waterway. The system of scoring runs from 1 = very low to 6 = excessively high.

**Aesthetic quality** - on a limited number of waterways an aesthetic classification is made, based on a four point ranking according to the incidence of: litter; visible pollutants like oil, foam and sewage fungus; colour & odour.

5.13 The Environment Agency also sets 'River Water Quality Objectives' (RQOs) which are designed to protect and improve water quality. The RQOs centre on ensuring rivers support fish and are classified under five water quality classes. For example, the classification RE4 means that water should be of fair quality and suitable for coarse fish populations.

5.14 Information on existing indicators can be found on the Environment Agency's web site<sup>8</sup>.

5.15 This is a highly developed scheme of water quality grading and objectives. It provides a set of easily available indicators, which can be used to demonstrate water quality improvements.

5.16 The law relating to water abstraction licences for British Waterways and other navigation authorities is under review at the time of going to print in the context of the Water Bill. It is possible that, in time, licences may be required for abstractions at the point where water enters the waterway system and where it is removed for another purpose. These regulations will provide a useful indicator to show that drainage and water supply is being managed sustainably, or improved. Government Ministers have confirmed that water abstraction licensing authorities, and that the licensing procedures themselves will be proportionate and efficient.

<sup>7</sup>See Section 6: Further reading, note 7.

<sup>8</sup>See Section 6: Further reading, note 8.



### Nature conservation

- 5.17 Investigating a waterway's ecological condition - as for landscape and heritage value - is carried out through a combination of initial desk study and more detailed, specialist survey work.
- 5.18 Ecologists describe a two-stage process for going about this work - a 'Phase One' survey followed by a more detailed 'Phase Two'. The 'Phase One' survey can be carried out through a desk-based review of all the information about a site which has already been gathered by other organisations, and combining this with a basic 'walk through'. This will identify the habitats that exist within the waterway corridor, the presence of any particularly significant species and the existence of any protected wildlife sites — international, national, regional and local.
- 5.19 The early work will, no doubt, suggest ideas for further research. This might, for example, be surveys for fish, invertebrates or invasive species, or it might be to carry out a more detailed investigation into the opportunities for enhancing species or habitats featured in Biodiversity Action Plans. Such 'Phase Two' work will certainly require professional expertise - work which, within British Waterways, is carried out by the Waterways Conservation and Regeneration Group.
- 5.20 Many organisations hold data about the ecological features of local areas. First calls should be to local authorities, local Wildlife Trusts, English Nature, the Environment Agency and British Waterways. In some parts of the country there are Ecology Units who carry out surveys. Relevant county recorders, mainly natural history societies, should also be contacted. Other useful contacts include the RSPB, British Trust for Conservation Volunteers and local bat groups.

### Protected area designations

- 5.21 The highest level of wildlife protection in the UK is extended to sites designated under European legislation. These sites have either been designated under the Birds Directive of 1979 or the more recent 1992 Habitats Directive. Both directives identify habitats and species for protection within a Europe-wide network of Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) - jointly known as the Natura 2000 network. Both SPAs and SACs continue to be designated at the time of writing.
- 5.22 It is more likely that project managers will come across national wildlife designations, either on the waterway itself or adjacent to it. The main protection measure in England, Scotland and Wales are SSSIs - Sites of Special Scientific Interest, which are selected according to a set of quality and rarity criteria by the statutory nature conservation agencies - English Nature, CCW in Wales and Scottish National Heritage. The protection for SSSIs was significantly strengthened as part of the Countryside and Rights of Way Act 2000. This made it a duty for any public organisation responsible for the management of a SSSI to protect and enhance its wildlife interest, not just to avoid damaging it.
- 5.23 More common still will be regional and local wildlife designations. Local Nature Reserves can be designated by local authorities, and there will be bylaws to protect their wildlife. Other sites are protected through the planning system, and researchers can find designations within the appropriate Structure and Local Plans. They include Sites of Metropolitan Importance, Sites of Borough Importance and Sites of Local Interest for Nature Conservation (SLINCs). As well as conserving wildlife, these sites will also have been chosen to provide opportunities for people to have contact with the local environment.

### Biodiversity Action Plans

- 5.24 The idea of Biodiversity Plans emerged from the 1992 Rio Earth Summit, which called for the creation and enforcement of national strategies and action plans to conserve, protect and enhance biological diversity. The UK has a national plan, made up of 436 individual plans — 391 focussing on a particular priority species and 45 on priority habitats. Each of the plans has a 'lead partner', who takes responsibility for co-ordinating work. British Waterways is a lead partner for two priority species plans - floating water plantain and grass-wrack pondweed.
- 5.25 Action has also been taken at a local level. Around 160 Local Action Plans are in preparation or are being implemented. Each

Action Plan brings people and organisations together to identify local priorities and to work out the contribution they can make to the national Species and Habitat Action Plan targets. Details can be obtained from local authorities.

- 5.26 These local BAPs, therefore, are a good starting point for understanding the wildlife value of a waterway and the area around it - and to learn about ideas for increasing that value.
- 5.27 As its own contribution to national biodiversity planning, British Waterways also has its own national biodiversity framework. This identifies the habitats and species, tabulated below, that make up waterway biodiversity.

### Habitats and species in the British Waterways national biodiversity framework

Habitats	Species
<ul style="list-style-type: none"> <li>• Waterway banks</li> <li>• Towpath verges</li> <li>• Hedgerows</li> <li>• Cuttings and embankments</li> <li>• Built structures</li> <li>• Reservoirs, lakes and ponds</li> <li>• Tips</li> <li>• Feeders and streams</li> <li>• Reedbeds</li> <li>• Adjoining land</li> <li>• Field margins</li> <li>• Woodlands and scrub</li> </ul>	<ul style="list-style-type: none"> <li>• Water voles</li> <li>• Otters</li> <li>• Amphibians - frogs, toads and newts</li> <li>• Reptiles - snakes, lizards and terrapins</li> <li>• Fish</li> <li>• Freshwater sponges</li> <li>• Molluscs</li> <li>• Butterflies and moths</li> <li>• Bats</li> <li>• White-clawed crayfish</li> <li>• Water plants</li> <li>• Birds</li> <li>• Dragonflies and damselflies</li> <li>• Trees</li> </ul>

### Wildlife indicators

- 5.28 Indicators of wildlife interest are difficult to assemble, particularly over long stretches of waterway. One of the best ideas is to demonstrate quantifiable progress in achieving the targets set within local or waterway Biodiversity Action Plans.
- 5.29 Another idea is to show how a project has improved the condition of rare and important habitats or species, through better management of a designated site. The government's nature conservation advisory body, the Joint Nature Conservancy Council (JNCC) has recommended a 'Common Standards' approach to monitoring sites<sup>9</sup>. This first involves the identification of site 'interest features'. These may be species, habitats or earth science features. Attributes - such as population size or habitat extent - are then set against each of the interest features. The next step is to establish broad target ranges within which these attributes can fluctuate. By setting these targets, researchers are able to make a judgement of whether or not the site is in 'favourable condition'.
- 5.30 Where such detailed monitoring can be carried out, the achievement and maintenance of favourable condition - judged independently by the statutory nature conservation body - is a useful indicator in addition to the basic data on attributes.
- 5.31 Where nature conservation losses have been identified, it is important to describe explicitly what action has been taken to mitigate these losses, and to substitute for them. This 'substitution' approach forms a part of the Quality of Life Capital evaluation. Where there are losses, these must be included in the appraisal.

### Heritage and archaeology features

- 5.32 Heritage features are surveyed through a similar combination of desk and site surveys as for nature conservation. Again, the starting points for a desk study will be the local authority plans and a check on the status of any protected structures along the waterway. Nationally important heritage features are protected as Scheduled Ancient Monuments (SAMs) or as Listed Buildings.
- 5.33 Once a monument is scheduled a 'consent' is required from the national heritage body before any work is carried out to it (though there are some exceptions - including routine maintenance work by British Waterways). Listed structures are recognised as having special architectural or historical interest, with three levels of importance, Grade II Grade II\* and Grade I (in ascending order). Once listing has taken place a Listed Building Consent must be obtained before any alterations can be made.
- 5.34 The identification and designation of structures is the responsibility of English Heritage and, historic Scotland and in Wales, Cadw. A full list of protected structures can be found by consulting the local Sites and Monuments Record (SMR) held by the County Archaeologist at the responsible local authority. The national heritage bodies also have a register of those listed structures and ancient monuments that are considered 'at risk'.
- 5.35 The final piece in the heritage designation jigsaw is the Conservation Area. Local authorities have the power to designate these in any place of 'special architectural or historic interest' - though the judgement here is on grounds of local and regional importance rather than national. Protection is given to all the features within the area which are regarded as a part of its character - including trees. Conservation Area permission must be obtained before minor developments can go ahead.

- 5.36 This structure of designation provides a useful framework for developing heritage indicators. These indicators can relate to the condition of listed structures, scheduled ancient monuments and other features protected within Conservation Areas. Indicators could be:
- the number of features improved,
  - the number restored to use,
  - most significantly - the number removed from the 'at risk' register administered by the national heritage agencies.

### Contaminated/hazardous waste

- 5.37 Due to its long industrial legacy, parts of the waterway system suffer from heavy and phytotoxic metal contamination. In addition, hydrocarbon contamination is a problem on some waterways. As part of a redevelopment project this contaminated land may well be excavated and treated, with the contaminated materials disposed off-site to suitably licensed landfill facilities.
- 5.38 Indicators of the amount of hazardous waste removed can be presented as a benefit of a waterway project.

### CO<sub>2</sub> and other emissions

- 5.39 Some funding schemes now require applicants to demonstrate a project's net impact on carbon dioxide and other emissions. This is a new area of work. It will mean carrying out transport studies on projects and researching the pollution impacts related to changes in property and land use. Data on standard pollution emissions are becoming available on the Internet - for example in relation to different modes of transport.

- 5.40 Properly conducted, this research will produce estimates and indicators of changes in emissions associated with waterway use, such as changes in local traffic-related sulphur dioxide and nitrous oxides.
- 5.41 The issues of deadweight and displacement encountered within economic benefit analysis (see 5.77 and 5.78) will be relevant here.

### Analysing socio-economic and demographic conditions

- 5.42 There is an increasing amount of official socio-economic and demographic data now available at very local levels, frequently for local authority wards. Just about all of it is available through the Internet. Over the next few years this information will be refined further.
- 5.43 Already, information on local economic conditions including unemployment, the number of local businesses, education attainment and crime is available. The government's ward-level index of multiple deprivation, based on a combination of different indicators, is also readily accessible. On demographic data, researchers are reliant on the 2001 census data.

<sup>9</sup>See Section 6: Further reading, note 9.

5.44 It is always worth bearing in mind, during the audit, how the information being gathered will be used. Some data may be worth collecting in order to describe the area through which a waterway passes, particularly if it is eligible for area-based regeneration funds. However, beyond this, the data is unlikely to be able to demonstrate the impact of a single waterway based regeneration project, because of the difficulties of disentangling a whole host of factors that are likely to affect how an area changes. Where waterway projects form part of larger regeneration programmes, there may be more of a case for gathering information about changing trends - but this would be done in partnership with other organisations.

#### Monitoring towpath recreation

5.45 British Waterways has an expanding network of counters installed along the towpaths which track levels of use. The most extensive of these are in Birmingham, London and Scotland. These counters are the best way of obtaining usage data.

5.46 Where counter data does not exist it is necessary to rely on figures compiled through the British Waterways National Count of 1995, which took place across the whole of its system and give rough indications of use for 10 to 20 km lengths of waterway. Further details are available from the British Waterways Economic Development Unit.

5.47 On waterways managed by other navigation authorities there may be no data at all. In these cases, analysts need to use 'surrogate data' i.e. figures for waterways or stretches of waterway that can be judged broadly similar to the area under study. Visitor numbers are then compiled by working out density figures in terms of visits per year per km.

#### Pedestrian counters:

5.48 A number of types are available, working on the basis of heat sensitivity, pressure pads or induction loops. Properly set up, they are very accurate. However, it is necessary to carry out, a 'calibration count' — particularly at sites where the counter is only

covering one of several points of access. The calibration count simply involves people physically counting numbers of people going past, and then relating these to the data recorded by the counter. In this way the counter results are amended to be more accurate. These counts should take place over a number of days.

5.49 A more expensive counter, which records the precise times of pedestrian movements is available. This is useful for measuring attendance at events and can also help to explain anomalies (e.g. a surprisingly high count turns out to be a school cross-country run that just happened to use a section of towpath). This more expensive version is not essential for the purposes of getting an estimate of overall visitor numbers per year or month, but it is useful for recording visitor numbers as a potential cause of change to a site's environmental features.

5.50 There is an important management issue to recognise when deciding how many pedestrian counters to install. The counters need to be checked, and data recorded, at least once every two weeks - preferably every week. This is an essential task, to ensure that any malfunctions are quickly picked up. The more expensive counter can make management easier since it includes a 'logger' that can be removed from the counter post, brought back into the office and plugged into a computer. On the other hand, involving staff in the process of collecting data may help to get a wider understanding and agreement of the need to carry out monitoring.

5.51 These costs do need to be set against the advantages which pedestrian counters provide. They are a highly reliable and verifiable way of measuring towpath use, and British Waterways has been able to categorically demonstrate how investment in towpath improvements, for example, has resulted in large year on year increases in visitor numbers of 100% or more at sites in Birmingham and Scotland.

#### Cycling:

5.52 Cycle numbers can be estimated crudely by relating them to the number of pedestrians during the 'calibration'. The number of cyclists per pedestrian is counted and the same ratio applied to all other pedestrian counter data. The time the calibration count is carried out is clearly important e.g. weekday/weekend, in or out of commuter hours.

5.53 If there is a need to get a more accurate record of cycle use, cycle counters can be installed. These work through an induction loop buried in the towpath.

#### Monitoring waterway recreation

##### Boat licences:

5.54 Some navigation authorities hold details about the number of boats licensed to use and moor on their waterways in craft licensing databases. These data can also be used to show trend rates of growth in boat numbers across a waterway.

##### Boat movements:

5.55 Monitoring boat movements can be achieved in two ways. Firstly, counters can be installed on locks to record each time a lock is opened and closed. These are already used extensively by British Waterways to gauge flow and water supply needs. The data they produce can be converted into an estimation of boat numbers by using 'boat-lock' ratios derived from survey work at selected locks.

5.56 A more accurate way to monitor boat movements is through boat counters. These use a light beam rather than the heat detection principle in the pedestrian counters. Two counters are spaced several feet apart, which means that a lot of detail can be obtained from the data, including the type of boat, its direction and its speed. Boat counters are particularly useful to record activity on sites where boating needs to be managed for nature conservation.

#### Surveying towpath and boating users

5.57 British Waterways runs a continuous programme of market research into the views and attitudes of waterway visitors. The most extensive surveys are of towpath visitors. These are carried out each year during July, August and September. In addition, surveys of boaters, hire boat users, anglers and canoeists are all carried out on a regular basis. The information in these surveys is used in several ways:

- to provide qualitative evidence of how investment in the waterway network has led to increased activity, by recording more repeat and new visits,
- to demonstrate changes in perceptions of a waterway's attractiveness, safety, or the quality of interpretation materials etc.,
- information can be captured through the surveys on expenditure, the origin of visitors (local or tourism visits) and the purpose of the visit (leisure/non-leisure). This information is then used alongside the pedestrian count data to generate some of the indicators, including economic indicators.

### Local community perceptions

5.58 One of the main objectives — if not the main objective - of any waterway regeneration or restoration project has to be to improve people's quality of life. The Groundwork / New Economics Foundation report, *Prove It!*<sup>19</sup> says:

“Attempts to improve deprived areas should be judged not just on whether houses are better kept, streets are cleaner and spaces greener, but on how people living in these areas feel and act”.

5.59 Since the quality of their local environment has a significant impact on the way people feel, projects that improve neighbourhood waterways ought to have a positive impact on community well being. This impact, though, should not be measured in terms of physical outputs — trees planted etc — but by directly gathering local views through neighbourhood surveys.

5.60 This involves the bold step of carrying out surveys away from the waterway and towpath itself, so as to get a more representative sample of local views. The easiest method of doing this is through on-street interviews, with the help of professional market research companies. Surveys need to achieve a critical ‘sampling size’ so that results are statistically significant, and researchers must properly assess a representative sample of the local population in terms of age, socio-economic group, ethnic background, sex etc.

5.61 The extent of the ‘waterside neighbourhood’ also needs to be defined. One rule of thumb British Waterways has used is to include all people living or working within 15 minutes walk of the waterway.

5.62 Finally, a questionnaire must be designed and written that will not bias the results but will provide data that can be easily and usefully assembled.

5.63 All this effort and cost needs to be set against the value of the final product. If the results from a neighbourhood survey are good, they will be even more significant and useful than evidence of an improvement in towpath visitor attitudes. Neighbourhood surveys could therefore become a very powerful tool in supporting the case for waterway regeneration and gaining support for more projects.

5.64 Where environmental projects have been designed and carried out with the close involvement of a local community another survey idea is to focus the research on a more narrowly defined group of people - perhaps a key group of ‘community participants’ or people from a single estate or group of streets. If the project has involved extensive planning meetings, events and joint working then it may be an idea to extend the range of survey questions to include issues of community relationships, bonds of trust and measures of individual personal development such as extended skills and confidence. Getting local people themselves to work on the evaluation is a new and interesting idea in this area of work.

5.65 Regeneration projects are known to be more successful in areas where trust is high - so projects that can demonstrate success in fostering greater trust between people are likely to be well regarded by funders. This is the approach advocated by the Groundwork/ NEF work, referred to elsewhere in this report.

### Ease of access to the waterway and waterside

5.66 Accessibility of towpaths is another issue where it is difficult to set indicators. In essence, towpaths are one of the most accessible parts of the countryside. The standard framework for assessing accessibility is the Fieldfare Trust access audit, which provides one way of grading towpaths and so indicating access improvements achieved.

5.67 Access can also be regarded as an issue about ‘local access’ - the availability of facilities within a neighbourhood which reduce the need for residents to travel (or go without).

5.68 Waterways are very much a local recreational resource, frequently linking towns, suburbs and countryside along a ‘linear park’. A useful indicator therefore can be to monitor the increase in local visitor recreation use - as opposed to day trip or tourist use. Again, this information is provided through a combination of the pedestrian count data and questions in the towpath visitor surveys

### Community use

5.69 Waterways are increasingly seen as a valuable resource within all levels of education and within projects that tackle the many different causes of social exclusion e.g. low skills, propensity to criminal or anti-social behaviour, poor levels of confidence, low levels of community esteem. An audit can check the ways the waterway is being used within education and other projects. The potential for greater use can also be explored through links and dialogue with community and voluntary organisations working in the area.

5.70 Assessing a waterway's role within ‘social projects’ will never be easy. However, the fact that a restoration or regeneration project has led to an increase in the use of the waterway in this way can, in itself, be a useful indicator for advocacy purposes. Further ‘proof’ is likely to involve counts of people, schools, pupils etc. Best of all is in-depth, independent project evaluation

### Local transport

5.71 Basic indicators on the use of towpaths as a car-free transport route can be compiled by combining the data for visitor numbers with information contained in the towpath surveys on ‘reasons for your visit’.

5.72 Other benefits and indicators may be identified through links with transport initiatives including Safe Routes to School, Local Transport Plans and the Sustrans National Cycle Network.

### Economic benefits of waterway-based tourism and leisure

5.73 Estimating how waterway visitors bring extra expenditure into a local area - and so support employment - can be carried out through the following series of stages:

- (a) assess the number of visitors,
- (b) predict the amount they will spend, on the basis of information collected through surveys,
- (c) estimate how much employment this expenditure will support or generate.

5.74 Stage (c) is carried out by using standard ‘multipliers’. These multipliers are taken from research that has shown, for example, that £25,000 of tourist expenditure will generate approximately one full time job.

<sup>19</sup>See Section 6: Further reading, note 10.

- 5.75 Multipliers, of course, vary. One aspect of British Waterways' current economic research is into the links between waterway businesses and local economies. If this work shows these links are very strong - so that less money 'leaks out' of the local economy - waterway multipliers could be higher than the industry standards. This seems quite possible, since many waterway businesses source supplies locally and employ local people.
- 5.76 Although the stages in this economic modelling are relatively straightforward, there are some tricky conceptual issues that must be dealt with along the way. These are to do with 'additionality'. Funders are likely to want to look first at project additionality, i.e. would the project happen anyway even without the help of the particular funder? There are two further types of additionality<sup>12</sup>:
- 5.77 **Deadweight** is the idea that, even if a particular project did not take place, some change would occur on a site. Therefore, comparing the impact of a project against a 'no change' scenario may not be sufficient. Having said this, on waterway restoration and regeneration projects it can be possible to argue that there will be no change - or that there could even be a deterioration in recreational and economic activity.
- 5.78 **Displacement** is more difficult to deal with, and to understand. It is essentially concerned with the idea that some of the activity generated by a project simply transfers from other locations or activities. For example, though a project might lead to additional visitors to a waterway, some of these people would have chosen to visit an alternative, local attraction in the local area. Therefore, the spending of these visitors will not be 'new' to area. At some level, most economic activity will have been displaced from somewhere else. Funding organisations, however, will have a narrower focus, and will be interested in impacts within a specific geographical area that they are trying to assist. In that case, the economic analysis needs to show the area over which displacement has been considered.
- 5.79 Funders will also make a distinction between 'direct' and 'indirect' economic outputs, particularly in relation to new employment. Direct outputs are those which the funding recipient explicitly undertakes to produce and deliver. They will almost certainly be defined in a contract. In the case of jobs, the funder may well require detailed information about new employees - including names, addresses and National Insurance numbers. By contrast, outputs which are expected to arise as a consequence of the project, but which are not guaranteed, are termed indirect.
- 5.80 On a waterway project, the clearest example of direct job creation would be new employment maintaining or managing the waterway. Employment created as the result of an expansion in tourism and leisure activity on a regenerated waterway, however, would be regarded as indirect. Similarly, jobs in waterside property developments that take place as a consequence of a project are only likely to be regarded as indirect.
- 5.81 Direct job creation on waterway projects, therefore, is often limited. Indirect jobs, however, are taken into account by funders and your application will stand in a better light if you use the right terminology. Labelling indirect jobs as direct risks discrediting the application.
- 5.82 One final aspect of economic modelling needs to be mentioned. All the above analysis is concerned with estimating how much extra spending will come into an economy - in other words, the amount of extra 'demand' that will be generated. However, visitors need somewhere to spend this money. If the outlets do not exist for this expenditure - from hire boat companies or chandleries to pubs, cafes or general stores - then the money will stay in visitor's pockets.
- 5.83 To be thorough, therefore, economic analysis needs to try and find out if local business people are willing and able to provide these types of facilities. In this way the analysis tries to match 'demand' with 'supply'. Part of this work involves making an assessment of the investment that might be needed in waterway tourism<sup>13</sup>.
- 5.84 Surveying waterway businesses offers another, additional way of appraising and evaluating regeneration projects that can be used alongside these economic modelling techniques. To be most useful these surveys should concentrate on trying to establish as much quantitative information as possible, including details of changes in revenue and sales.
- Economic benefits of waterside development**
- 5.85 The basic case that waterway projects can assist in bringing forward developments has been largely accepted by government, funders and other regeneration professionals. The evidence to support this can be seen in a series of reports commissioned by British Waterways from the consultancy firm ECOTEC<sup>13</sup>, in 1996, 1998 and 2001. Their research has concluded that waterways can act as a catalyst for development.
- 5.86 ECOTEC has noted that: -
- waterways enhance the attractiveness of housing, pub and restaurant developments and provide a focus for a diverse range of leisure and tourist based attractions,
  - a large number of office developments are attracted by a waterfront location,
  - successful schemes have been those that attracted a mix of uses and a mix of new, existing and enhanced activity.
- 5.87 For all these reasons, property development is often included in waterway restoration and regeneration appraisals. However, identifying development opportunities requires a lot of knowledge about the local market and is a task which is often most appropriately given to consultants. These consultants research the demand for commercial and residential property within the waterway corridor and make an assessment of whether any potential sites are more likely to be developed once a restoration or regeneration project is complete. On some sites navigation authorities may be able to take a leading role in development, through their own property and land holdings.
- 5.88 The property studies then use similar standard multipliers (as in the tourism studies) to estimate the employment impacts of these developments.
- 5.89 Again, the analysis has to take into account additionality, deadweight and displacement. The studies have to deal with the fact that it is often possible to question whether the waterway is essential to the development, or whether it might have taken place anyway.

<sup>12</sup>See Section 6: Further reading, note 11.

<sup>13</sup>See Section 6: Further reading, note 12.

<sup>13</sup>See Section 6: Further reading, note 13.

5.90 Given this issue, it is advisable to base claims about commercial property impacts alongside or within the context of other benefits related to the waterway. For example:

- how waterways can provide an 'integrated theme' for development - a 'linear park'.
- how waterway sites are well suited to a mix of different uses: commercial, leisure, retail and residential, illustrated by case studies.
- how towpaths can be used to provide extra facilities. This is becoming increasingly important with the roll-out of broadcast telecoms and the sinking of high-speed telecom links within the national towpath network. There is also the traditional benefit that towpaths provide a car-free alternative form of transport.
- how waterway sites involve the re-use of previously developed land and buildings. Many waterside sites are close to existing town and city centres and developments will be on brownfield land. Both of these are objectives are promoted by government.
- the compatibility of waterside sites and good design practice. Good design can occur anywhere, but waterway schemes frequently feature in examples of good practice. For example, a review of good design by CABI highlighted the success of waterside developments in Manchester, Birmingham and Nottingham.

5.91 In some circumstances, it may be argued that a change of use on a site is economically efficient. Theoretically, the argument here would be that the activities of the incoming businesses deliver an 'added value' that is greater than the current occupants. This will mean that the incoming businesses are prepared to pay a higher rent for occupancy of the site - because of, for example, its city centre location or the proximity it offers to similar firms operating in a 'cluster'. Existing business, on the other hand, may be indifferent between their current location and a similarly priced alternative. There may

even be advantages to them moving to a site where, perhaps, transport links are better. If these forces are strong enough the market would be expected to make the adjustment. However, market rigidities may restrict this switch in land use taking place - hence providing a justification for public sector intervention.

5.92 Switches in land or property use on a site, if economically efficient, should lead to measurable changes — including higher rents, better occupancy rates and more marketability. These changes can be used as indicators of a project's success in fostering economic regeneration.

5.93 There is only limited evidence that waterside locations command a premium in commercial rental valuation — when all other variables are held equal. There is more evidence of an uplift in residential values. Waterside locations can command a premium of between 10% and 20% over similar properties without a waterway proximity. There are grounds, therefore, for making the case that improving or restoring a waterway will have a positive impact on property prices. It should be stressed, however, that this will depend very much on individual circumstances, and if an uplift figure is going to be used in a project appraisal it should be checked against the views of local property agents.

5.94 As with the economic benefits of waterway tourism, another way of predicting and evaluating the impacts of a restoration or regeneration scheme is to speak directly with local businesses. Surveys can be used to gauge the importance of the waterway in firms' decisions to locate or remain in the area. Business surveys need to be carried out professionally through a combination of postal and telephone interviews and can cost several thousand pounds.

### Training and construction employment

5.95 **Temporary construction employment:** All jobs created through a project's construction and capital works are temporary, and this should always be made clear when presenting aggregate totals of 'jobs created'. A multiplier often used for construction employment is that £50,000 to £60,000 of construction expenditure will create one person year of employment.

5.96 **Training:** Construction work offers training opportunities as well as new employment. Frequently, on waterway schemes, this can be in specialist heritage and countryside skills. Government schemes such as the New Deal will provide partnerships for projects. Training outputs and outcomes can then be included within the project appraisal. Outcomes are more difficult to measure than outputs and should - at least - involve some recognition of the status that the trainee reaches (most obviously through qualifications). A more thorough measure would include the numbers of trainees entering full-time employment.

5.97 **Use of local firms:** Some funders have objectives related to 'local sourcing'. Government Office of the West Midlands, for example, recognises that

"sustainable development starts at the community level. If businesses can source staff, services and supplies locally, those around them benefit and the environmental impact of transport is reduced. Staff spend more time with their families, and products spend less time in traffic jams"

Establishing that a proportion of construction work will be undertaken by local firms, therefore, can be regarded as a benefit and used within project appraisals. There are difficulties here associated with Best Value, which can restrict the commitments that can be made — and also with the complexities of sub-contracting. An alternative might be to take steps to ensure local firms have the opportunity to compete for contracts, and set indicators according to the success of these.

### Use of resources during construction

5.98 This is another sustainability issue which funders increasingly want applicants to deal with. It is likely to mean better tracking of the resources used in construction works, along with the monitoring of waste disposal.

5.99 When this begins to take place it will, again, provide evidence and indicators that could be used as supporting material within project appraisals - frequently to demonstrate the minimisation of losses.

### Re-use, recycling and recovery of waste

5.100 Beyond the construction phase - and similar to the demands to show net emission impacts - there may be increasing demands to show the longer-term waste implications of a project. This is particularly the case with property development.

## 6. Further reading

1. *A Second Waterway Age. Review of Waterway Restoration and Development Priorities.* IWAAC, City Road Lock, 38 Graham Street, London N1 8JX.
2. *Quality of Life Capital. Managing Environmental Social and Economic Benefits* was developed jointly by English Heritage, the Environment Agency, the Countryside Agency, English Nature, CAG Consultants & Land Use Consultants. It was published in 2001 and is available from any of the partner organisations. There is also a dedicated web-site at <http://www.qualityoflifecapital.org.uk/>.
3. The UK Government's set of 'Quality of Life' indicators is also available on the web at <http://www.sustainable-development.gov.uk/> The main list of the government's indicators is at <http://www.sustainable-development.gov.uk/sustainable/quality99/annexa.htm>
4. Both *A Better quality of life* and *Achieving a better quality of life* are available from DETR Free Literature on 0870 1226 236
5. The Countryside Agency's *Site Management Planning: A Guide* (CCP 527) published in 1998 gives a very useful explanation and description of how to establish project vision, objectives and methods.
6. An introduction to corridor studies is contained in the Inland Waterways Amenity Advisory Council's *Planning a Future for the Inland Waterways: A Good Practice Guide* published in 2001 and available from the Inland Waterways Amenity Advisory Council (IWAAC).

7. The latest *Landscape Character Assessment Guidance* was issued by the Countryside Agency in 2002 and is available free on 0870 120 6466
8. Data about water quality of rivers and canals can be found on the Environment Agency web-site, [www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)
9. The official guidance from the government's nature conservation agencies on site monitoring and evaluation is published by the Joint Nature Conservancy Committee (JNCC) and called, *Common Standards for Monitoring Designated Sites*. It was published in 1998.
10. The Groundwork / New Economics Foundation *Prove it!* report can be obtained from either organisation, or through their web-sites <http://www.neweconomics.org> and <http://www.groundwork.org.uk/>
11. A good introduction to the concepts of 'deadweight' and 'displacement' can be found in guidance issued by HM Treasury on the evaluation of regeneration projects. *Local evaluation for Regeneration Partnerships. Good Practice Guide*, first published in 1999, is now available through the website of the Urban Policy Unit, part of the Office of the Deputy Prime Minister.
12. Local social and economic statistics can be found through the official UK statistics web-site, [www.statistics.gov.uk](http://www.statistics.gov.uk). Particularly useful is the section dealing with 'neighbourhood statistics', [www.statistics.gov.uk/neighbourhood](http://www.statistics.gov.uk/neighbourhood)
13. The ECOTEC reports on the economic impacts of waterway developments are available from British Waterways Research Unit in Watford on 01923 201 385.

## Appendix 1

### A note about terminology

The terminology surrounding project appraisal can be confusing, with many words having uses which, at first sight, appear interchangeable. However, funders do have very specific terminologies and these need to be understood if one is going to – quite literally – 'speak their language'.

The terminology we have used throughout this guide is consistent with that used by Regional Development Agencies and the Department for Environment, Food and Rural Affairs (DEFRA).

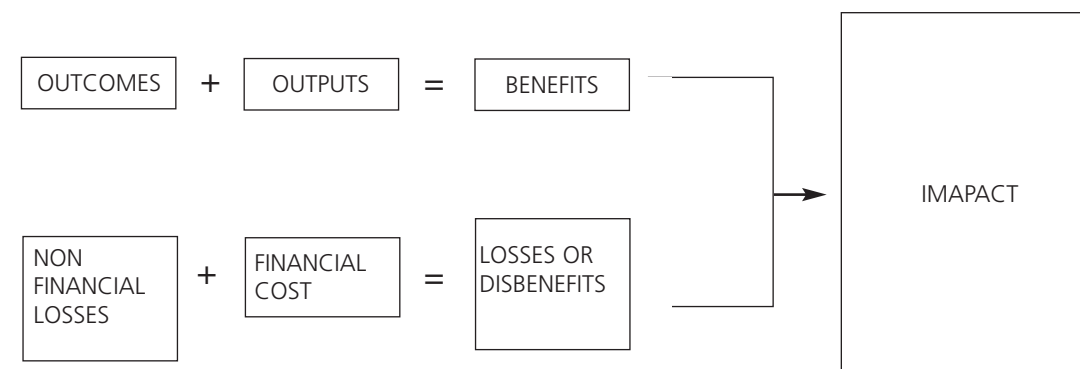
We think of a waterway as having a set of environmental, social and economic **benefits**. These benefits take account of both a 'stock' of resources (e.g. habitats) and the 'services' which flow from them (e.g. biodiversity or jobs). A restoration or regeneration project will inevitably change this set of benefits. These changes can be divided into two: -

- **Outputs.** In the main these will be physical works and activities that are directly carried out as a result of project **inputs**.
- **Outcomes.** These are further changes that are anticipated to take place as a result of the project, but which are more difficult to predict or guarantee. They are also more likely to take place over a longer time scale than outputs.

It is very difficult to generalise about the task of separating outputs from outcomes – what could be an outcome in one project might be an output in another. The tables we have provided with this guide should therefore be thought of as illustrative and not definitive. It is important to be flexible and imaginative.

Our guide also emphasises the need to specify, define and quantify project **losses** (or, as some prefer **dis-benefits**). Again these losses can be divided into two – **the financial cost** of project work and wider **non-financial losses**. These wider losses may themselves be economic, social or environmental: for example job losses associated with the change in use of a specific site or habitat loss due to site development.

The combination of benefits and losses is the overall **impact** of a project. For funders, therefore, a project is "worthwhile" if its net impact is positive i.e. if its benefits outweigh the sum of both financial and non-financial costs. Of course this still does not ensure your project will be funded – though 'worthwhile', it still may not be the 'most worthwhile' when compared to all alternatives.



## Appendix 2

### Summary of stages for identifying benefits and costs

The flow chart opposite summarises the stages detailed in this document to be carried out in support of funding applications for waterway restoration or regeneration projects. AINA advocates projects being managed by a steering group which incorporates members of the navigation authority, the waterway society, local authorities, user groups and local community. This steering group should be able to draw on the resources of technical experts such as engineers, surveyors, ecologists, archaeologists, landscape architects, designers, economists, water quality scientists, hydrologists, economists, social researchers, tourism and marketing professionals. The steering group should also manage the input from the wider local community through focus groups, workshops and consultation events.

**Stage 1** - Waterway corridor audit. Before thinking about what a project will change, we need to know what is already there by means of a baseline assessment.

**Stage 2** - Is the project feasible? Alongside the baseline audit, an early exploration of the parameters within which a project has to operate: eg. engineering, water resources, environmental designations and planning context.

**Stage 3** - Identifying benefits. The ideas of local people, alongside the baseline technical studies, leads to the construction of a benefits matrix which shows how the waterway is used and valued.

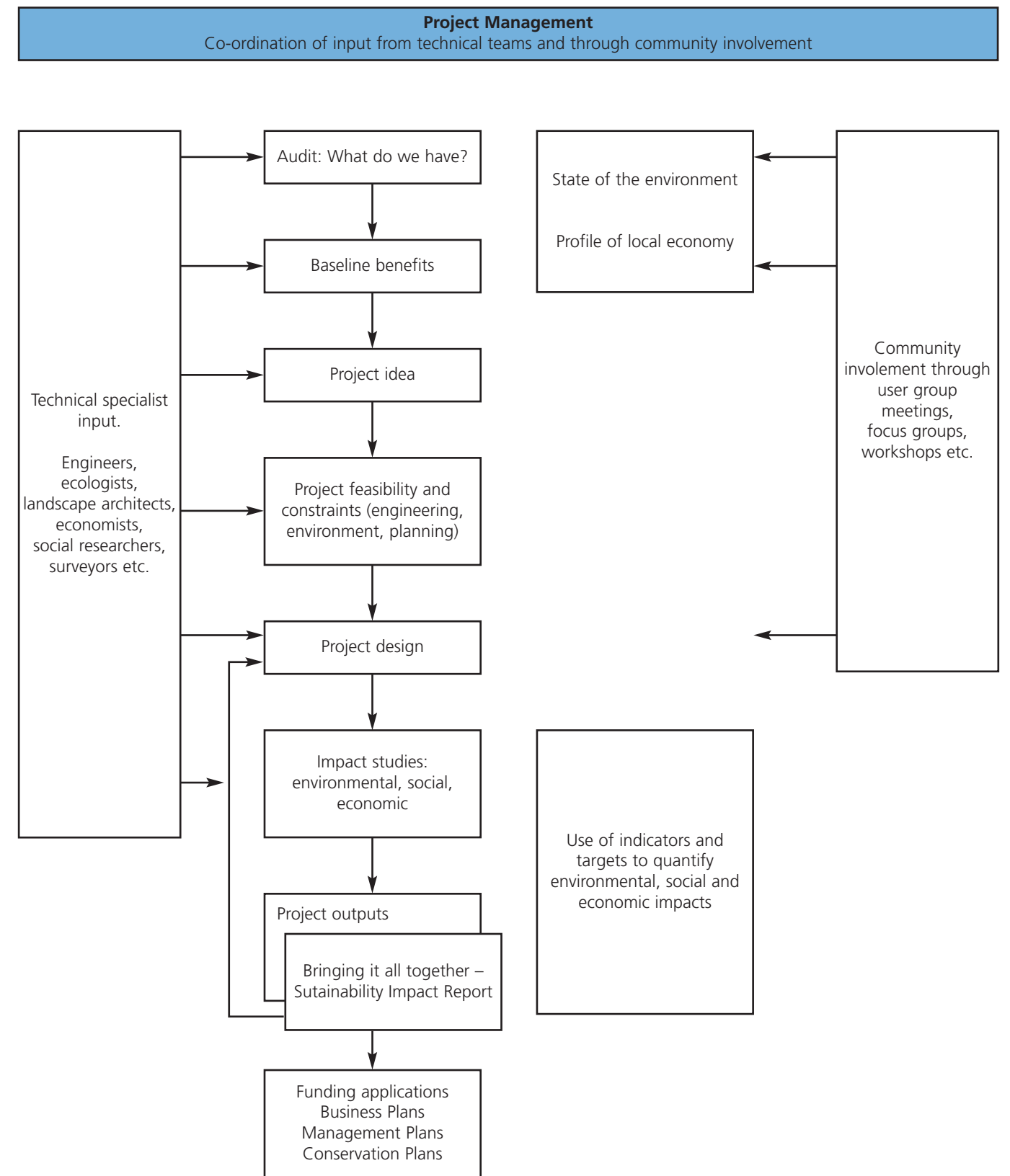
**Stage 4** - Project design. Developing a waterway corridor map to illustrate the project plan is a highly effective tool during this stage.

**Stage 5** - Refining the design. The project will involve losses as well as benefits. Where these are unavoidable, what gains will "substitute" for the loss?

**Stage 6** - Identifying outputs. The physical works and organised activities that will be carried out

**Stage 7** - The sustainability impact report. The key part of the appraisal process. Project benefits and losses need to be quantified. Brings together all environmental, social and economic benefits and losses - showing what the project 'promises' to deliver and making sure all its components 'fit together'.

**Stage 8** - Report writing. The benefit and loss matrices forms the basis for subsequent documents and reports, management and conservation plans, funding bids, marketing and business plans.





## Appendix 3: Sustainability objectives, benefits and indicators for waterways

### Managing the Environment

Sustainability objective	Waterway / Project benefit (cost)	Indicators
Investment in physical assets	Investment in waterway assets	Waterway infrastructure repaired or improved. Walking / cycling routes created or upgraded. Access improvements. Boating facilities created / upgraded
	Investment in land	Hectares of land reclaimed for public use Hectares of land improved for development
	New business premises	Area of new / improved commercial floorspace (sq m)
	New housing	Private sector dwellings complete
	Investment in sport, recreation & community space Quality of design	New recreational and community facilities Independently assessed quality of design
Protection and enhancement of landscape quality	Waterway 'sense of place'. Distinctiveness	Indicators of waterway contribution to landscape quality
Manage water resources sustainably	Drainage / water supply	Water leakage and abstraction Water supplied / drainage facilitated
Improve water quality	Clean water	Waterways of good or fair quality Visual quality using EA grading system
Wildlife conservation and enhancement	Various waterway habitats	Biodiversity: - Number, extent and health of various habitats and species Progress with BAPs Health of rare / at risk species: - Population characteristics of key species Independent assessment of the condition of protected / designated sites
Heritage protection and management	Historic / cultural character and significance	Listed / protected structures removed from threat Listed / protected structures removed from threat

### Managing the Environment (continued)

Sustainability objective	Waterway / Project benefit (cost)	Indicators
Avoid the build up of dangerous substances	Removal of contaminated or hazardous waste	Measures of removed and/or remaining pollutants
Improve air quality	(Air emissions associated with waterway activities)	Air emissions from traffic associated with water-side use Air emissions associated with commercial use of waterside property Leisure trips to waterway with / without car
Managing climate change	Carbon dioxide balance associated with waterway	CO <sub>2</sub> balance of restoration or regeneration project

### Building Sustainable Communities

Sustainability objective	Waterway / Project benefit (cost)	Indicators
Recreation and health	Recreation resource for local residents and visitors	Number of visitor days by activity: towpath, angling, canoeing. Number of private boats/ Boat passages. Visitor attitudes towards the waterway environment with respect to attractiveness, cleanliness, safety, improvements etc. % visitors saying the towpath has increased the exercise they take
Shaping our surroundings	Re-use of previously developed land	Hectares re-developed
	Re-use of unoccupied buildings	Number / floorspace
	Waterway as a valued part of local neighbourhoods	Community attitudes: - % of local community using the waterway at least once a month % feeling happy to use the waterway at anytime % believing the waterway environment is attractive / safe / has improved % feeling proud of the local waterway % feeling safe at night / day along the waterwa

### Building Sustainable Communities (continued)

Sustainability objective	Waterway / Project benefit (cost)	Indicators
Accessibility	Access to recreation opportunities close to homes Recreation resource accessible for all	Numbers of local recreational visitors by activity Independent accessibility 'rating' of waterway e.g. Fieldfare Trust
Community action and involvement	Opportunities for community involvement	Community survey results: - % believing waterways 'belong' to the local community % believing they know 'what is going on' on the waterway % saying they are interested in how the waterway develops
	Opportunity for stronger community connections	Survey measures of community trust and interactions
	Opportunity for volunteer activity	Volunteer days spent on the project
	Location for Community events community events	Numbers and success of
	Resource for community groups	Number of community organisations / community projects based on or using the waterway Indicators of the impact / value of these projects
	Education resource	Numbers of education projects / schools / pupils / students Success of these projects
Improved choice in travel	Alternative local transport route	Non-leisure cycle / pedestrian use of towpath  Links with Safe Routes to School and Local Transport Plans

## A Sustainable Economy

Sustainability objective	Waterway / Project benefit (or cost)	Indicators
Economic growth	Income generation through waterway based tourism and leisure	Expenditure in local economy: boating  Expenditure in local economy: towpath users Number of commercial boats Survey results of waterway business attitudes
Economically efficient use of occupiers land and property	Economic value added by commercial of waterside land and property	Uses and economic value added by commercial occupiers: gross and net  Rent levels and letting periods Survey results of non-tourism waterside businesses
Full employment	Employment supported by waterway based tourism and leisure Employment supported by commercial use of waterside land and property Construction employment	Numbers of jobs: gross and net  Numbers of jobs: gross and net  Temporary jobs created
Developing skills	Training opportunities offered through waterway projects	Numbers trained and qualified  Numbers trained obtaining full-time employment Impact on changes in local skill / employment rates
Vitality in local economies	Opportunities for new business development	New business start ups
	Local sourcing of products and services	Proportion of project expenditure going to local firms  Local firms putting forward tenders for project work Waterway revenue and capital expenditure within local economy (and jobs supported)
Development of sustainable distribution systems	Freight transport by water	Freight quantity transported
<b>Natural resource use</b>		
Sustainability objective	Waterway / Project benefit (cost)	Indicators
Prudent use of resources	(Resource use associated with waterway activities)	Use of secondary / recycled aggregate and other materials in construction and maintenance
Waste minimisation		Disposal of construction / maintenance wastes Waste implications of commercial property use

## Appendix 4: Typical outputs of waterway projects

Project theme	Output
Waterway assets	Waterway infrastructure repaired or improved (number) Walking / cycling routes created or upgraded (km) Boating facilities created / upgraded (number) Access improvements (number) Canal frontage improved (km)
Land & buildings	Public space created or improved (ha) Hectares of land reclaimed for public use Hectares of land improved for development
Housing	Private sector dwellings complete Private sector dwellings improved
Business premises	Area of new / improved commercial floorspace (sq m) Area of new / improved leisure use floorspace (sq m) Area of new / improved education use floor space (sq m) Area of new / improved retail floorspace (sq m)
Sport & cultural facilities	New sport facilities Improved sport facilities  New cultural facilities Improved cultural facilities
Nature conservation	Production and adoption of waterway conservation plan Inclusion of waterway within local BAP New habitats created (ha)
Heritage management	Production and adoption of waterway conservation plan Listed structures improved / removed from threat (number) Listed structures restored to use (number)
Contaminated land	Removal / treatment of hazardous waste (amount)
Community action and involvement	Number of education events Number of community events including festivals / guided walks etc Numbers of people attending education / community events Marketing / publicity campaigns Community projects using waterway (number) Voluntary / community groups financially supported (number)
Training	Training weeks Young people involved in community projects
Voluntary activity	Numbers involved in voluntary activity
Use of resources	Waste management / recycling schemes implemented (number) Recycled materials used in construction (amount)
Investment flows	Other public and private funds attracted into the waterway corridor

**Notes**

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