

THE VALUE OF INLAND WATERWAYS

A LITERATURE REVIEW



**INLAND
WATERWAYS**
ASSOCIATION



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THE VALUE OF INLAND WATERWAYS

Foreword by Ivor Caplan, IWA National Chairman

As The Inland Waterways Association (IWA), we aim to support the widest possible use of the waterways from the broadest sectors of society. In order to keep the waterways relevant and to help maintain continued support from planners and policy makers, we need to prove the value of waterways across the UK.

With funding being cut and budgets being squeezed, it is only natural for decision-makers to overlook investment in areas that aren't perceived as important to their local communities. IWA is working to ensure that inland waterways are given the full support they deserve and are appreciated for the far-reaching benefits they bring to an area.

It is this desire to prove the value of inland waterways that has led to the creation of this literature review. We know that many reports and research documents have already been written that demonstrate the benefits that a river or canal brings to an area and we have brought all of these together in one place. In doing this, we have discovered two main areas that we feel have room for further investigation – Waterways Heritage and The Benefits of 'Active' Waterways, with boats navigating the water. These are two areas of research that IWA will be focusing on over the next few years.



Please take some time to review this valuable resource. It lists out many of the previously written reports that have been published over the years, giving a brief summary of the findings.

If, after reading it, you have any comments or thoughts, please don't hesitate to contact me: ivor.caplan@waterways.org.uk.

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1 INTRODUCTION: CONTEXT & SCOPE

This literature review and scoping report for the Inland Waterways Association (IWA) has compiled evidence on the value of inland waterways. The work was commissioned in 2018 from N. Schiessel Harvey of Birmingham City University in order to support IWA’s advocacy work with politicians, funders and other decision makers and to help it in its role as an independent ‘critical friend’ to inland waterways organisations such as Canal & River Trust, the Environment Agency and the other independent navigation authorities that operate within the UK.

1.1 REPORT THEMES

Inland waterways can be defined as ‘public goods.’ These are assets or services which are provided for, or used by, the wider public without profit or restriction, but cost money to support¹.

For waterways, whether individuals pay or do not pay for their maintenance or enhancement, (almost) no one is excluded from enjoying (some of) their benefits and one person’s enjoyment of the waterway does not (in principle) diminish the capacity of others to enjoy it too. For example, the benefit received by recreational use of the towpath by walkers cannot be chargeable, and there is no realistic way of preventing access to certain groups. Other areas which are often seen as public goods include forests, parks, heritage assets and landscapes.

Without the investment in maintenance of these, they would not offer benefits to users, but those paying don’t see a direct return on investment. The benefits of investing in these ‘non-tradeable’ assets may be contested or intangible with no economic rationale, so how

do decision-makers with limited resources determine if something is ‘worth it?’

Inland waterways are many things to many people. A range of broad (and often overlapping) value themes are relevant to public goods, so identifying potential areas of attention for future decision-makers and influencers is a useful start to any report on the value of inland waterways.

It is over 50 years since the 1968 Transport Act highlighted that most UK inland waterways were more suited to leisure cruising and other recreational purposes than their original freight transport purpose^{2,3}. During that time, studies and reports generated have changed emphasis on the types of benefits that inland waterways – and their restoration - can deliver. Equally, the identified range of benefits has expanded as waterways made their way onto the Government’s and onto funders’ agendas.

While agendas may change, core themes have emerged which shape the conversation around the value of inland waterways in the UK. These are:

Heritage (Built, Natural and Social). Inland waterways have shaped how towns and landscapes have developed, contributing to a sense of place. Their physical structures have intrinsic value as well as associated social and economic benefits. Equally, past – and present - waterways communities and industries have contributed to the UK’s cultural heritage.

Key to unlocking this value is engagement from different stakeholders, not just waterway enthusiasts, thus reviewing non-waterway approaches to valuing heritage is informative. Methods for measuring the value of heritage

¹ Samuelson, P. (1954). The Pure Theory of Public Expenditure. *The Review of Economics and Statistics*, 36(4), 387-389.

² UK Gov’t Transport Act 1968 <https://www.legislation.gov.uk/ukpga/1968/73/part/VII/crossheading/the-boards-waterways>

³ Edwards, L A (1985). *Inland Waterways of Great Britain (6th Ed)*. Imray Laurie Norie and Wilson. [ISBN 978-0-85288-081-4](https://www.imray.com/ISBN/978-0-85288-081-4).

are evolving, led by agencies such as Historic England and funding bodies such as National Lottery Heritage Fund, and there is increasing cross-over with community, wellbeing and social valuation approaches.

Nature & habitats: Green and Blue Infrastructure (for ecosystems and human use) Greenspace - and green corridors such as towpaths – contribute to healthy living as well as nature conservation and biodiversity. Water also supports biodiversity and can provide benefits such as urban cooling. The past decade has seen increased research into capturing the various ‘services’ that natural processes and assets provide to humans. These ‘ecosystem services’ can be biophysical, social or even spiritual.

Personal Wellbeing (including health, community health, and sense of place) Wellbeing is high on the agenda at present, with governments recognising how physical and mental health can avoid treatment costs and improve employability. There is a growing body of research into the value of supporting healthy lifestyles. At the same time, the importance of creating communities is increasingly recognised.

Economic Development and Area Regeneration. As well as being a public good, water delivers private added-value. The contribution of a waterfront setting to property values and of waterway restoration works to economic benefits have been well explored, with economic regeneration being a justification for many waterways projects. Economic wellbeing is closely linked with social wellbeing; skills and jobs linked to waterways are therefore valuable in many ways. Waterways also make direct contributions through activities such as transportation and water transfer. Both heritage and greenspace are tourism ‘draws’, which inland waterways provide.

1.2 REPORT STRUCTURE

Following a brief chronology of main waterways-relevant publications over the past few decades, this report reviews the key ways the ‘value’ of inland waterways can be defined, measured and promoted across each theme.

For each of these, we draw on academic and practice sources to look broadly at the theme in general terms, highlighting where literature specific to UK inland waterways relates to this. We then draw on knowledge from related areas (e.g. river or heritage studies and international experiences) applicable to the value of Inland Waterways, and identify where there is a need for further work to develop our evidence base.

The purpose of this literature review and scoping process has been to identify any areas where further research by the IWA can address gaps in evidence regarding the value of inland waterways in particular, or seek to influence other research agendas.

1.3 METHOD

For the first stage of defining broad themes applicable to Inland Waterways, Google keywords were used to identify as wide a range of potential sources as possible in the policy and the industry arenas. Keyword searches were also undertaken using Google Scholar and academic databases. The research pages of known organisations (such as the Heritage Lottery Fund, Historic England, Canal & River Trust and DEFRA) were reviewed to identify collections of commissioned research. Against each broad theme, the following questions were asked:

- What does [theme] mean? How is it defined, by who?
- What benefits, issues or values are associated with this theme?
- What are the main ways of measuring value for this theme?
- Who are the main stakeholders or ‘players’ interested in or affected by this theme?
- How is this theme relevant to the value of Inland Waterways?

The findings from this initial review were then used to search for UK inland waterways-specific literature as well as international sources and wider water-related literature. There are a myriad of approaches to measuring ‘value’ – this report identifies and summarises mainly what is valued *about* the four themes from the literature. Where known

and where there is either good practice or a lack of robustness in the evidence, we also comment on the way others have measured the value of each theme⁴. As CRT have recently embarked on a research programme aimed at demonstrating the overall wellbeing value of waterways, a view is given on where identified gaps align with the ongoing research agenda of the Trust.

1.3.1 WHAT IS 'VALUE'?

'Value' is a term that can be used in many different ways; some definitions are therefore useful. The Oxford Dictionary offers the following definitions of 'value'.

<p>noun 1) the regard that something is held to deserve; importance or worth. 2) material or monetary worth. 3) (values) principles or standards of behaviour. 4) the numerical amount denoted by an algebraic term; a magnitude, quantity, or number.</p> <p>verb (values, valued, valuing) 1) estimate the value of. 2) consider important or beneficial.</p>

These immediately show that while 'value' can be quantifiable and often monetary, the word can also simply signify importance of something to individuals.

Conventional economic frameworks of 'value' assume that the importance, worth or 'value' of various resources can be reliably indicated by human choices or preferences about how their welfare wants and needs are met by those resources, and what they are prepared to exchange for them (for example time, other goods, or money). However humans are not homogeneous and people's 'held values' (e.g. beliefs and ideals) influence what they prefer or see as 'better' when faced with options. This 'valuing' process often leads to some expression of preference or worth, via words

or actions⁵. This 'assigned value' can be expressed on numerous scales through numerous measures. Just one of these measures is money.

Whether or not we believe that all value can be monetised, the concept of Total Economic Value is useful in helping categorise the types of value assigned to any resource, especially public goods such as natural systems, heritage – and inland waterways. The *use* and *non-use* values which comprise Total Economic Value are outlined in Figure 1.

Use values	Direct Use Value	Direct value of consuming or using a resource. Eg consumption of water, fishing, boating, mooring fees, recreation, habitat provision
	Indirect Use Value	Value derived from using the services the resource provides. Eg flood control, climate regulation, recreation, businesses associated with water use
	Option Value	The value of future potential for use or existence if needed (eg ensuring viable natural environment in the future, or securing potential future transport use)
Non-Use values	Intrinsic value	Value of resource (eg waterway) in and for itself, even if never used
	Legacy value	Value of leaving the resource intact for future generations

Figure 1: Use and Non-Use values. Adapted from Valuing Ecosystem Services <http://www.ceeweb.org/work-areas/priority-areas/ecosystem-services/how-to-value-ecosystem-services/>

⁴ A detailed critique of methodological approaches is beyond the scope of this review. A 2007 review by Glaves et al into benefits of Inland Waterways did review the robustness of many of the studies to that date; this work may be worth updating to include recent evidence reports. See Glaves, P, Rotherham, I, Harrison, K, Egan, D (2007) *An Initial Review of the Economic and Other Benefits of Inland Waterways. Summary of Literature and Information Review with Recommendations*. A report for the Inland Waterways Advisory Council July 2007. <http://ukeconet.org/wp-content/uploads/2009/02/Inland-Waterways-Review.pdf>

⁵ Brown, T. (1984) *The concept of value in resource allocation* Land Economics 60 pp 231-246

2 SUMMARY OF FINDINGS & RECOMMENDATIONS

As expected, there are many overlaps in the ‘types’ of value. Over recent years there has been a move from capturing economic and use value to exploring the more intangible benefits of natural and heritage ‘public goods’ – both to humans and to natural systems.

However the literature shows that in general, ‘*what gets counted counts*’ - to be taken seriously, any attempt to capture value needs to be able to demonstrate quantifiable benefits. Ideally, these need to link to Government or other decision-maker (eg funder) targets.

2.1 FINDINGS: VALUE THEMES

Recent research activity in Inland Waterways appears to focus on social wellbeing as a priority, unsurprising given CRT’s charitable status and the need to demonstrate wide value to the public purse as a new funding decision approaches. In academic work unconnected with CRT, river restoration (and associated socio-economic and environmental benefits) is a growing field, as is the link between greenspace/natural environments and public health. Heritage studies are less evident at present, though networks such as the Heritage Alliance are attempting to develop evidence that can feed into current agendas.

2.1.1 HERITAGE

‘**Heritage**’ in its broadest sense (encompassing built, natural, cultural heritage) can be linked to the following benefits:

- Wellbeing and mental health, through involvement with education, skills development and volunteering
- Community cohesion and ‘sense of place’ linked to association with heritage buildings, landscapes or cultural heritage traditions and memories
- Increased property values linked to desirability of quality heritage environments
- Healthy business activity, including jobs and skills

Gaps in knowledge relating to inland waterways include knowledge about the effect of heritage structures and assets (their existence, use and quality) on tourism numbers and activity, especially at honeypot sites. What is it that attracts?

The main heritage organisations (English Heritage, Historic England, National Lottery Heritage Fund) have been active in collating evidence of value and in developing approaches to measuring the value of built, cultural and natural heritage. While most of this is not waterways-specific, the approaches taken and the efforts by networks of heritage organisations to create a robust body of evidence to influence policy and funding are very relevant to IWA objectives and it would be useful to align with existing approaches.

Given the current government policy focus on ‘wellbeing’ (and the move of Canal & River Trust to being a wellbeing charity), there is a concern that heritage may be overlooked or side-lined. The repositioning of heritage management within the property department of Canal & River Trust, and the low profile of heritage issues in their current research, indicates this as a concern. While waterway-related projects have received tens of millions of National Lottery Heritage Fund grant funding since the organisation was founded, project reports tend to value heritage for what it can deliver to society, rather than for its own sake. There is a need to frame heritage in the current policy ‘language’ in the short term by identifying how heritage can contribute to other priorities, without losing sight of other aspects of its intrinsic and bequest value to society.

2.1.2 GREENSPACE AND BLUE-GREEN INFRASTRUCTURE

There is a growing body of evidence on benefits associated with the broad theme of **blue and greenspace** that is applicable to inland waterways. Inland waterways undoubtedly form – or can form - part of the networks of green infrastructure, enhancing

not only environmental but human health. Key benefits include:

- ecosystem health, particularly through the network aspects of green-blue infrastructure
- climate change adaptation, including urban cooling and drainage/water transfer functions, as well as encouraging non-car transport.
- physical and mental human health - greenspaces are a cost-effective leisure, health resource
- social cohesion and sense of place derived from safe, quality greenspace
- financial value of quality greenspace as a setting for development.

These are evident in waterway corridor strategies, for example, Sheffield⁶; river basin management plans⁷ and, on a canal level, Birmingham's planned 'blue corridor' strategy⁸. Worldwide, there is a growing focus on issues surrounding flooding, drainage and adaptation to future climate change; research into technological solutions is ongoing.

2.1.3 HEALTH & WELLBEING

It can be seen that some greenspace benefits are similar to those derived from heritage and that they deliver '**health & wellbeing**', which was examined as a separate theme due to its current prominence. Review of blue-green space benefits in general show that, to be taken seriously, it is important to be able to demonstrate quantifiable benefits. Ideally, these need to link to Government targets such as Environmental Accounts and health service savings. The health of natural environments is not sufficient in its own right, but the concept of ecosystem services to humans is useful in examining the benefits that natural systems offer to human wellbeing. This quantification of benefits is driving Canal & River Trust

research with the development of indicators and studies to try and monetise benefits.

The recent repositioning of Canal & River Trust as a Wellbeing charity is linked to a programme of research to develop a sound evidence base to support future funding and government buy-in. Given the increasing focus on the social benefits of heritage, green space and healthy activities – and the clear policy focus on these areas by government and funders - there is scope for research to complement that of Canal & River Trust and heritage organisations such as Historic England. Key aspects of **wellbeing** identified that are relevant to inland waterways include:

- Physical and mental health linked to exercise, fresh air, safe recreation and tranquillity
- Enjoyment of leisure time and access to leisure resources
- 'Sense of place', including through shared interests and volunteering
- Skills development and employability – as economic security is key to people's wellbeing.

These are being well-addressed by the ongoing CRT research as well as studies of the effect of greenspace and proximity to water on health. However there is little attention being given to the effect on wellbeing of active participation in activity such as restoration volunteering, for example. Equally, while 'life is better by water' is the new CRT strapline, there appears to be little research into the difference in wellbeing linked to being near active or inactive water. Do moving boats, for example, make a difference to enjoyment and wellbeing?

2.1.4 ECONOMIC DEVELOPMENT & REGENERATION

Over decades of evolving policy priorities among waterways stakeholders, **economic development** has remained central.

⁶ Sheffield City Council (2014) *Sheffield Waterway Strategy*

<https://www.sheffield.gov.uk/content/sheffield/home/planning-development/sheffield-waterways-strategy.html>

⁷ UK Govt. River Basin Management Plans <https://www.gov.uk/government/collections/river-basin-management-plans-2015>

⁸ Birmingham City Council (2013) *Green Living Spaces Plan*

https://www.birmingham.gov.uk/download/downloads/id/832/green_living_spaces_plan.pdf

Demonstrating the positive **regeneration** impact on local areas has been a core aspect of many, if not most, restoration feasibility studies and many inland waterways-related funding bids. Looking at how economic development and the health of areas is measured, the key value areas identified include:

- Direct income from visitors
- Indirect income through supply chains, secondary spending and attracting new business.
- Job and skills creation – quality as well as quantity
- Housing quality and price
- Reuse of brownfield former industrial land for new functions
- Urban and rural regeneration – which includes enhancing all the areas above to improve an area.

Given the decline in central government funding for Canal & River Trust and in local authority budgets, the impending loss of European funding and reductions in Lottery funding available, being able to **demonstrate economic benefits** of any project or activity to the local area is likely to become increasingly important. Canal & River Trust has commissioned studies on the assessment of waterside regeneration and development, and on the effect of waterway proximity on house prices, to be completed in 2018/19. However there appears to be little research in the pipeline addressing the contribution of **active** (and in particular, navigable and navigated) water to economic and tourism value. There was also nothing found relating to the importance of boaters' facilities (a current IWA Gap Tracker campaign) to the continued health of existing navigations.

2.2 NEXT STEPS: ISSUES & RECOMMENDATIONS

This review as carried out was intended to inform potential future activity by IWA. This can be on several levels: focusing in on specific themes of relevance to IWA objectives, identifying strategic partnerships to develop in building an evidence base, and considering what individual branches and projects aligned

to IWA can do to help evidence themes of interest to IWA's objectives.

2.2.1 DETERMINE IWA FOCUS AREAS

As highlighted, waterways are many things to many people. IWA's objectives support the widest possible use of the waterways. With the move of Canal & River Trust into the third sector and its agenda of widening participation, the question of the role of the IWA has been raised – how far should the IWA's remit go? Should it focus on, for example, the ecological and water management aspects of Inland Waterways, many of which are rivers?

Historically IWA membership's expertise is in campaigning for restoration to navigation and active use by boats of the network's industrial heritage. Heritage for heritage's sake is low on the government/decision-making agenda at present; therefore there is a need for stronger evidence on the benefits waterways heritage (built, natural and cultural) can offer to other agendas.

The *Waterways in Progress* report sends a clear message about the early, ongoing and wide-ranging benefits of restoration projects. Supporting this with additional evidence from non-waterways projects and research would add to the robustness of this report. To enhance joint working potential it would be useful if, in particular, the messages and evidence could align with CRT Outcome Measurement Framework indicators.

The CRT work into the wellbeing value of waterways pays surprisingly little attention to the value of waterways as *navigations* (or potential future navigations) to wellbeing outcomes, though it is known through the popularity of 'honeypot' sites that the presence of boats adds interest. There is therefore an important role for IWA to influence the design of future CRT-led work being planned in order to ensure that their evaluation framework and evidence base includes adequate reference to navigation concerns and other areas identified as IWA priorities.

IWA ACTION POINTS

- Determine and agree priority themes for research and networking focus – particularly around the value of waterways heritage and value of ‘active’ waterways
- Continue promotion of ‘Waterways in Progress’ case studies to include additional evidence from this review and elsewhere
- Seek to engage with stakeholders to ensure navigation and heritage are integrated into research frameworks

2.2.2 STRENGTHEN STRATEGIC PARTNERSHIPS

It is hoped that the information in this report helps IWA decide where it does *not* have expertise or interest; however it may be that it can share knowledge gaps with partners while focusing on its own priorities. Given the plethora of other organisations with potentially overlapping goals, IWA should decide and focus on key partnerships to improve impact of its work. These could include:

- **Canal & River Trust** – Canal & River Trust’s research programme is very detailed but has room for refinement. At present evaluation of any added-value from the presence of boats and boating on waterways has a very low profile in the measurement framework and in proposed research. IWA in its traditional ‘pressure group’ role could seek to shape the direction and focus of this research. For example, the *External Reference Group* for ongoing research currently has no navigation experts⁹; IWA could offer

services here. Their first report encourages sharing plans and information.

- **Other navigation authorities** such as the Environment Agency, through coordinated action
- **The Heritage Alliance.** IWA is a member of the Heritage 2020 initiative to strengthen partnerships and collaborative working across the historic environment sector, though is not on the working groups which are currently carrying out research to build an evidence base¹⁰. A new strategy to 2025 is being launched early in 2019 for consultation; IWA should be involved in this. The working groups are: Helping things to happen; Public engagement; Capacity building; Constructive conservation and sustainable management; and Discovery, identification and understanding
- **Historic England** as a government body championing the historic environment (funded by DCMS) has an active, well-funded research department and annual themed ‘Heritage Counts’ reports. Its collections are, since 2015, run by English Heritage. Like Canal & River Trust, this cares for a huge collection of heritage structures and landscapes, under an agreement with government funders that runs to 2023. There is therefore a lot of scope for aligning contributions to research into the value of the historic waterways environment.
- **Local Economic Partnerships** or a particular local authority such as Birmingham. LEPs are networks of local authorities, businesses and other organisations straddling boundaries; they help determine local economic priorities and lead economic growth and job creation within local areas. Hence, establishing the importance of inland waterways as catalysts for economic growth and regeneration within these is useful.

⁹ The External Reference Group currently comprises: Paul Allin, former director of the ONS Measuring Wellbeing programme; Judy Cligman, Director of Strategy & Business Devt at HLF; Anne Marie Connolly, Dep Director Health Equity & Mental health, Public Health England; Stephen Gibbons, Prof of Economic Geography, LSE; Iona Joy, New Philanthropy Capital; Philippa Lynch, Local Govt Assoc Care and Health improvement Programme senior data analyst; Ewen McKinnon Cabinet office Analysis and Insight Team.

¹⁰ Action Plans for all the working groups can be found here <http://www.heritage2020.net/working-groups/>

- **Town and Country Planning Association or Royal Town Planning Institute.** The Planning System has great influence over the use of canals into the future. Given the National Planning Policy Framework (NPPF) presumption in favour of sustainable development in the absence of up-to-date development plans, ensuring robust and suitable guidance is in place is essential to ensure appropriate development and secure canal lines for future restorations. The TCPA has produced previous guidance; there is potential for the many experienced planners within IWA to support continued updating of this.

IWA ACTION POINTS

- Map existing strategic networks and contacts and upcoming reviews of action plans that IWA would like to input to.
- Identify priority alliances for IWA objectives and focus on developing these
- Seek to join Canal & River Trust's External Reference Group for ongoing research
- Explore ways of bringing heritage into the 'wellbeing' conversation

2.2.3 SMALL-SCALE INCREMENTAL ACTIONS

It was raised during discussions that branches or project groups would welcome suggestions on what they can do to advance the 'value of waterways' agenda. The advice to projects seeking funding is applicable here— this can be paraphrased as: rather than identifying your goals and finding a funder to match them, identify sources of funding and see how your project can be packaged to meet those goals.

Funding or policy 'hooks' such as those for the NPPF¹¹ should be examined closely.

- **Securing influence.** Individual branches are in a good position to influence local planning policy development - being able to draw on evidence to support arguments is useful
- **Designing projects with assessment in mind** – this has become more common since the advent of funders such as National Lottery Heritage Fund who require auditable evidence of outputs. However, as highlighted by Historic England,¹² too much knowledge is lost in archives of small projects once they are completed – or never recorded at all - and there is scope for a national repository of project data.

To help guide the advocacy and evidence-based work of local branches, and of regions, developing a 'checklist' of priority areas which align to IWA and other partner objectives would be helpful. This would include priorities shared with other organisations and main areas where indicators could be shown. While not dictating how branches or projects operate, this checklist of '*how you can help build the bigger picture*' may assist members to add value to work they are already doing or planning. Thus the knowledge developed in disparate projects is not lost. Canal & River Trust is planning to review and analyse projects it is involved in – the methodology – when known – could be adopted so as to align information approaches.

¹¹ Canal & River Trust and The Inland Waterways Association (2015) *Local Plans: Delivering inland waterway restoration projects in England and Wales* <https://canalrivertrust.org.uk/refresh/media/thumbnaill/9949-planning-document.pdf>

¹² Hedge, R, & Nash, A, (2016) *Assessing the Value of Community-generated Historic Environment Research*. Commissioned for Historic England. Accessed at <http://research.historicengland.org.uk/Report.aspx?i=15842&ru=%2fResults.aspx%3fp%3d1%26n%3d10%26t%3dvalue%26ns%3d1>

IWA ACTION POINTS

- Consider developing a repository for local projects and branch activities to enable better capturing of information.
- Consider how to share/capture information on priority areas where branches can add to the ‘value of waterways’ evidence base.

2.2.4 FURTHER WORK NEEDED

The principal ‘gap’ in knowledge at present is robust evidence of how the presence of boats or water-based activity adds value to waterways. There is scope for IWA or partners to address the value of navigation and ‘active water’ through a targeted study of tourism, leisure, business or housing areas with varying levels of activity. This may be able to build on

some of the planned CRT research. Adding a ‘counterfactual’ case study area of a non-navigated or little-used waterway (whether owned by CRT or not) for example would strengthen their research – this would need to be added soon if it is to make a useful contribution to the evidence base.

IWA ACTION POINTS

- Define categories of ‘active water’ and ‘navigation’ and seek to research effect of these on the benefits of waterways compared with non-active water.
- Consider annual updating of this literature review as a ‘what we know’ resource document, in the absence of a comprehensive archive or library of evidence.

3 CHRONOLOGY OF PREVIOUS WORK ON THE VALUE & BENEFITS OF INLAND WATERWAYS

Studies of the values associated with inland waterways have come in tranches, often associated with a particular government, policy or funding change. The following section is a chronological summary of the main ‘overview’ reports and developments in key organisations.

The 1968 Transport Act recognised that the future for most of British Waterways (BW) canals and rivers lay in their use for **amenity** and **recreation**, with only about 20% of their system designated as commercial waterways. This Act also set up the statutory body IWAAC (Inland Waterways Amenity Advisory Council) to advise on matters affecting the use of BW navigations for recreation and amenity. In practice, IWAAC research and reports were influential in shaping government policy over the coming decades and putting waterways as leisure and economic assets in the foreground.

In 2007, IWAAC became IWAC (Inland Waterways Advisory Council) with a remit for

advising the government on all inland waterways. It was abolished in 2010 when British Waterways moved into the third sector as Canal & River Trust. AINA (the Association of Inland Navigation Authorities) remains; this was set up in 1996 to bring together inland navigation authorities and provide a single voice on waterway management issues in Great Britain. Like IWAAC/IWAC, AINA has developed an evidence base supported by case studies during its time.

3.1 WATERWAY REVIVAL AT THE END OF THE 20TH CENTURY

During the 1990s, inland waterways gradually made it onto the Government agenda and the evidence body on the value of restoring inland waterways was growing. Much of this was advocacy literature or commissioned research to support individual restoration projects. However, the completion of several high-profile waterway projects such as the

Huddersfield Narrow and Kennet & Avon Canals led to increasing recognition of the social, economic and environmental benefits of restoring and caring for inland waterways.

British Waterways, long an ‘obstacle’ in restoration schemes, began to come onside. In 1997, BW and Environment Agency took the lead in setting up the Association of Inland Navigation Authorities (AINA). For the first time, there was a single voice representing the interests of navigation authorities and a forum where management issues could be discussed.

Publications
<p>Inland Waterways Amenity Advisory Council (1997) <i>Britain’s Inland Waterways - An Undervalued Asset</i>¹³ This comprehensive report drew together a range of studies from individual projects to present a policy case for government intervention, funding and strategic support of the inland waterway network as well as further research. It highlighted – and started to collate evidence for – the ‘new’ values associated with waterways. The foreword states: “Britain's canals and rivers are important to leisure and recreation, heritage, tourism and environment.”</p>
<p>In 1999, AINA published <i>Steering a Fresh Course</i>¹⁴, the first national strategy for the waterways. This stimulated the Government to publish <i>Unlocking the potential: A new framework for BW</i>¹⁵ the same year which set out a package of measures, founded on partnership, to enable the full potential of British Waterways' canals and rivers to be realised</p>

Publications
<p>and to allow as many people as possible to enjoy and benefit from them. This heralded an increased Government grant to tackle the safety maintenance backlog and improve operational standards, while providing strong political support for BW's partnerships with the private sector, particularly for regeneration projects.</p>
<p>Restoration priorities began to be collated and priorities, for example through IWAAC's 1998 <i>Waterway Restoration Priorities</i> report¹⁶; these overview reports of the state of the restoration field have continued – each shows where priorities are aligned to both strategic need and which projects are most likely to attract funding. Annex A to the 1998 report set out some nature conservation and heritage criteria but stressed how projects should demonstrate economic or other benefits</p>
<p>DETR's (2000) <i>Waterways for Tomorrow</i>¹⁷ was a 'daughter document' to the Government's 1998 White Paper <i>A New Deal for Transport</i>¹⁸. It was the outcome of the first comprehensive Government review of the whole of the inland waterways system in England and Wales since the Transport Act 1968. It drew heavily on the evidence from the 1997 and 1998 IWAAC reports and recognised the new roles of waterways. The document sought to "promote the inland waterways, encouraging a modern, integrated and sustainable approach to their use" - it set out the Government's view that the myriad uses of the waterways are complementary and it</p>

¹³ Britain's Inland Waterways: An Undervalued Asset: IWAAC March 1996 followed by Britain's Inland Waterways: An Undervalued Asset: Final Recommendations: IWAAC June 1997
https://www.waterways.org.uk/pdf/iwac/britain_inland_waterways_an_undervalued_asset_iwac_final_recommendations_june_1997

¹⁴ AINA (1999) *Steering a Fresh Course: A Strategy for the Inland Navigations of the United Kingdom*

¹⁵ DETR (1999) *Unlocking the potential: a new future for British Waterways*

¹⁶ IWAAC (1998) *Waterway Restoration Priorities*:
http://issuu.com/waterwaysassoc/docs/1998_restoration_report?mode=window&viewMode=doublePage

¹⁷ DETR (2000) *Waterways for Tomorrow*
<http://webarchive.nationalarchives.gov.uk/20091118142143/http://www.defra.gov.uk/rural/documents/countryside/waterways/waterways-for-tomorrow.pdf>

¹⁸ DET (1998) *A New Deal for Transport: Better for Everyone*. White Paper
<https://webarchive.nationalarchives.gov.uk/+/http://www.dft.gov.uk/about/strategy/whitepapers/previous/aneddealfortransportbetterfo5695>

Publications
is possible to accommodate them all; the document committed to supporting waterways through the planning system. It linked indicators to the 1999 Quality of Life Counts ¹⁹ sustainability framework which at that time influenced much policy.

3.2 NEW LABOUR & THE HERITAGE LOTTERY FUND YEARS - 2000-2008

Following the Millennium Projects (particularly the Kennet & Avon, Huddersfield Narrow and Falkirk Wheel), a new wave of Lottery-funded projects appeared - the new 'canal mania'. This phase saw a rise in assessment of the social and community benefits of waterways to demonstrate how Lottery objectives were being met. A coherent framework for the Inland Waterways was developed, which stemmed from the Waterways for Tomorrow document produced by Defra.

There was also an early recognition of the benefits of incremental restoration. Canal & River Trust changed during the early part of the decade from being an obstacle to restoration to actively enabling restorations, leading partnerships for projects such as the Cotswolds and Droitwich restorations.

As well as many case-specific studies, several widely-applicable studies were commissioned to draw together evidence about the value of inland waterway – IWAAC (Inland Waterways Amenity Advisory Council, covering just BW waters and leisure/amenity issues) was replaced in 2007 by IWAC (Inland Waterways Advisory Council) with a widened remit of advising the Government on all aspects of inland waterway policy.

IWAAC and IWAC produced a large number of reports during this decade. The robustness of the evidence was sometimes questionable, particularly for hard-to-measure social impacts. Many of IWAAC/IWAC reports took benefits as 'givens' and focused instead on mechanisms for ensuring development schemes delivered these. Evidence for benefits was anecdotal case by case. However, the range of identified benefits which water could deliver, and the range of potential beneficiaries, widened enormously and clear trends became evident about the potential for water to add value.

Publications
IWAAC (2001) <i>Planning a Future for the Inland Waterways – A Good Practice Guide</i> focused on three key areas, the role of the planning system, how to create successful projects, and how to deliver successful projects. Looks at maximising the economic, social and environmental contribution to urban and rural areas
IWAAC then IWAC commissioned research through this period to demonstrate how waterways benefits could be applied to many areas. Examples include <ul style="list-style-type: none"> • <i>Just Add Water</i> to guide development of waterways as part of rural regeneration²⁰ - this focused on how to access value from commercial operations to secure delivery of not-for-profit local services in a waterside 'hub'. • <i>Using Inland Waterways to combat the effects of social exclusion</i>²¹ used case study research to show how waterways engagement can support engagement with certain groups.

¹⁹ DETR (1999) Quality of Life Counts: Indicators for a strategy of sustainable development for the United Kingdom: a baseline assessment. December 1999

²⁰ IWAAC (2005) Just Add Water. How our inland waterways can do more for rural regeneration. A practical guide. Sep 2005. http://www.britishwaterways.co.uk/media/documents/publications/IWAAC_Just_Add_Water_Sept_2005.pdf

²¹ IWAC (2009) Using Inland Waterways to combat the effects of social exclusion https://www.waterways.org.uk/pdf/iwac/using_inland_waterways_to_combat_effects_of_social_exclusion

Publications
<p>In 2007, IWAC reviewed progress since Waterways for Tomorrow (WFT) in <i>The Inland Waterways of England and Wales in 2007</i>²² This stressed the growing leisure boating use and the value of leisure and tourism as regeneration catalysts, though warned of hotspots with insufficient supply. It highlighted how increasing access for all increased the value to society overall but highlighted patchy implementation and a need to secure more community benefit from regeneration schemes. The built and natural environment remained linked together in one chapter.</p> <p>The report highlighted how other legislation and policies²³ had prompted environmental improvement, and how better liaison with other heritage organisations (English Heritage and CADW) had improved management of built heritage. Concerns were raised then about the effect of reduced funding on built heritage, which has less statutory protection than natural. Freight was supported, though its decline noted the value of waterways in regeneration was key to WFT and the years to 2007 showed huge progress – the review referenced studies into the impact of restoration showing the value in terms of visitor numbers, spend, jobs and regeneration.</p> <p>The review highlighted emerging values, with new challenges and opportunities. These were:</p> <ul style="list-style-type: none"> • The opportunity to protect and enhance the natural environment, including using waterways for climate change mitigation

Publications
<ul style="list-style-type: none"> • The growth of public health and proactive health measures in the government agenda • The value of waterways in enabling community cohesion • Power of joined up action
<p>Economic evaluations of the impact of several canal restoration projects^{24, 25, 26} highlighted improvements to property markets, increased leisure and tourism expenditure and improved economic activity; they also evaluated capacity to increase business and leisure activities. These took a wide-ranging approach to benefits calculation using different methodologies to those used in planning the restorations years earlier. However they established modelling approaches for calculating direct and indirect supply-side and demand-side effects linked to waterway restoration; this evidence has been used in subsequent analysis of other areas.</p>
<p>The activity in canal restoration and regeneration led to guidance being produced for councils and planners on how best to tap into the community and physical regeneration potential while maximising other benefits. In 2003 BW's <i>Waterways and Development Plans</i>²⁷ reviewed policy at all levels and drew on case studies of policy interventions to show how planning authorities could overcome challenges and make the most of their waterways. It replaced an earlier 1992</p>

²² IWAC October 2007 *The Inland Waterways of England and Wales in 2007*. What has been achieved since Waterways of Tomorrow in June 2000 and what needs to be done.

https://www.waterways.org.uk/pdf/iwac/waterways_for_tomorrow_review

²³ Such as the Water Act 2003, Landfill Directive, Habitats Directive, Water Framework Directive

²⁴ ECOTEC (2014a) *The Economic Impact of the Restoration of the Kennet and Avon Canal*

<https://canalrivertrust.org.uk/media/library/8009-kennet-and-avon.pdf>

²⁵ ECOTEC (2003) *The Cotswold Canal Restoration: Appraisal of Economic Impacts*.

<https://canalrivertrust.org.uk/media/library/6342.pdf>

²⁶ ECOTEC (2014b) *The economic impact of restoring the Huddersfield Narrow and Rochdale Canals*

<https://canalrivertrust.org.uk/media/library/6344.pdf>

²⁷ British Waterways (2003) *Waterways and Development Plans*

http://www.britishwaterways.co.uk/media/documents/publications/Waterways_and_Development_Plans.pdf

Publications
<p>document <i>The Waterway Environment and Development Plans</i>. This guide drew on IWAAC evidence of benefits but added little additional data. It did however show how good planning could ‘draw out’ and maximise value.</p>
<p>AINA’s 2003 <i>Demonstrating the Value of Waterways</i>²⁸ guidance again added no data itself, but detailed how schemes could measure and assess the benefits waterways could add to schemes in order to leverage funding and build delivery partnerships. The benefits-led approach advocated linked closely to the Quality of Life Counts sustainability indicators; the guidance also stressed the importance of aligning identified benefits with the objectives of other interested organisations.</p>
<p>The excellent 2009 BW/Town & Country Planning Association policy advice note <i>Unlocking the potential and securing the future of Inland Waterways through the Planning System</i>²⁹ continued this theme, helping planners support and shape waterway-related development through detailed examples and guidance; it highlighted a range of more local or topic-specific reports which could help make best use of waterway value, drawing on some of the ECOTEC work. It highlighted a lack of credible and robust evidence to support planning policies at all levels “to protect and promote water-based transport, tourism and leisure”.</p>

Publications
<p>AINA (2003) <i>Safeguarding the waterway environment: priorities for research</i>. Report of the AINA Working group on the Environmental Impacts of Waterways Users³⁰. This report identified uses of waterways from other sources, categorising these into Navigation activities, Bank Uses, Operational Uses and ‘Other’ uses or activities. Recognising that increased use of inland waterways could impact (for good or bad) the waterway environment, it focused on environmental impacts of these uses on the flora and fauna, water, bank and other associated impacts.</p> <p>A more in-depth study funded by DEFRA and published by IWAC in 2009 <i>Balancing the needs of navigation and aquatic wildlife</i>³¹ highlighted the importance of waterways for nature conservation – many canals have developed into rich habitats though only 10% of the system is rich enough in flora or fauna to be protected. This specific focus on the ecological value of inland waterways in balance with navigation was uncommon before this time; the late 2000s were also a time when research into river restoration and ecosystems grew.</p>
<p>The first critical analysis of evidence for some time was carried out by Glaves, P, Rotherham, I, Harrison, K, Egan, D (2007) <i>An Initial Review of the Economic and Other Benefits of Inland Waterways. Summary of Literature and Information Review with Recommendations. A report for the</i></p>

²⁸ AINA (2003) *Demonstrating the Value of Waterways*. A good practice guide to the appraisal of restoration and regeneration projects <https://www.aina.org.uk/wp-content/uploads/2018/04/Demonstratingvalueofwaterways.pdf>

²⁹ Town & Country Planning Association for British Waterways (2009) Policy Advice Note: Inland Waterways. *Unlocking the Potential and Securing the Future of Inland Waterways through the Planning System* <https://canalrivertrust.org.uk/refresh/media/thumbnail/30984-planning-advice-note-inland-waterways.pdf>

³⁰ AINA (2003) *Safeguarding the waterway environment: priorities for research*. Report of the AINA Working group on the Environmental Impacts of Waterways Users <https://www.aina.org.uk/wp-content/uploads/2018/04/Safeguardingwaterwayenv.pdf>

³¹ IWAC (2009) *Balancing the needs of navigation and aquatic wildlife* https://www.waterways.org.uk/pdf/iwac/aquatic_wildlife

Publications
<p><i>Inland Waterways Advisory Council</i>³². This report reviewed the</p> <ul style="list-style-type: none"> • Types of use (direct, indirect, formal, informal) of inland waterways in the UK • Approaches to measuring these, with a view expressed on the robustness of data and the methods used to calculate this. <p>Glaves et al concluded that despite limitations of available evidence and weaknesses inherent in many analyses, there were clear indications of impacts and activities. Their analysis was useful in that they recommended a more robust primary study on the economic benefits of inland waterways in a proposed phase 2 and 3 – it does not appear that any follow-on work was done from this, however, until the JACOBS work which again was a review of previous studies.</p>

From the mid-2000s, new approaches to measuring the value of natural assets emerged with the Millennium Ecosystem Assessment³³ and the use of ecosystem services assessments - essentially, categorising and valuing the *services and benefits* that natural processes deliver to humans, rather than the processes or assets themselves. This new approach was particularly applied to the growing field of urban river research and blue-green cities which has great potential for mutual synergies with research on inland waterway navigations. Mark Everard's *Rediscovering the Value of Urban Rivers*³⁴ forms a succinct introduction to this area.

3.3 AUSTERITY AND THE TRANSFER FROM BW TO CANAL & RIVER TRUST – TO 2012

The economic crisis from 2008 dried up flows of finance for restorations, prompting some refocus of assessment work to demonstrate economic benefits.

IWAC's ***Surviving the cuts and securing the future***³⁵ (2010) warned that because the value of the benefits of the inland waterway network is not well understood, targeting areas to make expenditure cuts based on an assessment of where public benefits will be least badly hit will, at best, be approximate and to some extent arbitrary. This spurred further research into known and emerging values.

The decision in 2010 to move management of BW waterways into a new charity was informed by – and informed - some new research reviewing benefits of inland waterways. With the creation of Canal & River Trust, IWAC (with its statutory role as advisor to government) was abolished. This has left the research needed to guide policy development in the hands of individual navigation authorities and AINA, as well as advocacy bodies such as IWA.

Publications
<p>Jacobs' Value of Inland Waterways study which began with a 2009 <i>Benefits of Inland Waterways</i> assessment³⁶ and concluded with a final report on the <i>Value</i></p>

³² Glaves, P, Rotherham, I, Harrison, K and Egan, D (2007) An initial review of the economic and other benefits of Inland Waterways. Summary of Literature and information review with recommendations. Report for IWAC. Available at: <http://ukeconet.org/wp-content/uploads/2009/02/Inland-Waterways-Review.pdf>

³³ Millennium Ecosystem Assessment Website <https://www.millenniumassessment.org/en/index.html>

³⁴ Everard, M. & Moggridge, H.L. (2012) Rediscovering the value of urban rivers. *Urban Ecosystems* (2012) 15: 293-314. <https://doi.org/10.1007/s11252-011-0174-7>

³⁵ IWAC (2010) *Surviving the cuts and securing the future. The funding and structure of the inland waterways in England and Wales*. September 2010. https://www.waterways.org.uk/pdf/iwac/surviving_the_cuts_and_securing_the_future

³⁶ Jacobs (2009) *Benefits of Inland Waterways* <http://www.waterways-forward.eu/wp-content/uploads/2012/06/The-Benefits-of-Inland-Waterways-Final-Report-July-2009-JACO.pdf>

Publications
<p>of Inland Waterways in 2011³⁷ was a comprehensive attempt to capture a wide range of values and examine how these would be affected under different scenarios. Taking an ecosystems services approach it looked at a much wider range of benefits than previously identified or evaluated.</p> <p>This report informed government thinking as BW was moved into the third sector. Jacobs identified public benefits as including recreation and health benefits; amenity (reflected in property value uplift); transport (time and carbon reductions); renewable energy (energy and carbon); water provision; and non-use values such as those relating to industrial and transport heritage. They highlighted cross-cutting benefits arising from complex interaction between several ecosystem services. These were Physical and Mental health from exercise and from greenspace, plus tourism benefits associated with branding of a place which attracts visitors.</p> <p>The detailed literature matrix³⁸ behind the two reports reviewed literature on benefits transfer, plus all relevant valuation studies (economic welfare and economic impact) to determine benefit transfer values in a consistent format. As part of this Jacobs evaluated sources for the robustness of their approaches to valuation. For those community, education and ‘non-use’ values, only anecdotal information existed.</p>

Publications
<p>Making more use of Waterside paths (2010)³⁹ case studies tapped into leisure and recreation access agendas as non-navigation values of waterways rose up the agenda; in part this built on 2004 good practice guidance WaterWays - Inland Waterways and Sustainable rural transport⁴⁰. Subsequent partnerships with Sustrans have led to upgrading of towpaths and significant growth in cycling use.</p>
<p>DEFRA (2011) Impact Assessment for moving inland waterways into a new charity in England and Wales⁴¹. This report did not add new data evidencing benefits but drew on the Jacobs report to highlight how inland waterways are a classic non-marketable ‘public good’. Nevertheless it gave a strong steer on how waterways should form part of ‘Big Society’ as a focus for community activity and responsibility⁴², with reduced public funding. Interestingly, one of only three references used in the impact assessment was the 20 year old Willis & Garrod’s 1991 study Valuing Open Access Recreation on Inland Waterways⁴³; this indicates a need for updated research into recreational use and value.</p>

³⁷ Jacobs (2011) Value of Inland Waterways. Final Report. Available at: http://issuu.com/waterwaysassoc/docs/value_of_the_inland_waterways_e_w_11_08?mode=window&viewMode=doublePage

³⁸ It has not been possible to obtain the detailed literature matrix, only summaries of this.

³⁹ IWAC (2010) Making More Use of Waterside Paths http://issuu.com/waterwaysassoc/docs/waterside_paths_10_11_-_main_report?mode=window&viewMode=doublePage

⁴⁰ British Waterways (2004) WaterWays - Inland Waterways and Sustainable rural transport http://www.britishwaterways.co.uk/media/documents/publications/Water_Ways_Sustainable_Rural_Transport.pdf

⁴¹ DEFRA (2011) Impact Assessment for moving inland waterways into a new charity in England and Wales https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/82261/NWC-IA-FINAL.pdf

⁴² Informed by Lloyd, S, Hudson, M, Bennett, M (for British Waterways), Setting a new course: British Waterways in the third sector (November 2009) <http://www.compasspartnership.co.uk/pdf/BWSNC.pdf>

⁴³ Willis, K and Garrod, G (1991) Valuing open access recreation on inland waterways *Regional Studies* <https://www.tandfonline.com/doi/abs/10.1080/00343409112331346687>

Publications

To attract private sector, government and third sector funding, Canal & River Trust has had to continue to demonstrate the value of investment and work done to date. It therefore commissioned the University of Northampton to produce a 2014 **Review of the Impact of Waterway Restoration**⁴⁴ which collated existing evidence of benefits for a final report **Water Adds Value**⁴⁵. This evaluation based on seven case study restorations was useful in that it gave all values in 2012 prices.

3.4 WATERWAYS FOR WELL-BEING – THE NEW CANAL & RIVER TRUST AGENDA

As the first funding period for Canal & River Trust as a charity approaches its end, securing government support and future funding is essential for the continued operation and maintenance of its waterways. At the same time, funding for the Environment Agency is being squeezed.

In 2018, Canal & River Trust rebranded itself as a ‘wellbeing’ charity with the strapline ‘Life is better by water’. As part of this they have commissioned an ambitious programme of research – for highest impact any upcoming IWA studies should attempt to tie into strands of this and/or complement research in areas where they do not yet have up-to-date evidence.

Alongside the rising interest in canal restoration and changing attitudes to inland waterways regeneration benefits, the field of **river and stream restoration** gained traction during the late 2000s worldwide. While much of this research is around ecological and water management improvements, many themes coincide with those associated with Inland Waterways. Sheffield University, for example, ran the multi-disciplinary Urban River Corridors & Sustainable Living Agendas (URSULA)⁴⁶ project examining how to derive benefits from integrated development along the Don. The River Restoration Centre⁴⁷ grew in profile, building an evidence base about the regeneration as well as ecological benefits of re-naturalising and de-culverting⁴⁸ streams and rivers in the UK and Europe. The ecosystem services approach has been well-used in this field as a means of capturing different values⁴⁹.

Publications

Canal & River Trust’s recent **Waterways and Wellbeing First Outcomes Report**⁵⁰ is a summary of the approach to a very comprehensive set of research seeking to build an evidence base which demonstrates the value of waterways to ‘wellbeing’. Core to this is assembling an evidence measurement and evaluation structure in collaboration with key partners. They are measuring and evaluating outcomes at national level through the Waterway Engagement Monitor, local level through detailed studies of trends in

⁴⁴ Hazenberg, R. & Bajwa-Patel, M. (2014) *The Impact of Waterway Restoration*. Available at https://www.waterways.org.uk/waterways/restoration/restoration_resources/pdfs/northampton_university_study

⁴⁵ Canal and River Trust & Inland Waterways Association (2014) *Water Adds Value* Summary report <https://canalrivertrust.org.uk/media/library/6568.pdf>

⁴⁶ University of Sheffield (2011) *Urban River Corridors and Sustainable Living Agendas*. Press Release. At <https://www.sheffield.ac.uk/doncatchment/work/projects/ursula>

⁴⁷ River Restoration Centre. (ND). Website at <https://www.therrc.co.uk/river-restoration>

⁴⁸ Wild, T, Bernet, J, Westling, E and Lerner, D (2011) Deculverting: reviewing the evidence on the ‘daylighting’ and restoration of culverted rivers. *Water & Environment Journal* Vol 25: 3 pp412-421. September 2011

⁴⁹ Everard, M, Moggridge, H (2012) Rediscovering the value of urban rivers *Urban Ecosystems*. Vol 15:2 pp293-394

⁵⁰ Canal & River Trust (2017) *Waterways and Wellbeing. Building the Evidence base: First Outcomes report*. September 2017. At <https://canalrivertrust.org.uk/refresh/media/thumbnaill/33802-canal-and-river-trust-outcomes-report-waterways-and-wellbeing-full-report.pdf>

Publications
<p>fourteen representative sections of waterway corridor nationwide, and at project level through evaluations of all externally funded/contracted projects promoted by Canal & River Trust. The Longitudinal Study Areas are balanced by identical studies of two ‘counterfactual’ study areas to use as ‘controls’. A series of desired outcomes and measurement indicators have been developed or proposed:</p> <ul style="list-style-type: none"> • Health, Wellbeing & Happiness (physical & mental health) • Engaged People & Cohesive Communities (wide opportunities, safety and engagement) • Learning & Enhancing Skills (education and lifelong learning) • Prosperous & Connected Places (economic growth, regeneration and development) • Green & Blue futures (sustainable transport, energy and water resourcing) • Cultural & Environmental Assets (Culture, heritage, biodiversity & stewardship)
<p>As part of Canal & River Trust’s research programme, further work has been commissioned or planned along five themes:</p> <ul style="list-style-type: none"> • Effect of waterways on anxiety • Waterways and community wellbeing • Waterways and urban cooling • Waterways and visitor economy

Publications
<ul style="list-style-type: none"> • Water resourcing and land drainage system <p>The First Outcomes Report indicates that work is being commissioned to measure return on investment of towpath improvements; understand factors which impact towpath use; apply wider research findings on ‘sense of place’ to waterways; measure the effect on property prices of water proximity; model urban cooling effects of inland waterways; update knowledge on drainage functions; and understand – with British Marine - the impact of the waterway-related visitor economy.</p> <p>Notable - and concerning - in the framework is the very low profile of boating and boaters and the effect of active water on benefits. However one useful angle to Canal & River Trust’s work is the intention to collate and capture data and outcomes generated by other organisations who use their waterways; an audit of all organisations having a contractual relationship with Canal & River Trust has been carried out to start this. This kind of work may start to address the fragmented nature of evidence.</p>
<p>Freight has reappeared on the Canal & River Trust agenda as a result of a 2017 Strategy for Waterborne Freight⁵¹ followed by ongoing European-funded feasibility studies⁵²</p> <p>Research into water management and climate change mitigation is ongoing, and Canal & River Trust have also sponsored a PhD examining canal living on London’s canals⁵³</p>

⁵¹ Canal & River Trust (2014) *A Proposed Strategy for Waterborne Freight*. <https://canalrivertrust.org.uk/media/original/6213-a-proposed-strategy-for-waterborne-freight.pdf?v=96c75f>

⁵² Inland Waterways Transport Solutions is an Interreg North Sea region research programme between CRT, University of Hull in the UK, and several European waterway authorities and academic institutions <https://northsearegion.eu/iwts20/about-iwts/>

⁵³ PhD advertisement at <https://www.qmul.ac.uk/geog/media/geography/docs/pgadmissions/ESRC-CASE-Staying-afloat-full-details.pdf>

4 HERITAGE

4.1 WHAT IS 'HERITAGE'? DEFINITIONS AND VALUES

Canals as industrial heritage is one of the most obvious visions of many canal groups and this has been the focus of much restoration and preservation effort. However, heritage can be interpreted very broadly – English Heritage (now Historic England) defines heritage value as “*the worth or importance attached by people to qualities of places, categorised as aesthetic, evidential, communal or historical value*”⁵⁴.” (p72) Kate Clark, deputy director of heritage policy and engagement for the Welsh government and former deputy director of policy and research for the Heritage Lottery Fund (now National Lottery Heritage Fund) starts a discussion of values by stating⁵⁵: “*Every time that we protect a site, allocate public funding, or interfere with someone’s ability to develop their own property, we are making a judgement that something is of value to a wider community.*” (p1)

Much writing differentiates between intrinsic value of heritage (its value for its own sake) and its instrumental value (how it is important for human benefit social, economic and environmental benefits). Heritage institutions themselves, however, can also have value⁵⁶.

The National Lottery Heritage Fund (NLHF) and its previous incarnation the Heritage Lottery Fund (HLF) –has an interest in demonstrating the importance of its work on behalf of lottery players. It has carried out an

annually updated ‘Values & Benefits of Heritage’ review of research affecting the UK heritage sector⁵⁷ (though this has not been updated since 2016, possibly due to changes in structure and staff). They categorise heritage ‘places’ as:

- Museums and galleries – including museums, art galleries, libraries and archives
- Historic environment – including the built environment, heritage sites, railways, visitor centres and places of worship
- Natural environment – including parks, gardens, wildlife attractions, coasts, canals and green space

Being both built and natural in various ways, inland waterways can be included in the latter two categories; given how canals in particular have shaped cities and landscapes they also fall within the new National Planning Policy Framework (NPPF) definition of heritage which includes ‘*All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.*’⁵⁸. They can also be considered ‘historic landscapes’⁵⁹ Waterways-related museums, archives and historic boats preserve the cultural heritage of the inland waterways.

⁵⁴ English Heritage (2008) *Conservation Principles for the sustainable management of the historic environment*. Available at: <https://historicengland.org.uk/images-books/publications/conservation-principles-sustainable-management-historic-environment/>

⁵⁵ Clark, K (2010) Values in Cultural Resource Management. Draft of paper published in Smith, George S, Messenger, P. and Soderland, H. (2010) *Heritage Values in Contemporary Society*, . Walnut Creek CA: Left Coast Press

⁵⁶ Hewison, R and Holden, J (2004) Challenge and Change: HLF and Cultural Value. A report to the National Lottery Heritage Fund https://www.hlf.org.uk/sites/default/files/media/research/challengeandchange_culturalvalue.pdf

⁵⁷ National Lottery Heritage Fund Strategy and Business Development Department (2016) *Values and benefits of heritage: A research review*. April 2016. Available at <https://www.hlf.org.uk/values-and-benefits-heritage>

⁵⁸ Department for Communities and Local Government (2018) *NPPF Annex 2: Glossary*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/740441/National_Planning_Policy_Framework_web_accessible_version.pdf

⁵⁹ Dümcke, C and Gnedovsky, M (2013) The Social and Economic Value of Cultural Heritage: literature review. European Expert Network on Culture (EENC) Paper, July 2013

An area critical to the National Lottery Heritage Fund’s work is community and cultural heritage, including capturing traditions and culture of the past, or preserving community values associated with a location, custom or activity. Cultural heritage is sometimes seen as an aspect of the cultural and creative industries; being related to traditions, stories and customs it is also relevant to waterways and their industrial roots. A European review of the benefits of cultural heritage⁶⁰ shows heritage institutions and projects show potential for skills development⁶¹, social and territorial cohesion, and the generation of direct, indirect and induced job creation⁶²

Since 2002, English Heritage and Historic England have produced annual ‘Heritage Counts’ audits of the nation’s heritage on behalf of the Historic Environment Forum (HEF) which brings together chief executives and policy officers from public and non-government heritage bodies to co-ordinate initiatives and strengthen advocacy work and communications. The themes of each, supported by commissioned research, reflect the variety of values associated with heritage and emerging agendas. It is therefore worth summarising the series⁶³ below:

Heritage Counts Report Topics

2009: Sense of Place⁶⁴. Research carried out by CURDS identified that – other socio-economic factors being equal - interest or participation in the local historic environment is positively related to people’s sense of place and can help build and strengthen community relationships. There is a major opportunity to build on this and other evidence about the attachment people feel to their local communities and historic roots

2010: Economic Impact⁶⁵. Two research projects were commissioned for the report, one on the economic impact of regeneration and the other on the economic impact of heritage attractions. They identified a high level of local job-creation from heritage attractions and increased economic resilience from investing in the historic environment places through attracting visitors, shoppers and businesses all attracted by the historic environment. £1 of investment in the historic environment was calculated to generate £1.6 of additional economic activity over a ten year period.

⁶⁰ Dümcke, C and Gnedovsky, M (2013) *The Social and Economic Value of Cultural Heritage: literature review*. European Expert Network on Culture (EENC) Paper, July 2013

⁶¹ ECOTEC (2008) *Economic Impact of the Historic Environment in Scotland*, Birmingham. <http://www.heacs.org.uk/documents/2009/ecotec.pdf> and

Ecorys (2012): *The Economic Impact of Maintaining and Repairing Historic Buildings in England*, London. Available at http://www.hlf.org.uk/aboutus/howwework/Documents/Historic_Buildings_Study_Ecorys_2012.pdf

⁶² Countryside and Community Research Unit (CCRU) and ADAS (2007): *A study of the social and economic impacts and benefits of traditional farm building and drystone wall repairs in the Yorkshire Dales National Park*. London: English Heritage <http://www.english-heritage.org.uk/content/publications/publicationsNew/study-social-economicimpact-benefits-trad-farm-building-drystone-repairs-yorks-dales/YorkshireDale-Study.pdf>

⁶³ All Heritage Counts reports along with associated background research documents and regional reports can be accessed at: <https://historicengland.org.uk/research/heritage-counts/>

⁶⁴ Heritage Counts 2009 summary and background research reports available at: <https://historicengland.org.uk/research/heritage-counts/2009-sense-of-place/>

⁶⁵ Heritage Counts 2010 summary and background research reports available at: <https://historicengland.org.uk/research/heritage-counts/2010-economic-impact/>

Heritage Counts Report Topics
<p>2011: Big Society⁶⁶. A collection of primary research and case studies showed how the historic environment fosters a vision for an area and helps shape communities, provides the context or means by which local people can take an active role in their local area - turning a place into a community. Involvement has potential to improve people's confidence and skills. The research highlighted the importance of non-state organisations in maintaining and promoting the historic environment.</p>
<p>2008 Climate Change and 2012: Resilience⁶⁷. These two years explored how the heritage sector can adapt to changes</p>
<p>2013: Skills⁶⁸. While much of this report focused on how to address skills shortages, it also highlighted the role of heritage assets in developing and preserving traditional skills.</p>
<p>2014 - The Value and Impact of Heritage. Focused on ways of measuring value and impact of heritage on many factors including growth, the economy, our wellbeing and sense of place.</p>
<p>2015 Caring for the Local Historic Environment built on this to advise owners how they can best manage their assets.</p>

Heritage Counts Report Topics
<p>2016 Heritage and Place Branding. Research underpinning this report identified the value of heritage as a source of identity; a source of character and distinctiveness; and as an important driver of competitiveness and place.</p>
<p>2017 50 Years of Conservation Areas. Focused on the benefits (and challenges) of conservation areas.</p>
<p>2018 Heritage in Commercial Use. This latest report highlights case studies of how historic buildings can be successfully reused for commercial purposes, particularly for creative industries.</p>

The Heritage Lottery Fund 'Benefits of Heritage' 2016 review categorises the social effects stemming from engagement with heritage as for both individuals and communities. They provide evidence from numerous MORI surveys⁶⁹ to show that the majority of people in the UK believe that heritage (both built and natural) is important to preserve and is 'good' in some way, contributing to how people feel about the places they live, and their quality of life. Economically, heritage tourism contributed £20.2bn to the UK economy in 2016, just over 1% of GDP and of jobs⁷⁰. Heritage is also core to 'place branding', or creation of identity for destinations⁷¹.

⁶⁶ Heritage Counts 2011 summary and background research reports available at: <https://historicengland.org.uk/research/heritage-counts/2011-big-society/>

⁶⁷ Heritage Counts 2008 and 2012 summary and background research reports available at <https://historicengland.org.uk/research/heritage-counts/>

⁶⁸ Heritage Counts 2013 summary and background research reports available at: at: <https://historicengland.org.uk/research/heritage-counts/2013-skills-in-the-historic-environment/> - including a case study on historic ships

⁶⁹ MORI for English Heritage, Public Attitudes Towards Tall Buildings in Cities (2001). Accessed from the IPSOS-MORI website, 6 March 2015, <https://www.ipsosmori.com/researchpublications/researcharchive/1283/Tall-Buildings-Public-Have-Their-Say-For-FirstTime.aspx>. 7 Ipsos-RSL (2003). Cited in HLF (2016) Values and benefits of heritage: a research review by HLF Strategy & Business Development Department. April 2016. Available <https://www.hlf.org.uk/values-and-benefits-heritage>

⁷⁰ Oxford Economics (2016) *The impact of heritage tourism for the UK economy*. Produced for HLF. Accessed at <https://www.hlf.org.uk/economic-impact-uk-heritage-tourism-economy>

⁷¹ Heritage Counts 2016 summary and background research reports available at: <https://historicengland.org.uk/research/heritage-counts/2016-heritage-and-place-branding/>

Many of the studies reviewed by the HLF on the benefits to individuals of heritage relate to museums and galleries, with benefits including positive emotions, life satisfaction, sense of purpose and identity, social capital and relationships with others⁷²; other studies into the wider historic environment undertaken by English Heritage and DCMS^{73,74} supported these findings.

Shared engagement in projects, and volunteering activity in particular, has also been shown through a 3 year HLF research project to support skills development, self-worth and general well-being. Benefits were most noticeable among younger volunteers (for whom volunteering can be a step into the labour market) and socioeconomically/ educationally underrepresented groups.

Comparison of HLF and Oxfam volunteers showed that the benefits are not specifically heritage-related, but the large number of volunteers within the heritage sector (over 700,000 individuals undertook heritage-related voluntary work in 2015/6) make heritage-related volunteering a significant activity nationwide.^{75 76} Volunteering provides skills; with the renewed focus on government-funded apprenticeships all the main organisations are recruiting apprentices in areas as diverse as geospatial surveying, building conservation or heritage venues

operations. Historic England are commissioning research into skills gaps and are active in developing new apprenticeship routes.⁷⁷ Interestingly, these apprenticeships are being developed to meet requirements in the 2016 Culture White Paper⁷⁸

In his editorial introducing a special journal issue on heritage and regeneration, John Pendlebury identifies that one of the most frequent overt uses of heritage that has developed over recent decades is its use as a catalyst in urban regeneration⁷⁹. The distinctive built heritage of many inland waterways and the reuse of former industrial buildings with social as well as architectural significance, has been core to many restoration and regeneration proposals.

The National Lottery Heritage Fund, as the main source of waterway restoration funding over the past two decade, has, as a priority, required that communities benefit from heritage improvements. However, it is harder to measure how communities benefit from heritage than individuals⁸⁰; while social capital is often an aim of projects, causal relationships showing social cohesion arising from heritage projects have proved hard to evidence and much research discusses the challenges in ‘measuring’ the social value of

⁷² Aked, J, Marks, N, Cordon, C, and Thompson, S. (2008) *Five Ways to Wellbeing*. New Economics Foundation and Wood, C. (2007) *Museums of the Mind: Mental Health, Emotional Well-being and Museums*. Culture Unlimited. Bude: Culture Unlimited.

⁷³ Heritage Counts 2017: Heritage and Society. Summary report available at <https://historicengland.org.uk/research/heritage-counts/2017-conservation-areas/heritage-and-society/>

⁷⁴ Fujiwara, D. (2014) An Assessment of the Impact of Heritage on Subjective Wellbeing: Interim econometric results

⁷⁵ Dept for Digital, Culture, Media & Sport (2016) *Taking Part Survey: England Adult Report, 2015/16 Analysis tables*. Accessed at <https://public.tableau.com/profile/taking.part.survey#!/vizhome/WhoParticipates-HeritageMuseumsandGalleriesLibrariesArchives/Responsesbreakdowns> . Population calculated using ONS 2015 adult population estimates. <https://beta.ons.gov.uk/filter-outputs/15686f11-321e-499d-a7c6-1292a45831a4>

⁷⁶ BOP Consulting for HLF (2011), Assessment of the social impact of volunteering in HLF-funded projects: Year 3.

⁷⁷ Historic England (2018) Heritage Apprenticeships. <https://historicengland.org.uk/services-skills/training-skills/work-based-training/heritage-apprenticeships/>

⁷⁸ Department for Culture, Media & Sport (2016). Culture White Paper https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/510798/DCMS_The_Culture_White_Paper_3.pdf

⁷⁹ Pendlebury, J & Porfyriou, H. (2017) Heritage, urban regeneration and place-making, *Journal of Urban Design*, 22:4, 429-432, <https://www.tandfonline.com/doi/pdf/10.1080/13574809.2017.1326712?needAccess=true>

⁸⁰ BOP for Museums, Libraries and Archives (2005) *New Directions in Social Policy: developing the evidence base for museums, libraries and archives in England*. (London: MLA).

heritage⁸¹. The – largely qualitative - evidence does however suggest that projects targeted at improving the historic and natural environments lead to a stronger sense of place and local pride among local people. Research carried out for Historic England in 2011 used case studies to demonstrate how the historic environment can foster a vision for an area and help shape communities, providing the context or means by which local people can take an active role in their local area - turning a place into a community.

Interestingly, heritage-related volunteering activities tend to create ‘interest communities’ through shared interests which are not geographically related⁸². Canal restoration or railway societies are good examples here, even though activities can be based in one area. Historic England have also identified that community-based interest groups often generate rich historical research which could be useful to inform wider strategy and research programmes in the heritage sector if they were more widely shared⁸³

Figure 2, taken from the Heritage Counts report addressing how heritage can be valued, provides a useful summary of the areas discussed.

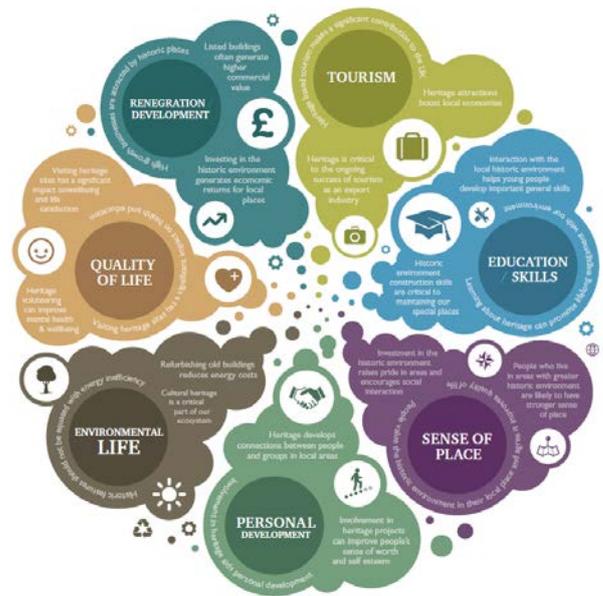


Figure 2: The Value & Impact of Heritage and the Historic Environment. Taken from <https://content.historicengland.org.uk/content/heritage-counts/pub/2190644/value-impact-chapter.pdf>

4.2 MEASURING THE VALUE OF HERITAGE

Valuing heritage shows tension between utilitarian, economic ‘*what does it do and what is it worth*’ approaches, and cultural, humanistic ‘*what does it mean to who?*’ approaches, though a 2013 literature review of the social and economic value of cultural heritage across Europe⁸⁴ shows these schools are starting to come together and the social impacts of heritage are starting to be better studied.

⁸¹ For example: Siân Jones (2017) Wrestling with the Social Value of Heritage: Problems, Dilemmas and Opportunities, *Journal of Community Archaeology & Heritage*, 4:1, 21-37, DOI: 10.1080/20518196.2016.1193996; Clark, Kate (2010) *Values in Cultural Resource Management*. Draft of paper published in Smith, George S, Messenger, P. and Soderland, H. (2010) *Heritage Values in Contemporary Society*, . Walnut Creek CA: Left Coast Pres

⁸² BOP Consulting for HLF (2011), Assessment of the social impact of volunteering in HLF-funded projects: Year 3.

⁸³ Hedge, R, & Nash, A, (2016) *Assessing the Value of Community-generated Historic Environment Research*. Commissioned for Historic England. Accessed at <http://research.historicengland.org.uk/Report.aspx?i=15842&ru=%2fResults.aspx%3fp%3d1%26n%3d10%26t%3dvalue%26ns%3d1>

⁸⁴ Dümcke, C and Gnedovsky, M (2013) *The Social and Economic Value of Cultural Heritage: literature review*. European Expert Network on Culture (EENC) Paper, July 2013

Historic England produce an indicator dataset each year⁸⁵ presented according to the five strategic priorities of Heritage 2020:

- *Discovery, identification & understanding* – Provides indicators on the scale and scope of the historic environment and assets;
- *Constructive conservation and sustainable management* – Includes indicators on the overall condition of the historic environment with indicators from the Heritage at Risk programme and data on managing the historic environment, including planning statistics;
- *Public engagement* – Presents data on participation in heritage, heritage membership and volunteering in the sector;
- *Capacity building* – Includes indicators of heritage investments from private, public and voluntary sectors as well as the skills and capacity of the sector;
- *Helping things to happen* – Provides data from Building Preservation Trusts and the local authority Heritage Champions initiative.

Academics, funders and decision-making bodies have produced a plethora of guidance on how to measure the value of heritage⁸⁶ - the 2014 Heritage Counts report focuses on

approaches, including some waterways case studies such as volunteer lockkeepers and Canal & River Trust's Skills for the Future project.

4.2.1 MONETARY VALUE

Heritage assets are 'non-market' goods, meaning they are not traded. However, money remains a well-understood unit of measurement so is frequently used as a proxy for intangible things. Environmental economic approaches to capturing the value of heritage assets or activities include '**willingness to pay**' or '**stated preference**'. National Lottery Heritage Fund's review, drawing on case studies of specific sites⁸⁷ shows that even where people do not use a heritage facility, they express a willingness to pay to maintain it, and what they are willing to pay often exceeds the cost of the service itself.

Housing prices also indicate the value people place on built and natural heritage; 'historic' homes fetch higher prices⁸⁸ and the 2011 National Ecosystem Assessment demonstrated that this extended to homes in the vicinity of certain historic and environmental features⁸⁹. These features include waterways as shown in studies over several decades (though there is no reliable

⁸⁵ Historic England (2017) *Heritage Counts 2017: Heritage Indicators*. Summary reports and links to data files accessed at <https://historicengland.org.uk/research/heritage-counts/2017-conservation-areas/indicator-data/>

⁸⁶ Heritage Counts 2014 summary and background research reports available at: <https://historicengland.org.uk/research/heritage-counts/2014-the-value-and-impact-of-heritage/> - including a case study on volunteer lock keepers <https://content.historicengland.org.uk/content/heritage-counts/pub/2190644/case-study-volunteer-lock-keepers-crt.pdf> and CRT's Skills for the Future project <https://content.historicengland.org.uk/content/heritage-counts/pub/2190644/case-study-skills-for-the-future-crt.pdf>

⁸⁷ Studies used by HLF included: Economics for the Environment Consultancy for Resource (eftec), *Economic Valuation of Heritage* (English Heritage, 2014); eftec, *Valuing Our Recorded Heritage*. (1999); Spectrum Consulting for the British Library, *Measuring Our Value*. (2004); Jura Consultants for Bolton Metropolitan Borough Council and Museums, Libraries and Archives North West, Bolton's Museum, *Library and Archive Services: an Economic Valuation*. (2005); Watson, R. and Albon, S., 2011. *UK National Ecosystem Assessment: Understanding nature's value to society. Synthesis of the Key Findings*; eftec, 2005. *Valuation of the Historic Environment: The scope for using results of valuation studies in the appraisal and assessment of heritage-related projects and programmes*. Report by the Economics for the Environment Consultancy for National Lottery Heritage Fund, English Heritage, Department of Culture, Media and Sport and Department of Transport; eftec, 2006. *Valuing Our Natural Environment*. Report by the Economics for the Environment Consultancy Ltd for Department for Environment, Food and Rural Affairs. London: Defra.

⁸⁸ Hometrack, Influence on national house prices. Cited in English Heritage, *Heritage Counts 2003: The State of the Historic Environment*. (London: English Heritage, 2003).

⁸⁹ Watson, R. and Albon, S., (2011) *UK National Ecosystem Assessment: Understanding nature's value to society. Synthesis of the Key Findings in HLF, 2016*

‘formula’ for the addition of water due to other factors involved) ^{90,91}

The British Property Federation in association with Historic England, the Royal Institution of Chartered Surveyors, and Deloitte Real Estate, has produced guidance⁹² for those involved in heritage-related development to highlight how heritage can add value when used well. This drew on research and case studies to demonstrate contribution^{93 94} including earlier design guidance by BW and English Heritage promoting quality waterside development⁹⁵. Critical to success of regeneration, conclude the BPF, is “*finding a viable economic use that can support initial refurbishment, provide the owner or developer with a reasonable return on their investment and which generates sufficient income to ensure the long-term maintenance of the building fabric and any associated public open spaces*”.

Charities have long used **volunteer time and numbers** as a measure of value; for example the HLF assigns monetary value to each hour of volunteer time, often distinguishing between skilled professional and lesser-skilled labour rates. An ongoing DCMS ‘Taking Part’ survey⁹⁶ shows that in 2016/17, 32.9% of UK adults had done voluntary work at least once in the previous 12 months, with 5% volunteering in the heritage sector. While this may not cover all aspects of

‘heritage’ above it still represents significant numbers of people. The Canal & River Trust alone registered over half a million volunteer hours in its 2016/17 accounts⁹⁷

By contrast, in 2016/17, 86.7% of adults had donated money to charity in the previous 12 months, with heritage accounting for 14%. **Monetary donations** are a way of measuring the perceived value of an asset or an organisation’s activity.

4.2.2 SOCIAL VALUE

Professor Sian Jones, a leading writer on the social values of heritage, highlights the ‘fluidity’ of social value. Traditionally, she notes, conservation and management of the historic environment has been based on archaeological, architectural and scientific expertise. However social value demands new forms of expertise and methodologies that directly engage with contemporary communities using qualitative methods and techniques, for instance focus groups, qualitative interviews and participant observation, to reveal the meanings and attachments that underpin aspects of social value.⁹⁸ For example, BOP Consulting carried out analysis for HLF over 3 years on the social

⁹⁰ Garrod, G and K. Willis, K (1994) An Economic Estimate of the Effect of a Waterside Location on Property Value. *Environmental and Resource Economics*, 4, p. 209-217. 27)

⁹¹ Ecotec (2007) Waterways in Wales: Economic Costs and Benefits of the Welsh Canal Network Report to British Waterways

⁹² British Property Federation (2017) Heritage Works. A Toolkit of Best Practice in Heritage Regeneration. April 2017. <https://www.bpf.org.uk/sites/default/files/resources/Heritage-Works-14July2017-for-web.pdf>

⁹³ English Heritage and Colliers International (2011) , Encouraging Investment in Heritage at Risk, An assessment carried out for English Heritage of industrial buildings at risk. October 2011

⁹⁴ National Lottery Heritage Fund, (2013) ‘New Ideas Need Old Buildings’, Research and case studies covering the contribution of historic buildings and areas to economic growth.

⁹⁵ British Waterways and English Heritage (2009) England’s Historic Waterways: A working heritage Promoting high quality waterside development <https://canalrivertrust.org.uk/media/original/24169-promoting-high-quality-waterside-design.pdf>

⁹⁶ Dept for Digital, Culture, Media & Sport (2017) *Taking Part Survey: England Adult Report, 2016/17*. Accessed at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/664933/Adult_s tats_release_4.pdf

⁹⁷ Canal & River Trust (2017) *Annual Report 2016/17* Accessed at: <https://canalrivertrust.org.uk/media/original/33176-annual-report-2016-17.pdf>

⁹⁸ Jones, S. (2016) Wrestling with the Social Value of Heritage: Problems, Dilemmas and Opportunities, *Journal of Community Archaeology & Heritage*, 4:1, 21-37, DOI: 10.1080/20518196.2016.1193996

impact of heritage⁹⁹ through case study evaluation, project team interviews and cross-referencing with previous studies building toolkits for social impact¹⁰⁰

There is a growing focus on attempting to capture social values and impacts with an abundance of toolkits, including several developed by or used by BW/Canal & River Trust over the years. Approaches are largely qualitative and focused on people's perceived wellbeing.

Some large scale data does exist and is summarised well in the Heritage Indicators described above¹⁰¹; this does not capture nuances but does evidence participation. The DCMS Taking Part Survey, for example, asks participants to self-assess their happiness. This is then cross-referenced with other questions about engagement with heritage (including volunteering) to draw conclusions. Volunteer time can also be used to measure the importance put on heritage by communities and individuals. Other indicators are the number of educational visits, and the proportion of students studying history at GCSE, A Level or higher education.

4.3 KEY PLAYERS AND INTERESTED STAKEHOLDERS

The **National Lottery Heritage Fund** has long been the main funder and a leading advocate for the value of heritage, having

funded over 42,000 projects to the value of £7.7bn during its lifetime¹⁰². 39% of this was allocated to areas of high deprivation¹⁰³ in line with their objectives of widening access and social improvement. They also have an active research department led until recently by a former British Waterways economist¹⁰⁴. It can be argued that HLF's focus on forcing recipients to demonstrate the socio-economic benefits of their projects has driven much of the evidence-collection over recent years.¹⁰⁵ The number of HLF-funded waterways projects means a large evidence base is being developed.

Historic England (with equivalents Historic Scotland and CADW) is the UK government's statutory adviser and a statutory consultee on all aspects of the historic environment and its heritage assets. It has limited grant capacity but is very influential in generating an evidence base to support the continued funding of heritage in all forms – the indicator sets above and the Heritage 2020 initiative are examples.

English Heritage is, like Canal & River Trust, a 'new' charity albeit with an existing name, having taken ownership of the Heritage Collection in 2015 when Historic England took on statutory duties. It is therefore likely to be considering the same issues as Canal & River Trust. With a portfolio of costly heritage structures to maintain it needs to position itself for financial sustainability alongside its

⁹⁹ BoP Consulting (ND) *The Social Benefits of Involvement in Heritage projects*. Reports available from 2007 -2009 at <https://www.hlf.org.uk/social-benefits-involvement-heritage-projects>

¹⁰⁰ BoP (2005) *New Directions in Social Policy: Developing the Evidence Base for Museums, Libraries and Archives*, report for the Museums, Libraries and Archives Council; BOP (2009) *Capturing the Impact of Libraries*, report for DCMS Public Library Service Modernisation Review; BOP (2006b) 'Generic Social Outcomes (GSOs) Framework', for the Museums, Libraries and Archives Council at http://mlac.gov.uk/policy/Communities/gso_howto ; and BOP (2007) *Cultural Impacts Toolkit*, report for Manchester City Council.

¹⁰¹ Historic England (2017) *Heritage Counts 2017: Heritage Indicators*. Summary reports and links to data files accessed at <https://historicengland.org.uk/research/heritage-counts/2017-conservation-areas/indicator-data/>

¹⁰² National Lottery Heritage Fund (ND) 'About Us' <https://www.hlf.org.uk/about-us>

¹⁰³ Historic England (2017) *Heritage Counts 2017: Heritage Indicators*. Summary reports and links to data files accessed at <https://historicengland.org.uk/research/heritage-counts/2017-conservation-areas/indicator-data/>

¹⁰⁴ Gareth Maer was employed by BW's Economic Development Unit until his move to the HLF in 2004; he was involved in much of the early HLF bidding and assessment work. He is now freelance and the co-founder of social enterprise Raybel Charters which is re-introducing sail freight to the Thames Estuary as part of a wider, international sail cargo movement

¹⁰⁵ Schiessel, N (2004) *SIA and canal restoration: and analysis of developments in socio-economic impact assessment of canal projects*. MSc thesis submitted to Oxford Brookes University,

other priorities of inspiration, conservation and involvement¹⁰⁶

The **National Trust**, again as a large heritage owner and manager (as well as a waterway owner), has recently published a research strategy¹⁰⁷; much of their interest in this appears to focus on conservation and storytelling but they have no publicly available research repository at present.

The Heritage Alliance and Heritage 2020. IWA is a member of this initiative to strengthen partnerships and collaborative working across the historic environment sector, though is not on the working groups which are currently carrying out research to build an evidence base¹⁰⁸. A new strategy to 2025 is being launched early in 2019 for consultation; IWA should be involved in this. The working groups are: Helping things to happen; Public engagement; Capacity building; Constructive conservation and sustainable management; and Discovery, identification and understanding

The **Canal & River Trust**, despite its repositioning as a wellbeing charity, has the fundamental purpose of protecting the canal heritage infrastructure under its remit. It has an established Heritage Advisory Group (though this is changing format with a recent reorganisation) and commissions research such as the current wellbeing research¹⁰⁹. British Waterways Scotland remains nationalised. Other waterway authorities' priorities vary, from the predominantly water and flooding-focused **Environment Agency** to tourism on the **Broads** and the local leisure focus on the **Basingstoke**.

The UK Government's **Department for Digital, Culture Media & Sport (DCMS)** is responsible for heritage in England, including funding for England-only bodies such as Historic England. It also has a role in promoting and supporting the heritage sector across the UK and in promoting it abroad. It is responsible for a number of policies and programmes which benefit the sector across the whole of the UK. These include tax reliefs and incentives, funding from the UK-wide sale of National Lottery tickets, the UK City of Culture programme, the GREAT campaign and the promotion of UK cultural exports. The UK government is also responsible for the National Lottery Heritage Fund, which distributes National Lottery funding to the heritage sector across the whole of the UK, and VisitBritain which promotes the UK as a tourist destination. In Scotland, Wales and Northern Ireland, other aspects of heritage policy and support for the heritage sector are the responsibility of the Scottish Government, the Welsh Government and the Northern Ireland Executive respectively. They also work closely with the UK government on international issues relating to heritage and other matters of mutual interest.¹¹⁰

However, Canal & River Trust is part-funded by the **Department for Environment Food & Rural Affairs (Defra)**, responsible for safeguarding the natural environment, farming industry, and rural economy. Defra also covers the Environment Agency, Broads Authority, national parks, Natural England and most water services regulation. There is therefore inevitable tension in priorities.

¹⁰⁶ English Heritage. (ND) *Our Priorities* <http://www.english-heritage.org.uk/about-us/our-priorities/>

¹⁰⁷ *National Trust Research Strategy 2017-2021*. Available at <https://www.nationaltrust.org.uk/documents/national-trust-research-strategy.pdf>

¹⁰⁸ Action Plans for all the working groups can be found here <http://www.heritage2020.net/working-groups/>

¹⁰⁹ Canal & River Trust (2017) *Waterways and Wellbeing. Building the Evidence base: First Outcomes report*. September 2017. Available at <https://canalrivertrust.org.uk/refresh/media/thumbnail/33802-canal-and-river-trust-outcomes-report-waterways-and-wellbeing-full-report.pdf>

¹¹⁰ Outline taken from the 2017 *DCMS heritage statement*, available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/664657/Heritage_Statement_2017_final_-_web_version_.pdf

With diminishing local authority and central government funding, private sector investment in heritage is being encouraged by demonstrating how it adds value to assets (for example through the Heritage Counts reports). Local organisations, such as **Business Improvement Districts (BIDs)**, are increasingly engaged in shaping the image and identity of their local communities. Recent examples of BIDs focusing on heritage are worth studying¹¹¹ for what they can tell us about how value has been highlighted.

4.4 WHAT DOES THIS MEAN FOR INLAND WATERWAYS?

Based on the above review, ‘heritage’ in its broadest sense (encompassing built, natural, cultural heritage) can be linked to the following benefits.

- Wellbeing and mental health, through involvement with education, skills development and volunteering
- Community cohesion and ‘sense of place’ linked to association with heritage buildings, landscapes or cultural heritage traditions and memories
- Increased property values linked to desirability of quality heritage environments
- Healthy business activity, including jobs and skills

The focus of heritage research tends to be in demonstrating its contribution to the benefits listed above, through reports on individual case studies. Heritage for its own sake has little prominence. Within the new Canal & River Trust Outcome Measurement Framework ‘cultural and heritage’ objectives are a subset of ‘Cultural and Environmental Assets’ related to values added to communities and

economies, by bringing structures back into use or improvement.

For inland waterways, while statutory protection exists for many structures, maintenance funding constraints mean many structures remain on the Heritage at Risk Register. Under the direction of the recently-retired Nigel Crowe who led partnerships to bring structures back into use, this number has reduced to 22.¹¹² Canal & River Trust has also partnered several skills training programmes such as HLF’s Skills for the Future, apprenticeships, and courses run with Birmingham City University.

Given the current government policy focus on ‘wellbeing’ (and the move of Canal & River Trust to being a wellbeing charity), a theme in heritage-related conversations is the concern that heritage may be overlooked or sidelined. There is a need to frame heritage in the current policy ‘language’ in the short term by identifying how heritage can contribute to other values, without losing sight of other aspects of its value to society. Active collaboration with other heritage bodies – for example through the Heritage 2020 initiative – would help the ‘voice’ of heritage be heard in policymaking.

¹¹¹ For example, Mansfield BID <http://www.mansfield.gov.uk/article/7798/Mansfield-wins-bid-for-National-Lottery-funding>

¹¹² Canal and River Trust 2016/17 Heritage Report. <https://canalrivertrust.org.uk/refresh/media/thumbnail/34261-heritage-report-2017.pdf>

5 GREENSPACE & GREEN-BLUE INFRASTRUCTURE

5.1 WHAT IS 'GREEN INFRASTRUCTURE'? DEFINITIONS AND VALUES

'Greenspace' is a term that can be defined in many ways¹¹³ but generally includes urban vegetated or natural areas. The term is often used interchangeably with 'green infrastructure' comprising natural or semi-natural networks of multifunctional green or blue space. The 'network' aspect makes green *infrastructure* more than simply 'green space'; however, both include parks, open spaces, playing fields, woodlands, street trees, allotments and private gardens, as well as streams, canals and other water bodies. Green infrastructure networks can also include features such as green roofs and walls¹¹⁴. Inland waterways are green-blue spaces in their own right but also form links in networks.

While all green infrastructure definitions highlight this idea of networks, most academic literature highlights in some way the capability of these to maintain and enhance ecosystem services, as summarised by the UK National Ecosystem Assessment¹¹⁵. The emphasis in planning literature is on the potential for these to deliver environmental and quality of life benefits for local communities¹¹⁶

Ecosystem Services is an important concept that has gained traction in policymaking since the early part of this century. Ecosystem services are the processes by which nature benefits humans and allows human life to continue. While there is much dispute over

fine definitions, the UK National Ecosystem Assessment (NEA) - the first analysis of the UK's natural environment in terms of the benefits it provides to society and continuing economic prosperity¹¹⁷- categorised four types of service:

- **Supporting services:** are necessary for the production of all other ecosystem services; they include soil formation, photosynthesis, primary production, nutrient cycling and water cycling.
- **Provisioning services:** are products obtained from ecosystems; they include food, fibre, fuel, genetic resources, medicines, transport and fresh water.
- **Regulating services:** are obtained from the regulation of ecosystem processes. They include including regulation of air, water and soil quality, climate regulation, erosion regulation, , disease and pest regulation, pollination, natural hazard regulation;
- **Cultural services:** are the non-material benefits people get from ecosystems. They include spiritual enrichment, cognitive development, reflection, recreation and aesthetic experiences

These categories were first defined by a wider, global, Millennium Ecosystem Assessment (MEA) in 2005. Since the MEA the 'ecosystems approach' has been more widely discussed - this framework integrates the management of land, water and living resources and aims to reach a balance between three objectives: conservation of biodiversity; its sustainable use; and equitable sharing of benefits arising from the utilisation of natural

¹¹³Taylor, L & Hochuli, D (2017) Defining greenspace: Multiple uses across multiple disciplines. *Landscape and Urban Planning*, Volume 158, February 2017, Pages 25-38

¹¹⁴ Ministry of Housing, Communities & Local Government (2016) *Guidance: Natural Environment*. Accessed at <https://www.gov.uk/guidance/natural-environment#para027>

¹¹⁵ UK National Ecosystem Assessment accessed at: <http://uknea.unep-wcmc.org/EcosystemAssessmentConcepts/EcosystemServices/tabid/103/Default.aspx>

¹¹⁶ Gov.uk. (2012). *National Planning Policy Framework* - Publications - GOV.UK. Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

¹¹⁷ UK National Ecosystem Assessment accessed at: <http://uknea.unep-wcmc.org/EcosystemAssessmentConcepts/EcosystemServices/tabid/103/Default.aspx>

resources. It is the primary implementation framework of the Convention on Biological Diversity (CBD) and recognises that humans and cultural diversity are an integral element of most ecosystems.¹¹⁸ In 2013, Defra published guidance for those using this approach in developing policy and decisions, summarising the approach as:¹¹⁹ “*An ecosystems approach provides a framework for looking at whole ecosystems in decision making, and for valuing the ecosystem services they provide, to ensure that society can maintain a healthy and resilient natural environment now and for future generations. [It] is a way of looking at the natural environment throughout your decision making process that helps you to think about the way that the natural environment works as a system. In doing so you will also be thinking about the spatial scale of your interactions with the natural environment, the range of constraints and limits at play and the people involved in supplying and receiving ecosystem services and benefits.*” They have produced simple guidance on ‘What Nature can do for You’ to help decision-makers with this approach¹²⁰.

While water bodies and waterway corridors deliver many supporting and provisioning services, the cultural and regulating services provided by nature tend to receive most attention. For inland waterways, the cultural and ‘leisure’ services are obvious but the other benefits delivered by water bodies are worth reviewing. Jacobs used the Ecosystem Services

framework in their comprehensive 2010 review on the Benefits of Inland Waterways¹²¹ Under ‘provisioning’ services they included benefits such as transport, water provision, but also creation of businesses, volunteering, and property premiums for land adjacent to canals. Cultural services included visual amenity, volunteering again, education, recreation and most non-use values.

Specifically relating to the natural regulating services provided by inland waterways, they identified drainage, pollution dilution, flood alleviation, water quality and carbon savings through renewable energy and transport. Glasgow’s ‘smart canal’ – the North Glasgow Integrated Water Management System¹²² – is an example of how the canals can be used to unlock development opportunities; sensor technology will divert floodwater via canals and a network of sustainable urban drainage systems from local areas, preventing flooding in 110 hectares of land which can thus be developed in the city.

The 2016 HLF review¹²³ of benefits of the natural environment focuses on access to quality green space, demonstrating that access to green space can improve both mental and physical health through stress-reduction, reduced blood pressure, better life satisfaction and increased physical activity. In a recent scoping study of the health benefits of certain environments, Bell et al¹²⁴ explore how the health geography concept of ‘therapeutic landscapes’ can be used in wider and debates around ‘healthy’ spaces, places, and related

¹¹⁸ Joint Nature Conservation Committee (2018) *Ecosystems Approach* <http://jncc.defra.gov.uk/default.aspx?page=6276>

¹¹⁹ DEFRA (2013) Ecosystem services. Guidance for policy and decision makers on using an ecosystems approach and valuing ecosystem services. Available at <https://www.gov.uk/guidance/ecosystems-services>

¹²⁰ DEFRA (2013) What nature can do for you: A practical introduction to making the most of natural services, assets and resources in policy and decision making Available at <https://www.gov.uk/government/publications/what-nature-can-do-for-you>

¹²¹ JACOBS for Defra and the Inland Waterways Advisory Council (2009) The Benefits of Inland Waterways. Available at http://www.waterways-forward.eu/wp-content/uploads/2012/06/The-Benefits-of-Inland-Waterways_Final-Report-July-2009_JACO.pdf

¹²² Scottish Canals. (2018) *Glasgow’s Smart Canal is a first for Europe*. Press Release at <https://www.scottishcanals.co.uk/news/glasgows-smart-canal-is-a-first-for-europe/>

¹²³ National Lottery Heritage Fund Strategy and Business Development Department (2016) *Values and benefits of heritage: A research review*. April 2016. Available at https://www.hlf.org.uk/file/13716/download?token=R5CdLvMaiH5EJ_gA1qfJMYQxc6rsOfItlfE9Ok7jzsg

¹²⁴ Bell, S, Foley, R, Houghton, F, Maddrell, A, Williams, A. (2018) From therapeutic landscapes to healthy spaces, places and practices: A scoping review. *Social Science and Medicine*, 196, pp123-30

practices. While landscapes and parks themselves are linked to these benefits¹²⁵, there is a growing body of evidence on the effects of ‘green exercise’ among those with access to quality green spaces¹²⁶ whether heritage-related or not. Other identified social, educational and health benefits stem from community participation in greenspace enhancement and urban agriculture projects such as in Todmorden on the Rochdale Canal¹²⁷

A detailed 2012 review of literature for the Forestry Commission¹²⁸ on the economic benefits of greenspace found limited direct economic gain from investment in greenspace projects, but some job creation and a strong impact on property prices of quality green space. The review found benefits to water management, tourism and biodiversity, though these could not easily be monetised. They also found a gap in research of the economic benefits of recreation and leisure activities associated with greenspace. This is being filled with a growing number of studies

which attempt to measure the monetary value of NHS costs saved, gym costs avoided and the social and mental health benefits of using green (and blue) spaces in different ways¹²⁹.

The interest in ‘bluespace’ – which is seen to have similar benefits to greenspace though potentially more ‘calming’ attributes, is increasingly being examined by researchers globally^{130 131} Volker and Kistemann’s review of the health benefits of bluespace is particularly useful¹³² and informed further reviews of work in therapeutic landscapes and relationships between environment, health and wellbeing to develop the idea of ‘healthy blue space’¹³³. Canal & River Trust commissioned work on bluespace and mental health, published in 2016¹³⁴ which shaped the case study projects included in the latest Canal & River Trust Waterways and Wellbeing report. At the same time, a pan-EU research initiative investigating the links between environment, climate and health has a specific arm, BlueHealth, focused on understanding how water-based environments in towns and

¹²⁵ Abraham, A., Sommerhalder, K and Abel, T (2010) Landscape and well-being: a scoping study on the health-promoting impact of outdoor environments. *International Journal of Public Health* 55(1), pp. 59–69. (2010)

¹²⁶ Among others cited in the HLF review see for example H. Woolley, S. Rose, M. Carmona and J. Freedman, *The Value of Public Space: How high quality parks and public spaces create economic, social and environmental value*. (London: CABE Space, 2004); University of Essex for the Countryside Recreation Network, *Countryside for Health and Wellbeing: The Physical and Mental Health Benefits of Green Exercise*. (2005) J. Pretty, Green exercise in the UK countryside: effects on health and psychological well-being, and implications for policy and planning. *Journal of Environmental Planning and Management*, 50(2), pp. 211–231. (2007)

¹²⁷ Morley, A, Farrier, A & Dooris, M (2017), Propagating Success. An evaluation of the social, environmental and economic impacts of the Incredible Edible Todmorden initiative. Summary Report. Manchester Metropolitan University, SusFoodNW, UCLAN,

¹²⁸ Saraev, V. (2012) Economic benefits of greenspace: a critical assessment of evidence of net economic benefits Forestry Commission Research Report. Forestry Commission, Edinburgh

¹²⁹ Vivid Economics (2017) Natural capital accounts for public green space in London Report prepared for Greater London Authority, National Trust and National Lottery Heritage Fund Available at <https://www.london.gov.uk/what-we-do/environment/parks-green-spaces-and-biodiversity/green-infrastructure/natural-capital-account-london?source=vanityurl>

¹³⁰ White, M, Smith, A, Humphries, K, Pahl, S Snelling, D Depledge, M (2010) Blue space: the importance of water for preference, affect, and restorativeness ratings of natural and built scenes. *J. Environ. Psychol.*, 30 (2010), pp. 482-493,

¹³¹ Völker, S and Kistemann, T (2013) “I’m always entirely happy when I’m here!” Urban blue enhancing human health and well-being in Cologne and Düsseldorf, Germany *Soc. Sci. Med.*, 78 (2013), pp. 113-124,

¹³² Völker, S and Kistemann, T (2011) The impact of blue space on human health and well-being – Salutogenetic health effects of inland surface waters: A review *International Journal of Hygiene and Environmental Health* Volume 214, Issue 6, November 2011, Pages 449-460
<http://www.tlu.ee/~arro/Happy%20Space%20EKA%202014/blue%20space.%20health%20and%20wellbeing.pdf>

¹³³ Foley, R and Kistemann T (2015) Blue space geographies: Enabling health in place. *Health & Place* Volume 35, September 2015, Pages 157-165 <https://doi.org/10.1016/j.healthplace.2015.07.003>

¹³⁴ Centre for Sustainable Healthcare (2016) *Mental Health Benefits of Waterways*. Report for Canal and River Trust <https://sustainablehealthcare.org.uk/file/292/download?token=7NIRDGkS>

cities can affect health and wellbeing¹³⁵ - researchers published a systematic review in 2017¹³⁶ which found consistent evidence of positive associations between blue space exposure and mental health and physical activity.

The Landscape Institute’s 2013 position paper¹³⁷ demonstrates through case studies how green infrastructure can be incorporated in urban planning for socioeconomic and ecological gain. Relevant benefits include sense of place, improved water management (including addressing pollution) and extending ecological networks. The UK Green Building Council’s (2015) ‘Demystifying Green Infrastructure¹³⁸’ highlights benefits to different stakeholders and how these can be delivered.

Natural England’s Green Infrastructure Guidance¹³⁹ outlines the history of the green infrastructure field from texts in the 1970s around ideas for strategic landscape planning to deliver multiple functions through to gradual integration of the concept into planning and landscape design policy. Figure 3 summarises how the benefits provided aligned with Natural England’s goals at the time of writing their Guidance in 2009 – while strategy might change this is a useful example of how specific ecosystem services and benefits can be shown to align with policy priorities.

	Policy priorities							
	Economic	Environmental				Social		
	Economic growth and employment	Protect and enhance cultural heritage	Protect and enhance the landscape, geodiversity and natural environment	Biodiversity conservation and enhancement	Climate change mitigation and adaptation	Promoting sustainable transport and reducing the need to travel by car	Community cohesion and life long learning; volunteering	Healthy communities; health and well being
Access, recreation, movement and leisure								
Habitat provision and access to nature								
Landscape setting and context for development								
Energy production and conservation								
Food production and productive landscapes								
Flood attenuation and water resource management								
Cooling effect								

Figure 3: Cross-referencing of Natural England objectives with ecosystem services Natural England (2009) *Green Infrastructure Guidance*. Available at <http://publications.naturalengland.org.uk/publication/35033>

¹³⁵Blue Health (ND) *Blue Health. Linking Environment, Climate and Health*. Website <https://bluehealth2020.eu/>

¹³⁶ Gascon, M, Zijlema, W, Vert, C White, MP, and Nieuwenhuijsen, N (2017), Outdoor blue spaces, human health and well-being: A systematic review of quantitative studies, *International Journal of Hygiene and Environmental Health*, Volume 220, Issue 8, 2017, Pages 1207-1221, <https://www.sciencedirect.com/science/article/pii/S1438463917302699?via%3Dihub>

¹³⁷ Landscape Institute (2016) *Green Infrastructure: an integrated approach*. Available at: <https://www.landscapeinstitute.org/wp-content/uploads/2016/03/Green-Infrastructure-an-integrated-approach-to-land-use.pdf>

¹³⁸ UKGBC (2015) *Demystifying Green Infrastructure*. Available at <https://www.ukgbc.org/ukgbc-work/demystifying-green-infrastructure/>

¹³⁹ Natural England (2009) *Green Infrastructure Guidance*. Available at <http://publications.naturalengland.org.uk/publication/35033>

5.2 MEASURING THE VALUE OF GREEN-BLUE SPACES

Under the coalition government to 2015, there was a growth in measures and research to demonstrate the value of nature, which focused on a green economy and wellbeing/health benefits of reconnecting people with nature.¹⁴⁰ The National Ecosystem Assessment used methods developed for the wider 2005 Millennium Ecosystem Assessment¹⁴¹ and seminal work by Costanza et al¹⁴² to attempt to evaluate and quantify the country's natural assets. By examining the environment through the framework of ecosystem services, it becomes much easier to identify how changes in ecosystems influence human well-being and to provide information in a form that decision-makers can weigh alongside other social and economic information – even if the figures can be disputed, the monetisation ‘puts them on the discussion table’.

Figure 4 (previously shown in Section 1) shows how ‘value’ can be categorised; the challenge to date has been operationalizing the frameworks to help decision makers argue the case for nature.

The Government has committed to including natural capital accounts in the UK Environmental accounts¹⁴³ by 2020. This means natural capital accounts can be used alongside other key indicators of economic performance produced by the office of National Statistics.

Use values	Direct Use Value	Direct value of consuming or using a resource. Eg consumption of water, fishing, boating, mooring fees, recreation, habitat provision
	Indirect Use Value	Value derived from using the services the resource provides. Eg flood control, climate regulation, recreation, businesses associated with water use
	Option Value	The value of future potential for use or existence if needed (eg ensuring viable natural environment in the future, or securing potential future transport use)
Non-Use values	Intrinsic value	Value of resource (eg waterway) in and for itself, even if never used
	Legacy value	Value of leaving the resource intact for future generations

Figure 4: Use and Non-Use values. Adapted from Valuing Ecosystem Services <http://www.ceeweb.org/work-areas/priority-areas/ecosystem-services/how-to-value-ecosystem-services/>

Environmental accounts show how the environment contributes to the economy (for example, through the extraction of raw materials), the impacts that the economy has on the environment (for example, energy consumption and air emissions), and how society responds to environmental issues (for example, through taxation and expenditure on environmental protection). The ONS definition is that “*natural capital relates to the environmental assets that may provide benefits to humanity*” (ONS)¹⁴⁴ and information has been produced to

¹⁴⁰ For example DEFRA (2011) Command Paper “*The Natural Choice: Securing the Value of Nature*” <https://www.gov.uk/government/publications/the-natural-choice-securing-the-value-of-nature>

¹⁴¹ *Millennium Ecosystem Assessment* <https://millenniumassessment.org/en/About.html>

¹⁴² Costanza, R., d’Argo, R., de Groot, R., Farber, S., Grasso, M., Hannon, B., Limburg, K., Naeem, S., O’Neill, R.V., Paruelo, J., Raskin, R.G., Sutton, P. and van den Belt, M. (1997) The value of the world’s ecosystem services and natural capital, *Nature*, 387, 253–260.

¹⁴³ For details on how Environmental Accounts are compiled by the Office for National Statistics, see <https://www.ons.gov.uk/economy/environmentalaccounts>

¹⁴⁴ Office for National Statistics (2017). *Methodology: Principles of Natural Capital Accounting*. Accessed at <https://www.ons.gov.uk/economy/environmentalaccounts/methodologies/principlesofnaturalcapitalaccounting>

demonstrate how this can be measured¹⁴⁵ to deliver a total economic value (TEV) associated with environmental good and services.

At a local and sectoral level, attempts are increasingly being made to value green infrastructure and ecosystem services monetarily, using the Natural Capital approach to quantifying the benefits of natural spaces.

A good example of how green infrastructure and the principles of ecosystems thinking is being integrated into city policy is Birmingham's Green Living Spaces Plan¹⁴⁶. This Plan introduces a new approach of valuing all the city's natural spaces and features as Natural Capital, by applying the latest scientific thinking behind the National Ecosystem Assessment. The Plan highlighted the contribution of watercourses and canals to green infrastructure and – alongside advice on water-sensitive design - proposed development of a "Blue Corridor/Network Policy" in conjunction with the Canals and Rivers Trust as the basis for enhanced walking and cycling provision. While this policy has not been specifically referenced in current Birmingham plans, towpath improvements indicate cooperation between Canal & River Trust and Birmingham Council on the transport aspect, at least.

London's Green Infrastructure Task Force has also been set up as part of an overall London infrastructure 2050 plan¹⁴⁷, and guidance for local business stakeholders on carrying out a green infrastructure audit has been produced (2013)¹⁴⁸.

Research commissioned by the Mayor of London, HLF and National Trust by Vivid Economics¹⁴⁹ used Natural Capital accounting to value the services provided by Greater London's parks and green spaces at £5bn per year – through avoiding physical and mental health NHS costs, providing recreation facilities as well as temperature regulation and carbon storage. They calculate that for each £1 spent on public green space, Londoners enjoy at least £27 in value. Further research has recently been commissioned from Vivid Economics, funded by Innovate UK, to develop a toolkit for decision-makers to calculate location-specific economic values of the health, social and environmental benefits of urban green infrastructure. Interestingly, the research team includes Barton Willmore, a planning and design consultancy, as well as Exeter University, indicating an interest by the private sector in approaches to valuation of green infrastructure.¹⁵⁰ These attempts to quantify value are being replicated in Australia (eg Young et al's 2015 approach to valuing Melbourne's green areas¹⁵¹)

¹⁴⁵The Natural Capital Protocol provides a standardized framework for business to identify, measure and value their impacts and dependencies on natural capital; a programme was set up to support businesses to engage with it. <https://naturalcapitalcoalition.org/protocol/protocol-application-program/>

¹⁴⁶ Birmingham City Council (2013) "Green Living Spaces Plan" Available, with appendices mapping ecosystem services demand and supply, at https://www.birmingham.gov.uk/downloads/download/208/green_living_spaces_plan

¹⁴⁷ Mayor of London & London Assembly (2015) *Green Infrastructure Task Force Report*. Available at: <https://www.london.gov.uk/WHAT-WE-DO/environment/environment-publications/green-infrastructure-task-force-report>

¹⁴⁸ Mayor of London & London Assembly (2013) *Green Infrastructure audit best practice guide*. Available at: <https://www.london.gov.uk/WHAT-WE-DO/environment/environment-publications/green-infrastructure-audit-best-practice-guide>

¹⁴⁹ Vivid Economics (2017) Natural capital accounts for public green space in London Report prepared for Greater London Authority, National Trust and National Lottery Heritage Fund Available at <https://www.london.gov.uk/what-we-do/environment/parks-green-spaces-and-biodiversity/green-infrastructure/natural-capital-account-london?source=vanityurl>

¹⁵⁰ Exeter University news release 20th April 2018 "£1m toolkit to calculate economic value of urban greenspace" https://www.exeter.ac.uk/news/featurednews/title_654499_en.html

¹⁵¹ Jones, R. N., Symons, J. and Young, C. K. (2015) *Assessing the Economic Value of Green Infrastructure: Green Paper. Climate Change Working Paper No. 24*. Victoria Institute of Strategic Economic Studies, Victoria University, Melbourne. <https://www.vu.edu.au/sites/default/files/cses/pdfs/assessing-economics-gi-green-paper-visescwp24.pdf>

Another way to determine value is through ‘willingness to pay’ surveys; work by Sheffield university, including along its rivers, showed that residents shown different images of their area were willing to pay more in council tax for more tree coverage¹⁵². Similar approaches were taken by the team in central Manchester, with similar results.

5.3 KEY PLAYERS AND INTERESTED STAKEHOLDERS

The growth in approaches to measuring the value of greenspace in a tangible way – especially in relation to the health agenda - is proving useful to **local authorities** and other bodies responsible for the funding and maintenance of what are often seen as public assets, but which can help reduce the costs of poor public health. The benefits of ‘bluespace’ are central to the new **Canal and River Trust** promotion of the wellbeing benefits of waterways. **Public Health Authorities** are showing an interest in the preventative health cost savings to the NHS; this appears to be a growth area of research activity at present.

The environmental benefits of healthy and resilient green infrastructure are also important to **environmental protection agencies**, including wildlife trusts and bodies such as the Campaign for the Protection of Rural England (CPRE). The **National Trust**, as guardian of much green space, has been a funder of some research highlighted above, and the **Lottery Funds** seek evidence to justify grants.

Natural England, as the government’s adviser for the natural environment in England and with a remit for land management, recreation and protection, is influential in generating research and advice. It also, with the **Environment Agency**,

administers some relevant funding (for example the Water Environment Grants¹⁵³ for improving management of water in line with the Water Framework Directive)

Developers – both private-sector and not-for-profit – have shown an interest in how greenspace can add monetary value to schemes. For private sector, investment costs must be justified; for not-for-profit this is also true but there is more social and health impetus as well.

5.4 WHAT DOES THIS MEAN FOR INLAND WATERWAYS?

There is a growing body of evidence on benefits associated with greenspace and bluespace that is applicable to inland waterways. Inland waterways undoubtedly form – or can form - part of the networks of green infrastructure, enhancing not only environmental but human health. Key benefits include

- ecosystem health, particularly through the network aspects of green-blue infrastructure
- climate change adaptation, including urban cooling and drainage/water transfer functions, as well as encouraging non-car transport.
- physical and mental human health - greenspaces are a cost-effective leisure, health resource
- social cohesion and sense of place derived from safe, quality greenspace
- financial value of quality greenspace as a setting for development.

These are evident in waterway corridor strategies by, for example, Sheffield¹⁵⁴; river basin management plans¹⁵⁵ and, on a canal level, Birmingham’s planned ‘blue corridor’

¹⁵² University of Sheffield (2011) Public willing to pay more for greener urban spaces. News article at <https://www.sheffield.ac.uk/news/nr/public-willing-to-pay-more-for-greener-urban-spaces-1.174387>

¹⁵³ See guidance on these grants at UK Govt <https://www.gov.uk/government/publications/water-environment-grant-weg-handbooks-guidance-and-forms/guide-for-applicants-water-environment-grant>

¹⁵⁴ Sheffield Waterway Strategy (2014) <https://www.sheffield.gov.uk/content/sheffield/home/planning-development/sheffield-waterways-strategy.html>

¹⁵⁵ UK Govt (2015) River Basin Management Plans <https://www.gov.uk/government/collections/river-basin-management-plans-2015>

strategy¹⁵⁶. Worldwide, there is a growing focus on issues surrounding flooding, drainage and adaptation to future climate change; research into technological solutions is ongoing.

It can be seen that some of these benefits are similar to those derived from heritage and the ‘health & wellbeing’ benefits are explored in more detail overleaf. These priorities have driven the focus on ‘wellbeing’ by Canal & River Trust. Review of greenspace benefits in general show that, to be taken seriously, it is important to be able to demonstrate

quantifiable benefits. Ideally, these need to link to Government targets such as Environmental Accounts and health service savings. There is little specific focus on navigations; indeed a 2008 IWAC report examined the effects of navigation on aquatic wildlife¹⁵⁷ - this concluded that the inland waterways system in Britain “makes an important contribution to biodiversity and to aquatic wildlife in particular. In the interests both of nature conservation and of the continuing attractiveness of the system to its users, this contribution needs to be protected and, where practicable, enhanced.”

6 HEALTH & WELLBEING

While the previous two sections have focused on ‘things’ that waterways or other public goods could be (ie heritage assets or greenspace assets), we now move on to broader concepts that can be valued. A key theme currently is health and wellbeing and the value of this to society.

The Health and Social Care Act 2012 put a responsibility on local authorities to improve local health through helping people to live healthy lifestyles¹⁵⁸. At the same time, health funding started moving from a central ring-fenced grant to retention of business rates to fund health spending, pushing accountability to a local level. Public Health England was set up to support and inform local action – their strategic plan to 2020¹⁵⁹ indicates a planned stream of evidence-collection on health determinants and the value of interventions.

With an aging population, systemic national health costs stemming from issues such as obesity, and pressures on NHS funding, it is not surprising that demonstrating the economic case for prevention in preference to cure is a key theme in the work being done by and for the health sector.

6.1 WHAT IS ‘WELLBEING’? DEFINITIONS AND VALUES

‘Wellbeing’ can generally be defined as being healthy, happy and comfortable. In that sense it overlaps with the still-used 1948 World Health Organization (WHO) definition of health¹⁶⁰ as *“a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”*

¹⁵⁶ Birmingham City Council (2013) Green Living Spaces Plan https://www.birmingham.gov.uk/download/downloads/id/832/green_living_spaces_plan.pdf

¹⁵⁷ IWAC (2008) Britain’s inland waterways: Balancing the needs of navigation and aquatic wildlife https://www.waterways.org.uk/pdf/iwac/aquatic_wildlife

¹⁵⁸ Public Health England (2018) *Public Health Outcomes Framework (PHOF)* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/216159/dh_1323_62.pdf - updated quarterly <https://www.gov.uk/government/collections/public-health-outcomes-framework>

¹⁵⁹ Public Health England (2016) *Strategic plan to 2020* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/516985/PHE_Strategic_plan_2016.pdf

¹⁶⁰ World Health Organisation (1946) Constitution of WHO (1946) signed on 22 July 1946 by the representatives of 61 States (Official Records of WHO, no. 2, p. 100) and entered into force on 7 April 1948. Accessed at <http://www.who.int/about/mission/en/>

The Office for National Statistics (ONS) Measuring Wellbeing programme,¹⁶¹ set up in 2010 to monitor and report on “how the UK is doing” by producing accepted and trusted measures of national wellbeing, captures a wide variety of indicators. These include: physical and mental health, subjective assessments of people’s own happiness, anxiety, and sense of community, social activity such as volunteering, physical and cultural activity levels, relationship status, age and education levels, and data such as income and employment status (these last being very strongly linked to wellbeing levels).

The What Works Centre for Wellbeing studies the complexity of wellbeing factors to advise policy, listing the different things that make up our wellbeing as including *“the quality of our health, work, relationships; how happy, anxious or satisfied we feel; how confident, purposeful, or connected our lives are. It’s all interconnected, and changes many times over the course of our lives. Wellbeing can be measured by looking at observable factors (like employment), as well as by looking at factors that are subjective to the person experiencing them, like how safe we feel.”*¹⁶²

The latest ONS Wellbeing report¹⁶³ highlights that personal relationships form the foundations of social support networks and are important for both individual and community well-being, increasing resilience and reducing anxiety. They argue that good physical and mental health is at the heart of

well-being. Sport England’s Active Lives Adult Survey¹⁶⁴ also reveals that active people are happier and more satisfied with their lives – and are less likely to experience anxiety. Shifting travel from cars has health benefits as well as environmental ones; Sustrans focus on these in their strategy and in a series of case studies about towpath improvements¹⁶⁵.

However, participation in both physical *and* non-physical leisure activities can increase general psychological well-being and life satisfaction and help to relieve stress; enjoyment of leisure time (however spent) is therefore important to policy for public health.¹⁶⁶ The previous sections on the values associated with heritage and with green spaces show how these can contribute to wellbeing.

Using the WHO definition, it follows that if an individual is in good health they are more likely to be in employment, to take up exercise and have an active social life, which in turn will improve their overall well-being. Personal finances are a key ingredient in sustaining quality of life, with financial security being important to individuals, families and to society generally. While being in employment is statistically better for wellbeing indicators, volunteering is highlighted as a way for individuals contribute both to the well-being of others as well as themselves.

Research by Fujiwara of SIMETRICA and colleagues¹⁶⁷ shows that volunteering is vital to charities and civil society, helps to strengthen

¹⁶¹ Office for National Statistics (2018) *Wellbeing pages*. Accessed at <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing>

¹⁶² What Works Centre for Wellbeing overview and measurement frameworks available at <https://whatworkswellbeing.org/about/about-the-centre/>

¹⁶³ Office for National Statistics (2018) *Measuring National Well-being: Quality of Life in the UK, 2018*. Accessed <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/measuringnationalwellbeing/qualityoflifeintheuk2018>

¹⁶⁴ Sport England (2017) *Active Lives Adult Survey. Mental Wellbeing, Individual and Community Development Analysis (May 16-17)* <https://www.sportengland.org/media/12722/active-lives-adult-survey-report-december-2017.pdf>

¹⁶⁵ Sustrans (2018) *National Cycle Network Impact* <https://www.sustrans.org.uk/policy-evidence/the-impact-of-our-work/national-cycle-network-impact>

¹⁶⁶ Haworth, J. (2016) *Enjoyment and Wellbeing*, CWiPP Working Paper No.6, Centre for Wellbeing in Public Policy, University of Sheffield https://www.sheffield.ac.uk/polopoly_fs/1.544481!/file/CWiPP_WP_201606_Haworth.pdf

¹⁶⁷ Fujiwara, D, Oroyemi, P and McKinnon, E (2011) *Wellbeing and civil society Estimating the value of volunteering using subjective wellbeing data*. Department for Work and Pensions Working paper No 112. Accessed at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/221227/WP112.pdf

local communities, and improves the wellbeing of individuals who participate. Sport England’s research above found those who volunteered were 29% more likely to report social trust than non-volunteers. Having a sense of belonging to a neighbourhood is an important factor not only to personal well-being but also to community well-being and cohesion.¹⁶⁸ As mentioned earlier, heritage-related volunteering tends to develop communities of interest¹⁶⁹ - if enjoyment and common focus provides value, then it is worth exploring the benefits gained by participation in waterways-related community groups or volunteer activity. Survey research carried out by Ecorys on the value of volunteering in 2011¹⁷⁰ showed that volunteering plays a key role in many aspects of the work of the inland waterways, with wide-ranging benefits for volunteers and organisations alike. The research estimated 11,000 volunteer days per month on Britain’s waterways, mainly related to practical restoration and maintenance and with volunteer age profiles broadly in line with national trends (ie white, older and, for waterways, more male than female). They calculated the economic value of this as £10m per year, with up to £700,000 additional social benefit calculated through proxies such as ‘personal achievement’, ‘improved environment’ and ‘improved wellbeing’.

6.2 MEASURING THE VALUE OF HEALTH & WELLBEING

Many wellbeing measures are self-reported, through questionnaires; their validity rests to

a large extent on the questions being asked and the analysis done. A range of academic, medical and policy toolkits exist; a recent review of 99 of these by Linton et al (2016)¹⁷¹ identified 196 measures of wellbeing which they grouped into six key thematic domains: mental well-being, social well-being, physical well-being, spiritual well-being, activities and functioning, and personal circumstances. They highlighted wide variability between instruments and thus a need to pay close attention to what is being assessed under the umbrella of ‘well-being’ measurement. They also noted that authors were rarely explicit about how existing theories had influenced the design of their tools.

The Government’s National Wellbeing Quality of Life indicators¹⁷² have, since 2010, measured objective and subjective data across a wide range of indicators¹⁷³ categorised into:

- personal wellbeing (eg life satisfaction, anxiety, happiness)
- relationships (eg loneliness, people to rely on)
- health (eg healthy life expectancy, disability, depression or anxiety)
- what we do (eg unemployment, satisfaction with leisure time, sport participation, volunteering and engagement with art and culture)
- where we live (eg crime (real and perceived safety), access to natural environment, belonging to neighbourhood)
- personal finances (eg household income, difficulty in managing financially)

¹⁶⁸ Office for National Statistics (2018) *Measuring National Well-being: Quality of Life in the UK, 2018*. Accessed at <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/measuringnationalwellbeing/qualityoflifeintheuk2018>

¹⁶⁹ BOP Consulting for HLF (2011), Assessment of the social impact of volunteering in HLF-funded projects: Year 3.

¹⁷⁰ Ecorys (2011) Quantifying the Extent and Value of Volunteering in relation to Inland Waterways. Final report to the Association of Inland Navigation Authorities, April 2011 <https://www.aina.org.uk/wp-content/uploads/2018/04/AINA-Volunteering-Report-Apr11.pdf>

¹⁷¹ Linton M, Dieppe P, Medina-Lara A (2016) Review of 99 self-report measures for assessing well-being in adults: exploring dimensions of well-being and developments over time *BMJ Open* 2016;**6**:e010641. doi: 10.1136/bmjopen-2015-010641

¹⁷² ONS (2018) *Measuring National Well-being: Quality of Life in the UK, 2018* Accessed at <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/measuringnationalwellbeing/qualityoflifeintheuk2018>

¹⁷³ Dashboard of all indicators for 2018 available at <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/measuresofnationalwellbeingdashboard/2018-04-25>

- economy (national measures of public debt, inflation, income)
- education and skills (eg value of skills and knowledge in labour market, qualifications and training)
- governance (eg levels of trust in government)
- environment (national data on protected areas, recycling rates, greenhouse gases etc).

The greenspace valuation studies highlighted in the previous section show much of the value as being from NHS cost savings – this kind of economic valuation helps gain the attention of those people who might fund public green assets.

Canal & River Trust also recognise that to gain the ear (and purse) of decision-makers and

funders for waterways they “cannot depend solely on storytelling” (p4) and so are attempting to develop measurement approaches which capture the value (particularly the monetary value) of a wide range of wellbeing factors to measure and justify interventions. Recent research published for Canal & River Trust¹⁷⁴ has attempted to draw many of these wellbeing factors into an ‘Outcomes Measurement Framework’ which draws on demographic profiling, Sport England and GP data profile data, Waterways Engagement Monitor and towpath survey data (existing tools), longitudinal studies of interventions in certain target areas, with ‘control’ areas either without water or not managed by Canal & River Trust also being monitored to try and tease out the value of Canal & River Trust interventions and the value of water in particular.



Figure 5: New Canal & River Trust Wellbeing Outcomes Measurement Framework (2017)

¹⁷⁴ Canal & River Trust (2017) *Waterways and Wellbeing. Building the Evidence base: First Outcomes report*. September 2017. Available at <https://canalrivertrust.org.uk/refresh/media/thumbnaill/33802-canal-and-river-trust-outcomes-report-waterways-and-wellbeing-full-report.pdf>

Canal & River Trust’s approach is waterways-specific but other guidance exists for organisations to measure wellbeing impact. What Works Wellbeing’s new toolkit¹⁷⁵ takes organisations through a series of questions related to their work. It highlights the need for a reliable, evidence-based framework and for different organisations to use the same data and frameworks so that different types of project can be compared. They also note that many benefits seen as important by charities such as confidence or sense of belonging are taken for granted and not worth measuring.

When assessing the impacts of a major development, as well as environmental impact assessments, social or socio-economic impact assessment is often used. This tends to focus on aspects such as job-creation, but also draws on information around community uses of assets, opportunities for skills development and other aspects that the WHO definitions include in overall wellbeing. New economic valuation research for Canal & River Trust estimates that Canal & River Trust waterways deliver an estimated social wellbeing value to those using the waterways (meaning towpath users) of £3.8bn per year.^{176 177}

6.3 KEY PLAYERS AND INTERESTED STAKEHOLDERS

Public health authorities and those responsible for improving physical and mental health among their populations (mainly **local authorities**) are those for whom wellbeing benefits are important. Within central government, the strategic plan for **Public Health England**¹⁷⁸ (which falls under the

Department of Health and Social Care) sets out a desire to strengthen the evidence base and cites NHS proposals¹⁷⁹ to focus on prevention – this is where the **Canal and River Trust** work is adding weight to provide the wellbeing evidence for waterways.

Alongside traditional funders such as **National Lottery Heritage Fund**, other stakeholders such as **Sustrans**, **Sport England** and other **Lottery funds** may be interested in the wellbeing benefits of waterways. In 2017-18, 40% of Lottery funds went to ‘health, education, environment and charitable causes’, 20% to sport, against 20% to heritage¹⁸⁰

6.4 WHAT DOES THIS MEAN FOR INLAND WATERWAYS?

The recent repositioning of Canal and River Trust as a Wellbeing charity is linked to a programme of research to develop a sound evidence base to support future funding and government buy-in. Given the increasing focus on the social benefits of heritage, green space and healthy activities – and the clear policy focus on these areas by government and funders - there is scope for research to complement that of Canal & River Trust and heritage organisations such as Historic England. Key aspects of wellbeing identified that are relevant to inland waterways include:

- Physical and mental health
- Enjoyment of leisure time and access to leisure resources
- ‘Sense of place’, including through shared interests and volunteering. The growth of

¹⁷⁵ What Works Wellbeing (2018) How to measure your wellbeing impact: new guidance. Available at <https://whatworkswellbeing.org/blog/how-to-measure-your-wellbeing-impact-new-guidance/>

¹⁷⁶ Canal & River Trust (2018) *Happiness Available on Your Doorstep* News Article 23 May 2018 <https://canalrivertrust.org.uk/news-and-views/news/happiness-available-on-your-doorstep>

¹⁷⁷ SIMETRICA (2018) Assessing the wellbeing impacts of waterways usage in England and Wales <https://canalrivertrust.org.uk/refresh/media/thumbnail/38060-simetrica-report.pdf>

¹⁷⁸ Public Health England (2016) Strategic Plan to 2020. Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/516985/PHE_Strategic_plan_2016.pdf

¹⁷⁹ NHS Five Year Forward review. Available at: <https://www.england.nhs.uk/five-year-forward-view/>

¹⁸⁰ National Lottery (ND) *Where the Money Goes* <https://www.national-lottery.co.uk/life-changing/where-the-money-goes>

Canal & River Trust volunteering on restored canals, and the many volunteer restoration and project groups working incrementally, are complementary. Sense of belonging to projects can arise from social media or other support, not necessarily physical involvement.

- Skills development and employability

Given the extensive research being programmed relating to wellbeing of waterway users, it is wise to identify where IWA can complement rather than replicate evidence. The notable gap in the wellbeing work to date and the measurement framework for future research is navigation. While being by water is shown to have benefits, and Canal & River Trust research is focusing on urban waterside towpaths, what is different about inland waterways to rivers? For many it is the passing

boats, the opportunity to view active water. Maintaining fully navigable structures and channels would not be cost-effective if this was only for the boating users; as all restoration studies show there are wider impacts that need demonstrating.

There is a need for studies into the effects on wellbeing (as well as related aspects such as leisure use of waterways) of the presence of ‘active water’ such as boats on inland waterways. Evidence from canal society members and Waterway Recovery Group (WRG) on the social and health benefits of volunteering on restoration projects would be a contribution to the Canal & River Trust study; this could also enhance the impact of the ‘*Waterways in Progress*’ report.

7 ECONOMIC DEVELOPMENT & REGENERATION

As seen above, there are economic aspects to many of the values associated with public goods as heritage or greenspace assets, and economic status affects wellbeing. This section addresses some of the other aspects that have not yet been touched on, where public goods such as waterways can deliver economic development benefits. These benefits can be categorised as those associated with leisure and tourism and those associated with wider regeneration of areas, something that covers more than simply economics but overlaps strongly with the themes of wellbeing.

7.1 WHAT IS ‘ECONOMIC DEVELOPMENT? DEFINITIONS AND VALUES

Economic development can be defined broadly as the process of improving the economic, political, and social well-being of a population; economic growth, including increase in the capacity of an economy to produce goods and services. Economic growth – the increase in GDP – is part of this. Economic growth is tempered by the

distribution of those economic benefits between stakeholders and also any environmental impacts. The National Planning Policy Framework (NPPF) defines sustainable development as having not just an environmental role, but an economic and a social role. It is therefore more appropriate to talk about socio-economic development. The components of this include improvements in income, reduction in poverty, improvements in health indicators, housing, and changes in number and types of jobs, as well as the distribution of these between different groups.

7.2 LEISURE & TOURISM

It is worth briefly focusing on the value of leisure and tourism as components of economic development relevant to inland waterways. Tourism is a significant and growing part of the UK economy and one which relies greatly on Britain’s landscape, heritage and culture. ‘Tourism’ is the movement of people to countries or places outside their usual environment for personal or business/professional purposes. Generally

speaking, a visitor is classified as a (same-) day visitor if their trip does not include an overnight stay and a tourist if it does include an overnight stay.¹⁸¹ Leisure visits and activities are those carried out at or close to someone's usual environment; tourism day visits can be included in this category. Leisure and tourism products include accommodation, hospitality, transport, cultural attractions such as museums (whether paid or not), travel agency services, sports and recreational activities, and retail associated with visitor spend.

The World Travel and Tourism Council estimated that in 2016 the UK travel and tourism industry as a whole directly generated a £66 billion gross value-added contribution to UK GDP (3.4% of the total) and over 1.5million jobs (4.6% of the total)¹⁸². Indirectly, tourism accounts for nearly 11% of GDP and just under 12% of all jobs, (or 4 million).¹⁸³ In 2016, UK and overseas residents together made 1.7 billion trips to and around the UK, and spent £102 billion on goods and services during their trips¹⁸⁴

A review of leisure trends and consumers¹⁸⁵ shows that leisure spending (at £112bn in 2016) is growing faster than general consumer spending. While UK consumers are continuing to spend on traditional leisure activities such as holidays and visits to attractions, they are

increasingly spending more time and money on frequent, habitual activities such as gym memberships, music and video streaming and eating out. Deloitte identify a behavioural shift from product-consumption to experience-consumption – often home-based. Leisure spend does not, however, capture the 'free' facilities of outdoor spaces.

In 2001, the underestimated value of leisure and tourism in rural areas (and the value put on natural areas for purposes other than farming) became clear when Foot & Mouth closed off much of the British countryside¹⁸⁶ - including much of the canal network. This led to a change in policy towards rural tourism through Regional Development Agencies¹⁸⁷, and a move to study the economic development impacts of rural tourism.¹⁸⁸ Much rural regeneration hinges on farm diversification and rural tourism and recreation activity.

Waterway tourism (particularly river tourism) is better-researched in Europe and North America at present than in the UK¹⁸⁹ Estimates have been made of the additional jobs and income created through increased visits to restored canals¹⁹⁰; however this needs updating and existing canals need examining. Canal & River Trust wish to carry out joint

¹⁸¹ United Nation World Tourism Organisation definition as used by Visit Britain
<https://www.visitbritain.org/introduction-tourism>

¹⁸² World Travel and Tourism Council (2016) "Economic Impact 2016: United Kingdom," WTTC

¹⁸³ Latest data available at <https://www.wttc.org/-/media/files/reports/economic-impact-research/countries-2017/unitedkingdom2017.pdf>

¹⁸⁴ Total trips includes holidays, visits to friends and relatives, business trips, study trips, and all other trip types. Data are drawn from VisitBritain, "Great Britain Day Visits Survey," 2016, VisitEngland, VisitScotland, and Visit Wales, "Great Britain Tourism Survey," 2016, and Office for National Statistics, "International Passenger Survey," 2016.

¹⁸⁵ Deloitte (2016) *Passion for leisure A view of the UK leisure consumer*. Accessed at:
<https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/consumer-business/deloitte-uk-cip-leisureconsumer.pdf>

¹⁸⁶ Blake, A, Sinclair, T, Sugiyarto, G (2003) Quantifying the Impact of Foot and Mouth Disease on Tourism and the UK Economy. *Tourism Economics* Vol 9, Issue 4, pp. 449 - 465

¹⁸⁷ DEFRA (2011) *Rural Economy Growth Review Rural Tourism Package – Main points*. Summary Report. Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/183287/reg-tourism-mainpoints.pdf

¹⁸⁸ GHK for DEFRA (2010) *Tourism and Local Rural Communities*. Defra

¹⁸⁹ Prideaux, B and Cooper, M. (eds) (2009) *River Tourism*. CABInt.org.

¹⁹⁰ Canal & River Trust and Inland Waterways Association (2014) *Water adds Value* summary report
https://www.waterways.org.uk/waterways/restoration/restoration_resources/pdfs/water_adds_value_benefits_of_waterways_restoration

research with the British Marine Federation into the value of waterway-related tourism¹⁹¹.

A new book on Waterways and the Cultural Landscape¹⁹² explores the role of waterways as a form of heritage, culture and sense of place and the potential of this to underpin the development of cultural tourism; it highlights the role of canal structures (Falkirk Wheel and the Kelpies) on the Forth and Clyde as regeneration catalyst tourism attractions¹⁹³

7.3 URBAN & RURAL REGENERATION

Changes in Britain's industrial and manufacturing economy left many inner-city areas blighted by unemployment, riddled with poor housing and socially excluded from more prosperous districts.¹⁹⁴ These areas often include former canalsides and docks from a different era of transport. Urban (and increasingly rural) regeneration is the process of improving the physical structure, upgrading housing, infrastructure and the local environment to reverse former decline and re-stimulate the economy of those areas. It is a multi-disciplinary field of research, scholarship, public policy and practice, including elements of city planning, housing, transport/infrastructure, political economy, urban design, urban tourism, community development, sustainability and cultural industry studies.¹⁹⁵

The term 'regeneration' is often used as a near synonym for economic development, but this can be dangerous, as different stakeholders have different motivations and stimulations for changing places through a process of regeneration.¹⁹⁶ Leary and McCarthy in their 2013 Companion to Urban Regeneration¹⁹⁷ define urban regeneration as an “*area-based intervention which is public sector initiated, funded, supported, or inspired, aimed at producing significant sustainable improvements in the conditions of local people, communities and places suffering from aspects of deprivation, often multiple in nature*” (p9) They highlight that in any regeneration project or strategy there may well be a significant role for the private sector, voluntary sector or community enterprise - regeneration involves a wide range of public and private partners. However, they evidence how over the years, the public-sector element and a focus on wider community benefit and capacity-building separates 'regeneration' from straightforward market-driven property development¹⁹⁸. It is worth noting that while private investment in property may benefit some, the process of 'gentrification' whereby existing residents are forced out by rising prices, is common; community engagement in schemes is essential but often lacking, as highlighted by the Royal Town Planning Institute¹⁹⁹ among others.

¹⁹¹ As highlighted in their First Outcomes Report.

¹⁹² Vallerani, F, Visentin F (2018) Waterways and the Cultural Landscape (Routledge Cultural Heritage and Tourism Series) Hardcover – 11 Sep 2017

¹⁹³ McKean, A, Harris, J, Lennon J (2017) The Kelpies, the Falkirk Wheel, and the tourism - based regeneration of Scottish Canals. *International Journal of Tourism Research* 19: 6 pp736-745
<https://onlinelibrary.wiley.com/doi/abs/10.1002/jtr.2146>

¹⁹⁴ Weaver, M (2001) *Regeneration – the issue explained*. Guardian. Accessed at <https://www.theguardian.com/society/2001/mar/19/regeneration.urbanregeneration1>

¹⁹⁵ Leary, M. and McCarthy, J. (Eds) (2013) *Routledge Companion to Urban Regeneration*. Routledge. Online.

¹⁹⁶ Pendlebury, J. 2002. “Conservation and Regeneration: Complementary or Conflicting Processes? The Case of Grainger Town, Newcastle upon Tyne.” *Planning Practice & Research* 17 (2): 145–158.

¹⁹⁷ Leary, M. and McCarthy, J. (Eds) (2013) *Routledge Companion to Urban Regeneration*. Routledge. Online.

¹⁹⁸ For example through criteria for the many regeneration awards, such as in Jones, P. and Gripaios, P. (2000) 'A review of the BURA awards for best practice in urban regeneration', *Property Management*, 18(4), 218– 29.

¹⁹⁹ RTPI (2014) What is the aim of urban regeneration? RTPI Bulletin November 2014. Available at: <http://www.rtpi.org.uk/briefing-room/rtpi-blog/what-is-the-aim-of-urban-regeneration/>

7.3.1 REGENERATION OR GENTRIFICATION OF WATERFRONTS?

Gentrification – or the displacement of existing communities by richer incoming residents - can be a side-effect of regeneration which goes against the oft-stated objectives of ‘community development’

Paul Stanton Kibel, in his 2007 review of changing urban waterfronts in the USA²⁰⁰, warns that the waterside regeneration of the past few decades echoes some of the urban renewal schemes of the 1940s, 50s and 60s which focused on slum clearance. The paradigm there, he says, was that “the residents living in the areas subject to urban renewal often ended up the victims rather than the beneficiaries of this clearance” (p2). This was evident in much of the London Docklands redevelopment in the 1980s²⁰¹; despite increased efforts to improve community consultation and engagement gentrification is still being seen in waterfront development across the UK and elsewhere. Given that a lot of waterside redevelopment is developer-led this is unsurprising.

The 2002 URBED report highlighted “The most important qualities that contributed to a waterfront renaissance were categorised as buildings and spaces, integration into the surrounding environment, distinctive architecture, and traffic calming and management.” They stress that: “In securing winning schemes local authorities are involving the community, and where consultation has been extensive there has usually been major public support for the proposed development.” (P3) Their case studies suggest that the direct benefits from

successful waterfront development can be assessed against three very different objectives:

- Conserving an important part of our national and natural heritage (which includes historic buildings by the water, as well as canal and dock structures).
- Extending people’s quality of life, and making urban living much more pleasurable (for example by attracting more people into towns, and drawing in expenditure from outside)
- Stemming the process of decay, and giving new hope or vision to a run-down area (for example through investment in leisure and recreational activities).” (P7)

7.3.2 THE ROLE OF ‘PUBLIC GOODS’ IN REGENERATION

Public – or publicly available – resources such as transport infrastructure, water, natural space or heritage assets can support wider economic growth; transport infrastructure is essential for connectivity, commuting and trade, for example²⁰². Much of this is of no direct benefit to developers so must be – directly or indirectly – led by the public sector. Green spaces and heritage are core components of these public goods, and waterfront development has become core to the regeneration of many areas as well as the subject of much analysis.^{203, 204, 205} ‘Waterfront’ can include coastlines, lakes and unnavigable rivers, as well as inland waterways; river restoration and deculverting or ‘daylighting’ of previously buried streams are areas of active research and regeneration

²⁰⁰ Kibel, PS (2007) *Rivertown: Rethinking Urban Rivers*. Massachusetts Institute of Technology

²⁰¹ See, for example, Tim Butler’s review of Docklands gentrification processes Butler, T (2007) Re-urbanizing London Docklands: Gentrification, Suburbanization or New Urbanism? *International Journal of Urban and Regional Research* December 2007. 31:4. Pp759-781 Online at <https://doi.org/10.1111/j.1468-2427.2007.00758.x>

²⁰² Rhodes, C (2018) *Infrastructure policies and investment*. House of Commons Briefing Paper 6594, July 2018

²⁰³ Smith, H. and Ferrari, MSG (Eds) (2012) *Waterfront Regeneration: Experiences in City-Building*. Taylor & Francis

²⁰⁴ Hazenberg, R. & Bajwa-Patel, M. (2014) *The Impact of Waterway Restoration*. Available at https://www.waterways.org.uk/waterways/restoration/restoration_resources/pdfs/northampton_university_study

²⁰⁵ CRT & IWA (2014) *Water Adds Value. Highlighting the impact of the restoration of our waterways Summary report*. Available at https://www.waterways.org.uk/waterways/restoration/restoration_resources/pdfs/water_adds_value_benefits_of_waterways_restoration

focus²⁰⁶. Unlike with canals, geographic and hydrological constraints of ‘living’ water can shape what is possible or desirable.

Most waterways-focused regeneration or tourism developments **rely on collaboration** between organisations; this leads to risks of competing priorities and organisational behaviours as well as resistance by established groups.^{207 208 209} but also offers great possibilities as shown by schemes such as Brindleyplace in Birmingham²¹⁰. An analysis of priorities and working approaches is worth bearing in mind when collaborating with partners.

Tallon²¹¹ argues that urban regeneration appears to have returned to the 1980s with the driving force being economic growth in response to the credit crunch and resulting global financial crisis and economic recession in the UK. At the same time, he highlights, the philosophy of localism has been promoted and the regional level of governance has been abolished. Limited additional resources have been provided by central government for these policies, with the emphasis being on encouraging market forces and attracting development to particular areas of cities. Local Economic Partnerships (LEPS) - a shared policy between the Ministry of Communities and Local Government (CLG) and the Dept for Business, Innovation and Skills (BIS) - have to some extent replaced the role of regional development agencies in regeneration. These are locally-owned partnerships between local authorities and businesses. They aim to

determine local economic priorities and undertake activities to drive economic growth and job creation in their areas. The 2013 Growth and Infrastructure Act²¹² has put a stronger private-sector focus on developments and limits the powers of local authorities in requiring information on developments – it also allows developers to more easily challenge ‘unviable’ developer contributions to support public benefits. However, Andrew Jones²¹³ notes that social aspects are still important – he highlights subtle changes in policy directions which not only focus more on social well-being and environmental sustainability, but more recently added elements of cultural capital, innovation and creativity for the key ingredients for waterfront regeneration.

7.4 MEASURING THE VALUE OF ECONOMIC DEVELOPMENT AND REGENERATION

As seen in previous sections, greenspace and heritage assets provide numerous benefits; the challenge has been to demonstrate their economic and societal value in order to attract funding. Measuring the impact of investment in public goods is different to more straightforward cost-benefit analyses for commercial decisions, as the ‘asset’ itself (the park, the castle or the canal) is not always of direct economic value but rather, investment in it is a catalyst for other benefits.

There have been a huge array of regeneration schemes and bodies over the past decades.

²⁰⁶ See, for example, the River Restoration Centre UK (<http://www.therrc.co.uk/>) and the research repository for stream daylighting <http://daylighting.org.uk/Daylighting/index.php>

²⁰⁷ Fyall, A, Oakley, B & Weiss, A (2000) Theoretical Perspectives Applied to Inter-Organisational Collaboration on Britain's Inland Waterways, *International Journal of Hospitality & Tourism Administration*, 1:1, 89-112, DOI: 10.1300/J149v01n01_06

²⁰⁸ Kinder, K (2015) *The Politics of Urban Water: Changing Waterscapes in Amsterdam* University of Georgia Press

²⁰⁹ Tang, L & Jang, S (2010) The Evolution from Transportation to Tourism: The Case of the New York Canal System, *Tourism Geographies*, 12:3, 435-459, DOI: 10.1080/14616688.2010.494683

²¹⁰ Coulson, A & Wright G (2013) Brindleyplace, Birmingham: Creating an Inner City Mixed-use Development in Times of Recession, *Planning Practice & Research*, 28:2, 256-274, DOI: 10.1080/02697459.2012.716591

²¹¹ Tallon, A (2013) *Urban Regeneration in the UK*. Routledge. Online.

²¹² UK Govt (2013) Growth and Infrastructure Act. Explanatory notes: Background and summary. Available at <http://www.legislation.gov.uk/ukpga/2013/27/notes/division/2>

²¹³ Jones AL (2017) Regenerating Urban Waterfronts—Creating Better Futures—From Commercial and Leisure Market Places to Cultural Quarters and Innovation Districts, *Planning Practice & Research*, 32:3, 333-344, DOI: 10.1080/02697459.2016.1222146

While early 80s and 90s schemes focused on housing and then economy, the concept of multi-faceted, people-centred ‘placemaking’ to improve overall wellbeing became more important under the labour governments in the late nineties and early 2000s. By 2006 there were over 250 charities with regeneration as a stated aim²¹⁴. Since the credit crunch and subsequent austerity policies, public sector cuts have led to a renewed importance for schemes to demonstrate value for money. Charities also seek to ensure their activities give value for money; encouragingly, the regular HLF evaluations of the economic impact of HLF grants remain consistent even in a downturn²¹⁵.

Assessing the effect of regeneration projects on local areas tends to focus on spend, jobs and indirect economic benefit; more complex is attempting to calculate the access to job opportunities and education provided, or increases in visitors. All funders have their own evaluation criteria which help them measure outputs against their priorities which are not always financial.

7.4.1 SOCIO-ECONOMIC IMPACTS

Guidance on socio-economic impact assessment²¹⁶ highlights the main components to be:

- direct economic impacts (such as wages and spending in local businesses)
- indirect/wider economic/expenditure impacts

- demographic impacts (including changing population structures and skills levels)
- impacts on housing (eg availability)
- impacts on other local services (eg pressure on waste collection, medical, local transport)
- socio-cultural impacts (such as quality or way of life, sense of place)
- distributional effects (effectively, who gets what?).

Where it is undertaken before developments take place, ‘socioeconomic’ assessment tends to focus on the direct economic impacts of development, but that impacts on population, socio-cultural aspects and local services are less commonly considered. This is because such issues can be harder to define and measure and often rely on qualitative judgements. Yet with many developments, particularly those of an urban nature, these impacts are often of most concern to communities²¹⁷. Glasson’s list of areas to assess above can address many of these indirect impacts but despite the apparent solidity of numbers, economic analysis (indeed any analysis)²¹⁸ can be as much art as science and there is a danger of over (or under) calculating.

The local area index approach to problem identification originated in Britain and the US, and since the 1970s has been used to measure the extent and intensity of relative deprivation²¹⁹. In England, the Indices of Deprivation²²⁰ ‘domains’ comprise: health deprivation and disability, education, skills and training, barriers to housing and services,

²¹⁴ Charity Commission (2006) *The Regeneration Game. The range, role and profile of regeneration charities*. Accessed at <https://www.gov.uk/government/publications/the-regeneration-game-rs12>

²¹⁵ ICF GHK for National Lottery Heritage Fund (2013) *Economic impact of HLF funded projects – an update*. Available at <https://www.hlf.org.uk/economic-impact-hlf-funded-projects-%E2%80%93-update>

²¹⁶ Glasson (2017) Socio-economic Impacts 1: overview and economic impacts. Ch 13 in Therivel, R & Wood, G (eds) (2017) *Methods of Environmental and Social Impact Assessment*. Routledge

²¹⁷ Waterson, N. (2014) *Socio-economic assessment and improving EIA*. Available at <https://transform.iema.net/article/socio-economic-assessment-and-improving-eia>

²¹⁸ Morrison-Saunders, A & Sadler, B (2010) The art and science of impact assessment: results of a survey of IAIA members, *Impact Assessment and Project Appraisal*, 28:1, 77-82, DOI: 10.3152/146155110X488835 To link to this article: <https://doi.org/10.3152/146155110X488835>

²¹⁹ Leary, M. and McCarthy, J. (Eds) (2013) *Routledge Companion to Urban Regeneration*. Routledge. Online.

²²⁰ UK Govt (2015) English Indices of deprivation 2015 available at <https://www.gov.uk/government/collections/english-indices-of-deprivation> Being updated

crime, living environment. These Indices, set out in 2010, were updated in 2015 and will be revised in 2019²²¹. While these indices are heavily used to evidence results of regeneration interventions, given the mass of statistical data available, there are huge conceptual and practical difficulties when trying to measure regeneration success²²². Evaluation must measure, through quantitative and qualitative techniques, multiple and diverse socioeconomic variables in order to pinpoint the problems and identify causal links between actions and effects.

Care must be taken when using demographic statistics; an improvement in income, skills, employment rates or other socio-economic factors can mask the ‘gentrification’ effect associated with regeneration where populations are replaced with new, wealthier and better educated ones, and property prices increase. Andrew Jones in his analyses of regeneration projects over the years^{223, 224} highlights that many of the earlier waterfront

schemes in the 1980s and 1990s, while economically successful on paper, had detrimental effects on local communities which the evaluations did not capture. A 2010 report for CLG addressed this, highlighting four themes (with sub-categories) in the framework for evaluating regeneration: Worklessness, skills and business development; Industrial and commercial property and infrastructure; Housing growth and improvement and Communities, environment and neighbourhood renewal.

When evaluating policy and spending decisions, the HM Treasury Green Book²²⁵ sets out procedures for evaluation – these look at the rationale for government intervention, the policy objectives and intended effects, and the costs, benefits and risks of a range of options. Values taken into consideration include employment and productivity effects, non-market values land use and asset values, health risks. Figure 6 shows approaches used.

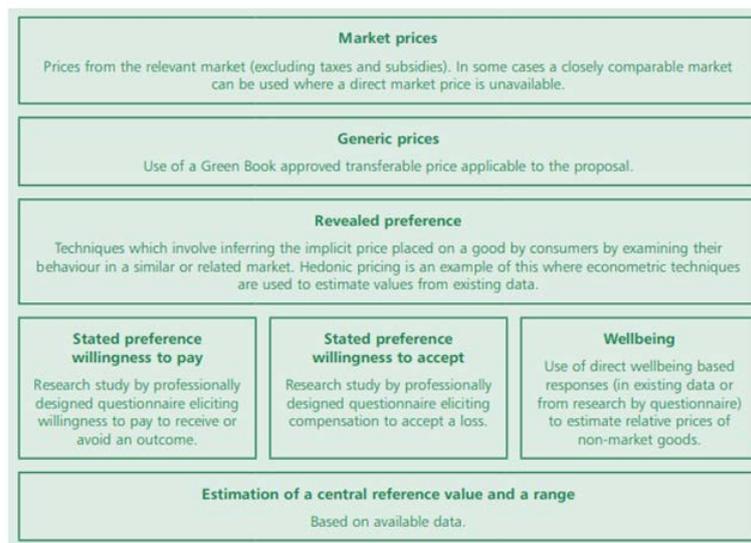


Figure 6: Treasury Green Book Valuation Approaches. HM Treasury (2013) *Green Book: Appraisal and Evaluation in Central Government*

²²¹ OCSI (2018) *Indices of Deprivation 2019*. Press release <https://ocsi.uk/indices-of-deprivation/>

²²² Leary, M. and McCarthy, J. (Eds) (2013) *Routledge Companion to Urban Regeneration*. Routledge. Online.

²²³ Jones, A. (1998) Issues in Waterfront Regeneration: More Sobering Thoughts-A UK Perspective, *Planning Practice & Research*, 13:4, 433-442, DOI: 10.1080/02697459815987

²²⁴ Jones, AL (2017) Regenerating Urban Waterfronts—Creating Better Futures—From Commercial and Leisure Market Places to Cultural Quarters and Innovation Districts, *Planning Practice & Research*, 32:3, 333-344, DOI: 10.1080/02697459.2016.1222146

²²⁵ HM Treasury (2013) *Green Book: Appraisal and Evaluation in Central Government* <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>

In 2016, Peter Brett Associates developed a model to enable the economic, social and environmental benefits of canal investment to inform project development.²²⁶ This was intended for canal societies, volunteers and project stakeholders without experience of appraising projects or knowledge of relevant data sources to help in the initial stages of new restoration projects. It was also intended to allow experienced users to develop benefit assessments of the active canal system to inform project development by understanding the likely regeneration, economic and environmental impacts of different approaches. It was based on:

- Cost information on a range of canal restoration and development projects in different parts of the country;
- Appreciating the effects of canal improvement and corridor development, using data and information from evaluations and ongoing performance monitoring of canal networks across the UK
- Understanding links between canal improvement, economic change, regeneration, development potential and environmental, validated against known projects.

It is unclear how widely this approach has been taken up; many evaluation models have been developed over the years for projects; their effectiveness tends to depend on buy-in from a range of stakeholders.

7.4.2 UPLIFT IN VALUE

Does water add to property values? For canalside property, the 1993 study by Willis and Garrod^{227 228} on the uplift of property values relating to canal restoration is the most often cited. This shows an average uplift of 19% estimated by the surveyors they interviewed. This finding was supported by a review in 1999²²⁹ of the regeneration of the Mersey Basin and small scale 2002 research by Lambert Smith Hampton commissioned by British Waterways to validate earlier findings²³⁰. These two studies found an uplift of 18 and 19% respectively. A 2013 study by Northampton University²³¹ reporting uplift in property values drew on previous studies carried out for HLF-funded restoration projects which estimated an approximately 20% uplift in property values from canal restoration. However, a targeted 2005 study for Daventry District Council²³² as part of a feasibility study for a new canal arm reviewed the range of research done and found very variable premiums generated by a waterside location. Factors influencing the uplift include the overall strength of the property market in the area, the location and mix of uses and the type of water feature (eg exclusive marina vs small canalside view).

While the robustness of methodologies for studies have been challenged (they have largely been commissioned to support restoration efforts), anecdotal information appears to support higher property values in canalside areas overall, particularly where

²²⁶ Peter Brett Associates (2016) Why do it here? Estimating the local effects of Canal investment

²²⁷ Willis K, Garrod G, (1993) 'The value of Waterside Properties'. Countryside Change Unit, University of Newcastle-upon-Tyne, and

²²⁸ Garrod, G & Willis, K (1994.) "An economic estimate of the effect of a waterside location on property values," *Environmental & Resource Economics*, Springer; European Association of Environmental and Resource Economists, vol. 4(2), pages 209-217, April

²²⁹ Wood, R & Handley, J (1999) Urban Waterfront Regeneration in the Mersey Basin, North West England, *Journal of Environmental Planning and Management*, 42:4, 565-580,

²³⁰ Lambert Smith Hampton. (2002). 'Residential Property Uplift Research'. Commissioned by British Waterways. December, 2002

²³¹ Hazenberg, R & Bajwa-Patel, M (2014) A review of the impact of Waterway restoration. For Canal and River Trust. Online at <https://canalrivertrust.org.uk/media/library/6337.pdf>

²³² DTZ (2005) The Uplift Value of Waterside Development. Report for Daventry District Council August 2005. <https://www.daventrydc.gov.uk/EasySiteWeb/GatewayLink.aspx?allId=42822>

there is ‘active water’. Looking at ‘waterfront’ more generally, property agents Knight Frank’s ‘Waterfront Index²³³’, while focusing on prime property including coast and estuary homes, identified that a river view can add over 70% to the price of a home. A more international perspective comes from an international review of 25 different studies which supports uplift²³⁴. Recently Canal & River Trust has commissioned work from London School of Economics to update understanding of the impact on property values which is in progress.

However, is it the water, is it the waterway, or is the water part of something bigger? Consultancy URBED published a major research report in 2002, led by Nicholas Falk, to assess the contribution waterfronts make to urban renaissance in Britain²³⁵. This drew on periodic surveys of local authorities with an interest in waterfront development and a review of evolving waterfront development sites. Noting that location is traditionally important to value of land, they stress that the value of a location can be changed from a liability into an asset through developers and local authorities working together proactively. *“What really seems to matter”* they concluded, *“is demand in the wider area. While housing, and in some cases leisure, can derive benefits from views of water, these are unlikely to be appreciated until the environment has been made safe and attractive, and the area’s image has been transformed. The water can provide a timeless quality, which creates the initial ‘magic’, but as examples like Gloucester Docks and Birmingham’s Brindley Place show, development can take several decades to bring about a change of image.”* (p5)

7.5 KEY PLAYERS AND INTERESTED STAKEHOLDERS

As shown in the other themes above, the more firmly the economic benefit of a ‘value’ can be demonstrated, the more likely it is to be taken seriously. Almost all the stakeholders highlighted in previous chapters of this report have – to some extent – a link to economic and regeneration work and assessment. In particular, **Local Authorities** have an interest in generating benefits locally (and also have responsibility for tourism), while **developers and landowners** need convincing that investment in quality watersides will benefit them.

England’s 38 **Local Economic Partnerships (LEPs)**, are local business led partnerships between local authorities and businesses which play a central role in determining local economic priorities and undertaking activities to drive economic growth and the creation of local jobs. Due to the cross-boundary nature of waterways, securing buy-in from these regional groups, and understanding their objectives, is important.

7.6 WHAT DOES THIS MEAN FOR INLAND WATERWAYS?

Over decades of evolving policy priorities among waterways stakeholders, economic development has remained central. Indeed, profit was the original motive for constructing most of our inland waterways! Demonstrating positive regeneration or economic growth impact on local areas is a core aspect of many if not most restoration feasibility studies and many inland waterways-related funding bids; the next stage of the review will examine some

²³³ Knight Frank produce annual data on the Prime Waterfront premium. In 2015 a riverside location gave an uplift of 67%; by 2018 this was 76%. Knight Frank (2018) The Waterfront Effect: Just how much more are we prepared to pay for property by the water? <https://www.knightfrank.co.uk/blog/2018/08/28/the-waterfront-effect-just-how-much-more-are-we-prepared-to-pay-for-property-by-the-water> Knight Frank (2015) UK Waterfront Index – 2015 <https://www.knightfrank.co.uk/research/uk-waterfront-index-2015-3060.aspx?search-id=&report-id=646&rank=1>

²³⁴ Nicholls, S and Crompton, J (2017) The effect of rivers, streams, and canals on property values, *River Res Applic.* 2017;33:1377–1386. <https://rpts.tamu.edu/wp-content/uploads/sites/21/2015/05/The-Effect-of-Rivers-Streams-and-Canals-on-Property-Values.pdf>

²³⁵ URBED (2002) Turning the Tide: The renaissance of the urban waterfront. Waterfront Final Report <http://urbed.coop/projects/turning-tide-urban-waterfront-final-report>

of these to summarise the main aspects. Key value areas identified include:

- Direct income from visitors
- Indirect income through supply chains, secondary spending and attracting new business.
- Job and skills creation – quality as well as quantity
- Housing quality and price
- Reuse of brownfield former industrial land for new functions
- Urban and rural regeneration – which includes enhancing all the above to improve an area

Given the decline in central government funding for Canal & River Trust and in local authority budgets, the impending loss of European funding and reductions in Lottery funding available, being able to demonstrate economic benefits of any project or activity to the local area is likely to become increasingly important. The myriad of restoration and improvement projects almost all need to demonstrate to decision makers the impacts of activities. Canal & River Trust’s intentions to collate a wide evidence base to evidence the wellbeing impacts of waterways interventions is related to their activities; the extensive knowledge of IWA across all navigations and future/past navigations can add to this.

8 CONCLUSIONS

The initial review of themes deliberately steered clear of detailed analysis of waterways-specific literature. This allowed us to think not as ‘inland waterways advocates’ looking outwards, but to consider what things people for whom inland waterways are not central to their lives might consider ‘valuable.’ Only then can we start to look at how inland waterways and the services they can provide might fit with decision-makers values and priorities. To use a marketing analogy, it is important to think first of the customer and their needs, not of one’s product, in order to promote it successfully.

It is clear that as heritage assets, green infrastructure networks and recreational spaces, inland waterways align with many of the factors identified throughout the review as ‘of value’. Waterside development and regeneration of declining areas through improving a waterway environment is seen across the UK and worldwide. Despite being generally regarded as positive, aspects of ‘regeneration’ directly linked to investment in public goods such as waterways are hard to measure reliably – much of the evidence is necessarily anecdotal or based on individual examples. A myriad of evaluation frameworks exist to try and capture some or many of the

values associated with the themes explored. BW and Canal & River Trust have over the years also attempted to develop frameworks which capture the complex, multi-layered, multi-faceted values attached to water. It is not proposed that IWA attempt to do the same, or even to address all the potential benefits inland waterways offer, but rather to find areas where additional evidence could help inform policy-making, funding and support for inland waterways.

Historically, IWA membership’s expertise is in campaigning for restoration to navigation and active use of the network’s industrial heritage. Heritage for heritage’s sake is low on the government/decision-making agenda at present; therefore there is a need for stronger evidence on the benefits waterways heritage (built, natural and cultural) can offer to other agendas.

The Canal & River Trust work into the wellbeing value of waterways pays surprisingly little attention to the value of waterways as *navigations* to wellbeing outcomes, though it is known through the popularity of ‘honeypot’ sites that the presence of boats (or simply water-based activity) adds interest. There is therefore an important role for IWA to influence the design of future Canal & River

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10 ABOUT THE AUTHOR

Nicki Schiessel Harvey MSc, ARTPI, AIEMA

Nicki is an IWA Trustee and senior lecturer in built environment at Birmingham City University. She has a particular research interest in how different aspects of the built, natural and social environment are assessed and valued when making funding and support decisions. How evidence-creation processes and inland waterways policy influence each other is the focus of an ongoing PhD.

At Birmingham City University since 2011, the idea of multiple perspectives is something Nicki brings into teaching of professional practice and environment subjects within the School of Engineering and the Built Environment and to the School's Water, Environment and Communities research group.

Having started her career in tourism management, an MSc in Environmental Management and Tourism (where she focused on the use of socio-economic assessment in canal restorations) took Nicki into a career in planning and environmental impact assessment. During five years as an environmental planning consultant for Atkins Planning, Landscape & Heritage division, she undertook socio-economic assessments for several canal restoration feasibility studies among numerous other heritage and planning projects and bids. She coordinated Strategic Environmental Assessments and Environmental Impact Assessments for a range of planning policies and for infrastructure projects. She worked with small heritage organisations to help create Audience Development Plans to support lottery bids and was also assistant Heritage Lottery Fund monitor for the Cotswolds and Droitwich restoration projects in 2005-7.

Nicki then worked as a research analyst for the West Midlands' Regional Development

Agency, developing the evidence base to underpin regional strategies and inform partner decision-making. At the same time she studied within a multidisciplinary team exploring how to manage urban river corridors at Sheffield University, exploring how changing perceptions and valuations of urban river corridors through time has affected their use and management.



Nicki's interest in waterways stems from having spent many narrowboat holidays with her family in the 1970s and 1980s. She finally bought her own boat in 2000 and has lived aboard ever since, mainly based on a residential mooring in Birmingham (where she married the boater next door). She travels the network for several months each summer.

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