Impact Assessment for moving inland waterways into a new charity in England and Wales

March 2011

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Title	Impact Assessment (IA)	
Moving Government funded waterways to civil society	Date:	March 2011
Lead department or agency:	Stage:	Consultation
Defra	Source of intervention:	Domestic
Other departments or agencies:	Type of measure:	Secondary legislation
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Summary: Intervention and Options

What is the problem under consideration? Why is government intervention necessary?

As part of the Government's commitment to Big Society, the intention is to give waterways users, and the communities that live alongside, a greater involvement in how the British Waterways network of waterways are managed, through the creation of a new waterways charity. This will also enable the waterways to be placed on a more financially sustainable footing as the new charity will have access to new sources of income. Existing commercial income and grant-in-aid is insufficient to prevent deterioration of the waterways: if British Waterways is retained in the public sector, the proportion of its navigation assets in poor or very poor condition is projected to rise from less than 20% currently to over 40% by 2030. This would create a major backlog of repairs and safety maintenance and substantial risks to the long-term amenity benefits that the waterways bring.

What are the policy objectives and the intended effects?

To achieve the best public value from British Waterways' assets, including continued delivery of recreational and other public benefits, avoiding long-term deterioration of the network, while reducing the long-term Exchequer commitment and increasing public engagement and involvement in the waterways. This involves finding new opportunities for generating income from commercial and private sources for the management of the waterways, together with cost efficiencies, growth in volunteering to help maintain the canals and better local community engagement. The appraisal period is twenty years from the intended creation of the charity (to 2032), reflecting the long-term commitments the charity is making, the government's funding commitment to 2024, the need to build up charitable income from various sources, and the life of the waterway assets. Sensitivity analysis considers a shorter appraisal period.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

Options 1-3 can be considered "scenarios" as much as options, as their outcomes involve factors outside the control of government policy. In particular, Scenario 4 does not involve any policy option, and includes outcomes and decisions that are not necessarily a matter of Government policy (see discussion).

Option 1 – Business as usual, with committed flat cash grant funding extended beyond 2024. For the cost-benefit analysis, this is the baseline against which other scenarios are compared.

Option 2 – Create charity, assuming baseline grant funding and current base projections of charitable income potential.

Option 3 – As 2, but including Environment Agency navigation assets under NWC operation.

Option/Scenario 4 – Benchmark scenario in which the new charity exceeds current projections of additional resources by 50% to enable it to achieve a substantially improving condition profile of assets from 2020. In this IA this is referred to as "Scenario 4".

The baseline option is the least preferred. The rationale for creating a charity is set out above.

Will the policy be reviewed? It will be reviewed. **If applicable, set review date:** Month/Year **What is the basis for this review?** PIR. **If applicable, set sunset clause date:** Month/Year	
Are there arrangements in place that will allow a systematic collection of monitoring information for future policy review?	Yes

SELECT SIGNATORY Sign-off For consultation stage Impact Assessments:

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible SELECT SIGNATORY: _____ Date: _____

Summary: Analysis and Evidence

Option 2

Description:

Create New Waterways Charity, assuming committed flat cash grant funding from 2014 extended through to 2032, and assuming British Waterway's current projections of charitable income.

Price Base Year 2011	PV Base Year 2011	Time Period to 2032	Net Benefit (Present Value (PV)) (£m)		
			Low: 342	**High: 709**	**Best Estimate: 420**

COSTS (£m)	**Total Transition** (Constant Price)	Years	**Average Annual** (excl. Transition) (Constant Price)	**Total Cost** (Present Value)
Low	1.5	1	Optional	Optional
High	2.0		Optional	Optional
Best Estimate	1.5		**2.9**	**42**

Description and scale of key monetised costs by 'main affected groups'

- Costs of charity creation (Government and new charity) £1.5 – 2m.
- Costs of fund-raising, recruitment, marketing and additional administration to the new charity (rising to approx £2.7m p.a in real terms by 2020).
- Loss of rates relief to local authorities (rising to approx £1m in real terms p.a by 2020)

Other key non-monetised costs by 'main affected groups'

- Possible displacement of donations and volunteering to other charities.
- Time/money cost to volunteers and donors assumed to be at least offset by benefit of the volunteering/donating.

BENEFITS (£m)	**Total Transition** (Constant Price)	Years	**Average Annual** (excl. Transition) (Constant Price)	**Total Benefit** (Present Value)
Low	Optional		31	384
High	Optional		61	765
Best Estimate	–		**37**	**463**

Description and scale of key monetised benefits by 'main affected groups'

- Benefits reflect value of additional and better quality recreational activity to range of visitors to waterways relative to the baseline. This can also be interpreted as a proxy monetisation of the benefits of safer and better maintained waterway assets. If all new income was allocated to asset maintenance, % of assets in poor and very poor condition projected at 24-26% in 2020s compared to 30-40% in the baseline.

Other key non-monetised benefits by 'main affected groups'

- Taxpayers are relieved of a potentially substantial liability (see discussion in Section 3).
- Social benefits of increased community engagement. Non-use heritage value of the waterways.
- Property value uplift reflecting amenity benefits of improved and safer waterways.
- Possible health benefits and improved public safety (though partly captured above).
- Increased business and investment along canals (though may involve displacement).

Key assumptions/sensitivities/risks **Discount rate (%)** 3.5

- Appraisal period is 20 years reflecting the long-term objectives of the charity and the life of waterway assets.
- Projections of benefits to the charity (donations, trusts, volunteering etc). Low estimates based upon 75% of net charity income being realised and low WTP estimate of recreation benefits. High variant based upon 100% achievement of projections and high end of willingness to pay (WTP) estimates range. Best estimate based on 75% of net charity income being realised and average of low and high WTP variants. Costs assumed to vary with charity benefit projections (75%, 100%). All projections flat-lined from 2022.
- Projections of asset condition depend not just on additional charity income but also on baseline income streams from commercial portfolio which can be sensitive to property market conditions.
- Monetised benefits of additional resource to waterways expressed as recreational improvements rather than improvements to asset condition. In reality there will be a mix of the two to maximise overall long-term public benefit and the two are also interdependent.
- Increase in welfare arises from better/safer towpaths reflecting increasing unit willingness to pay (by around 8% for every £10m increase in towpath spend) and visits (6% for every £10m increase in towpath spend). Uncertainty over extent to which baseline WTP values can be fully applied to additional visits given that the new visitors may have diverted from alternative recreational activities. But even under the extreme assumption that no new visits are generated, net benefits remain significant (see sensitivity analysis). Sensitivity analysis also explores uncertainty over the extent to which unit WTP and visitor numbers change.

Direct impact on business (Equivalent Annual £m):			**In scope of OIOO?**	**Measure qualifies as**
Costs: n/a	**Benefits:** n/a	**Net:** n/a	No	NA

Summary: Analysis and Evidence

Option 3

Description:

As Option 2 but enlarging the charity after three years to include operational responsibility for Environment Agency navigation assets, grant funding as in Option 2.

Price Base Year 2011	**PV Base Year** 2011	**Time Period to** 2032	**Net Benefit (Present Value (PV)) (£m)**		
			Low: 408	**High: 845**	**Best Estimate: 501**

COSTS (£m)	**Total Transition** (Constant Price)	Years	**Average Annual** (excl. Transition) (Constant Price)	**Total Cost** (Present Value)
Low	1.5	1	Optional	Optional
High	2.0		Optional	Optional
Best Estimate	1.5		**3.4**	**50**

Description and scale of key monetised costs by 'main affected groups'

- As Option 2.
- Plus additional costs of running the larger charity base assumed to be in proportion to the additional income benefits i.e. around £0.5m by 2022.

Other key non-monetised costs by 'main affected groups'

- As Option 2.
- Additional operating and other transactions and legal costs of leasing EA navigation assets, though may be in part captured by additional fundraising costs. In a leasing arrangement, liabilities would remain with EA.
- VAT payable on riverboat registrations (currently EA craft registrations are exempt, whereas BW boat licences are not).

BENEFITS (£m)	**Total Transition** (Constant Price)	Years	**Average Annual** (excl. Transition) (Constant Price)	**Total Benefit** (Present Value)
Low	Optional		37	458
High	Optional		72	957
Best Estimate			**44**	**551**

Description and scale of key monetised benefits by 'main affected groups'

- Benefits reflect value of additional and better quality recreational activity to range of visitors to waterways relative to the baseline. This can also be interpreted as a proxy monetisation of the benefits of safer and better maintained waterway assets, including additional investment in the EA navigation assets.

Other key non-monetised benefits by 'main affected groups'

- As Option 2, plus:
- Increased profile of the NWC which would help it become established as a national trust for the waterways and enhanced governance arrangements.
- Potential synergies and savings from increasing the scale of charity to include EA navigations.
- VAT to the Exchequer of riverboat registrations of some £1.6m.

Key assumptions/sensitivities/risks **Discount rate (%)** 3.5

- As Option 2.
- Additional estimates of potential net voluntary income potential from larger charity base, at £2 – £2.7m after ten years, extrapolated from BW's original market research on fundraising potential.
- Depending upon how the EA navigations are transferred (e.g. either wholesale transfer, part transfer or by leasing arrangement) there could be issues around division of responsibilities, and who bears liabilities. It may be difficult to identify all risks in terms of the scope of the lease agreement, resulting in an increased exposure to financial and health and safety risks for EA and possibly also the NWC.

Direct impact on business (Equivalent Annual £m):			**In scope of OIOO?**	**Measure qualifies as**
Costs: n/a	**Benefits:** n/a	**Net:** n/a	No	NA

Summary: Analysis and Evidence

Option (Scenario) 4

Description:

Benchmark scenario in which the New Waterways Charity exceeds current projections of additional resource generated by the charity by around 50% in real terms, putting the waterways in a more sustainable position where the long-term condition of the infrastructure would be significantly improving.

Price Base Year 2011	**PV Base Year** 2011	**Time Period to** 2032	**Net Benefit (Present Value (PV)) (£m)**		
			Low: 760	**High: 1097**	**Best Estimate: 929**

COSTS (£m)	**Total Transition** (Constant Price)	Years	**Average Annual** (excl. Transition) (Constant Price)	**Total Cost** (Present Value)
Low	1.5	1	Optional	Optional
High	2.0		Optional	Optional
Best Estimate	1.5		**4.3**	**64**

Description and scale of key monetised costs by 'main affected groups'

- As Option 2.
- Plus additional costs of securing greater fundraising and other income. Actual costs will depend upon the source of where the additional income arises. Here we assume that, as in Option 2, these additional costs are in proportion to the additional income benefits i.e. around £1.3m by 2022.

Other key non-monetised costs by 'main affected groups'

- Very substantial fund-raising in this scenario would be more likely to lead to displacement of donations and volunteering to other charities.
- Time and money cost to volunteers and donors are assumed to be at least offset by the benefit of the volunteering/donating.

BENEFITS (£m)	**Total Transition** (Constant Price)	Years	**Average Annual** (excl. Transition) (Constant Price)	**Total Benefit** (Present Value)
Low	Optional		Optional	824
High	Optional		Optional	1161
Best Estimate			**79**	**993**

Description and scale of key monetised benefits by 'main affected groups'

- Value of additional and better quality recreational activity to range of visitors to waterways relative to the baseline. This can also be interpreted as a proxy monetisation of the benefits of safer and better maintained waterway assets. If all new income was allocated to asset maintenance, % of assets in poor and very poor condition projected to fall to 18% by 2030 compared to 40% in the baseline.

Other key non-monetised benefits by 'main affected groups'

- As Option 2 but more significant because if this target income is raised and spent on the waterways, it implies greater levels of amenity benefit (reflected in property prices), and, importantly, greater evidence of community engagement with the charity.

Key assumptions/sensitivities/risks — **Discount rate (%)** 3.5

- As Option 2 except that the scenario is defined by the charity exceeding its current income projections by around 50%. Additional costs are assumed to be in proportion to these additional income benefits. Best estimate is average of low and high, as by definition there is no variation of charity income projections in this scenario.

Direct impact on business (Equivalent Annual £m):			**In scope of OIOO?**	**Measure qualifies as**
Costs: n/a	**Benefits:** n/a	**Net:** n/a	No	NA

Enforcement, Implementation and Wider Impacts

What is the geographic coverage of the policy/option?			England and Wales		
From what date will the policy be implemented?			Spring 2012		
Which organisation(s) will enforce the policy?			n/a		
What is the annual change in enforcement cost (£m)?			n/a		
Does enforcement comply with Hampton principles?			Yes		
Does implementation go beyond minimum EU requirements?			n/a		
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:** 0	**Non-traded:** 0	
Does the proposal have an impact on competition?			No		
What proportion (%) of Total PV costs/benefits is directly attributable to primary legislation, if applicable?			**Costs:** 0	**Benefits:** 0	
Distribution of annual cost (%) by organisation size (excl. Transition) (Constant Price)	**Micro** 0	**< 20** 0	**Small** 0	**Medium** 0	**Large** 0
Are any of these organisations exempt?	No	No	No	No	No

Specific Impact Tests: Checklist

Set out in the table below where information on any SITs undertaken as part of the analysis of the policy options can be found in the evidence base. For guidance on how to complete each test, double-click on the link for the guidance provided by the relevant department.

Please note this checklist is not intended to list each and every statutory consideration that departments should take into account when deciding which policy option to follow. It is the responsibility of departments to make sure that their duties are complied with.

Does your policy option/proposal have an impact on…?	**Impact**	**Page ref within IA**
Statutory equality duties[1]		
Statutory Equality Duties Impact Test guidance	No	38
Economic impacts		
Competition Competition Assessment Impact Test guidance	No	39
Small firms Small Firms Impact Test guidance	No	40
Environmental impacts		
Greenhouse gas assessment Greenhouse Gas Assessment Impact Test guidance	No	40
Wider environmental issues Wider Environmental Issues Impact Test guidance	Yes	41
Social impacts		
Health and well-being Health and Well-being Impact Test guidance	Yes	41
Human rights Human Rights Impact Test guidance	No	41
Justice system Justice Impact Test guidance	No	41
Rural proofing Rural Proofing Impact Test guidance	No	41
Sustainable development		
Sustainable Development Impact Test guidance	Yes	41

1 Public bodies including Whitehall departments are required to consider the impact of their policies and measures on race, disability and gender. It is intended to extend this consideration requirement under the Equality Act 2010 to cover age, sexual orientation, religion or belief and gender reassignment from April 2011 (to Great Britain only). The Toolkit provides advice on statutory equality duties for public authorities with a remit in Northern Ireland.

Evidence Base (for summary sheets) – Notes

Use this space to set out the relevant references, evidence, analysis and detailed narrative from which you have generated your policy options or proposal. Please fill in **References** section.

References

Include the links to relevant legislation and publications, such as public impact assessments of earlier stages (e.g. Consultation, Final, Enactment) and those of the matching IN or OUTs measures.

No.	Legislation or publication
1	Jacobs, The Benefits of Inland Waterways (for Defra and IWAC, 2010)
2	Willis and Garrod, Valuing open access recreation on inland waterways (Regional Studies, 1991)
3	S. Lloyd, M. Hudson, M. Bennett (for British Waterways), Setting a new course: British Waterways in the third sector (November 2009)

Complete the **Annual profile of monetised costs and benefits** (transition and recurring) below over the life of the preferred policy (use the spreadsheet attached if the period is longer than 10 years).

Annual profile of monetised costs and benefits* – (£m) constant prices. See spreadsheet. This is done for Option 2, which is the basic charity scenario.

	Y_0	Y_1	Y_2	Y_3	Y_4	Y_5	Y_6	Y_7	Y_8	Y_9
Transition costs		1.5								
Annual recurring cost			-1.5	-2.1	-3.1	-3.5	-3.8	-4.1	-4.4	-4.6
Total annual costs		1.5	-1.5	-2.1	-3.1	-3.5	-3.8	-4.1	-4.4	-4.6
Transition benefits										
Annual recurring benefits										
Total annual benefits		-25	-3	-1	2	6	10	17	25	33

* For non-monetised benefits please see summary pages and main evidence base section

Summary comparison of options

The table below summarises the present value (PV) of costs and benefits by option, including a low/high range reflecting:

(a) variation around the willingness to pay assumptions and

(b) for Options 2 and 3, the extent to which BW projections of additional charity income are realised. British Waterways have projected these additional resources, and then apply a 25% prudence factor so that only 75% of those projections are achieved. We also adopt this assumption for the best and low estimates, but for the "high" variant, we assume that 100% of those projections are achieved. In Scenario 4, the best estimate is given by the mean of low and high WTP estimates, as the charity projection is fixed by the scenario.

All figures in £m, to 2032, compared to baseline	PV Costs	PV benefits Low	Net PV Low	PV benefits High	Net PV High	Net PV Best estimate
Option 2	42	384	342	765	709	**420**
Option 3	50	458	408	957	845	**501**
Scenario 4	64	824	760	1161	1097	**929**

The table shows that the more income the charity can raise, the better and safer will the waterways network be relative to the baseline. By applying evidence-based willingness to pay estimates of the welfare benefits that people derive from using the waterways, and applying assumptions about potential visitor uplift, the IA demonstrates that creating a waterways charity generates net benefits for society and offers good value for money.

Options 2 and 3, and scenario 4 (together with their low/high variants described above), represent increasing levels of income-raising by the charity, which in turn generates increasing levels of public benefit.

The Sensitivity Analysis at the end of the Evidence Section demonstrates that these results are robust to varying some of the key assumptions that underlie them.

1. Rationale and Objectives

Problem under consideration

British Waterways is a public corporation with a legislative responsibility for operating and maintaining the waterways which has been in place since 1968 under the Transport Act. Its network consists of 2700 km of canals and 500 km of navigable rivers, 1657 locks and 2664 listed buildings. Its waterways received an average of 285 million visits each year in 2007-9. British Waterways is required to maintain the waterways in a suitable condition for craft which use them and this duty is enforceable by the courts.

In recent decades, the importance of the waterways has grown and the network has changed from being largely focussed on freight to become a leisure, heritage, environment and regeneration asset. However, existing grant in aid, which is declining, and commercial income including from British Waterways' property assets is insufficient to prevent long-term deterioration of the waterways which in turn would undermine benefits and create new risks. At the same time, as a public corporation British Waterways is constrained in the income it can generate and the services it can provide, so that the potential for generating increases in public benefits is also constrained.

Further discussion is provided in the analysis of the baseline option.

Rationale for intervention

Defra's ecosystems services framework highlights the wide range of public benefits that the waterways network provides. Recent work (Jacobs 2010) has identified those 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 (see summary table in section 2 below). These are real public benefits even though many of them are not fully marketable by British Waterways (non-excludability). For amenities which are not congestible (e.g. towpath access), it would not in any case be efficient to charge (because of non-rivalry in consumption).

Canals and navigable waterways therefore exhibit the characteristics of a classic example of a public good.[2] At the same time, many of those who value the use or existence of the waterways do not need to make payment for them, or have few opportunities to express that value. The value of some commercial recreation can be extracted in the form of payments, fees and licences (e.g. for cruising or fishing), but this only accounts for a small proportion of users.

2 Public goods are those that are "non-rival" or "non-excludable" when used or consumed. "Non-rival" means that the use of the good by one person does not prevent others using that good (e.g. clean air); "non-excludable" means that a public good can only be made available to all (e.g. national defence). This implies that the market sector typically finds it difficult to supply such goods and services. As a public corporation, British Waterways is also limited in how much revenue it can raise from users.

3 Jacobs (2010)

Economic research shows that the most important category of public benefits of the canals relate to recreation,[3] and evidence shows that these benefits are positively related to spending on the "functionality" of the waterways and to the overall condition of the assets. As noted above, Government itself is a barrier to realising some of this un-marketed value because as a public corporation British Waterways is constrained in its activities and is unable to generate sources of income that charities are able to do in order to reflect and harness the use and non-use values that many people place on the waterways.

So because of these public good aspects and other regulatory constraints, in economic terms there is an under-supply of the amenities and services that British Waterways can provide. Consequently, there are unexploited welfare benefits in particular from recreational use of the waterways. The more the value that many people place on the waterways ("demand") can be expressed and captured, together with any relaxation of existing financial constraints, the greater the ability of the waterways authority to "supply" and enhance these benefits through its spending and investment – in other words, creatively expanding the market for the ecosystems services which the canals provide, which is the same as reducing "market failure". **A charity would unlock the potential to improve overall social and economic welfare.**

The policy objective

The policy objective is therefore to maintain the public benefits the waterways provide and avoid long-term asset deterioration by finding new opportunities for growing income from commercial, charitable and private sources, efficiencies through driving down the cost base, growth in volunteering to help maintain the canals and better local community engagement. A linked consideration is to achieve the best public value from British Waterways assets whilst reducing the Exchequer commitment and relieving taxpayers of a potentially large liability of the physical infrastructure of the waterways.

In line with the Government's commitment to Big Society, the intention is to give waterways users, and the communities that live alongside, a greater involvement in how the British waterways network of waterways are managed, through the creation of a new waterways charity. This will also enable the waterways to be placed on a more financially sustainable footing as the new charity will have access to new sources of income and volunteering opportunities.

An important part of the rationale for establishing the new waterways charity is to allow it to take on ownership and responsibility for the waterways and all of its associated infrastructure. The Government considers that all of the property which British Waterways currently holds is necessary for it to carry out the task of running the waterways, either indirectly (through producing commercial income to fund it) or directly (for the operation of the network). The planned transfer of British Waterway's commercial property endowment from the Government to the charity (other than those that will be retained by British Waterways in Scotland) provides a necessary basis for income generation to manage the long-term liabilities of the waterways.

3 Jacobs (2010)

This proposal and the associated impact assessment specifically excludes the canals currently managed by British Waterways in **Scotland**. Inland waterways policy and sponsorship in Scotland, as well as grant-in aid, are devolved matters and so British Waterways' activities there are under the oversight and ultimate control of the Scottish Government. The Scottish Government has decided that its canals, and British Waterways Scotland, will remain in the public sector.

The proposal to move British Waterways into civil society will mean that for the future the Government will no longer need the **Inland Waterways Advisory Council** to provide advice for policy development. IWAC was created in April 2007 by the Natural Environment and Rural Communities (NERC) Act 2006 as successor to the Inland Waterways Amenity Advisory Council (IWAAC) to advise Government, navigation authorities and other interested persons on matters relevant to Britain's inland waterways. The Government has therefore decided that IWAC should be abolished. More generally the Government has also decided that it does not need a statutory Arm's Length Body to help to develop policy for the inland waterways as policy development is the role of Government Departments and Ministers. The Government and navigation authorities need to engage with stakeholders directly in the design, implementation and management of the new structure. This decision does not indicate that Government will place less emphasis on the importance of the inland waterways. If anything, it will be more directly involved as it seeks to place the inland waterways onto a more sustainable footing through the work towards moving the waterways into a civil society organisation. It is anticipated that IWAC's activities will wind down given the Government will no longer be asking it for advice in advance of the Order under the Public Bodies Bill to formally abolish it during 2012. The abolition of IWAC will have no regulatory or other cost impact on business, charities or other bodies. Abolition of IWAC will be cost neutral but savings of around £200,000 per year to Government are expected in respect of the costs of research projects, the Chairman's fees and Council members expenses and the cost of the small secretariat which supports the Council.

2. Description of Options

Options 1-3 are effectively scenarios as well as options, as their outcomes involve factors outside the control of government policy. In particular, Scenario 4 does not involve any policy option, and includes outcomes and decisions that are not necessarily a matter of Government policy.

Option 1

A baseline "business as usual" scenario in which British Waterways remains a public corporation, which leads to long-term deterioration in physical assets of the network and missed opportunities for maintaining public benefit. This scenario is clearly a policy option, but it is considered the least-preferred option. In line with the recent spending settlement, Grant-in-Aid for the waterways in England and Wales is £41.5m for 2011/12, representing a 19% cut compared to 2010/11. Annual Grant-in Aid is then £39m in cash terms for the rest of the Spending Review period (to 2014/15). For purposes of analysis, we assume that Defra's recent long-term commitment to extend this funding to 2024 applies to the baseline and charity options, and is further extended to the end of the appraisal period. For the cost-benefit analysis, this is the baseline against which other scenarios are compared.

Option 2

Create New Waterways Charity, assuming grant funding as in the baseline scenario and also British Waterways' current projections of charitable income potential. The actual grant funding stream will be a matter for negotiation between the new trustees and the Government.

Option 3

As 2, but including operational responsibility for the Environment Agency navigation assets in the new charity after a three-year delay.

Option/Scenario 4

A hypothetical benchmark scenario in which the New Waterways Charity finds sufficient growth and scale of funding from a range of sources which would put the waterways in a more sustainable position where the long-term condition of the infrastructure would be significantly improving. This is broadly equivalent to the the New Waterways Charity exceeding British Waterways' projections of increased resource to the charity by around 50%[4] in real terms. In this IA this is referred to as Scenario 4.

4 This additional amount is compared to BW's initial projection of civil society benefits before the 75% prudence factor is applied (see below on the projections). It is equivalent to roughly double the projections of civil society benefits where the 75% prudence factor is applied.

3. Assessment of costs and benefits – Business as Usual (Option 1)

The baseline, "business as usual" scenario is the least preferred option in terms of meeting the stated policy objectives. Costs and benefits of this scenario are not specifically estimated because, by definition, this is the baseline against which other scenarios are compared. It is, however, important to note that the baseline is not static, and is not simply the "status quo" as it has been in recent years for the reasons below. Here we assess the challenges that arise in the baseline and the implications for the network and public benefits.

British Waterways' financial challenges

With a shrinking resource base, the ability of British Waterways to maintain the substantial public benefits of the inland waterways and the condition of the capital assets upon which those benefits ultimately depend, would be in long-term decline.

British Waterways currently has a number of sources of income, many of which are growing. It generates £35m of income from its portfolio of **non-operational properties** (valued currently at over £350m – though this was considerably greater before the property market downturn). This derives largely from property endowments when British Waterways was created and its ability to trade and develop property alongside the waterways for which it is a navigation authority. Income arising from this portfolio, along with significant other income from utilities and 35,000 boating licences, are used to help operate and maintain the waterways.

British Waterways expect the value of the property portfolio to return to pre-downturn levels. Whilst British Waterways' joint ventures were, as with property holders elsewhere, particularly hard hit by the property downturn, effective management of the portfolio has resulted in British Waterways consistently outperforming the IPD Index over the five years up to 2008 and before the property market downturn. During the 2010 Spending Review, Ministers decided against disposal of the assets as part of the Spending Review, recognising that this would require a significant increase in GIA to replace lost income or the waterways could no longer be maintained at minimum health and safety levels. Importantly, British Waterways' ability to leverage its non-operational commercial portfolio to grow this source of income is constrained by a fixed statutory cap of £35m on its borrowing by the 1962 Transport Act.

British Waterways has an added pressure from having to deal with a substantial pension deficit. It is anticipated that the valuation of the pension fund deficit as at 31 March 2010 will be reduced substantially from the previous estimate of around £100m due to various changes in assumptions and circumstances including the change from RPI to CPI for future pension increases. Nevertheless the anticipated deficit will still be well in excess of the 2007 deficit of £38.5m.

Taking account of BW's other sources of income, less than 50% of spend on the waterways (core waterways and major works) comes from the government **grant-in-aid.** Yet ongoing pressures on public funding have led to a reductions in recent years and and as part of meeting the Government's overall aim to reduce the size of the budget deficit, in 2010 the Government announced funding for British Waterways in England and Wales of £41.5m for 2011/12 (down from £51.3m in 2010) and £39m for the following three years.

The implications and risks for the waterways

In the context of these pressures and constraints, a significant funding gap has emerged in recent years between British Waterways' income and what is necessary to keep the waterways and network assets (such as reservoirs, locks, bridges, embankments, aqueducts and cuttings) in optimal working order. Unlike other infrastructure operators British Waterways does not have the option of replacement by newer (and lower maintenance) assets due to the heritage nature of the network. Asset management procedures allow British Waterways to prioritise based on risk and consequence of a failure of principal assets.

Importantly, the public benefits delivered by the waterways are largely dependent on the condition and level of usage of the network and the quality of the environment through which it passes. The consequence of the funding gap is that the safe working condition of the network, including the towpaths and associated public access opportunities, will decline and/or sections will need to be closed to navigation. This will bring into question British Waterways' ability to meet its statutory responsibilities to maintain the network. British Waterways is already facing difficulties in cost-effective maintenance of waterways in a suitable condition for freight craft under the 1968 Transport Act. Without developing new streams of income, the safety, amenity and functionality of the waterways will reduce and this will impact upon public benefits. Therefore, whilst other scenarios show benefits when measured against this baseline, this scenario will represent a significantly less desirable state than the position of recent years.

The condition of British Waterways' assets clearly demonstrate this. For many years, British Waterways has been carrying risks related to the condition of ageing infrastructure (see box), and as a broad indicator of the sustainability of the network and how associated risks may evolve over the medium term, British Waterways models and projects **the proportion of its navigation assets in poor or very poor condition (grades D and E).** This is based upon its projections of income and funds available for maintenance. Insufficient resources mean that, over time, assets deteriorate. And lower grade assets require higher maintenance which in turn have knock-on impacts on the cost of future funding and repairs. For instance, as assets deteriorate into categories D and E, each unit of expenditure "buys less" in terms of improved condition than it would have done if in a better grade of condition. Thus the possibility of a vicious circle arises: deteriorating assets require more maintenance which reduces the scope for asset upgrades and repairs, thus leading to further deterioration of the network and which ultimately impacts upon spend on towpaths and access. Over recent years British Waterways has planned to reduce the percentage of assets in the lowest two grades to 10%, but this target has since risen to 22%. **With business as usual, British Waterways projects that the proportion of its navigation assets in poor or very poor condition (grades D and E) will rise from less than 20% currently to over 40% by 2030 (see chart).**

At what level does the poor condition of assets pose a safety risk to the network?

As part of its asset management approach, ten years ago British Waterways developed the idea of "target condition grade".

This approach sets a target condition grade for an asset depending on the consequence of its failure. For a principal asset with a consequence of failure of 5, the target condition grade should be no worse than B; for a consequence of failure of 4 it should be no worse than C. In other words no assets with the two highest consequences of failure (4 and 5) should be allowed to drop into the two lowest condition grades (D and E). At the last calculation British Waterways had 2,013 (nearly 20%) Principal Assets of all types and grades below their target condition grade.

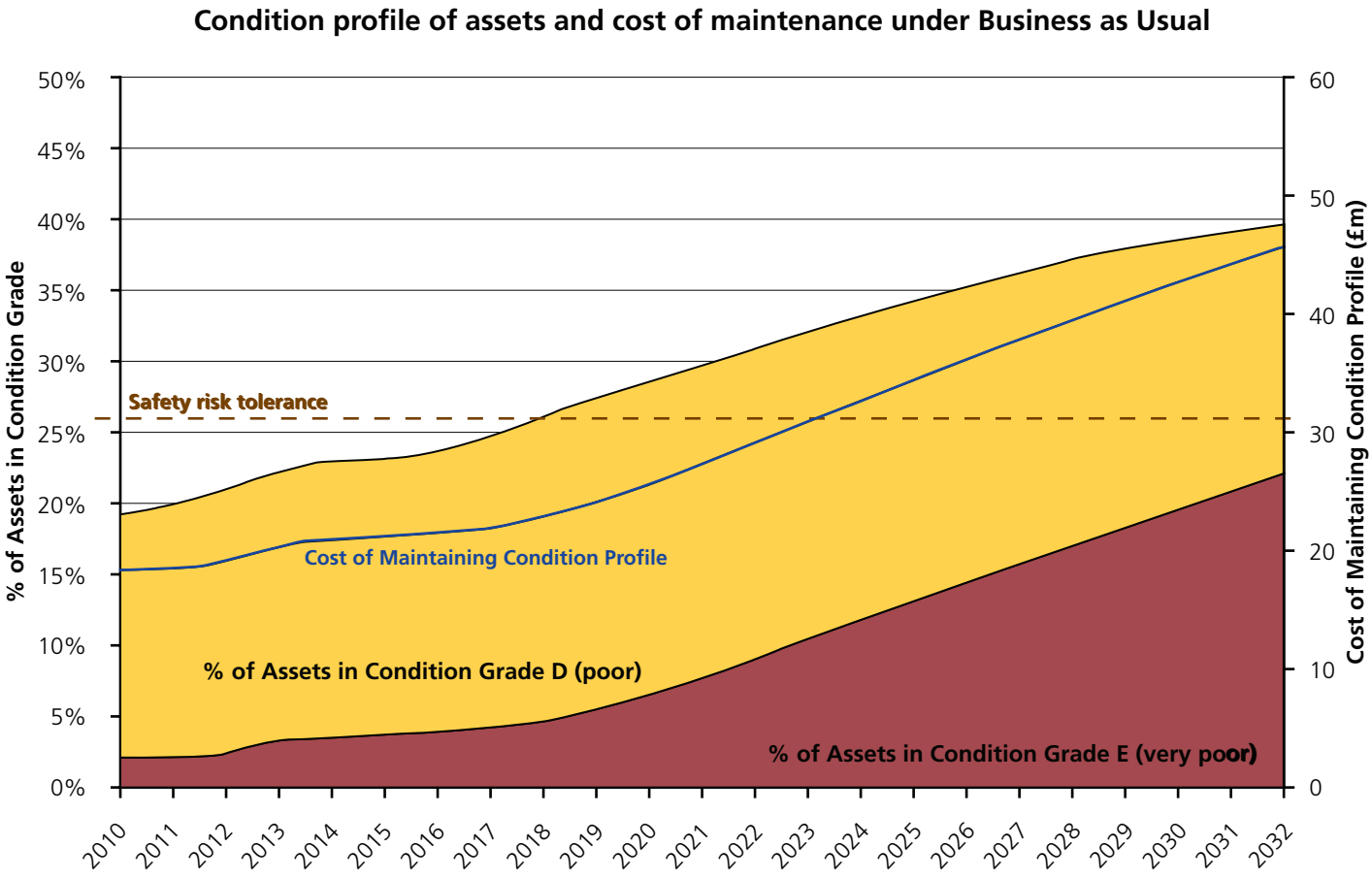
It is not possible to be precise about when such risks become unmanageable, so the trends are important. On a day-to-day basis British Waterways manages risk by focussing on those assets in the poorest conditions with the highest consequences.

Such a trajectory would:

- create very substantial and ever-increasing risks to public safety, as well as to the long-term amenity benefits that the waterways bring;
- create ever-growing liabilities and risks for taxpayers;
- represent an increasingly inefficient use of public funds.

Estimating where a possible "tipping point" lies is very difficult to model, as are the precise risks to health and safety, and is a matter of expert judgement. As a point of reference, the "safety risk tolerance" line in the chart refers to a threshold past which British Waterways consider that arrears of maintenance and the risks that pose to public safety become critical.[5] This would inevitably impact upon the accessibility of the towpaths and the quality of the recreational experience as assets become unsightly, towpaths become unsafe and closures and diversions are put in place. Overall visits could decline, particularly if perceptions increased that many waterways had become poorly maintained and unsafe.

5 The 'safety risk tolerance' line is a benchmark that refers to the proportion of principal assets in condition grades D and E in 2004, after BW cleared a backlog of safety repairs.


Condition profile of assets and cost of maintenance under Business as Usual
% of Assets in Condition Grade
Cost of Maintaining Condition Profile (£m)
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
60
50
40
30
20
10
0
Safety risk tolerance
Cost of Maintaining Condition Profile
% of Assets in Condition Grade D (poor)
% of Assets in Condition Grade E (very poor)
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032

4. Benefits from creating a New Waterways Charity

The **Rationale** section sets out the case for market failure in the Waterways and the other constraints that prevent British Waterways from supplying the benefits valued by the 13 million visitors who make some 280 million trips each year to the network as well as external benefits to wider society. Creating a national waterways charity would address a range of new opportunities to enhance the resources going into the network. There are therefore two key stages to the analysis of benefits:

1. Assessing the **additional resources and income** which a waterways charity could generate (Options 2 and 3). Apart from increased community engagement, these additional income streams should not be considered as net public benefits. Rather they are the means to delivering additional public benefits. Otherwise we would be double-counting.
2. Estimating how this additional resource would **deliver additional public benefits.**

We consider each in turn.

1. Assessing additional resources that the charity could generate

A change to British Waterways' status to become a civil society body will lead to improved long-term economic sustainability through new opportunities for growing income from private and commercial sources, efficiencies, growth in volunteering to help maintain the canals and better local community engagement. Analysis of fundraising potential has been provided by British Waterways for this Impact Assessment. Further background to some of these issues can be found in the report produced for BW in 2009, *Setting a New Course: British Waterways in the Third Sector.*[6]

Fundraising

It is important to emphasise that **future fundraising projections are hypothetical until the point at which the charity is created and it has the opportunity to fund-raise.** They are not actual targets. Fundraising performance varies dramatically from charity to charity, especially in the early days when no matter how good the charity's approach, its performance will be dependent on strong fundraising expertise and sustained levels of investment being consistently available. It is also likely to depend upon the wider economic environment and the level of disposable incomes.

British Waterways intends to gradually "harden" the projections through research and testing to develop an increasingly robust financial model.

6 www.britishwaterways.co.uk/twentytwenty/setting-a-new-course

As of September 2010, fundraising assumptions are based on three key datapoints:

- Canal-side research conducted in January and July 2010 which estimated the proportion of visitors who could be stopped for a conversation, and subsequently converted to various forms of financial support for a national waterways charity. This face-to-face quantitative interview research was carried out at around twenty BW waterway locations by BDRC, an independent market research company. Results from both "waves" of survey were very similar.
- Broad "benchmarking" against The Woodland Trust as an organisation with a scale of fundraising that the new charity could usefully emulate in the first ten years.
- Discussions with Clive Mattock Fundraising (CMF) to discuss canal-side donor recruitment potential, including a detailed financial model.

Other assumptions are provided by THINK Consulting Solutions based on their knowledge of the UK fundraising sector and marketplace.

Additionally, some focus group research (also by BDRC) was conducted in summer 2010 separately amongst boaters, visitors, and those interested in heritage et al.[7] The researchers estimate that there could be around 1 million visitor parties each year with the profile (ABC1 35+) and level of interest in canals to become donors.[8] The following table summarises estimates of potential committed giving support.

	All visitor parties[9]	Higher potential visitor parties[10]
Potential audience size	5.4 million	1.1 million
Intercept rate	26%	
	1.4 million	
Conversion rate	6%	12%
Likely to become a member or regular donor	85,000	130,000

Source: British Waterways

These data points suggest therefore that the potential for recruiting members/regular givers may **currently** lie between 85,000 and 130,000 for canalside recruitment. This figure might be boosted longer-term as the new charity becomes better known, and the need for public funding better understood. Other recruitment channels, especially online, will eventually supplement canalside recruitment but these have not been factored in as they are much more dependent on profile.

7 The modelling of the results' implications to produce projections for the charity was carried out by Think Consulting, a leading third sector fundraising consultants. The lead consultant was Margaret Bennett, who has over 20 years experience in fundraising including stints as Fundraising Director of WWF and Red Cross.

8 13 million annual visitors to waterways (IWVS). Around 60% demonstrate an appreciation and enjoyment of the canal environment: walking, running, rambling, dog-walking, cycling, fishing. The core charity donor segment is ABC17 and people over the age of 45 are the best donors, with 35-44 years olds the next best group of donors. From the visitor profiling we might broadly estimate that 40% of visitors may fall into this core ABC17 35+ segment, equating to around 2.5 million of the 'interested visitors' who match the general profile of a charity donor. At 2.4 people per household this equates to 1 million households with both waterway use and charity donor profile.

9 11 million visitors divided into parties of 2.2 = 5 million.

10 Based on THINK's interested visitor + charity donor profile.

Cash donations are likely to come partly from members/regular givers. They may also come from local appeals which would also bring new donors on board who might be converted to membership/ regular giving. As the nature of appeals has not yet been defined, at present there are no assumptions included at this stage that appeals will recruit additional supporters.

In summary, this research suggests that by year ten of a sustained investment programme in developing the volunteer and donor base there is the potential for a net contribution of £8-10 million from voluntary sources. It is likely that around 75% of this net contribution would come from regular subscriptions and donations by the public, and the remainder from a mix of legacies, companies and trusts. This includes ad hoc donations, special appeals, regular contributions, legacies and others forms of donation and partnerships and sponsoring. Achieving these new income streams will require investment in building up the donor population and in recruitment (all figures are net), but will be aided by growth in volunteer population.

Making better financial use of its assets

At present, British Waterways is limited by the 1962 Transport Act to borrowings of £35m. The new charity would have greater freedom to borrow against its assets, and this would allow the charity, over the longer term, greater flexibility in the management of its property endowment and expanded opportunities to invest in property which would generate an additional rental return to the charity. British Waterways is also limited by public accounting rules to holding a maximum of 50% ownership of joint ventures. As a third sector organisation, the charity would have greater freedom and flexibility in the structuring of joint ventures or other investment vehicles where it could justify greater returns without commensurate increases in risks. BW estimates that this would increase the charity's finances by up to £1m p.a. over ten years.

Business rates charity relief and other cost savings

The new charity is assumed to be eligible for rates relief. Combined with other savings on premises and positive changes in staff attitudes to seek out efficiencies as a working charity, BW project that these savings could amount to £1m p.a.

Note that rates relief represents a transfer from taxpayers to the charity. Therefore whilst this in itself is not the benefit, it is included in both sides of the cost-benefit equation: it represents a cost to the taxpayer which is counted under costs (see section 5 below), but as part of the additional resource that the charity can generate, it also feeds in to the benefits that arise from the waterways' network improvements that the new charity can bring compared to the baseline.

Increased volunteering and community engagement

Greater efficiencies which come with the model and the greater use of volunteers (based on existing operational spend being substituted by volunteer labour) are estimated to generate additional charity resources of approaching £3m a year by 2021/2.

Increased community engagement cuts across many of the other benefits. Closer engagement is particularly important as this will help local communities recognise what the waterways have to offer in terms of public health, wellbeing and green travel to work, as well as opportunities for enabling regeneration in both inner city and rural areas. British Waterways is currently perceived by some

stakeholders as being publically owned and the responsibility of Defra to fund. Civil society status would improve overall public engagement in governance of the waterways through more willingness to get involved in decisions which affect their future. This offers a good model of the Government's **Big Society agenda.** The waterways have the capability to deliver on a range of local objectives and there is the scope for building local partnerships which can help reduce the funding gap through better local engagement.

Clearly, some additions to the charity's resources (such as rates relief) will represent a cost to others (taxpayers), and these are captured in the costs section. So too are the costs involved in generating these income streams and developing the charity. **In modelling the public benefits, we do not model the additional income to the charity itself, rather the public benefits that flow as a result of the additional functionality which that additional resource brings.**

The table below summarises BW's Illustrative projections of additional resources to the New Waterways Charity that are used in the modelling. All income figures are net of costs and are in nominal terms. Given the uncertainty of these projections and the risks of under-achievement, British Waterways have applied a prudence factor which assumes that only 75% of their initially projected resources are generated, although in the cost-benefit analysis we use 100% achievement to generate a range. Beyond 2022, we assume for the cost-benefit and asset condition analyses that projections are flat-lined in cash terms rather than continuing to rise.

Illustrative projections of additional resources for the waterways from moving to civil society

£000	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Voluntary income and donations	(265)	(330)	(472)	(489)	626	1,816	2,926	4,378	5,534	8,670
Set up costs	(1,500)	–	–	–	–	–	–	–	–	–
Rates relief and other operating cost savings	750	773	796	820	844	869	896	922	950	979
Extra return on capital from debt gearing	–	–	–	188	263	375	488	563	638	750
Net value of volunteering activity	273	419	573	734	903	1,234	1,581	1,945	2,326	2,725
Total additional resource for waterways from move to Civil Society	**(742)**	**862**	**897**	**1,252**	**2,636**	**4,294**	**5,890**	**7,808**	**9,448**	**13,123**

Including the Environment Agency navigations in the New Waterways Charity (Option 3)

As set out in the consultation document, broadening the charity's scope to include the Environment Agency navigations (including Anglian waterways, the Medway and Thames) would potentially bring additional financial and non-financial resources for the charity and to the EA navigations network. Including these navigations would expand the potential fundraising base to include 30,000 boat owners and the millions of people who live near to the EA navigations (particularly the Thames) which would increase the number of people who are most likely to be interested in giving and volunteering. By extrapolating the market research and fundraising potential for British Waterways' network, British Waterways estimates (based upon relative lengths of waterways) that the additional resources to the charity of operating EA navigations could build up to the order of **£2 to £2.7m** in net voluntary income.[11]

Again, such figures are highly illustrative but can be firmed up once the charity is under way and fundraising potential is tested on the ground.

This additional income could be invested in EA navigation assets or more broadly in the charity's network. Whilst a larger charity base and network is likely to give rise to additional operating costs it would also increase the potential for synergies and further economies. There would be other, less quantifiable advantages, such as enhancing wider community engagement, and strengthening the brand, profile and reach of the Charity.

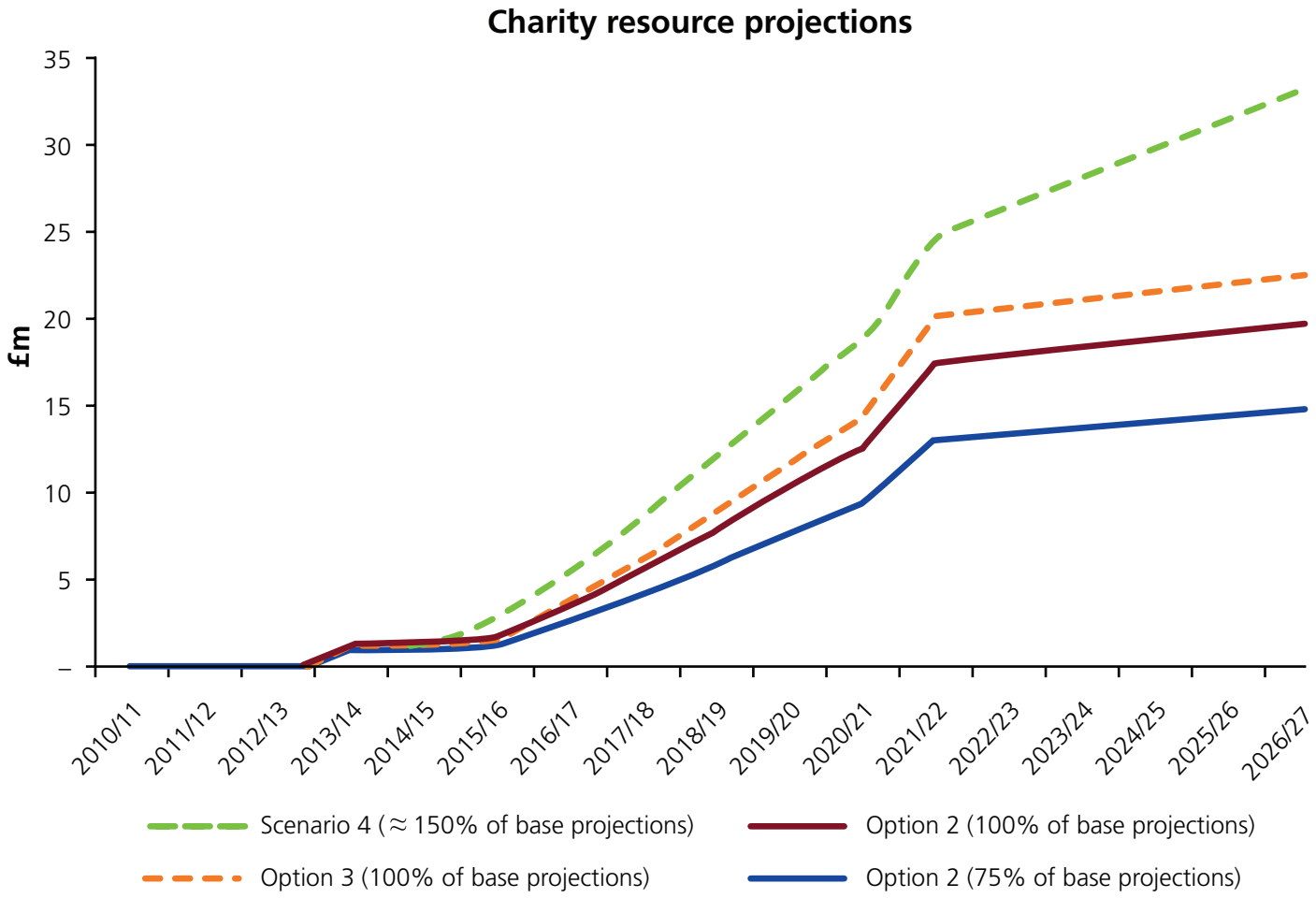
Grant-in-aid

As part of meeting the Government's overall aim to reduce the size of the budget deficit, the Government announced funding for British Waterways in England and Wales of £41.5m for 2011/12 and £39m for the following three years. For the modelling, the funding assumptions for Scenarios 2 and 3 are the same as the baseline. However, in consideration of the need to provide some certainty for the new charity, Defra has indicated a commitment to maintain this level of funding going forward until 2022. Notwithstanding this, discussions on the future funding settlement will begin once the shadow trustees have been appointed. The shape of future spending reviews is also uncertain. Our modelling assumes that this baseline funding is projected through to the end of the appraisal period.

11 This extrapolation appears reasonable given that there is little spatial overlap between British Waterways' navigations and those of the Environment Agency.

The challenge for the charity: summary

The following chart shows the relative scale of nominal (cash) projections for the two variants of Option 2, Option 3 and the benchmark "target" profile of Scenario 4, which describes a position in which the long-term condition of the infrastructure would be significantly improving (see below).[12]



2. Analysing public benefits

Inland waterways bring a wide range of benefits. As a network of ecosystems, they provide a range of "ecosystem services"[13]. These are summarised in the table below.

Whilst some of these benefits are only likely to be realised where substantial investment is targeted at particular sites (e.g. a major restoration scheme), an overall increase in the resources available to the network (through improvements in assets, towpaths, access and so on) are likely to enhance these services and the value that they confer. This is also true where the effect of the charity is to **avert** the deterioration that characterises the baseline, rather than secure **new** benefits. Benefits where positive changes are most likely to be significant from the creation of the charity are shaded in the table

12 Cash projections after 2021 are assumed by British Waterways to rise with inflation.
13 using the conceptual framework of the UN Millennium Ecosystems Assessment in 2005.

below (different shading represents potentially high and moderate impacts). On the other hand, any long-term deterioration of the waterways could undermine many of the benefits listed.

Benefits of inland waterways within an ecosystem services framework

Provisioning Services Provisioning services result in products being provided by the environment (ecosystems), such as food, fibre, fuel and natural medicines. In relation to inland waterways, these relate mainly to the provision of economic benefits such as:	
Creation of business opportunities	Creation of business opportunities (e.g. marinas, restaurants and shops). These are not necessarily welfare benefits given potential for displacement and relocation of activity
Property premium	Property/land price premium on commercial and domestic property in proximity to inland waterways
Renewable energy	The provision of renewable energy opportunities
Transport	Transport routes (e.g. freight, commuters)
Provision of water	The provision of water for supply for abstraction
Utilities	Laying of cables along towpaths
Volunteering	The availability of volunteers
Regulating Services Regulating services provide benefits obtained from the regulation of ecosystems processes. One reason why regulating services are important is that they provide 'infrastructure' and 'insurance' values. In many cases it is necessary to maintain at least a minimum set of these services in order to ensure a reliable and sustainable flow of the resulting benefits. The regulating benefits identified for inland waterways are:	
Carbon savings (renewable energy and transport)	Climate regulation and carbon savings (e.g. from freight, walking/cycling which displace other more carbon-intensive modes of travel)
Drainage, water conveyance, flood protection and alleviation	Drainage and the conveyance of water away from populated areas, thereby possibly providing flood protection and alleviation benefits along with other benefits
Water regulation and pollution dilution	Water cycling and pollution removal and dilution
Water quality	Water quality improvements

Cultural Services Cultural services provide the non-material benefits people obtain from the environment through spiritual enrichment, cognitive development, reflection, recreation and aesthetic experiences. This category therefore includes both direct non-consumptive uses and non-use values as follows:	
Recreation (all forms)	Land based recreation, including informal users, walking/running/dog walking, cycling, bird watching, events/festivals, visiting heritage sites Water based recreation, including angling, boating (hired and owned), canoeing/kayaking, waterskiing, sailing, rowing and jet skiing
Visual amenity	Visual amenity of navigable waterways (partly captured by property uplift)
Education	Social benefits, including community regeneration/capacity building, social enterprise and volunteering. Regeneration may lead to other benefits including reduced crime and vandalism, improved community image and heritage benefits; education and training opportunities and quality of life improvements
Volunteering	
Community benefits	
Non-use values	Non-use values, including habitat restoration and provision that are not captured elsewhere, and valuation of heritage
Supporting Services These functions that are necessary for the production of other ecosystem services from which we benefit, such as habitat formation, biodiversity, soil formation and nutrient cycling	
Habitat and biodiversity	Inland waterways provide important wildlife corridors, providing and linking habitats in town and countryside in an increasingly fragmented ecological network (highlighted by the recent Lawton Review, *Making Space for Nature*). The network currently includes over 70 SSSIs and over 1000 other nature sites
Key	*High impact from charity creation* / *Moderate impact from charity creation*

Source: adapted from Jacobs (2010).

In this Impact Assessment, we compare scenarios and their likely impacts in two distinct but related ways:

1. **Projection of assets in poor condition** (including baseline scenario). This modelling assumes that all the benefits of charity creation are allocated to reversing the baseline decline in asset condition.
2. **Monetised changes in recreational benefits** using "willingness to pay" values that reflect people's revealed preferences. Only the change relative to the Baseline Scenario is modelled. Whilst there are a range of public benefits from charity creation, evidence from the Jacobs research and analysis by British Waterways shows that the most significant impact is on the recreational experience. And because there are reasonably robust valuations of the recreational benefits of waterways (see Annex 2) these form the basis of the quantified benefits in this Impact Assessment. These recreational benefits are modelled in relation to the **"functionality"** of the waterways, which relate to general public-facing management and upkeep of the waterways rather than repairs of major capital assets such as locks and so on. Examples of functionality are towpath repairs, access

management, vegetation and tree management, boundary maintenance, litter removal, customer services and spot dredging. These will have an impact on leisure (boating) income and public benefit. Functionality spend improves the appearance and usability of the waterways, for example enabling exercise and other outdoor activities and reducing concerns about security and crime. These improvements result in increased visits and increased value per visit. This expenditure is not the same as that which goes on major capital repairs and upkeep (e.g. on locks and bridges).

For modelling purposes, we assume that the additional income would be allocated wholly either to asset maintenance and repair, or to functionality spend.

Nevertheless, it is clear that the condition of assets, recreational enjoyment and wider public benefits of the waterways are closely related:

- Assets in poor condition will affect amenity and heritage benefits of the waterways, increasing actual and perceived health and safety risks.
- Asset failures will affect access through possible towpath, bridge and navigation closures.
- A maintenance cost spiral on assets would ultimately lead to a reduction in functionality expenditure. Equally, improving the condition of the assets would ultimately free up more resource for functionality.

In reality there will be a mix of the two forms of expenditure, which in the charity's judgement, would maximise overall long-term public benefit.

1. Projecting asset conditions

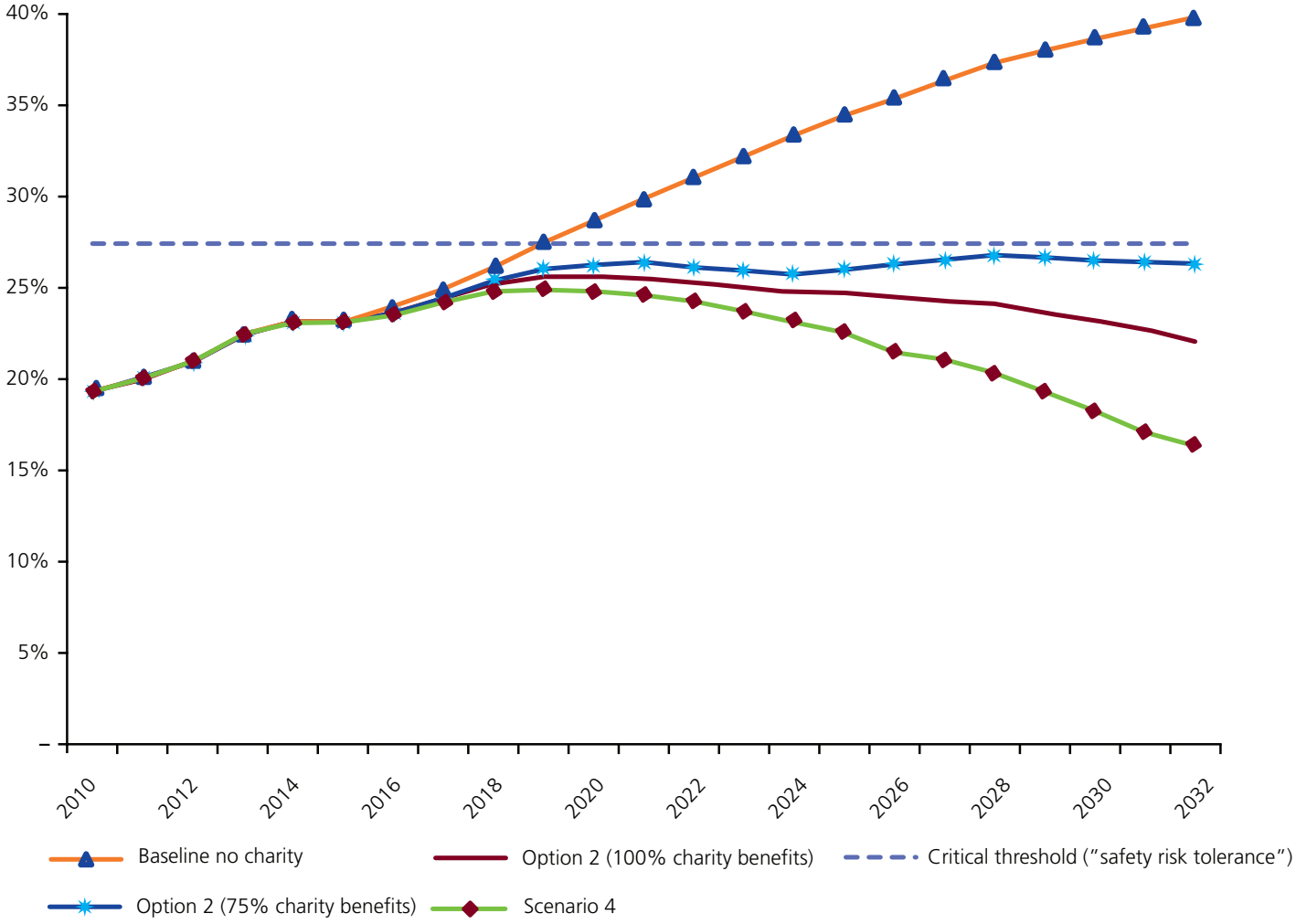
We have already set out the likely trajectory of asset condition under the baseline. Were all additional charity income to be allocated to maintaining and repairing the network's assets, according to British Waterways' modelling, the table below summarises the trajectories of assets in poorest condition (D and E) that would be expected. To reflect the uncertainty of charity income projections in Option 2, we show a range reflecting 75% and 100% of charity income projections being achieved. Scenario 4 broadly reflects an income trajectory in which those projections are exceeded by 50%. As noted earlier, the "safety risk tolerance" line in the charts refer to a threshold past which British Waterways consider that arrears of maintenance and the risks they pose to public safety become critical.

We do not model the effect of Option 3 (inclusion of EA navigations), because EA navigations are not in British Waterways' asset model. But it should be clear that notionally, this Option would lie between Option 2 and Scenario 4.

Note that these projections of asset condition depend not just on additional charity income but also on baseline income streams from commercial portfolio which can be sensitive to property market conditions.

Option	% of assets in D&E by 2022	% of assets in D&E by 2032
Option 1 (Baseline)	31	40
Option 2 (75% charity benefits)	26	25
Option 2 (100% charity benefits)	26	22
Scenario 4 (≈ 150% charity benefits)	24	16

Proportion of assets in poor and very poor condition, projected 2010-32 by option



2. Modelling recreational benefits

A major part of this Impact Assessment is the valuation of changes in the non-market recreational benefits that arise under different options, where all the benefits of the charity are assumed to be spent on functionality. British Waterways and Defra economists have conducted indicative modelling to illustrate potential changes based on how recorded visitor numbers (285 million visits in 2007-9) and **willingness to pay** per visit (£0.81 to £1.14[14]) change in response to changes in baseline spending on the waterways. The source and estimation of the baseline willingness to pay values are set out in Annex 2 on **value transfer.** British Waterways have developed a model setting priority order the operational activities (other than safety-related activities such as water control) that would be affected incrementally by reference to the scale of expenditure change in each scenario. This modelling sets out how changes in expenditure might feed through to different elements of functionality and then makes plausible assumptions, based on expert judgement, about how this affects visitor numbers and willingness to pay.

14 Based on original estimates by Garrod and Willis 1991, up-rated for price and income changes.

While evaluation and survey evidence demonstrate that waterway condition has a bearing on both use and public benefit,[15] it is not possible convincingly to link levels of expenditure to public benefit in a precise or robust way. In the modelling, for functionality changes of around £10m, annual visits (following a three-year lag) are assumed in the modelling to increase by around 6% and willingness to pay per visit by 8%. This appears to be a conservative assumption. For instance, a visitor monitoring programme at sites in the West Midlands (Stourbridge and Walsall) in the late 1990s demonstrated that towpath visitors increased by 110% as a result of towpath and environmental improvements, although the increase may not be fully attributable to those improvements.[16] See Annex 3 for further detail. Market research in 2010 for the Environment Agency also confirmed that users of their waterways would visit more were facilities to be improved. In contrast, facilities and access were less important for non-users than preferences, although improvements could still have some effect in attracting previous non-users.[17]

Using the ecosystem services framework, Defra has in hand further detailed research exploring to what extent benefits are likely to be affected by positive or negative changes in funding at different levels and for different categories and locations of waterways. This should allow the inclusion of estimates of amenity and regeneration benefits reflected in increased property values by or near an improved waterside. This research should be ready to inform the final Impact Assessment.

Overall, the increased benefit from greater functionality is calculated as the difference between aggregate willingness to pay under the policy option and baseline aggregate willingness to pay. The difference will be a product of plausible changes in visitor numbers and in benefits per visit. A change in functionality is also assumed to have feedback effects through knock-on changes in boating use and income.

Summary of key modelling assumptions

- Range of charity's net benefits based upon 75% of projected net benefits being realised and 100% being realised. In Scenario 4, projections are assumed to be exceeded by around 50%.
- Baseline willingness to pay values per visit to waterways of £0.81 to £1.14 (see Annex 2).
- Three year lag between change in income and change in functionality benefit. This assumption may be revisited through the latest research noted above.
- Response of WTP and usage to changes in functionality (for changes of around £10m, annual visits change by around 6% and willingness to pay per visit by 8%), which are based upon expert judgement. Baseline WTP values are fully applied to additional visits.
- All future costs and benefits measured in **2011 prices** (inflation is stripped out), and **discounted** to the base year of 2011 so that costs and benefits occurring at different times can be measured on a consistent basis. The Treasury recommended discount rate is 3.5% for appraisals up to 30 years. The discount rate implies that costs and benefits are valued less (from the standpoint of the present) the further into the future they are incurred.[18]

15 For instance, the Jacobs for British Waterways, Economic evaluation of the Rochdale and Huddersfield Narrow Canals Restoration (August 2010).

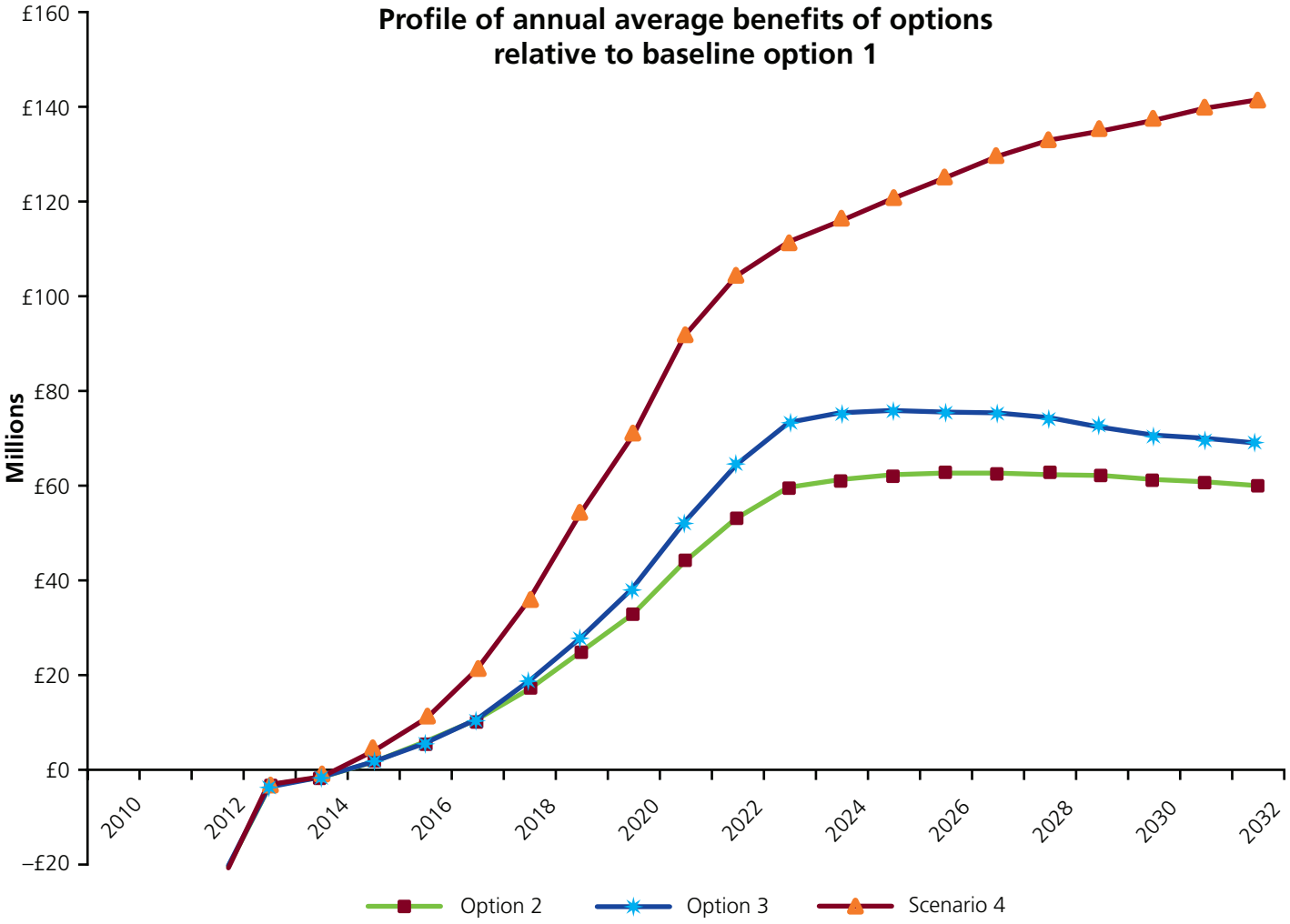
16 It is worth noting that the number of visits (around 280 million) is much greater than the number of visitors (13 million) to the waterways, which means that many visitors will be frequent users of the waterways (e.g. for jogging, cycling, commuting, dog-walking etc). Regular users will be more likely to notice improvements and may therefore account for a significant share of the additional visits.

17 Environment Agency, Valuing waterways (2010).

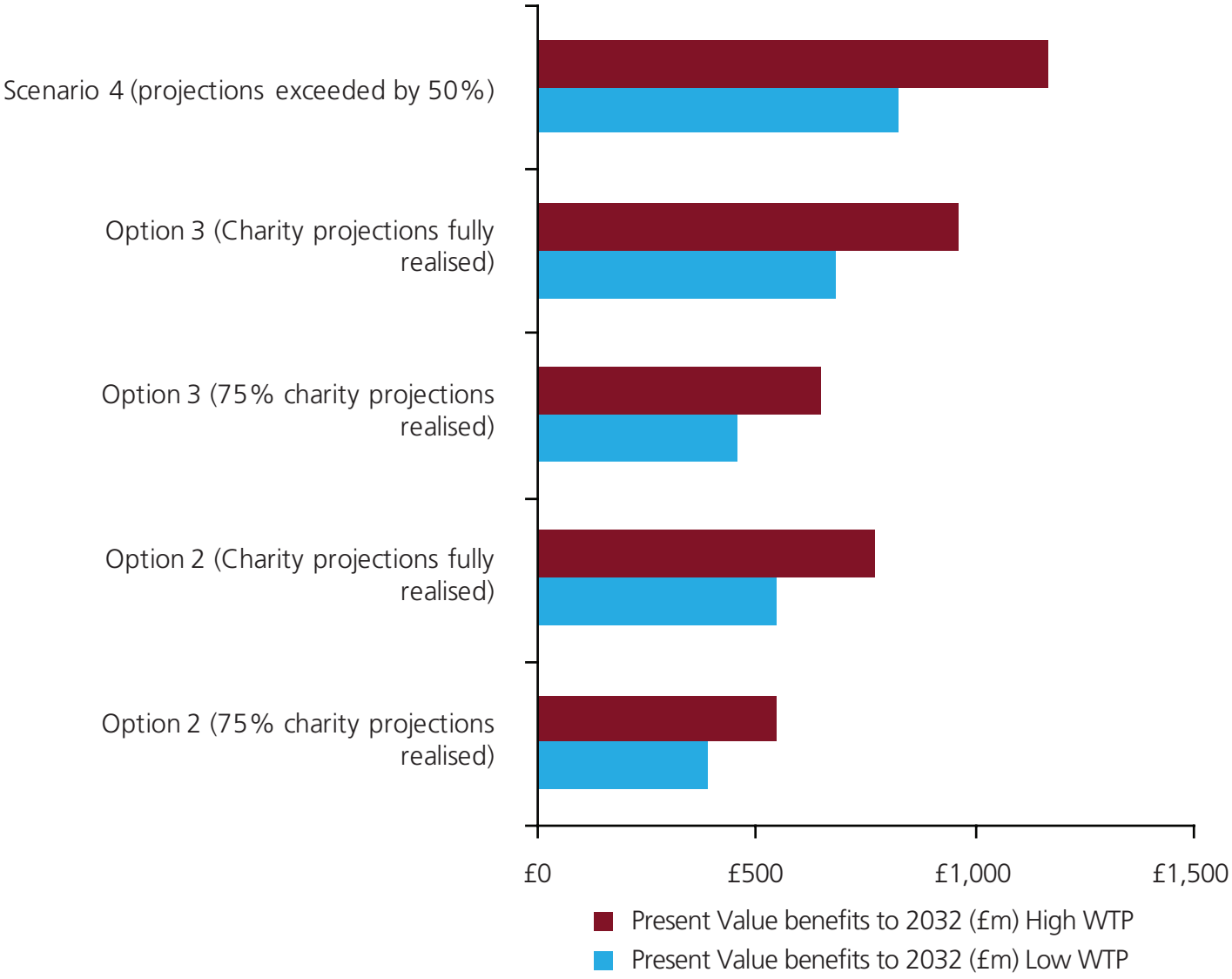
18 This basically reflects future economic growth (as we grow richer we value additional benefits less) and social time preference (other things being equal, we prefer to consume now rather than tomorrow).

Estimates of benefits

The following chart shows projections of annual public recreational benefits based upon the mid-point of the willingness to pay estimates, and assuming that the charity achieves 75% of its projected benefits. The growing wedge between scenarios from 2023 largely reflects the assumption that for scenarios 2 and 3, the additional charity benefits stop growing, whereas they continue to grow in Scenario 4.



The range of benefits around the chart's projections is charted and tabulated opposite, including the more optimistic outcomes for Options 2 and 3 where the charity raises 100% of its base projections. These estimates of total benefits are shown in **present value** terms i.e. all benefits throughout the period are **discounted** into 2011 prices and summed.



Scenario	**Present value of public benefits, to 2032** (compared to baseline) £m **Low Willingness to Pay estimate**	**Present value of public benefits, to 2032** (compared to baseline) £m **High Willingness to Pay estimate**
Option 2 (75% charity projections realised)	384	541
Option 2 (Charity projections fully realised)	543	765
Option 3 (75% charity projections realised)	458	645
Option 3 (Charity projections fully realised)	679	957
Scenario 4 (projections exceeded by 50%)	824	1161

5. Costs of Options 2 and 3 and Scenario 4

Raising new income for the charity to increase its capability and generate public benefit is not costless. These costs have already been netted off from the projected increase in income benefits to the charity, but in a cost benefit analysis, they represent real opportunity costs which must be set against the public benefits which the charity will bring. British Waterways have identified a number of costs involved in creating a waterways charity which are necessary in order for it to generate the income that leads to public benefits.[19] **All costs should be considered illustrative.**

Set-up costs

There are judged by British Waterways to be between £1.5 and £2m arising in the first year of the charity.

Marketing and fund-raising costs

Developing and sustaining contributions of donors and volunteers will require ongoing expenditure on recruitment fees, management, administration and marketing. Based on analysis by British Waterways, these are estimated to reach a maximum annual cost in real terms of around £5m before falling back to £2.6m by the early 2020s.

Additional fund-raising costs in Option 3 and Scenario 4

Under Option 3 and Scenario 4, there are likely to be additional variable fundraising costs. We assume that these are in proportion to the additional charity benefits that are assumed to arise under each scenario. For Option 2, this means additional annual costs would be between £0.5 in real terms by 2022. In Scenario 4, additional costs will depend upon the source of where the additional income arises. Here we assume that, as in Option 2, these additional costs are in proportion to (i.e. around 50% of) the additional income benefits i.e. around £1.3m p.a. by 2022.

Taxpayer impacts

The charity is expected to claim **rates relief** of around £1m per year. This would represent a loss of revenue to local authorities/central government. Any further increase in grant-in-aid over the appraisal period would also represent a cost to the taxpayer that would need to be set against any additional benefits that the charity would generate with that income. Equally, any further reductions in grant-in-aid over the period beyond relative to the baseline would represent a taxpayer benefit.

19 As with benefits, costs are also subject to an 75% prudence factor. This is because, in its projections, British Waterways adjusts net financial benefits down by 25%, which implies that both benefits and costs are adjusted by the same factor.

Note that in Option 3 there is likely to be an additional taxpayer VAT payable on riverboat registrations. This is because currently Environment Agency craft registrations are exempt, whereas BW boat licences are not. This would represent a transfer from river boat users to the Exchequer and as such does not affect the overall cost-benefit analysis.

Costs to volunteers and donors

The time and money cost to volunteers and donors is assumed to be at least offset by the benefit of the volunteering/donating. However, there could be displacement effects on volunteering and donations to other charities which are not measured here. This is more likely in scenario 4, where more voluntary income is raised.

Costs for each option are summarised below. Further analysis is needed to identify robust ranges, but the key point is the difference between scenarios.

£m	Present Value of costs to 2032	Average annual costs (to 2032)
Option 2	42	2.9
Option 3	50	3.4
Scenario 4	64	4.3

6. Summary of estimated costs and benefits of creating the charity

Subtracting the present value of costs from benefits for each scenario gives **net present value** estimates. The key variables here are:

- Extent to which BW's current charity projections are realised in Options 2 and 3.
- Estimate of baseline willingness to pay (WTP) recreational value for improvements in waterways

For instance, in Scenario 4, for the low WTP estimate, the NPV would be £824m – £64m = £760m.

These generate the following summary table. "Best estimates" assume that charity projections are only 75% realised in Options 2 and 3. In Scenario 4, the best estimate is given by the mean of low and high WTP estimates. **Best estimates are bolded.**

Scenario	**Net present value, to 2032** (compared to baseline) £m **Low Willingness to Pay estimate**	**Net present value, to 2032** (compared to baseline) £m **High Willingness to Pay estimate**	**Average**
Option 2 (75% charity projections realised)	342	499	**420**
Option 2 (Charity projections fully realised)	487	709	598
Option 3 (75% charity projections realised)	408	595	**501**
Option 3 (Charity projections fully realised)	580	845	712
Scenario 4 (projections exceeded by 50%)	760	1097	**929**

All options provide very substantial **benefit-cost ratios** (using best estimates, £m):

Option 2 463 / 42 = 10.9

Option 3 551 / 50 = 11.0

Scenario 4 993 / 64 = 15.6

Question: Do you have any comments on, or additional evidence in relation to, any of the core assumptions that we have adopted for the scenario analysis in this impact assessment?

7. Further sensitivity analysis of key assumptions

The principal sensitivities have been captured in the ranges provided above. Here we test other sensitive variables to identify how far they would need to change to reduce benefits below costs.

1. Recreational benefits – Willingness to Pay (WTP) estimates

There is inevitable uncertainty around non-market valuation of benefits, particularly where values are transferred from old studies (see Annex 2). However, for all charity options to become less beneficial than the baseline, WTP per visit would need to fall to below **£0.10,** from the base-case mid-point of £0.81 – 1.14. This **threshold value** is deemed implausibly low. In fact, Annex 2 sets out a number of reasons why the WTP estimates are likely to be understated.

2. How usage and WTP vary with functionality

While it can be demonstrated that waterway condition has a bearing on both use and public benefit, it is not possible convincingly to link levels of expenditure to public benefit in a precise or robust way and expert judgement is needed of plausible nationwide changes in usage and willingness to pay. British Waterways modelling assumes that, for functionality changes of around £10m, annual visits (following a three-year lag) are assumed to increase by around 6%. Willingness to pay per visit is assumed to increase by 8-9%. A more muted response would reduce the beneficial effects of the charity and each of the options. For all charity options to become less beneficial than the baseline, the increase in visits and WTP following each £10m change in functionality would need to fall to below **1%.** This is considered implausibly low. Indeed, for the reasons given elsewhere in this IA, more substantial changes in towpath usage are far more likely.

3. Applying WTP estimates to new visits and visitors

Related to the two issues above, our benefits analysis assumes that the unit consumer surplus (willingness to pay) estimates are applied to new visits/visitors to the waterways as a result of increased functionality spend. Yet it is not clear from the original study to what extent these estimates were net of the opportunity costs of alternative recreational activities. The opportunity cost of travel time partly captures this, but it is likely that there is some overstatement for any given assumption about new visits.

We have not directly factored in possible displacement into our estimates, partly because there are a range of other reasons why the estimates may be understated (see Annex 2); partly because there is no obvious alternative assumption to apply. Instead, we can test the robustness of the final estimates of benefits by adopting the extreme assumption that there are either no additional visits, or that the welfare benefit derived from additional visits to the waterways is negligible because visitors have been diverted from nearly equally valuable recreational activities. This is clearly an implausible assumption – by definition, if people choose to make new or additional visits to waterways as a result of towpaths

being better and safer, it is because they derive a benefit from doing so. But it serves to expose how sensitive the analysis is to assumptions on visitors. The table below shows that Net present value (NPV) is still significantly positive because of the additional benefits that accrue to existing visits we assume.

Scenario	NPV to 2032 (compared to baseline) £m **Base assumptions on additional visitors**	NPV to 2032 (compared to baseline) £m **Assuming no increase in visitors**
Option 2	420	227
Option 3	501	269
Scenario 4	929	479

In view of (a) strong evidence that visits rise with towpath improvements (Annex 3); (b) suggestion in the original valuation studies that WTP varies between different quality sites and people are willing to pay significantly for restoration (Annex 2), and (c) reasons to suggest that our base WTP estimates are understating preferences, reinforce confidence that the conclusion of substantial net benefits from additional spend on waterways is robust.

4. More pessimistic charitable income benefits

A 75% prudent factor is already applied to costs and income benefits of the charity. A less optimistic assumption (e.g. a 50% adjustment) reduces net benefits of Options 2 and 3, but not the benefit-cost ratios (because costs are likely to fall as well, being variable). For instance, Option 2 NPV falls from £420m to £279m. Given the variable nature of many of the costs, it is not considered plausible that costs would exceed the additional income generated by the charity over the whole period, although this is likely to be the case in the very early years. As long as the charity can generate additional income over and above the additional costs involved, net public benefits should arise.

5. Length of appraisal period

Whether costs and benefits are measured to 2022 or 2032 does not alter the result that all scenarios result in net benefits. However, net benefits and the benefit-cost ratio fall significantly, because the frontloading of costs now weighs relatively more in the shorter appraisal period and because public benefits realised by the charity are sustained beyond 2022 and continue rising in Scenario 4.

	2022 appraisal period Net Present Value (£m)	Benefit cost ratio for 2022 appraisal period
Option 2	83	3.9
Option 3	99	3.9
Scenario 4	218	6.1

Taken together, this sensitivity analysis suggests that the relative benefits of the scenarios and their magnitude are robust to some of the key uncertainties in the analysis.

8. Specific Impact Tests

Equality analysis and social impacts

As the benefits analysis indicates, a new charity for the waterways would promote higher quality waterway environments than would otherwise be the case, and better recreational value. The main beneficiaries would be all users of British Waterways' inland waterways network through greater involvement in making decisions which affect inland waterways and to widen interest and participation in traditional water-based activities as well as developing new opportunities and benefits.

The majority of boat owners using the waterways are male (79%), and above 55 years old (62%)[20] but in terms of overall visitors there is greater diversity, in particular lower socio-economic grades are as prominent as higher grades (see table). For all canal visitors, there is a slight under-representation of very old and younger people, of females, of people from ethnic minorities and of people from the C2DE social grades. This reflects the general pattern of visits to the outdoors.

	National inland waterways (2007-9 mean)
Over 65	19%
Male/female	48 / 52%
Black Minority Ethnic	8 %
ABC1	47%
CDE2	53%

Source: Inland Waterways Day Visitors Survey

It is intended to widen involvement of all sections of society in inland waterways irrespective of age, gender, disability and so on. Creating the charity has the potential to bring benefits for lower income groups, women and those from ethnic minorities who visit waterways less often than the wider population. Geographically, most of British Waterways' canals are found in the Midlands and in the north of England, many of which run through inner cities. "Index of Multiple Deprivation" data analysed by British Waterways shows that **nearly three-quarters of the 10% most deprived areas in England (where there is often less green space) are within 5 km of an inland waterway.**

Maintaining and enhancing the waterways can also play a role in enhancing social inclusion, for example through:

- Opportunities for access by disabled people. Compared with paths and recreation sites in the wider countryside, waterway towpaths are often flat and level.
- The creation of social capital and educational benefits through the involvement and participation of local communities (including children) in water-related activities and volunteering. Increased local or civic pride in the canals could also be significant. This is a particular opportunity in inner city areas, where public open space is often limited.
- Specific schemes and initiatives to engage with vulnerable groups in society e.g. young offenders.

20 Boat-owners views survey

In contrast a decline in funding for the waterways in the baseline case without the creation of a charity could exacerbate social exclusion, whilst reduced maintenance and asset deterioration could lead to increased anti-social behaviour.

We have further research in hand to consider how changes in funding can affect the benefits at localised level through the assessment of various case studies that reflect different aspects and regions of the network.

An Equality Impact Assessment screening test has been undertaken and a full EqIA is not needed.

Competition Assessment

Creating a new waterways charity is not expected to have any material impacts on competition. That is primarily because waterways recreation is not currently a matter of competition between different suppliers. Towpath and waterway recreational activities are not currently properly priced to reflect their benefits, and the new charity will help to capture some of the value which users and citizens place upon the waterways through subscriptions and volunteering.

Assessing competition impacts require some understanding of the affected market in question. The "market" here would be for outdoor recreational activities, which has a wide range of substitutes and public and private providers, although in some inner city areas there may be few alternative outdoor recreational sites.

The OfT sets out four questions which apply to all charity options/scenarios:

1. Will the policy directly limit the number or range of suppliers?

No. British Waterways is not the sole operator and navigation authority for the waterways – the Environment Agency operates 1000 km of waterways including the Thames, Medway and Great Ouse; the Norfolk Broads come under the Broads Authority. To date the different navigation authorities have not been in active competition with each other. In a scenario in which EA navigation assets are operated by the new charity under a leasing arrangement, such consolidation would not be considered a restriction on the supply of waterways and navigational opportunities; rather it will enable greater fundraising potential and profile for the new charity.

2. Will the policy indirectly limit the number or range of suppliers?

See question 1 above. The waterways are a fixed asset and new entrants are not possible. The charity proposal is intended to reduce the costs and increase the resources of the charity compared to the British Waterways status quo but this is to the benefit of overall asset condition and service levels rather than to distort competition between suppliers.

3. Limit the ability of suppliers to compete?

See question 1 above. British Waterways currently generates commercial income from users through craft licensing and moorings. The level of such user fees is not considered to be affected by the creation of the charity per se, because British Waterways already considers that it seeks to maximise this source of income.

4. Reduce suppliers' incentives to compete vigorously?

Considered as a supplier of outdoor recreational activity (that is largely free at the point of consumption for towpath users), the new charity would have greater ability and incentives to attract people to the canals, and to build customer and citizen support and practical involvement.

Small Firms Impact Test

The creation of the charity by itself is not expected to impose or reduce costs on business in any material way. British Waterways currently generates commercial income from users through craft licensing and moorings. The level of such user fees is not considered to be affected by the creation of the charity *per se*.

Potential impacts upon commercial freight operators of any changes to the statutory commitments under the Transport Act 1968 to maintain waterways for freight traffic (as set out in the consultation document) would be assessed in a separate consultation and Impact Assessment.

GHG Impact Test

The Jacobs (2010) review of the benefits of inland waterways addressed the potential benefit of transport related carbon savings associated with the displacement of road freight to water freight. A report in 2008 by the Inland Waterways Advisory Council (IWAC) assessed freight transport by the inland waterways network and how it could be increased, and presented average estimates of the carbon savings of transporting freight by water rather than by road. The Jacobs report summarises this by showing that for every thousand freight tonne transported one kilometre by water rather than road, there is a saving of 0.06 tonnes of carbon. Thus a journey of 10km by a barge carrying 500 tonnes represents a movement of 5000 tonne km and an implied saving of 0.3 tonnes of carbon, which converts to 1.1 tonne of carbon dioxide equivalent, each tonne of which would be valued at £51/t per year (non-traded carbon price).

These baseline freight benefits are relatively small, and far less than the benefits of recreational use. Moreover, it is important to avoid taking a partial approach to GHG impacts, given there are carbon costs associated with the infrastructure and operation of facilitating freight on the waterways. Clearly a vessel is likely to be carbon beneficial compared to a lorry. However, the road infrastructure is available to lorries and whilst they create the need for maintenance (which will have carbon impacts), maintaining waterways for freight is likely to be more carbon intensive, for example the need for dredging sediment and transporting it by water or road to specialist waste sites (where further drying and treatment may required, particularly if there is contamination).

In any case, whether there are likely to be benefits from the creation of the charity (relative to the do nothing option), will, according to Jacobs' latest research, be very site specific and are unlikely to be significant. We do not therefore consider marginal reductions in transport or energy related carbon emissions to be robust or significant enough to be quantified.

Wider environmental impacts

These have been summarised in the ecosystems framework in the benefits section. No major environmental impacts are expected, although long-term deterioration of the major assets could undermine the drainage and possible flood alleviation benefits provided by the network.

Health and wellbeing

Improved health and wellbeing through use and enjoyment of the waterways is one of the motivations behind creation of the charity. Environment is one of the main determinants of human health alongside education, housing, employment, crime and transport.[21] Greater contact with the natural environment can also have beneficial effects on physical activity is a key determinant of health.

These beneficial impacts will to a large extent be captured by the willingness to pay estimates of benefits for recreational and informal use of the waterways.

Creation of the charity will avoid the most significant risks of an underfunded network in which health and safety risks increase as assets deteriorate and are susceptible to failure.

Human rights and justice

No potential impacts are expected.

Rural Proofing

As stated above, the creation of a charity will create a broad range of benefits across the network. GIS data suggests that 88% of households within 100m of BW's waterways are urban based, but importantly, the canals link together urban and rural areas, and urban dwellers visit rural sections of canals. It is not possible at present to assess whether there is likely to be a disproportionate effect on rural areas.

Sustainable Development impact test

See Annex 4 for the full test. Overall, the balance of the monetised and non-monetised costs and benefits and the sustainability issues is considered to be strongly positive. The major costs and benefits of creating a charity are monetised. Monetising other benefits (e.g. property premia) would increase the benefit-cost balance, as would non-use values. The non-monetised benefits in terms of local engagement and increased volunteering are also a major factor. The only significant potential non-monetised cost would be possible displacement effects on the fundraising of other recreationally and environmentally oriented charities. The waterways are multi-functional and provide a range of benefits and services, and whose heritage assets are to some extent irreplaceable. In short, consideration of sustainable development issues reinforces the case for the charity.

Question: Do you have evidence to suggest that there are likely to be significant effects other than those set out here?

21 Department for Health, Health Impact Assessment Guidance – screening questions. www.dh.gov.uk/en/Publicationsandstatistics/Legislation/Healthassessment/DH_4093617

Annex 1: Post Implementation Review (PIR) Plan

A PIR should be undertaken, usually three to five years after implementation of the policy, but exceptionally a longer period may be more appropriate. If the policy is subject to a sunset clause, the review should be carried out sufficiently early that any renewal or amendment to legislation can be enacted before the expiry date. A PIR should examine the extent to which the implemented regulations have achieved their objectives, assess their costs and benefits and identify whether they are having any unintended consequences. Please set out the PIR Plan as detailed below. If there is no plan to do a PIR please provide reasons below.

Basis of the review: [The basis of the review could be statutory (forming part of the legislation), i.e. a sunset clause or a duty to review , or there could be a political commitment to review (PIR)];

There are potentially two separate reviews: (a) an interim review and evaluation will be undertaken in 2014, consistent with a political commitment for a review to consider options for the transfer of the Environment Agency's navigations to the new waterways charity. In undertaking the review there will be a need to consider the likely success of the policy of moving British Waterways' navigations to the charity to ensure a sustainable future for the waterways; (b) a fuller "impact" evaluation further along the charity's life recognising its long-term challenge in growing and the long-term nature of the government's funding commitment.

Review objective: [Is it intended as a proportionate check that regulation is operating as expected to tackle the problem of concern?; or as a wider exploration of the policy approach taken?; or as a link from policy objective to outcome?]

To evaluate the success of the new waterways charity in generating additional income, delivery of civil society benefits , including increased community engagement and volunteer support , and maintaining and enhancing asset condition. To assess also the capacity of the NWC to take on EA navigations in the next Spending review, subject to affordability.

Review approach and rationale: [e.g. describe here the review approach (in-depth evaluation, scope review of monitoring data, scan of stakeholder views, etc.) and the rationale that made choosing such an approach]

Process and impact evaluation will be important, that combines quantitative and qualitative evidence: monitoring relevant data trends and seeking broad and in-depth feedback from stakeholders and others would inform an overall evaluation of the success of the policy. Annually presented quantitative data, in the form of a Stewardship Score, will be evaluated. This includes data on the state of the assets and towpath visitor numbers. Local case studies of increased engagement would be valuable, as would further research on valuing the benefits of waterways.

Baseline: [The current (baseline) position against which the change introduced by the legislation can be measured]

The baseline is not static, and this is a major reason for the policy itself. It will be difficult to attribute changes in visitor numbers or asset condition solely to the change in status, given the significance of a declining baseline trend in grant income, and other extraneous variables affecting the charity's income (such as the property market) and visitor numbers. That is why in-depth evaluation of process and outcome will be important.

Success criteria: [Criteria showing achievement of the policy objectives as set out in the final impact assessment; criteria for modifying or replacing the policy if it does not achieve its objectives]

- Civil society benefits, including those engaged with the charity, volunteering, and levels of fundraising in line with or exceeding projections
- Condition of assets kept under control (although, as above, these will partly reflect trends that would have occurred without the charity)
- Positive feedback from stakeholders
- Increased towpath visitor numbers
- New charity has the capacity, with any necessary additional Government funding, to take over EA navigations

Monitoring information arrangements: [Provide further details of the planned/existing arrangements in place that will allow a systematic collection of monitoring information for future policy review]

- Charity membership and levels of fundraising
- Voluntary participation
- Visitor numbers (as proxy for public benefits)
- Overall income streams arising from charitable status
- Condition of assets
- Stewardship score (capturing some of the above)

Reasons for not planning a review: [If there is no plan to do a PIR please provide reasons here]

Annex 2: Applying Defra's Value Transfer guidelines to estimate recreational benefits of creating a New Waterways Charity

This Annex sets out a series of steps by which we estimate baseline suitable monetary values for the recreational benefits that the waterways bring (£0.81 to £1.14 per visit). These "Value Transfer" guidelines can be found at:

http://www.defra.gov.uk/environment/policy/natural-environ/using/valuation/index.htm

The application of the guidelines is set out in the following steps.

Step 1 – establish policy good decision/context

Assessing whether additional benefits will exceed the costs of creating a charity, and how this varies with different scenarios, is the main concern of this Impact Assessment. The creation of a charity increases the income available for the management of the waterways, relative to the alternative of remaining in the public sector, which results in a wide range of public benefits being realised.

Step 2 – Define the policy good and affected population

The good to be valued is the improved quality of informal recreational opportunities alongside waterways relative to a scenario in which the waterways remain in the public sector. Evidence on overall benefits of British waterways, and their public good aspects and positive externalities, is relatively well established. Recent work (Jacobs 2010) has identified those public benefits as including recreation and health benefits, property value uplift; transport (time and carbon reductions); renewable energy (energy and carbon); water provision; and non-use values.

As the improvements would affect the national network broadly, the relevant user population is for England and Wales, although most of the benefits are likely to accrue to those who live near the waterway network, which is concentrated in certain regions of the country (there are few canals in the south west of England for instance). The further afield waterways are to where people live, the more likely that there will be other recreational alternatives.

Step 3 – Define and quantify the change in the provision of the policy good

The most important public benefits of the canals are recreational, and evidence shows that these benefits are positively related to spending on the **"functionality"** of the waterways (for instance,

see Annex 3). Examples of functionality are towpath repairs, access management, vegetation and tree management, boundary maintenance, litter removal, customer services and spot dredging. This will have an impact on leisure (boating) income and the real benefits visitor experience. Functionality spend improves the appearance and usability of the waterways, for example enabling exercise and other outdoor activities and reducing concerns about security and crime. These improvements, based on previous experience and studies, can be expected to increase visitor welfare and numbers. Existing users benefit from a better quality of experience; new users benefit from the additional benefits provided by waterways over alternative recreational sites. We do not, however, differentiate between these two groups.

There is some uncertainty about how much the recreational quality of waterways would be affected by additional charity income, particularly inasmuch as the baseline is not stable but is itself likely to be declining because of declining sources of income to British Waterways. Using the ecosystems services framework, Defra has in hand further detailed research exploring to what extent benefits are likely to be affected by positive or negative changes in funding at different levels and for different categories and locations of waterways. This research should be ready to inform the final Impact Assessment. Other relevant evidence that could be useful include case studies of waterway improvement and attitudinal surveys.

Step 4 – Identify and select monetary valuation evidence

We need broad-brush estimates of typical willingness to pay per visit that capture general benefits from waterway recreation which are likely to be affected by the policy change. Ideally, we need to identify additional consumer surplus for existing users (over and above previous level of consumer surplus) and for new users (over and above alternative recreational opportunities). The 2010 Jacobs study, which reviews all the literature around benefits of the inland waterways, notes two sets of studies on recreational benefits (pp. 64-5, 71): Willis and Garrod (1990, 1991) and Coker et al (1990). The following table summarises the relevance of the studies according to a number of value transfer selection criteria.

Selection Criteria – Similarity between:	**Policy site and good**	**Willis & Garrod, 1991**	**Coker *et al***
Policy good and study good	General changes in quality of waterway environment, access. Asset condition important.	Baseline assessment of non-market benefits of variety of canal sites. Individual Travel Cost Method (ITC) gives average WTP across all sites of £0.51 per visit in 1989 prices; Contingent Valuation (CV) method gives £0.36.	Specific site – Maidenhead. May not be representative.

Change in provision	Broad improvements to functionality e.g. towpath repairs, access management, vegetation and tree management, boundary maintenance, litter removal, customer services and spot dredging. Changes in asset condition and averting risks of asset collapse.	Baseline assessment only, but suitable as basis for measuring change.	Recreational and amenity benefits from flood alleviation scheme – towpath improvements etc. WTP figures of £0.82 and £1.03 per visit for improvements – but only applies to users. Increased rates method gives values of £13-15 p.a, which may reflect non-use values.
Sites	Variety of sites across the network.	Variety of sites.	Just one site.
Affected populations	All users of inland waterways affected by change in functionality of NWC.	Representative user population.	Local Maidenhead population.
Number and quality of substitutes	Recreational substitutes will vary by location.	Only reflected in terms of opportunity costs of time; may be reflected in some sites over others.	Substitutes captured.
Market constructs	Open-access. Concerned with site quality and demand.	Open-access. Concerned with site quality and demand.	Open-access. Concerned with site quality and demand. Also uses "increased rates" payment method.
Study quality		Reasonably robust overall, sample 1500 – but less robust for individual user-group estimates. Estimates likely to be lower bound.	TC method from 1987 study only looked at 0.5 mile catchment area. CV method, small sample of 111. Relatively high estimates may reflect small sample size and socio-economic characteristics of area.
Assessment		**Doesn't directly address impact of asset condition. But still appropriate for transfer and up-rating of average unit values. A suitable range is provided by the CV (lower) and TCM (higher) estimates. Residual uncertainty over applying these estimates to new visits/visitors.**	**Not sufficiently robust or representative, but higher valuations suggest that the W&G current benefit values are conservative.**

In the Willis and Garrod studies, the range of canal sites studied provide a range of estimates (particularly with the individual travel cost method). These are in the same "ballpark" which provides some reassurance. Very low valuations tend to be for very casual visitors (e.g. those taking short cuts) rather than those whose visit is more dependent upon the waterway itself. Some very high estimates, too, though these are not statistically significant. Using the extreme values is not considered appropriate as these only account for a fraction of the user population or are very site specific. In practice, the lowest values should be of lower priority in terms of increased spend, so should not distort the appraisal analysis. In the nationwide context of this appraisal, it makes sense to take the average of the sites and ranges, and to make use both methods (ITC and CV) which provide two average values (£0.36 to £0.51 in 1989 prices). These unit values are (when up-rated to current prices – see below) comparable to other work undertaken into recreational and amenity values. For instance, the marginal recreational benefits of woodland have been estimated (in 2003 prices) at between £1.66 and £2.75 for each recreational visit.[22]

It is not clear if these values are net of substitutes, as these were not explicitly discussed with respondents, although the opportunity cost of travel time, which is factored into the travel cost estimates, may in part capture this. This is addressed in the sensitivity analysis. On the other hand, **the figures are likely to underestimate the true benefits** considering that:

1. The modelling approach uses linear approximation which will understate consumer surplus (something the authors discuss).
2. People's preferences for protecting the environment have considerably strengthened since 1991, and valuation of waterway recreation is likely to have strengthened also. This is probably only partially captured by applying an income elasticity factor (see below). Additionally, over the long term with rising national income might expect some growth in leisure activities which on the whole are income elastic. However, any increases in preference over the next two decades is not captured.
3. British Waterways have found in other studies that the presence of boating enhances visitors' enjoyment, and the Jacobs study suggests that consumer surplus values for informal visitors could be inflated by 25% for sensitivity testing.
4. These values are unlikely to capture non-use values, such as the value people place upon the existence of a unique nationwide set of industrial heritage assets. Part of this non-use value should be expressed in people's willingness to donate to the new charity.
5. The values are being applied in a scenario in which the baseline is deteriorating. So the effect of the charity, at least in the early years, would be to avert further deterioration of the waterways. Endowment effects suggest that people are willing to pay more to avert a loss than to secure a new gain.
6. The values for improvements (not base values) found in the Coker study are around double those in Willis and Garrod.

In conclusion, the Willis and Garrod studies are the favoured basis of the value transfer, with the average unit value across the various sites and uses providing the most appropriate and robust basis. Values from the Coker study are considered too high (as they reflect improvements, not current

22 www.forestry.gov.uk/pdf/sebreport0703.pdf/$file/sebreport0703.pdf

benefits) nor sufficiently representative. They provide reassurance however, that the Willis and Garrod figures are likely to be conservative estimates. They also suggest that the unit values should increase with the improvements. Thus in the modelling done by British Waterways, unit WTP figures are assumed to increase by 8% for functionality changes of around £10m, although there is inevitably considerable uncertainty around such assumptions.

Step 5 – Transfer evidence and estimate monetary value

We take the two average WTP values (£0.36, £0.51) in 1989 prices from Willis and Garrod (1991) and use the HMT GDP deflator to translate these to 2011 values. We also apply the recommendation in the Jacobs report (p. 36), following Environment Agency analysis, that values are also adjusted by a factor of 0.7% for each year since the study year to reflect the fact that WTP is positively correlated with income. This gives a transfer unit value range of £0.81 to £1.14 (see table)

Scenario	Contingent Valuation method	Individual Travel Cost method
Average WTP valuations, 1989 prices	£0.36	£0.51
Adjusting to 2011 prices	£0.69	£0.98
Up-rating for income growth at 0.7% p.a.	**£0.81**	**£1.14**

Step 6 – Aggregation

These estimates are multiplied by the baseline number of visitors. As functionality changes, so unit values increase (as noted above) and also visits are assumed to increase. For functionality changes of around £10m, annual visits (following a three-year lag) are assumed in the modelling to increase by around 6%. This appears to be a conservative assumption. For instance, a visitor monitoring programme at sites in the West Midlands (Stourbridge and Walsall) in the late 1990s demonstrated that towpath visitors doubled as a result of towpath and environmental improvements, although the increase may not be fully attributable to those improvements.

The increased benefit from greater functionality is calculated as the difference between aggregate willingness to pay under the policy option and baseline aggregate willingness to pay. The difference will be a product of assumed but plausible changes in visitor numbers and the unit value benefits.

Step 7 – Conduct sensitivity analysis

This is described in section 7 of the IA. The sensitivity analysis demonstrates that the main analysis is reasonably robust.

Annex 3: Evidence of the impact of towpath improvements

British Waterways has long been aware that towpath improvements have strong impacts on the use of canals and on visitor attitudes. Over recent years it has been able to gather increasing data to back up this view, through a combination of pedestrian counters that have been installed along the towpath and a series of annual surveys of towpath visitors.

1. Quantitative impact

There is strong evidence to show that towpath improvements significantly increase visitor numbers. This evidence comes from Birmingham and Scotland, where pedestrian counters have been installed along the towpath and have recorded changing patterns of use as improvements are made. Monitoring demonstrates the following levels of growth in numbers:

Visits per annum			
Site	**Before improvement**	**After improvement**	**% change**
Stourbridge (W.Midlands)	41,500 (1999)	87,500 (2001)	+111%
Walsall (W.Midlands)	71,500 (1999)	154,500 (2001)	+110%
Ratho (Scotland)	56,000 (1998)	111,000 (2003)	+100%
Linlithgow (Scotland)	20,000 (1997)	144,000 (2003)	+343%
Craigmarloch (Scotland)	29,000 (1997)	67,000 (2003)	+90%
Cadder (Scotland)	48,000 (1997)	76,000 (2003)	+37%
Edinburgh (Scotland)	89,000 (1998)	112,000 (2003)	+26%
Maryhill (Scotland)	60,000 (1997)	71,000 (2003)	+21%
Bonnybridge (Scotland)	59,000 (1997)	57,000 (2003)	–3%
Limehouse Cut (London)	41,000 (2002-05 mean)	92,000 (2006-09 mean)	+124%

Source: British Waterways pedestrian counter estimates

Note that not all towpath users will be making trips to the canal for recreation. Surveys of towpath users in London in 2004, for example, found that 20% of visitors were using the canal as an alternative local transport route. Towpath improvements, therefore, can be expected to have a direct impact on local modes of transport.

2. Qualitative impact

Some of the best evidence of how waterway improvements – including towpath works – can change visitor perceptions has come from Scotland. A series of towpath visitor surveys were carried out by British Waterways on sites along the Lowlands Canals between 1994 and 2001. Several sites have been surveyed twice, therefore allowing comparison of results over time. This period coincides with the programme of works to restore the Millennium Link between Glasgow and Edinburgh. As part of the survey, visitors were asked how they thought sites had changed over the past year or so in relation to a series of indicators. In the 2000/2001 surveys significant improvement in all indicators has occurred at all sites, as the Millennium Link works have been completed. For example, with regard to overall upkeep of the canal, the following percentage of people think things have improved over the past year:

% specifying improvement	
Kirkintilloch (2000)	73%
Linlithgow (2000)	86%
Falkirk (2001)	89%
Clydebank (2001)	73%
Wester Hailes (2001)	80%
Maryhill (2001)	73%

Source: British Waterways, Briefing note, 2009.

Annex 4: Sustainable Development Test

Stage 1

1. Environmental Standards

1a. Are there are any significant environmental impacts of your policy proposal (see Wider Environment Specific Impact Test)?		
Yes	No	X
If the answer is 'yes' make a brief note of the impacts below:		
No major environmental impacts expected. However, long-term deterioration of assets in the baseline could undermine the drainage and possible flood protection benefits provided by the waterways.		

1b. If you answered 'yes' to 1a., are the significant environmental impacts relevant to any of the legal and regulatory standards identified?	
Yes	No
If the answer is 'yes' make a brief note of the relevant standards below:	
N/A	

If you answered 'yes' to 1b. have you:
1c. Notified the Government Department which has legal responsibility for the threshold and confirmed with them how to include the impacts appropriately in the analysis of costs and benefits?
N/A
1d. Informed ministers where necessary?
N/A
1e. Agreed mitigating or compensatory actions where appropriate?
N/A

2. Intergenerational impacts

2a. Have you assessed the distribution over time of the key monetised and non-monetised costs and benefits of your proposal? This assessment can be included in your Evidence Base or put in an annex.		
Yes	X	No
Costs and benefits estimated to 2032 and discounted to 2011 values.		

2b. Have you identified any significant impacts which may disproportionately fall on future generations? If so, describe them briefly.		
Yes	No	X
Long-term deterioration of the physical assets of the waterways would pass increased costs and risks to those living in the decades to come. Creating a charity now would create new opportunities to invest in the long-term health of the network and the wider public benefits that it brings.		

If you answered 'yes' to 2b., have you: 2c. Informed ministers where necessary? If so, provide details.

2d. Agreed mitigating or compensatory actions where appropriate? Provide details.

Stage 2

3. The purpose of the second stage is to bring together the results from the impact assessment with those from the first stage of the SD test. The following questions are intended to reflect the uncertainties in the cost benefit analysis and help you consider how to proceed in the light of further evidence from the first stage of the SD test.

3a. Indicate in the appropriate box whether the balance of monetised costs and benefits is:				
Strongly positive	Moderately positive	Roughly neutral/ finely balanced	Moderately negative	Strongly negative
X				

3b. Indicate in the appropriate box whether the balance of non-monetised costs and benefits is likely to be:				
Strongly positive	Moderately positive	Roughly neutral/ finely balanced	Moderately negative	Strongly negative
X				

3c. Indicate in the appropriate box whether the results of the SD questions 1-3 are, on balance, likely to be:				
Strongly positive	Moderately positive	Roughly neutral/ finely balanced	Moderately negative	Strongly negative
	X			

3d. Indicate in the appropriate box whether, overall, the balance of the monetised and non-monetised costs and benefits and the sustainability issues is considered to be:				
Strongly positive	Moderately positive	Roughly neutral/ finely balanced	Moderately negative	Strongly negative
	X			

3e. Provide an explanation of the final result from 3d., explaining, for example, how you have compared monetised and non-monetised costs and benefits and how you have resolved any conflicts between the cost-benefit results and the SD results.
The major costs and benefits are monetised. Monetising other benefits (e.g. property premia) would increase the benefit-cost balance, as would non-use values. The non-monetised benefits in terms of local engagement and increased volunteering are also a major factor. The only significant potential cost would be possible displacement effects on the fundraising of other recreationally and environmentally oriented charities. The waterways are multi-functional and provide a range of benefits and services, and whose heritage assets are to some extent irreplaceable. In short, consideration of sustainable development issues reinforces the case for the charity.

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