Glandŵr Cymru
Canal & River Trust in Wales

Monmouthshire and Brecon Canal Cost-Benefit Analysis under different water scarcity scenarios

Non-Technical Summary, September 2025

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Context of the study

The Monmouthshire & Brecon Canal stretches 57 km through the Bannau Brycheiniog National Park and adjoins the Blaenavon World Heritage Site, supporting local tourism, wildlife, heritage, and the wellbeing of nearby communities. It hosts on average 3.6 million visits and 1021 private boats, alongside a busy hire boat trade with 54 boats for hire that are estimated to be used for a combined 6,734 days each year.

Initially constructed at the turn of the nineteenth century for moving goods up and down the Usk valley, the water supply to the Monmouthshire & Brecon Canal has primarily depended on an intake from the River Usk at Brecon for the past 220 years. This water supply is now restricted by a new water abstraction licence that limits the amount of water that the Canal can take when the river flow reduces.

Against this background, the objective of this report is to assess if the benefits of maintaining the Monmouthshire and Brecon canal outweighs the costs in relation to other scenarios in which the canal is partially or totally closed for periods of time when the water supply is unavailable or insufficient. It also aims to estimate the contribution of the canal to the Welsh GVA and to estimate the social value that it delivers to residents.

The cost-benefit analysis has been produced by in-house economists at the Canal & River Trust, and it has been independently reviewed by external consultants working at AECOM. During the quality assurance process, AECOM suggested a few tests to check the robustness of the results and concluded: *'Overall, AECOM confirms that all the above recommended changes have been made in the updated report (29/5/25), with the cost-benefit analysis demonstrating the significant value for money for the preferred option of keeping the canal open'*. They also stated that *'The analysis is underpinned by detailed modelling of the hydrological conditions of the canal which provides a foundation for understanding the costs and benefits of open and closure scenarios including requirements for water abstraction under the different options'.*

Key findings

- The total annual economic activity, or output, generated by the Monmouthshire and Brecon canal in a year is £30.0m.
- The canal supports approximately 1,000 jobs.
- The total social value delivered to Wales by the canal is £14 million each year[1], outweighing the costs of maintaining it by a factor of more than four.

The canal brings significant economic value to Wales, both through boating activities and visits to the towpath. Boating contributes around **£1.6 million a year** to Wales's economy. **The canal towpath also attracts visitors, adding about £7.1 million a year to the Welsh economy.** In addition to the direct effects of the boating economy and towpath visitor economy, if we include the impact on the supply chains of these sectors (for example: suppliers of the food that is eaten in the pubs near the canal) and from the additional expenditure of their employees due to their higher incomes, and we consider the costs of producing this additional economic activity, **the total annual economic activity, or output, generated by the Monmouthshire and Brecon canal in a year is £30.0m, which supports around 1,000 jobs.**

The physical health benefits of the canal reflect the improvement in the health condition of visitors who wouldn't walk, run, or conduct any physical activity in other sites. By tracking how often people visit and how long they spend being active, we can estimate the health improvements. **Using national research on how physical activity improves quality of life and reduces healthcare costs (White et al, 2016), we estimated that the canal helps save the NHS £1.5 million each year.**

[1] This estimate considers that some benefits could still happen in other canals or attractions if the Monmouthshire & Brecon would be closed. Instead of direct, indirect, and induced output (equivalent to the £30m), this estimate only includes the direct GVA contribution of the towpath visitor economy and the boating sector (equivalent to £8.7m).

Maintaining a sufficient volume of canal water also has value to both nature and people. Research shows that people place value on high-quality water that supports fish, wildlife, and habitats, and that also provides places for recreation. **Based on the National Water Environment Benefit Survey (NWEBS), and expert assessments of water quality changes under different scenarios, these environmental benefits are valued at £2.1 million per year.**

The canal also holds cultural and historical value. People value knowing that this historic waterway is being preserved, even if they don't visit it themselves. **Applying benefit transfer techniques, the cultural and heritage benefits are estimated to be worth around £1.7 million each year.**

In overall terms, maintaining the canal delivers around £14 million in annual benefits. These are compared against the full operating and maintenance costs of the canal, including any commercial costs associated with securing additional water supplies.

The analysis shows that the benefits of maintaining the canal outweigh the associated costs by more than four times, making a strong economic case for ensuring sufficient water supply to keep the canal in operation year-round.

Data and Methodology

The main data sources for the analysis were:

- The Waterway Engagement Monitor (WEM), an online panel survey, is the Trust's main tool for measuring visitation levels and people's motivations for using inland waterways. It is a nationally representative sample of 20,400 adults in a year from England and Wales.
- Expenditure data from the Domestic GB Tourism Statistics: Wales Overnight Tourism Survey Annual report 2023 and Domestic GB Tourism Statistics: Wales Day Tourism Survey Annual report 2023
- Adjusted ONS input-output table for 2021
- The National Water Environment Benefit Survey published by the Environment Agency
- Boating expenditure data and willingness to pay values that are referenced in Valuing Our Waterways report
- White et al (2016) on the health improvements of engaging in regular physical activity

The development of the cost-benefit analysis follows Green Book guidance from HM Treasury (2022). The economic modelling was developed from a societal perspective. Hence, we do not focus on the benefits /losses to the Trust in terms of income or donations. The estimates were produced with a mix of market and non-market valuation techniques[2].

[2] Input-output methods were applied for the economic benefits, willingness to pay methods for the environmental benefits, benefit transfer techniques for heritage, and averted costs for the health benefits.

Table 1: Results of the cost-benefit analysis. All figures are 10 year discounted present values, in 2024 prices, £s

	Scenario			
Category	Preferred option	Temporary closures as required during dry weather	Temporary closures for fixed periods of time each year	Complete closure
Benefits				
Boating economic	15,840,000	4,000,000	680,000	-
Towpath economic	71,180,000	32,380,000	29,150,000	-
Total economic	**87,010,000**	**36,380,000**	**29,830,000**	**-**
Environmental	20,540,000	17,170,000	12,890,000	-
Heritage	16,710,000	8,860,000	6,600,000	-
Physical health	15,340,000	6,730,000	6,280,000	-
Total social	**52,590,000**	**32,770,000**	**25,770,000**	**-**
Total socioeconomic	**139,600,000**	**69,140,000**	**55,600,000**	**-**
Costs				
Water abstraction	4,380,000	-	-	-
Costs of maintaining canal and towpath	27,700,000	28,740,000	28,240,000	15,300,000
Total	**32,080,000**	**28,740,000**	**28,240,000**	**15,300,000**
Benefit cost ratio				
Net benefits	**107,520,000**	**40,410,000**	**27,360,000**	**-15,300,000**
Benefit cost ratio (BCR)	**4.4**	**2.4**	**2.0**	**-**
BCR of economic benefits only	2.7	1.3	1.1	-
BCR of social benefits only	1.6	1.1	0.9	-

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