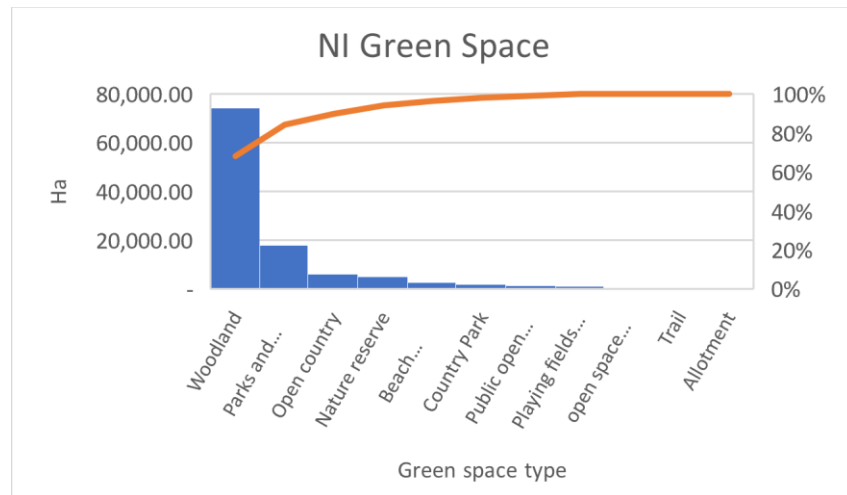


GREEN SPACE IN NI AND ITS VALUE

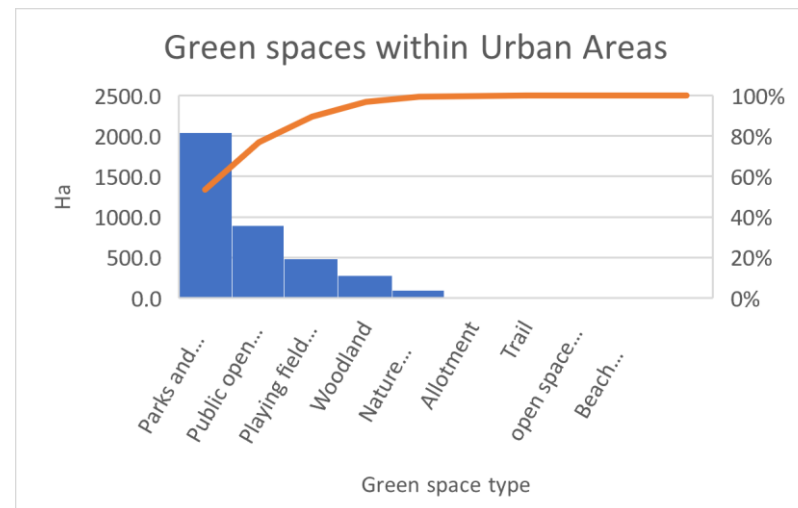
Public green space type and area, Northern Ireland (NI):

Habitat types	Ha	%
Woodland	74,253.88	67.9%
Parks and gardens	17,713.21	16.2%
Open country (island, mt, coastline)	6,043.58	5.5%
Nature reserve	4,809.57	4.4%
Beach/blue space	2,467.11	2.3%
Country park	1,700.24	1.6%
Public open space	1,329.47	1.2%
Playing fields/sports amenity	851.14	0.8%
Open space heritage site	111.01	0.1%
Trail	37.89	<0.1%
Allotment/community growing	32.43	<0.1%
Total:	109,349.53	



Public green space type and area, urban areas only:

Habitat types	Ha	%
Parks and gardens	2042.0	53.4%
Public open space	892.9	23.4%
Playing fields/sports amenity	483.3	12.7%
Woodland	274.8	7.2%
Nature reserve	97.6	2.6%
Allotment/community growing	16.2	0.4%
Trail	6.9	0.2%
Open space heritage site	5.3	0.1%
Beach/blue space	1.4	<0.1%
Country park	0.0	0%
Open country (island, mt, coastline)	0.0	0%
Total:	3,820.4	



The total NI population in 2021 was 1,903,175.

61% of the population live within urban areas.

Only 3.5% of NI's publicly accessible green spaces are located within urban areas.

ECONOMIC VALUES

Unless otherwise stated, economic values have been aligned with the methodology used in the Derry & Strabane [Natural Capital Account](#) of Outdoor Recreation Greenspaces March 2021 by Vivid Economics (see Appendix 1).

Woodland and Carbon Sequestration

Carbon sequestration of approximately 350 tonnes per ha per annum.

Estimated value of £67 per tonne.

	Ha	Carbon sequestered	Value
NI total	74,254	25,988,900	£1.74bn
Urban total	275	96,250	£6.5m

Community Allotments/Growing Spaces and Food Production

Extrapolating from the UK total values stated in the [UK natural capital](#): urban accounts 2019

Over 19,400kg food produced per Ha.

Economic value of £1.9 per kg.

	Ha	Kg food produced	Value
UK total	7925.0	154m	£292m
NI Total	32.4	629,142	£1.2m
Urban Total	16.2	314,280	£597,132

Mental and Physical Wellbeing

Economic benefits are based on the number of annual visits (see Appendix 1 for how visits and wellbeing values were calculated).

It should be noted that both urban and rural residents use urban green spaces on a regular basis, but with residents from rural areas being less frequent in their usage.

Mental wellbeing value of £9.60 per greenspace visit.

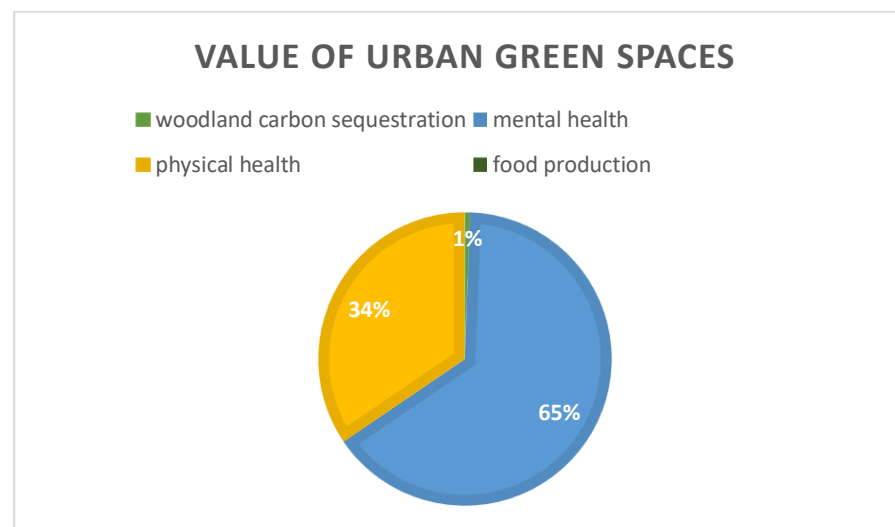
Physical wellbeing value of £5.10 per greenspace visit.

No. of residents	At least once per week	Visits per week to urban green space	Visits per year to urban green space
1,160,891 urban	84%	975,148	50,707,719
742,209 rural	62%	460,170	23,928,818
Total:		1,435,318	74,636,537

Mental wellbeing value of £717m per annum.

Physical wellbeing value of £381m per annum.

Total = over £1.1bn of benefit from our publicly accessible Urban Green Spaces per annum



N.B. Please note that these figures are designed to provide an estimate of the value of our urban green spaces based on the currently available data. The figures do not take into consideration the amount of time spent in these spaces and make a number of assumptions regarding the level of physical activity undertaken. Likewise, we know from our study that around 22% of people surveyed actually visit their urban green space daily, so these values are likely to be conservative (if visits increased to twice per week over £2.2bn of benefit would be realised).

This underestimate may compensate for that fact that the people who filled out the survey may well have done so because of their use of and interest in urban green space which could result in higher usage percentages than if all NI residents completed it.

It is worth noting that a study by Jones et.al 2010 observed significantly higher levels of engagement in recreation from retired and richer populations and lower engagement amongst minority ethnic groups.

Other benefits not included in the calculation are removal of air pollution, urban cooling, noise mitigation, potential income generation through solar panels, ground source heat pumps, wind turbines, economic benefit to local businesses, and property values ([studies show](#) increases between 5% and 18% in property values in greener and more afforested streets).

In terms of income generation associated with green technology, a study by Ulster University on solar potential in the Valley Park, Newtownabbey was undertaken. Of the 20 buildings associated with the park and leisure centre, 15 of those buildings could generate (in total) almost 31,000 kWh of electricity over one year. Fig. 1 shows the buildings kWh potential over a year. The current value of a kWh of electricity is 34p, therefore this could provide an annual income generation of £10,540.



Fig. 1: Aerial view of Valley Park – buildings kWh potential if fitted with solar panels indicated by colour

Some insights taken from the evidence of Nature-Based Solutions (NBS) generating local economic growth:

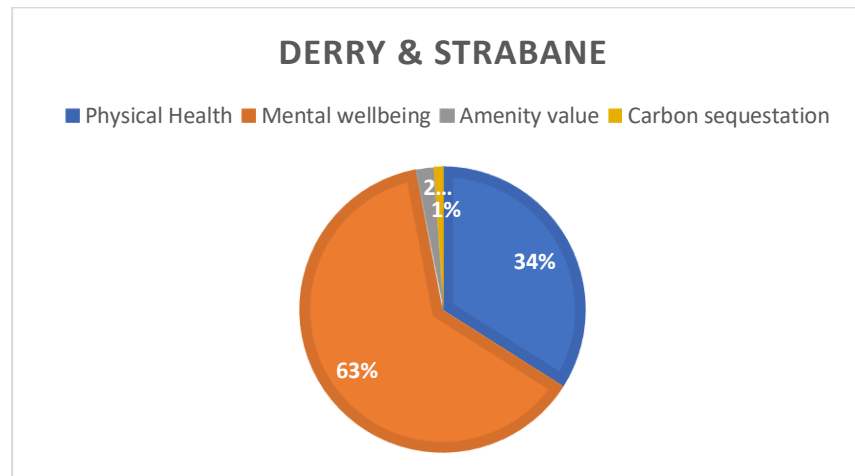


Fig. 2: The above image is taken from the paper 'Economic Benefits of Local Climate Action 2021' - Researched and produced by Centre for Sustainability, Equality and Climate Action, Queens University Belfast and the Place-Based Climate Action Network for UK100.

A number of more in-depth studies have been undertaken in Northern Ireland looking at the economic value of sites. Their key findings are outlined below:

Derry and Strabane Key figures

The Derry & Strabane Natural Capital Account of Outdoor Recreation Greenspaces (March 2021) found that nearly 400 publicly accessible greenspaces in Derry and Strabane supplied £141m in benefits in 2020. The chart below shows the majority of benefits are attributed to visitor mental wellbeing and to physical health improvements of the 8.5m visits, equivalent to £89m and £48m per year respectively (similar to the wider NI urban green space data above). 37,000 households are within 200m of a recreational greenspace, increasing local property values by more than £2m (this information is not available for the wider NI region). Trees in greenspaces sequester nearly 30,000 tonnes of CO2 eq per year, worth £2m.



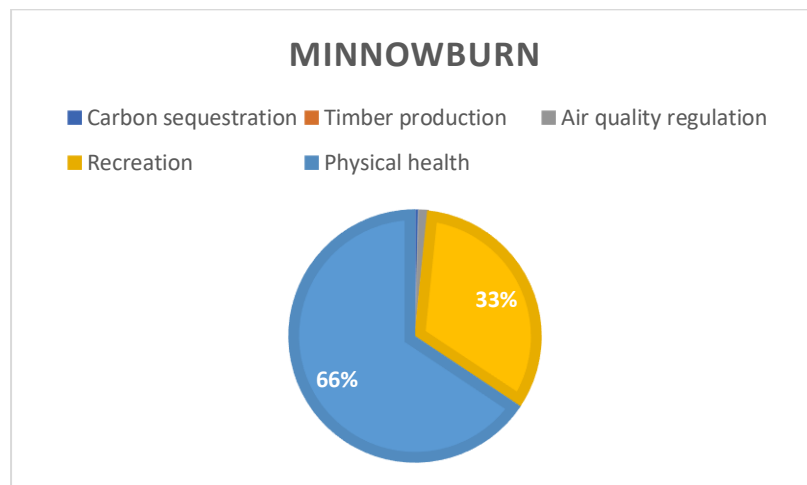
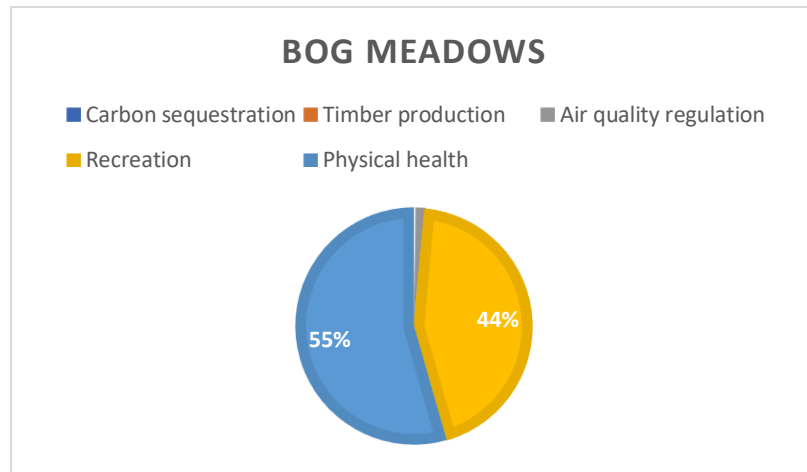
Belfast Urban Natural Capital Study - Bog Meadows and Minnowburn urban nature sites key figures

The Natural Capital Assessment in Northern Ireland: Urban Study by Caldwell et al. (2018) examined a greater number of sites assets, including timber production, air quality regulation and recreation value (based on

estimated spend in the wider area per visit). Physical health was quantified by increased Quality Adjusted Life Years (QALYs) and the savings that these provide to the NHS. No separate mental health value was provided.

Bog Meadows supplied £842,000 in benefits in 2018 while Minnowburn was supplied £2.7m.

The study also highlighted that the health benefits are the greatest economic benefit of these sites – with the higher site visitor numbers in Minnowburn resulting in a greater health benefit than the Bog Meadows site.



In terms of recreation value (i.e., economic spend by recreational users) the authors of the study decided that given the limited opportunities for spending at either Bog Meadows or Minnowburn, a conservative figure of £6.19 per person per trip should be applied to obtain these results. However, it should be noted that Sen et al. (2016) estimated that per person per trip value is found to be highest for urban fringe farmlands (£9.76), followed by mountains, moors and heathlands (£9.19), marine and coastal (£7.23), wetlands (£6.88), woodlands (£6.10), freshwater and floodplains (£3.35), and semi-natural grasslands (£2.82).

If this figure of £6.19 per visit is assumed = £462million per annum associated with the 74,636,537 visits to urban green spaces across NI

Interestingly the ORNI study (2022) ‘People in the Outdoors Monitor for Northern Ireland’ (POMNI) looked at expenditure on a seasonal basis as opposed to location, with those surveyed spending over twice the level in summer (August/October 2021; £9.87) than winter (November-December 2020; £4.40). The two most common items of spend were fuel and food/drink.

If a lower value of £4.40 per visit is assumed = £328.4million per annum associated with visits to urban green spaces across NI.

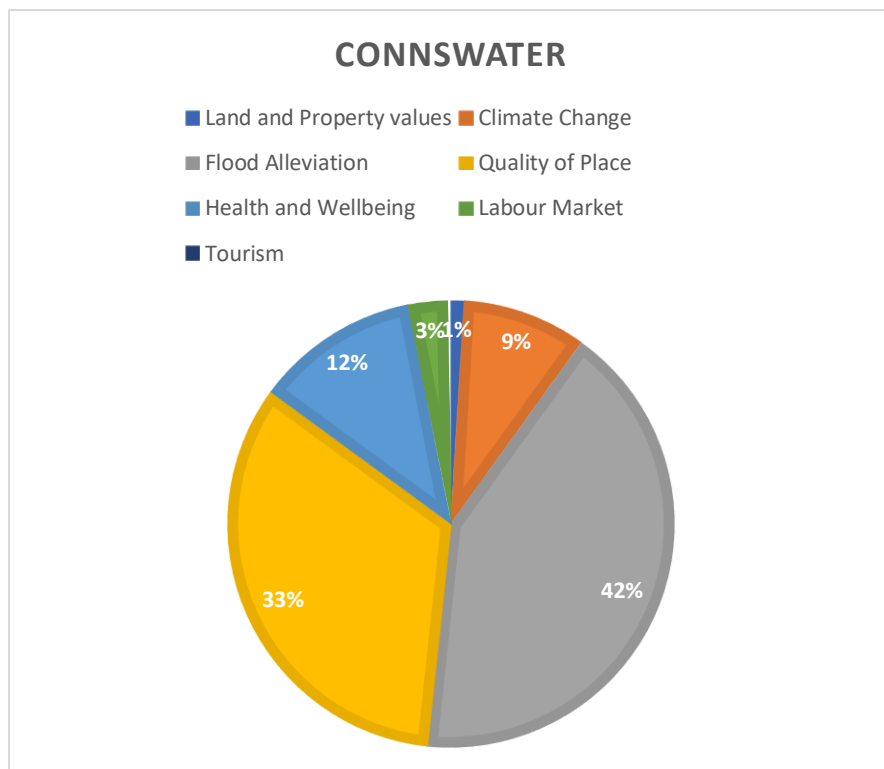
However, as a nation we are currently in an economic crisis; during public consultations carried out in Autumn 2022 as part of this study the fact that urban green space was free to use was highly valued, therefore, current values may be yet lower, hence are not included in the estimated £1.1bn of benefit of urban green space per annum.

Connswater Greenway Key figures

Hunter et al. (2020) examined the social return on investment of the Connswater Community Greenway. The total value of benefits ranged from £2.5m to £5m per annum (worst and best case scenarios). These values were discounted over the 40 year lifespan of the greenway taking into consideration depreciation.

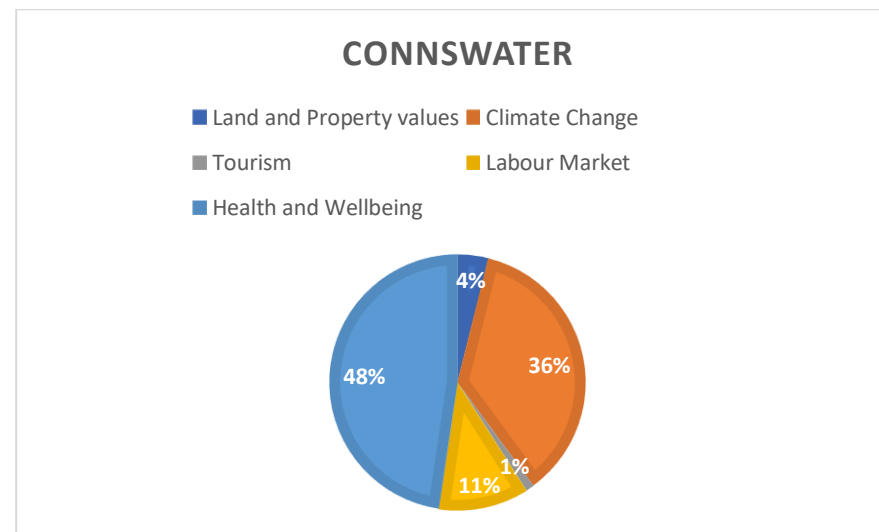
The seven key areas they examined were: i) land and property values; ii) labour employment and productivity; iii) flood alleviation; iv) climate change (active travel provision and the resulting reduction of cars on the

road); v) health (combination of healthcare cost savings and the societal value of deaths prevented); vi) tourism; and vii) quality of place (benefit from reduced crime).



Flood alleviation was not a factor considered on any of the other sites, probably because it is not currently considered an issue at the sites. However with climate changes as increasing extreme weather incidents flood alleviation may be an increasing benefit that our urban green spaces offer. The quality of place measure of the value of reduced crime in the area was also not considered on any other sites.

If flood alleviation and quality of place are removed from the chart a similar picture of the value of these sites to health and wellbeing emerges. It should be noted that the measure given to climate change in this study is based on an increased level of active travel and the reduction in air pollution caused by cars – both of which relate to health.



Costs-Benefits

The annual costs and benefits for three of the sites is provided in the table below. They show a wide range of benefit-cost ratios at each level of investment. This is in part due to annual visitor numbers, however facilities such as children’s play areas, playing pitches etc. require higher ongoing maintenance costs and are not present in the Bog Meadows or Minnowburn sites resulting in more favourable benefit-cost ratios.

	Annual Cost	Annual Benefit	Ratio
Derry & Strabane Council owned parks/open space	£8,500,000	£141,000,000	1:16 *
Bog Meadows	£19,386	£842,000	1:43
Minnowburn	£40,852	£2,700,000	1:66

* The ratio is 1:21 when only considering Council funding

No annual maintenance costs were available for the Connswater Greenway, hence it was not included in the table. In terms of initial the

investment of £35million this will be recouped between 2-6 times (worst and best case scenarios) discounted over the next 40 years due to its predicted annual benefit of £2.5m to £5m per annum.

Key Findings

This report takes a fairly simplistic view of publicly accessible urban green spaces across NI to provide a baseline figure of over 1.1 billion pounds of value per annum for these spaces. The greatest proportion of which was attributed to mental and physical health benefits.

The other NI studies look into other aspects of economic value in more detail, highlighting that if elements such as flood alleviation and active travel are incorporated into a site's design, the value of the site will increase even more. Likewise potential associated visitor spend (both at the site, or in local shops/petrol stations) could be between £300m - £460m per year, supporting the local economy.

The potential to draw in additional funding support can help local councils ensure good value for their local rate payers.

All the studies show investing in green space gives excellent value for money, with benefits exceeding costs many times over.

Appendix 1 ORNI study March (2022) People in the Outdoors Monitor for Northern Ireland ([POMNI](#)) found 71% of those surveyed visited a green space at least once a week. This was based on over 6000 interviews over the space of a year. Interestingly the report found that the percentage visiting at least once a week was higher amongst people who claimed to live closer to green or blue spaces (80% if within a 5min walk).

The NIEL study Nov 2022 found 77% of those surveyed visited an **urban** green space at least once a week. This included rural residents, which when examined separately, showed that people living in rural areas visited urban green spaces less frequently (62% at least once a week), compared to people living in cities or towns (84% at least once a week). Showing the importance of these areas for urban residents compared to rural residents. This was based on over 500 surveys in 1 month.

Mental and Physical wellbeing methodology has been aligned with the methodology for natural capital accounting as applied a 2019 report for [DCSDC](#). Here, the value of mental wellbeing is based on improvements in life satisfaction reported by adult park visitors. The value of life satisfaction from greenspace visits is calculated by quantifying the amount of money that would lead to an equivalent increase in life satisfaction. For simplicity an average mental wellbeing value of £9.6 per visit has been taken, this would be higher for high duration visits and lower for short duration visits.

Physical wellbeing has also been simplified to a value of £5.1 per visit. This assumes the UK average of 4% inactive (no monetary value), 66% low activity (value prevented fatality – VPF) and 30% high activity (quality adjusted life years – QALYs).

Carbon sequestration is estimated by assuming an average rate of carbon sequestration per hectare of trees of 350 tons of carbon per year (Forestry Commission, 2021). The price of one untraded ton of CO₂ in 2019 is £68. As a result, the value of carbon sequestration is a product of the annual carbon price and the total annual sequestration from the trees in a greenspace.

References:

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https://d1ssu070pg2v9i.cloudfront.net/pex/pex_carnegie2021/2020/02/05110357/NCA-Final-Report-CUKT.pdf

Sen et al. (2016) in 'Economic Assessment of the Recreational Value of Ecosystems in Great Britain'