A Nature Investment Plan for Northern Ireland



Economics is a discipline that shapes decisions of the utmost consequence, and so matters to us all. The Dasgupta Review at last puts biodiversity at its core and provides the compass that we urgently need. In doing so, it shows us how, by bringing economics and ecology together, we can help save the natural world at what may be the last minute – and in doing so, save ourselves.

- Sir David Attenborough

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Executive Summary

We are in the midst of a nature and climate crisis. Analysis by the RSPB and the Natural History Museum illustrates that Northern Ireland is languishing in 229th place out of 240 countries for the amount of nature it has left. There is an urgent need to invest in nature's recovery, not just to meet our commitments to halt the loss of biodiversity, but also for the benefit of people and the economy. Action to tackle the nature and climate crisis cannot be delivered without substantial investment and finance.

We need to invest in natural capital because it underpins our economy, is key to addressing the climate crisis, contributes to our long term prosperity, health and well-being, creates jobs and provides cost effective solutions to many of the problems our society and economy faces.

Public spending on biodiversity priorities in Northern Ireland is approx. £1.4m per 1000km2 compared to UK average of £2.3m.

Northern Ireland needs to invest at least £149.5 million per year to meet its priorities for the natural environment

In Northern Ireland, nature investment alone could create at least 1752 FTE jobs per annum, for ten years.

Summary points:

This Plan outlines the many reasons for investing in nature, it evidences the scale of need for nature investment in NI as summarised above, it identifies a series of case studies demonstrating the multiple benefits of investment in nature and finally the Plan sets out the following key actions, necessary to scale up nature protection, restoration and investment in Northern Ireland:

- Legally binding targets to drive action for nature's recovery
- Completion of the designation of the Protected Area Network to ensure the best places for nature are adequately protected
- A Nature Recovery Network for Northern Ireland which creates ecological networks joining and connecting the best places for nature across Northern Ireland
- A Nature for Climate Fund for Northern Ireland to deliver large scale nature recovery projects
- A review of public expenditure and procurement to end perverse and conflicting incentives that are causing increased emissions and driving nature loss.
- A Plan to unlock private financing for nature in Northern Ireland
- An enhanced and expanded agri-environment programme that forms the central plank of agriculture payments to restore and protect natural capital, and deliver economic resilience, improved productivity and innovation on farms
- A Marine Natural Capital Investment Plan that involves the protection, restoration and enhancement of the marine environment
- A Biodiversity Net Gain requirement for built development through a mandatory system of nature-friendly planning and development that creates a net gain for biodiversity
- A Green Jobs Scheme to enable young people to find work in conservation and the delivery of nature based projects that can help tackle the nature and climate crisis.

There has never been a more important time to invest in the restoration of the natural environment to build our natural capital and contribute to climate mitigation and adaptation. Spending on the restoration of the environment can boost the economy, whilst creating the longer-term conditions for greater prosperity and well-being. These aspirations cannot be achieved without a substantial uplift in current levels of funding for the protection, management and restoration of the natural environment.

Restoration of peatlands with an annual investment of £12.1 million creates an estimated 173 jobs per year



Creating new woodlands to meet biodiversity and net zero carbon targets, has potential to create a further



Investment in creation and restoration of other priority habitats and boundary features, has the potential to create



Investing in the provision of on farm environmental advice, offering the potential to create 73 jobs per annum for farm advisors across Northern Ireland, though an annual investment of



Introducing a biodiversity requirement for new development, increasing investment in habitat creation and restoration by more than £5 million annually, creating a further



Investment in urban green spaces, offering the potential to support 301 jobs annually through an investment of



Why do we need to invest in nature?



1. Why do we need to invest in nature?

We are in the midst of a nature and climate crisis. In Northern Ireland, the UK and internationally, we have destroyed or depleted a large proportion of wildlife habitats, severely reduced the populations of once common species, and put many species at risk of extinction.

Our ecosystems have been damaged by a range of pressures including agricultural intensification, pollution, development and invasive species, reducing their ability to store carbon, regulate the quality of the air and water on which we depend, and protect us from flooding. This has had negative impacts on people and the economy.

There is an urgent need to invest in nature's recovery, not just to meet our commitments to halt the loss of biodiversity, but also for the benefit of people and the economy. The recent HM Treasury commissioned Dasgupta review of the economics of biodiversity emphasised that investing in nature is necessary to safeguard the future of people as well as the many other species with which we share the planet. There is also overwhelming evidence that nature restoration provides a good return on investment, with many studies showing that the benefits greatly exceed the costs.

There are many reasons for investing in nature. These include:

- 1. Natural capital is one of the key foundations of the economy and provides economic opportunities we need to maintain and invest in natural capital just as we do in other forms of capital.
- 2. Investing in nature creates jobs and skills.
- 3. Investing in nature is essential for health and well-being and is a cost-effective means of improving public health.
- 4. We need to invest more in nature restoration to meet our commitments for biodiversity and the environment. Nature-based solutions are cost effective and increasingly important in a changing climate.
- 5. Investing in nature is essential to meet commitments for net zero carbon.
- 6. Nature-based solutions are cost-effective and provide a good return on investment, with many studies showing that the benefits greatly exceed the costs.

In this paper we evidence each of these arguments for nature investment (Section 2), estimate the scale of investment required (Section 3) and make recommendations for how to deliver greater nature investment in Northern Ireland (Section 4).

Making the case for nature investment

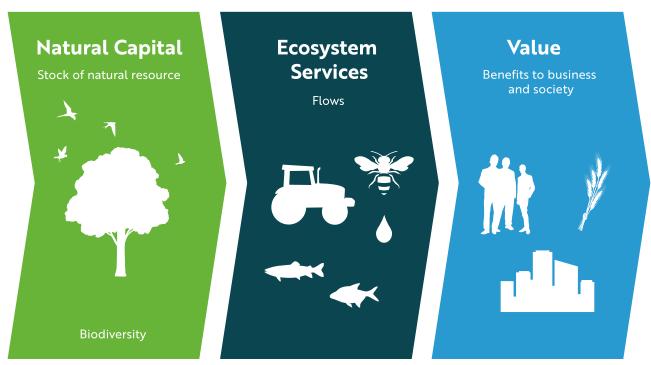


2. Making the Case for Nature Investment

2.1. Natural capital is an economic asset and a key foundation of Northern Ireland's economy

Natural capital is our stock of natural assets, which include soil, air, water, minerals and all living things. It provides us with a wide range of ecosystem services, which make human life possible and are essential to our prosperity and wellbeing.

Figure 1: Benefits of Natural Capital



Source: Draft Environment Strategy for Northern Ireland

The World Bank recognises that long-term development is a process of accumulation and sound management of a portfolio of assets, which include natural capital as well as manufactured capital, human and social capital. While investment in natural capital provides economic opportunities, the depletion of natural capital assets jeopardises economic development.

The ecosystem services delivered by Northern Ireland's natural capital include:

- **Provisioning services** the food we eat, the water we drink and the plant materials we use for fuel, building materials and medicines;
- Regulating services the services that ecosystems such as woodlands, peatlands, grasslands and wetlands play in regulating our climate, maintaining air and water quality, pollinating crops and providing natural flood defences; and
- **Cultural services** the inspiration we take from wildlife and the natural environment, which in turn contributes to recreation, tourism and our mental and physical health and wellbeing.

These services depend on maintaining the extent and condition of our stocks of natural capital assets. Northern Ireland has a rich natural heritage with extensive areas of valuable upland, farmland, wetland, coastal and marine ecosystems. However, many ecosystems across Northern Ireland are being degraded and are failing to meet their potential. For example, just 55% of marine terrestrial and marine biological features in protected sites are in favourable condition² and no river, lake, coastal or water bodies achieved good overall status³.

International assessments have ranked Northern Ireland as the 12th country in the world for its rate of biodiversity loss⁴ and the 13th in the world for emissions per head⁵. Continuing to neglect natural capital risks increasing threats from climate change, the degradation of soils, pollution of air and water, decline of valuable species and habitats, and inequalities in living environments and access to green space. These trends impose significant costs on our economy and adversely impact our wellbeing and result in missed opportunities for our economy and society.

Natural capital – alongside human, social and man-made capital – is essential for our economic prosperity and future well-being. It is essential that we invest in maintaining and enhancing it. As well as improving our quality of life and safeguarding our economy, natural capital investments will provide new opportunities for the green economy, sustainable agriculture and forestry, nature-based solutions to problems such as climate change, flooding and pollution, a natural health service, and green tourism.

The draft Northern Ireland Environment Strategy makes a commitment to adopt a Natural Capital approach, drawing together economic, social and scientific evidence and providing practical approaches to enable people to value nature systematically in decision-making.

Integrating a Natural Capital approach into all policy making and investment decisions is essential to ensure that natural assets are valued and protected to make Northern Ireland more resilient and deliver greater prosperity and well-being. Examples of natural capital assessments that can support decision making are given in Appendix 1.

 $^{2\} https://www.daera-ni.gov.uk/sites/default/files/publications/daera/ni-environmental-statistics-report-2022.pdf$

³ https://www.daera-ni.gov.uk/sites/default/files/publications/daera/NI%20Water%20Framework%20Directive%20Statistics%202021_0.pdf

 $^{4\} https://www.rspb.org.uk/globalassets/downloads/about-us/48398 rspb-biodivesity-intactness-index-summary-report-v4.pdf$

⁵ https://www.belfasttelegraph.co.uk/life/features/climate-campaigner-ruairi-brogan-absolutely-everyone-can-do-something-to-help-revive-our-world-even-if-its-small-41010774.html

2.2. Nature investments support jobs and skills development

Investing in the protection and restoration of nature and the environment offers opportunities to build a green workforce with the jobs and skills needed to address our nature and climate priorities. This will include specialist jobs in nature conservation and renewable energy, as well as the development of environmental skills across the entire workforce, including workers in sectors such as manufacturing, construction, agriculture, mining and services. A green workforce includes:

- Nature based jobs and skills. Jobs will be created in the management, restoration and creation of habitats and green infrastructure, in environmental land management, and in nature-based solutions.
- Environment sector jobs and skills. A recent study for WWF⁶ estimated that investments in green building, clean energy (especially offshore wind) and carbon capture and storage as part of a green recovery package could together create 150,000 new jobs across the UK. In Northern Ireland, 40 organisations have called for a 'green new deal' commitment to invest in new jobs and skills in low carbon infrastructure, nature restoration, housing, transport and technology that directly contribute to a sustainable future.
- **Greening jobs and skills across the economy.** A truly green economy requires environmental considerations to be incorporated across all jobs, and green skills need to be mainstreamed. Studies have demonstrated the range of jobs affected and skills needed to meet priorities for nature and the environment⁷. For example, addressing the nature crisis and developing a nature positive economy will require biodiversity knowledge and skills to be enhanced across a range of occupations such as planners, accountants, architects, developers and site managers.

The Northern Ireland Environmental Economy report⁸ demonstrated the importance of the environment to Northern Ireland's economy, estimating that 32,750 full time equivalent (FTE) jobs are dependent on the environment, across a range of sectors such as agriculture, fisheries, food, forestry and tourism (see Appendix 2) as well as in the environment sector itself⁹.

New opportunities for job creation through nature restoration are being recognised internationally. For example, the New Zealand government has committed over \$1billion to nature restoration, aiming to create 11,000 jobs through a 'Jobs for Nature Programme'¹⁰.

⁶ Vivid Economics (2020) A UK Investment Strategy: Building Back a Resilient and Sustainable Economy. Report for WWF 7 https://ec.europa.eu/environment/pubs/pdf/biodiversity/Biodiversity/20and%20Jobs_final%20report.pdf

⁸ https://www.daera-ni.gov.uk/publications/environmental-economy-northern-ireland

⁹ https://www.daera-ni.gov.uk/sites/default/files/publications/doe/valuing-our-environment-full-report.pdf 10 https://environment.govt.nz/what-government-is-doing/key-initiatives/jobs-for-nature/

In Northern Ireland, a new green jobs package could create 1752 FTE jobs through direct investments in nature alone:

Table 1: Opportunities for job creation through nature investment

Type of investment	Employment (FTE)
Restoration of peatlands	173
Creation of woodlands	85
Restoration and creation of other priority habitats and boundary features	1043
Environmental land management advice	73
Improving and creating urban green spaces	301
Biodiversity net gain	77
Total	1,752

These opportunities include:

- Restoration of peatlands, with an annual investment of £12.1 million creating an estimated 173 FTE jobs per year [involves restoring 6700 ha annually]
- Creating new woodlands to meet biodiversity and net zero carbon targets, which has potential to create a further 85 FTE jobs annually
- Investment in creation and restoration of other priority habitats and boundary features, with the potential to create 1043 FTE jobs for 10 years. This would involve investing £6 million to restore 3,600 ha of priority habitats per annum (including upland heathland and a range of other habitats) and £3 million to create 330 ha of priority habitats per annum (lowland heathland, reedbeds and other habitats)¹¹. The estimates also assume annual investments of £20 million in hedgerow restoration, £7 million in hedgerow planting and £8m in stone wall restoration.
- Investing in the provision of on farm environmental advice, offering the potential to create 73 FTE jobs per annum for farm advisors across Northern Ireland, though an annual investment of £3.3 million.
- Investment in urban green spaces, offering the potential to support 301 jobs annually over a 10-year period, through a £160 million investment package, while reducing health inequalities, enhancing nature and improving the quality of the living environment, especially for the most disadvantaged communities.
- Introducing a biodiversity net gain requirement for new development, increasing investment in habitat creation and restoration by more than £5 million annually, creating a further 77 FTE jobs.

In addition to providing new income streams for farmers, funding for nature restoration activities, such as peatland restoration, will drive both 'high skilled' and 'less skilled' employment, requiring hydrologists, ecologists, project managers, tourism specialists, GIS specialists, modellers, as well as contractors. The skills needs are therefore similar to those from traditional large-scale infrastructure projects.

Programmes and projects aimed at addressing other key environmental outcomes would have similar job creation potential in areas such as retrofitting of existing buildings to improve energy efficiency, delivering waste reduction and creating a circular economy, preventing pollution and creating sustainable transport infrastructure. Northern Ireland can be at the forefront of addressing and reversing key environmental challenges, while at the same time provide worthwhile and fulfilling work opportunities.

The opportunities for new jobs in nature outlined above require investment in skills and training. This will provide young and unemployed people with the skills necessary to fill these new jobs, and to create lasting employment opportunities.



Image credit: Henry McLaughlin

2.3. Investment in nature improves our health and well-being

There is strong and growing evidence that investing in protecting and restoring nature enhances our physical and mental health and well-being (see Appendix 3). Living in greener urban areas is associated with lower probabilities of cardiovascular disease, obesity, diabetes, asthma hospitalisation, mental distress, and ultimately mortality among adults; and lower risks of obesity and myopia in children. Greater quantities of neighbourhood nature are also associated with better self-reported health and subjective well-being in adults, and improved birth outcomes, and cognitive development, in children¹².

The COVID-19 crisis and associated lockdowns have emphasised the importance of access to nature for our health and well-being. The pandemic has also drawn attention to health inequalities, and to inequalities in the quality of the living environment and in access to quality green spaces.

According to Outdoor Recreation Northern Ireland¹³:

- 29% of residents in Northern Ireland do not have green space within easy walking distance of their home
- Only 50% of residents of the 10% most deprived areas of Northern Ireland typically visit the outdoors once a week
- The unemployed, people with no car, those with a disability and people in the least affluent socio-economic groups visit the outdoors less regularly than the national average

Physical inactivity costs the NHS in the UK around £1 billion per year, and society as a whole around £7.4 billion a year. Physical activity can help people to prevent and manage over 20 chronic health conditions¹⁴. Improving access to quality green spaces will help to reduce these costs and to lower health inequalities.

Investing in our natural health service – natural places and urban green spaces – and improving access to them – will enhance opportunities for outdoor exercise and engagement with nature, delivering health improvements and cost savings (see Appendix 3). More needs to be done to connect people with the outdoors by raising awareness of the importance of physical activity and contact with nature, through nature-based prescribing, and by facilitating contact with nature through events and facilities such as outdoor gyms. 'Head to Nature', a pilot green prescription scheme run by the RSPB at Portmore Lough demonstrated substantial benefits to participants' mental wellbeing from carrying out nature related activities, like guided walks, wildlife photography and practical conservation work on the Nature Reserve.

The British Heart Foundation has estimated that poor air quality causes 800 premature deaths annually in Northern Ireland¹⁶. Green spaces have been shown to deliver health benefits by enhancing air quality¹⁷. The reduction in traffic during COVID-19 lockdowns improved air quality, reduced carbon emissions, and brought quieter and safer streets which were more attractive for walking and cycling, and allowed people to rediscover nature and bird song. We need to reinforce these changes by investing in cycling and walking infrastructure, pedestrianising more of our streets and creating green travel corridors. Research by Sustrans¹⁸ demonstrates that this sort of investment delivers substantial benefits to the economy.

2.4. We need to invest in nature to meet our commitments for biodiversity and the environment

Although we now have good evidence of the value of nature to our economy and future well-being, we continue to fail to prevent its decline, and under-invest in its recovery.

The UK, as a party to the UN Convention on Biological Diversity, has committed to halt the loss of nature. However, a recent global assessment found that nature and its vital contributions to people, which together embody biodiversity and ecosystem functions and services, continue to deteriorate worldwide, with most ecosystem services declining and human actions threatening more species with global extinction now than ever before ¹⁹.

¹³ http://www.outdoorrecreationni.com/wp-content/uploads/2021/03/ORNI-Strategic-Plan-2020-2025.pdf

¹⁴ https://www.nice.org.uk/guidance/ng90/chapter/Context

¹⁵ https://www.rspb.org.uk/about-the-rspb/about-us/media-centre/press-releases/green-prescription-scheme-shows-success-at-portmore-lough/

 $^{16\} https://www.belfasttelegraph.co.uk/news/northern-ireland/air-pollution-contributes-to-800-deaths-a-year-in-northern-ireland-39786454.html$

¹⁷ https://www.sciencedirect.com/science/article/pii/S0048969721036779

¹⁸ https://www.sustrans.org.uk/our-blog/get-active/2019/everyday-walking-and-cycling/the-benefits-of-being-a-cycle-friendly-employer

¹⁹ https://ipbes.net/sites/default/files/ipbes_7_10_add.1_en_1.pdf?file=1&id=35329&type=node

Analysis by RSPB and Natural History Museum illustrates that Northern Ireland is languishing in 229th place out of 240 countries for the amount of nature it has left. The State of Nature (2019) paints a stark picture of nature's decline, with 11% (272) species at risk from extinction across Northern Ireland.

The Biodiversity Strategy for Northern Ireland (2015-2020) set the framework for Northern Ireland's efforts to meet its international obligations and local targets to protect biodiversity and ensure that the environment can continue to support people and economy. However, analysis by RSPB NI²⁰ found that the Executive departments failed to meet 35 of 42 commitments set out within the Strategy.

The poor condition of Northern Ireland's ASSIs and priority habitats, the increasing numbers of species in decline and at risk of extinction, and the poor status of freshwaters, soils and marine habitats are all evidence of a failure to invest in maintaining and restoring natural capital assets and in tackling the pressures that affect them.

The CBD post-2020 global biodiversity framework²¹, due to be adopted in 2022 at the 15th Conference of the Parties (COP 15), aims to put biodiversity on a path to recovery by 2030 for the benefit of the planet and people. This will direct the new Northern Ireland Biodiversity Strategy to 2032 and accompanying targets and actions for conserving, protecting and enhancing biological diversity both on land and at sea. The initial focus will be to reverse biodiversity loss and create a nature-positive world by 2030, with the emphasis of this decade being on ecological restoration. While commitments to action and setting of targets is important, adequate funding and oversight will be required to realise the ambitions.

Investments will be needed to:

- Improve the condition of protected sites (ASSIs)
- Extend areas protected for nature to effectively protect at least 30% of Northern Ireland's land and 30% of seas for nature
- Restore and expand priority habitats in the wider countryside, for the benefit of wildlife, climate and ecosystem services
- Halt the decline of farmland species
- Improve the status of threatened species by 2030

An assessment of the financial investment needed for these actions is set out in Section 3 below.

2.5. Investing in natural capital is essential to meet our net zero targets

Northern Ireland lags behind the rest of the UK in reducing carbon emissions²². Since the introduction of the UK Climate Change Act (2008), greenhouse gas emissions fell by 9% in Northern Ireland (2008-2016), compared to a 27% fall for the whole of the UK. The Climate Change Act (Northern Ireland) 2022 sets a target to reach net zero by 2050 which should help drive urgent and ambitious action to ensure a move to net zero emissions.

Ecosystem restoration – including the expansion of woodlands, restoration of peatlands, wetlands, coastal and marine habitats, and improved management of agricultural soils - will play an important role in moving Northern Ireland towards the goal of achieving net zero carbon emissions.

²⁰ https://www.rspb.org.uk/about-the-rspb/about-us/media-centre/press-releases/rspb-ni-northern-ireland-biodiversity-strategy-failing-after-years-of-inaction/

²¹ https://www.cbd.int/conferences/post2020

²² https://www.daera-ni.gov.uk/sites/default/files/publications/daera/ni-environmental-statistics-report-2021.pdf

The Intergovernmental Panel on Climate Change (IPCC) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) are united in their view that climate change and biodiversity are interconnected and that neither can be addressed without effectively addressing the other. This view is endorsed by a report published by the joint UK governments (including Northern Ireland), 'Nature Positive 2030' ²³, which states: 'we need to go high nature and low carbon, tackling the twin crises of biodiversity loss and climate change together. The crises of biodiversity loss and climate change share many of the same causes and solutions. We need to tackle both crises or we will tackle neither'.

It is essential that climate change mitigation efforts – such as woodland expansion and the development of renewables – are sympathetic to nature, strengthen our natural capital and deliver co-benefits for nature and climate. Woodland expansion should avoid afforestation of high value open ground habitats such as blanket bog and heathland, and use native woodland species, which can capture and store more carbon over the long term (see Appendix 4), as well as providing a wide range of economic and social benefits through the delivery of nature based solutions.

2.6. Nature-based Solutions are cost-effective and provide a good return on investment

Nature-based Solutions (NbS) often provide a cost-effective means of addressing issues such as flood management, water purification, climate regulation and coastal protection, reducing the need for expenditures on hard-engineering works while providing multiple benefits for people and nature (see Appendix 4).

The Dasgupta review noted that: 'ecological solutions (often referred to as Nature-based solutions) have the potential to provide multiple benefits. Restoring ecosystems by ecological means can not only address biodiversity loss and climate change, they also deliver wider economic benefits. They have frequently been found to be more cost-effective than engineered solutions and have far fewer unexpected consequences. They also create employment... Recent research suggests that ecological investments such as afforestation, parkland expansion, and restoration of rural ecosystems should have high priority as part of COVID-19 recovery stimuli' (p489).

Many of the examples outlined in Appendices 4 and 6 demonstrate strong cost-benefit ratios from nature investments. There is clear evidence of the cost-effectiveness of investing in green spaces to improve public health, native woodland to mitigate and adapt to climate change, and peatland restoration to clean water, store carbon and restore biodiversity.

There is significant untapped potential for NbS, particularly in Northern Ireland. To optimise the potential of NbS requires increased investment and integration of NbS within National Adaptation Plans and sectoral policies (see Appendix 5).

23 https://data.jncc.gov.uk/data/6de7bf27-055e-4407-ad29-4814e1613d90/nature-positive-2030-evidence-report.pdf



3. What scale of investment is needed?

Action to tackle the nature and climate crisis cannot be delivered without substantial investment and finance. The scale of investment needed to restore nature in Northern Ireland has been estimated in reports by Rayment (2017 and 2019)²⁴ for the RSPB, National Trust and Wildlife Trusts, and eftec (2021) for the Green Finance Institute²⁵.

According to RSPB commissioned analysis (Rayment, 2020), public spending on habitat and species biodiversity priorities in Northern Ireland is approximately £1.4 million per 1000km2 compared to a UK average of £2.3m. Table 2 sets out latest estimates of financial needs for the 10 year period to 2031.

Table 2: Financial needs for nature in Northern Ireland 2022-31 (£m)

	Capital costs (£m)	Annual costs (£m)	Total cost over 10 years (£m)	Annual average cost (£m)	
Nature for climate investments					
Woodland creation and management	£122.0	£6.0	£128.0	£12.8	
Peatland restoration and maintenance	£121.0	£33.0	£154.0	£15.4	
Subtotal	£243.0	£39.0	£282.0	£28.2	
Other natural environment related measures					
ASSI Restoration and Management	£153.0	£54.4	£207.4	£20.7	
Priority Habitats (creation, restoration, maintenance)	£103.5	£45.5	£149.0	£14.9	
Agri-environment for widespread species	-	£260.0	£260.0	£26.0	
Species recovery	£49.0	£10.0	£59.0	£5.9	
Restoration and maintenance of landscape and historic environment	£41.0	£17.0	£58.0	£5.8	
Resource protection measures in agriculture	-	£480.0	£480.0	£48.0	
Subtotal	£346.5	£866.9	£1,213.4	£121.3	
Total	£589.5	£905.9	£1,495.4	£149.5	

Source: Green Finance Institute (2021), based on Rayment (2019)

 $^{24 \} https://nt.global.ssl.fastly.net/documents/assessing-the-costs-of-environmental-land-management-in-the-uk-final-report-dec-2017.pdf and https://www.wildlifetrusts.org/sites/default/files/2019-09/Paying%20for%20public%20goods%20final%20report.pdf \\ 25 \ https://www.greenfinanceinstitute.co.uk/wp-content/uploads/2021/10/The-Finance-Gap-for-UK-Nature-13102021.pdf$

We estimate that Northern Ireland needs to invest at least £149.5 million per year to meet its priorities for the natural environment. This includes: investments in peatland restoration and woodland expansion to meet nature and climate objectives; restoration and maintenance of protected sites to move them towards favourable condition; maintenance, restoration and expansion of priority habitats outside the protected areas network; maintenance, restoration and expansion of landscape and historic environment features in agriculture; and resource protection measures on farmland.

The analysis estimates that investment of at least £28 million per year for ten years is needed in peatland restoration and woodland creation to meet climate and nature objectives; this could be achieved through a "nature for climate" investment fund.

In addition, we estimate that Northern Ireland needs to invest £159 million over 10 years in improving urban green spaces, to enhance public health and tackle inequalities and deprivation, as well as benefiting nature and providing urban ecosystem services.

To date, funding for climate related Initiatives has been minimal in Northern Ireland. This must change urgently and following the introduction of the Climate Change Act (Northern Ireland) 2022 substantial statutory funding must be allocated to facilitate a transition to a net zero, nature positive economy.

The Green Finance Institute (2021) puts the wider nature finance gap (including measures for water, flood risk, resource efficiency, climate and nature engagement, as well as biodiversity) at up to £400 million per year (see Table 3).

Table 3: Finance gap by outcome and location (2022 - 2032)

	uĸ¹	Engand	Wales	Scotland	Northern Ireland
Clean water	£8 billion	£3 billion	£1 billion	£3 billion	£710 million
Protect and/or restore biodiversity	£19 billion	£9 billion	£1 billion	£8 billion	£1 billion
Reduce flood risk through natural flood management 2	£354 million	£347 million	£7 million	-	-
Improve bio-resource efficiency	£4 billion	£3 billion	£35 million	£476 million	£437 million
Climate mitigation through bio-carbon	£20 billion	£8 billion	£2 billion	£9 billion	£669 million
Enhance biosecurity	£109 million-	-	-	-	-
Improve access and engagement with natural environment	£7 billion	£4 billion	£1 billion	£1 billion	£1 billion
Overlap	£4 billion	£1 billion	£220 million	£2 billion	£272 million
Total	£56 billion	£27 billion	£5 billion	£20 billion	£4 billion

¹ The sum of gaps for each location does not add up to the total for the UK as spending data for some outcomes only available for the UK / Great Britain or includes spending in Overseas Territories.

² UK Finance gap for this outcome measured as sum of gaps across DAs.

NB: Central estimate used. If figure less than 1 million rounded to nearest million. The sum of gaps for each location does not add up to the total for the location due to rounding.

A nature investment plan for Northern Ireland



4. A Nature Investment Plan for Northern Ireland

To meet the need to invest in nature's recovery, and to realise the multiple benefits this offers for people and the economy, we call for:

- **Legally binding targets for nature's recovery** and improved monitoring and reporting of the condition and trends across sites, habitats and species.
- Expansion of the Protected Area Network and Strategy for Protected Areas across Northern Ireland, to ensure the best places for nature are protected, to define and fund management plans and specific actions to restore features to favourable condition and meet international commitments to effectively protect at least 30% of land and 30% of sea for nature by 2030. These must be supported by robust monitoring, public reporting, and proper enforcement of nature conservation legislation.
- A Nature Recovery Network, which creates ecological networks joining and connecting
 the best places for nature across Northern Ireland to maximise the benefits for nature and
 people, driving nature's recovery;
- A Nature for Climate Fund for Northern Ireland to unlock the green recovery and the
 economic potential of restoring the natural environment through large scale nature recovery
 projects (such as peatland restoration, woodland creation, restoring blue carbon, creating
 nature recovery networks, restoring protected sites). A Fund of at least £28 million per year
 in peatland restoration and native woodland creation is needed to meet joint nature and
 climate objectives.
- A review of public expenditure and procurement is required to end perverse and conflicting incentives that are causing increased emissions and driving nature loss. The Department of Finance should consider the following:
 - Strengthen guidance to departments on the information they need to supply with spending bids (on climate/nature impacts)
 - Build capacity across government to effectively apply green book guidance on biodiversity and natural capital when appraising policy and project proposals.
 - Adopt new green procurement rules for government purchases to ensure they contribute to nature positive outcomes.
- Unlock private financing for nature in Northern Ireland by developing a framework and set
 of standards for enabling private sector flows of money through high integrity environmental
 markets and establishing an investment readiness fund to enable the identification of a suite
 of potential nature-based projects and undertake project development to create investable
 propositions
- An enhanced and expanded agri-environment programme that forms the central plank of agriculture payments to restore and protect natural capital, and deliver economic resilience, improved productivity and innovation on farms.

- A Marine Natural Capital Investment Plan which includes the protection, restoration and
 enhancement of the marine environment through marine protected area management, marine
 and coastal habitat restoration, nature-based solutions (including blue carbon and natural
 coastal flood management), climate smart fisheries and a Seabird Conservation Strategy for NI.
- A Biodiversity Net Gain requirement for built development. A mandatory system of nature-friendly planning and development that creates a net gain for biodiversity based on a number of principles including adherence to the mitigation hierarchy and where habitats are created or enhanced through the new system, they are secured permanently (see Appendix 7).
- A Green Jobs Scheme should be established to enable young people to find work in conservation, whilst delivering hands on work delivering nature based projects that can help tackle the nature and climate crisis. A workforce of young people in particular, could help the Northern Ireland Executive deliver on a number of strategic policy priorities, including biodiversity targets and environmental restoration, tree planting targets, climate targets as well as other societal challenges such as youth unemployment, skills gap, social disadvantage and mental and physical health.



Image credit: Chris Thompson

Appendices

Appendix 1

Natural Capital Assessments in Northern Ireland

An urban natural capital assessment of two sites in the Belfast area, Bog Meadows and Minnowburn, showed that they are delivering net benefits worth £26 million and £89 million respectively over 50 years, by supporting recreation and improving physical health, as well as improving air quality and contributing to carbon sequestration.

Irish Natural Capital Accounting for Sustainable Environments (INCASE)

INCASE is a research project funded by the Environmental Protection Agency in the Republic of Ireland. It kicked off in March 2019 and will run until 2023. INCASE is the first Irish project to develop natural capital accounts for different sites in Ireland. The project team will prepare accounts for four catchments across Ireland using the UN System of Environmental-Economic Accounts (SEEA) Central Framework and SEEA Experimental Ecosystem Accounts guidelines. Accounts for the four catchments will map the stocks and flows of ecosystem and geosystem services, highlight challenges, knowledge and data gaps, and recommend a framework to operationalise Natural Capital Accounting in Ireland²⁶.

The Natural Capital Committee - Making the case for Natural Capital Investment in England

The importance of natural capital to the economy and well-being was recognised through the formation of the Natural Capital Committee, which advised the UK government between 2012 and 2020 about embedding natural capital into policy decision making. The Committee's reports demonstrated the case for investing in the protection, maintenance and enhancement of natural capital, provided metrics and a baseline for measuring changes in the extent and condition of natural capital, and tools and guidance for embedding natural capital into economic decision-making.

The NCC (2015) third report set out the case for a natural capital investment plan for England, presenting a strong economic case for:

- Woodland planting of up to 250,000 additional hectares, particularly near towns and cities, generating net societal benefits in excess of £500 million per annum;
- Peatland restoration on around 140,000 hectares in upland areas, delivering net benefits of £570 million over 40 years in carbon values alone, and further benefits for water quality, recreation and wildlife;
- Wetland creation on around 100,000 hectares, presenting benefit cost ratios of between 3:1 and 9:1;
- Restoring commercial fish stocks, securing jobs in the fishing sector and providing benefit cost ratios of more than 6:1;
- Intertidal habitat creation to provide coastal flood protection, carbon storage, areas for wildlife and the provision of nursery grounds for important commercial fish stocks.

Appendix 2

Jobs in Nature Tourism

Tourism is an important and growing sector of the Northern Ireland economy. In 2019 it was estimated that there were 5.3 million overnight trips in Northern Ireland (including 3.0 million visitors from outside NI), with spending totalling £1.04 billion. 70,800 people were estimated to work in the tourism sector in 2019, a 9% increase on 2017^{27} . The quality of the natural environment is an important part of the attraction to visitors, with a survey of attractions showing that country parks, parks and forests attracted the largest proportion of visitors (42%) in 2018, followed by visitor/ heritage centres $(21\%)^{28}$.

The 2007 Northern Ireland Environmental Economy report noted that major visitor attractions such as Giants Causeway and Oxford Island National Nature Reserve are linked to the quality of the natural environment. It estimated that environment-based tourism supported 6,125 FTE jobs and contributed £130 million in GVA, at a time when the tourism sector was much smaller than it is today. https://www.daera-ni.gov.uk/publications/environmental-economy-northern-ireland

Investments in nature can be expected to yield further benefits for the growth of the tourism sector, although the added employment benefits are difficult to estimate.

Appendix 3

Health and Well-being Benefits of investing in urban green spaces in the UK

A 2020 report by Vivid Economics for the National Trust examined the social and economic benefits a programme of urban greenspace improvements. A series of greenspace interventions focused within some of the UK's most deprived urban neighbourhoods, where there are clear and significant gaps, would support a recovery which levels up health inequalities and supports struggling local economies.

It is estimated that a £5.5bn capital investment programme would deliver £200bn in physical health and wellbeing benefits to these most disadvantaged communities, in tandem with the active travel, biodiversity, carbon capture and air quality enhancements green infrastructure provides in support of our journey towards net zero. Three types of interventions are examined - upgrading key existing parks and greenspaces, creation of new parks and green streets where current facilities are lacking, and creation of large-scale regional parks and forests in the urban fringe.

Overall, the programme would benefit 3,500 deprived neighbourhoods, plant trees on 10,000 km of streets, create 155 new neighbourhood and 600 street parks, upgrade green spaces for 20 million people, provide new green spaces and greener streets for 15 million people, and give 7 million people a national park experience. It would create 40,000 temporary construction jobs and 6300 ongoing jobs.

https://www.vivideconomics.com/wp-content/uploads/2020/07/Greenkeeper-Report-for-FPA-Greening-Programme-July-2020.pdf

Benefits of the Connswater Community Greenway

The Connswater Community Greenway has created a 9km linear park through east Belfast, following the course of the Connswater, Knock and Loop Rivers, connecting the open and green spaces. The Greenway has created vibrant, attractive, safe and accessible parkland for leisure, recreation, community events and activities. The project will improve the quality of life for 40,000 people in east Belfast, as well as visitors and workers.

The project provides 16km of foot and cycle paths and 26 new or improved bridges and crossings, serving 23 schools and colleges. It is cleaning 5km of rivers, and providing hubs for education, interpretation points and tourism and heritage trails, as well as a wildlife corridor from Belfast Lough to the Castlereagh Hills, and a C.S. Lewis Square for events and activities.

A recent report²³ examined the project's Social Return on Investment, estimating a benefit cost ratio of between 2.9 and 5.8 from the £35 million investment. Benefits included enhanced land and property values; flood alleviation; tourism; labour employment and productivity; quality of place; climate change; and health. The most valuable benefits were estimated to be those for flood alleviation, human health and climate change mitigation.

Appendix 4

Peatland restoration for climate, water and wildlife

Peatlands hold a vast amount of carbon in their soils and can add more from the atmosphere if they are functioning well and in a healthy state. Unfortunately, we also know that many of our

ecosystems are in a poor condition; releasing carbon into the atmosphere, instead of storing it safely in the ground. The poor condition of NI peatlands means they currently emit the equivalent of 8% to Northern Ireland's total GHG emissions.

Successful peatland restoration in Northern Ireland is already delivering an array of benefits. For example, as part of the Co-operation Across Borders for Biodiversity (CABB) project, RSPB NI - in partnership with RSPB Scotland, BirdWatch Ireland, Butterfly Conservation, Northern Ireland Water and Moors for the Future - has restored and repaired approximately 2,000 hectares of peatland in the Garron Plateau in County Antrim. As a result of restoration, the site is avoiding 9,000 tonnes of carbon emissions annually. As well as improving carbon storage, this investment has helped improve raw water quality, reducing the need for (and costs of) water treatment, and created improved habitat for declining species including curlews, hen harriers and marsh fritillaries. Valuing our Peatlands²⁹ shows that every £1 invested in peatland restoration delivers nearly £4 of public benefits.

However, of the 242,000 thousand hectares of peatlands in NI, approximately 86% is not intact, and as little as 1% has been restored in some way over the last 30 years. Degraded peatlands are therefore contributing a whopping 6-8% to NI' Greenhouse gas Inventory. To meaningfully harness the power of nature to tackle climate change, we must restore our peatlands as an urgent priority.

Benefits and costs of Nature-based Solutions in the UK

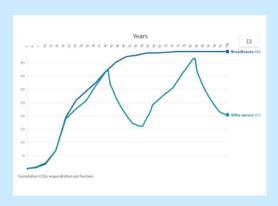
A report by Cambridge Econometrics for the RSPB³⁰ examined the benefits and costs of nature-based solutions in peatlands, woodlands and saltmarsh in the UK. It found that:

- Each £1 invested in peatland restoration is expected to deliver economic and social benefits worth £4.62 through carbon storage and sequestration, as well as contributing to improved water quality, reduced flood risk, enhanced biodiversity and the preservation of ecological and archaeological sites. Restoration projects create around 3 temporary jobs and £156,000 in GVA for every 100 hectares of habitat restored, as well as ongoing jobs and income in peatland management.
- Salt marsh restoration contributes to both climate mitigation and adaptation, by sequestering carbon and enhancing natural coastal flood defences. For every £1 spent on salt marsh restoration, up to £1.31 can be expected to be returned in quantified economic and social benefits. Restoration of salt marshes can also deliver improved water quality, fish nursery areas, enhanced biodiversity and reduced flood risk, and create between 14 and 74 temporary jobs and between £880,000 and £4.8m in GVA for every 100 hectares of restored habitat.
- Woodland expansion is estimated to return an average of £2.79 in climate mitigation benefits per £1 invested. Woodlands deliver further valuable ecosystem services such as improved water quality, noise mitigation, temperature regulation, reduced flood risk and enhanced biodiversity. The report estimated that afforestation can create approximately 25 temporary jobs and generate £1.2m in GVA for every 100 hectares of trees planted, as well as ongoing jobs and incomes from woodland management and timber harvesting.

Climate benefits of native woodland expansion

Forest coverage in NI (8%) is much lower compared to the UK (13%). Current tree planting rates of 200 ha pa are a fraction of the 1700ha pa required to meet the NI Forestry Strategy aim to double woodland coverage from 6%-12% between 2006 and 2056. It is essential that woodland expansion takes place in the right places, avoiding peatlands and important wildlife habitats. It should also focus on the use of native tree species (such as oak, birch and willow), which offer the greatest benefits for climate, as well as maximising the delivery of a range of ecosystem services and benefiting wildlife.

The graph above is derived from research by the RSPB. It shows that mixed broadleaf woodlands managed for conservation store more carbon over 100 years than Sitka spruce plantations under standard productive management. The large drops in sequestration in Sitka spruce plantations are due to carbon released in rotational harvesting. Carbon stored in harvested wood products is included in our comparison, but these often have short lifespans compared to long-term carbon stores in woodland.



https://www.rspb.org.uk/about-the-rspb/about-us/media-centre/press-releases/woodland-carbon-map/

Appendix 5

Nature-based Solutions in Climate Adaptation

Nature Based Solutions in UK Climate Adaptation Policy, a report by Oxford University for the RSPB and WWF, showed that nature-based solutions (NbS) can play an important role in helping the UK to adapt to the impacts of climate change, including sea-level rise, floods, droughts and heatwaves. NbS involve stakeholders working together to protect, restore, connect and enhance the natural assets that underpin the resilience of our economies, health and well-being, providing benefits for both people and nature. The report shows how NbS can help to address 33 of the 34 risks identified in the third Climate Change Risk Assessment (CCRA3), how they can help us adapt to a 2°C warmer world, and how they can be better integrated into UK and Devolved Administration policy, including in the next round of National Adaptation Plans.

NbS deliver multiple benefits for people and nature. They contribute to both climate change mitigation and adaptation; provide attractive, nature-rich places for recreation, education and interaction with nature, supporting human health and wellbeing; and provide new business opportunities through eco-tourism. NbS support or enhance the health and diversity of ecosystems, helping to address the climate and biodiversity crises, and are often more cost-effective with higher benefit: cost ratios than engineered solutions. There is significant untapped potential for NbS, particularly in Northern Ireland, where opportunities were identified in relation to coastal protection, flood management, peatland restoration for climate and water, green infrastructure and sustainable urban drainage. These require increased investment in NbS and their integration in National Adaptation Plans and sectoral policies. https://www.naturebasedsolutionsinitiative.org/news/wwf-rspb-report-nature-based-solutions-uk-climate-adaptation-policy/

Wet woodland provides Nature-based solutions along the River Faughan

Local dairy farmer John Doherty is working with the Woodland Trust Northern Ireland and the Loughs Agency, to create an area of wet woodland along the River Faughan. The planting of 2000 trees and creation of ponds within the land will work to improve water quality and provide new havens for wildlife³¹.

Two existing field drains carry nutrients and sediment during flood events from the land directly into the River Faughan. Measures will be put in place to improve water quality and create a wet woodland to improve the local biodiversity value of the site. The current project is aimed at improving water quality by buffering sediment and nutrients originating from the two ditches. The drains have been diverted into a section of field (4 acres) via a series of leaky dams and then into newly created ponds. Tree roots help filter the water and slow the flow in times of flood ensuring that when the ponds are full the woodland provides a further buffer with the River Faughan. This technique was deployed by Loughs Agency and the Woodland Trust Northern Ireland within woodland at Killaloo, with positive results.

The natural filtration of nutrients and sediments means that water quality is improved for fish and their spawning requirements. As well as the improvements to water quality and the enhancement of wildlife habitat, such woodlands reduce water treatment costs, reduce flood risk and provide increased flood storage, and assist in natural river restoration.

Derry and Strabane Council – investing in green spaces

It has been estimated that investment in Derry and Strabane Council's green spaces will yield £lbillion of benefits for mental and physical wellbeing, with each £l spent by the Council on green spaces providing a return of £22 to society. The Council's natural capital assets have been estimated to deliver annual net benefits of £49m in mental wellbeing and £26m in physical health. It is estimated that every £l spent by Council on green spaces provides a £22 in return to society. The Council has developed a Green Infrastructure Plan, which includes plans to invest in green spaces.

Appendix 6

Benefits of investing in Ocean Recovery

A recent report by WWF³² estimated the following benefits from investing in ocean recovery in the UK:

- Coastal ecosystems, if fully restored, are able to capture 33% of the UK'S 2018 carbon emissions, delivering net benefits worth £10.1 billion by 2050
- Extending full protection to 30% of our seas would yield multiple benefits, yielding net gains estimated at £10.5 billion and supporting up to 12,000 jobs in the tourism and recreation sector alone
- Protecting and restoring coastal ecosystems could save an estimated £6.2 billion in spending on artificial flood defences by 2050
- Climate change will cost the UK fishing sector at least £1.5 billion by 2050 without ocean recovery
- Ocean recovery has the potential to create up to 10,000 green jobs.

Benefits of protected areas

A range of studies demonstrate good benefit: cost ratios from programmes to protect, maintain and restore protected areas. For example:

SSSIs in England and Wales have been estimated to deliver annual benefits of £955 million, more than eight times the current costs of their management

- The benefits of protecting Natura 2000 sites in Scotland have been estimated at more than 7 times current annual costs of management, based on recreational values alone;
- The benefits of Natura 2000 sites in the EU have been estimated at between 200 and 300 billion euro annually, compared to the 6 billion euro estimated to be required annually to maintain and restore the network.

A large increase in investment is needed in the restoration and management of Northern Ireland's Areas of Special Scientific Interest (ASSIs), the majority of which are in unfavourable condition and failing to deliver their potential benefits for people and nature. The examples above suggest that improving ASSI condition would deliver a good return on investment.

Appendix 7

RSPB NI does not at this seek to define the pathway through which terrestrial net gain is embedded within planning systems, rather we seek to emphasise ten principles, identified by RSPB, that must underpin net gain if it is to work for nature. These principles fit the views of industry experts such as CIRIA³⁰ and CIEEM³¹ and include:

- 1. Adhere to the mitigation hierarchy (i.e. avoid harm as a priority, mitigate where this is not possible, and compensate as a last resort).
- 2. Not weaken existing environmental protections for designated sites and species.
- 3. Secure biodiversity net gain first, and not to trade biodiversity against other environmental benefits.
- 4. Not allow offsetting of irreplaceable habitats and wildlife.
- 5. Be inclusive and equitable to the people affected by development.
- 6. Contribute to the delivery of strategic local, national and international ecological networks (including through Local Nature Recovery Strategies).
- 7. Be mandatory for almost all development, in order to account for the cumulative impacts of development on nature.
- 8. Take transparent decisions that deliver reliable net gains and best practice management.
- 9. Secure net gains permanently.
- 10. Provide additional conservation outcomes.



Protecting habitats, saving species and helping to end the nature and climate emergency.

Nature is in crisis. Together we can save it.