Technical Annex A - Comparison Calculations (to Defra)

In order to use the Defra report as an early indicator of the costs and benefits of the biodiversity statutory target options, we need to look at the relative size of Wales compared to England through population and area as an assumption.

Barnett equation (Keep, 2023)

The Barnett Formula, devised by Joel Barnett in the late 1970s, is a method used by the UK Treasury to adjust public expenditure for Northern Ireland, Scotland, and Wales based on spending changes in England. It works as follows:

1. Baseline Funding: Devolved nations begin with funding based on historical spending.
2. Change in England: Adjustments are made when the UK government alters the budget for departments with devolved responsibilities.
3. Population Proportion: Changes are scaled based on the population of each devolved nation.
4. Adjustment: The calculated amount is added or subtracted from the initial funding.

Critics argue that the formula doesn't consider the actual service provision costs in devolved nations, leading to debates about its fairness. It is shown below in *Figure 1*.

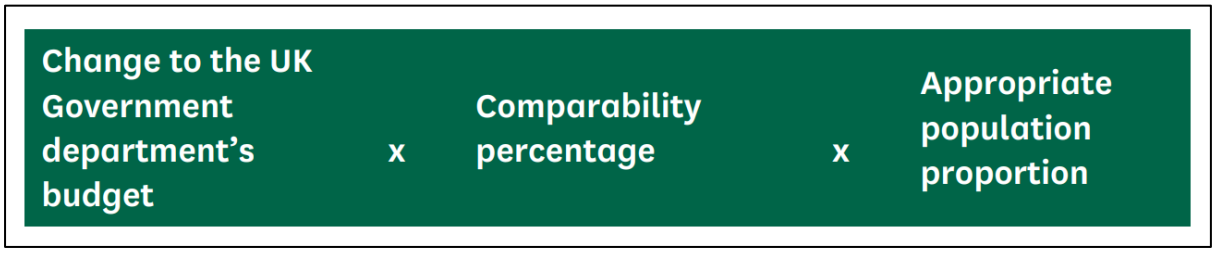

Figure 1 - Barnett equation taken from (Keep, 2023)

Comparability percentage

In order to use the Barnett equation, a comparability percentage needs to be determined.

The comparability percentage, measures how UK government-funded services match those in devolved regions like Scotland or Wales. For example, if England's Department of Health has a 100% match with Wales, budget changes in England fully reflect in Wales's grant. These percentages, set by the Treasury, can change based on departmental roles. The departmental comparability percentages can be seen below in *Figure 2*.

B.12 The departmental comparability factors applied in the Spending Review 2021 are:

Department	Scotland	Wales	Northern Ireland
Business, Energy, and Industrial Strategy	6.8%	6.5%	7.1%
Business Rates	100.0%	100.0%	100.0%
Cabinet Office	0.0%	0.0%	0.0%
DLUHC: Levelling Up, Housing and Communities	100.0%	99.6%	100.0%
DLUHC: Local Government	100.0%	100.0%	100.0%
Digital, Culture, Media, and Sport	68.0%	67.7%	69.9%
Environment, Food and Rural Affairs	96.9%	96.9%	96.9%
Education	100.0%	100.0%	100.0%
Transport	91.7%	36.6%	95.4%
Health and Social Care	99.5%	99.5%	99.5%
Work and Pensions	20.1%	0.0%	97.9%
HM Revenue and Customs	4.0%	4.0%	3.4%
HM Treasury	0.0%	0.0%	0.0%
Home Office	82.5%	1.7%	82.5%
Law Officers Departments	98.3%	0.0%	90.1%
Justice	100.0%	1.3%	99.9%

Figure 2 - Comparability percentages for devolved nations by department (revised Feb 2023 (HM Treasury, 2021))

The Comparability percentage for Environment, Food and Rural Affairs is 96.9% (comparability ratio is 0.969).

Population Ratio

The population of each country is given below as:

- Population of England (Mid 2021): 55.98 million (Office for National Statistics (ONS), 2022)
- Population of Wales (Mid 2021): 3.136 million (Office for National Statistics (ONS), 2022)

And therefore, the relative population ratio is given as:

$$Population\ Ratio = \frac{Population\ of\ Wales}{Population\ of\ England} = 0.055 = 5.5\% \quad (1)$$

$$Population\ Ratio = \frac{3.105\ million}{56.536\ million} = 0.055 = 5.5\% \quad (2)$$

Land, Coast, and Marine Area

To factor in the area to which these targets will apply, we have further produced a comparison with England in terms of the total land, coast, and marine areas.

Land

Table 19.1 Land by agricultural and other uses, 2002, UK

Percentages

	Agricultural land			Forest and woodland	Urban land and land not otherwise specified[3]	Total land[4] (=100%) (thousand hectares)
	Crops and bare fallow	Grasses and rough grazing[1]	Other[2]			
England	*30*	*36*	*5*	*8*	*21*	12,972
Wales	*3*	*73*	*1*	*13*	*10*	2,064
Scotland	*7*	*67*	*2*	*17*	*8*	7,710
Northern Ireland	*4*	*77*	*1*	*6*	*12*	1,348
United Kingdom	***19***	***51***	***4***	***11***	***16***	**24,094**

1 Includes grasses, and sole right and common grazing.
2 Set-aside and other land on agricultural holdings such as farm roads, yards, buildings, gardens and ponds. Woodland on agricultural holdings is included in 'Forest and woodland'.
3 Figures are derived by subtracting land used for agricultural and forestry purposes from the land area. Figures include: land used for transport and recreation; non-agricultural, semi-natural environments such as sand dunes, grouse moors and non-agricultural grasslands; and inland waters.
4 As at January 2002. Includes inland waters.
Source: Department for Environment, Food and Rural Affairs; Forestry Commission; Forest Service

Figure 3 - Division of terrestrial land in the United Kingdom by percentage/hectarage taken from (Office for National Statistics, 2005)

$$Land\ Ratio = \frac{Total\ Land\ of\ Wales}{Total\ Land\ of\ England} \quad (3)$$

$$Land\ Ratio = \frac{2064\ Thousand\ Hectares}{12972\ Thousand\ Hectares} = 0.159 = 15.9\% \quad (4)$$

There is a lack of clear information on the amount of inland water within the UK. There are lists stating the size of various lakes and rivers but since 73.4% of the total running water network length in England and Wales is made up of first and second order streams (126,338 km) (Riley & et al., 2018), these values would significantly underestimate the total values. As such we assume that the land ratio in equation (4) is indicative of the ratio of inland water.

Marine

The Welsh Marine territory is comprised of an offshore and inshore region.

The Welsh inshore region extends seaward 12 nautical miles from the Mean High-Water Springs (MHWS) to the territorial limit. The inshore marine area does not include the marine area between the extant of the inshore region and the seaward boundary of the territorial sea, known as the offshore region, but still accounts for 41% of the territory of Wales. The inshore regions of Wales consist of rich and diverse ecosystems, 69% of which are currently protected by a network of 139 Marine Protected Areas (MPAs). This marine area delivers a wide range of benefits and opportunities, including resource extraction, ports and shipping, aquaculture and fishing, and marine based renewable energy.

Table 1 - Division of marine inshore waters in the United Kingdom by percentage/miles taken from

Location	Miles	%_of_UK
England	15,231	24.2
Wales	5,791 (Crook, 2021)	9.2
UK	63,051 (JNCC, 2023)	100

$$Inshore\ Waters\ Ratio = \frac{Total\ Inshore\ Waters\ of\ Wales}{Total\ Inshore\ Waters\ of\ England} \tag{5}$$

$$Inshore\ Waters\ Ratio = \frac{5{,}791\ Miles}{15{,}231\ Miles} = 0.380 = 38\% \tag{6}$$

To this date, we have been unable to find any reputable figures on the ratio of Welsh to English offshore regions. This is something that will be updated in the future.

Coast

The Welsh coastline is ecologically significant and rich in biodiversity. It features a wide variety of habitats, including saltmarshes, mudflats, dunes, and rocky shores, which support diverse ecosystems. This coastal region is home to numerous species of birds, marine life, and plant species. It provides important breeding and foraging grounds for seabirds, seals, and dolphins, making it a crucial area for marine biodiversity. Additionally, the presence of protected areas and nature reserves along the coastline helps conserve and enhance the region's unique biodiversity.

Table 2 – Division of coast in the United Kingdom by percentage/hectarage taken from (Wales Factfile, n.d.)

Location	Miles	%_of_UK
England	5,581	50.4
Wales	1,680	15.2

UK	11,073	100

$$Coast\ Ratio = \frac{Total\ Coast\ of\ Wales}{Total\ Coast\ of\ England} \tag{7}$$

$$Coast\ Ratio = \frac{1{,}680\ Miles}{5{,}581\ Miles} = 0.152 = 15.2\% \tag{8}$$

Summary

To facilitate a precise comparison between the costs and benefits of Wales and England, we intend to compare each Welsh target based on the specific habitat it aims to conserve. Currently, we employ a land area comparison approach as it encompasses the largest portion of Welsh habitats. This approach yields a value of 15.9%, indicating that Wales represents 15.9% of England's land area.

Discount Rate and Time Frame

A pivotal component of cost-benefit-analysis is the application of a discount rate, which aids in comparing present and future values of costs and benefits. The following points explain the importance of employing a discount rate in CBA.

It's important to think about how a projects affects change over time to understand its full impact and thus it is necessary to decide an appropriate time frame. This is particularly important in environmental projects as environmental effects usually show up over a long time. For projects that will have long-term environmental impacts like air pollution or climate change, it's advised to analyse them over many decades to fully understand their economic effects. If we ignore these long-term impacts, the CBA could unfairly favour projects that harm the environment more, which is bad for everyone's well-being and goes against the goal of sustainable development (O'Mahony, 2021).

When considering projects with long term effects, using a discount rate is essential for several big reasons. Firstly, it helps compare costs and benefits that occur at different times by lessening the value of future impacts, since we usually see future costs and benefits as less important compared to the ones happening now. Secondly, people generally have a preference for getting something now rather than later, and discounting helps measure and show this preference by comparing the values of costs and benefits now and in the future. Third, by applying a discount rate, the expected future benefits and costs are turned into today's values, which is useful for figuring out what these benefits and costs are worth now, combating inflation, and aids in looking at and comparing different projects or investments.

All expenses and gains within Defra’s report are evaluated from 2022 to 2100 because it takes a long time for the benefits of actions to conserve biodiversity to be realised.

The discount rate is given as:

- First 30 years: 3.5%
- After 30 years: 3%
- After 75 years: 2.5%

All of the costs and benefits in this report are already discounted as present values and are shown in 2019 prices and are adjusted to 2020 values, where they are turned into money amounts. This is done to keep things consistent with other goals under the Environment Act as much as possible, making it easier to compare the effects of all the goals.

Technical Annex B – Consideration of Specific Actions and Costs (via Wales Environment Link)

Data from report by Wales Environment Link on Pathways to 2030: 10 key areas for investment in nature's recovery across Wales (Wales Enviroment Link, 2023). This details the cost of a premium suite of targets and actions and is here for added context and evidence and is not used for the cost benefit analysis itself. The actions in this section are spread over varying time frames. The cost highlighted in the heading for each action is the total cost of each action annually considering any mitigating circumstances, and will need to be extended along the length of each project should it be considered.

Area by Area Breakdown of Annual Costs

Access and Public Participation:

a. Invest in new urban green spaces: £39.3 million:

Wales needs substantial investment in green spaces, especially in disadvantaged urban areas. A 2020 report (Vivid Economics and Barton Willmore, 2020) suggested roughly £278 million in capital and £14 million in annual operating costs, averaging £39.3 million annually from 2023 to 2030, to achieve these improvements.

b. Increase urban tree cover to 20%: £4.3 million:

To achieve a 20% urban tree cover in Wales by 2030, about 3,169 hectares need tree planting, costing approximately £34.2 million. This averages £4.3 million per year from 2023 to 2030, with a focus on areas currently below the 20% tree cover target. (Wales Enviroment Link, 2023)

c. Network of green space champions: £2.2 million:

To promote green spaces in Wales, a network of champions is proposed. This includes a national champion and 30 local champions to enhance local green spaces. The annual cost is estimated at £2.2 million, covering staff and communication expenses. (Wales Enviroment Link, 2023)

d. Pilot community empowerment projects: £0.2 million:

Using the Sustainable Farming Scheme (SFS) to encourage landowner collaboration for Nature Based Solutions is a priority. Project Skyline recommends three pilot projects in South Wales Valleys at an annual cost of £240,000, with potential for wider implementation in Wales. (Blake, 2019)

e. Environmental standards body: £2.2 million:

Wales needs an independent body to oversee environmental law, provide access to environmental justice, and maintain standards. A suggested model is one akin to Environmental Standards Scotland, requiring 24 staff and an annual budget of £2.2 million as a minimum. (Wales Enviroment Link, 2023)

TOTAL FOR ACCESS AND PUBLIC PARTICIPATION: £48.2 MILLION

Farmland:

f. Enforce pollution regulations: £12.0 million:

Immediate action is needed to prevent habitat loss and pollution on farmed land. This includes better targeting, monitoring, and enforcing regulations, especially for water and air pollution. To fully enforce existing legislation, an additional 60 to 200 staff are needed, costing around £12 million annually. (NRW, 2021) (afonydd cymru, 2022)

g. Support nature-friendly food system: £273.0 million (can be met by existing SFS Budget and is as such not included):

Wales urgently needs a sustainable food system. To achieve this, we require an annual budget of £273 million for environmental land management, which can be reallocated from the existing £300 million agriculture budget to support the Sustainable Farming Scheme. (Rayment, 2019)

TOTAL FOR FARMLAND: £12.0 MILLION

Coasts:

h. Seagrass project: £0.4 million:

Immediate action is needed to protect coastal habitats, including seagrass. This involves regulating activities and improving water quality, with a proposed £3.2 million investment by the Welsh Government over eight years, or £0.4 million annually. (WWF UK)

i. Measures to reduce plastics litter: £1.6 million:

Wales will join a UK-wide packaging waste EPR scheme. Key actions against plastic pollution include a Deposit Return Scheme and industry-funded litter payments extension. Additional funding priorities are volunteer coordinators in coastal areas, a Wales-wide awareness program, and litter monitoring, totalling £1.615 million annually from 2023 to 2030. (Wales Enviroment Link, 2023)

j. Creation of coastal habitats: £8.2 million:

To achieve a 15% increase in coastal priority habitats in line with CBD commitments, Wales needs to create specific areas: 575 ha of maritime cliff and slope, 17 ha of coastal vegetated shingle, 1215 ha of coastal sand dunes, and 1102 ha of saltmarsh. This would cost approximately £8.2 million per year for 10 years, totalling £81.6 million. (Wales Enviroment Link, 2023)

k. Intertidal habitat recreation to offset climate losses: £1.6 million:

The RSPB's Sustainable Shores report indicates that to maintain current Natura 2000 intertidal habitat in Wales (excluding the Severn estuary), 19 hectares per year should be recreated for 30 years. This would cost approximately £1.6 million annually, assuming an average cost of £84,000 per hectare based on recent intertidal habitat projects. (Miles & Richardson, 2018)

TOTAL FOR COASTS: £11.8 MILLION

Seas:

l. Fisheries assessments and management plans: £0.4 million:

The 2020 SoNaRR report identifies gaps in understanding fish stocks in Welsh inshore waters. To address this, the Welsh Government and NRW are working together but face delays in management plans. To meet legal obligations, an additional NRW officer costing £60,000 annually is required. Delays in introducing fishing regulations are due to capacity issues, highlighting the need for six fisheries science specialists at an annual cost of £360,000. (NRW, 2020)

m. Marine development plan: £0.5 million:

A Marine Development Plan is essential to guide activities in Welsh seas. It will be based on comprehensive evidence and stakeholder input, defining priorities for development, resource use, and conservation over 20 years. Developing the plan will cost £510,000 per year for five years, with similar resources needed for implementation oversight. (Wales Enviroment Link, 2023)

n. Designate offshore MCZs: £0.4 million

The Welsh Government should aim to designate offshore Marine Conservation Zones (MCZs) by 2023 and enhance sea protections. To achieve this, additional resources are needed, including four staff members at an annual cost of £240,000, plus budgets of £100,000 for evidence and £100,000 for communications for 2-3 years. Similar resources will be required for ongoing implementation and monitoring. (Wales Enviroment Link, 2023)

TOTAL FOR SEAS: £1.3 MILLION

Peat:

o. Peatland Policy Unit: £0.1 million:

To protect peatlands in Wales, actions include ending peat soil burning and tree planting on peatlands, banning horticultural peat use, and ceasing peat use by public bodies. A Peatland Policy Unit with two staff members costing £120,000 annually, including overheads and expenses, would oversee these efforts and develop necessary regulations and guidance. (Wales Enviroment Link, 2023)

p. Peatland restoration programme: £2.9 million:

There is a need to accelerate peatland restoration in Wales to reach 45,000 hectares by 2050. The National Peatland Action Programme plans to restore 2,500 hectares annually by 2040, costing £5 million per year. This includes £2.1 million for priority habitat bog restoration, with additional costs of £2.9 million. Private finance may contribute over time to achieve net-zero goals. (Wales Enviroment Link, 2023)

TOTAL FOR PEAT: £3.0 MILLION

Grasslands:

q. Ancient meadows mapping and guidance: £0.1 million:

Protection of ancient meadows and woodlands through legal recognition and planning system improvements. This three-year project, costing £840,000, includes mapping habitats and developing guidance with three staff, along with budgets for evidence, IT, events, and communications. (Wales Enviroment Link, 2023)

r. Champion Integrated Pest Management: £0.3 million:

A reduction to pesticide risk by 50% by 2030 through the adoption of Integrated Pest Management (IPM). IPM offers cost savings for farmers and environmental benefits. To promote IPM, a team of three champions, with an annual budget of £300,000, will provide guidance and raise awareness among farmers and local authorities. (Wales Enviroment Link, 2023)

s. Pollinator Champions: £0.4 million

A team of 5 champions and advisors would work with local authorities to address challenges in planning, logistics, timing, and equipment. This initiative, costing £400,000 annually, aims to raise awareness, provide guidance, and enhance management practices. (Wales Enviroment Link, 2023)

t. Grassland restoration, creation, maintenance: £65.5 million *NOT INCLUDED IN ADDITIONAL COSTS AS IT IS ALREADY COVERED IN FARMLAND COSTINGS*

The Welsh Government should fund a program to restore grassland habitats and manage roadside verges and public green spaces for wild plant diversity. This would cost £65 million annually, already included in previous farmland costings, and include wider use of conservation grazing to enhance habitats. (Wales Enviroment Link, 2023)

Total for Grasslands: £0.8 million

Protected Sites:

u. Monitoring and implementation: £5.0 million:

To meet the 30% protection target for land and water by 2030, it's crucial to allocate more resources and staff to Natural Resources Wales (NRW). The 2020 evaluation showed insufficient evidence for half of the features on Protected Sites, with only 20% in good condition. Doubling NRW's current staff (around 60 people) would cost £3.6 million annually, with an additional £5 million needed for equipment and services. NRW will work with stakeholders to develop an action plan to address these issues. (Wales Enviroment Link, 2023)

v. Site restoration and maintenance: £26.0 million:

To achieve favourable ecological conditions for all Protected Sites in Wales by 2030, significant investment is required. The estimated cost for restoration and maintenance of these sites is approximately £52 million annually from 2023 to 2030. This investment aims to enhance ecological networks and resilience across Wales. (NRW, 2015) (Wales Enviroment Link, 2023). It is estimated that only 50% of this cost is additional and therefore the estimated additional annual costs for Wales is £26 million per annum.

w. New site designation: £9.6 million:

To reach the 30% protection target for Wales by 2030, new Sites of Special Scientific Interest (SSSIs) must be designated. This will require an estimated one-time cost of £76.6 million over eight years (2023-2030), with an annual cost of approximately £9.6 million during this period. These investments are essential to ensure effective management and monitoring, aiming for good or improving conditions in protected areas by 2030. (Wales Enviroment Link, 2023)

Total for Protected Sites: £40.6 million

Rivers and Wetlands:

x. Migratory fish: £3.1 million:

Immediate action is crucial to remove barriers for migratory fish in Wales. Salmon and sea trout populations are in serious decline, impacting the fishing industry and rural communities. To address this, around £25 million is required over eight years, averaging £3.1 million annually to resolve migratory fish barriers on Welsh rivers. (Wales Enviroment Link, 2023)

y. Nature bases solutions: £7.1 million *NOT INCLUDED IN ADDITIONAL COSTING AS FUNDING TAKEN FRON EXISTING HARD FLOOD DEFENCE INVESTMENTS*:

Investment is required for wetland habitat restoration using nature-based flood management and pollution control solutions. While the Welsh Government allocates £214 million over three years for flood defence, only a small portion supports natural flood management. Allocating 10% of this budget, approximately £7 million annually, can fund habitat restoration and reduce the need for traditional defences.

Total for rivers and wetlands: £3.1 million

Woodland and trees:

a. Veteran trees: £3.9 million:

Protecting veteran trees is crucial. About 9,000 are recorded in Wales, but there could be up to 2 million in the UK. Actions include improving the Ancient Tree Inventory, assessing risks, advising farmers, and fencing ancient hedgerows. The total annual cost is £3.9 million from 2023 to 2030, in addition to farm advisory actions costed in Section 2.

b. Expanding open habitats in forests: £0.3 million:

To enhance woodland biodiversity in Wales, diversify conifer forests' composition, create open-space habitats, and improve management. Managing an additional 10% of coniferous woodland would cost £2.7 million over seven years. These changes can be made without extra costs, benefiting biodiversity and forest resilience.

c. Woodland restoration: £24.5 million *NOT INCLUDED IN ADDITIONAL COSTS AS IS COVERED BY CURRENT FUNDING MENTIONED IN SECTION 2*:

Investment of £196 million over 8 years (2023-2030) is needed to restore approximately 53,600 hectares of ancient woodlands in Wales (NRW, 2020), including Ancient Semi-Natural Woodlands (ASNW) and Plantations on Ancient Woodland Sites (PAWS). This is part of a broader effort to protect and restore ancient woodlands in Wales.

Total for woodland and trees: £4.2 million

Species:

a. Tackling INNS:

More resources are needed to manage and reduce invasive non-native species (INNS) in Wales, covering both aquatic and terrestrial environments, along with implementing biosecurity measures to prevent their further spread.

i. Actions to control INNS: £20.7 million:

A report by Wildlife and Countryside Link (Davies) recommends investing in staff to manage invasive species strategically. Scaling up the Local Action Group network across Wales would cost £20.7 million per year, including hiring 340 staff, supporting 75,000 volunteers, and contracting 2,000 workers.

ii. Increase biosecurity measures to combat INNS: £0.4 million:

The WCL report (Davies) estimated that additional annual costs of £5 million are needed in the UK for biosecurity measures and the employment of a national labour force for controlling invasive non-

native species (INNS). Based on Wales's share of land area, this would amount to £425,000 annually in Wales.

b. Species protection: £0.1 million:

Investment is needed to raise awareness and enforce measures against the persecution, disturbance, habitat damage, and other threats to wildlife species in Wales. Current efforts are coordinated by a Rural & Wildlife Police Crime Coordinator, but additional funding of £100,000 annually is required for awareness campaigns, training, publications, and administrative support to address these issues effectively.

c. Species recovery:

Investment is essential for a fully funded, long-term national species recovery program in Wales. This program aims to reverse the decline of wildlife populations by restoring habitats, managing farmland for species, and implementing dedicated recovery efforts for threatened species. These efforts involve research, surveys, monitoring, advice, policy development, and targeted site management actions.

i. A programme to recover threatened species: £8.6 million:

A report for the Green Finance Institute estimated that a program to prevent the extinction of red-listed species in Wales would cost £86 million over ten years (2022-2031), averaging £8.6 million per year.

ii. Replacement LIFE Nature Fund for Wales: £3.2 million:

An evaluation by ICF (2019) found the EU LIFE Nature Fund provided substantial funding for species recovery and habitat restoration projects in Wales, contributing about £2.8 million annually (or £3.2 million at 2021 prices) out of a total UK funding of £23 million per year between 2014 and 2017.

iii. Farmland actions for species abundance: £41.0 million *NOT INCLUDED IN ADDITIONAL COSTS AS IS COVERED BY CURRENT FUNDING MENTIONED IN SECTION 2*:

The cost of agri-environment actions to maintain the abundance of more widespread species is estimated at £41 million annually, as per the Rayment (2019) scale of need work, which is included in Section 2.

Total for Species: £33.0 million

Summary of total costs of nature recovery actions

Table 2: Summary of total costs of nature recovery actions (£m p.a.)				
Theme		**Action**	**£m**	**Total (£m)**
1. Access and public participation	**Wildlife rich green spaces**	Invest in new urban green spaces	39.3	**48.2**
		Increase urban tree cover to 20%	4.3	
		Network of green space champions	2.2	
	Co-operative action	Pilot community empowerment projects	0.2	
	Environmental justice	Environmental standards body	2.2	
2. Farmland	**Regulatory enforcement**	Enforce pollution regulations	12.0	**285.0**
	Environmental land management	Support nature friendly food system	273.0	
3. Coasts	**Habitat protection**	Seagrass project	0.4	**11.8**
	Reducing plastic pollution	Measures to reduce plastics litter	1.6	
	Habitat restoration	Creation of coastal habitats	8.2	
		Intertidal habitat recreation to offset climate losses	1.6	
4. Seas	**Sustainable fisheries**	Fisheries assessments and management plans	0.4	**1.3**
	Conflict avoidance	Marine development plan	0.5	
	Marine conservation	Designate offshore MCZs	0.4	
5. Peat	**Peatland protection**	Peatland Policy Unit	0.1	**5.1**
	Peatland restoration	Peatland restoration programme	5.0	
6. Grasslands	**Habitat protection**	Ancient meadows mapping and guidance	0.1	**66.3**
	Pesticide reduction	Champion Integrated Pest Management	0.3	
	Pollinators	Pollinator Champions	0.4	
	Grassland restoration	Grassland restoration, creation, maintenance	65.5	
7. Protected sites	**Monitoring and implementation**	Additional staff and resources for SSSI monitoring and management programme	5.0	**66.6**
	Site restoration and maintenance	SSSI restoration and maintenance	52.0	
	New site designation	Designate new protected areas by 2030	9.6	
8. Rivers and wetlands	**Migratory fish**	Resolve barriers on rivers	3.1	**10.2**
	Nature based solutions	Implement NBS through flood management budget	7.1	
9. Woodlands and trees	**Veteran trees**	Map and protect ancient trees	3.9	**28.7**
	Forest restructuring	Expand management of open ground habitats in coniferous woodland	0.3	
	Woodland restoration	Restoration of ASNW and PAWS	24.5	
10. Species	**Species protection**	Awareness and enforcement measures	0.1	**74.0**
	Tackling IAS	Actions to control IAS	20.7	
		Increase biosecurity measures to combat IAS	0.4	
	Species recovery	Threatened species recovery programme	8.6	
		Replacement LIFE Nature Fund for Wales	3.2	
		Farmland actions for species abundance	41.0	

Summary of net additional funding needs of nature recovery actions after deducting current spending and double counting

Table 3: Summary of net additional funding needs of nature recovery actions, after deducting current spending and double counting (£m p.a.)

Theme		Action	£m	Total (£m)
1. Access and public participation	Wildlife rich green spaces	Invest in new urban green spaces	39.3	48.2
		Increase urban tree cover to 20%	4.3	
		Network of green space champions	2.2	
	Co-operative action	Pilot community empowerment projects	0.2	
	Environmental justice	Environmental standards body	2.2	
2. Farmland	Regulatory enforcement	Enforce pollution regulations	12.0	12.0
3. Coasts	Habitat protection	Seagrass project	0.4	11.8
	Reducing plastic pollution	Measures to reduce plastics litter	1.6	
	Habitat restoration	Creation of coastal habitats	8.2	
		Intertidal habitat recreation to offset climate losses	1.6	
4. Seas	Sustainable fisheries	Fisheries assessments and management plans	0.4	1.3
	Conflict avoidance	Marine development plan	0.5	
	Marine conservation	Designate offshore MCZs	0.4	
5. Peat	Peatland protection	Peatland Policy Unit	0.1	3.0
	Peatland restoration	Peatland restoration programme	2.9	
6. Grasslands	Habitat protection	Ancient meadows mapping and guidance	0.1	0.8
	Pesticide reduction	Champion Integrated Pest Management	0.3	
	Pollinators	Pollinator Champions	0.4	
7. Protected sites	Monitoring and implementation	Additional staff and resources for SSSI monitoring and management programme	5.0	40.6
	Site restoration and maintenance	SSSI restoration and maintenance	26.0	
	New site designation	Designate new protected areas by 2030	9.6	
8. Rivers and wetlands	Migratory fish	Resolve barriers on rivers	3.1	3.1
9. Woodlands and trees	Veteran trees	Map and protect ancient trees	3.9	4.2
	Forest restructuring	Expand management of open ground habitats in coniferous woodland	0.3	
10. Species	Species protection	Awareness and enforcement measures	0.1	33.0
	Tackling IAS	Actions to control IAS	20.7	
		Increase biosecurity measures to combat IAS	0.4	
	Species recovery	Threatened species recovery programme	8.6	
		Replacement LIFE Nature Fund for Wales	3.2	
Total additional funding needs (£m p.a.)				158.0

Total annual Cost of WEL Actions

The total annual cost of WEL actions is given as £158.0m. This, again, is for additional evidence and context for future work once the targets are agreed upon and the required actions need costing.

Total Annual cost for All Target Areas Outlined by WEL: £158.0 million