

Resourcing 30by30 in the Protected Landscapes

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Introduction

This paper aims to model the resources required for delivering different levels of ambition for Protected Landscapes¹ contributions to England's commitment to protect 30% of land for nature by 2030 (commonly referred to as 30by30). Specifically, it considers what would be needed for between 30% and 50% of Protected Landscape area to meet Defra's 30by30 criteria.

We begin by setting out the policy background to 30by30, including its origins in the Kunming-Montreal Global Biodiversity Framework and its relationship to domestic policies such as the Environmental Improvement Plan (2023) and the recently published Protected Landscapes Targets and Outcomes Framework (PLTOF). These policies, along with Local Nature Recovery Strategies, provide the foundation for the role of Protected Landscapes in national nature recovery efforts.

The paper then introduces the model used to estimate the resource requirements under different scenarios. This model builds on previous work that assessed the potential contribution of Protected Landscapes to 30by30. Work began with deep dives into six National Landscapes, a broader regional analysis of Big Chalk and a final national-level synthesis of all the English Protected Landscapes. The model also incorporates four key PLTOF targets that align with 30by30 objectives.

Our methodology considers both the extent of land that could be brought into appropriate management for nature and the additional habitat creation needed under more ambitious scenarios. Key assumptions include the current extent of land under nature-friendly management, achievable conversion rates and habitat creation potential. Three costing methods were used to assess the financial implications. These were based on government data, project delivery figures and the Green Finance Institute estimates.

The results indicate that for Protected Landscapes to deliver between 30% and 50% of their area under 30by30, up to 900,000 hectares of habitat will need to be brought into management, restored or created. The associated financial costs range from £2.9 billion (30% scenario, using Green Finance Institute figures) to over £15 billion (50% scenario, using delivery project data), with substantial variation driven primarily by habitat creation costs.

These highlight the importance of early investment in project development, long-term staff capacity, and streamlined policy and regulatory support. Further recommendations include strategic deployment of funding and the need for expanded capacity to develop and deliver projects. There is an important role for cross-sector and pan-regional partnerships to ensure that Protected Landscapes will deliver their full potential as the backbone of England's 30by30 ambitions.

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¹ In this case National Landscapes and National Parks. Further work is ongoing to understand the role National Trails have in delivering 30by30.



Background

Ecologically, as per the Kunming-Montreal Global Biodiversity Framework (2022), a functioning, coherent nature recovery network in the UK will need to cover "at least 30% of terrestrial, inland water, and of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem functions and services, [that] are effectively conserved and managed through ecologically representative, well-connected and equitably governed systems of protected areas and other effective area-based conservation measures, recognizing indigenous and traditional territories, where applicable, and integrated into wider landscapes, seascapes and the ocean, while ensuring that any sustainable use, where appropriate in such areas, is fully consistent with conservation outcomes, recognizing and respecting the rights of indigenous peoples and local communities, including over their traditional territories"².

Protected Landscapes cover 24.5% of England and contain a disproportionate amount of Sites of Special Scientific Interest (SSSIs), priority habitats, woodland and deep peat (Figure 1). Given this, Protected Landscapes should be the hotspots of nature in England. The Protected Landscapes recognise this and have been working on conserving and enhancing natural beauty for decades. Protected Landscapes will form the heart of that functional nature recovery network in England. To achieve that, there is an immediate need for ambitious action to halt the decline of nature by creating and supporting resilient ecological networks within and between landscapes.



Figure 1. England's Protected Landscapes hold a disproportionate amount of England's SSSIs, Priority Habitats Inventory, Woodland³ and Deep Peat⁴. Protected Landscapes cover 24.5% of England.

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² https://www.cbd.int/gbf/targets

³ Based on the National Forest Inventory, February 2024.

⁴ Based on the Peaty Soils Location data: https://naturalengland-defra.opendata.arcgis.com/datasets/Defra::peaty-soils-locationengland/explore



Policy background

The most significant current policy driving habitat conservation, restoration and creation in England is Defra's vision of 30by30 (30% of land and sea managed for nature by 2030)⁵. Protected Landscapes are seen as the backbone of 30by30 and 30by30 should form the core of a national Nature Recovery Network. Defra's criteria⁶ for a site to meet 30by30 are narrow and based on habitats, so only portions of Protected Landscapes (or even the habitats they contain) will be able to count. 30by30 as currently defined by Defra is a very specific and ambitious policy concerned with the area of managed and protected habitats.

Alongside 30by30, the Protected Landscape Targets and Outcomes Framework (PLTOF) was published in January 2024⁷. This also recognises the importance of the Protected Landscapes' role in delivering national targets, in this case those in the Environmental Improvement Plan (2023)⁸. These are specific long-term targets (Table 1) for the Protected Landscape area that will be embedded in Protected Landscape Management Plans.

	На	Notes on inclusion into model
PLTOF Target 1	250,000	Whole PLTOF target
PLTOF Target 2	446,074	80% of SSSI area cut to PLs
PLTOF Target 7	130,000	Whole PLTOF target
PLTOF Target 8	70,000	Overall target is @100,000ha; Assume 70% of planting is deciduous.

Table 1. Protected Landscapes Targets and Outcome Framework (PLOTF) targets as incorporated into the model. Note that Target 1 is habitat restoration/creation by 2042; Target 2 is 80% of SSSI features in Favourable condition by 2042 - for simplicity, SSSI area was used in this model; Target 7 is peat restoration by 2050; Target 8 is an increase of canopy cover of 3% by 2050, which equates to (a)100,000ha.

Whilst the relationship between 30by30 and the PLTOF is not explicitly linked and both have different timelines (2030 vs 2042 and 2050 in the PLTOF), both policies are directed towards the Convention on Biological Diversity vision of living in harmony with nature by 2050⁹. Four of the PLTOF Targets (Table 1)¹⁰ are in alignment with the principles of 30by30 and if the target of

landscapes-targets-and-outcomes-framework

⁹ https://www.cbd.int/gbf/vision



⁵ https://www.gov.uk/government/publications/criteria-for-30by30-on-land-in-england/30by30-on-land-in-england-confirmedcriteria-and-next-steps

⁶ Ibid

⁷ https://www.gov.uk/government/publications/protected-landscapes-targets-and-outcomes-framework/protected-

⁸ https://www.gov.uk/government/publications/environmental-improvement-plan

¹⁰ Note: if Target 2 is met by 2030, Target 3 (For 60% of SSSIs within Protected Landscapes assessed as having 'actions on track' to achieve favourable condition by 31 January 2028) is likely to be met; Target 4 (Continuing favourable management of all existing priority habitat already in favourable condition outside of SSSIs (from a 2022 baseline) and increasing to include all newly restored or



30by30 is reached, then the PLTOF targets should also have been met ahead of time, or at least be on track to be met early. For example, from previous work, we estimate that 30by30 will need around 1,500,000ha habitat created across England by 2030, whilst PLTOF Target 1 is 250,000ha in Protected Landscapes by 2042. For this work, we have modelled the resource needs for 30by30 in Protected Landscapes, have assumed that the four PLTOF targets will be met as part of the model and have explicitly included them.

When it comes to delivering 30by30 and the PLTOF on the ground, the Local Nature Recovery Strategies that are currently being developed¹¹ will have a significant role to play, alongside the strengthen duty for Relevant Authorities "to seek to further the statutory purposes of Protected Landscapes" in the Levelling Up and Regeneration Act (2023)^{12,13}.

Potential for 30by30 in Protected Landscapes

Since Protected Landscapes have a much higher proportion of SSSIs, priority habitat, deciduous woodland and deep peat than other areas of England, they should, as Defra suggest, form the backbone of 30by30¹⁴. The greater the area that meets 30by30 criteria inside Protected Landscapes, the less is required outside them (Table 2, below). However, the non-Protected Landscape areas are crucial for connectivity across the whole of England that is essential for 30by30 to function well.

The first step to understanding what resources are required to meet 30by30 targets in the Protected Landscapes is to understand what is the potential to bring land under relevant management without major land use change. This will then determine how much habitat needs to be created, which is a significantly more expensive process.

Initial work by the National Landscape Association looked at the potential land available in six National Landscapes. This was an exploratory deep dive that extended to locally licenced data to include Local Wildlife Sites. The next stage broadened the analysis out to the Big Chalk¹⁵ area, using only open-licenced data. Then, through the Protected Landscapes Partnership¹⁶, using a simplified methodology, the analysis was extended to all the English Protected Landscapes¹⁷. A subsequent workshop, with 28 National Landscapes and 10 National Parks led to the proposal to model the resources required for Protected Landscapes to contribute between 30% and 50% of their area to meet the 30by30 criteria.

¹⁷ Fisher, Appendix VI. BW also extended this to include the National Landscapes in Wales



created habitat through agri-environment schemes by 2042) is implicitly met by the model, although we don't know what PHI is in Favourable condition and have not accounted for in the resourcing needs beyond 2030; Target 5 (*Ensuring at least 65% to 80% of land managers adopt nature friendly farming on at least 10% to 15% of their land by 2030*) is also implicitly met in the model by the land that needs to be brought into suitable management (see results).

¹¹ https://www.gov.uk/government/publications/local-nature-recovery-strategies/local-nature-recovery-strategies

¹² https://www.gov.uk/government/publications/the-protected-landscapes-duty/guidance-for-relevant-authorities-on-seeking-to-further-the-purposes-of-protected-landscapes

¹³ https://national-landscapes.org.uk/guidance-for-local-planning-authorities-on-crow-s-85-duty

¹⁴ https://www.gov.uk/government/publications/criteria-for-30by30-on-land-in-england/30by30-on-land-in-england-confirmed-criteria-and-next-steps

¹⁵ https://www.big-chalk.org/

¹⁶ National Landscapes Association, National Parks England, National Trails UK, Natural England



The methodology used to understand the potential land available to meet 30by30 without major land use change by being brought under suitable management is in Leo Fisher's paper (attached as Appendix VI). Briefly, a hierarchy is used:

- Designated Sites (SSSIs, SPAs, SACs, Ramsar)
- Local and National Nature Reserves
- Deciduous Woodland
- Deep Peat (>40cm)
- Non-wood, non-peat Priority Habitat
- Surface water

The potential varies from 8.5% to 73.6% within the different Protected Landscapes but across the Protected Landscape family, it comes to 38%. This means that if all this land was managed correctly for nature, 38% of Protected Landscape area could meet Defra's 30by30 criteria. Any further contribution of land would then need to come from habitat creation.

The aim of this work is to model the resources that would be required for 30% - 50% of the Protected Landscape area in England to deliver 30by30. The model includes the assumption that the PLTOF is delivered in full, by definition well ahead of the PLTOF target times.

Methodology

There are three parts to this model of resourcing needs for 30by30 in the Protected Landscapes:

- 1. Determine what area needs to be brought into management or restored, along with the area required for habitat creation.
- 2. Determine the financial cost of the work, based on the areas in (1).
- 3. Understand the non-financial resource needs to enable the work to be completed.

Areas

Figure 2 shows the process involved in the model used to determine the areas that need to be restored, brought into management or created. The model is based on a range of scenarios for the area of Protected Landscapes brought into management to meet the current 30x30 criteria. The scenarios range from 30% - 50%.

Previous work¹⁸ suggests that 38% of area across all the Protected Landscapes¹⁹ has the potential to contribute to 30by30 if it is brought under suitable management. This would not require major land-use change. We estimate that 59% of that land (or 23% of total Protected Landscape area) is under some sort of nature friendly management (under Environmental Stewardship (ES) or Countryside Stewardship (CS) schemes, or sustainable managed woodland; Appendix I)²⁰.



¹⁸ Fisher, Appendix VI.

¹⁹ National Landscapes and National Parks in this case. Further work is ongoing to understand the potential role of National Trails' contribution to 30by30.

 $^{^{20}}$ With the understanding that this is only a proxy for managing for nature and so is likely to be an overestimate.





Figure 2. Outline of model used to calculate the areas of habitat across all the Protected Landscapes that need to be brought under management/restored/created.

These are the estimates that form the basis of the model and from which, given a set of assumptions (Appendix I) it is possible to estimate the areas that need to be brought under management (a proportion of the 38% of potential) and restored (deep peat and surface water). The remainder will need to be habitat creation.

For this model, habitats for habitat creation and habitats to be brought under management were based on the Priority Habitats Index (PHI), grouped into the broad habitat themes of 'Coastal', Freshwater', 'Grassland/heathland', 'Other' (Appendix II), along with 'Woodland'. Habitats for restoration were 'Deep Peat' and 'Surface water'.

For the model, broad habitats will be created in the same ratios they currently are in the PHI, although it was assumed that, within the Protected Landscapes, there is a limited potential for 'Coastal' habitat creation, based on Natural England's 'Coastal' PHI potential network (35,200ha)²¹. Given a working assumption that only 60% of opportunities will be converted into on-the-ground work (Appendix I)²², the maximum 'Coastal' potential used for the model is 21,100ha. Therefore, for the 45 - 50% scenarios, the balance of habitat creation was split among the remaining three broad habitats.



²¹ Based on cutting the 'Coastal' Priority Habitats network to Protected Landscapes and excluding current priority habitat extent. Data set from: https://www.data.gov.uk/dataset/0ef2ed26-2f04-4e0f-9493-ffbdbfaeb159/habitat-networks-england
²² Based on conversations with conservation practitioners. A lower conversion rate decreases the maximum potential for 'Coastal'

habitats, which has the consequence of reducing overall estimated costs by £1.4bn for the 45% and 50% scenarios (as per Table 3).



The PLTOF targets 1, 2, 7, 8 (Table 1) were incorporated into the model with the assumption that they will all be met, or have actions on track, by 2030. This model assumes that:

- A proportion of deep peat restoration²³ outside SSSIs and 70% of woodland creation²⁴ will count towards the habitat creation target (250,000ha, Target 1). This leaves 128,300ha and the assumption is that this requirement will be met entirely by funding from Environmental Land Management (ELM) schemes.
- 55,600ha of SSSIs will need to be brought into management (to meet Target 2).
- Of the 130,000ha deep peat restored (Target 7), the ratio inside and outside SSSIs will reflect the ratio of deep peat inside and outside SSSIs. This means that 51,800ha of restored peat counts towards the habitat target.
- About 70,000ha of woodland creation will be needed (Target 8), with that 70,000ha also counting towards the habitat target.

Financial cost

Figure 3 shows the process involved in the model used to estimate the costs for meeting 30by30 in the Protected Landscapes. This is based on three different methods, two of which are 'Top Down' and one of which is 'Bottom Up'. Three methods were used based on the sources of data available.



Figure 3. Outline of model used to calculate financial resources needed across all Protected Landscapes to meet a range of 30by30 commitments.



²³ PLTOF target 7 is for peat with a depth greater than 30-40cm.

²⁴ Working assumption that 70% of the tree planting target will be native deciduous, Forestry Commission (Pers Com).



The 'Top Down' approaches used data from the Green Finance Institute (based on Appendix 2 of *The Finance Gap for UK Nature*)²⁵ or data based on UK Government figures (Appendices III and IV). The 'Bottom Up' approach was based on data from a number of on-the-ground delivery projects from different Protected Landscapes (Appendix V)²⁶.

The model broke down costs into:

- Project development.
- Bring habitat into management or maintain the habitat once it was created. It was
 assumed that these costs were the same. The assumption was that any Priority Habitat
 brought into management would be via ELM schemes so these costs were used for all
 three approaches (Appendix IV). Similarly, Government woodland management costs²⁷
 were used for all three approaches.
- The maintenance costs are up to the end of 2030. Costs beyond that have not been estimated for this piece of work.
- *Restore or create habitat*. Again it was assumed that these costs were the same. These are the costings that were broken down into the broad habitat themes.

The two models were combined in an excel model (Appendix VII) with the following worksheets:

- Area calculations as per Figure 2 and the assumptions in Appendices I and VI
- Costings delivery data as per Figure 3, Appendices I-V
- Costings Gov numbers as per Figure 3, Appendices I-IV
- Costings Green FI data as per Figure 3, Appendices I-IV

Non-financial resources

There is general agreement that access to financial resources alone would be insufficient for meeting, or getting close, to a Protected Landscape target for 30by30. Non-financial resources, including policies, regulations, approaches to consenting and incentives will be necessary to enable the financial resources to be spent in a strategic and cost-effective way. Discussions with individuals across the Protected Landscape family, the Protected Landscape Partnership and the National Landscape Association arrived at the recommendations we present in this paper. They were not solicited in a rigorous process through workshops with a wide range of stakeholders and so are not a comprehensive list. However, they do represent the issues that kept coming up in discussions and so are likely to be important.

²⁶ The costs used here are also in line with costs used in an internal Defra report (Hattam et al., Costs of England's Biodiversity Ambition: A focus on the 30 by 30 target, future funding and pollinator recovery, July 2021). Although this paper no longer represents Defra policy, it is helpful for contributing to the national conversation on the costs and benefits of 30by30.
²⁷ https://www.gov.uk/government/publications/woodland-grants-and-incentives-overview-table/woodland-grants-and-incentives-overview-table



²⁵ https://hive.greenfinanceinstitute.com/wp-content/uploads/2021/10/Appendix2.pdf



Results

The area of land that will need to be managed appropriately for nature across all the English Protected Landscapes is between 960,000ha (30% of Protected Landscape area) to 1,600,000ha (50%, Table 2)²⁸. The current (November 2024) estimate for this model is that 720,000ha of land may be managed for nature already, based on 'potential 30by30' land in the Protected Landscapes that is under ES and CS schemes, or under sustainable woodland management.

Assuming a 60% conversion of opportunities into successful projects, the remaining 'potential 30by30' land that needs to be brought into management is from 240,000ha (30%) to 300,000ha (35% - 50%, Table 2). That leaves a need for 110,000ha (35%) to 580,000ha (50%) habitat creation. In the 30% scenario, to model the financial resources, 130,000ha of habitat creation was still included in the model to ensure that the PLTOF habitat target is met.

Percentage of PL area contributing to 30by30	30%	35%	38%	40%	45%	50%
Percentage of rest of England's contribution	30%	28%	27%	27%	25%	23%
Total PL area required for 30by30 (ha)	962,347	1,122,171	1,218,065	1,281,995	1,441,819	1,601,643
Estimate currently managed for Nature (ha)	719,996	719,996	719,996	719,996	719,996	719,996
Additional area needed (TARGET) (ha)	242,351	402,175	498,069	561,999	721,823	881,647
Bring existing habitat into management/restoration (ha)	242,351	296,799	296,799	296,799	296,799	296,799
Remaining area: Habitat creation (ha)	-	105,376	201,270	265,200	425,024	584,848

Table 2. Calculation of areas required for 30% - 50% of Protected Landscape area to count towards 30by30 according to the model in Figure 2. 38% is the potential land available across the Protected Landscapes in England that could count towards 30by30 if it were to be brought into suitable management²⁹. If all the potential land was brought into management, then no significant land-use conversion would be needed for scenarios less than 38%. The assumption in the model is that only 60% of opportunities are converted into action and so some land-use conversion would be required for all scenarios apart from the least ambitious 30%.

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²⁸ Hattam et al.'s Scenario 3 model uses 770,000ha inside Protected Landscapes and 1,470,000ha habitat creation across England. A proportion of this will be in Protected Landscapes. ²⁹ Fisher, Appendix VI



The estimated cost (Table 3) ranges from £2.9bn over 5 years (30%, Green Finance Institute numbers, Table 3) to £15.6bn (50%, costs from delivery projects)³⁰. For the rest of this paper, we will concentrate on the costs from the Government figures and delivery projects. The Green Finance Institute numbers are too low, even if inflation is included.

Given that Protected Landscapes will need to contribute disproportionately as the 'backbone' of 30by30³¹, we will focus on the 40% - 50% scenarios. The financial resources required range from £4.8bn (40%, government figures) to £15.5bn (50%, delivery project figures, Table 3). These costs can be broken down 'maintain/bring into management' and 'restore/create/project development', broadly corresponding to the Natural Capital equivalents of 'capital' and 'revenue' funding. Habitat restoration and creation is, by using either government figures or project costs, 3-7 times more expensive than habitat maintenance and bringing habitats into management.

Recognising that there are a number of programmes within Defra already funding different aspects of habitat restoration, creation and maintenance that could contribute to 30by30, the costs can be broken down to reflect those programmes (Table 4). Principally these are:

- Woodland creation/management (£2.3bn)
- Peat restoration/management (£0.8bn or £1.8bn)
- Water restoration (£0.6bn or £0.3bn)
- ELM (£0.9bn)

These are set costs because they will either deliver the PLTOF targets or restore all the surface water within Protected Landscapes. Peat restoration and water restoration estimates vary depending on the data used (Government or delivery, Table 4).

The remaining costs are those in excess of the PLTOF and water restoration that will be needed to meet the overall 30by30 targets. One, non-habitat creation, activity is assessment of the condition of all the SSSIs within Protected Landscapes that have assessments more than 5 years old $(£10m)^{32}$. This is necessary so that resources can be prioritised correctly to the SSSIs that need them. This work needs to be completed ahead of Natural England's 2028 target to make sure that resources are spent as efficiently as possible.

The cost of significant habitat creation beyond Target 1 of the PLTOF ranges from £200m (40%, government figures) to £10bn (50%, delivery project figures, Table 4). It is this aspect of the model that highlights the 8-19 fold difference in habitat creation cost estimates between the Government and on-the-ground project delivery figures, which are driven by the costal and freshwater habitat figures (Appendices IV and V).



³⁰ Four years on from Hattam et al., there are interesting differences between their 'High ambition, Scenario 3' model cost estimates and this model. Both models use similar numbers for habitat creation (including coastal habitats). Hattam et. al.'s estimates are for the whole of England and are between 2023 and 2042. They arrive at an estimate of £14.7bn. The difference is likely down to the current model including project development costs (£4.3bn) and changes in Agri-environment payment rates. ³¹ https://www.gov.uk/government/publications/criteria-for-30by30-on-land-in-england

³² Based on needing to assess 4,849 features with an assessment date more than 5 years ago. 2 days site visit, 2 days desk work at a £500pd rate.



PL area contributing to 30by30	30%	35%	38%	40%	45%	50%	
Rest of England's contribution	30%	28%	27%	27%	25%	23%	
Using Green Finance Institute figures							
Maintain/bring into management	£1,341,854,690	£1,375,845,459	£1,378,121,490	£1,425,230,079	£1,541,548,305	£1,612,663,421	
Restore/create/project development	£1,588,320,884	£1,588,320,884	£1,599,277,344	£1,826,050,840	£2,391,861,946	£2,957,122,236	
Total Estimated cost for PLs	£2,930,175,573	£2,964,166,343	£2,977,398,834	£3,251,280,918	£3,933,410,251	£4,569,785,657	
Using government figures	Using government figures						
Maintain/bring into management	£1,004,174,117	£1,017,639,059	£1,018,540,675	£1,037,202,047	£1,083,279,797	£1,129,075,090	
Restore/create/project development	£3,602,016,217	£3,602,016,217	£3,611,500,516	£3,807,803,662	£4,295,395,474	£4,781,433,869	
Total Estimated cost for PLs	£4,606,190,334	£4,619,655,276	£4,630,041,191	£4,845,005,709	£5,378,675,270	£5,910,508,959	
Using figures from delivery projects	Using figures from delivery projects						
Maintain/bring into management	£1,004,174,117	£1,017,639,059	£1,030,147,435	£1,289,042,011	£1,655,369,948	£1,883,870,842	
Restore/create/project development	£4,315,549,525	£4,315,549,525	£4,492,617,888	£8,157,525,159	£12,192,821,997	£13,712,583,389	
Total Estimated cost for PLs	£5,319,723,642	£5,333,188,583	£5,522,765,323	£9,446,567,171	£13,848,191,945	£15,596,454,231	

Table 3. Estimate of financial costs required to get 30% - 50% of Protected Landscape area to count towards 30by 30 according to the model in Figure 3. These have been grouped into two categories - 'maintain/bring into management', which is the least costly interventions, and 'restore/create/project development', roughly corresponding to the final two rows in Table 2.

PL area contributing to 30by30	30%	35%	38%	40 %	45%	50%
Rest of England's contribution	30%	28%	27%	27%	25%	23%
Jsing government figures						
Woodland creation/maintenance	£2,292,782,935	£2,292,782,935	£2,292,782,935	£2,292,782,935	£2,292,782,935	£2,292,782,935
Peat restoration/maintenance	£818,350,000	£818,350,000	£818,350,000	£818,350,000	£818,350,000	£818,350,000
Surface water restoration	£555,626,693	£555,626,693	£555,626,693	£555,626,693	£555,626,693	£555,626,693
ELM creation/maintenance	£929,731,778	£943,196,720	£943,196,720	£943,196,720	£943,196,720	£943,196,720
SSSI condition assessment	£9,698,928	£9,698,928	£9,698,928	£9,698,928	£9,698,928	£9,698,928
Habitat creation beyond PLTOF	£0	£0	£10,412,002	£225,916,462	£761,130,342	£1,294,603,762
Total Estimated cost for PLs	£4,606,190,334	£4,619,655,276	£4,630,041,191	£4,845,005,709	£5,378,675,270	£5,910,508,959
Using figures from delivery projects						
Woodland creation/maintenance	£2,269,332,935	£2,269,332,935	£2,269,332,935	£2,269,332,935	£2,269,332,935	£2,269,332,935
Peat restoration/maintenance	£1,789,450,000	£1,789,450,000	£1,789,450,000	£1,789,450,000	£1,789,450,000	£1,789,450,000
Surface water restoration	£321,510,000	£321,510,000	£321,510,000	£321,510,000	£321,510,000	£321,510,000
ELM creation/maintenance	£929,731,778	£943,196,720	£943,196,720	£943,196,720	£943,196,720	£943,196,720
SSSI condition assessment	£9,698,928	£9,698,928	£9,698,928	£9,698,928	£9,698,928	£9,698,928
Habitat creation beyond PLTOF	£0	£0	£189,576,739	£4,113,378,587	£8,515,003,361	£10,263,265,648
Total Estimated cost for PLs	£5,319,723,642	£5,333,188,583	£5,522,765,323	£9,446,567,171	£13,848,191,945	£15,596,454,231

Table 4. Estimate of financial costs required to get 30% - 50% of Protected Landscape area to count towards 30by30 according to the model in Figure 3. These have been grouped into categories corresponding with current Defra Programmes. Extra resources would be needed to meet the 30by30 target and are highlighted in green (SSSI condition assessment and habitat creation beyond the PLTOF).





Recommendations

As the potential area of Protected Landscapes contributing to 30by30 increases, so does the size of the difference between the two main methods of modelling the costs (Government figures vs project delivery costs). This is down to the need to create more habitat for the 40% or more scenarios. The cost of maintaining habitats is relatively similar in both the government and delivery cost methods - it is the costs of habitat creation and restoration that differ significantly and account for the increasing difference. The true cost of habitat creation is likely to be closer to the project delivery estimates and so these are the figures that should be used.

Included in this modelling is the cost of project development. No project will succeed without a proper development phase to bring land managers on board and deal with, amongst other things, planning and licensing requirements. This will include the need for project development roles to be in place for the next 4-5 years and the obvious system to use is the Farming in Protected Landscapes (FiPL) model. It takes time to develop relationships and trust with land managers. The current system whereby FiPL Officers are on short term contract leads to uncertainty and turnover, which is disruptive and cost inefficient. Given that, to date, FiPL has reached 7,000 farms and land managers³³ and that there are 22,000 holdings across the Protected Landscapes (covering 2.2m ha)³⁴, then in order to reach the majority of land managers, a tripling of FiPL Officers in place for the next five years would be the most cost-efficient way to develop the relationships needed. There may be more officers needed in some Protected Landscapes dominated by small-scale farms and potentially fewer in those that have fewer but large-scale landowners.

Projects involving coastal and riparian habitats are an order of magnitude more expensive than grassland and heathland restoration (Appendix V). Using the Natural England Habitat Network maps³⁵, this model assumes that there is a potential physical limit to coastal priority habitat opportunities in Protected Landscapes (21,100ha). This cap is reached, and is the area used, in the 45% and 50% scenarios. This means that relatively more of the other habitats will need to be created to make up the difference but does reduce the overall potential cost. Despite the fact that riparian and coastal habitat work is so much more expensive, it is essential that the work on those habitats is not made a lower priority in preference to other habitats. For example, the Favourable Conservation Status (FCS) for 'maritime cliff and slope' requires a 30% increase in extent³⁶, whilst FCS for 'seagrass beds' requires a 93% increase³⁷. One way to mitigate these high costs would be to identify economies of scale and streamline regulatory processes³⁸.

Private finance is unlikely to be available in significant enough levels to deliver this work by 2030 and so Government and other granting bodies will need to cover the gap in the short to medium term. Environmental Land Management (ELM) schemes are by far the most significant source of funding for nature recovery work, along with funds such the Climate for Nature fund. Targeting these to the right places within Protected Landscapes and pan-regional programmes such as Big Chalk, Great North Bog, Coastal Wildbelt and the Midlands Forest Network, in line with Local

- ³⁶ https://publications.naturalengland.org.uk/publication/6567406819082240?category=5415044475256832
- ³⁷ https://publications.naturalengland.org.uk/publication/5765919683641344?category=5415044475256832



³³ https://national-landscapes.files.svdcdn.com/production/assets/images/Documents/Reports/Final-FiPL-Report-2025.pdf?dm=1741183604

³⁴ https://www.gov.uk/government/statistical-data-sets/structure-of-the-agricultural-industry-in-england-and-the-uk-at-june

³⁵ https://www.data.gov.uk/dataset/0ef2ed26-2f04-4e0f-9493-ffbdbfaeb159/habitat-networks-england

 $^{^{38}}$ Johnstone:, 'The opportunities and challenges created by regulation in delivering Nature Recovery across the English Protected Landscapes'



Nature Recovery Strategies and other evidence-based strategic prioritisation approaches, would be the most cost effective and productive way to use ELM. Pan-regional programmes can support partnership working beyond Protected Landscape borders to enable economies of scale delivery for people and nature.

Beyond ELM, there will be a need for an uplift in funding to meet the needs for 30by30 and this must also include revenue funding – capital funding alone will not be able to deliver all the work that is needed. Private finance is also unlikely to deliver all that is needed to meet 30by30 and progress beyond 2030³⁹ - in the future there will still be a need for a blended finance approach to nature recovery.

Access to sufficient financial resources, as modelled here, is only part of what is required to meet the 30by30 target. Having the financial resources available but not the expertise and physical resources in sufficient quantity will lead to an inability to successfully deliver the work. Over the next 5 years there is a need to train personnel such as ecologists, land advisors and local planners, along with expansion of sourcing material such as native trees and seed. This is not just for the next five years – there is a need for monitoring and assurance over the long term, along with further maintenance, enhancement, restoration and habitat creation. This is an opportunity to build a green economy around long-term nature recovery work, which would expand on the already rapidly growing green economy in the UK⁴⁰.

The cost and workforce needed to meet these targets are substantial and therefore require effective partnership working to deliver efficiently and at landscape scale. Support needs to continue for initiatives that bring people and organisations together to look beyond their administrative boundaries both inside and outside Protected Landscapes. This includes the Protected Landscapes Partnership, which seeks to incubate, innovate and share knowledge for and between the National Parks, National Landscapes, National Trails and Natural England. Alongside, it is funding strategic programmes including Big Chalk, Coastal Wildbelt and the Protected Landscapes Change Observatory. Looking beyond just those groups/organisations that have traditionally been considered when delivering nature recovery also needs to be explored to meet these targets ranging from linear infrastructure providers to grassroots organisations working with new volunteers and audiences.

Finally, the greater the contribution Protected Landscapes make to 30by30, the lower the target will be for land outside Protected Landscapes (Table 2). This is also more cost effective because Protected Landscapes start with a higher potential and getting as much of that as possible into suitable management is a lot more cost effective than habitat creation. They also have extensive established networks of partners already working to meet the nature recovery needs within individual Protected Landscapes, which should reduce project development costs to some extent. To reach 30by30 outside Protected Landscapes will require significantly more habitat creation. Another way to think about this is that not all areas start off with equal potential but if all areas deliver (@9% land use change (as per the Land Use consultation category 4 suggestion⁴¹), along with significant use of farmland for nature (categories 3.1 and 3.2) by 2030 then the 30by30 target could be substantially met across England.



³⁹ https://www.woodlandtrust.org.uk/publications/2024/12/woodland-trust-response-to-role-of-state-in-nature-report/

⁴⁰ https://eciu.net/media/press-releases/2025/uk-net-zero-economy-grows-10-in-a-year-finds-new-report

⁴¹ https://consult.defra.gov.uk/land-use-framework/land-use-consultation/



Appendix I – Assumptions & data

General assumptions:

- The whole of the Wye Valley is used and the 784ha overlap in 4 of the Protected Landscapes is accounted for.
- Habitat will be brought under management in a linear trajectory to 2030.
 Once in management, will be managed until 2030.
- Habitat will be restored or created in a linear trajectory to 2030.
 - Once restored or created, will be managed until 2030.
- PLTOF targets 1, 2, 7, 8 all be met, or have actions on track, by 2030.
 - A proportion of deep peat restoration outside SSSIs and 70% of woodland creation will count towards the habitat creation target (250,000ha, Target 1). This leaves 128,300ha and the assumption is that this requirement will be met entirely by funding from Environmental Land Management (ELM) schemes.
 - $\circ~$ 55,600ha of SSSIs will need to be brought into management (to meet Target 2).
 - Of the 130,000ha deep peat restored (Target 7), the ratio inside and outside SSSIs will reflect the ratio of deep peat inside and outside SSSIs. This means that 51,800ha of restored peat counts towards the habitat target. Will be funded through government funding (eg. Climate for Nature Fund).
 - About 70,000ha of woodland creation will be needed (Target 8), with that 70,000ha also counting towards the habitat target. Will be met through government funding (eg. Climate for Nature Fund/ England Woodland Creation Offer).
- Assume 60% of opportunities will be converted into projects.
 - Based on conversations with conservation practitioners. A lower conversion rate decreases the maximum 'Coastal' habitat potential, which has the consequence of reducing overall estimated costs by £1.4bn for the 45% and 50% scenarios (as per Table 3).
- 64% of woodland (including conifers) across Protected Landscapes is sustainably managed.
 - Based on mapping the National Forest Inventory in Protected Landscapes that is under sustainable management as of November 2024.
- 59% of potential 30by30 area in Protected Landscapes is managed for nature under either ES/CS schemes or sustainable woodland management.
 - Based on mapping as of November 2024.
 - Not all AES schemes of woodland management will be appropriate for 30by30 as so this is an overestimate.
- The broad (non-woodland) classes of PHI will be created in a ratio that is the same as the existing PHI in Protected Landscapes for the 30% 40% scenarios.
- For the 45% and 50% scenarios, it was assumed that there is a limited potential for 'Coastal' habitat creation, based on Natural England's 'Coastal' PHI potential network (35,200ha). Given a working assumption that only 60% of opportunities will be converted into projects, the maximum potential used for the scenarios is 21,100ha.





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Numbers used:

	Ha	Notes
PLTOF Target 1	250,000	Whole PLTOF target
PLTOF Target 2	446,074	Not features; 80% of SSSI area cut to PLs
SSSIs in Protected Landscapes	557,592	Cut directly to PL boundary
SSSIs features with old condition assessment	4,849	Features not Hectares. Equivalent to @436,000ha
SSSIs in F and UR with AES or Managed Woodland	390,461	70% SSSIs; Count whole SSSI
PLTOF Target 7	130,000	Whole PLTOF target
Deep Peat inside SSSIs	186,615	
Deep Peat outside SSSIs	123,687	
PLTOF Target 8	70,000	Overall target is @100,000ha; Assume 70% deciduous
Managed Woodland outside SSSIs	257,161	64% Woodland; includes conifers
Non-wood/peat PHI outside SSSIs	260,879	
Non-wood/Peat PHI (outside SSSIs) in AES	74,392	29% PHI in Agri-Environment Schemes



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Appendix II – Priority Habitats Inventory and broad habitats in Protected Landscapes

Priority Habitat	Total area (ha)
Calaminarian grassland	187.9
Coastal and floodplain grazing marsh	39,391.9
Coastal and floodplain grazing marsh,Coastal saltmarsh	271.9
Coastal and floodplain grazing marsh,Lowland meadows	31.1
Coastal and floodplain grazing marsh,Maritime cliff and slope	3.0
Coastal saltmarsh	10,172.5
Coastal saltmarsh,Saline lagoons	6.4
Coastal sand dunes	3,915.8
Coastal sand dunes, Coastal vegetated shingle	15.7
Coastal sand dunes, Deciduous woodland	23.1
Coastal sand dunes, Lowland calcareous grassland	34.5
Coastal sand dunes,Lowland fens	30.6
Coastal sand dunes,Lowland heathland	61.3
Coastal sand dunes, Maritime cliff and slope	20.5
Coastal sand dunes,Reedbeds	1.0
Coastal vegetated shingle	952.9
Coastal vegetated shingle,Lowland heathland	0.0
Coastal vegetated shingle, Saline lagoons	2.8
Deciduous woodland,Limestone pavement	87.3
Deciduous woodland, Maritime cliff and slope	1,374.4
Fragmented heath	6,391.6
Good quality semi improved grassland	44,026.4
Good quality semi improved grassland, Traditional orchard	2.6
Grass moorland	130,521.0
Lakes	1,512.6
Lakes,Lowland fens	9.0
Lakes,Lowland fens,Reedbeds	1.4
Lakes,Reedbeds	0.4
Limestone pavement	1,007.3
Limestone pavement, Upland calcareous grassland	52.7
Lowland calcareous grassland	33,249.9
Lowland calcareous grassland, Limestone pavement	5.4
Lowland calcareous grassland, Maritime cliff and slope	95.2
Lowland dry acid grassland	9,716.8
Lowland dry acid grassland, Limestone pavement	1.5
Lowland dry acid grassland, Lowland heathland	313.7
Lowland dry acid grassland, Maritime cliff and slope	139.8
Lowland fens	7,302.7
Lowland fens, Maritime cliff and slope	10.0
Lowland fens,Reedbeds	235.5
Lowland heathland	35,046.1

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Lowland heathland, Maritime cliff and slope	274.5
Lowland meadows	8,641.1
Lowland meadows, Maritime cliff and slope	113.0
Maritime cliff and slope	8,686.5
Maritime cliff and slope, Coastal saltmarsh	3.1
Maritime cliff and slope, Purple moor grass and rush pastures	0.3
Maritime cliff and slope,Reedbeds	0.6
Mountain heaths and willow scrub	1,495.2
Mudflats	17,108.4
No main habitat but additional habitats present	57,796.8
Ponds	349.8
Ponds,Reedbeds	0.2
Purple moor grass and rush pastures	8,139.3
Reedbeds	1,520.2
Reedbeds,Coastal saltmarsh	263.0
Reedbeds,Upland flushes fens and swamps	0.2
Saline lagoons	289.1
Upland calcareous grassland	8,991.9
Upland flushes fens and swamps	16,250.6
Upland hay meadow	2,168.9
Total	458,319.0

Broad habitat	На	Notes
Coastal	81,023	
Freshwater	35,595	Includes Ponds
Grassland/heathland	281,435	
Other	60,266	

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Appendix III- Costings used from Government data

		Cost per Ha per	
Habitat	Intervention	Year	Source
Peat	Restore	£1,878	https://sefari.scot/sites/default/files/documents/The%20costs%20of%20peatland%20restoration%20March%202021.pdf
	Plant	£9,664	https://assets.publishing.service.gov.uk/media/641c370732a8e0000cfa92a2/WMB_100ha_Financial_study_Mar_23.pdf
Wood	Maintain	£400	https://www.gov.uk/government/publications/woodland-grants-and-incentives-overview-table/woodland-grants-and- incentives-overview-table
EL M	Create	£655	Based on ELM Habitat creation options
ELM	Maintain	£127	Based on CS 5 and 10 year in 6 National Landscapes (total ELM for NL, weighted for 1 year divided by area PHI under AES)
FiPL	Proxy development costs	£320	https://defrafarming.blog.gov.uk/2023/11/28/farming-in-protected-landscapes-interim-evaluation-findings/; £100m over 4 years, 3,176,412ha; assume effective cover 5%. Intervention rate 50%
Constal	Create/restore	£643	Based on ELM Habitat creation options - Appendix IV
Coastai	Maintain	£127	Based on ELM Maintainance estimate
Freebuster	Create/restore	£838	Based on ELM Habitat creation options - Appendix IV
rreshwater	Maintain	£127	Based on ELM Maintainance estimate
Grace/heath	Create/restore	£622	Based on ELM Habitat creation options - Appendix IV
Grass/neath	Maintain	£127	Based on ELM Maintainance estimate
Other	Create/restore	£518	Based on ELM Habitat creation options - Appendix IV
Other	Maintain	£127	Based on ELM Maintainance estimate
Surface water	Restore	£23,555	Based on ELM Habitat creation options - Appendix IV
SSSI Condition	Survey	£2,000	Estimated cost per feature (through NE) 2 days field work, 2 days desk-based (data and QA)





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Appendix IV – Relevant Countryside Stewardship schemes

Offer name	Habitat type	Broad Habitat	Payment	Average	Notes
CT4: Creation of inter-tidal and saline habitat on arable land	Saltmarsh and intertidal habitats	Coastal	£812	£643	
CT5: Creation of inter-tidal and saline habitat by non-intervention	Saltmarsh and intertidal habitats	Coastal	£494		
CT7: Creation of inter-tidal and saline habitat on intensive grassland	Saltmarsh and intertidal habitats	Coastal	£494		
<u>CT2: Creation of coastal sand dunes and vegetated shingle on arable land and improved grassland</u>	Coastal habitats excluding intertidal and saltmarsh	Coastal	£773		
WT9: Creation of fen	Wetlands	Freshwater	£1,605	£838	
WT7: Creation of reedbed	Wetlands	Freshwater	£1,605		
UP5: Moorland re-wetting supplement in conjunction with WN1: grip- blocking-drainage-channels-wn1 on peat	Wetlands	Freshwater	£101		
WT10: https://www.gov.uk/countryside-stewardship-grants/management- of-lowland-raised-bog-wt10	Wetlands	Freshwater	£215		
WN1: https://www.gov.uk/countryside-stewardship-grants/grip-blocking- drainage-channels-wn1 on peat	Wetlands	Freshwater	£664		
WN5: Pond management (less than 100 square metres)	Ponds	Surface water	£28,215	£23,555	Adjusted to 1ha
WN6: Pond management (more than 100 square metres)	Ponds	Surface water	£18,894		Adjusted to 1ha
WN7: Restoration of large water bodies	Lakes	Surface water	Actual costs		
GS7: Restoration towards species-rich grassland	Grasslands	Grass/heath	£646	£622	
GS8: Creation of species-rich grassland	Grasslands	Grass/heath	£646		
LH3: Creation of heathland from arable or improved grassland	Heathlands	Grass/heath	£711		
LH2: Restoration of forestry and woodland to lowland heathland	Heathlands	Grass/heath	£311		
AB8: Flower-rich margins and plots	Arable field margins	Grass/heath	£798		
WD8: Creation of successional areas and scrub	Wooded habitats	Other/wood	£514	£518	
BE5: Creation of traditional orchards	Wooded habitats	Other/wood	£471		
WD6: Creation of lowland wood pasture - GOV.UK (www.gov.uk)	Wooded habitats	Other/wood	£544		
WD12: Creation of upland wood pasture - GOV.UK (www.gov.uk)	Wooded habitats	Other/wood	£544		
BN7: Hedgerow gapping-up	Wooded habitats	Other/wood			
BN11: Planting new hedges	Wooded habitats	Other/wood			





Appendix V– Costings used from projects

Habitat	Intervention	Cost per Ha per Year	Source
Peat	Restore	£5,000	North Pennines (£5-20k depending on helicopter use)
	Plant	£9,664	https://assets.publishing.service.gov.uk/media/641c370732a8e0000cfa92a2/WMB_100ha_Financial_study_Mar_23.pdf
Wood	Maintain	£400	https://www.gov.uk/government/publications/woodland-grants-and-incentives-overview-table/woodland-grants- and-incentives-overview-table
ELM	Create	£655	Based on ELM Habitat creation options
	Maintain	£127	Based on CS 5 and 10 year in 6 National Landscapes (total ELM for NL, weighted for 1 year divided by area PHI under AES)
FiPL	Proxy development costs	£320	https://defrafarming.blog.gov.uk/2023/11/28/farming-in-protected-landscapes-interim-evaluation-findings/; £100m over 4 years, 3,176,412ha (PL area); assume effective cover 5%; Intervention rate 50%
Coastal	Create/restore	£48,000	S. Devon (WEIF, £20k), Tamar Valley (informed estimates: £33k, £75k, 67k)
Coastal	Maintain	£6,500	S. Devon (WEIF, £625?), Tamar Valley (informed estimates: £11k, £3.4k, 11k)
Freshwater	Create/restore	£16,000	Chilterns - £160/m (for wider restoration, rewiggle, scrapes, wetlands, includes development costs)
Treshwater	Maintain	£633	No data - used same as grass/heath as proxy
Grass/heath	Create/restore	£2,500	Cotswolds (minus overheads)
Crass/neath	Maintain	£633	Cotswolds (minus overheads is £760); South Downs (£500 - heath but doesn't involve contractors)
Other	Create/restore	£2,500	No data - used same as grass/heath as proxy
other	Maintain	£633	No data - used same as grass/heath as proxy
	Restore	£10,000	Blackdown Hills (WEIF 1.5km, say 100m wide, £146,441)
Surface water	Restore	£16,000	Evenlode (7ha, 1km river NFM, £22k develop, £300k contract costs)
	Restore	£16,000	Chilterns - £160/m (for wider restoration, rewiggle, scrapes, wetlands, includes development costs). £154/m from Herts Chalk Streams SSF.
SSSI Condition	Survey	£2,000	Estimated cost per feature (through NE) 2 days field work, 2 days desk-based (data and QA)
Development	Grassland	£253	Cotswolds - £350 grassland; South Downs - £156 heath
costs	Intertidal	£32,000	Tamar Valley (informed estimates: £20k, £42k, 34k)





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Appendix VI – Leo Fisher's paper



Appendix VII – Excel model

Separate Attachment

