

The value of natural capital in England's Protected Landscapes



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A first step towards standardising and assessing natural capital in Protected Landscapes

England's Protected Landscapes contain a disproportionate amount of England's Sites of Special Scientific Interest, priority habitats, deep peat and deciduous woodland, yet their overall natural capital value has never been assessed. While some individual landscapes, such as the Cotswolds National Landscape and the South Downs National Park, have looked at their natural capital, the different methodologies mean that results are not directly comparable.

Protected Landscapes cover a quarter of England and are central to embedding our economy within natureⁱ. The Office for National Statistics (ONS) Natural Capital Accounts valued UK natural assets across 16 ecosystem services at £1.8 trillion in 2022 (£1.4 trillion for England)ⁱⁱ. As a first step towards a consistent, national estimate for Protected Landscapes, we applied the ONS framework, supplementing it with additional data sources where appropriate (see Appendix).

We estimate the asset value of Protected Landscapes at **£281-328 billion**, representing 21-24% of England's natural capital (16-19% of the UK's). Within this, the largest contributions are the health benefits of recreation (£98bn) and recreation and tourism expenditure (£78bn), followed by agricultural biomass (£29-38bn). Protected Landscapes also contribute disproportionately to greenhouse gas regulation, demonstrating their importance for climate regulation and net zero.

This share is slightly below their 25% land area, reflecting both the differences in land use and the limitations of applying a national methodology to complex, multifunctional landscapes. The ONS approach is valuable for comparability and providing a nationally recognised foundation, but it underrepresents harder-to-measure benefits such as natural flood protection, biodiversity, mental health, and cultural valueⁱⁱⁱ. For instance, aesthetic value is poorly captured by economic measures, and proxies such as house prices reflect only a fraction of natural beauty's wider contribution to wellbeing and identity^{iv}.

These monetary estimates should be seen as a minimum value of the services provided by the natural environment. Given the well-documented long-term deterioration of nature in the UK^v, our natural capital (and therefore economy and society) is at risk^{vi} and the real value of natural capital assets is likely to have declined as well^{vii}. Supporting Protected Landscapes to deliver their commitments to the Protected Landscapes Targets and Outcomes Framework^{viii} and 30by30^{ix} will increase natural capital and provide a solid foundation to underpin a growing economy.

Future work should aim to measure the full range of benefits Protected Landscapes provide, incorporating social capital (e.g., sense of place) and cultural capital (e.g., heritage, traditional practices). Key challenges also include incorporating quality indicators and reducing the simplification of complex ecological processes^x.

Appendix – Methodology

This analysis draws on Table 2 from the ONS UK Natural Capital Accountsⁱⁱ, which assesses the UK's natural capital through 16 ecosystem services (see table below)^{xi}. Contribution of England's Protected Landscapes to these ecosystem services were assessed as proportions of England's totals (or of the UK total for Air pollution).

For most services, these proportions were calculated directly using the extent of seven broad terrestrial habitats from UKCEH Land Cover maps^{xii} and the published ONS methodology (see Table 2)^{xiii}. In some cases, alternative data sources or methods were used where they were considered more appropriate or locally accurate. For example, there is no oil and gas provisioning in Protected Landscapes, so this proportion was assumed to be zero, despite ONS methodology attributing oil and gas provisioning to the marine habitat. For three services (agricultural biomass provisioning; timber provisioning; water provisioning) two alternative approaches were tested to provide a range of asset values.

The ONS methodology makes a clear distinction between the services supplied by nature and the environmental pressures caused by economic activity. This is a key principle of natural capital accounting and explains why oil and gas provisioning retains a high value despite the environmental cost of burning these fuels. Coal provisioning shows a negative value due to low industry profit levels.

Ecosystem service	ONS Natural Capital Value (£m)		PL Proportion		Protected Landscape Value (£m)	
	England	UK	Min	Max	Min	Max
Agricultural biomass provisioning	158,878	206,685	0.18	0.24	29,231	38,069
Coal provisioning	-572	-3,501	0.86	0.86	-494	-494
Fish provisioning	531	3,752	0.13	0.13	70	70
Minerals and metals provisioning	10,428	13,743	0.74	0.74	7,667	7,667
Oil and gas provisioning	13,389	125,872	0	0	0	0
Renewable electricity provisioning	24,663	47,339	0.06	0.06	1,433	1,433
Timber provisioning	2,842	13,709	0.35	0.41	1,003	1,165
Woodfuel provisioning	1,540	3,974	0.35	0.35	544	544
Water provisioning	104,245	140,947	0.24	0.60	24,874	62,841
Air pollution regulating	118,647	132,512	0.11*	0.11*	15,191	15,191
Greenhouse gas regulating	3,895	-25,873	3	3	11,680	11,680
Noise regulating	857	1,002	0.06	0.06	54	54
Urban heat regulating	21,545	22,452	0.06	0.06	1,356	1,356
Recreation (health benefits)	407,926	488,798	0.24	0.24	97,785	97,785
Recreation and aesthetic (house prices)	178,945	196,557	0.06	0.07	13,265	13,265
Recreation and tourism (expenditure)	307,758	393,396	0.25	0.25	77,542	77,542
All services	1,355,517	1,761,364			281,201	328,168

Table 1. Estimates of natural capital assets in England's Protected Landscapes for 16 ecosystem services. The PL value was estimated as a proportion of England's value (* or the UK's value for Air pollution regulating). England and UK values are the ONS numbers. Data sources in Table 2.

Data sources

1. ONS UK Natural Capital Accounts
2. UKCEH Land Cover 2021

[Data related to UK natural capital accounts - Office for National Statistics](#)
[UKCEH Land Cover Map 2021](#)

Ecosystem Service	Method summary	Additional source	ONS alignment
Agricultural biomass provisioning	PL share of enclosed farmland (min) / PL share of farming (max)	Structure of the agricultural industry in England and the UK	✓ ONS-aligned (min) X Different data source from RPA for greater accuracy (max)
Coal provisioning	Based on output from the only operating colliery (Ayle)	Coal Mining Production Q4 2023	X Site-specific data used
Fish provisioning	PL share of marine habitat		✓ ONS-aligned
Minerals and metals provisioning	PL share of Mountains, Moorlands, Heaths habitat		✓ ONS-aligned
Oil and gas provisioning	ONS attributes to marine habitat but no oil and gas extraction occurs in PLs, so value assumed to be zero.		X Site-specific applied
Renewable electricity provisioning	Count of renewable energy source (DESNZ). Proportion of renewable energy generated in PL estimated, assuming all sites have the same power output	Renewable Energy Planning Database DESNZ & Barbour ABI DUKES 2025	✓ ONS-aligned
Timber provisioning	Share of all woodland in PLs (min) / Share of conifer woodland in PL (reflecting likely woodfuel origin) (max)	National Forest Inventory	✓ ONS-aligned (min) X Adjustment to focus on conifer woodland (max)
Woodfuel provisioning	PL share of woodland habitat	National Forest Inventory	✓ ONS-aligned
Water provisioning	PL share of surface water (min) / PL share of freshwater, wetland and floodplain habitats (max)	OS Open Zoomstack, October 2025, Ordnance Survey	X Surface water used as an alternative data source for apportionment (min) ✓ ONS-aligned (max)
Air pollution regulating	Weighted sum of UK urban and non-urban air pollution values, based on PL shares of each habitat values	Valuation of Air Pollution Removal - NERC	X Simplified ONS approach (urban / non-urban only)
Greenhouse gas regulating	PL-specific LULUCF data used to estimate contribution.	UK greenhouse gas emissions statistics - GOV.UK	✓ ONS-aligned
Noise regulating	PL share of England's urban habitat		✓ ONS-aligned
Urban heat regulating	PL share of England's urban habitat		✓ ONS-aligned
Recreation (health benefits)	PL area as a proportion of England		✓ ONS-aligned
Recreation and aesthetic (house prices)	PL share of England's urban habitat, weighted by 15% (National Landscapes) and 25% (National Parks) to reflect higher house prices, giving a weighted mean uplift of 17.8%.	Nationwide National Parks Special Report 2022	X Uplifts applied
Recreation and tourism (expenditure)	Habitat specific values weighted by proportions of England's habitats in PLs	Tourism values for Natural Capital Accounts - NR0176	✓ ONS-aligned

Table 2. Notes on the methodology used for the 16 ecosystem service estimates in the Protected Landscape.

Endnotes

ⁱ [The Economics of Biodiversity: The Dasgupta Review](#)

ⁱⁱ [UK natural capital accounts: 2024 - Office for National Statistics](#)

ⁱⁱⁱ Peskett, L., Waylen, K. and Metzger, M. (2023) Natural capital assessment in landscape-scale land use planning: how it works and key challenges, *Centre for Sustainable Forests and Landscapes*. Available at

<https://csfl.ed.ac.uk/sites/default/files/2023-09/Natural%20capital%20assessment%20policy%20brief.pdf>

^{iv} Cooper, N., Brady, E., Steen, H., and Bryce, R. (2016) 'Aesthetic and spiritual values of ecosystems: Recognising the ontological and axiological plurality of cultural ecosystem 'services'', *Ecosystem Services*, 21, pp. 218-229. Available at <https://www.sciencedirect.com/science/article/pii/S2212041616301942>

^v [State of Nature 2023 - report on the UK's current biodiversity](#)

^{vi} Cooper, N., Brady, E., Steen, H., and Bryce, R. (2016) 'Aesthetic and spiritual values of ecosystems: Recognising the ontological and axiological plurality of cultural ecosystem 'services'', *Ecosystem Services*, 21, pp. 218-229. Available at <https://www.sciencedirect.com/science/article/pii/S2212041616301942>

^{vii} The UK's natural capital assets increased 11% between 2018 and 2022 but this is less than inflation over the same period (17.9% as calculated by the CPI).

^{viii} [Protected Landscapes Targets and Outcomes Framework - GOV.UK](#)

^{ix} [30by30 on land in England: confirmed criteria and next steps - GOV.UK](#)

^x See [Natural England Research Report NERR096](#) for an example of a more sophisticated approach to assessing natural capital in an area

^{xi} [UK natural capital accounts methodology guide: 2024 - Office for National Statistics](#)

^{xii} [UKCEH Land Cover Map 2021](#) (Marston, C., Rowland, C.S., O'Neil, A.W., and Morton, R.D. (2022) *Land Cover Map 2021 (land parcels, GB)*. NERC EDS Environmental Information Data Centre. Available at <https://doi.org/10.5285/398dd41e-3c08-47f5-811f-da990007643f>

^{xiii} [UK natural capital accounts methodology guide: 2024 - Office for National Statistics](#)

About this Briefing

National Landscapes Briefings offer a summary of key findings and recommendations. This Briefing was informed by the UK Natural Capital Accounts: 2024 and is the first step in a Protected Landscapes Partnership series to understand natural capital in England's Protected Landscapes.



**National
Landscapes
Association**

About the National Landscapes Association

We are a registered charity that supports the mission to conserve and enhance natural beauty in National Landscapes and other protected areas. National Landscape teams across the UK work to achieve a sustainable balance of priorities at the landscape scale. One of our key aims is to support and develop a network of ambitious National Landscape teams and partnerships that have a strong collective voice and a positive impact on the places for which they care.



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