

## A Guide to Forestry Commission's Sensitivity Maps for Woodland Creation

We have developed a series of sensitivity maps based on nationally available and consistent spatial data. These maps will help to indicate whether there is likely to be potential to establish new woodland on land parcels or where there may be sensitivities that would prevent tree planting or woodland creation.

Where the maps show there is a low sensitivity to woodland creation, this does not guarantee that we will approve planting. However, the low sensitivity areas do not have any clear constraints to address on the basis of national datasets, and it should be easier to agree creating new woodland here than in other areas.

Likewise, creation of new woodland, particularly of native woodland, may be appropriate outside 'low sensitivity' areas. We will determine the appropriateness of proposals in these areas. Where relevant, we will respond to the views of Natural England, Environment Agency, Historic England, the Local Authority and other stakeholders.

The sensitivity maps exclude all land that is unsuitable for planting, for example land mapped as urban areas, existing woodland, assumed woodland, or habitats that are considered too wet, or too rocky or too salty to support the growth of trees. This is achieved by restricting the sensitivity maps to the following land covers, based on the most recent update of Landcover Map (UK Centre for Ecology and Hydrology, 2021):

- acid grassland
- arable and horticulture
- calcareous grassland
- heather
- heather grassland
- improved grassland
- neutral grassland

The following annexes are also available:

- Annex A which sets out the spatial datasets and individual layers of those datasets that define land as unsuitable and low, medium, or high sensitivity for woodland creation in the Full Sensitivity Map version 4.0
- Annex B which sets out the national Full Sensitivity Map v4.0 and the associated Low Sensitivity Map
- Annex C which sets out the lineage of data inputs used to create the Full Sensitivity Map v4.0 and all variants
- Annex D which sets out the data inputs, footnotes and acknowledgements
- Annex E which sets out the overview maps for England, showing each variant

## Variants of the Full Sensitivity Map and Low Sensitivity Map version 4.0

We have also developed three variants of the Full Sensitivity Map and associated Low Sensitivity Map, which assign low sensitivity status to either one or both of two datasets that are treated as medium sensitivity in the Full Sensitivity Map at Annex B1, as set out below:

### England Woodland Creation Low Sensitivity Map version 4.0 variant 1

- Agricultural land Class 3a: changed to low sensitivity
- Protected landscapes (National Parks and National Landscapes): changed to low sensitivity

### England Woodland Creation Low Sensitivity Map version 4.0 variant 2

- Agricultural land Class 3a: remaining medium sensitivity
- Protected landscapes: changed to low sensitivity

### England Woodland Creation Low Sensitivity Map version 4.0 variant 3

- Agricultural land Class 3a: changed to low sensitivity
- Protected landscapes: remaining medium sensitivity

The variants of the Full and Low Sensitivity Maps have been developed because, in the case of agricultural land quality, the decision to plant on the best and most versatile land is largely an economic decision made by the landowner. Variants 1 and 3 reveal underlying sensitivities of ALC3a land. For Protected Landscapes, where woodland creation may be desirable, particularly of native woodland, Variants 1 and 2 reveal Sensitivities to woodland creation other than Protected Landscape status.

## Relationship with the Low-Risk Map for woodland creation

The Low Sensitivity Map v4.0 is a development of the Low-Risk Map for woodland creation, as defined in the Environmental Impact (Forestry) Regulations (2017), with the main differences set out below:

- All areas of peat included in Natural England's England peat map are excluded from the Low Sensitivity Map (and its variants), with deep peat classified as high sensitivity and shallow peat and other soils with peaty pockets classified as medium sensitivity.
- Areas of land included in the Wader Zonal Maps for curlew and golden plover as strata 2 to 5 are excluded from the Low Sensitivity Map (and its variants), with strata 4 and 5 treated as high sensitivity and strata 2 and 3 as medium sensitivity.
- Areas of land included in the Wood Pasture and Parkland Priority Habitat layer are excluded from the Low Sensitivity Map (and its variants).
- Areas of land included in the historic environment Ridge and Furrow layer are excluded from the Low Sensitivity Map (and its variants).

- Amended buffers are, in some cases, applied to Sites of Special Scientific Interest (SSSIs), Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and RAMSAR sites. Details of the buffer that applies to each are set out in Annex A.
- Some layers have also been updated, included the Priority Habitat Inventory.

The Low-Risk Map for woodland creation will continue to be used for meeting the requirements of the 2017 EIA (Forestry) regulations in terms of determining where notification may apply, rather than EIA screening. However, the Full and the 3 Low Sensitivity Maps represent a more current view of sensitivities to woodland creation.

### National breakdown of land sensitivity for woodland creation

National statistics of land sensitivity for the Full and Low Sensitivity Maps are given in Table 1 below, including for the three variants.

**Table 1.** National breakdown of land sensitivity for the England Woodland Creation Full Sensitivity Map v4.0, the Low Sensitivity Map v4.0 (restricted to blocks more than 2 hectares in area) derived from it, and the three variants.

Sensitivity Map	Variant	Sensitivity	Area of England (hectares)
Full Sensitivity Map v4.0		Unsuitable	3,314,664
		Low	2,854,532
		Medium	3,780,625
		High	3,096,414
Low Sensitivity Map v4.0	Restricted to land parcels more than 2 hectares in size	Low	2,846,793
Full Sensitivity Map v4.0, variant 1	ALC 3a: low sensitivity Protected Landscapes: low sensitivity	Unsuitable	3,314,664
		Low	4,353,194
		Medium	2,281,964
		High	3,096,414
Full Sensitivity Map v4.0, variant 2	ALC 3a: medium sensitivity Protected Landscapes: low sensitivity	Unsuitable	3,314,664
		Low	3,462,340
		Medium	3,172,817
		High	3,096,414
Full Sensitivity Map v4.0, variant 3	ALC 3a: low sensitivity Protected Landscapes: medium sensitivity	Unsuitable	3,314,664
		Low	3,620,947
		Medium	3,014,211
		High	3,096,414

## Annex A: Description of spatial datasets used in woodland creation sensitivity mapping

### Summary of the types of Woodland Creation Sensitivity Maps

The datasets now available are:

#### **England Woodland Creation Full Sensitivity Map v4.0**

1. This dataset is the product of geospatial analysis to identify areas that may have sensitivities that need to be considered when creating new woodland in England. It identifies places regarded as either:
  1. low sensitivity
  2. medium sensitivity
  3. high sensitivity
  4. unsuitable (for woodland creation)
2. The full sensitivity map covers all of England to the high-water mark with the entire country assigned to one of the four categories set out above.

#### **England Woodland Creation Low Sensitivity Map v4.0**

3. This dataset is based on a subset of the 'England Woodland Creation Full Sensitivity Map v4.0' dataset, for England, showing only land regarded as:
  - 1a. low sensitivity (as in the Full Sensitivity Map), but with the additional criteria that these areas are greater than 2 hectares in extent.

Three variants of the low sensitivity map are also presented:

- 1b. England Woodland Creation Low Sensitivity Map v4.0 - variant 1
- 1c. England Woodland Creation Low Sensitivity Map v4.0 - variant 2
- 1d. England Woodland Creation Low Sensitivity Map v4.0 - variant 3

The low sensitivity map covers all of England to the high-water mark and shows where the land is assigned as low sensitivity according to the respective criteria for the specific map as fully detailed below.

## Woodland Creation Opportunity Area

Any land that falls under the following land classifications in the UKCEH Land Cover Map 2020 (25 m raster):

<b>Type</b>	<b>Land classification identifier</b>
Acid grassland	7
Arable and horticulture	3
Calcareous grassland	6
Heather	9
Heather grassland	10
Improved grassland	4
Neutral grassland	5

The following non-woodland components of the National Forest Inventory are also included:

- agriculture land
- bare ground
- grassland
- low density tree cover
- other vegetation
- shrub

## Annex B: Description of spatial datasets the define the England Woodland Creation Full Sensitivity Map v4.0 and associated Low Sensitivity Map

Extent: England

Format: Raster grid. Polygon format also available.

Grid resolution: 25 metres by 25 metres

### Land that is low sensitivity for woodland creation

4. Land with a **low** sensitivity for woodland creation is defined in this map layer as land with any one or more of the following designations:

It is not:

- unsuitable
- high sensitivity for woodland creation
- medium sensitivity for woodland creation

It is within land from the following land cover categories of the Land Cover Map (2021) (LCM) published by the UK Centre for Ecology & Hydrology (UKCEH):

- acid grassland
- arable and horticulture
- calcareous grassland
- heather
- heather grassland
- improved grassland
- neutral grassland

The following non-woodland Interpreted Forest Types (IFTs) from Forest Research's National Forest Inventory (NFI) woodland map (2020) are also included:

- agriculture land
- bare ground
- grassland
- low density tree cover
- other vegetation
- shrub

### Land that is medium sensitivity for woodland creation

5. Land with a **medium** sensitivity for new planting of woodland is defined in this map layer as land with any one or more of the following designations:

It is not:

- Unsuitable

- High sensitivity for woodland creation

It is in map layers defined as:

- Acid Vulnerable Catchments: Catchments are assessed for acid vulnerability using the Water Framework Directive classification of water quality, published by the Environment Agency. We define acid vulnerability from the results for pH (one element of the Physico-Chemical Quality test) and both Fish and Invertebrates which are elements of the Biological Quality test (i.e. all areas defined as 'FAIL', or 'FAIL\_BIO' in the 2019 data)
- Agricultural Land Class (ALC): In areas ALC 1, or ALC 2 or ALC 3a
- National Landscapes, previously known as Areas of Outstanding Natural Beauty (AONBs)
- Birdlife International Important Bird Areas (IBAs)
- Countryside Stewardship (CS): a) Land parcels with CS scheme agreements with end dates later than 31 December 2021; plus b) Land parcels in all Higher-tier agreements
- Countryside Right of Way (CROW) Act 2000 - S4 Conclusive Registered Common Land
- Environmental Stewardship Higher Level Agreements
- Local Nature Reserves (LNRs)
- National Parks (NPs)
- Natural England Peat Map: On land with either Shallow Peaty Soils = medium sensitivity and Other Soils with Peaty Pockets = medium sensitivity
- Priority Habitat Inventory: In places that are any one or more of the following: Fragmented Heath, Grass Moorland, Good Quality Semi-improved Grassland
- Wader Zonal Map for Golden Plover and Curlew breeding wading bird species (a combined layer showing highest sensitivity for either species): In either Strata 2 or Strata 3 areas (i.e. medium sensitivity)
- Ridge and Furrow: Ridge and Furrow with no buffer applied. Detection areas only.

## Land that is high sensitivity for woodland creation

6. Land with a **high** sensitivity for new planting of woodland is defined in this map layer as land within any one or more of the following designations:

It is not:

- Unsuitable

It is within:

- National Nature Reserves
- Natural England Peat Map: in areas of Deep Peaty Soils
- Priority Habitat Inventory: within OTHER THAN Fragmented Heath, Grass Moorland, and Good Quality Semi-improved Grassland
- RAMSAR sites: in, or within a 700 m buffer

- Registered Battlefields: in, or within a 200 m buffer
- Registered parks and gardens: in, or within a 200 m
- Scheduled monuments: in, or within a 200 m buffer
- Special Protection Areas (SPAs): in, or within a 2,000 m buffer
- Sites of Special Scientific Interest (SSSIs): if the land is above the Moorland Line, then in, or within a 1,000 m buffer
- Sites of Special Scientific Interest (SSSIs): if the land is below the Moorland Line, then in, or within a 250 m buffer
- Special Areas of Conservation (SAC): if the land is above the Moorland Line, then in, or within a 700 m buffer
- Special Areas of Conservation (SAC): if the land is below the Moorland Line, then in, or within a 250 m buffer
- Wader Zonal Map for Golden Plover and Curlew breeding wading bird species (a combined layer showing highest sensitivity for either species): in either Strata 4 or Strata 5 areas (i.e. high sensitivity)
- World Heritage Site: in, or within a 200 m buffer
- Wood Pasture and Parkland Priority Habitat: all categories

## Land that is unsuitable for woodland creation

7. Land that is **unsuitable** for new planting of woodland is defined in this map layer as land with any one or more of the following designations:

Land Cover Map (2021 (LCM) from the UK Centre for Ecology & Hydrology (UKCEH):  
In places defined as:

Type	Land classification identifier
Bog	11
Coniferous woodland	2
Deciduous woodland	1
Fen	8
Freshwater	14
Inland rock	12
Littoral rock	17
Littoral sediment	18
Saltmarsh	19
Saltwater	13
Suburban	21
Supralittoral rock	15
Supralittoral sediment	16
Urban	20



National Forest Inventory (NFI) woodland map (2020) from Forest Research. The following Interpreted Forest Types (IFTs):

- assumed woodland
- broadleaved
- conifer
- coppice
- coppice with standards
- failed
- felled
- ground prep
- mixed mainly broadleaved
- mixed mainly conifer
- open water
- quarry
- river
- road
- uncertain
- urban
- windblown
- young trees

8. All areas of England not thus defined as 'unsuitable' have gone on to be identified as either low sensitivity, medium sensitivity, or high sensitivity.

## The England Woodland Creation Low Sensitivity Map v4.0

Extent: England

Format: Raster grid. Polygon format also available.

Grid resolution: 25 m by 25 m

9. This is a separate geospatial map layer based on a subset of the England Woodland Creation Full Sensitivity Map v4.0.

10. It shows land parcels that fulfil **both** of the following criteria:

- low sensitivity for woodland creation in the England Woodland Creation Full Sensitivity Map v4.0

**and also**

- of an extent of 2 hectares or more

## The England Woodland Creation Low Sensitivity Map v4.0: Further three variants

Extent: England

Format: Raster grid. Polygon format also available.

Grid resolution: 25 m by 25 m

Of an extent of 2 hectares or more

11. These are three, further, separate geospatial map layers based on the England Woodland Creation Low Sensitivity Map v4.0:

### England Woodland Creation Low Sensitivity Map v4.0 - variant 1

12. This is the England Woodland Creation Low Sensitivity Map v4.0 **plus** areas of land that have different sensitivities assigned compared to the core England Woodland Creation Low Sensitivity Map v4.0:

- Agricultural Land Classification 3a assigned as low sensitivity
- National Landscapes assigned as low sensitivity
- National Parks assigned as low sensitivity

### England Woodland Creation Low Sensitivity Map v4.0 - variant 2

13. This is the England Woodland Creation Low Sensitivity Map v4.0 **plus** areas of land that have different sensitivities assigned compared to the core England Woodland Creation Low Sensitivity Map v4.0:

- National Landscapes assigned as low sensitivity
- National Parks assigned as low sensitivity

### England Woodland Creation Low Sensitivity Map v4.0 - variant 3

14. This is the England Woodland Creation Low Sensitivity Map v4.0 **plus** areas of land that have different sensitivities assigned compared to the core England Woodland Creation Low Sensitivity Map v4.0:

- Agricultural Land Classification 3a assigned as low sensitivity

## Annex C: Lineage of spatial datasets used in the sensitivity mapping, including date of issue

Dataset	Date
Acid vulnerable catchments <sup>4</sup>	19 September 2023
Agricultural Land Classification (ALC) <sup>3</sup>	12 March 2019
Areas of Outstanding Natural Beauty (AONBs)	15 May 2020
Birdlife International Important Bird Areas <sup>5</sup>	February 2020
Countryside Stewardship (CS)	25 September 2023
CROW Act 2000 - S4 Conclusive Registered Common Land	24 October 2017
Environmental Stewardship Higher Level Scheme Agreements	3 October 2023
UKCEH Land Cover Map (2021) (LCM) <sup>1</sup>	4 May 2023
Local Nature Reserves (LNRs)	15 February 2022
National Forest Inventory (NFI) woodland map (2020)	28 July 2022
National Nature Reserves	15 March 2022
National Parks (NPs)	15 February 2019
Natural England Peat Map <sup>2</sup>	22 July 2021
Priority Habitat Inventory	26 July 2023
RAMSAR sites	15 September 2020
Registered Battlefields	20 August 2021
Registered parks and gardens	4 January 2022
Scheduled monuments	24 February 2022
Sites of Special Scientific Interest (SSSIs)	15 March 2022
Special Areas of Conservation (SAC)	7 December 2021
Special Protection Areas (SPAs)	7 December 2021
Wader Zonal Map	18 December 2021
World Heritage Sites	20 August 2021
Wood Pasture and Parkland Priority Habitat	21 October 2020
Ridge and Furrow <sup>6</sup>	14 August 2023

## Annex D: Spatial dataset input footnotes

### <sup>1</sup>UKCEH Land Cover Map

UK Centre for Ecology & Hydrology's Land Cover Maps are parcel-based thematic classifications of satellite image data covering the United Kingdom. They are used in a wide range of applications by government departments and agencies, county councils, charities and environmental management bodies.

Further details of the land cover map used for the Woodland Creation Sensitivity Maps can be found in: Morton RD; Marston CG; O'Neil AW and Rowland CS (2021). Land Cover Map 2020 (land parcels, GB) NERC EDS Environmental Information Data Centre. <https://doi.org/10.5285/0e99d57e-1757-451f-ac9d-92fd1256f02a>



### <sup>2</sup>Natural England peat map

Peaty soils location: [data.gov.uk](https://data.gov.uk) for more information on this data layer and licensing. By using this data you are accepting the terms of use of a 3rd party supplier. You will be provided with the relevant Terms of Use. BGS, Cranfield University and OS must be acknowledged in any reports or documents produced as a result of using the Peat layer.

### <sup>3</sup>Provisional Agricultural Land Classification

Agricultural Land Classification data that have been further refined using the 'Likelihood of Best and Most Versatile' (BMV) layer to split class 3 land into 3a and 3b. For BMV Licence information contact [data.services@naturalengland.org.uk](mailto:data.services@naturalengland.org.uk)

© Natural England copyright [2019], reproduced with the permission of Natural England, [www.gov.uk/natural-england](http://www.gov.uk/natural-england) © Crown Copyright and database right [year]. Ordnance Survey licence number AC0000851168. Derived from 1:50 000 scale BGS Digital Data under Licence 2006/072 British Geological Survey. © NERC. National Soils map © Cranfield University (NSRI) © Crown Copyright and database rights.



### <sup>4</sup>The Acid Vulnerable Catchments layer

Waterbodies that have failed for pH (low pH - acidic) and/or biology due to acidification are treated as Failing and their catchments are flagged by Failing in the column "RBMP\_c3". The mapping will be updated for each cycle of the River Basin Management Plans. The "At Risk" category has been removed as there is enough evidence to determine if the catchment is vulnerable (Failing) or not.

### <sup>5</sup> Important Bird Areas (IBA)

Data reproduced with the permission of RSPB. © Crown Copyright. Ordnance Survey licence number 100021787 (2022)



### <sup>6</sup> Ridge and Furrow

This dataset is subject to restrictions. It can only be used internally by Forest Services and for inclusion in sensitivity and opportunity mapping where the data is aggregated with other large-scale datasets.



## Further information

15. For further information on any of these Woodland Creation Sensitivity Map geospatial data layers you can contact:

[evidence@forestrycommission.gov.uk](mailto:evidence@forestrycommission.gov.uk)

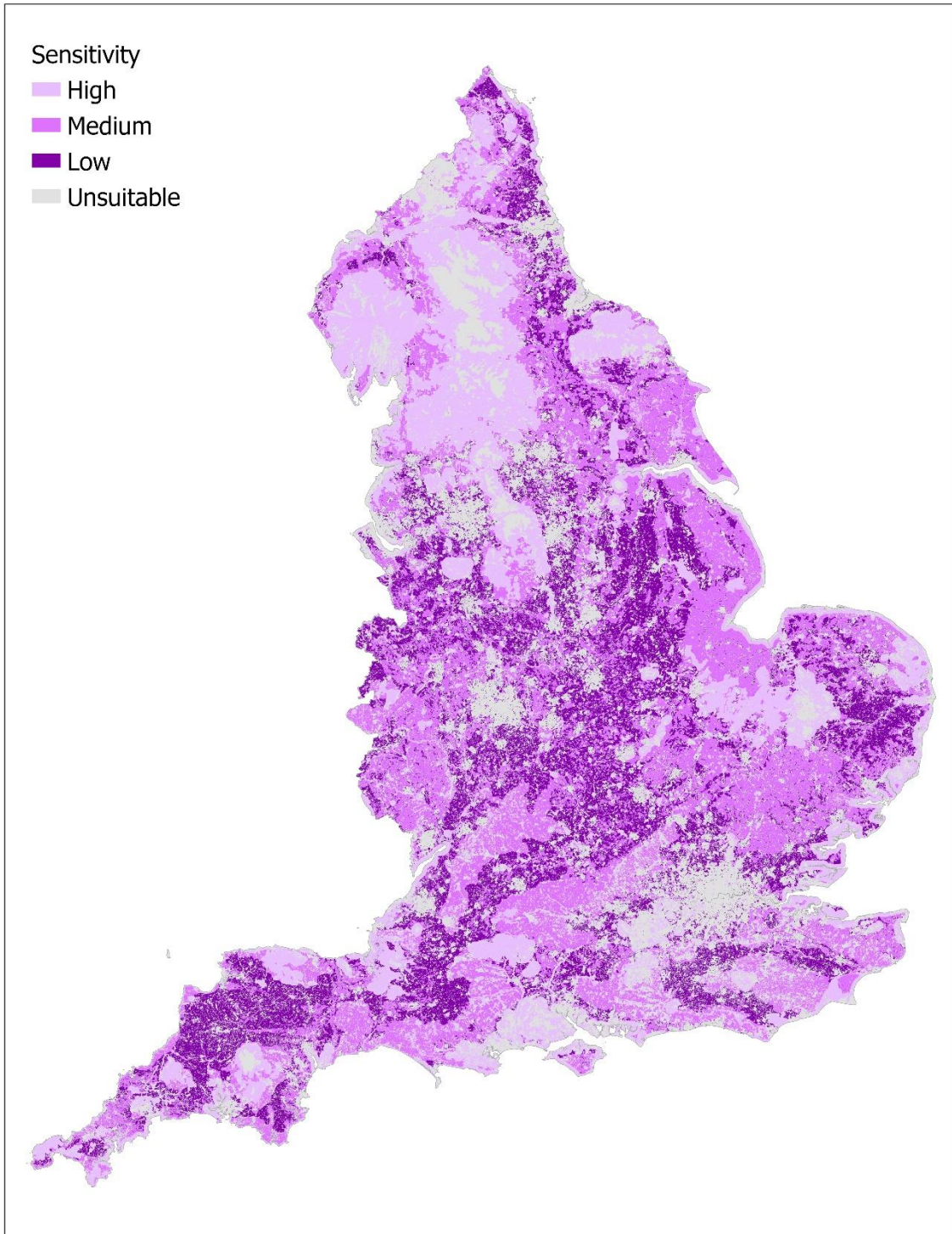
Evidence and Analysis  
Forestry Commission

February 2024

---

## Annex E: National overview of the Woodland Creation Full Sensitivity Map v4.0, associated Low Sensitivity Map and their three variants

**Map 1: England Woodland Creation Full Sensitivity Map version 4.0**



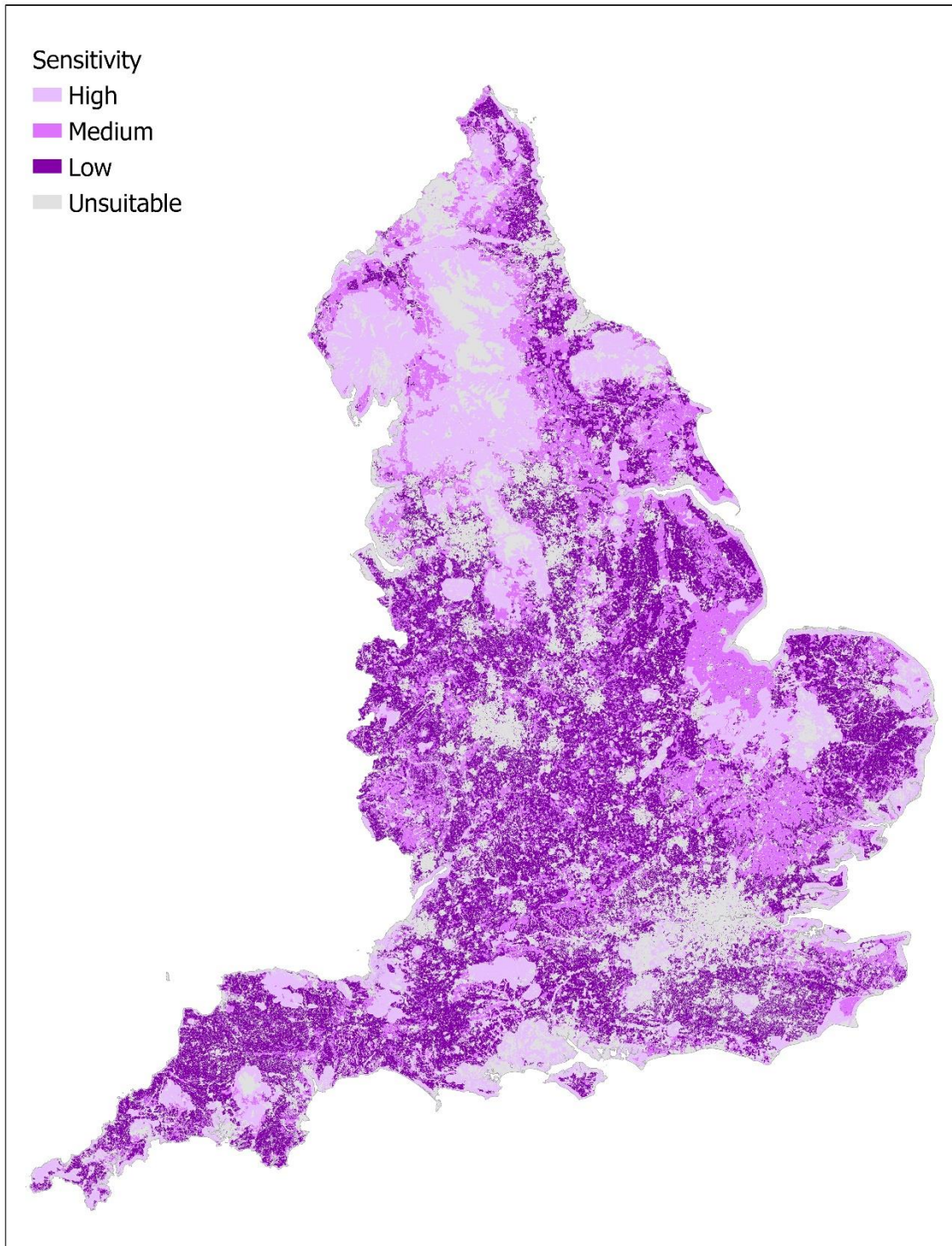
© Crown copyright and database right 2024. Ordnance Survey Licence number 100021242.

Produced By Economics, Evidence & Analysis Team, Strategy & Transformation



**Map 2: England Woodland Creation Full Sensitivity Map version 4.0 variant 1**

 Forestry Commission **England Woodland Creation Full Sensitivity Map v4 Variant 1**



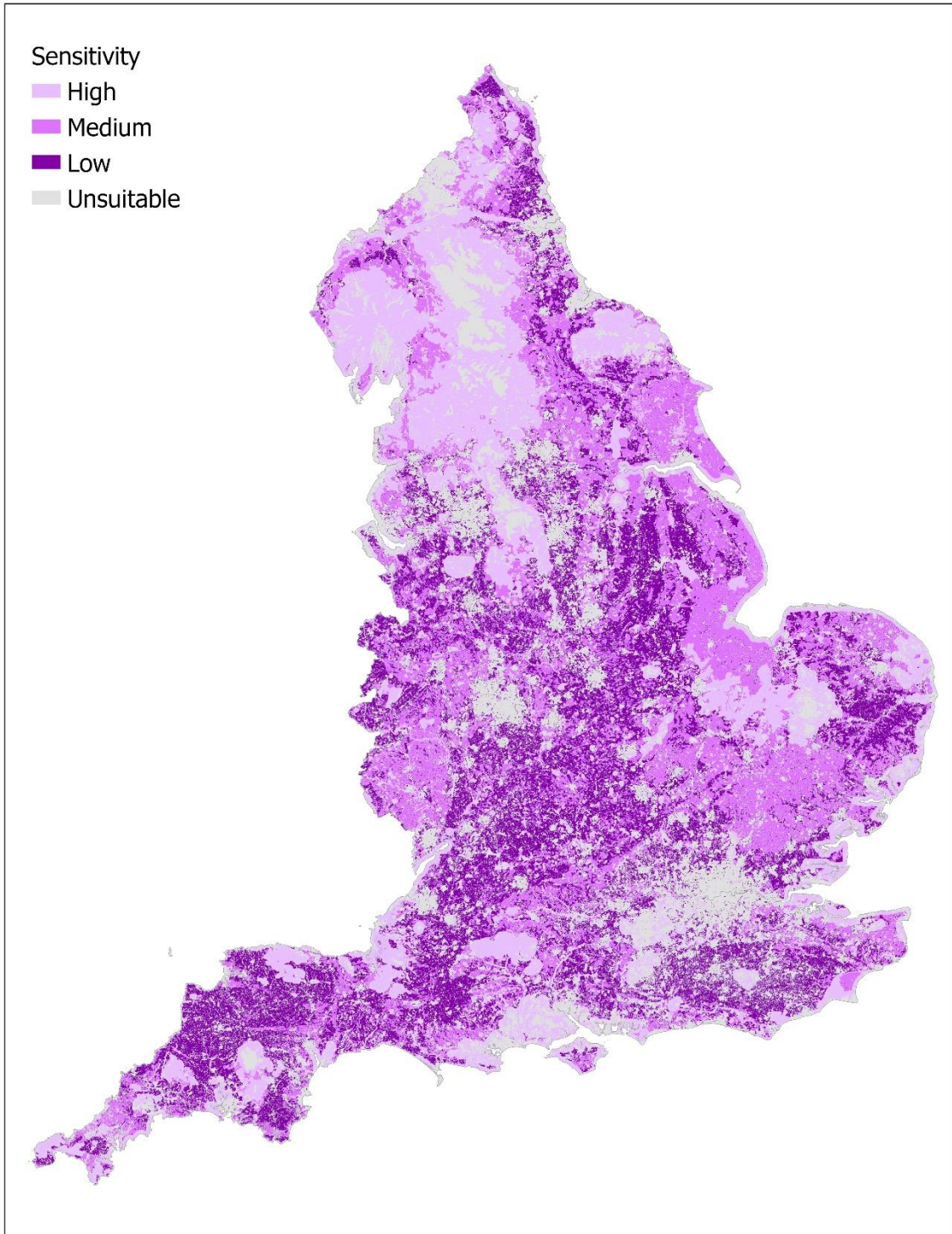
© Crown copyright and database right 2024. Ordnance Survey Licence number 100021242.

Produced By Economics, Evidence & Analysis Team, Strategy & Transformation



**Map 3: England Woodland Creation Full Sensitivity Map version 4.0 variant 2**

 Forestry Commission England Woodland Creation  
Full Sensitivity Map v4 Variant 2

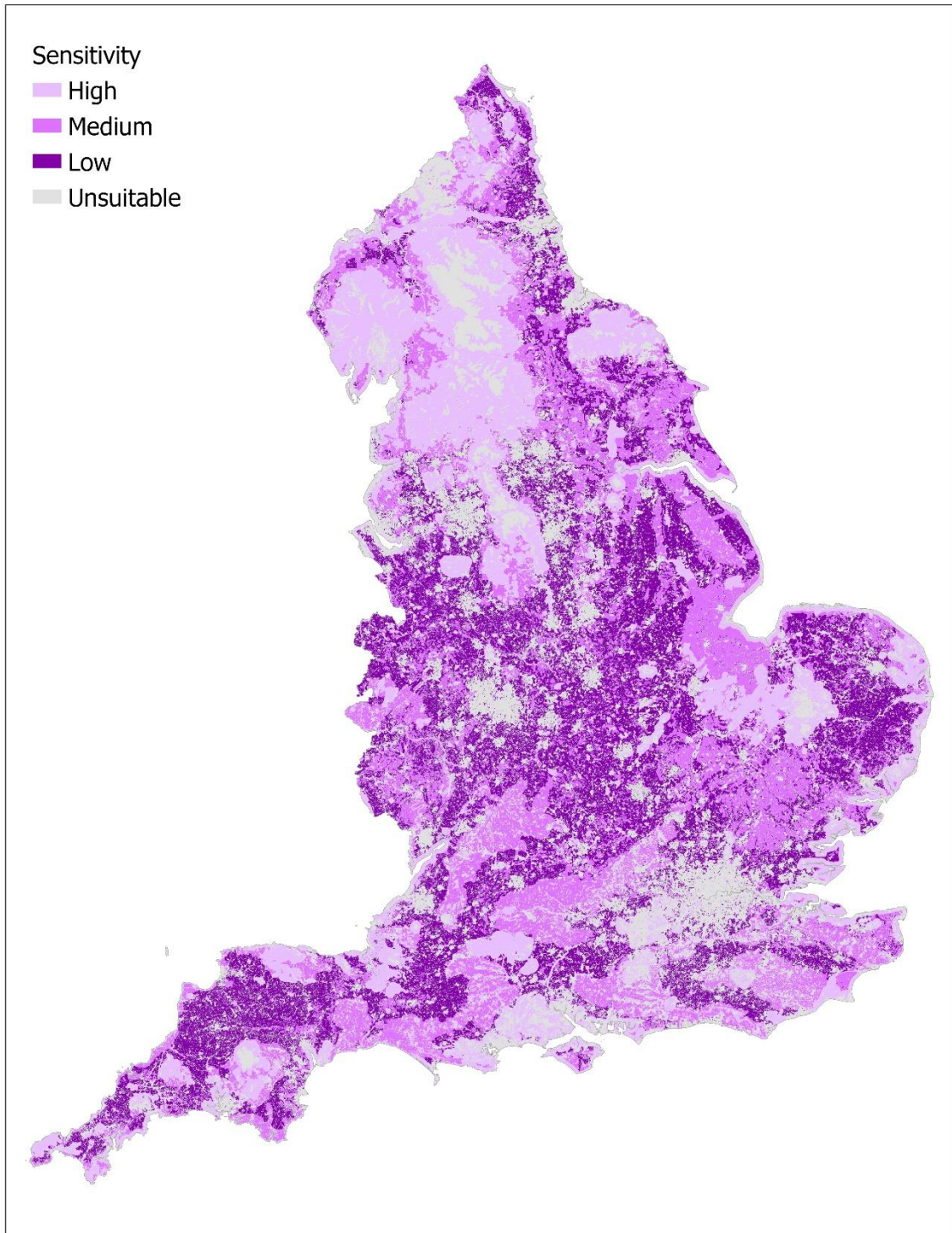


© Crown copyright and database right 2024. Ordnance Survey Licence number 100021242.

Produced By Economics, Evidence & Analysis Team, Strategy & Transformation

**Map 4: England Woodland Creation Full Sensitivity Map version 4.0 variant 3**

 Forestry Commission **England Woodland Creation Full Sensitivity Map v4 Variant 3**



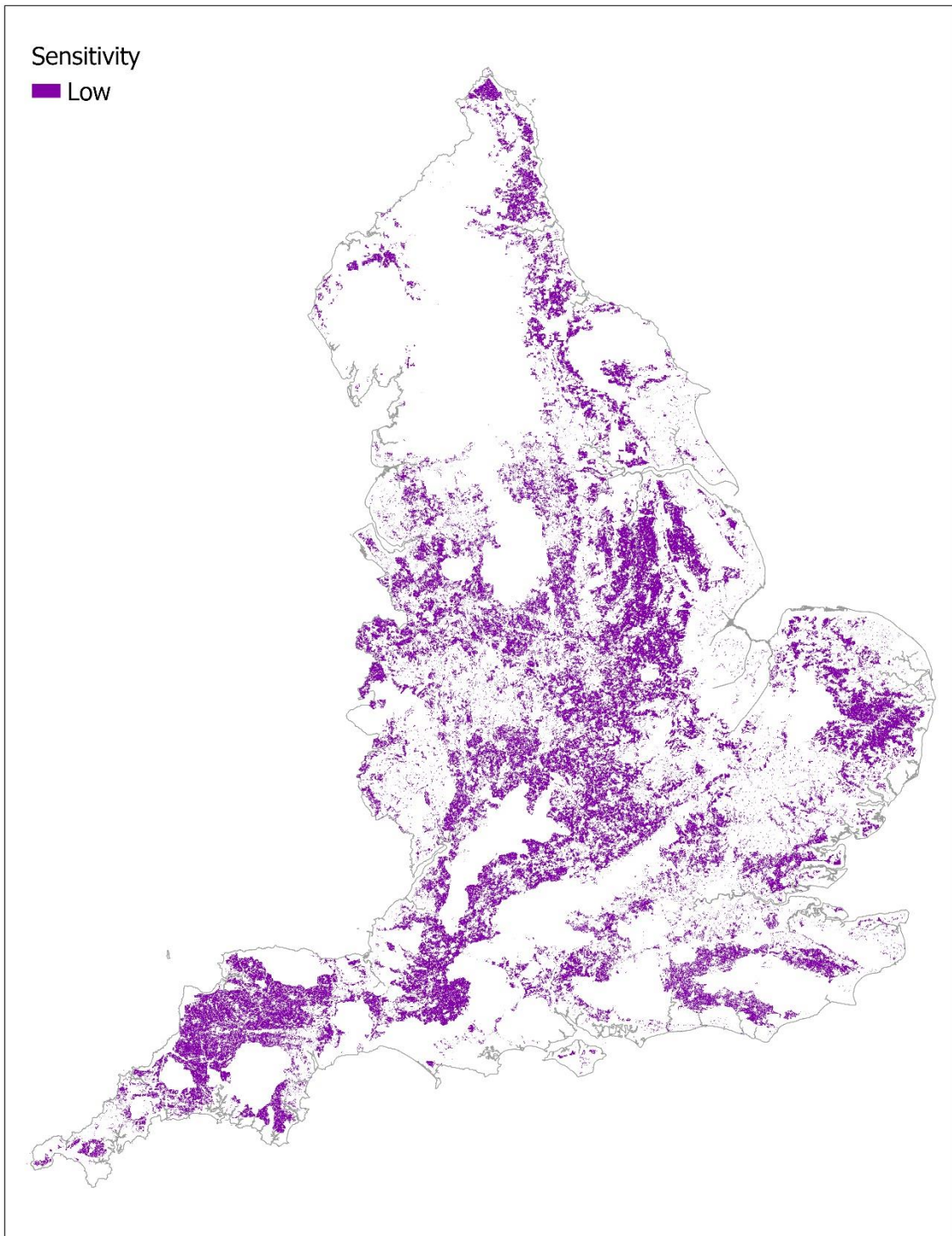
© Crown copyright and database right 2024. Ordnance Survey Licence number 100021242.

Produced By Economics, Evidence & Analysis Team, Strategy & Transformation



**Map 5: England Woodland Creation Low Sensitivity Map version 4.0**

 Forestry Commission England Woodland Creation  
Low Sensitivity Map v4

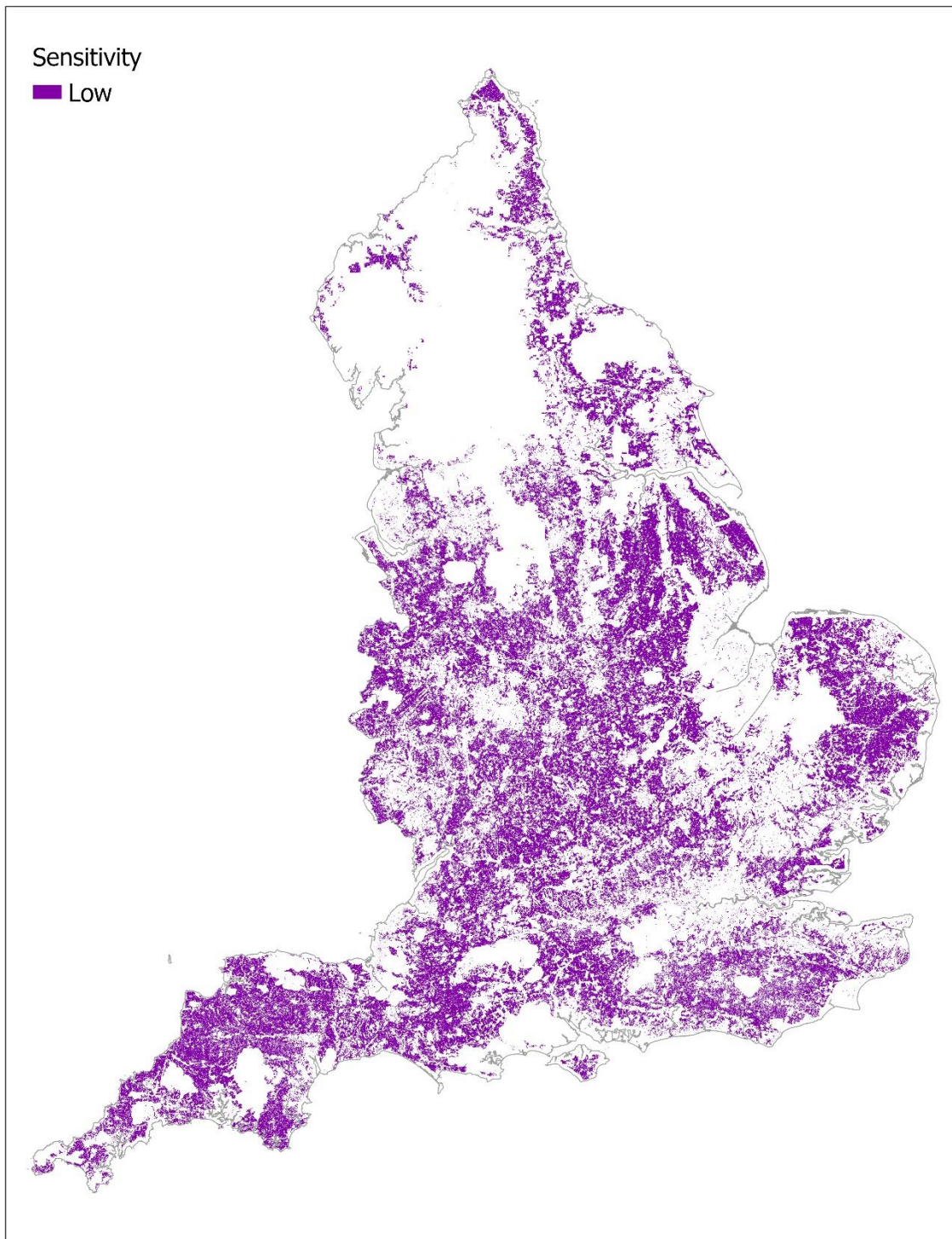


© Crown copyright and database right 2024. Ordnance Survey Licence number 100021242.

Produced By Economics, Evidence & Analysis Team, Strategy & Transformation

**Map 6: England Woodland Creation Low Sensitivity Map version 4.0 variant 1**

 Forestry Commission **England Woodland Creation Low Sensitivity Map v4 Variant 1**



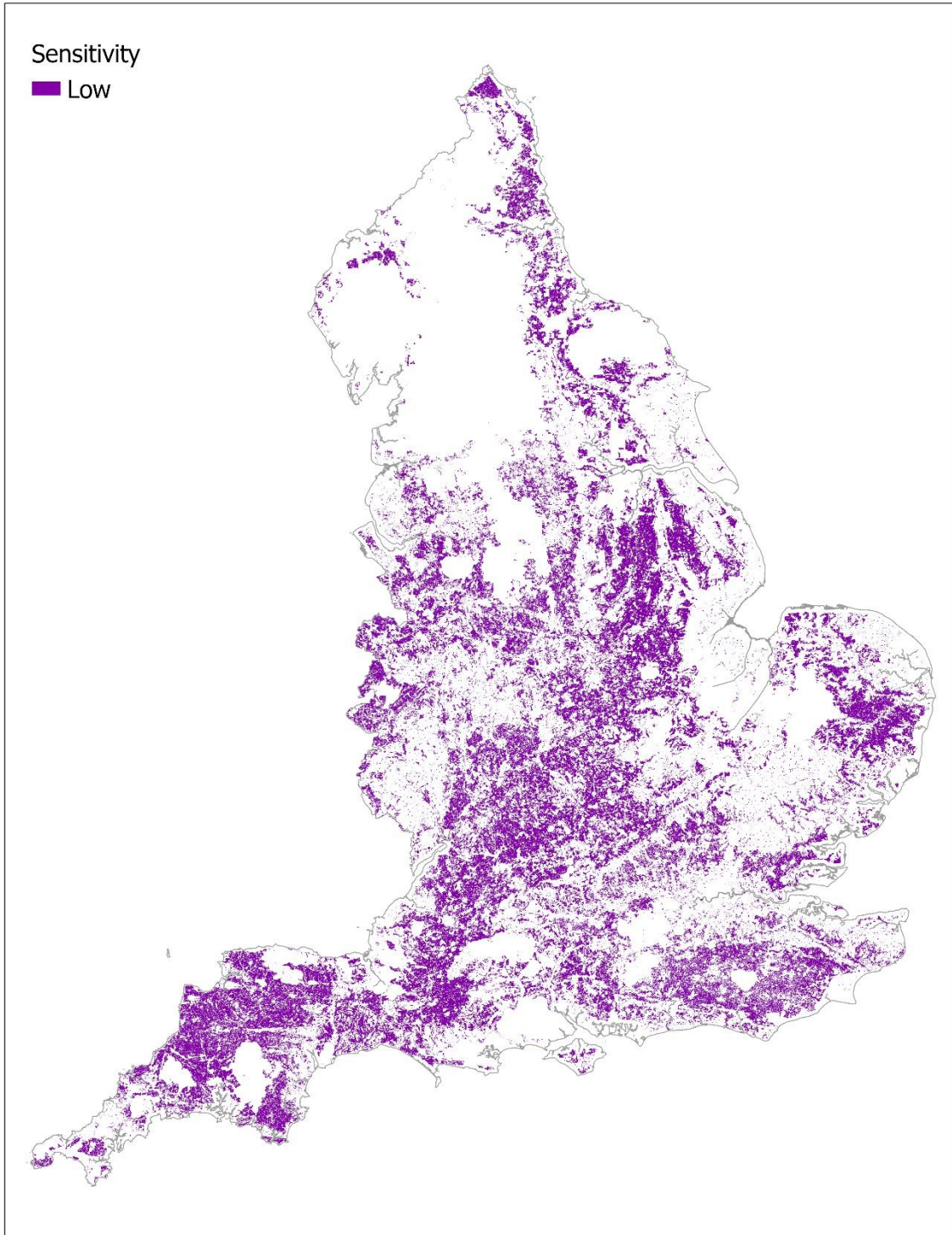
© Crown copyright and database right 2024. Ordnance Survey Licence number 100021242.

Produced By Economics, Evidence & Analysis Team, Strategy & Transformation



**Map 7: England Woodland Creation Low Sensitivity Map version 4.0 variant 2**

 Forestry Commission **England Woodland Creation Full Sensitivity Map v4 Variant 2**



© Crown copyright and database right 2024. Ordnance Survey Licence number 100021242.

Produced By Economics, Evidence & Analysis Team, Strategy & Transformation

**Map 8: England Woodland Creation Low Sensitivity Map version 4.0 variant 3**

 Forestry Commission **England Woodland Creation Full Sensitivity Map v4 Variant 3**

