

The natural capital of the Lincolnshire underpins its economy and the health and wellbeing of its people.

The impact of the global climate and nature crises will be felt acutely within the place. Protecting and investing in nature is essential if we are to tackle these global challenges and local risks so that natural capital continues to support the place's businesses, people and wildlife for the long term.

This scorecard summarises the estimated benefits provided by natural capital within the Lincolnshire natural capital register and account.

A natural capital approach is the understanding that nature underpins human wealth, health, wellbeing and culture. Recognising this supports better decisions to protect and enhance natural capital so that it can continue to deliver the services and benefits we need.

Natural capital accounting can help support this approach by setting out a register of natural assets for a place, quantifying the flows of services from the assets, and estimating an economic value for the benefits derived. This value will only partially represent the fuller benefits that natural capital provides and it provides an illustration of the longer term benefits for people from protecting and improving the environment.

This natural capital register and account follows the accounting framework set out by the Government's Natural Capital Committee.

Licensing: The Environment Agency Natural Capital Register and Account Tool, Version 1. (January 2021) is provided subject to the Open Government Licence. The OGL terms and conditions can be found at: <https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/>

This tool is provided for information purposes only. The Environment Agency accepts no liability or responsibility for any use, including but not limited to regulatory purposes, which may be made by a user of the tool or any results from the tool, nor for any reliance which may be placed by a user on the tool or any of the results, nor for advice or information given in connection with the tool or any of the results.



Ecosystem Services

This summary focuses on broad services and benefits from the natural assets in the place. A potential 13 ecosystem services can be estimated in terms of quantity and value using the Environment Agency Register and account (icons below). We have used data for the ecosystem services listed on the right hand side.



- Agriculture – Production of wheat, dairy and livestock from farmland
- Water supply - Water for domestic use, agriculture, industry and power generation (cooling)
- Timber – Provision of timber-based products by woodland
- Renewable energy – Energy available from hydropower generation
- Climate regulation - Carbon sequestered by habitats
- Air quality - Removal of air pollutants (PM2.5, SO₂, NO₂, O₃) by habitats
- Hazard regulation - Flood storage provided by woodland
- Water quality – Welfare benefit of good water quality
- Recreation - Recreational visits to open green space
- Physical health – Health benefits of active visits to green space
- Education – Additional opportunity of education in nature-based settings
- Volunteering – Opportunity for nature-based volunteering

Valuing Lincolnshire Natural Capital



Natural Assets

567,904

hectares

Total land area.



441,586 hectares
of **enclosed farmland**.

The largest natural capital asset type
at **77.6%** of total area.



Ecosystem Services

£643 million

Total annual value of services
from natural capital.



£483 million per year
The annual value from
agriculture.

The largest ecosystem service
by value for the place.



Benefits

**The ecosystem services and the benefits
that flow from them**

**Food provision is essential for
maintaining the health of society**



Agriculture production
from 441,586 hectares
of **enclosed farmland**.



Value

£20.1 billion

Total asset value of
natural capital over the next 100 years.

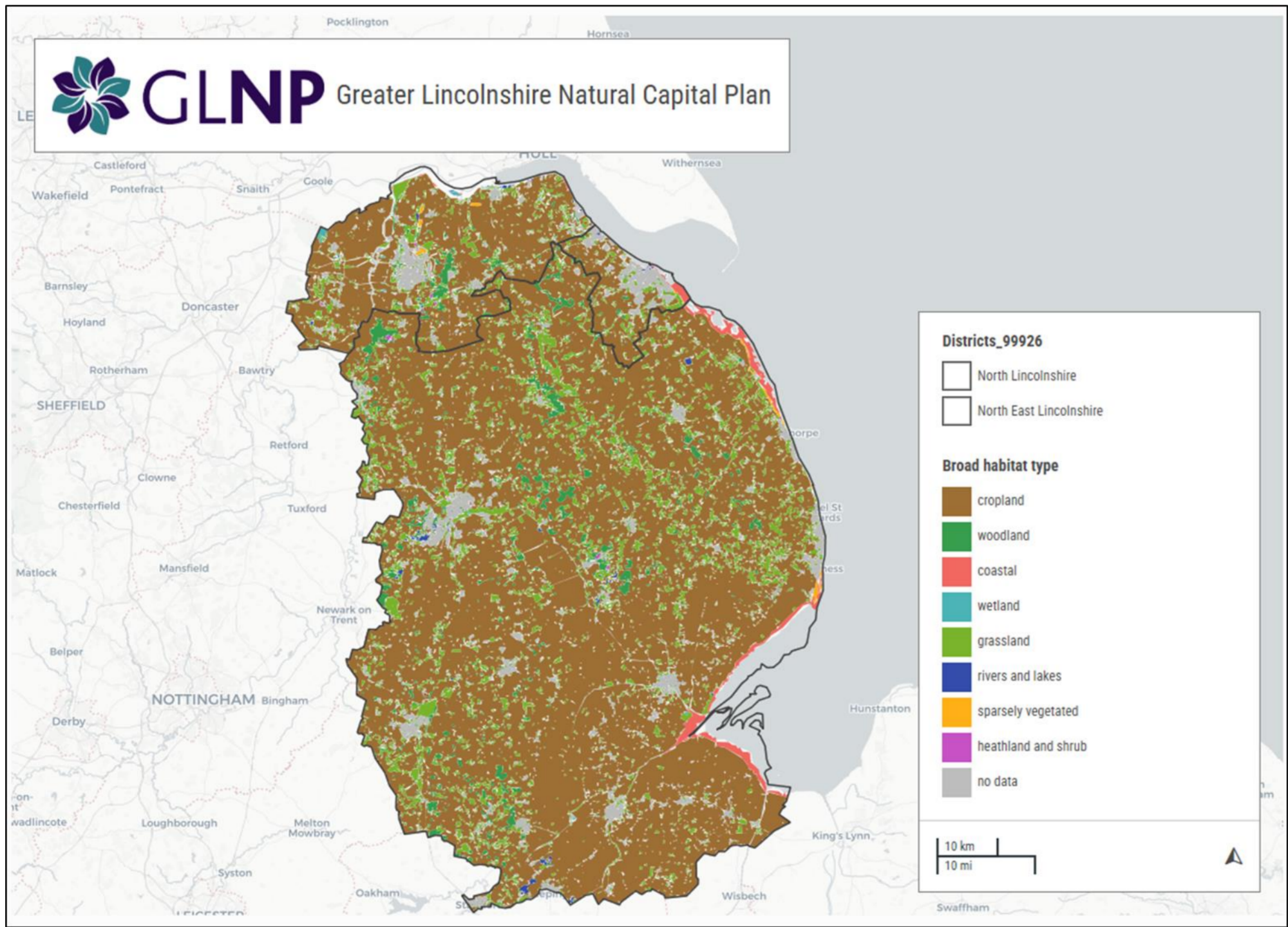
£14.3 billion

Total asset value from
agriculture
over the next 100 years.
The largest asset value



Natural Assets

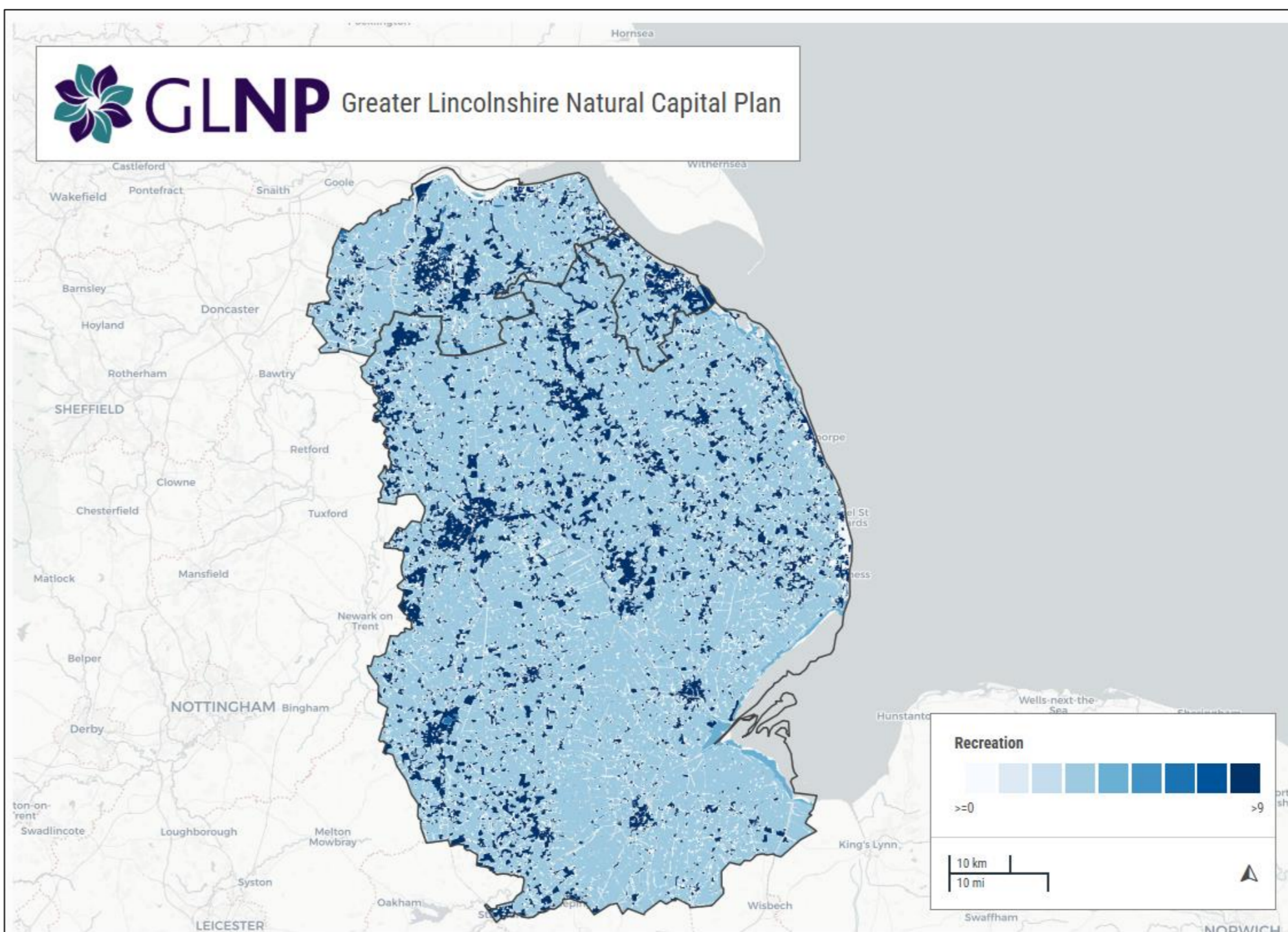
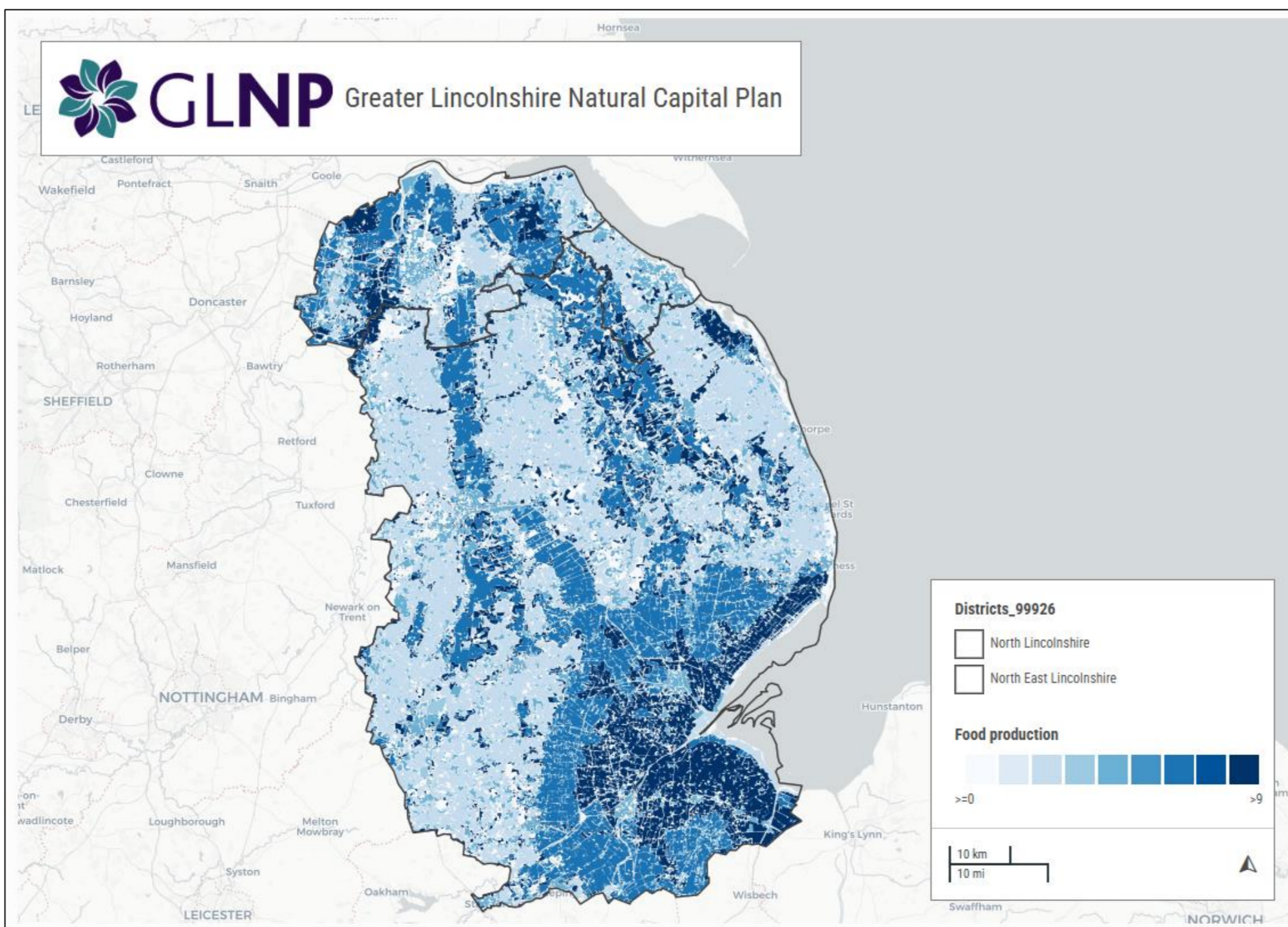
Space to provide a description of place e.g. type: catchment/combined authority; size in ha; natural characteristics of the landscape; designations; main uses of place; heritage and legacy; population; any urban centres; key species (past or present); any large restoration projects/infrastructure projects planned/underway/hoped for.



Top Left: Broad habitat coverage of Greater Lincolnshire.

Bottom Left: Habitats with potential food production benefits.

Bottom Right: Habitats with potential benefits for recreation.

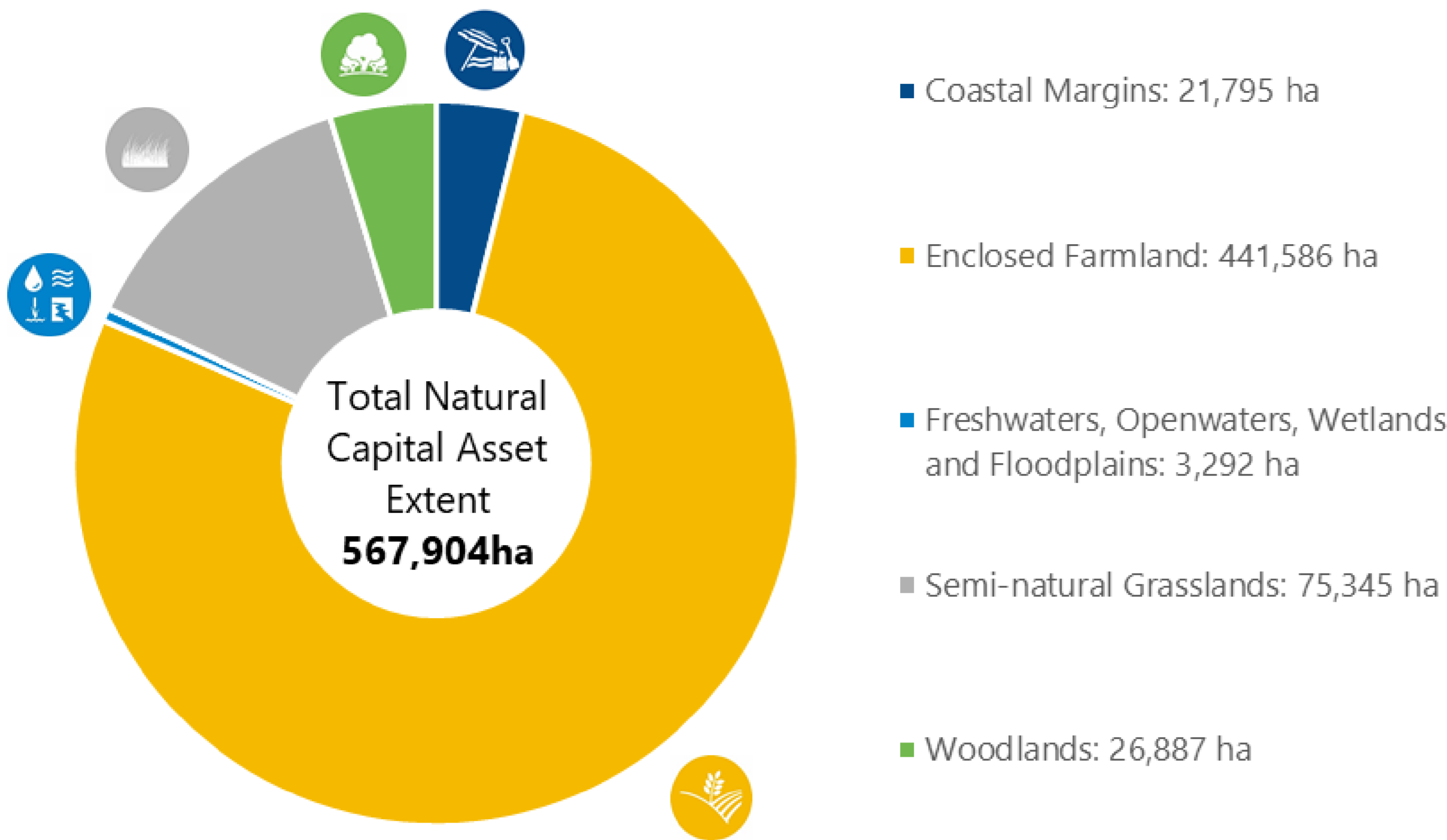




Natural Assets

Space to insert text indicating the largest assets/major habitat types within the place and its significance

Natural Capital Extent



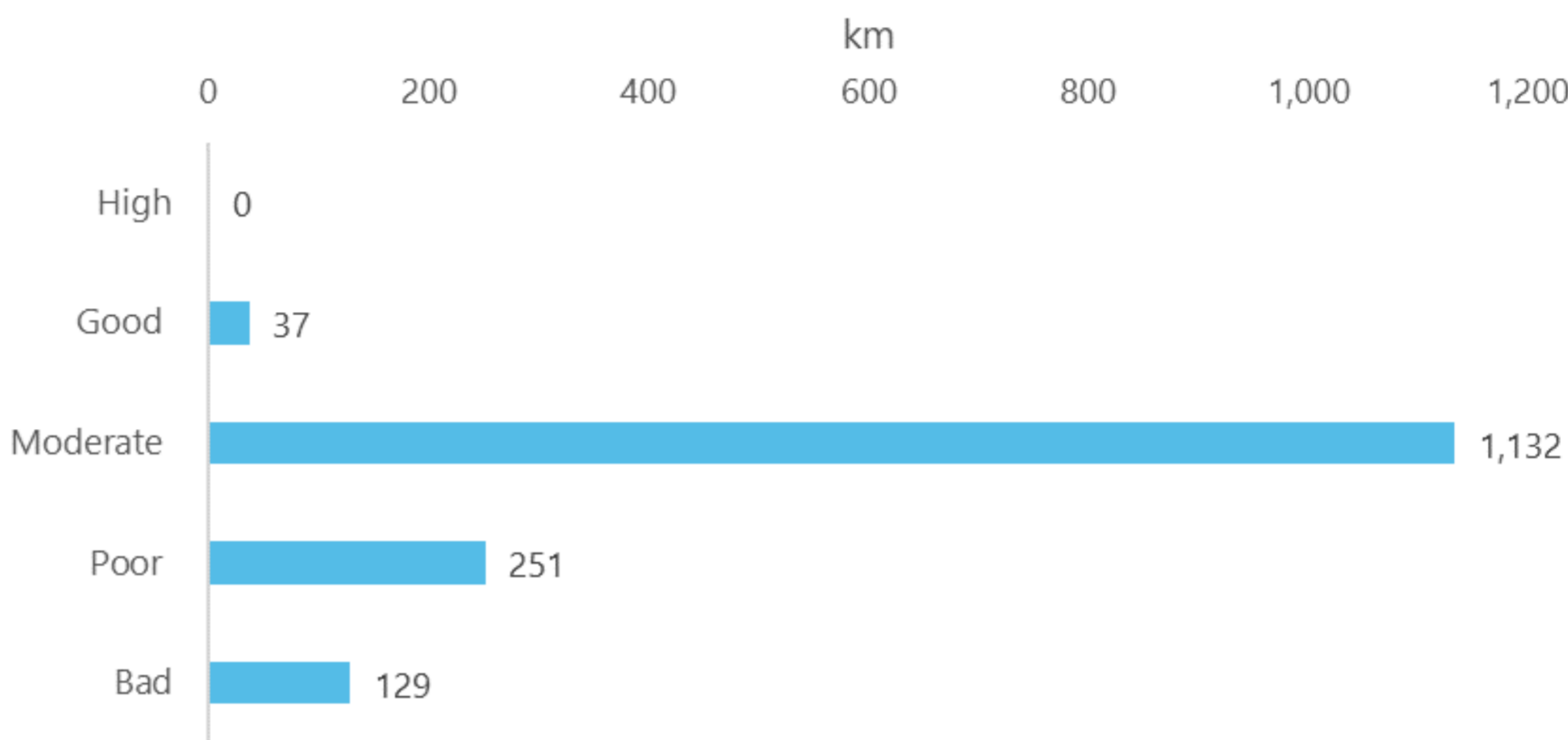
Risk Register

High: High likelihood the pressure will affect natural asset(s) relative to other pressures listed
Medium: Medium likelihood the pressure will affect natural asset(s) relative to other pressures listed
Low: Low likelihood the pressure will affect natural asset(s) relative to other pressures listed

Natural capital assets	Pressure on asset:	
	Quantity	Quality
Coastal Margins	High	High
Enclosed Farmland	Medium	High
Freshwaters, Openwaters, Wetlands and Floodplains	High	High
Marine	Medium	High
Mountains, Moorlands and Heaths	Medium	Medium
Semi-natural Grasslands	High	High
Urban	High	High
Woodlands	Medium	High

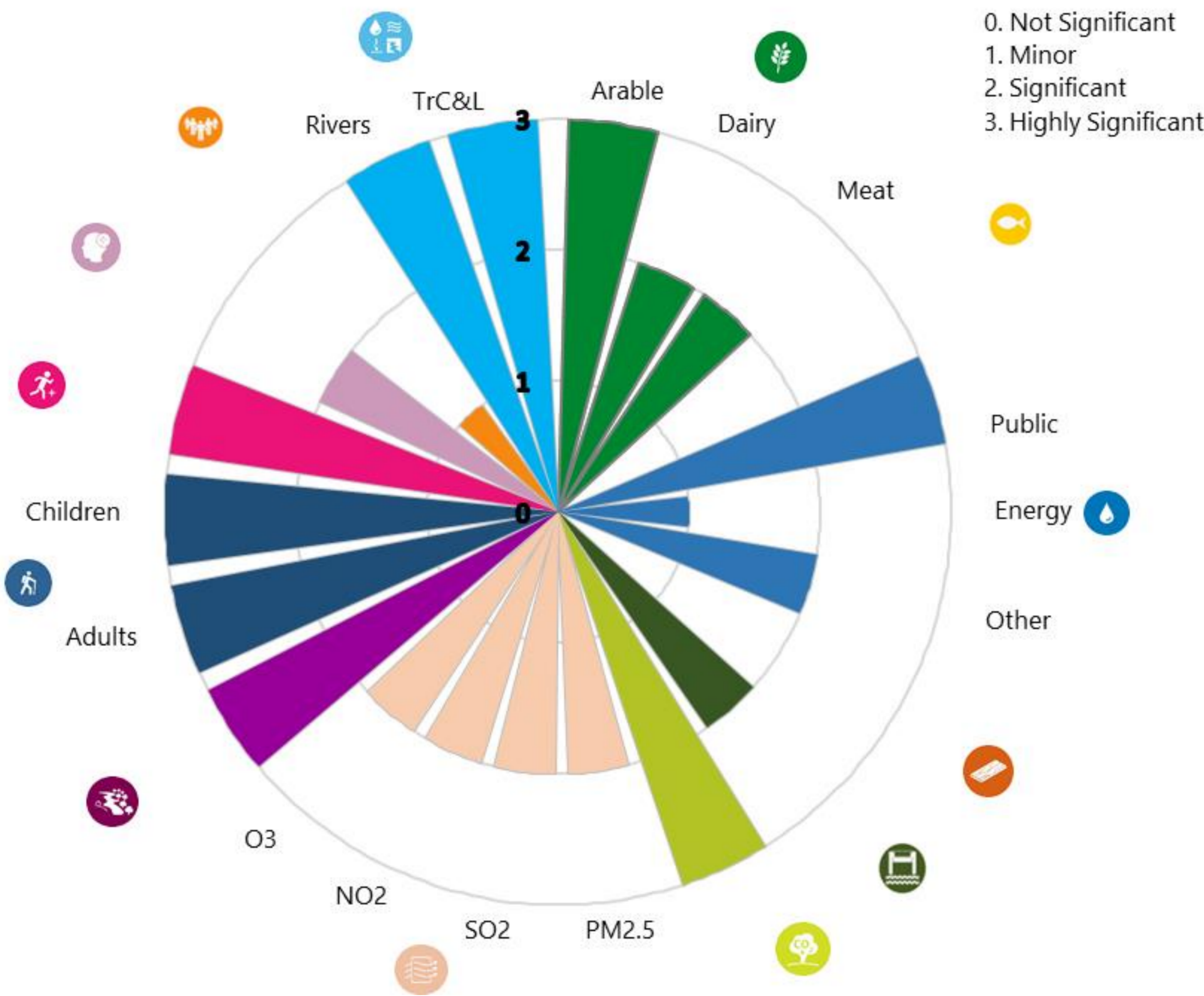
River Length by Ecological Status

Based on 2019 WFD Cycle 3 classification data



Ecosystem Services

Significance assessment for each of the ecosystem services in the place.
The sections of the wheel indicates the significance rating for each service provision from 3 highly significant, 2 significant, 1 minor and 0 not significant relative to the other services within the place and assuming the natural assets shown above are in good condition





Benefits

We have estimated the flows of ecosystem services that are derived from natural assets within this place, then estimated the value of the benefits those services provide . The analysis is not exhaustive and does not include all assets, services and benefits. We have indicated the confidence we have in the valuation as High (3 coloured squares), Medium (2 coloured squares), or Low (1 coloured square)



Natural Assets



Ecosystem Services

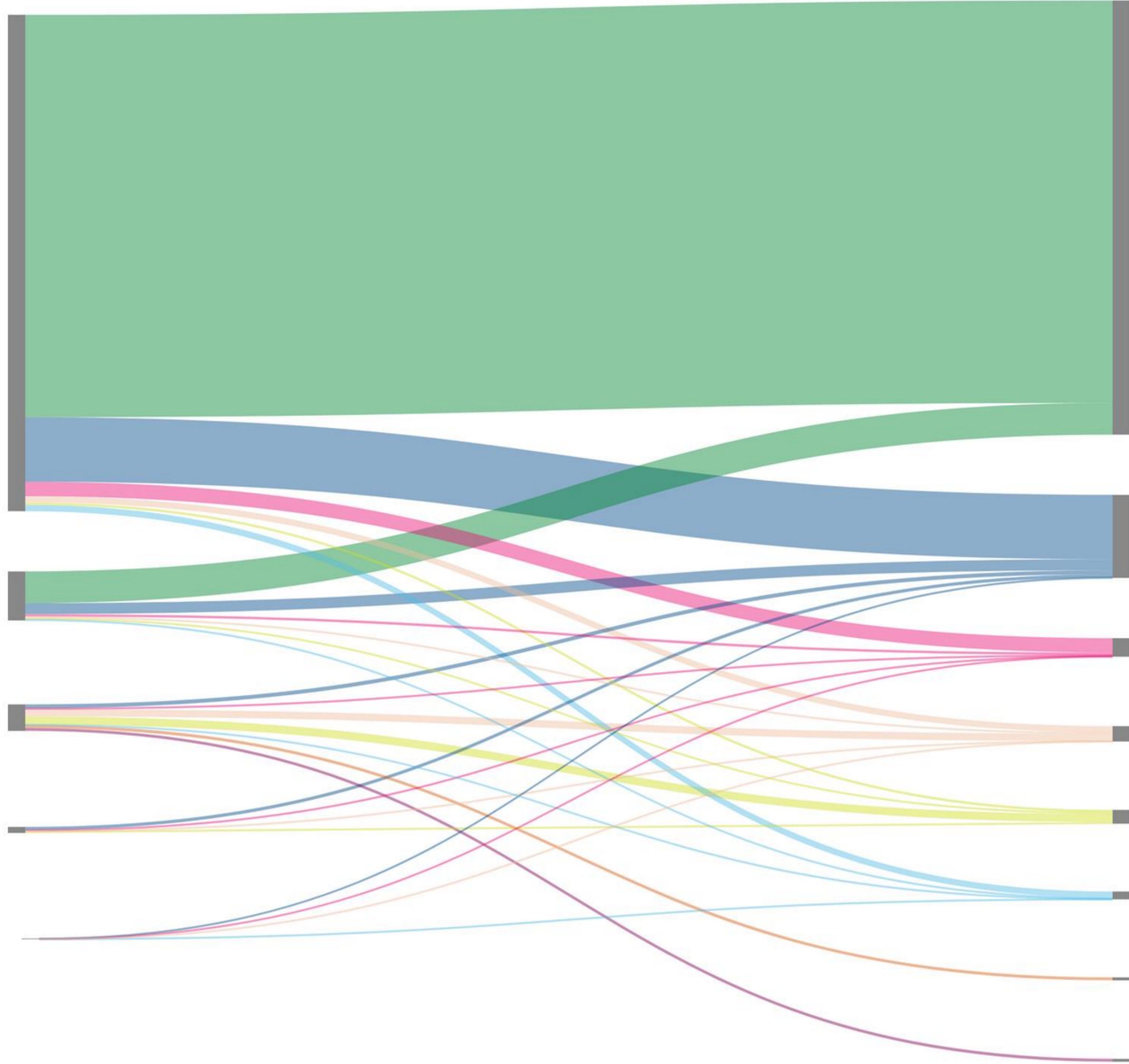


Benefits



Value

*



Made at SankeyMATIC.com



Agriculture production from over 441,000 hectares of farmland



Welfare value from recreation of over 29 million visitors to open green space



Health benefits of over 12.5m active visits to green space



Avoided health damage costs due to the removal of 31,269 tonnes of air pollutants



The value of 142,095 tonnes of carbon being sequestered from habitats, mostly by woodland. Climate change affects the social and environmental determinants of health



The welfare benefit of good water quality



The net value of an estimated 120,320 m3 volume of timber removed per year



The estimated value of more than 7.3 million m3 of flood storage provided by woodlands

£20.1 billion
Total asset value for natural capital over the next 100 years.

£643 million
Total annual value of services From natural capital

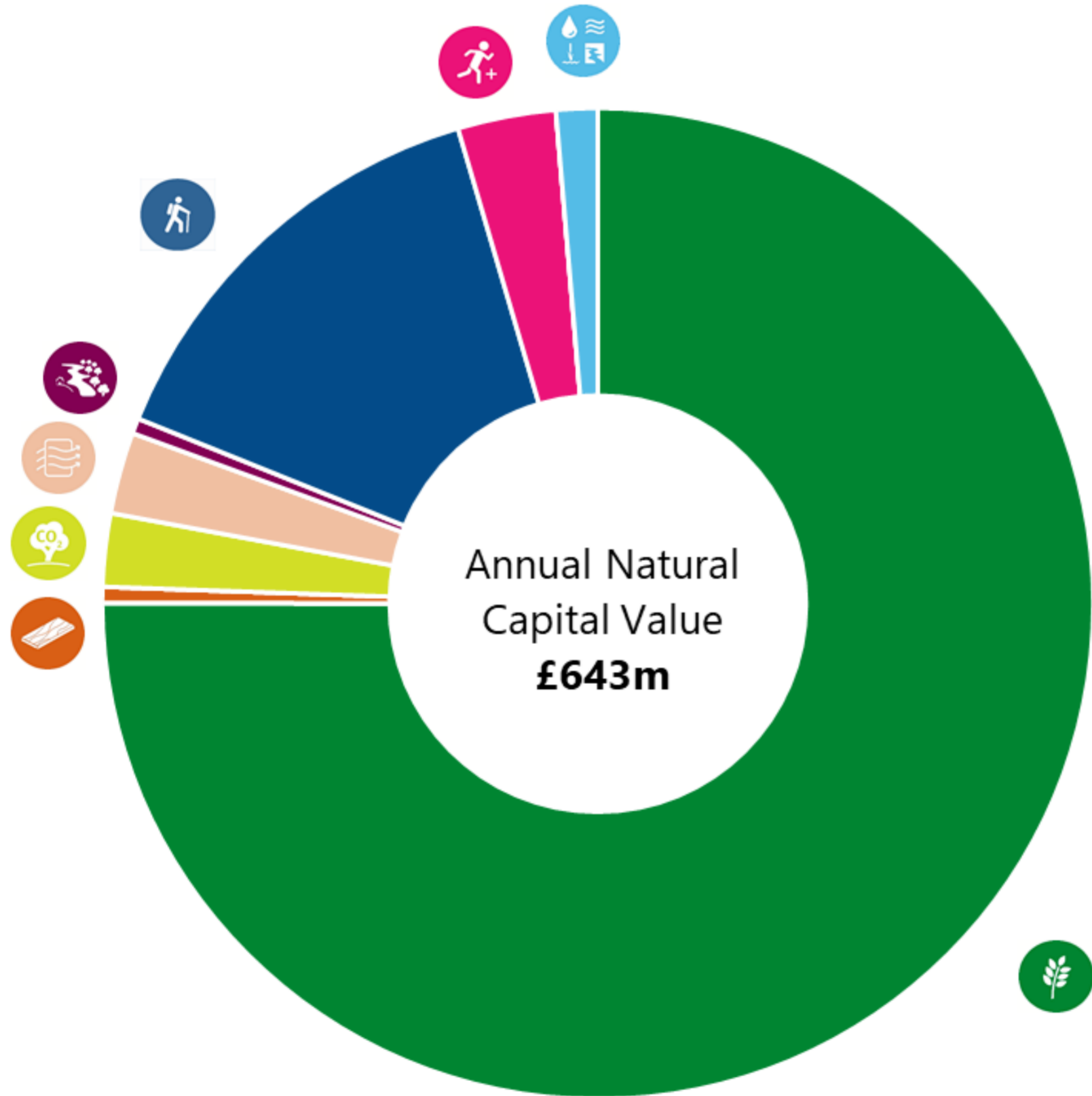
*

This account does not calculate values from marine assets (unless fish landing data is included)



Value of natural capital benefits

The ecosystem services for this place have been quantified, with a conservative estimated benefit value of £ 643m annually.



Agriculture: £483m

Timber: £3m

Climate regulation: £15m

Air quality: £17m

Hazard regulation: £3m

Recreation: £92m

Physical Health: £21m

Water quality: £9m

Note: not all services and benefits can be quantified.

The total values of assets and services in a natural capital account will always be an underestimate. It is not possible to present the total value of all the services provided by a place only a partial estimate. However the assessment is sufficiently illustrative of the significant value that the natural capital provides to its communities and businesses.

Additional Values

The natural capital account for Greater Lincolnshire also identifies a small value provided to education and volunteering, however the data set was not considered great enough for the totals illustrated by the tool to be considered to be a true reflection of the value. Please see the complete accounts for Greater Lincolnshire for figures.

While not included within this account, due to lack of data it is recognized that there is a value of nature to water abstraction within Greater Lincolnshire.

Please note that agricultural value has been calculated using an national average breakdown between the constituent parts of the sector. This is due to discrepancies in the CORINE Land Use data relating to the area.

For services valued at less that £1m per year please see full account available as a spreadsheet.

Input data sources

- Habitat quantity data for 8 broad habitat types – Lincolnshire Environmental Records Centre Data.
 - Habitat quantity data for saltmarsh – Lincolnshire Environmental Records Centre Data
 - Peatland extent - Lincolnshire Environmental Records Centre Data
 - River; Transitional and coastal waters; lakes ecological status – EA WFD classifications 2019
 - Operational catchments - <https://data.gov.uk/dataset/71581966-1935-411e-ab66-f32d960497e8/wfd-surface-water-operational-catchments-cycle-2>
 - Water supply (all) – EA water resources GIS (2019)
 - Installed hydrogeneration capacity - BEIS Renewable electricity generation by local authority 2018 (.gov.uk)
 - Fish landings - MMO (2019) UK Sea Fisheries Annual Statistics Report 2018
 - Recreation, visits by socio economic group – Outdoor Recreation Valuation Tool, University of Exeter
 - Recreation, Welfare values by socio economic group - Outdoor Recreation Valuation Tool, University of Exeter
 - Education – Local groups and organisations
 - Volunteering – Local Groups and organisations
-
- Data used to estimate the benefit flows and valuation of ecosystem services is described in the Environment Agency Natural Capital Register and Account Version 1 - Technical Report (January 2021)

Caveats and limitations

- A natural capital register and account will only ever reveal a partial value of nature.
- There are many services and functions of nature that are not valued in this tool (e.g. noise regulation; pollination; flood regulation by saltmarsh and wetlands for example) and there are many ecosystem services that can not be effectively valued in any account e.g. the value of biodiversity.
- There are values for ecosystem services presented here. These are intended to show a partial view of what nature provides to the local economy for free, or little input; rather than a price, or a value for exchange. Previously natural resources have not been valued at all, leading to reduction in, or mismanagement of the asset.

Benefit description

Agriculture

Agriculture production from over xxx,xxx hectares of farmland. XX% arable land by area (xx% of the annual value). XX% pasture land by area (livestock accounting for XX% of the annual value)

Recreation

Welfare value from recreation of XXX million visitors to open green space across [template].

Physical health

Health benefits of active visits to green space.

Water supply

The value of water abstracted for domestic use, agriculture, industry and power generation (cooling). Access to clean water underpins our health and industry.

Water Quality

The welfare benefit of good water quality which includes safety of recreation, clarity, flow, and thriving invertebrate, plant, and fish populations.

Air quality

Avoided health damage costs due to the removal of X.X million tonnes of air pollutants.

Climate Regulation

The value of XXX,XXX tonnes of carbon being sequestered from habitats, mostly by XXXX. Climate change affects the social and environmental determinants of health.

Timber

The net value of an estimated XX,XXX m3 volume of timber removed per year across [template] Area

Hazard regulation (N)

The estimated value of X.X million m³ of flood storage provided by woodlands across the [template]

Fish

Estimated market value of marine fish landings from local boats

Volunteering

The estimated value of time spent on nature-based volunteering

Education

The additional benefit of nature-based school educational visits









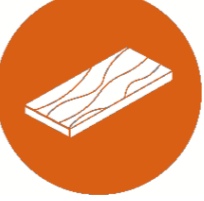



Renewable energy

Value of installed capacity for hydropower generation

Habitat type icons

Farmland	
Urban	
Semi-natural grassland	
Water and wetlands	
Woodlands	
Coastal	
Marine	
Mountains, moorlands and heath	

Ecosystem services icons

Agriculture		Climate regulation	
Water Quality		Renewable energy	
Volunteering		Recreation	
Air quality		Water Supply	
Timber		Fish Landings	
Education		Physical Health	
Hazard Regulation	