

Summary of Key Indicators: Annex 2d Urban

Natural England's Natural Capital Indicators Project aims to identify key attributes for measuring change in natural capital in England, at a range of scales. Key indicators have been identified for the quantity, quality and location of ecosystems. We have not identified suitable repeated measures for value of benefits, which could be used as indicators.

Summary of key indicators:

See table below for further detail and related data sets

1. **Extent of habitat:** green & blue space, semi-natural habitats, open mosaic habitats, woodland, scrub, hedge & trees.

2. Quality

- Hydrology & geomorphology: sustainable urban drainage schemes.
- Species composition: number of trophic levels and community composition in each.
- Vegetation: ratio of vegetation to bare soil & concrete/tarmac, surface vegetation roughness, building integrated vegetation.
- Cultural: nature, landscape, seascape and urban green space, culture and history, accessibility.
- Geodiversity: active geomorphological processes; condition of designated geosites.

3. Location of:

- Habitats intercepting water pollution (in relation to the source, pathway and receptor).
- Flood mitigating land in relation to infrastructure & settlements.
- Proximity to other habitats.
- Patch size, shape and edge.
- Distribution of habitats in relation to buildings and roads to abate noise, air pollution and temperature.
- % population who can access a minimum of 2ha accessible green space / blue space within 2 miles of home.
- Geosites providing accessible green space.

4. Ecosystem service flows (specific to individual services):

- Measurement of the service: amount of clean water, carbon sequestered and greenhouse gases fixed, local cooling, maintenance of wildlife habitats and species, regulation of flooding, water quality, air quality & noise abatement. Practices that relate to experiential and physical, scientific and educational use.

The project also identifies and reviews datasets for measuring the attributes. Data sets are only included if they are regularly updated. Gaps in data are also identified, where appropriate data sets have not been found. This note summarises the results of this project for the

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Urban Broad Habitat, for the key ecosystem services in the table below. Please also see the separate note on the method followed.

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Urban: provisioning and regulating services			Ecosystem services							Data sources
Asset attribute	Indicator category	Indicator	Water supply	Water quality	Air quality	Noise regulation	Flood protection	Maintenance of nursery pops & habs	Climate regulation	
Quantity	Extent	Green space not semi-natural				X		X	X	Ordnance Survey Master Map Green Space layer
Quantity	Extent	Open mosaic habitats						X		Priority Habitat Inventory
Quantity	Extent	Urban blue space						X	X	OS MasterMap Water Network Layer
Quantity	Extent	Semi-natural habitats	X	X	X	X	X	X	X	Priority Habitat Inventory
Quantity	Extent	Urban/street trees, canopy cover			X	X			X	National Tree Map
Quantity	Extent	Woodland, scrub and hedge			X	X		X	X	National Forest Inventory; National Tree Map
Quality	Hydrology & geomorphology	Sustainable Urban Drainage Schemes					X			None identified
Quality	Species Composition	Number of trophic levels & community composition in each level						X		None identified
Quality	Vegetation	Building integrated Vegetation including green roofs & walls			X					None identified
Quality	Vegetation	Surface/vegetation roughness		X			X			None identified
Quality	Vegetation	Vegetation cover/bare soil/concrete or tarmac		X	X	X	X		X	None identified
Spatial config.		Distribution of habitats, in relation to water quality source-pathway-receptor		X						None identified
Spatial config.		Distribution of flood mitigating land in relation to infrastructure & settlements					X			None identified
Spatial config.		Proximity to other habitats						X		None identified
Spatial config.		Distribution of habitats & trees in relation to buildings & transport routes			X	X				None identified
Spatial config.		Patch size, shape and edge						X		None identified
Spatial config.		Position of habitats and trees to provide cooling to housing and buildings							X	None identified
ES flow		Water quality (chemical & biological, including viral & bacterial)		X						WFD; Urban Waste Water Treatment Directive compliance
ES flow		Availability of water for abstraction	X							UK Government: Water Abstraction Tables; Environment Agency: Groundwater Management Units water resource availability; CEH Hydrological Summary;
ES flow		Regulation of flow regime for peak events					X			CEH Hydrological Summary; Environment Agency: Risk of Flooding from Rivers and Sea; CEH National River Flow Archive
ES flow		Carbon sequestered & green house gases fixed, by soil/vegetation							X	None identified
ES flow		Local urban cooling							X	None identified
ES flow		Maintenance of sustainable ecosystems/life cycle stages						X		None identified
ES flow		Noise abatement loudness and frequency				X				None identified
ES flow		Air pollutants removed by vegetation			X					Defra Environmental Statistics; Defra air quality data catalogue

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Urban: Cultural & Geodiversity Services					Data Source
Asset attribute	Indicator category	Indicator	Cultural Services	Geodiversity services	
Quantity	Extent	Green space not semi-natural	X		Ordnance Survey Master Map Green Space layer
Quantity	Extent	Urban blue space	X		OS MasterMap Water Network Layer
Quantity	Extent	Semi-natural habitats	X		Priority Habitat Inventory
Quantity	Extent	Urban/street trees, canopy cover	X		National Tree Map
Quantity	Extent	Woodland, scrub and hedge	X		National Forest Inventory; National Tree Map
Quality	Nature	Visibility of wildlife	X		None identified
Quality	Nature	Presence of flagship species	X		None identified
Quality	Nature	Presence of rare (red list) species	X		None identified
Quality	Nature	Species diversity	X		Countryside Survey; CSM (only for Sites of Special Scientific Interest)
Quality	Nature	Favourable condition of SSSIs	X		CSM (only for Sites of Special Scientific Interest)
Quality	Nature	Favourable condition of designated geosites	X	X	CSM (only for Sites of Special Scientific Interest)
Quality	Landscape, seascape & urban green space	Size of environmental space (ha)	X		None identified
Quality	Culture & history	Designated Historic Environment Assets (World Heritage Sites, Scheduled monuments (% at risk), Historic Parks & Gardens, Listed Buildings, Conservation Area, registered battlefields)	X		Historic Environment Record
Quality	Accessibility	Mean number of perimeter access points per km	X		None identified
Quality	Accessibility	Public Rights of Way / permissive paths; footpaths, bridleways, byway – length, density (km/ha)	X		OS master Map
Quality	Accessibility	Presence of paths accessible to all – e.g. wheelchairs, pushchairs - length, density (km/ha)	X		None identified
Quality	Formative geological processes	Active geomorphological processes; terrestrial, coastal & marine		X	None identified
Spatial Configuration		% population who can access 2ha of green space within 2 miles of home	X		None identified
ES flow	Experiential & physical use	Number of visits	X		MENE: Monitor of Engagement with the Natural Environment
ES flow	Experiential & physical use	Duration of visits	X		MENE: Monitor of Engagement with the Natural Environment
ES flow	Experiential & physical use	Range of activities undertaken (number of people carrying out each activity, frequency, time spent)	X		MENE: Monitor of Engagement with the Natural Environment
ES flow	Scientific/educational	Number of research projects; PhD / Masters projects	X		None identified
ES flow	Scientific/educational	Number of school visits	X		None identified