Annex 1 - Detailed Specification First Quintennial Change Detection Report.

Background to Natural England.

Our remit

Natural England is the government’s advisor on the natural environment. We provide practical advice, grounded in science, on how best to safeguard England’s natural wealth for the benefit of everyone.

Our remit is to ensure sustainable stewardship of the land and sea so that people and nature can thrive. It is our responsibility to see that England’s rich natural environment can adapt and survive intact for future generations to enjoy.

NERC Act

Natural England was formally established on 01 October 2006 following the successful passage of the [Natural Environment and Rural Communities (NERC) Act 2006](http://www.opsi.gov.uk/acts/acts2006/ukpga_20060016_en_1) through Parliament. We are an independent statutory Non-Departmental Public Body.

The NERC Act sets out Natural England's purpose: to ensure that the natural environment is conserved, enhanced and managed for the benefit of present and future generations, thereby contributing to sustainable development.

The Act states that this purpose includes:
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* promoting nature conservation and protecting biodiversity
* conserving and enhancing the landscape
* securing the provision and improvement of facilities for the study, understanding and enjoyment of the natural environment
* promoting access to the countryside, open spaces and encouraging open air recreation
* contributing in other ways to social and economic wellbeing through management of the natural environment.

You can [read more about what we do](https://www.gov.uk/government/organisations/natural-england/about) on GOV.UK.

England Green Infrastructure Mapping Database – First Quintennail Change Detection Report.

Project reference – QCDR 1.

Background.

The England Green Infrastructure Mapping database is a part of the England Green Infrastructure Standards Framework and is being delivered as part of the Natural Capital and Ecosystems Assessment Programme

The current version of the England Green Infrastructure Mapping can be viewed via the link below. Please note that this does not include any of the existing (Phase 1) Urban Habitat and Naturalness mapping.

[Home (naturalengland.org.uk)](https://eur03.safelinks.protection.outlook.com/?url=https%3A%2F%2Fclicks.eventbrite.com%2Ff%2Fa%2FB_lhmLe6lSzEykzJa0id7g~~%2FAAQxAQA~%2FRgRjk2ROP0RLaHR0cHM6Ly9kZXNpZ25hdGVkc2l0ZXMubmF0dXJhbGVuZ2xhbmQub3JnLnVrL0dyZWVuSW5mcmFzdHJ1Y3R1cmUvSG9tZS5hc3B4VwNzcGNCCmGyzjCyYSIWXadSIW1hcnRpbi5tb3NzQG5hdHVyYWxlbmdsYW5kLm9yZy51a1gEAAAAAA~~&data=05%7C01%7CMartin.Moss%40naturalengland.org.uk%7C160138e94e8e43b0c07408dad38ce2d7%7C770a245002274c6290c74e38537f1102%7C0%7C0%7C638054899321484718%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=aN0BFX6dI2E03vTyi3So%2Boj9CgIWmLrVQTUphCSn0E4%3D&reserved=0)

Information about the Natural Capital and Ecosystems Assessment Programme can be found via the link below.

[Natural Capital and Ecosystem Assessment Programme - GOV.UK (www.gov.uk)](https://www.gov.uk/government/publications/natural-capital-and-ecosystem-assessment-programme/natural-capital-and-ecosystem-assessment-programme)



The overall purpose of the England Green Infrastructure Mapping Database is to provide England level data to support a range of planning, strategy and resource targeting processes to help and designed to help deliver the England Green Infrastructure Standards framework.

Project scope and overview.

[Green Infrastructure Map](https://designatedsites.naturalengland.org.uk/GreenInfrastructure/Map.aspx).

Timetable.

The project is anticipated to begin on the 25th August 2025 and to complete by 27th February 2026.

Requirement

Tasks.

Task 1 – Statistical Review.

Scope of datasets to be statistically reviewed.

Local Authorities.

Local Authorities used in V 1 were those as at Census 2011. For V 2.1 and V 2.2 they are as at Census 2021. For this exercise, Local Authority areas used for reporting should be as at 2025 with statistics for (2011 or 2021) previous authority areas amalgamated into 2025 Local Authority geographies. Reporting should thus provide information for one consistent Local Authority areas system as at the start of contract in 2025.

Use of MSOA and LSOA. Version 1 of the EGIMD uses the 2011 LSOA system whereas Versions 2.1 and 2.2 use the 2021 system. Reporting for each version will use the respective LSOA systems and report on the range and averages (mean and median) values. No direct comparisons or assessments at MSOA of LSOA level are required and values at these levels are generated purely to provide the Local Authority level statistics.

See notes below the table for definitions.

|  |  |  |
| --- | --- | --- |
| **Dataset** | **Refinements (inc Existing v Extraction)** | **Change Detection requirements.** |
|  |  |  |
| Accessible Green Infrastructure (AGI). | Report by all AGI and by domains of Public Greenspaces, Access Land and Coastal Margin.  | Breakdown of change for England, LNRS, Local Authority and Protected Landscapes. Include average and range of values for MSOA and LSOA by all AGI, each domain and by individual typology. |
| AGI per 1000 population. | Report on Total AGI and breakdowns by Public Greenspace, Access Land, Coastal Margin, LNR. | England, LNRS, Local Authority and Protected Landscapes. Include average and range for MSOA and LSOA. |
| Greenness. | V1 and V 2.1 only – Greenness Grid squares cannot be directly compared, use of average greenness value for grid squares in LSOA.Data for V 1 exists, for V 2.1 would require extraction. | Range and average for Urban Mapping Domain LSOA at Local Authority scale.Range and average for Urban Residential areas domain (this will be provided as a shape file and is a subset of the Urban Mapping Domain). |
| Private Garden Space | Urban Residential Mapping Domain only. Report on % area covered by private Garden space. | Range and average for Urban Residential Mapping Domain (this will be provided as a shapefile) using LSOA at Local Authority scale. |
| Accessible Greenspace Standards (Amounts). | Report on total amounts AGSt typologies and by individual typology.**See Method Statement for eligible AGSt AGI typologies.**Requires data extraction. | England, LNRS, Local Authority and Protected areas. Include range and average for MSOA and LSOA. |
| Accessible Greenspace Standards (Population within buffers – straight line method). | Report on population (amounts and %) within all 6 buffers. | England, LNRS and Local Authority.  |
| Accessible Greenspace Standards (% Households within 15 mins). | Report on % Households within 15 minutes walk using Defra output area level Official Statistics in development for “greenspaces” as published (amended) in May 2025. | England, LNRS and Local Authority level reporting for the Doorstep, Local, Neighbourhood and Wider Neighbourhood Standards only.Estimate households from output area statistics overlapping AGSt Buffers. |
| Likely Accessible Waterside. | Report total length and % of total waterside classed as “Likely Accessible”. | England, LNRS, Local Authority and Protected Landscapes. |
| Accessible Greenspace Inequalities and IMD. | V 1 and V 2.1 only.Note best fit for V 2.1 | % LSOAs by AGI Class with % populations. |
| Accessible Greenspace Inequalities and Population Density. | V 1 and V 2.1 only. | % LSOAs by AGI Class with % population. |
|  |  |  |

**Accessible Green Infrastructure Typologies.**

The typological system used to identify Accessible Green Infrastructure is set out in the EGIMD Method Statement. For some assessments this is brigaded into sub-domains of “Public Greenspaces”, Access Land, Coastal Margin and Local Nature Reserves (LNR). The “Public Greenspaces” domain is all AGI except Access Land and Coastal Margin. LNRs (Local Nature Reserves) are retained in the “Public Greenspaces” but also identified as a separate domain as they can exist in any of the other domains and are not always fully accessible so are also assessed as a specific domain.

The use of these sub-domains will require data extraction for V 1 as it was not applied to that version.

The Accessible Greenspace Standards (AGSt) typologies are a subset of the broader list of AGI and the differentiation is set out in the EGIMD Method Statement.

**Urban Mapping Domain.**

Please note that the “Urban Mapping Domain” used for those assessments identified above as for urban areas only will be all LSOA classed as “Urban” for the V 1 mapping (this uses the 2011 LSOA system and the three most urban classes in the ONS 2011 Rural Urban Classifications) and all LSOA classed as urban for V 2.1 (this will use the 2021 LSOA system and ONS Rural Urban Classifications as updated in March 2025).

The Greenness and Private Gardens data was not updated for V 2.2 so no V 2.2 data will be possible. In addition, because of changes to both the LSOA and Rural Urban Classifications (RUC) systems, no direct LSOA comparisons will be required and reporting is for Local Authority level ranges and averages.

**Urban Residential Mapping Domain.**

The “Urban Residential Mapping Domain” has been developed by a previous project looking at urban residential greenness and exists as a shapefile that will be provided at the start of contract. The area maps those parts of the urban extents that are estimated to be at least 70% residential land use.

This area relates only to the Greenness and Private Gardens assessments.

**Task 1 will require –**

**Task 1a** - The extraction of statistical data for the datasets listed in the scope (Annex 1) from the V 1 spatial data. Most statistical data for V 2.1 and V 2.2 will be provided in spreadsheet format at the start of contract and data extraction from the spatial data will only be required if gaps in the data are discovered.

**Task 1b** – Quality Assurance check that data tables from V 2.1 and V 2.2 match spatial data (tables will be provided at the start of contract).

**Task 1c** - Statistical Review comparison on the content of the data tables for V 1, V 2.1 and V 2.2

Task 2 – Change Registry analysis.

This task will require –

Task 2a – The generation of Change Tables charting differences between Version 1, V 2.1 and V 2.2 and a review of typological change by percent areas for each AGI typology at England level.

Task 2b - Create specific change registry accounts (in spreadsheet format) for LNRS, Local Authority and Protected Landscapes charting changes by % typology that are New, Removed and Unchanged.

Task 3 – Change Causality Assessment.

This task will assess the underpinning causes of change in the database to try and understand what factors are at play in driving movement within the Change Registry.

The task is likely to involve some form of limited random sampling exercise (please note, there will not be enough resource to undertake a statistically significant sample size for the whole of England). A sampling method will be required that will enable a qualified narrative on change to be developed, but it is understood that any statistical assessment of change causality would relate to the sample size only and could not be automatically applied at an England level.

The sample for assessment should be drawn from the “New” and “Removed” categories in the Change Registry.

The assessment should assess change across V1, V 2.1 and V 2.2 and seek to develop a narrative around change scenarios 1, 2 and 3 which are;

1. Changes occurring because the data has been amended such as through improvements to data quality. This may add or remove polygons that were either added because they were missing from the source data at the time it was used (Missing asset error) or removed as a correction due to its having been included in error (Phantom asset error).
2. Changes occurring because individual polygons have been subject to change in their typological allocation. This results a polygon being described differently in the data but the actual polygon remains unchanged. Such change in the data could result in polygons being registered as “New” or “Removed” but whose spatial representation in the data would remain the same. For example, a Playing Field polygon being reclassified as a Public Park would result in a “removed” Playing Field, and a “New” Park but an “Unchanged” polygon.
3. Changes occurring through land use change. This could result because of “New” assets being created (new parks in developments etc) or “Removed” because assets have been lost and converted to land uses not relevant to the scope of change being examined in this project (for example, a park being developed for other purposes).

If possible, the narrative should tease out any evidence for regional differentiation in change scenarios. For example, are some areas experiencing loss or creation of assets more than others and what sort of losses and creation.

The reporting for this task will only use the LNRS areas as “Regional” geographies.

The task will draw out (as possible) any conclusions or issues that might accompany the numbers derived from the statistical review to develop an overall narrative on change found.

Task 4 – Reporting.

Task 4a - An overall report of change in the England Green Infrastructure Mapping Database at England level will be required.

Task 4b - Summary reports should be generated for each broad reporting geography (Eg 1 for Local Authorities as a geographic cohort) summarising ranges and averages (mean and median) of change.

The England Level and Summary Reports should report on the relevant findings of the Statistical Review, Change Registry Review and Causality Assessment.

Task 4c - Simple charts / diagrams should be generated for each individual unit within the Summary Report geographic units (eg LNRS area or Local Authority) setting out numeric findings from the Statistical Review and Change Registry only (without commentary).

**Outputs.**

Statistical tables for V 1.1 spatial data. These tables will be spreadsheets containing the data extracted from the spatial files for the datasets listed in the scope for Task 1 above.

A short report on the quality assurance exercise in task 1 outlining the findings and any corrective action that was needed to address any issues identified.

Outputs outlined in task 2; change tables for AGI and change registry accounts/spreadsheets for LNRS, Local Authority and Protected Landscapes.

Technical reports as set out in task 4.

Spatial data (shape files) for the polygons / locations used in the Causality Assessment.

Data requirements.

Data inputs for the project will be geodatabases for versions, 1, 2.1 and 2.2 for the datasets listed in the scope table for Task 1 and will be provided at the start of the contract.

Required data outputs.

Any spatial data outputs will need to conform with the requirements of the digitising standards set out in Annex 2.

Sustainability

Natural England protects and improves the environment and is committed to reducing the sustainability impacts of its activities directly and through its supply chains. We expect the Contractor to share this commitment and adopt a sound, proactive sustainable approach in keeping with the 25 yr environmental plan/our commitments compliant with all applicable legislation. This includes understanding and reducing direct and indirect sustainability impacts and realising opportunities, including but not restricted to; resilience to climate change, reducing greenhouse gas emissions, water use and quality, biosecurity, resource efficiency and waste, reducing the risk of pollution, biodiversity, modern slavery and equality, diversity & inclusion, negative community impacts.

As a delivery partner, the successful contractor is expected to pursue sustainability in their operations, thereby ensuring the Contracting Authority is not contracting with a supplier whose operational outputs run contrary to the Contracting Authority’s objectives. The successful contractor will need to approach the project with a focus on the entire life cycle of the project.

**Contract Management**

The project is anticipated to begin by early September 2025 with a target outputs delivery date of 28th February 2026.

Martin Moss will be the Natural England Contract Manager for this project.

A Project Steering Group of Natural England and successful contractor representatives will be established at start of contract to oversee project delivery. It is anticipated project progress meetings will be held monthly (by Teams) from the initial project inception meeting.

All meetings will be online via Teams.