Product Overview for the GreenspaceNI Map

## 1. Introduction

The Department of Agriculture, Environment and Rural Affairs (DAERA) and the Department for Infrastructure (DFI) on behalf of the Cross-Governmental Strategic Outdoor Recreation Group (SORG) has provided funding for Outdoor Recreation Northern Ireland (ORNI) to create the high value, GreenspaceNI Map.

This document provides information about the GreenspaceNI Map, how it has been created, and how it should be used and interpreted.

All information within the map is based on the best available data at the time of publication. Boundaries within the map do not denote ownership nor public access and the map should not be used to gain access to restricted areas.

### 1.a What is the GreenspaceNI Map?

The GreenspaceNI Map is a high value[1] map of all off-road trails and publicly accessible greenspace and bluespace. It has been designed so:

    i.      The target of 'Annual increase of the population within a 5-minute (400m) walk of quality green/blue space (greater than 2 hectares)' proposed for Program for Government (PfG) and other strategies can be objectively measured;

    ii.     It can be used by government departments and agencies, councils and eNGOs, for infrastructure planning, gap analysis, resource allocation, site suitability assessments and demographic analysis (e.g., health and deprivation etc):

    iii.    The data will be published to on SpatialNI, OpenDataNI and on occasions, OutmoreNI.

The GreenspaceNI Map is comprised of 3 layers –

- NI Greenspace Layer
- NI Greenspace Access Points
- NI Off-Road Trails

The NI Bluespace Layer will also be published in the next release of the GreenspaceNI Map.

Data for the GreenspaceNI Map has been provided from:

- Antrim and Newtownabbey Borough Council
- Ards and North Down Borough Council
- Armagh City, Banbridge and Craigavon Borough Council

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[1] https://www.w3.org/2013/share-psi/wiki/images/3/31/Share-PSI_Submission_Paper-PwC_v0.03.pdf

- Belfast City Council
- Causeway Coast and Glens Borough Council
- Department of Agriculture, Environment and Rural Affairs (DAERA)
  - Forest Service NI
- Department for Communities (DfC)
- Derry City and Strabane District Council
- Fermanagh and Omagh District Council
- Land and Property Services (LPS)
- Lisburn City and Castlereagh Borough Council
- Mid and East Antrim Borough Council
- Mid Ulster District Council
- National Trust
- Newry. Mourne and Down District Council
- Northern Ireland Environment Agency (NIEA)
- Northern Ireland Water
- Ordnance Survey Northern Ireland (OSNI)
- Outdoor Recreation Northern Ireland (ORNI)
- Sustrans
- Ulster Wildlife
- Woodland Trust

## 2. Data Overview

### 2a. GreenspaceNI Map Layers

NI Greenspace Layer

This layer contains a wide range of greenspace polygons in Northern Ireland which are open and accessible to the public. For each polygon in the NI Greenspace Layer, a set of criteria must be met:

- The area must be at least 0.5 hectares (a higher limit of 2 hectares has been set for analysis).

- It must be an area of natural green space (some polygons may include areas of non-natural land).

- It must have public access (in some cases there may be restricted access).

NI Greenspace Access Points Layer

This layer contains the points at which the public can access Greenspaces, either on foot or by vehicle.

NI Off-Road Trails

This layer contains any off-road trails which are open and accessible to the public. A trail is included in the Greenspace NI Map if:

- It is Off-Road (or described as off-road by the source)
- It has Public Access

To allow for consistency throughout the map, polygons, points and lines have been derived from Ordnance Survey Northern Ireland's (OSNI) Fusion Basemap (2022).

## 2b. Attributes and Categories

In order to add value and meaning to the data, information for each polygon or line is included as attributes.

NI Greenspace Layer

The attribute table for the Greenspace Layer includes key information about the polygon, such as its ID within the map, source, source ID and (common) name. Features are also classified under a category and type to provide detail of what they are. These categories and types for the Greenspace layer are outlined in the table below. Capturing the size of each greenspace is essential as it allows sites to be filtered easily i.e., over two hectares and twenty hectares to be included in the proximity analysis. Also, including an update date for each dataset allows us to see in the future if there is a more recent version that should be used instead. To ensure only relevant and accurate data is being published we have a 'Show on map' field, meaning polygons can be instantly removed from the layer if issues arise. Data suppliers and asset holders have verified each polygon and therefore a 'verified' field has been added to reflect this.

| Category | Type | Definition |
|---|---|---|
| Woodland | *Woodland* | An area of land covered by trees with access for the public. |
| Public Parks and Gardens | *Historic Parks and Gardens* | Natural areas with an historic value managed and maintained for recreation. Mainly comprised of National Trust or NIEA managed sites and are often behind a paywall. |
| | *Public Parks* | An area of land open to the public with facilities managed for recreation. |
| Amenity Greenspace | *Public Open Spaces* | Areas of natural open land, that can be used for recreation including village greens and natural play areas. |
| | *Playing Fields* | Grass sports pitches open to the public. |
| | *Heritage Site* | Sites of important historical value designated and preserved by law with some area of Greenspace and access for the public. |

| Open Country / Landscape | Mountain | Mountain with permitted access |
|---|---|---|
| | Coastline | Coastline with permitted access |
| Nature Reserve | Nature Reserves | An area of land managed and preserved for special natural value due to important plant, wildlife or landscape. |

*Notes for Greenspace Categories and Types*

Where 'source' of data is outlined, it should be noted that this is who has supplied a data input, it does not define ownership of the area. However, in some cases the source may be the landowner also.

Parks and Gardens are often under private ownership, where this is the case, the sites will not be included within the GreenspaceNI Map. Where these sites are included, there is a high likelihood that there is an entry fee or car parking charge, this information is included within the attribute table. Inclusion of these sites within the Greenspace Layer as publicly accessible does not mean there is free access.

It should also be noted that although 'Playing Fields' are a type within the Greenspace Layer, only those that permit public access are included. Those that are gated or are part of a school or college are excluded from the layer.

For heritage sites, some of these areas cover a small area which falls under the minimum threshold of 0.5 hectares for inclusion within the Greenspace Layer. This layer does not show heritage sites in their entirety for Northern Ireland. This data can be obtained from Historic Environment Map Viewer (DfC).

NI Greenspace Access Points

The attribute table for access points uses some of the fields from the Greenspace Layer, such as name, ID, Source, Category, Type and Area (hectares). This allows for more efficient processing when carrying out proximity analysis. Further to these, a method attribute is also gathered in order to track how access points were created. Future plans exist to add more unique attributes this layer, namely a type of access attribute.

It should be noted that this layer has been collected using a combination of existing mapping data and has not undergone field validation. Some points may be incorrectly included as an access point. Some access points may be closed, or access restricted to certain opening times. This layer should not be used to gain access to sites where access is not permitted for the public.

NI Off-road Trails Layer

A similar attribute table exists for the Trail Layer showing the general information about the trail, its source, category and type. Also included within the table is whether the Trail is 'On Road'. This field allows us to have a repository of all trails in NI and subsequently filter to only

those that are Off Road for the purposes of the GreenspaceNI Map. Categories and types for trails are outlined in the table below.

| Category | Type | Proposed Definition |
|---|---|---|
| Single – Use Trail | *Mountain Bike Trail* | A trail designed solely for Mountain Bikes |
| | *Footpath (PRoW)* | A public right of way is a highway which any member of the public may use as a right. A footpath is open to walkers only. |
| | *Walking Trail* | A trail designed for those on foot. |
| | *Cycle Trail* | A Trail designed for cycling. |
| Multi – Use Trail | *Carriageway (PRoW)* | A public right of way is a highway which any member of the public may use as a right. A carriageway is open to walkers, cyclists, horse riders, horse-drawn vehicles and motor vehicles |
| | *Bridle Path (PRoW)* | A public right of way is a highway which any member of the public may use as a right. A Bridle Path is open to walkers and horse riders. |
| | *Towpath* | An off-road trail of relatively long distance, based on natural corridors as well as canals and abandoned railways. |
| | *Greenway* | An off-road trail of relatively long distance, based on natural corridors as well as canals and abandoned railways. |

## 3. Creation of the GreenspaceNI Map

The GreenspaceNI Map in its current form was created over three 'Phases'. Phase 1, the first 'building block', of the GreenspaceNI Map was the 'Foundation' phase intended to take the data model to 60% confidence level. Phase 2, the second 'building block' called 'Refinement' brought the Green Space Map from 60% to 75% confidence level. Phase 3, the final 'building block' was the 'Engagement' phase, aimed to take the Greenspace NI Map to 90% confidence level.

NI Greenspace Layer

The first phase of the layer saw the inclusion of polygon data from NIEA, National Trust, Woodland Trust, RSPB, LPS, and ORNI. The data was used as supplied and lacked attribute data meaning that areas without public access were included. However, access information

was collected from online resources and added into a new field in the attribute table for each polygon as well as type of greenspace and what the source was.

Building on the existing, many new sources were added to the layer with the most significant being the addition of council data. All 11 councils provided greenspace data in a range of different formats: polygons, spreadsheets and points were provided each with varying levels of accuracy and attributes. To start, the spreadsheets and points were converted to polygons using OSNI Fusion Basemap and satellite imagery. Once this was completed, the data was checked to ensure each polygon fitted within the definition of 'greenspace' for the layer i.e., comprised of mostly natural surface, accessible and useable to the public and greater than 0.5 hectares. Areas that didn't fit these criteria were removed using fields in the attribute table rather than being removed altogether as they could be used to highlight areas for development in the future. Other attributes were also added such as Category and Type of greenspace as well as brief access (facilities/parking etc) data where appropriate.

The final phase was centred around engagement with the sources of the data in the greenspace map and getting verification on the data to be included. This involved contacting the Government Agencies, Councils and eNGOs individually, showing them their data within the Greenspace NI map and adjusting as necessary. Three questions were poised against each greenspace:

- Is it accurate (especially relevant for those areas which has supplied point data or spreadsheets)?
- Is it accessible to the public (often this was already determined, however in some cases could not be concluded from maps and imagery)?
- Is it green (i.e., not an unnatural surface like tarmac or 3g pitches)?

For each source, access points were also requested for their data, however this was often difficult to obtain or didn't exist and was therefore done manually from desk-based analysis using trails, maps, and imagery (google street view).

Once verified, an attribute was added to reflect this to keep track of the process.

This stage was vital to ensure the data included was as accurate as possible and only included areas that fitted within the criteria of the Greenspace Layer. One further valuable part of phase 1.3 was getting internal verification from colleagues within ORNI. This helped to ensure that important data wasn't overlooked.

NI Greenspace Access Points

Access point data was collected during Phase 3 in order to improve the accuracy when carrying out proximity analysis. Having a layer of access points allowed for Network Analysis to be carried out from an actual access point rather than centroids for Greenspace polygons. One of the aims of Phase 3 was to obtain 'actual' access point data for all greenspaces from asset holders (e.g., landowners and land managers). 12% of access points were supplied by the source. For the other 88% of access points, three methods were used for collection:

- For porous sites such as NI housing Executive maintain greenspaces, points were created at 100m intervals around the polygons.

- Where a high quality and comprehensive network of trails existed (Forest Service and Belfast City Council), access points were created at intersections between a trail and Greenspace.

For polygons that didn't have access points using the above categories, they were created manually. This was done using a combination of maps, street view and datasets including transport networks and trail data. In some cases, ground truthing was also carried out. This method accounted for 32% of the access point layer.

NI Off-road Trails

The majority of trails in Phase 1 were sourced from Sustrans and ORNI, PRoWs accounted for a small number. These trails were uncategorised and included those on-road. By carrying out a spatial analysis against OSNI Transport data, On-road sections of trail were removed however due to inaccuracies in geometries, some trails were incorrectly omitted or included.

Phase 2 used an updated and refined layer of trail with the largest sources still being Sustrans and ORNI. However, ORNI trails had been refined during the redesign of the OutmoreNI website and therefore were more accurate. Added to this was some council trails which has been supplied, although these were often as polygons which had to be converted to lines before being added to the layer.

Another update from Phase 1 was the removal of trails with more than 50% On-road rather than removing on-road sections individually. This gave us a more complete layer rather than sections of trails.

Little adjustment was made to the trails data during Phase 3 however some further data was added, most notably Forest Service Roads. Where trails had been supplied by council, these were verified in the engagement process. Also, during this phase, existing data was compared to other sources of trail data in order to determine if there were any gaps. One method of doing this gap analysis was to compare the trails layer with Strava heatmaps, which highlighted many areas that are well used but weren't included. All Trails was used also: all routes within NI were compared against data in the map and added in where necessary.

A slightly different method was also used to determine if trails were Off-Road. Combined with the previous method from Phase 2, trails were manually checked against OSNI Transport Network data, and an attribute added to say if each trail was Off-Road. This created a large database of all trails in NI which can be filtered to the needs of the user. For the Greenspace NI Map, the 'On-Road' Field was set to 'False', and this data extracted into an Off-Road Trails Layer.

## 4. Applications for the GreenspaceNI Map

The GreenspaceNI Map can be used by anyone who has access to a Geographical Information System. Knowledge of how to use such programmes is also essential. Some examples of appropriate use of this data are listed below:

*Public sector* - Incorporated as a layer, the dataset can be used alongside asset location data (GPs, pharmacies, schools) and indicator data (population and deprivation), to help inform and support the strategic planning of services and physical assets across the health economy.

*Innovators and researchers* - NI's most comprehensive Open dataset of greenspaces can be used in a range of apps, products and innovations - providing the foundation to help create greener and healthier communities.

## Currency and update frequency

The currency of the product is **May 2023** and has an annual update cycle.

## 5. Usage and Disclaimer

The GreenspaceNI Map has been created with the most recent data available at time of publishing.

Best efforts have been made in the production of the GreenspaceNI Map to ensure the accuracy of the data, however as the data has come from a range of capture methodologies and scales, they may not reflect actual positional accuracy on the ground. There may also be a time lag between the content of the map at the time of creation and changes made on the ground.

These layers should not be used to determine exact boundaries of land ownership. Where 'source' of data is outlined, it should be noted that this is the supplier of the data input, it does not define ownership of the area. However, in some cases the source may be the landowner also.

Some assumptions and generalisations have been made to make the mapping process more feasible - polygons, points and lines have been aligned to Ordnance Survey NI maps. Exact details of each polygon, point or polyline have not undergone field validation so discrepancies may occur.

Although the layer only includes land where the public have access, not every polygon or polyline has complete public access and some areas may have restricted access. ORNI and its providers of open and derived data will not be held responsible for any loss, damage or inconvenience of any nature caused as a result of any inaccuracy or error within the data.