



## Northern Ireland Woodland Register and Basemap

Mapping forests and woodlands throughout Northern Ireland



## 1. Northern Ireland Woodland Register and Basemap

The Northern Ireland woodland register, published in April 2020, consists of tables showing the extent of woodland classified according to a broad range of forest and woodland types, and, variously, by the geographic area of Northern Ireland, its constituent counties, and Council areas, which are referred to as Local Government Districts (LGD). Areas given in the register are derived from a basemap (the Northern Ireland woodland basemap) maintained by the Forest Service using a Geographical Information System, or GIS. The basemap will be available on the Department of Agriculture, Environment and Rural Affairs (DAERA) Information Hub, and can be provided to external Northern Ireland Civil Service users on request, subject to a data sharing agreement.

The register was preceded by a draft version produced in 2012, which was updated periodically to reflect grant-aided afforestation and changes made within Forest Service forests. The current register features new and revised data on the location and boundaries of woodland, some of which was provided by stakeholders, including the Woodland Trust, the National Trust, DAERA Land Parcel Identification System (LPIS), Northern Ireland Environmental Agency, and Scottish Woodlands Ltd. Further improvements were made to legacy datasets, including re-classifying woodland types, increasing the accuracy of woodland boundaries, and removing areas of non-woodland previously recorded incorrectly as woodland.

For the purposes of the woodland register, the terms forest and woodland are synonymous, and refer to land covered by trees, excluding agro-forestry and orchards, and other non-forestry land uses, with a minimum area of 0.1 ha and an average width greater than 20m, and the potential to attain a canopy cover of greater than 20% and a tree height of more than 5m.

Forests and woodland types in the woodland register and basemap are recorded as broadleaf, conifer, mixed (conifer and broadleaf), short rotation coppice, or unknown type. Additional categories, such as areas awaiting replanting or awaiting natural regeneration, and open ground considered integral to the woodland (e.g. forest roads, glades, rides and fire breaks) are also included.

Under the Forestry Act (Northern Ireland) 2010, a revision of the register is required at intervals of no more than 10 years. Annual updates will be made to include areas planted under the Forest Service Forest Expansion Scheme and other afforestation programmes. Periodically, updates may incorporate further refinements, for instance, in order to make use of new datasets and different methodologies.



## 2. Methodology

The woodland register was produced using GIS techniques to create a basemap as follows:

- Collating GIS datasets made available by public bodies and other organisations, including data used for regulatory or land management purposes
- Extracting areas of woodland from each dataset that corresponded to the Forest Service definition of forest and woodland, as specified during the preparation of the draft version of the register
- Combining datasets using geoprocessing tools to remove duplicate woodland polygons and areas not meeting forest and woodland definition criteria
- Visually assessing areas of woodland greater than 5 ha in each dataset against the most recently available ortho-photography to classify forest and woodland type where necessary, and adding areas of unrecorded woodland that meet the Forest Service woodland definition.

## 3. Validating the basemap

A spatial dataset was created for a reference area consisting of approximately 13,000 ha located to the north of Lower Lough Erne in Co. Fermanagh. Within this reference area 1,540 ha of woodland meeting the Forest Service forest and woodland definition was identified and was used as a benchmark to evaluate the reliability of the register and basemap.

Although this qualitative evaluation confirmed a high degree of accuracy between the reference dataset and the woodland basemap, the reference area was found to include 150 ha (10%) more woodland, due to a combination of unrecorded areas, incorrect land use classifications, and boundary errors. This indicates the potential for a further upward revision of the area of woodland in the register and basemap using remote sensing or other means.

## 4. Forestry statistics

Presently, the woodland register and basemap estimates the forest cover in Northern Ireland at 8.7%<sup>1</sup>. A summary of statistics extracted from the register is shown in Table 1. Information on percentage woodland cover by County and LGD is available via the woodland register link<sup>2</sup>.

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<sup>1</sup> Based on the land area estimation by Ordnance Survey of Northern Ireland

<sup>2</sup> <https://www.daera-ni.gov.uk/publications/woodland-register>



Table 1 – Woodland area (in hectares) by woodland type for Forest Service and non-Forest Service woodland.

Woodland type/Ownership type	Forest Service	Non-Forest Service
Conifer	49631	5085
Broadleaf	4903	33304
Mixed (conifer and broadleaf)	1841	12568
Regenerating	2953	0
Open ground	3113	0
Short rotation coppice	0	777
Not known	0	4206
<b>Total (ha)</b>	<b>62441</b>	<b>55940</b>
<b>Combined total (ha)</b>	<b>118381</b>	

Using a GIS, the woodland basemap can be used to generate information on the distribution of different forest and woodland types by broad geographic areas, such as County, or LGD and bespoke maps can be created (Fig. 1).

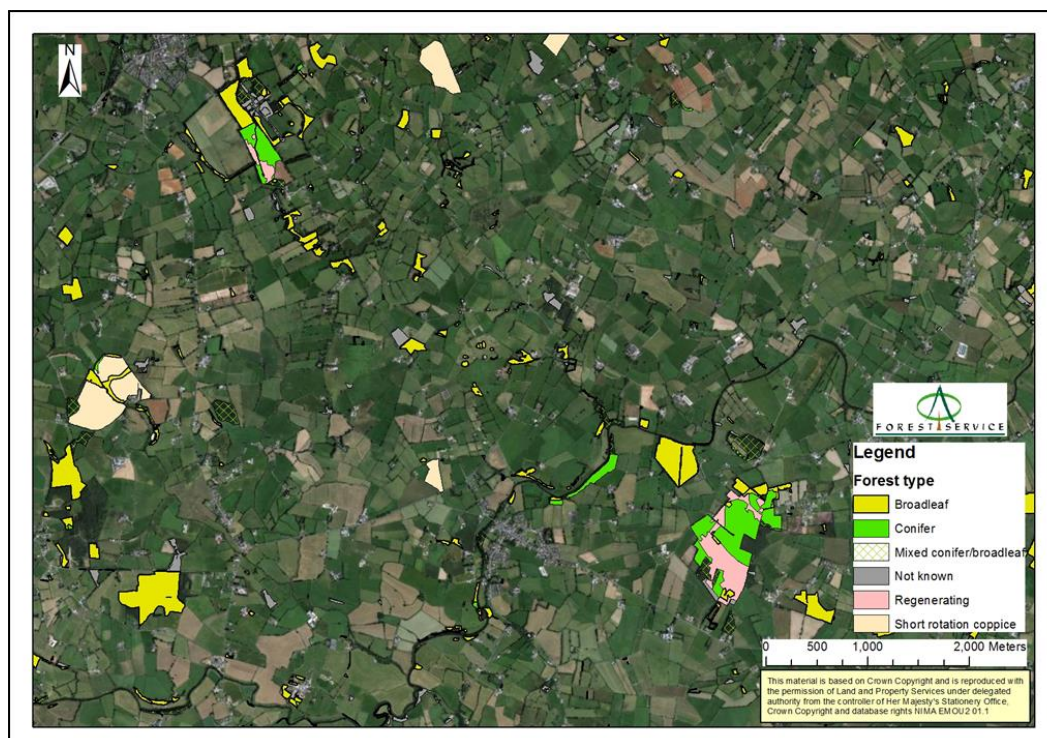


Figure 1. An example of the spatial information contained in the woodland basemap.



## 5. Uses of the woodland basemap spatial dataset

The woodland basemap enables GIS users to retrieve information on the extent of forest and woodland in a given area and facilitates development planning and environmental assessment activities. This spatial dataset is available without charge and can be obtained by emailing [forestservicegis@daera-ni.gov.uk](mailto:forestservicegis@daera-ni.gov.uk).

## 6. Conclusion

The woodland register and basemap enables the extent and location of public and privately owned forests and woodlands to be recorded and classified in an accurate and reproducible manner to facilitate the sustainable development and management of Northern Ireland's forestry resources.

The woodland register provides a useful basis for monitoring woodland expansion, using datasets that are periodically updated by public bodies for regulatory purposes, and indicates that the area of forest and woodland in Northern Ireland has continued to increase since the publication of the draft woodland register and basemap in 2012.

### Acknowledgements:

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