The inventory of ancient and long-established woodland sites and the inventory of semi-natural woodlands (provisional)

1. Introduction

The natural heritage value of ancient semi-natural woodlands has been widely recognised. Their ecological and historical significance has been described by Rackham (1980), Peterken (1981) and others. Special management guidelines have been developed to maintain the distinct character of ancient semi-natural woodlands (Forestry Commission 1996).

2. Background

In response to a 1980 select committee which recommended that ancient woods should be recognised and treated as a separate category, the Nature Conservancy Council for Scotland (NCCS) compiled the Inventories of ancient, long-established and semi-natural woodlands. A more sophisticated classification was developed for woodlands in Scotland due to the nature of the available historical sources. The inventories were first published in 1987 and have been widely used for woodland management, local planning and strategic policy development.

3. Digital capture

A decision to capture the inventories digitally was taken in January 1994. A pilot study was undertaken to specify precisely the process required. Apart from the technical details, the pilot showed that there were occasional discrepancies in the original inventories. Most of these occurred between adjacent 10 km squares. Given the size and complexity of the digitising process these discrepancies were identified but not corrected (alterations require reference to sources at the National Map Library of Scotland). A follow-up project to make these corrections has been submitted for completion during 1997/98.

The inventories have been clearly separated from each other. This is preferable for technical reasons and desirable for the further development of the inventories, particularly the semi-natural component.

In order to avoid delay in the use and application of the inventories the unrevised first versions (V1) have been released and distributed via the SNH local GIS facility. However, users should be aware of the provisional nature of the information and that there will be significant alterations in the next release of the inventories (V2).

In order that staff may use and interpret the inventories correctly a short account of the original compilation work is given:

Summary of the original methodology and definition of inventory categories

The original inventories in fact comprised of three distinct components:

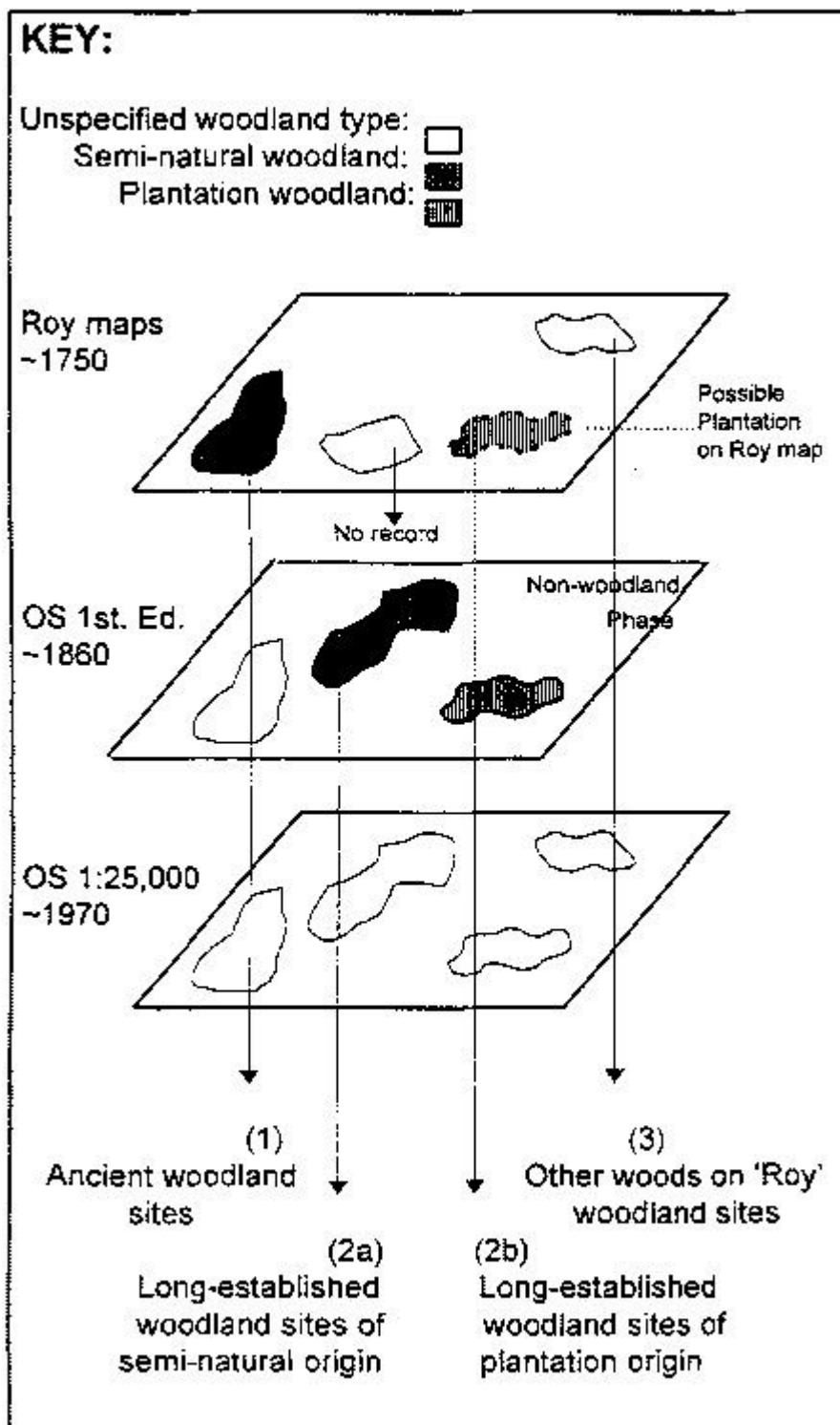3.1. Antiquity of woodland sites

3.2. Other woods

3.3. Current status (Semi-natural or plantation)

3.1 Antiquity of woodland sites

In the compilation of the inventories the continuity of woodland cover at a wooded site was determined by evidence from contemporary (OS 1970's 1:25,000 series) and historical maps (OS First Edition c.1850 and The Military Survey of Scotland - 'Roy maps' - c.1750). Four categories were identified and figure 1 (below) illustrates how these categories were determined from the three map sources.

Figure 1. Illustration of the definition of inventory antiquity categories.

KEY:

Unspecified woodland type:
Semi-natural woodland:
Plantation woodland:

Roy maps ~1750

Possible Plantation on Roy map

No record

OS 1st. Ed. ~1860

Non-woodland Phase

OS 1:25,000 ~1970

(1)
Ancient woodland sites

(3)
Other woods on 'Roy' woodland sites

(2a)
Long-established woodland sites of semi-natural origin

(2b)
Long-established woodland sites of plantation origin

Ancient woodland (1)

Ancient woodland (1)

Sites shown as woodland on all available map sources from 1750 onwards and as semi-natural woodland on the 1750 'Roy' maps.

Long-established woodlands of semi-natural origin (2a)

Sites shown as semi-natural woodland in c.1860 (i.e. those on the OS First Edition maps) but not shown as woodland on the 1750 maps. These are woodlands that have apparently arisen between 1750 and 1860.

Long-established woodlands of plantation origin (2b)

Sites shown as plantation woodland in c.1860 but not shown as woodland at all in 1750 or shown as plantation on these maps. These are woods that were apparently planted before 1860.

Other woodlands on 'Roy' woodland sites (3)

Sites which were shown as unwooded c.1860 but which were present as woodland in c.1750. Such sites have had only a short break in continuity of woodland cover.

The identification and classification of this set of woods was the primary purpose of the inventory exercise and was completed for all Scotland. The inventories were based on woodlands over 2 hectares which were shown on the OS 1970 1:25,000 maps. Users should note:

- Antiquity categories describe the continuity of woodland cover at a site and not the age of the trees themselves. Thus an 'Ancient Woodland' site may comprise coniferous plantation by means of recent felling and re-planting.
- Large areas of woodland on the baseline OS 1970 maps were not included in the inventories because there was no evidence for their existence on the historical maps.
- Woodlands recorded on historical maps but not shown as woodland on the OS 1970 maps were not included in the inventory.
- The number and area of Ancient Woodlands (1) are likely to have been underestimated because of uncertainties which have arisen over the extent of woodland actually shown on the 'Roy' maps. A 'green' wash believed to represent woodland occurs on the original maps but was not visible on the copies used in much of the inventory work (Roberts *et al.* 1992). In their analysis of the inventories, Roberts *et al.* used a classification which combines Ancient (1) and Long-established of semi-natural origin (2a).
- Roy (1785) described his map as 'rather … a magnificent military sketch than a very accurate map of a country'. The surveyors, being soldiers, probably took greater care in mapping woodlands (a source of fuel and cover) which were close to strategic features.

3.2 Other woods

A fifth category 'Other woods' was introduced to enable the original inventories to store information about woodlands which were known to be important in terms of their nature conservation value but did not have any map evidence of continuity at the site. These were often small woods in narrow valleys which had been omitted from maps.

This 'inventory of other woods' was not the primary purpose of the inventory exercise and was not completed in great detail. This category can most usefully be thought of as the set of high conservation value woods that were known to NCCS at the time of compilation and were given a home within the inventories.

3.3 Current status

Current status was a different inventory and was super-imposed over the set of woodlands described above. Derived from a variety of sources (aerial photographs, FC stock maps, survey records etc.). Current status was defined:

(1) Semi-natural and (2) Plantation

The semi-natural/plantation distinction was shown on the inventory maps as hatched for plantation and un-hatched for semi-natural woods. This theme adds significant information on the current conservation value of a woodland.

The most important woodlands in natural heritage terms are those which are defined as Ancient AND Semi-natural.

The inventories do not include all woodland that has arisen c.1860; the majority of recent plantations have been omitted, as have any semi-natural stands for which there was no available historical or ecological information (Roberts *et al.* 1992).

4. The revised inventories

The inventories have been de-coupled into two distinct inventories: an 'Antiquity' theme and a 'Semi-natural' theme.

4.1. The inventory of ancient and long-established woodland sites

This includes all the woodland antiquity information from categories 1, 2a, 2b and 3. For the first version of the dataset category 4 has been retained, but in future versions this information is likely to be removed and transferred into the inventory of Semi-natural Woodlands.

Categories 1 (ancient woodland) and 2a (long-established woodland of semi-natural origin) have been combined into a single category of ancient woodland. There are two main reasons for this: (i) to take account of the uncertainties during compilation mentioned earlier and (ii) this definition of ancient woodland is closer to that applied in England and Wales (which is important for consistency across the UK).

The inventory of Ancient and Long-established Woodland Sites, because it is defined by three sets of historical maps, will not change over time (except for errors in compilation and over the longer term a new antiquity category may be required for woodlands which are re-established on previously wooded sites).

4.2. The inventory of semi-natural woodlands

This includes all the Semi-natural information from categories 1, 2a, 2b, 3 and 4.

Semi-natural woodlands can change relatively quickly over time by the establishment of new native woodlands and changes in the management of existing woodlands.

It is recognised that the present Semi-natural Woodland inventory suffers from omissions and could benefit from updating. The separation of the inventory will enable new information to be added from a variety of sources such as:

- The new FC census (based on LCS88 + FE and FA/WGS additions)
- The LIFE Caledonian Partnership work
- New information from local native woodland initiatives
- Woodlands identified from SNH and FA casework as valuable for conservation
- Woodlands which have naturally regenerated since the OS 1970 map series

4.3. Using the digital inventories

The main change would be that the two new inventories would need to be consulted in tandem rather than referring to a single map source as is the case at present. Using a digital version, this task will be relatively easy since the inventories can be overlaid and interrogated within a GIS.

Each inventory contains some common attribute data fields. These are:

Edge_id and *Wood_id*: wood_id is a unique identifier for each record in the original database; edge_id is a temporary field used to link common polygons across ten kilometre square boundaries. Both these fields will change in version 2.

Hectare gives the area in hectares for each individual polygon.

District, Tenkmsq and *Site_no* are the original key fields and can be used to relate back to the published paper versions of the Inventories. Note that some of the original multiple records have been consolidated in single records. This occurred where a single polygon crossed one or more ten kilometre square boundaries and had two or more records.

In the Inventory of Ancient and Long-established Woodland Sites there are two further attribute fields:

Orig_name contains the names (in text) of the antiquity categories. Note that in this field, 'Long-established woods of semi-natural origin' have been reclassified as 'Ancient'.

It is recommended that this field is used when shading the coverage in ArcView.

Orig_id contains the codes (1, 2a, 2b, 3 and 4) corresponding to the original categories. Therefore this field contains the same information as orig_name but can be used to discriminate between the old definition of ancient (1) and the new definition (1 and 2a combined).

Note that the inventory of Semi-natural Woodlands contains only the boundaries of semi-natural woodlands: the category 'plantation' in the original Current status classification has been omitted.

5. Availability

The digital inventories are available to SNH staff via the local GIS facility.

With regard to external organisations, SNH policy on the distribution of digital data is currently under review. Any organisations or individuals who express an interest in obtaining a digital copy of the inventories should be referred to the dataset manager in the first instance.

Paper-based versions of the inventories will be printed once version 2 of the inventories

has been produced.

Copyright of inventory data is held by Scottish Natural Heritage and normal restrictions apply.

6. References

Forestry Commission 1996. *The Management of Semi-natural Woodlands.* Forestry Practice Guides (Nos. 1-8) Forestry Commission, Edinburgh.

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