For publication

A National Orchard Inventory for Scotland

Area Report for:
Scottish Borders

Collaborating Organisations:
Borders Forest Trust

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prepared by
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Project national partners:
Scottish Natural Heritage
Orchard Research & Enterprise CIC

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Scottish Natural Heritage
Dualchas Nàdair na h-Alba
All of nature for all of Scotland
Nàdar air fad airson Alba air fad

This document reports on work carried out under contract to Scottish Natural Heritage.

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Lorna Gibson, former GIS Officer at Crispin Hayes Associates who made a first deskstudy assessment of nearly two thousand sites across Scotland.

Thanks for all your contributions

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Summary

Keywords

orchard; fruit tree; top fruit; apple; pear; plum; undercrop; EUNIS G1.D4; Scottish Borders; Selkirkshire, Roxburghshire, Berwickshire, Peebleshire.

Background

There has been growing interest in traditional orchards in Scotland for a little over a decade. This interest has a great breadth; from cultural heritage and horticultural practice, to historic varieties and the gradual disappearance of this unusual Scottish habitat.

The National Orchard Inventory for Scotland Project aims to create a comprehensive orchard inventory for the nation. This has probably not been attempted for over a century, perhaps since the 1885 Congress. The rationale that underpins this aim is that an Orchard Inventory will form the basis for addressing a number of issues linked to the decline of orchards over the last four decades and create a strong foundation for their revival. Simply put, we need to know what's where in order to change the downward trajectory.

The project began in 2013 with a pilot study which since then has received funding support from Scottish Natural Heritage. The programme has grown since that time to add further phases so that at the time of writing more than half of Scotland's orchards have been surveyed and recorded. The national project is reported separately, and is available at the project website www.scotlandthefruit.org.uk

Main findings

- A total of 138 orchard sites were surveyed, of these 96 were found to be intact orchards.
- The total acreage of orchards remaining in this area was found to be 24.7 ha and the average area of each orchard was 0.31 ha.
- The survey showed around a third orchards have been lost, and this has been offset to a certain extent by newer orchards. However the lost orchards are the larger mature ones that had high cultural and biodiversity value.
- Most of the orchards contain less than 30 trees and are in a domestic setting. Three larger orchards of commercial size are recorded.
- Though apple dominates, most orchards contain a diverse mixture of fruit species, reflecting their domestic use.
- The tree stock contains trees of all age ranges, but is skewed towards more mature trees.
- Veteran tree features indicate the orchards contain high levels of biodiversity.
- The majority of orchards have some or active management, and this is at a higher rate than typically found elsewhere in Scotland.
- Many orchards have new plantings and younger trees, and this shows orchards renewal is occurring.
- Soft fruit and also vegetables are grown in a small number of orchards. This is at a lower level than much of Scotland.
- Most fruit is used for family and friends, some is sold commercially and some is left to waste.
- Livestock is grazed in a handful of orchards, these mainly being fowl, sheep and cattle.
- The qualitative data demonstrates the depth of history; cultural, economic and otherwise, that this area is custodian to.

To conclude, the Borders contain a large number of mid-sized orchards, most of which are quite actively managed and from which the fruit is used within the domestic setting. There are a handful of larger orchards which sell their fruit. Some of the historic large mature orchards that were once present are lost, but a significant number still remain.

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1 INTRODUCTION

There has been growing interest in traditional orchards in Scotland for a little over a decade. This interest has a great breadth; from cultural heritage and horticultural practice, to historic varieties and the gradual disappearance of this unusual Scottish habitat.

The National Orchard Inventory for Scotland Project aims to create a comprehensive orchard inventory for the nation. This has probably not been attempted for over a century, perhaps since the 1885 Congress. The rationale that underpins this aim is that an Orchard Inventory will form the basis for addressing a number of issues linked to the decline of orchards over the last four decades and create a strong foundation for their revival. Simply put, we need to know what's where in order to change the downward trajectory.

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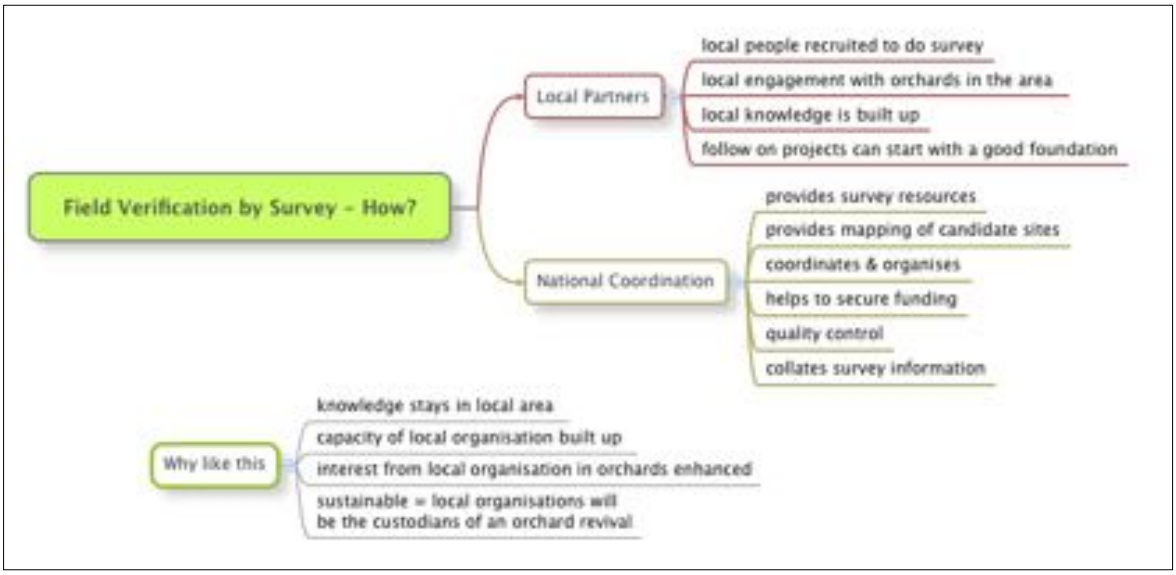
This document is one of a series of reports that provide results for particular areas, which are usually coherent with the local authority domain. The purpose of producing these 'Area Reports' is to make results relevant to local organisations and local people. It is intended to raise awareness about their orchards and their cultural heritage, and to identify issues that may be contributing to their decline and, in some cases, revival.

2 COLLABORATION

The national project is structured to partner collaboratively with local groups. Resources, systems and coordination are provided nationally, fieldwork is organised and carried out by the local collaborating organisations.



The graphic shows what each partner brings to the field survey work. The reason why we have structured the project like this is also shown. We want knowledge to be retained locally so that capacity is built and a sense of ownership and interest in local orchards is strongly established. We think this will be the most sustainable way to create a foundation for an orchard revival.

As a project partner, the local collaborating group has a copy of the data collected in their area.

3 BACKGROUND TO THE AREA

The Scottish Borders have a close connection to the orchard heritage of Scotland. The Borders are home to many of the religious houses that arguably brought pomology, the practice of growing fruit, to Scotland. For example Kelso Abbey (order from Tiron, France), Melrose (Cistercians, from France/Italy) and Jedburgh (Augustinians). From the Borders, these Orders subsequently went on to take their knowledge to lands adjoining the Forth and Tay estuaries including the Carse of Gowrie in Perthshire - one of Scotland's great orchard areas.

There are many different landscape types and local climates in the Borders. Clearly upland areas are unsuited to growing fruit. The lowland parts of the broad catchment of the River Tweed are however much more suited - Coldstream, Kelso, Melrose. This latter area also enjoys more sunshine and less rainfall than other parts of the Borders.

Most of the Scottish Borders has been covered by the work reported here. Although it is not exhaustive, it does represent a good picture of the orchards in the area.

4 METHODOLOGY

The methodology for the project (of which this area is a subset) is described in Annex 2.

To summarise, a two stage approach is adopted.

1. A deskstudy is carried out, looking for orchard sites from mapping, historical data, existing surveys and other sources. This is collated on a Geographical Information System. Each site is given a unique number and a location map created. Nationally the deskstudy considered 1859 sites of which 1728 were considered candidates for field verification.

2. Field verification. Each candidate site was visited and surveyed by a volunteer surveyor. Photos were taken where possible. The survey results were submitted to the national project.

Finally the results are collated and reported.

The Local Facilitation for this area was provided by Anna Craigen of Borders Forest Trust.

Time input for field verification work is reported in Annex 2.

5 STRUCTURE OF RESULTS

The results are structured in this report in three distinct sections:

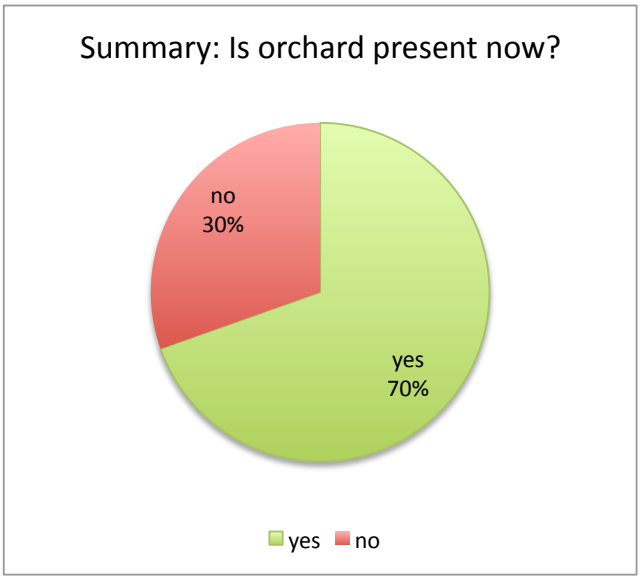
- Numeric and classification information (quantitative), together with overall conclusions.
- Anecdotal and comment information, qualitative aspects.
- Representative photo gallery. A collection of photos with descriptive captions that illustrate the orchards of the area.

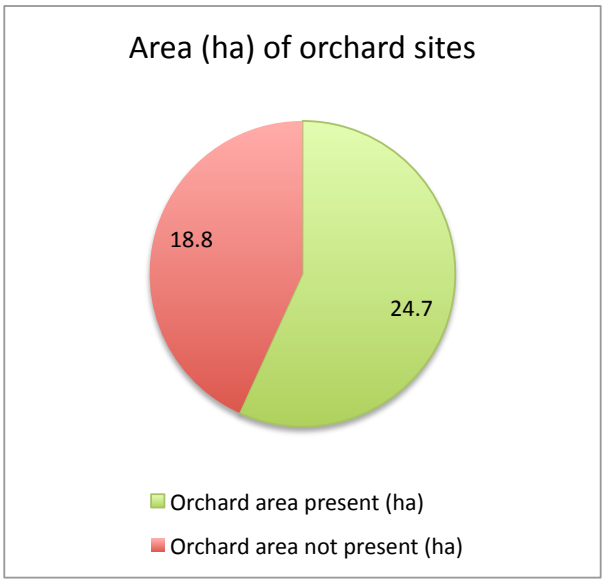
Photos have been submitted for a total of 104 sites.

6 NUMERIC AND CLASSIFICATION INFORMATION

Quantitative Data Results

We have analysed the data collected and have turned it into a more presentable form by creating a graphical output. In the section below, those graphs are presented with a commentary.





The graphs above show the headline results of whether orchards were found to be present on candidate sites (left pie chart), and the total associated area (right pie chart).

Field surveywork was completed for this area for 138 candidate sites. Of that number, 96 sites were found to have an orchard present and of those 9 were new orchard sites, the balance resulting from our deskstudy. Our definition of an orchard is a collection of 5 or more fruit trees in proximity. By 'new sites' we mean sites not identified in our deskstudy - so new to us. Many, though not all, are recently planted orchards.

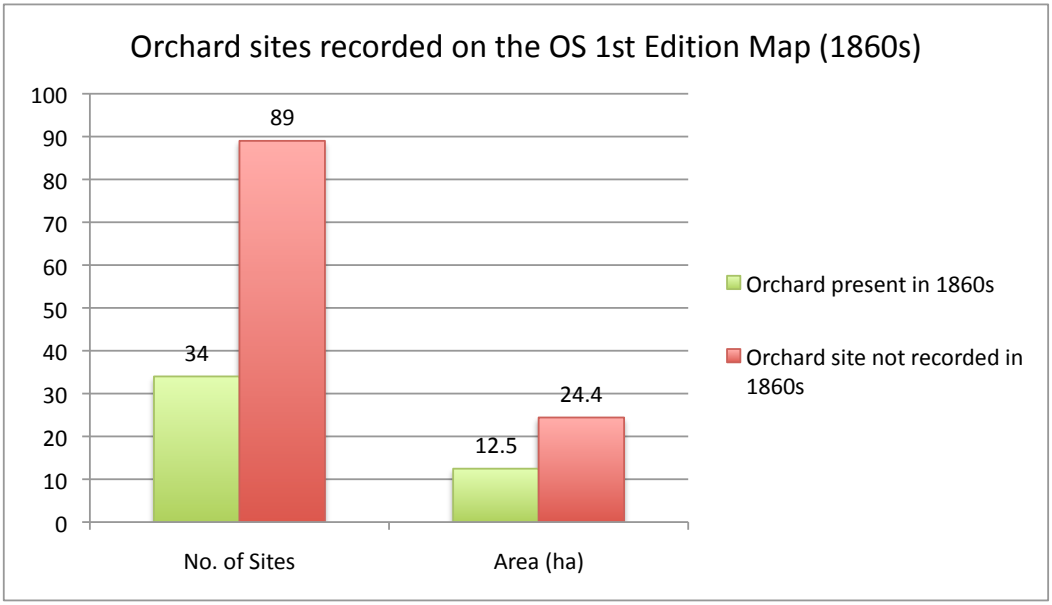
The fieldwork also found that a total of 42 sites were not orchards at the time of survey. Most of these latter sites were identified in the deskstudy as likely to be orchards from mapping, historical, or previous survey data. As such it is likely to represent some of the loss of orchards.

A further 2 site(s) were visited where it was not possible to gain access or make a determination as the existence of an orchard.

In terms of the acreage of sites, the fieldwork found that 24.7 ha of the orchard sites were present in Scottish Borders. This represents 57% of the total area of deskstudy + new orchard sites. The average area of an orchard is 0.31 ha.

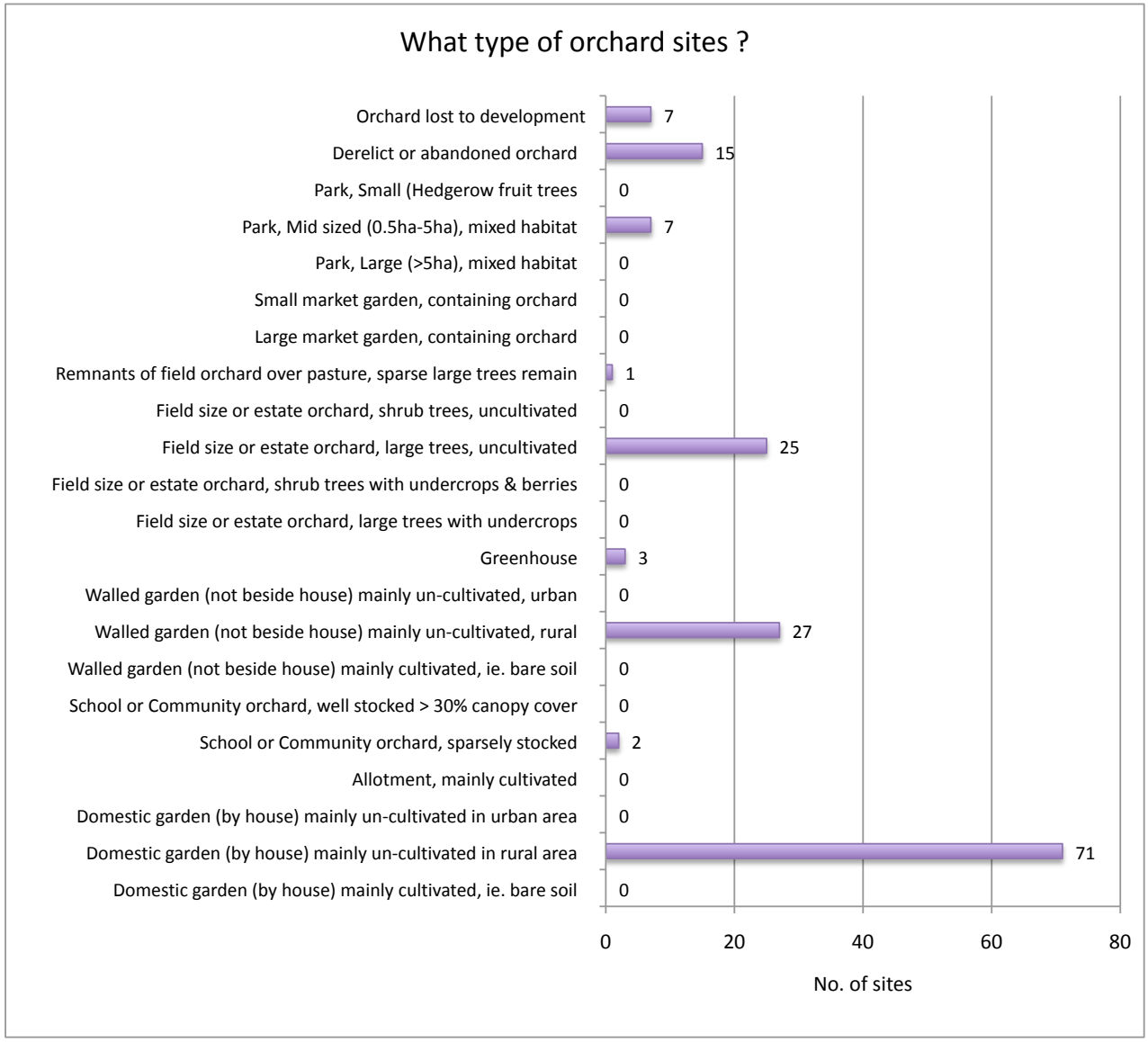
The graphs show that there has been some loss of orchards, both in terms of numbers and total area. It has been partly offset by newly planted orchards. The loss is significant because it has occurred in many of the large mature orchards that have historical as well as high biodiversity value.

For a historical perspective on the significance of this trend we have also analysed the OS 1st edition data which was assessed for each site during the deskstudy. The OS 1st edition was surveyed in the late 1850s and early 1860s, and covered most of Scotland and was very detailed. It represents a good resource for historical analysis.



In Scottish Borders a determination for the presence of an orchard on the OS 1st Edition was made for a total of 123 candidate sites. The graph shows that of these, a total of 34 candidate sites were an orchard. The total area for these orchard sites was 12.5 ha in 1860s.

These data represents an interesting story for the Scottish Borders area. Most of the orchards recorded appear to have been planted since the 1860s. Of those the 34 sites that were recorded in 1860, and that the deskstudy indicated there was a reasonable chance an orchard remained on site, the fieldwork found that on 14 of the 34 sites no orchard was present. This represents a loss of a significant minority of the most ancient of the area's orchard. Conversely, that 20 still remain is to be welcomed, and these sites should be valued especially for their cultural as well as horticultural heritage.

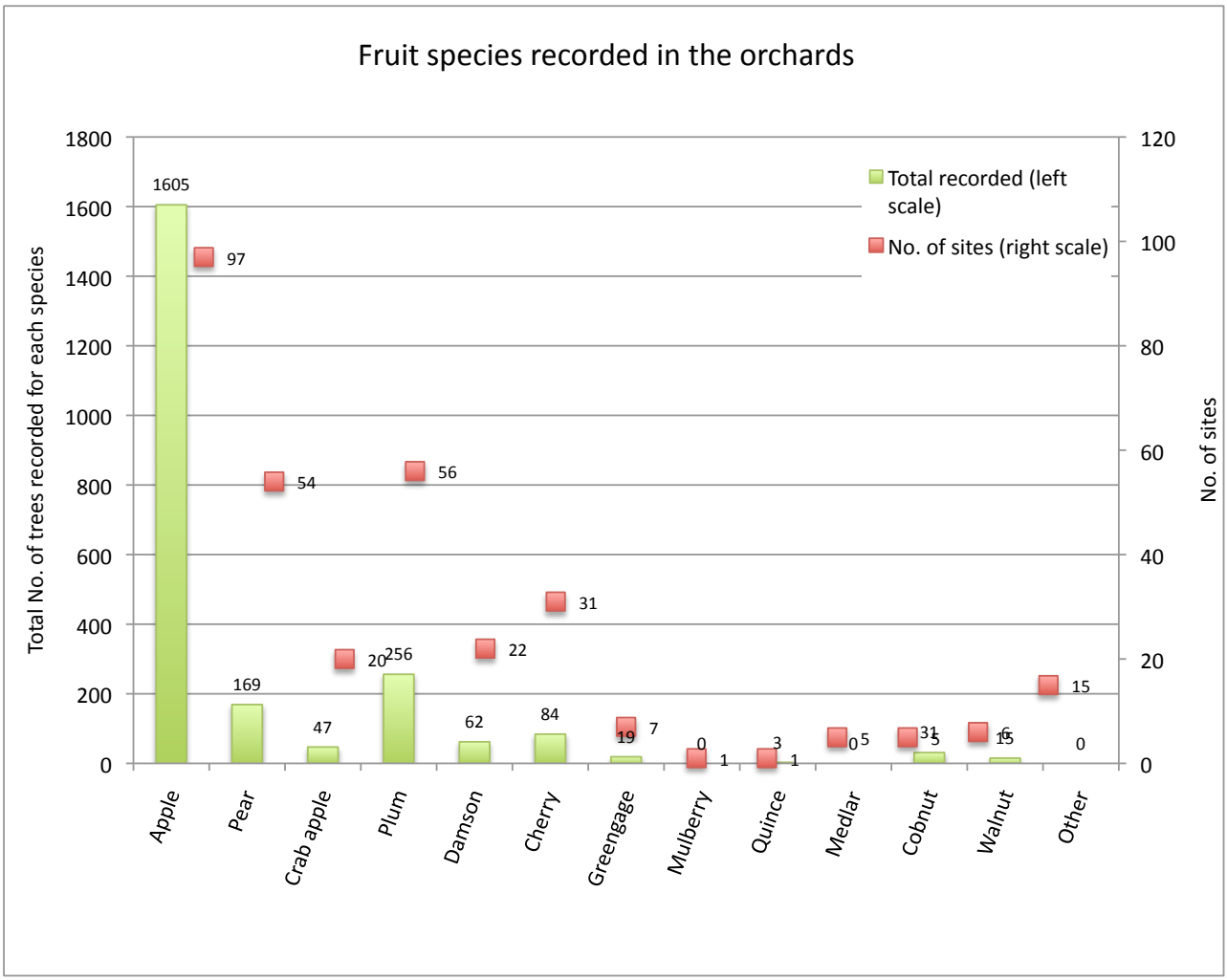


The type of site was recorded as a simple metric that can give a powerful insight into the type of orchard being considered, as well as assisting in the habitat classification using the European Nature Information System (EUNIS). Hence the apparent complexity of site types.

The graph shows the largest classification is for types of domestic orchard by houses. The second largest classification group is for walled garden orchards. Thirdly field size or estate orchards are also recorded in significant numbers. A number of derelict or abandoned or lost to development orchards were recorded. It should be noted that this fieldwork was carried out before we implemented a EUNIS based site classification system, and we have mapped the previous classifications onto a simplified EUNIS system, hence e.g. the single metric for domestic gardens.

Stewardship and Agricultural Payments

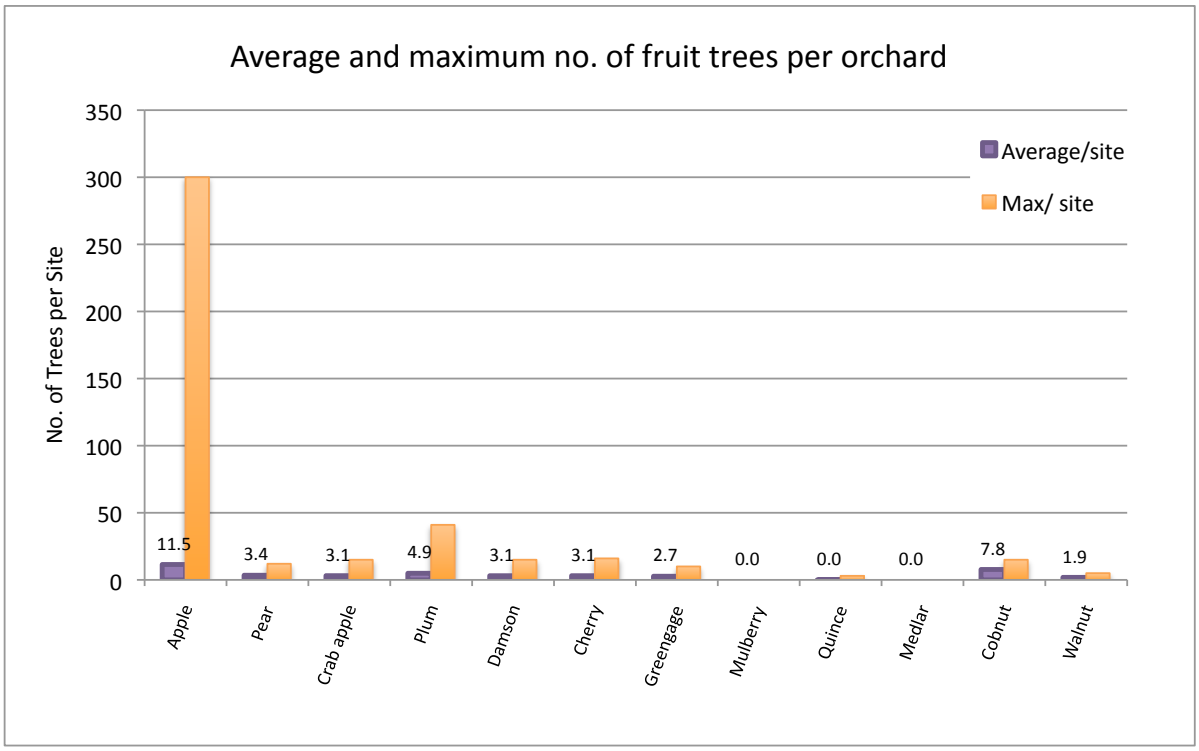
In the area being considered, it has been reported that no orchard(s) are part of a Stewardship scheme. In terms of orchard sites where an agricultural subsidy is being claimed, the survey found 1 orchard(s) were registered within the Integrated Administration and Control System (IACS) which relates to EU agricultural payments. This figure is probably an under-representation as there is some incentive to classify the land as other than an orchard.



A broad range of top fruit species were recorded to gain a full picture of fruit produced. The green columns (left scale) represents the total number of trees recorded for each species in the area being considered. The red markers (right scale) represent the number of orchards in which that data was collected. In some cases it was not possible to determine numbers for individual species in an orchard, so the total number of sites surveyed is likely to be greater than the maximum number of sites recorded here.

The total number of individual trees recorded in the survey was 2291. We also recorded a size range for each orchard. An estimate of the total number of trees from this size range data is 2405. This demonstrates reasonable agreement, given that number of individual trees is not always recorded in every orchard.

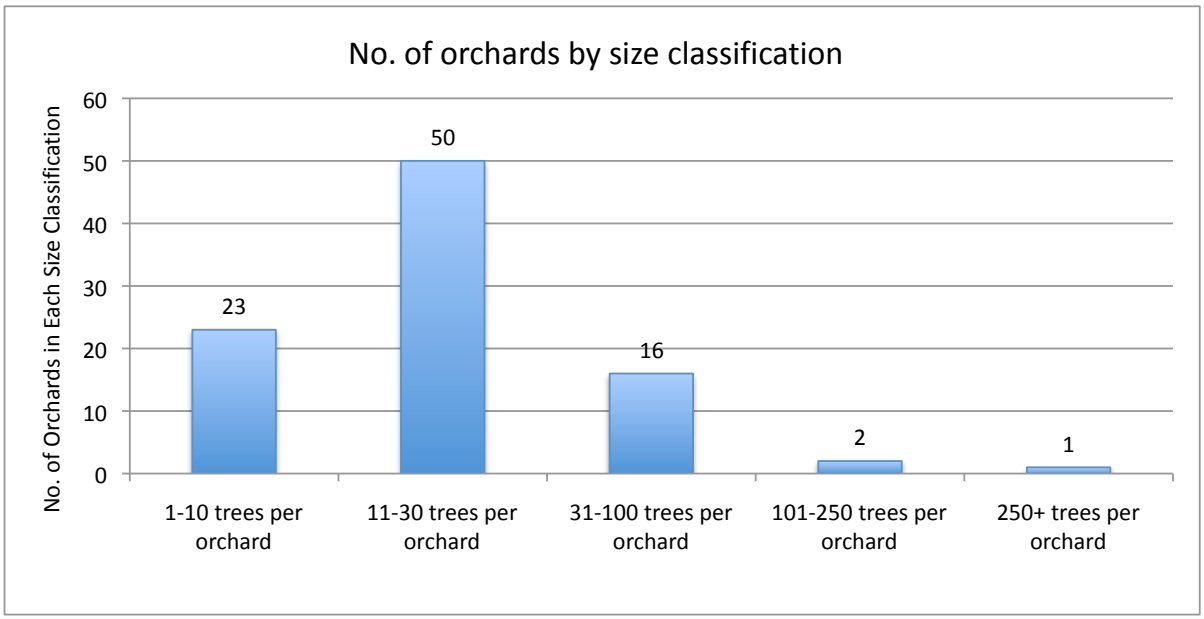
The graph tells the story of this area. The apple dominates in the orchards recorded as part of this survey, being present in all orchards. Plums are the second species, though many fewer than apples. Thirdly, pears are found in about half of orchards, but in lower numbers. There are a mixture of other species commonly found but only at a subsidiary level.



The graph above represents the average and maximum number of each species in the orchards of the area. It does not represent the typical stocking of an average orchard.

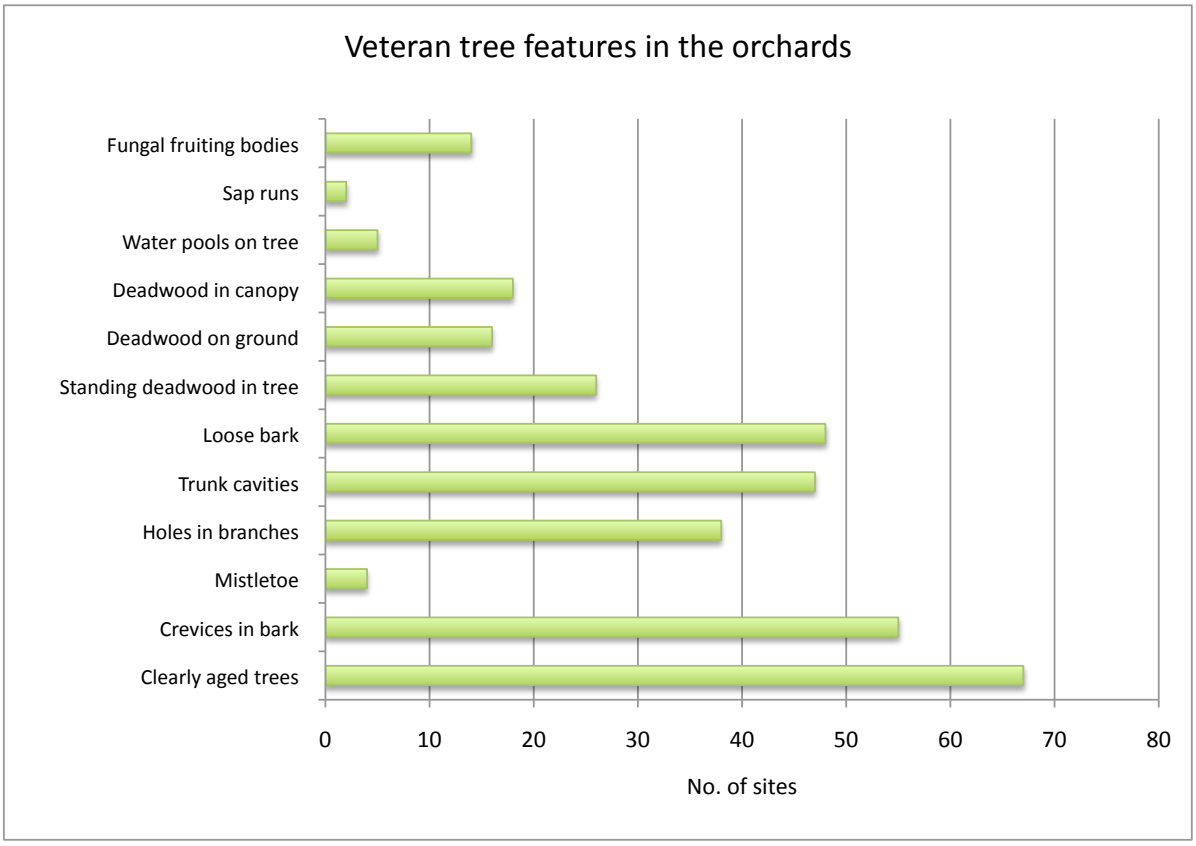
The short purple column on the graph show the average number of each species in the orchards. The taller orange columns show the maximum number of a species found in any orchard in the area.

The high numbers for the orange columns, especially apples, reflect the largest site. The purple (average for each site where it is present) provided a more realistic picture of the typical contents of a Borders orchard. This shows that orchards are typically mixed, with apple as the main species, and then a number of other species in support. For occasional species such as cobnut, the average is a reflection of that found on just a few sites.



As well as asking how many individuals of each species of tree were present, we also wanted a general sense of the size of an orchard, and therefore size range classification was recorded, as shown in the graph above.

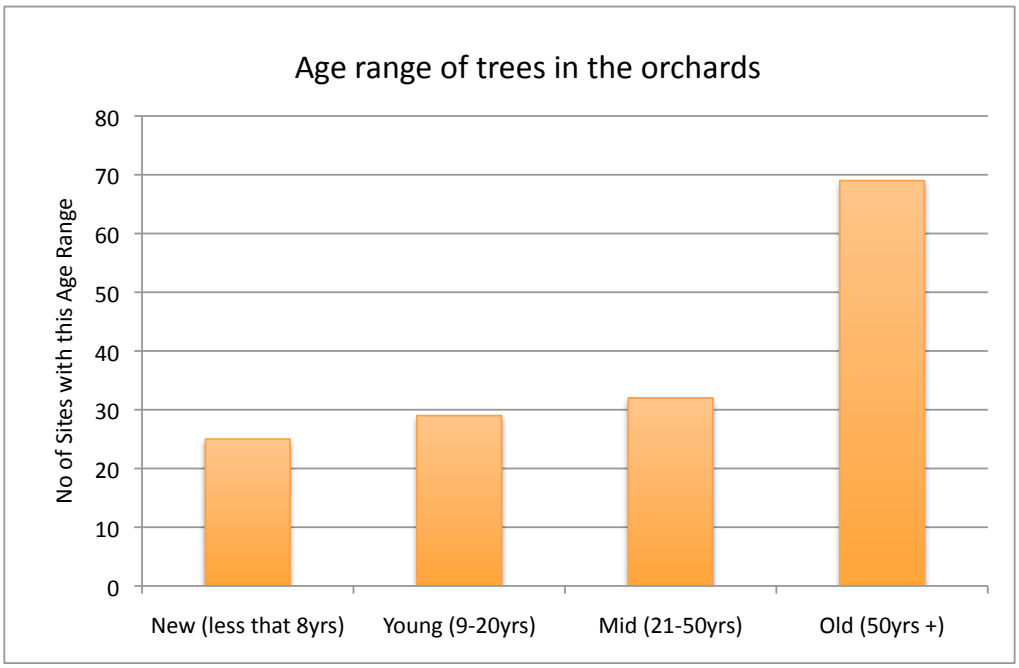
The graph shows that vast majority of orchards had 30 fruit trees or less. A few have up to 100 trees. Only 3 orchards have more than 100 trees which we consider to be a commercial size. There are a higher number of mid-sized orchards than many other parts of Scotland.



Veteran tree features are used as biodiversity indicators. Therefore the more veteran tree features present, the higher the likely biodiversity in the orchards. There was a total of 340 veteran tree features recorded in the orchards in this area. This demonstrates significant biodiversity.

Its useful to assess how mature the trees in an orchard are. We consider trees over around 50 years old to be mature. Mature trees of older varieties generally are more established in terms of their steady yield. However, there is also potential for more disease. A further dimension is that orchards with mature trees have greater biodiversity potential.

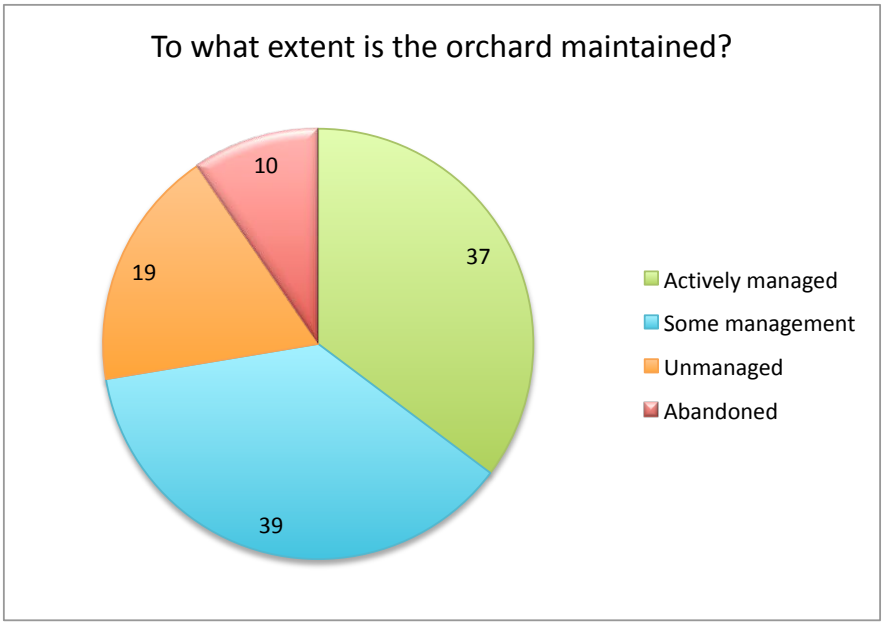
The average proportion of older trees for the orchards was 57%. This figure was calculated from the 95 sites where data was recorded. There will however be a great variability with some orchards being entirely mature, and some being entirely young.



The age of trees contained in each orchard was recorded. Ages were grouped into 4 categories to simplify the assessment in the field.

Each orchard may contain a number or all the age ranges reflecting the plantings over the years. Predominantly old trees indicates a mature collection of orchards. If no new or young plantings are recorded in an area, this indicates that the presence of orchards in the area is potentially threatened.

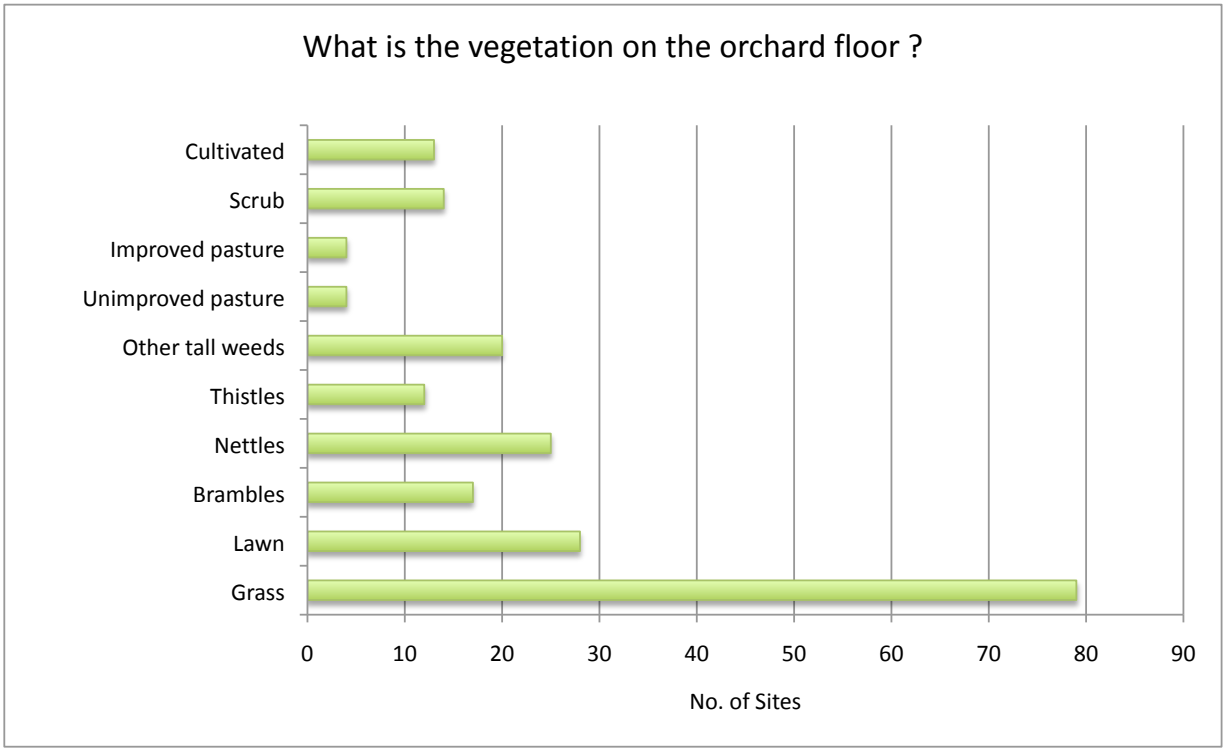
The graph shows all age ranges being represented and an indication of the former glory of the area is shown by around 70 sites having mature trees greater than 50 yrs old. Though there has been some loss of orchards, it is reassuring that significant numbers of new plantings are recorded.



The extent of orchard management is given above. A total of 105 sites have data recorded for them. The figures in the chart are the number of orchards determined to be in each particular category.

The graph shows that most orchards have some or active management. This demonstrates higher levels of orchard management than are found in many parts of Scotland.

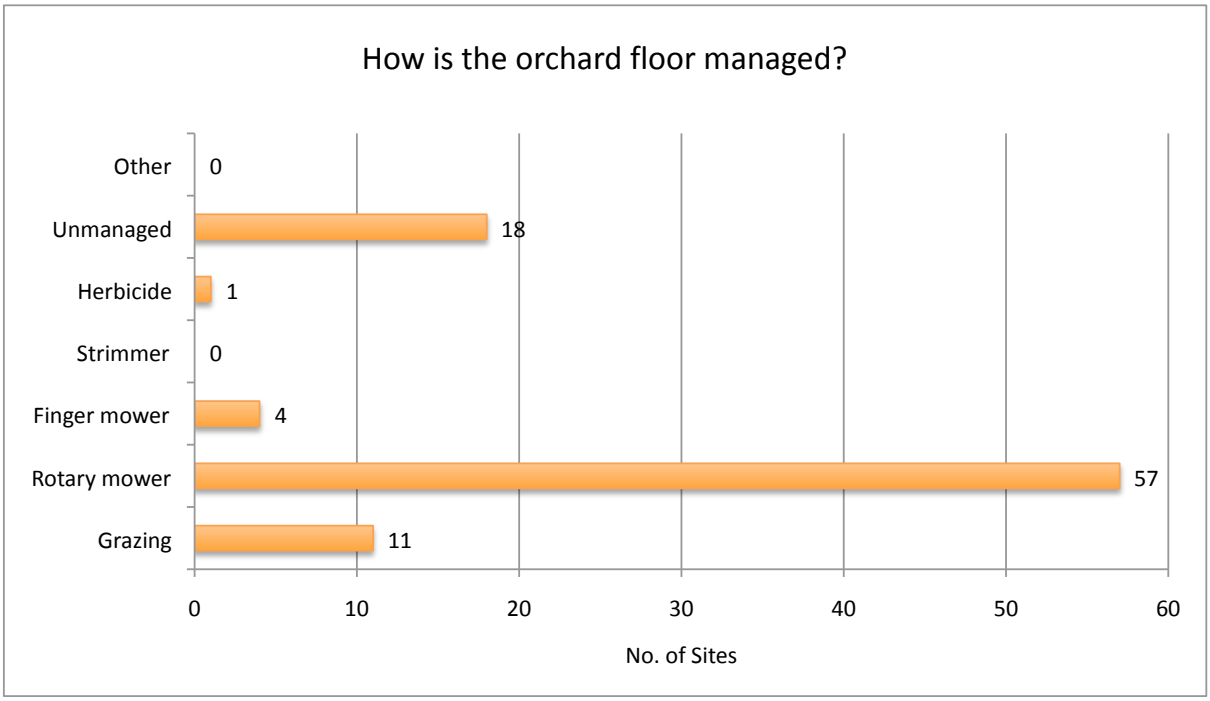
High proportions of abandoned and unmanaged orchards are an indication that there needs to be a local focus on raising awareness on maintenance issues. Maintenance skills project are also a popular way of building capacity locally.



The orchard floor is an important part of the orchard habitat, both for biodiversity but also as a further element of the growing space. The generic term used across various habitats, is the 'field layer'.

Each site may have several field layer types, for example parts of it may be mown into a lawn while other parts are unimproved pasture with thistles. We are also interested in orchards that are cultivated as this was a practice that was once much more common.

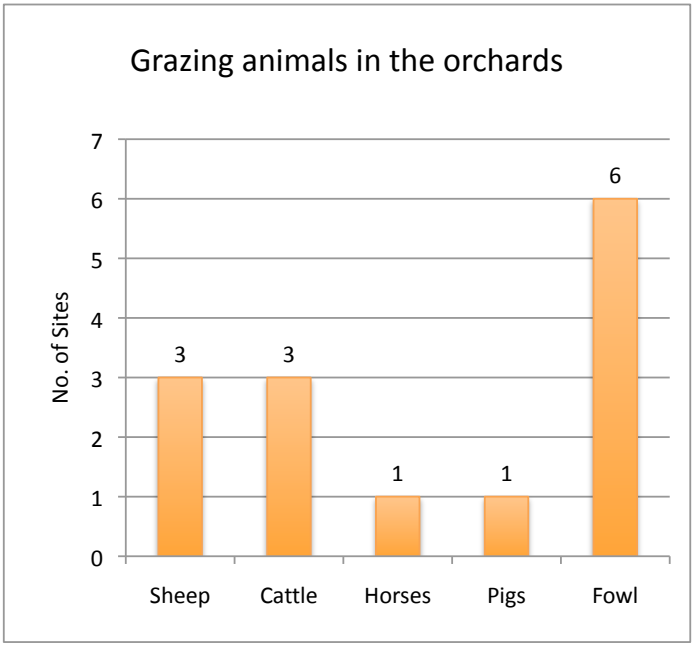
The graphs shows that though many orchards have some sort of managed grass as a field layer, there are a significant number that have various tall weeds and scrub.
There are also a small minority of around a dozen orchards that are also cultivated showing a more complex use of the land.

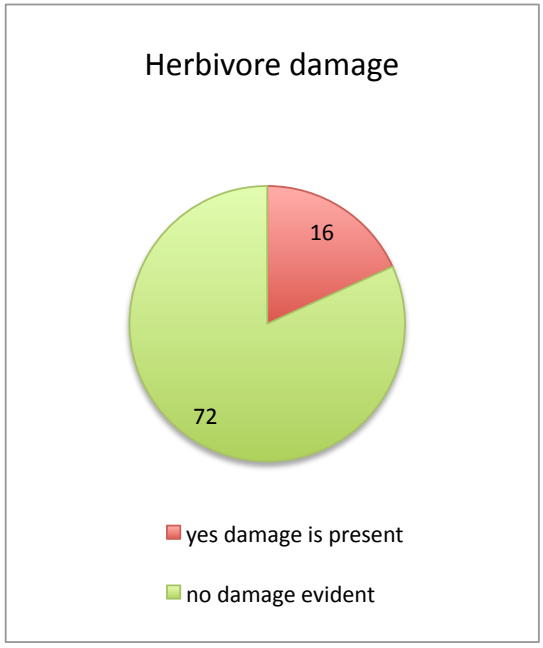


Each orchard can record more than one method for managing the orchard floor. The reference to the finger mower may be unfamiliar. This is a type mower that has a flat cutter bar like a hedge trimmer. The reason for recording this separately is that there is some evidence that this sort of mower does far less damage to invertebrate life in the sward than a rotary mower, which tends to suck up and eviscerate the sward contents.
In our experience herbicide use is under-reported by orchard keepers.

Unsurprisingly, the graph shows that the common method of management is by rotary mower. However, sites with an unmanaged field layer comes second, with grazing coming third.

Interestingly the finger mower is used on several sites.



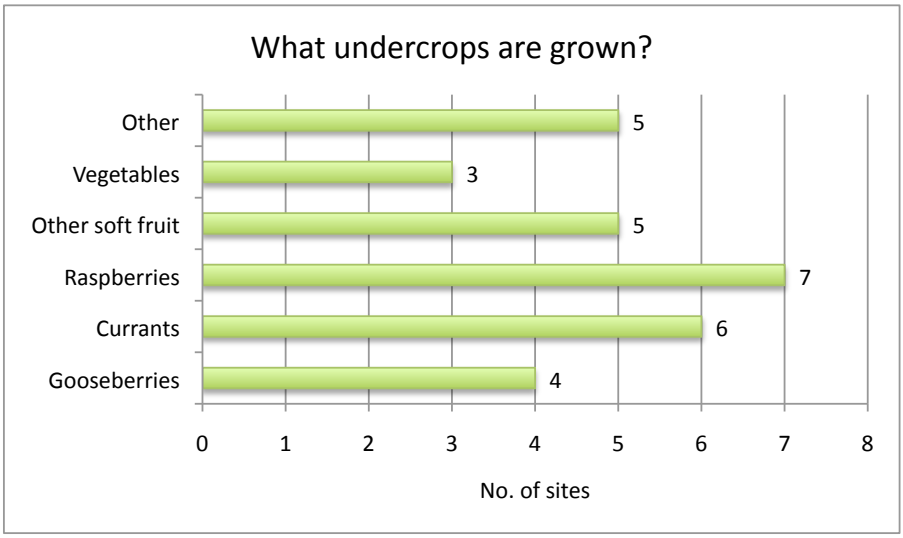


Each orchard can record more than one type of animal grazing the orchard floor.

The graph (above left) shows that sheep, cattle and fowl are present in a few orchards, while horses and pigs are present in one orchard. Fowl are clearly the most popular and make a good use of the orchard floor; horses can be benign provided that good tree protection is present otherwise they can be devastating.

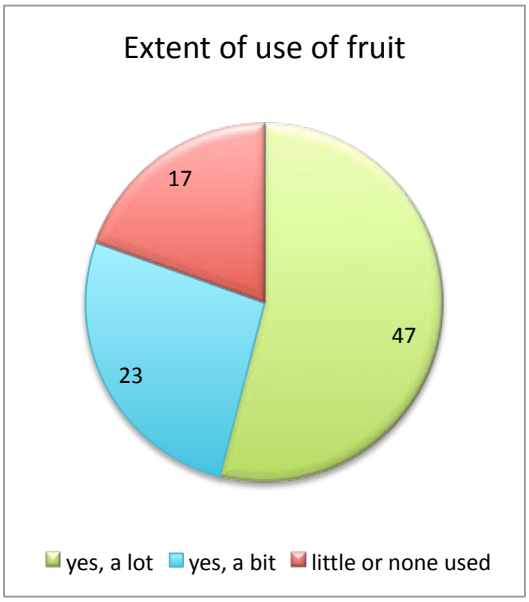
The pie chart shows that where recorded, herbivore damage is evident on a minority of sites. Some of this could be as a result of poaching by livestock.

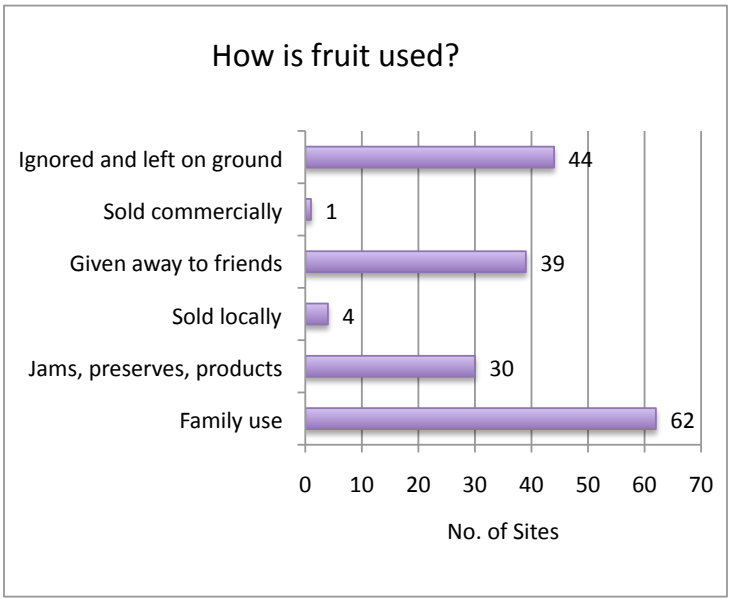
Not all recorded damage can be attributed to grazing livestock, as deer and rabbits also play a role.



The growing of other crops within an orchard – known as undercrops - was formerly a much more common practice than it is today. Each orchard can have more than one type of undercrop recorded.

The graph above shows that undercrops are still grown in this area, although in small numbers. Soft fruit is the main focus.





The use of fruit was determined for 87 sites. Though the categories in the pie chart are fairly broad, they do give a clear indication of the proportion of orchards that are well harvested. It also gives an indication of the scale of the unused local resource.

The chart shows that over half of orchards report that they use the fruit a lot. A minority few use little or none of their fruit. This is a higher level of use than is found in much of the rest of Scotland.

The bar graph (above right) provides detail on how fruit is used. An individual orchard can record multiple uses. So while the family may use some, they may also leave unused fruit on the ground.

The graph shows that family use, and jam, preserves, products and then by giving the fruit away was most common. A few orchards sell their fruit locally, and 1 orchard sells commercially. These commercial sales are at a higher level than most of Scotland.

A significant number (44 orchards) ignore at least some of their fruit and leave it on the ground.

7. ANECDOTAL AND COMMENT INFORMATION

A qualitative data summary

7.1 Introduction

Anecdotes and comments add a lot of colour to the survey of orchard sites. They are more valuable than they may first appear because they help interpret individual sites and whole areas in relation to their orchards. They also form an important record of local oral history that may not be recorded elsewhere; this may be about the family and its own orchard, or it may be about the characteristics, history and purpose of orchards in the area, and how this formed a part of its economic and cultural heritage.

In the Scottish Borders, insufficient qualitative data was collected to be able to present it.

8. CONCLUSIONS

The results presented above, and also in the following photographic record, lead to the following conclusions:

- A total of 138 orchard sites were surveyed, of these 96 were found to be intact orchards.
- The total acreage of orchards remaining in this area was found to be 24.7 ha and the average area of each orchard was 0.31 ha.
- The survey showed around a third orchards have been lost, and this has been offset to a certain extent by newer orchards. However the lost orchards are the larger mature ones that had high cultural and biodiversity value.
- Most of the orchards contain less than 30 trees and are in a domestic setting. Five larger orchards of commercial size are recorded.
- Though apple dominates, most orchards contain a diverse mixture of fruit species, reflecting their domestic use.
- The tree stock contains trees of all age ranges, but is skewed towards more mature trees.
- Veteran tree features indicate the orchards contain high levels of biodiversity.
- The majority of orchards have some or active management, and this is at a higher rate than typically found elsewhere in Scotland.
- Many orchards have new plantings and younger trees, and this shows orchards renewal is occurring.
- Soft fruit and also vegetables are grown in a small number of orchards. This is at a lower level than much of Scotland.
- Most fruit is used for family and friends, some is sold commercially and some is left to waste.
- Livestock is grazed in a handful of orchards, these mainly being fowl, sheep and cattle.
- The qualitative data demonstrates the depth of history; cultural, economic and otherwise, that this area is custodian to.

To conclude, the Borders contain a large number of mid-sized orchards, most of which are quite actively managed and from which the fruit is used within the domestic setting. There are a handful of larger orchards which sell their fruit. Some of the historic large mature orchards that were once present are lost, but a significant number still remain.

BORD0007 (2).JPG

Plate 01. A mature orchard in an estate home garden. Groundskeeper is in the process of restoring it to full productivity.

BORD0023 (28).JPG

Plate 02. A productive medlar tree in a mature, mixed, farmhouse garden orchard.

BORD0102 - amazing fan pear.JPG

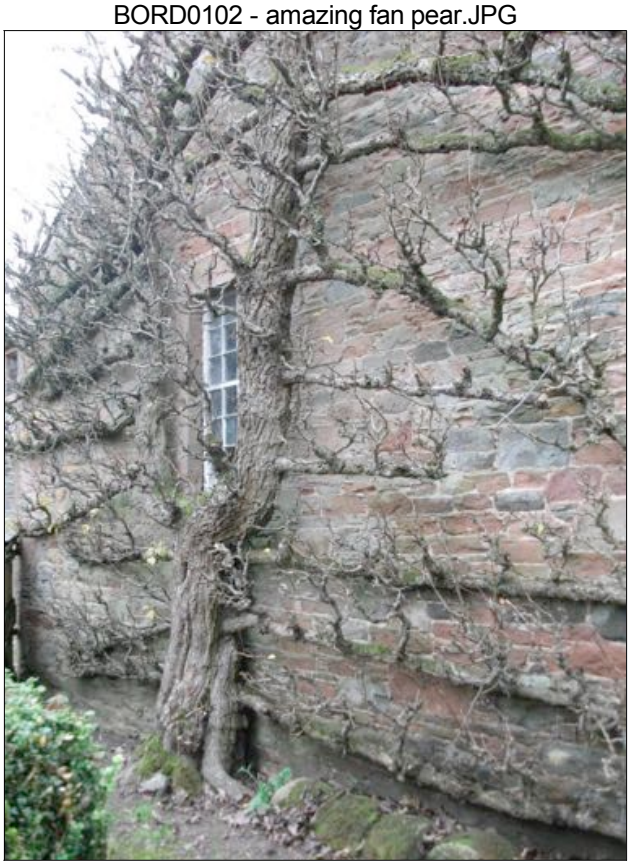


Plate 03. A stunning veteran pear trained against a house in a small farmhouse orchard.

BORD0022 (8).JPG

Plate 04. A large, mature, mixed field orchard. The orchard is well maintained and undercrop of soft fruit is visible under the apple trees on the right.

BORD0022 (14).JPG

Plate 05. Healthy young walnut trees in a large mixed orchard, undercropped by soft fruit.

BORD0024 (2).JPG

Plate 06. A veteran apple tree against a wall in a farmhouse orchard.

BORD0024 (12).JPG

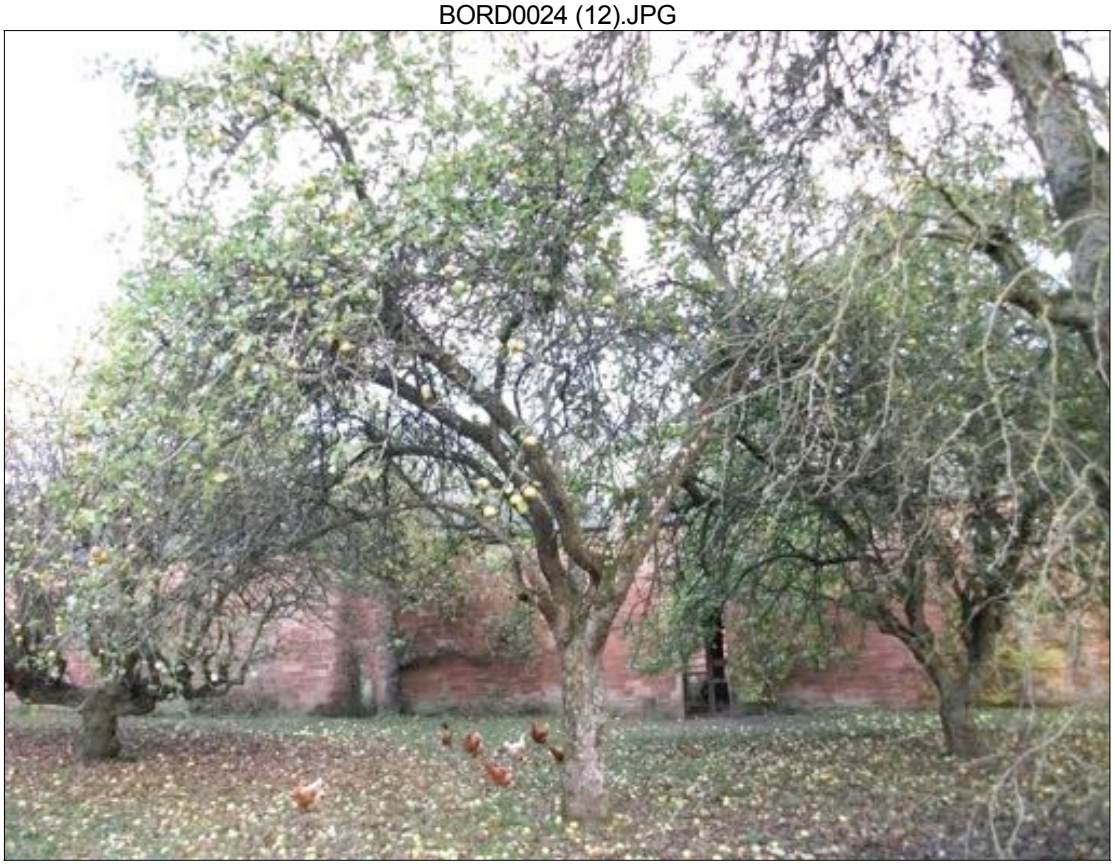


Plate 07. A mature orchard used as a chicken run. Most trees are >3m tall with some trained specimens (see a tree on the left of the photo). Although family uses a lot of fruit, much is also left on the ground.

BORD0016 (6).JPG

Plate 08. Apple tree with veteran tree features - part of a still productive domestic orchard which was likely planted in the early 1900s.

BORD0033 (1).JPG

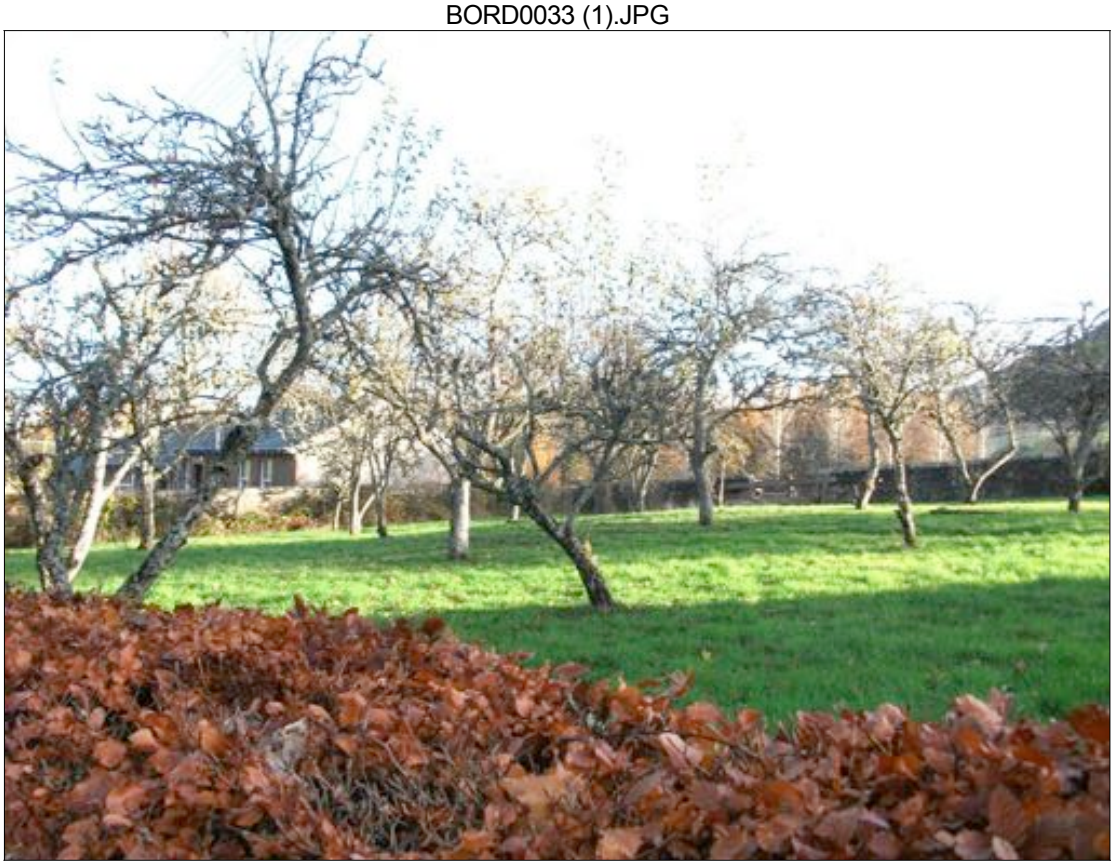


Plate 09. A field apple orchard believed to be originally a part of the hospital estate in 1800s. It is still productive and all neighbours help themselves to the apples.

BORD0055 (2).JPG

Plate 10. A mature farmhouse orchard - the keeper showed interest in learning more about fruit tree maintenance and grafting.

BORD0009 (3).JPG

Plate 11. A small mature field orchard used for grazing by domestic animals. Most fruit are left on the ground... be eaten by the animals, and trees are not maintained and in decline.

BORD0039 (14).JPG

Plate 12. One of several mature trees in an abandoned orchard associated with an old mill site. Trees likely to by dating from late 1800s/early 1900s. The ladder suggests that the fruit is still harvested by the locals.

BORD0047 (4).JPG

Plate 13. A part of a small, mixed new orchard in a farmhouse garden.

BORD0100 (12).JPG

Plate 14. A derelict orchard in a walled garden of an ex-nunnery. Neighbours take advantage of the productive trees.

BORD0011 (9).JPG

Plate 15. A veteran pear tree, trained as a fan.

BORD0084 (3).JPG

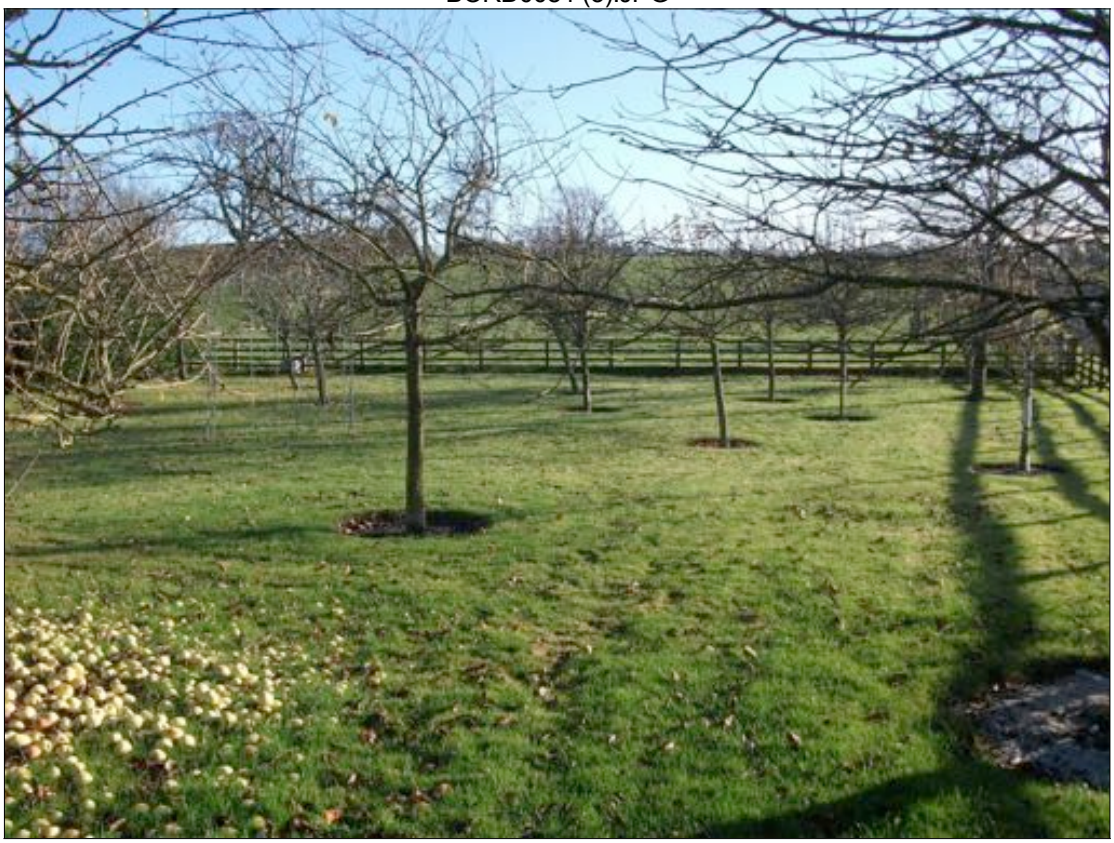


Plate 16. A fairly young field orchard of around 20 fruit trees. Well maintained but underused as apparent from the apples left of the ground (left hand side of the photo).

BORD0096 (9).JPG

Plate 17. An overgrown orchard of 20 mature apple trees in a garden of an empty house. Trees show signs of good pruning in the past.

BORD0098 (6).JPG

Plate 18. A large, neglected walled estate garden - only a few fruit trees remain.

BORD0008.JPG

Plate 19. A mature farmhouse orchard.

BORD0026 (4).JPG

Plate 20. A medium sized orchard with a mix of very young and veteran trees. Fruit is well used, including much cider production. Some of these trees will be lost during the neighbouring house construction, removal of the unstable old trees. Old tall pears will have their crowns reduced.

BORD0119 (6).JPG

Plate 21. National Trust for Scotland's Priorwood Garden contains a large orchard, mixing veteran and newly planted trees. Many of the new plantings were donated by SNH. They hold an annual Apple Day talk in October every year - average 40 attendees.

BORD0010 (1).JPG

Plate 22. A field orchard planted in 2007 with a large range of apple varieties.

BORD0001 (2).JPG

Plate 23. A substantial, mature but slightly neglected estate orchard. The keeper is working towards restoring it to productivity with Crailing Orchard Group.

BORD0001 (3).JPG

Plate 24. A veteran trained apple tree.

BORD0003 (5).JPG

Plate 25. An abandoned orchard with several veteran fruit trees in decline.

BORD0062 (2).JPG

Plate 26. A small mixed domestic orchard.

BORD0106 (7).JPG

Plate 27. A mature apple tree in a walled garden with a substantial orchard of around 40 fruit trees. The garden was neglected but is now being restored and new owners are keen to have their varieties identified.

BORD0104_2.JPG

Plate 28. A small well-maintained orchard in a hotel garden.

BORD0203 (7).JPG

Plate 29. A small mature orchard in an estate walled garden.

BORD0036 (2).JPG

Plate 30. A wonderfully well maintained mature orchard in a walled estate garden with many veteran trained fruit trees.

BORD0036 (5).JPG

Plate 31. Veteran fruit trees trained in an archway in a walled estate garden.

BORD0037 (1).JPG

Plate 32. A small, well-managed, mature orchard at a gardener's cottage of an estate.

BORD0071 east side west wall espalier Victoria Plums.JPG

Plate 33. Espaliered Victoria plums at Floors Castle garden.

BORD0071 orchard from SE.JPG

Plate 34. Pollarded apple trees amongst vegetable beds at Floors Castle.

BORD0071 west side west wall pears.JPG

Plate 35. Pear tree fans against the garden wall at Floors Castle. There are two parts to this orchard: (1) open orchard with 12 pollarded apple trees, c 30 years old; (2) walls of walled garden, with apples, pears, plums, greengage, peach. All trees are under 30 years old.

BORD0200 Bloody Ploughman goblet.JPG

Plate 36. Floors Castle Millennium formal garden with 49 apple young trees grown as ornamentals. Bloody Ploughman trees pruned and trained as a goblets.

BORD0200 Scotch Dumpling tripod.JPG

Plate 37. Floors castle formal garden - Scotch Dumpling tripods with a row of Galloway Pippins in the background on the left.

BORD0029-IMG_0339.JPG

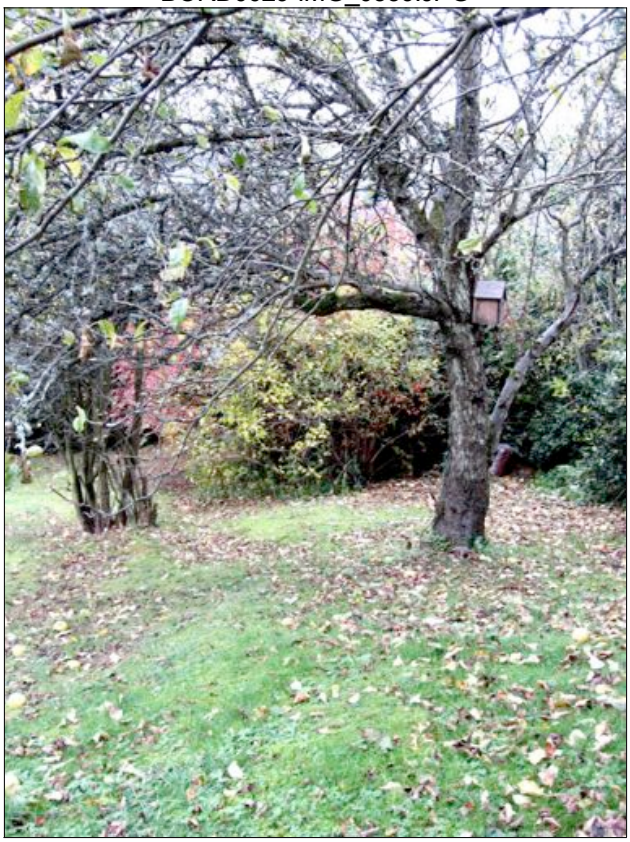


Plate 38. The keeper believes that the original trees were planted not long after the house was built in 1860s. Some of the original trees have been lost in the last couple of years, but he has planted more trees in the 30 years that he has lived there. This orchard site is now divided into two separate properties.

BORD0115 (3).JPG

Plate 39. One of the number of veteran pear trees around Jedburgh, likely dating to the time when the town was known for its fruit growing. The surveyor is concerned these may be soon lost unless they are mapped and properly maintained.

BORD0201 (2).JPG

Plate 40. Jedburgh Abbey site is a host to an orchard, with a number of pear trees. The pears are grafts from old Jedburgh trees. The pruning of the trees in not good, they have been pollarded in some cases.

BORD0114 (3).JPG

Plate 41. An orchard in Mary Queen of Scots House in Jedburgh, maintained by the Council. Few veteran trees remain as they tend to be cut down on health and safety grounds. New trees planted as replacement but few of them grafts of the old ones.

BORD0057 - Photo 02.JPG

Plate 42. A large young field orchard of apples and plums.

BORD0108 - Photo 01.jpg

Plate 43. A single apple tree remains of a home garden orchard.

Bord0027_1.JPG

Plate 44. A magnificent veteran pear tree.

Bord0027_8.JPG

Plate 45. A small mature orchard well-managed by the National Trust Scotland.

BORD0042_1.jpg

Plate 46. A linear planting of mature apple trees in a domestic orchard.

BORD0042_3.jpg

Plate 47. A newly planted tree in a mixed age domestic orchard.

BORD0043_1.jpg

Plate 48. A young small field orchard.

BORD0092_P1030823.JPG

Plate 49. Historic maps show orchard, now allotment gardens with scattered trees. Site now in the process of building housing estate. Whole site has been cleared of vegetation.

BORD0124 3.JPG

Plate 50. A very large orchard of 200-300 trees in an estate walled garden. It is well maintained and used and contains a mix of mature and newly-planted trees (seen in the background here).

BORD0124 11.JPG

Plate 51. A well stocked estate apple store.

BORD0146 (1).jpg

Plate 52. Drygrange Community Orchard managed by Green Melrose consisting of over a 100 newly planted fruit trees. The area contains allotments, and small enclosure to grow rootstock for Earlston Orchard Town.

BORD0048_03.JPG

Plate 53. A veteran apple orchard, most likely established in 1800s alongside the rest of the hotel estate it belongs to.

BORD0137(c).JPG

Plate 54. A veteran apple orchard in an estate field containing many trained apples.

BORD0078 (9).JPG

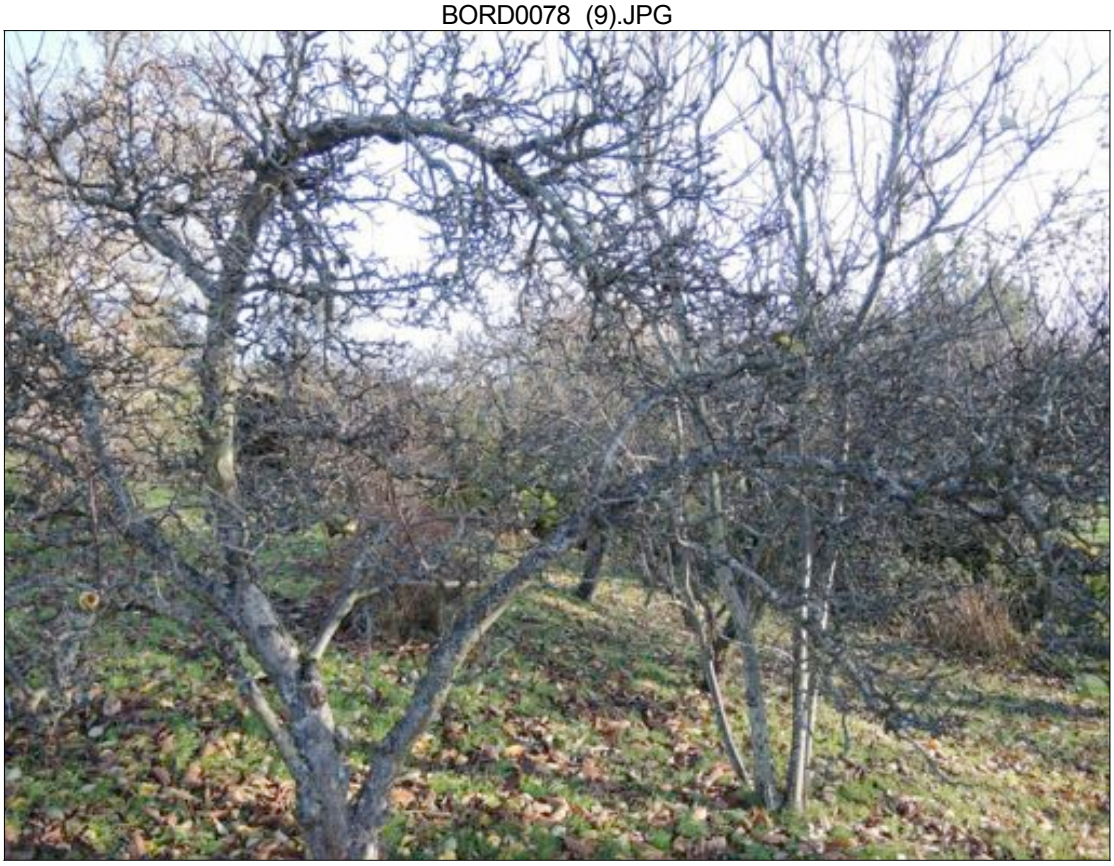


Plate 55. A small domestic apple orchard of mixed age.

BORD0086 apples 1.JPG

Plate 56. A small mature domestic garden orchard, well-maintained by a gardener.

BORD0131 (1).JPG

Plate 57. A newly planted estate garden apple orchard.

BORD0111 (5).JPG

Plate 58. A well-cared for and used mid-age orchard in a private home garden. The fruit is used by the family as well as sold to a cider company.

BORD0148(b) (1).JPG

Plate 59. A leaning pear tree in a small, mixed veteran orchard in a domestic garden. The oldest tree is thought to date from 1783.

BORD0145 view to E.JPG

Plate 60. A large historic orchard in a walled estate garden with many veteran trees. It has been neglected but now under new ownership.

BORD0099 (9).jpg

Plate 61. A well cared for mature orchard in a walled estate garden.

BORD0107 (3).jpg

Plate 62. An orchard of >200 young apple trees, with a few veteran specimens. The garden dates from 1855 and has been restored from a derelict plot since 1995. The keeper collects and tests apple varieties. More details are featured in Kenneth Cox books ' Gardens for Scotland' and 'Fruit and Vegetables for Scotland'.

BORD0129 (1).jpg

Plate 63. A veteran tree in a mature field orchard used for grazing. No use of fruit is made and trees are not being replaced.

ANNEX 2: METHODOLOGY

A2.1 Methodology for GIS Deskstudy

The following methodology was implemented for the Deskstudy.
GIS system: MapInfo Professional v11.5 software with Data Capture Tool
Identifying locations; Various sources of data to determine orchard locations:

- Visual search of aerial and historic mapping.
- Existing survey data. Sites listed in existing surveys are reassessed.
- Additional existing datasets:
  - The OS MasterMap 'Orchard' attribute.
  - RCAHMS-Historic Land-use Assessment database
  - Regional orchard projects datasets
  - National Trust for Scotland Demeter Plants Database
  - Agricultural Census,historic data (not site specific)
  - Dunn 1885 Apple Congress report (time constraints meant that only a few sites from this marvellous tome were considered)
  - and other publically available datasets, such as community orchard listings.

A more detailed description of the deskstudy methodology and its results are published in reports for Scotland as a whole. These are available at www.scotlandthefruit.org.uk

A2.2 Methodology for Field Verification

The implementation of field verification is structured as follows:

- Fieldwork is devolved to a local collaborating organisation. Ideally this is a competent local not-for-profit organisation with a track record demonstrating ability to organise and deliver locally.

- Local Facilitator. The local collaborating organisation employs or contracts a person, the Local Facilitator, to be the local interface and organiser of volunteer surveyors. This has been a paid role.

- Recruitment of surveyors. The local organisation uses various channels to recruit volunteer surveyors. The channels include local press, presence at events, membership lists, other organisations, and formal & informal networks.

- Resources are provided by the National Coordinator (in this case Crispin Hayes Associates). Site specific resources such as site location maps and candidate site lists are shared via cloud services with the Local Facilitator. Other generic material is distributed via www.scotlandthefruit.org.uk which is used as the project website. This includes the webforms used to record survey data.

- Allocation. The Local Facilitator allocates sites to volunteers, and manages their progress, ensures instructions including the risk assessment are understood.

- Mentoring. Some volunteer surveyors are very competent at all aspects. Others require a little mentoring. The Local Facilitator carries out this role, if necessary taking the volunteer on a training site visit.

- Survey Data. The Local Facilitator ensures that survey data is submitted together with photos, and that all files are identified with the site unique identification. Quality checks are also carried out, and queries referred to volunteers.

- Data processing. Further quality checks are carried out on the data, and corrections made, if necessary with reference to the Local Facilitator and the volunteer surveyor.

- Merging. The field verification data is added to the Deskstudy data for each site via the Geographical Information System and other database tools.
- Amendments and snagging. Revision of site boundary and other Deskstudy details are carried out on a site by site basis. Snagging is carried out as required.
- Output. Further work may be required: for example redacting personal data fields, and extracting some site subsets, before the finalised dataset is output.

A2.3 Field Verification time input statistics for this area

Some statistics were recorded on the time input of various aspects of the Field Verification.

Time-on-site is reported on each surveyform by the surveyor. The average time on site in this area was 24 mins. The maximum time on site was reported as 120 mins, while the minimum was 5 mins.

In Scottish Borders, the total time-on-site was recorded as 53 hours.

This does not include preparation or travel time, just the time on site.