

For publication

A National Orchard Inventory for Scotland

Area Report for: Dumfries and Galloway

Collaborating Organisations:

South West Community Woodland Trust



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prepared by
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Orchard Research & Enterprise CIC

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Summary

Keywords

orchard; fruit tree; top fruit; apple; pear; plum; undercrop; EUNIS G1.D4; Dumfries and Galloway; Wigtownshire, Kirkcudbrightshire, Dumfriesshire

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 77 orchard sites were surveyed, of these 34 were found to be intact orchards.

The total acreage of orchards remaining in this area was found to be 8.4 ha and the average area of each orchard was 0.33 ha.

The survey showed that a significant area of orchards have been lost, and this has not been entirely offset by newer orchards. The lost orchards are typically 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. One larger orchard of commercial size is 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 there are a minority containing mature trees.

Veteran tree features indicate that some 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.

Few undercrops are grown. This is at a lower level than most of Scotland.

Most fruit is used for family and friends; very little is sold either locally or commercially.

Livestock is grazed in a handful of orchards, these mainly being sheep, horses and fowl.

The qualitative data demonstrates the changes that have occurred in the orchards of this area.

To conclude, Dumfries and Galloway contains a relatively small number of small orchards, most of which are quite actively managed and from which the fruit is used within the domestic setting. There is one private collection that contains 1000 apple varieties. Most of the historic mature orchards that were once recorded, are now no longer present.

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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.

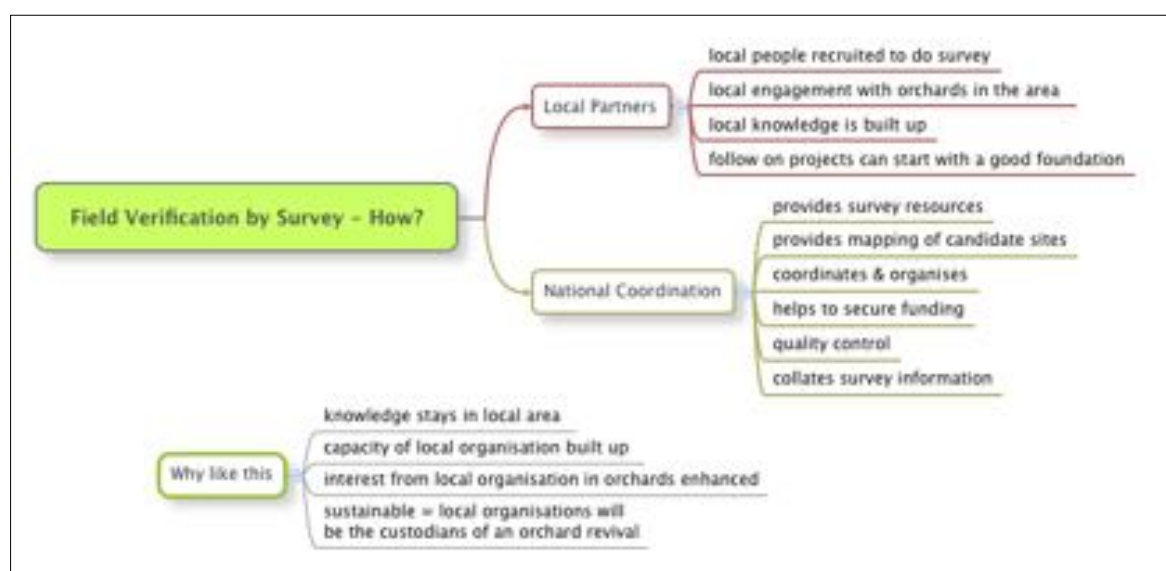
The National Orchard Inventory for Scotland Project aims to create a comprehensive orchard inventory for the nation. This has probably not been attempted for over a century, perhaps since the 1885 Congress. The rationale that underpins this aim is that an Orchard Inventory will form the basis for addressing 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.

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

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

Dumfries and Galloway is a large area encompassing many different landscapes, and different climatic conditions. Clearly the upland parts of the area are unsuited to orchards and are predominantly forestry or rough grazing, but many of the lowland glens are suitable, especially in locations where the soils are also favourable. Several parts of the coastal fringe enjoy a micro-climate of lower rainfall and more sunshine. This is particularly true of the Wigtown area and the Rhins of Galloway which have some of the highest annual sunshine totals in Scotland, and are equivalent in this respect to much of the south of England.

The area is not noted for its orchard heritage, nor commercial fruit growers, though clearly orchards for domestic use were prevalent as elsewhere in Scotland. There have been recent plantings of school and community orchards, though maintenance can be an issue. There is one large contemporary private collection with 1000 varieties of apple. At Threave there is also a collection of pears originally from the Carse of Gowrie in Perthshire. There is some contemporary interest in small-scale commercial activity in respect of value-added products such as cider.

Not all of Dumfries and Galloway has been covered by the work reported here because we were unable to identify collaborating groups in eastern parts such as Moffat. However, at least with the latter, there are likely to be relatively few orchards omitted as a result.

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 Penny Nowell of South West Community Woodlands 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:

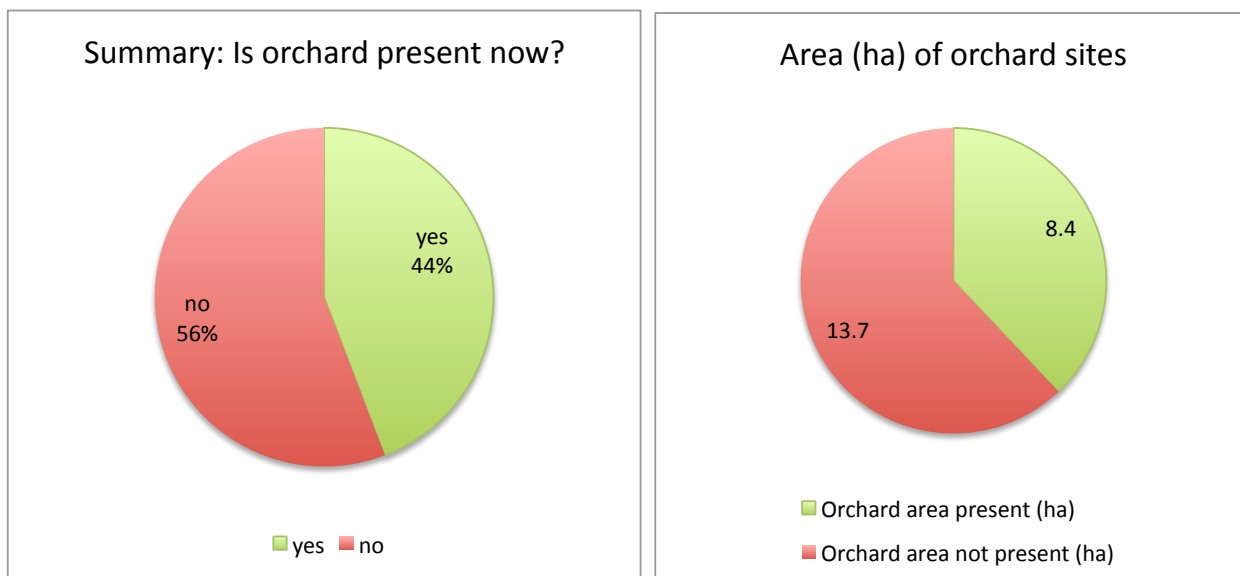
- Numeric and classification information (quantitative), together with overall conclusions.
- Anecdotal and comment information, qualitative aspects.
- Representative photo gallery. A collection of photos with descriptive captions that illustrate the orchards of the area.

Photos have been submitted for a total of 61 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 77 candidate sites. Of that number, 34 sites were found to have an orchard present and of those 1 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.

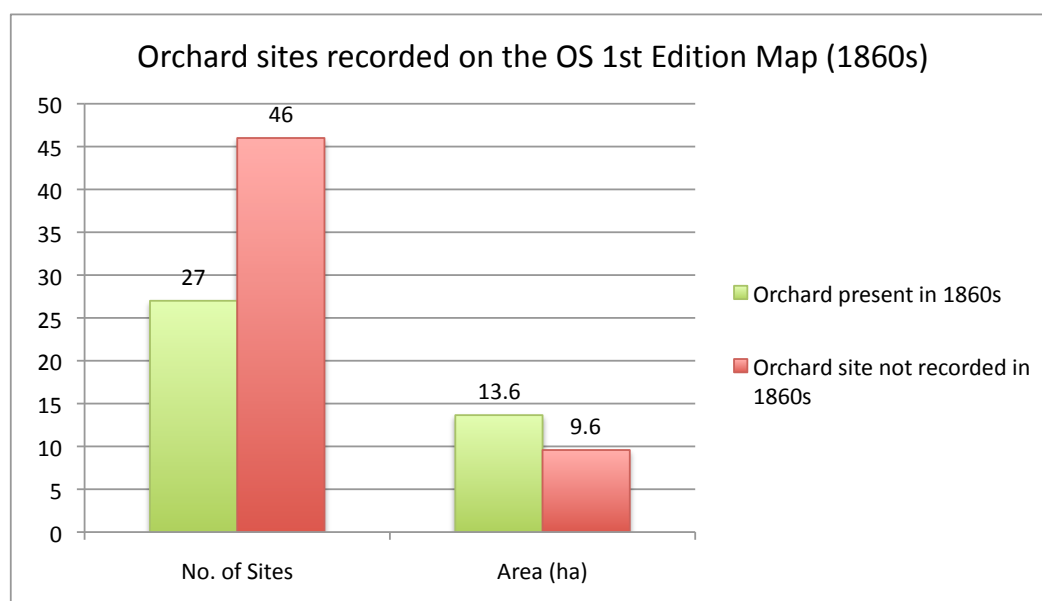
The fieldwork also found that a total of 43 sites were not orchards at the time of survey. Most of these latter sites were identified in the deskstudy as likely to be orchards from mapping, historical, or previous survey data. As such it is likely to represent some of the loss of orchards.

A further 4 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 8.4 ha of the orchard sites were present in Dumfries & Galloway. This represents 38% of the total area of deskstudy + new orchard sites. The average area of an orchard is 0.33 ha.

The graphs show that there has been some significant loss of orchards, both in terms of numbers and total area. Some of the sites that fieldwork has shown are no longer orchards may have been misidentified at the deskstudy stage, but this would be unlikely to account for the total number.

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.

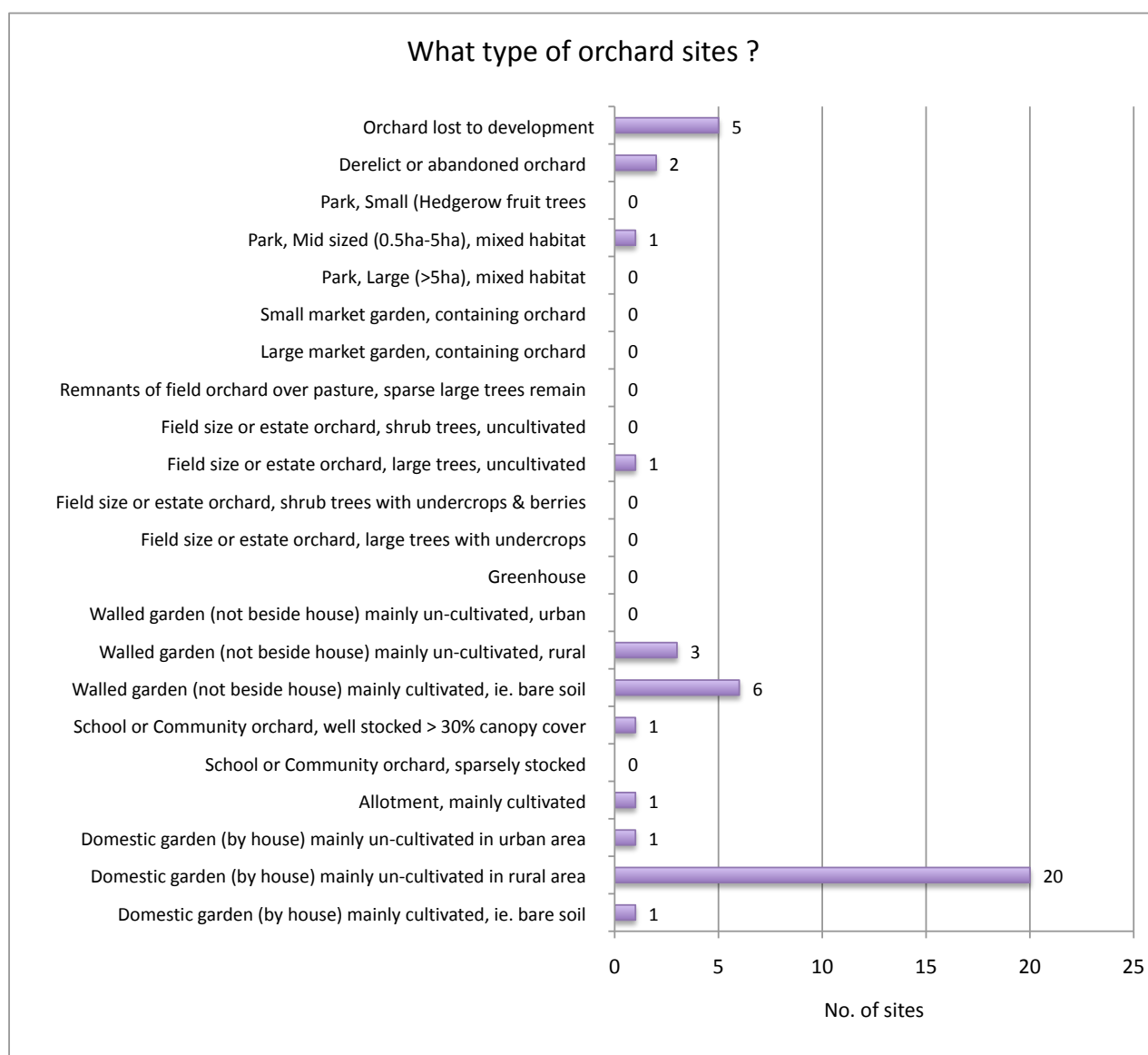


In Dumfries & Galloway a determination for the presence of an orchard on the OS 1st Edition was made for a total of 73 candidate sites. The graph shows that of these, a total of 27 candidate sites were an orchard. The total area for these orchard sites was 13.6 ha in 1860s.

These data represents an interesting story for Dumfries and Galloway. Though these data only include candidate sites that our deskstudy assessed there was a reasonable prospect of an orchard being present, the indication is that the acreage of orchards today may be much less than they were in 1860s.

On only six sites that were orchards in the 1860s are orchards present now.

Therefore this indicates there has been an almost complete loss of historic orchards in the area, and the existing orchards are almost all newer orchards.

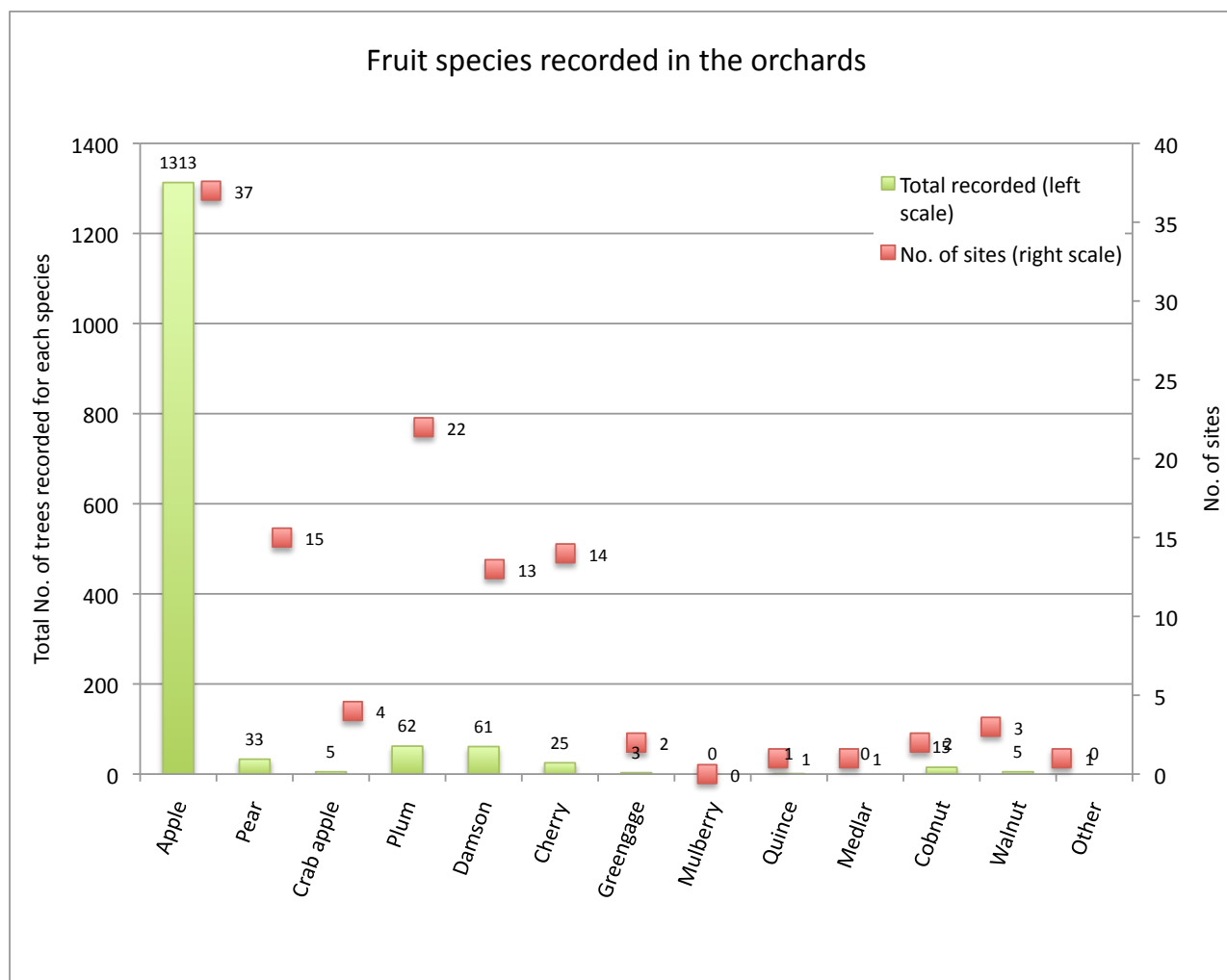


The type of site was recorded as a simple metric that can give a powerful insight into the type of orchard being considered, as well as assisting in the habitat classification using the European Nature Information System (EUNIS). Hence the apparent complexity of site types.

The graph shows the largest classification is for types of domestic orchard by houses. The second largest classification group is for walled garden orchards, which are typically associated with the larger houses.. Thirdly derelict or abandoned or lost to development orchards were recorded. A small number of other site types are present.

Stewardship and Agricultural Payments

In the area being considered, it has been reported that 2 orchard(s) are part of a Stewardship scheme. In terms of orchard sites where an agricultural subsidy is being claimed, the survey found 2 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.

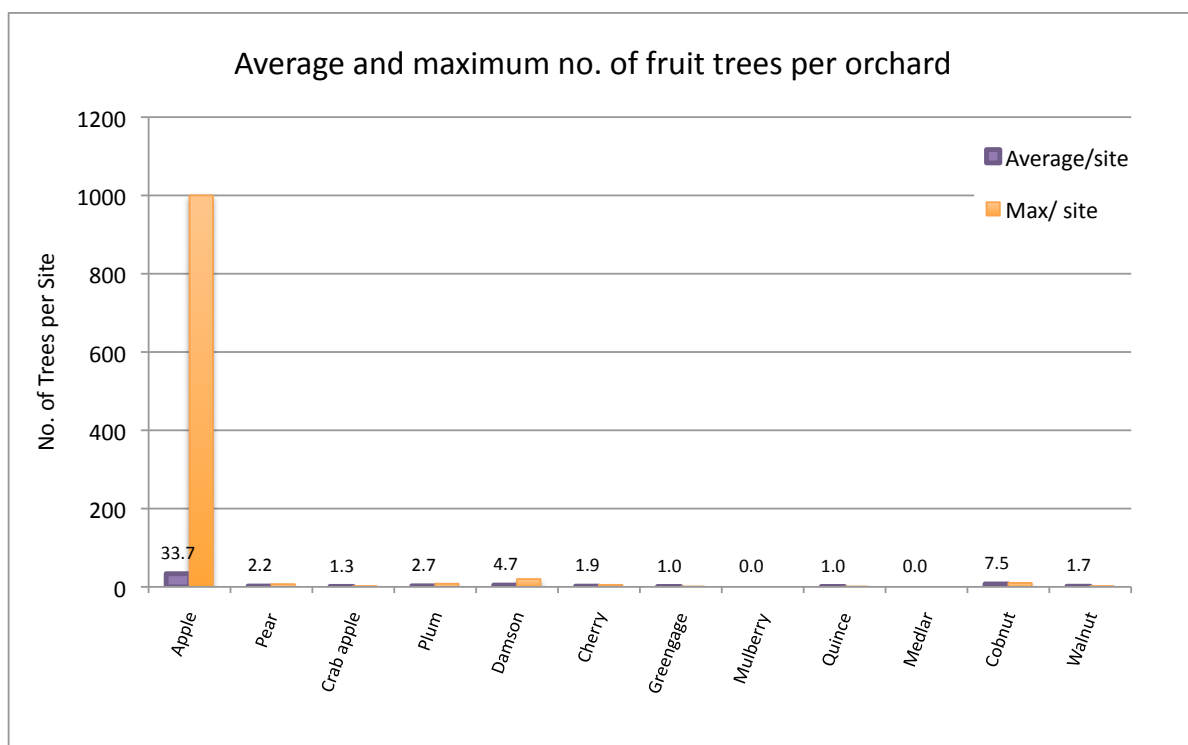


A broad range of top fruit species were recorded to gain a full picture of fruit produced. The green columns (left scale) represents the total number of trees recorded for each species in the area being considered. The red markers (right scale) represent the number of orchards in which that data was 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 1523. We also recorded a size range for each orchard. An estimate of the total number of trees from this size range data is 890. This demonstrates reasonable agreement, given that number of individual trees is not always recorded in every orchard.

The graph tells a slightly misleading the story of this area in terms of the quantity of apple trees, because one site which is a private collection contains 1000 apple trees. Therefore all the remaining sites collectively total a little over 300 apple trees. This skewing of metrics also accounts for the discrepancy apparent in size range data given in the paragraph above.

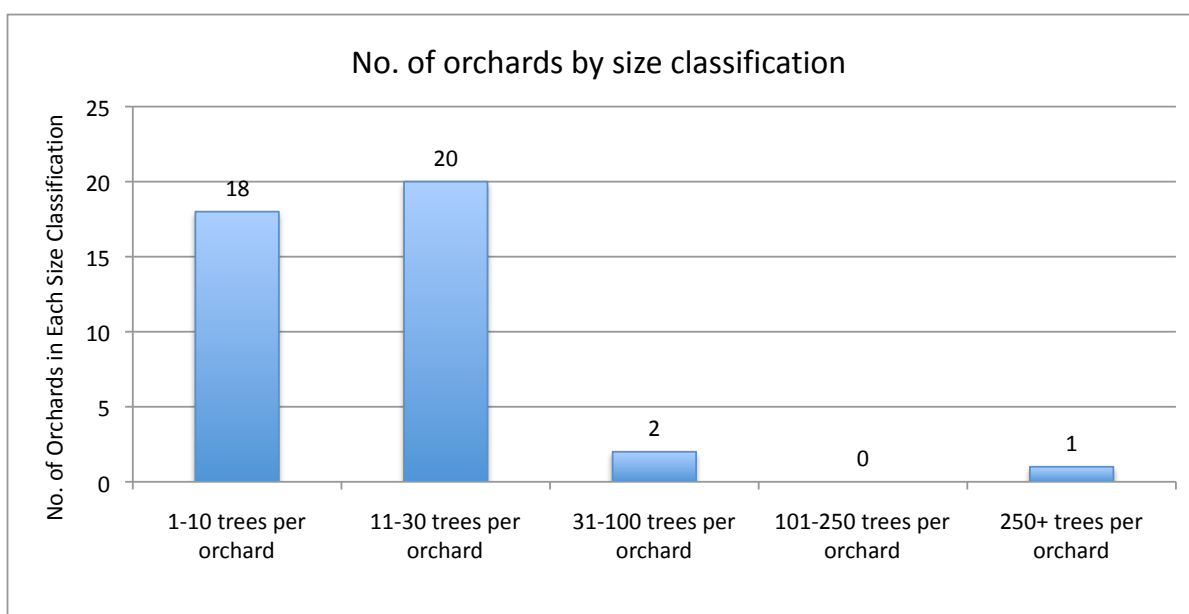
The apple dominates in the orchards recorded as part of this survey, being present in all orchards. Plums and damson are the second and third most common species which is not the case across much of Scotland. There are a mixture of other species commonly found but only at a subsidiary level. The presence of pears is much lower than most of the rest of the country.



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.

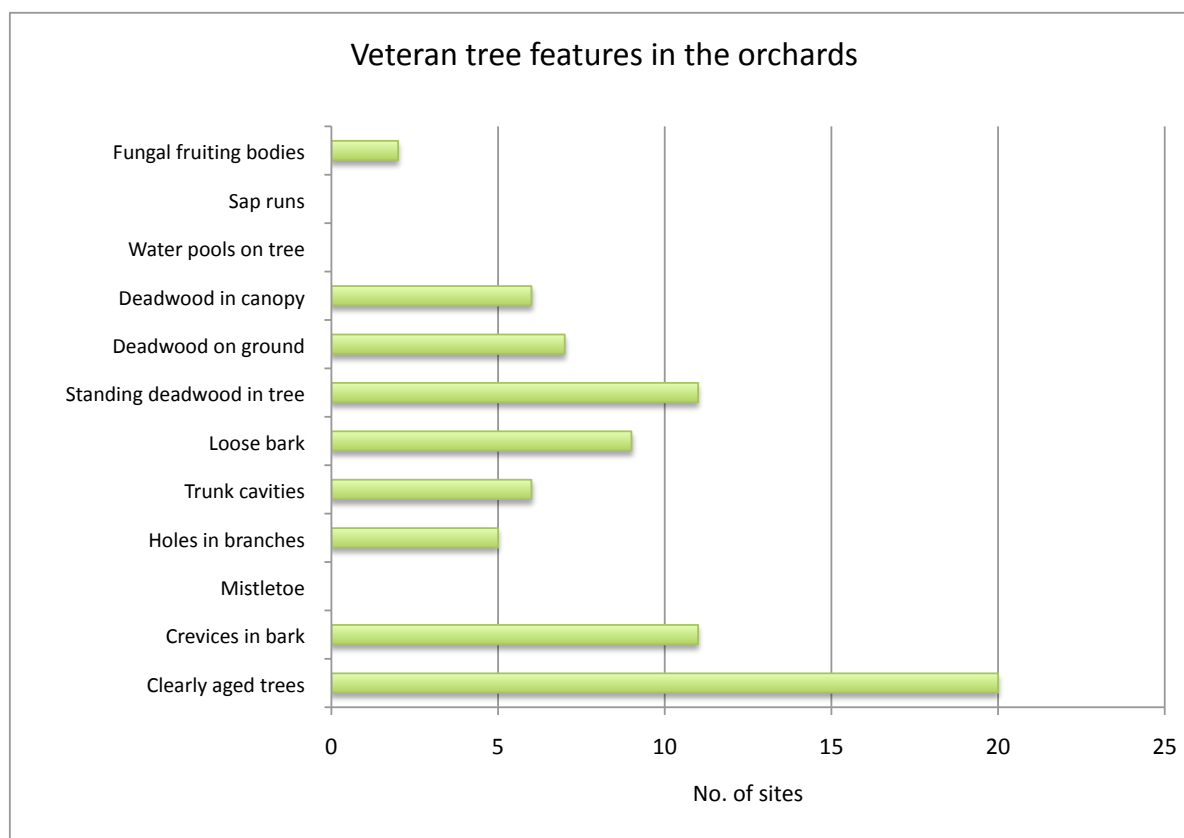
The short purple column on the graph show the average number of each species in the orchards. The taller orange columns show the maximum number of a species found in any orchard in the area.

The high number for the orange apple column reflect the single private collection orchard. The purple (average) provided a more realistic picture of the typical contents of an orchard in this area. This shows that orchards are typically mixed, with apple as the main species, and then a number of other species in support.



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.

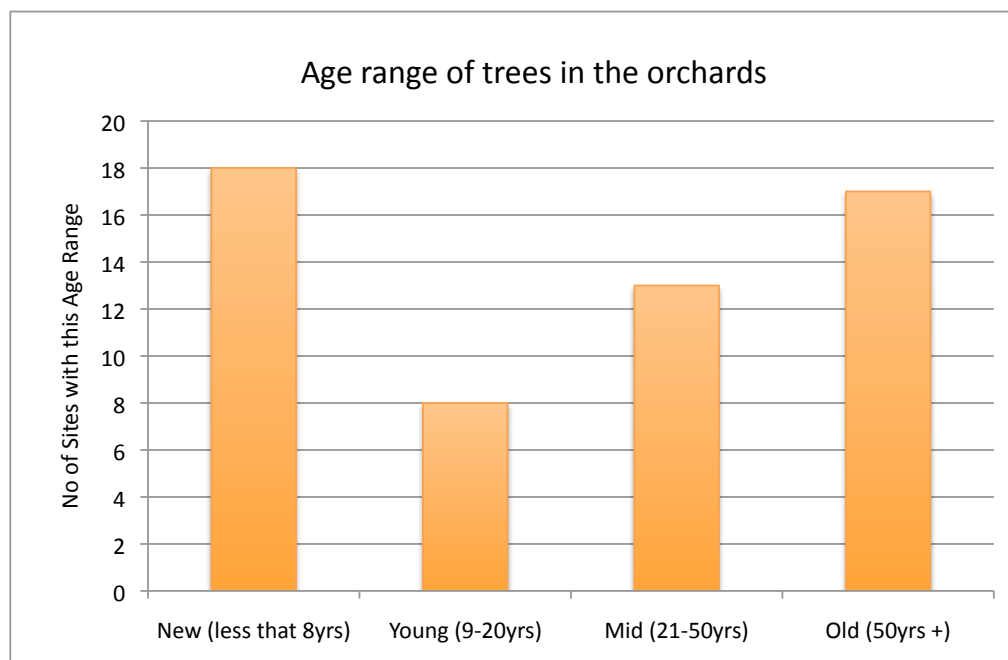
The graph shows that vast majority of orchards had 30 fruit trees or less. A few have up to 100 trees. Only one orchards have more than 100 trees which we consider to be a commercial size. However in this case we know it is a private collection.



Veteran tree features are used as biodiversity indicators. Therefore the more veteran tree features present, the higher the likely biodiversity in the orchards. There were a total of 77 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.

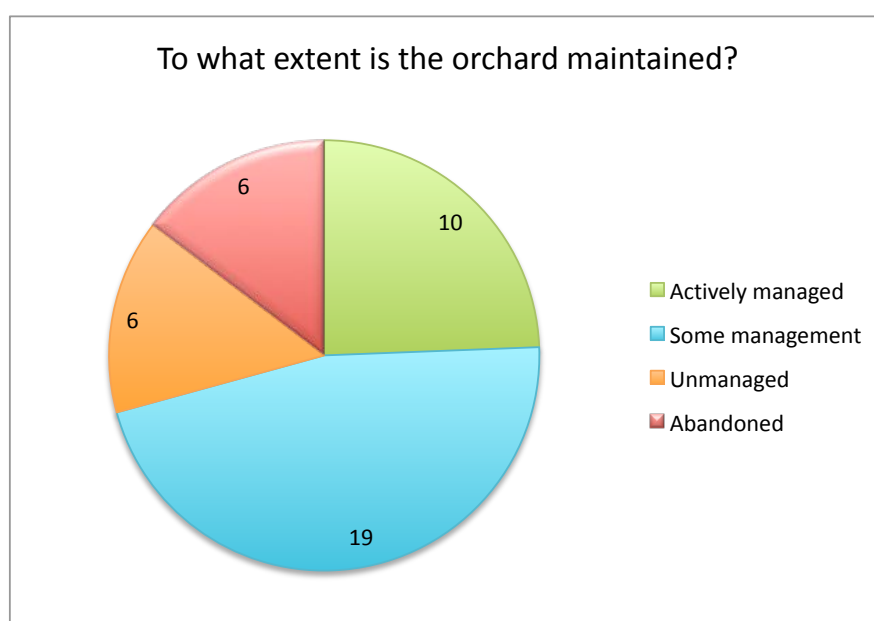
The average proportion of older trees for the orchards was 50%. This figure was calculated from the 29 sites where data was recorded. There will however be a great variability with some orchards being entirely mature, and some being entirely young.



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.

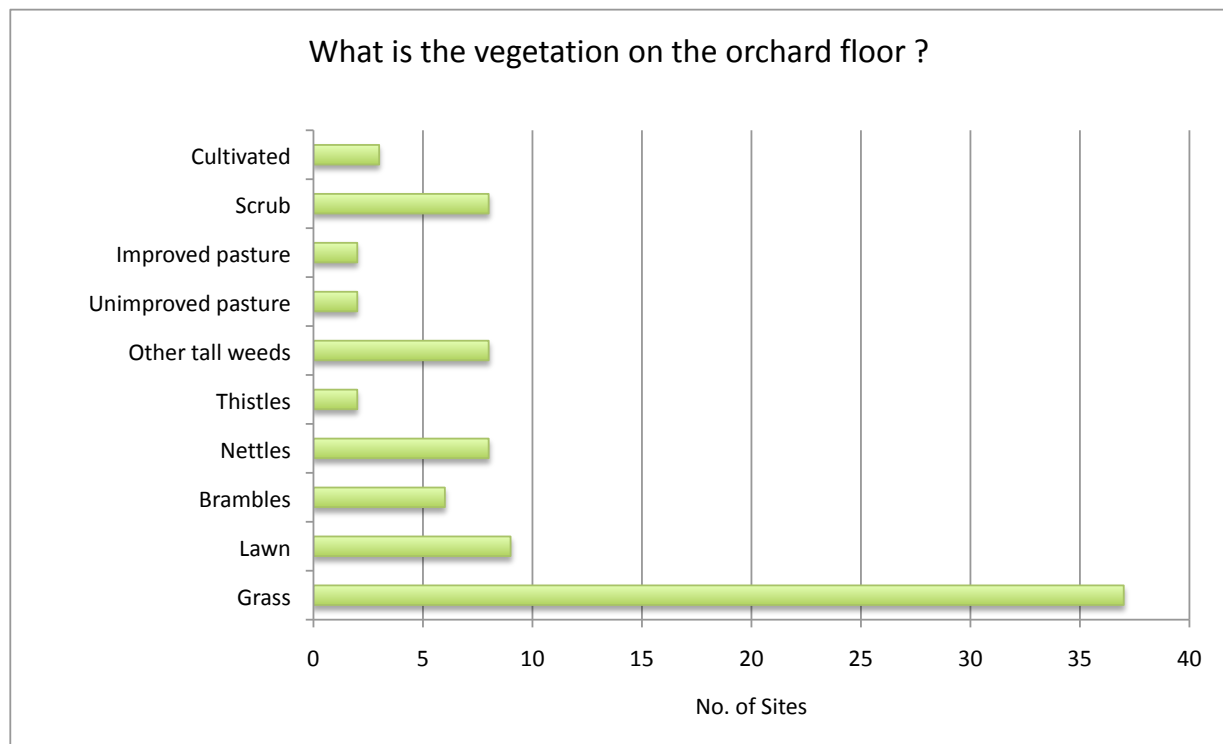
The graph shows all age ranges being represented but it also shows that only 17 sites having mature trees greater than 50 yrs old. This supports earlier data indicating a loss of most of the older orchards in the area.



The extent of orchard management is given above. A total of 41 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 lowland 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.

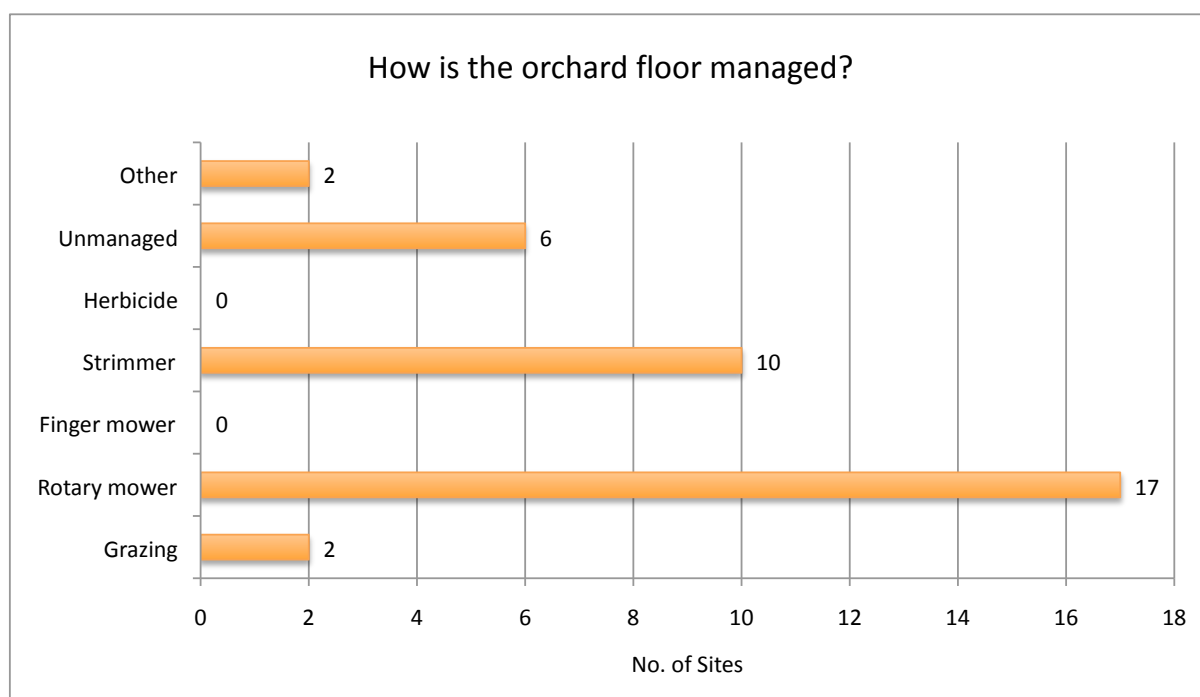


The orchard floor is an important part of the orchard habitat, both for biodiversity but also as a further element of the growing space. The generic term used across various habitats, is the 'field layer'.

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 a handful of orchards that are also cultivated showing a more complex use of the land.

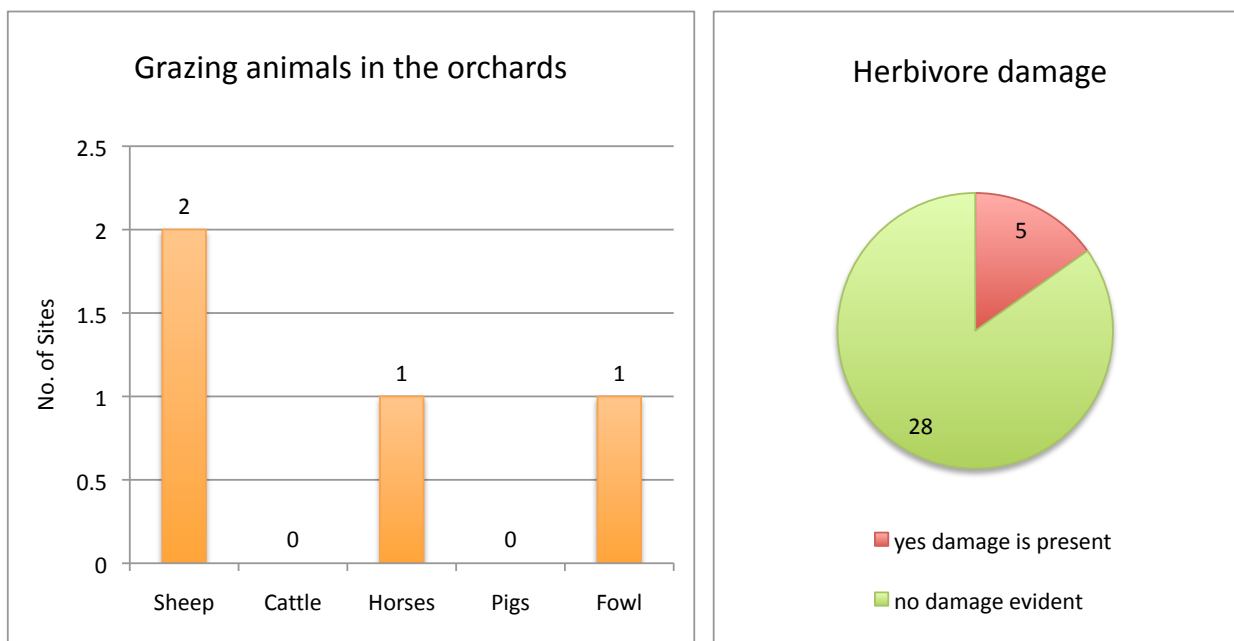


Each orchard can record more than one method for managing the orchard floor. The reference to the finger mower may be unfamiliar. This is a type mower that has a flat cutter bar like a hedge trimmer. The reason for recording this separately is that there is some evidence that this sort of mower does 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, the number of strimmer managed sites comes second, with unmanaged field layer coming third.

The 'Other' classification is mainly made up of sites where mulch matting, or other mulch such as bark chips are used around the trees.

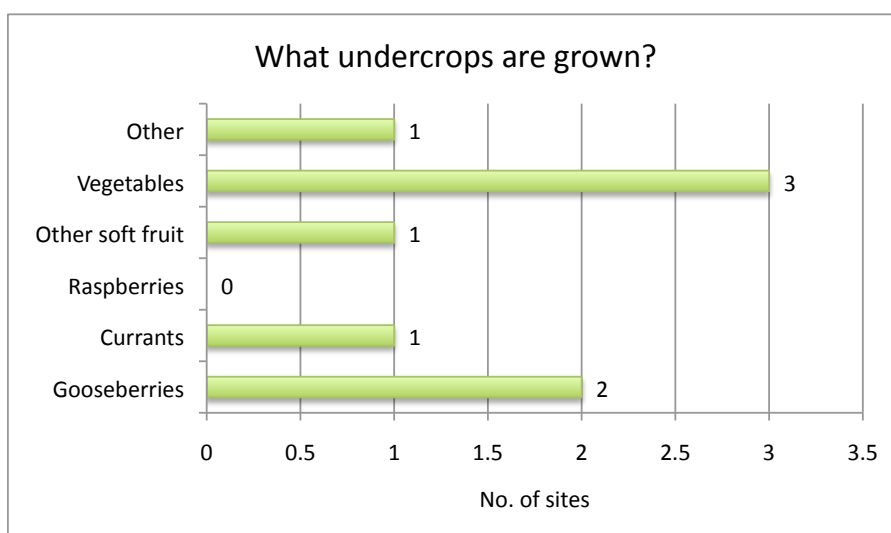


Each orchard can record more than one type of animal grazing the orchard floor.

The graph (above left) shows that sheep, horses and fowl are found in a small minority of the orchards. Sheep 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.

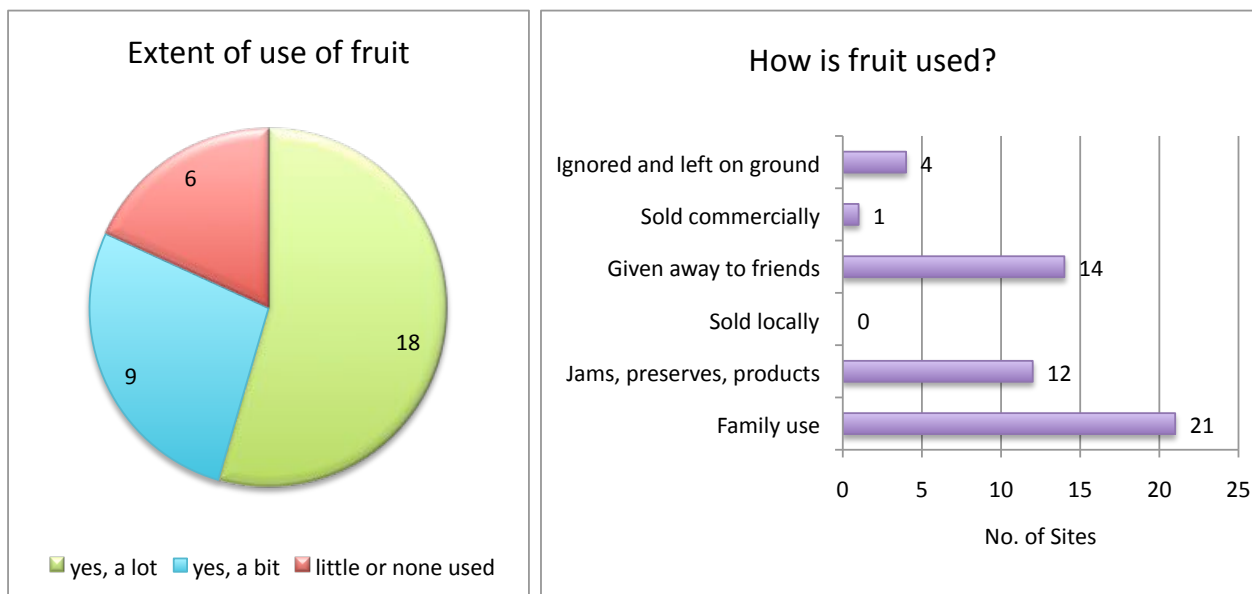
The pie chart shows that where recorded, herbivore damage is evident on a small minority of sites. Some of this could be as a result of poaching by livestock.

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 not common in this area. There is a lower level of undercrops than in many other parts of Scotland.



The use of fruit was determined for 33 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, followed by giving the fruit away and then by jam, preserves, products were most common. Only one orchard sells its fruit. This level of sales are at a lower level than most of Scotland.

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.

7.2 Structure and Presentation

Guidance and training for the field surveywork encouraged the collection of anecdotal history, comments, pertinent information relating to the orchard being considered. This was written up on the survey form and submitted to us in that way.

The data presented below are a selected summary, representing what we consider to be the most interesting aspects of the qualitative data collected. We have identified emergent themes from these data and have categorised them accordingly.

The comments have been subject to some editing. Our intention is to maintain them as verbatim as reasonable. The editing has been restricted to typos, spelling and minor changes to assist understanding. We have carried out further editing to comply with data protection. We have therefore also redacted content that would enable an individual person to be identified.

7.3 Anecdotal and Comment Data Categorised by Theme

The surveyor noted a number of mature and mixed age orchards in good condition:

Orchard location is right by the back door of the farm in a neatly managed triangle next to the farm drive within a maintained drystone wall. When the present orchard keeper's father moved into the farm, pigs were kept in the orchard and slaughtered after they had eaten all the windfalls.

Two trees (both excellent fruiting) are lying on the ground and were there in 1923. Most of the trees will have been planted since then and may be up to 50 years old. 3 trees have been planted in the last 8-10 years. DUMF0011

The orchard is remarkable for us because there is a map from 1943 which shows all the trees present complete with their varieties. The trees are not tall, as they have always been well-maintained and pruned annually. 3 Galloway pippins growing well in Galloway. lots of lichen. DUMF0209

Two trees have been espaliered. One is in a great condition and the other is covered with ivy, but also very productive. The orchard owner has repaired the wall at the back of the orchard and it is clear that it used to lean inwards, pushing the trees in. A Bramley is at the end of the orchard that ensures it receives pollen from other trees.

This was a lovely small, south-facing, orchard, one of the best cared-for that I have seen, at the top end of a walled garden immediately at the back of the house. A mature beech hedge formed a partition between the house and the formal grand garden. DUMF0036

Current occupants are tenants and have been told by the owner that the trees are very old Scottish varieties. The current occupier says 4 of the trees are eating apples and one a cooker - possibly a Bramley.

The orchard is at the end of a walled garden through an arch in a beech hedge. It is surrounded by cultivated fields in a fairly windy area and fairly open land above Dumfries - with winds coming up from the south / south-west. DUMF0020

This garden was designed and planted by its previous owner, a member of the RHS. Fig, Peach and Apricot fan trained against a south facing wall, but not under glass. Apricot fruited in the summer of 2016. Some fruit trees trained along a pergola that straddles the main path across the walled garden. DUMF0141

[The] House used to be the poorhouse for Mid and Upper Nithsdale around 1856. It has recently been converted into separate flats, but the orchard will date back to the mid 1850s. DUMF0006

Unfortunately, comments also revealed a number of such orchards in decline.

The orchard was in a lovely setting - south facing, right next to the house surrounded by a well kept beech hedge. The space would have been a garden - probably producing vegetables at one time and the outline of beds could be seen - now grassed over. There were small patches of soft fruit, but not as under-crops. The trees were very close together and covered in moss and lichen right up to the top branches. There was no space for much light to get in between the trees at all. The ground and hedges were well kept, mown and clipped so it is likely that a gardener is employed to keep everything neat and tidy but not care for the orchard itself.

The orchard keeper could not remember any of the varieties. She said most of them were cooking apples, but this is an old orchard and could well have been planted around the same time as the Capenoch orchard - the same family own it. She remembered storing fruit in the past and today still stores some in an unheated room in the house. Two trees still had windfalls around them - one the apples were largish, green, conical and five-sided with deeply set eye. DUMF0012

Clearly many old apple trees from over 60 years - no new trees planted. From the photos, you can see several of the trees have apples lying below them - mostly eating apples from the recall of the orchard owner - although one apple picked up from the orchard floor was a cooker - very green, five-sided with very short stalk and deep set eye. There were some russets, that looks like a Herefordshire Russet, but not sure how likely this is. There was overcrowded canopy and all the trees badly covered in moss. DUMF0010

There was also a significant number of sites where historic orchards have disappeared, some of them a while ago:

While the Cairndale may have had orchards in its grounds, this will be many, many years ago - the orchard may have been located at the back of an old house that stood next to the hotel, but has long been absorbed into the hotel and now has a further extension added to that. There is no evidence of any fruit trees and the area indicated as previously orchard is a car park. DUMF0075

The photo shows the development of school buildings that run down as far as the River Nith. These buildings have been there for many years, although some are newer than others. However, an orchard may have been on this site many years ago as Greyfriars Abbey was nearby and research indicates that the orchards for the Abbey ran down to the river. They may have extended as far up-river as this site. DUMF0076

[Crichton Royal Hospital Site] Having looked at the plans and archive for the original hospital building it would appear that there never were plans for an orchard at this location. The Crichton Hospital was an Asylum - one of the best of its kind when built offering a huge variety of outside therapeutic activities - which included gardening and farming. It also had a swimming pool and a golf course (which is where the orchard used to be until the golf course was sold off as a commercial concern - now only two trees remain). This site is a beautiful, well renowned, Rock Garden and Arboretum dating from the early 1900s. DUMF0071

This site is where a children's asylum was developed called Ladyfield West. It was part of the Crichton site. The Crichton archives note that there was an orchard at Ladyfield East ([...]only two trees remain) but no mention of an orchard at Ladyfield West. Access is not possible as the house is deteriorating and is considered dangerous. DUMF0072

No orchard remains. Met with [the keeper] who moved into the family farm on her wedding 50 years ago and she said there was no orchard then. However, the site outside the farmhouse, down toward the river Nith had been covered with glasshouses growing tomatoes to sell to Glasgow up to the 1930s. Surrounding the glasshouses were apple trees. A little way into the field, on a hump, was a 12th Century Monastery (known because when the [the [keeper's father] ploughed the field after the glasshouses had been removed he ploughed up a Papal Seal dated 1235 - now in Sanquhar Museum). After the Monastery this site was used as a hospital and medicinal herbs grown. DUMF0089

*N/K. On visit to [the site] was informed that the walled garden here had had fruit trees but that they had all been grubbed out a couple of years ago. [...] DUMF0026
This was an orchard but has been grubbed out perhaps 20 years ago. All that remains is one lovely, productive, mature, Ashmead Kernal. Tree seems bi-annual. There was very little fruit on it in the 2016 year, but a lot of fruit collected for cider making in 2015 with the permission of the tenants. DUMF0143*

Surveyor attributed some of the decline in mature farmhouse orchards to the lack of interest and care from transient tenants or their landlords:

Tenant living in house neither knew of the orchard (located just below house) nor seemed to care much. Clearly had not noticed trees were fruiting but may not have been in house at the time? DUMF0035

This would have been another small orchard attached to a farmhouse garden, although protected by a byre wall. Sadly, the farm is owned by [...] Estates and one assumes that a succession of tenants results in the care of the orchard being lost. DUMF0027

There was also evidence that some private keepers are putting much effort into the orchards being restored after prior decline or disappearance:

The current orchard keeper bought [the house] 4 years ago and having restored the house is now restoring the external environment including the remains of the walled garden. There she intends to have some deep beds (4 established so far) and use the rest of the internal space for orchard fruit. Meanwhile she has planted and is training fruit trees on the outside wall (SW facing) of the old orchard. [...] There are no signs of the old orchard - it will have been grubbed out many years ago. DUMF0007

Orchard keeper's father died last year. As he was very fond of orchard, his ashes will be scattered there after replanting is done. [...] 2 apple trees are being replaced, as old. Trees ordered and will be planted later when conditions conducive.

Also planting one horse chestnut. DUMF0040

Present orchard keeper took over orchard 11 years ago, when orchard was very overgrown and orchard floor contained discarded materials (e.g. Tyres, plastics, etc). Now well managed. DUMF0034

Surveyors noted a significant number of young, newly planted orchards. This included a number of private gardens, schools and public spaces (also see photos). Some of the public/school plantings seem to suffer from using an inappropriate site or vandalism:

There are fruit trees along the edge between a wet scrubby area and a wildflower meadow, and in a row of mature deciduous trees (along Lady's walk). Most of them are not growing well. They have been mulched in the past but presumably they need more feeding than what has been given them so far, as they are very small for their age. DUMF0124

[Gatehouse Primary School] The majority of the fruit trees are at the front of the school, visible to all. These were planted in 2012, some were transplanted from the back of the school. There is one old apple tree around the side of the school near the old headmasters house. In addition we have not included in this survey two apple trees and a walnut which are in the peace garden at the back of the school (only 3 fruit trees, and further than 20metres away from the other fruit trees at the front of the school). Fruit trees were originally planted in a damp location where there are many rabbits. In 2012 we moved them to the front of the school, there is some rabbit damage. DUMF0127

Present orchard keepers moved to house in 2006, when area marked was field near house which they turned into orchard. [...]

The orchard keepers consider they have 15 trees in their orchard proper, but have 3 trees (1 each apple, pear, plum) at side by hedge making up 18 in total within 20m distance. These three were transplanted and replaced as hadn't been doing well, but now seem to be doing better at edge! DUMF0091

[Caerlaverock Wetland Centre] The orchard was planted on World Wetlands Day 2 February 2011, in memory of Carol Hesketh. The date was also Carol's birthday. DUMF0216

Interest historic walled garden designed by John Haye in 1812. [...] original plans [...], [...] indicate rows of trees (likely fruit trees) in there.

This confirmed by OS 1st Edition surveyed 1847 which shows the walled garden divided by various lines of trees.

Walled garden in 2 parts; main irregular shaped garden, and a contiguous additional garden. The main garden is almost entirely planted with apples, while the additional garden to the east has top fruit and soft fruit.

Current owner planted 1000 varieties of apple trees out of interest rather than for commercial use. He still working out its use. Fruit currently tends to go to waste. Varieties sourced from Brogdale. Even replacements from Brogdale. [...]

Young orchard. Trying to work out how to use it. Not planted for commercial use. DUMF0202

[Noblehill Primary School] Protected in a garden of its own, separate from main playing area, but seriously fenced in and away from playground - little damage could be seen DUMF0117

One quote illustrated attachment keepers often have to the fruit trees, and motivations behind keeping them going:

The site of the old orchard remains, but the trees have been lost. The current farmer says that there has been no orchard there since he has lived there (all his life) but that there was a huge tree at the front that was so big they could pick the apples from the upstairs windows. Sadly, lightening struck the tree and it had to be felled as it was unstable and leaning toward the house. He has planted one apple tree that does well on the old orchard site. DUMF0087

8. CONCLUSIONS

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

- A total of 77 orchard sites were surveyed, of these 34 were found to be intact orchards.
- The total acreage of orchards remaining in this area was found to be 8.4 ha and the average area of each orchard was 0.33 ha.
- The survey showed that a significant area of orchards have been lost, and this has not been entirely offset by newer orchards. The lost orchards are typically 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. One large orchard of commercial size is 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 there are a minority containing mature trees.
- Veteran tree features indicate that some 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.
- Few undercrops are grown. This is at a lower level than most of Scotland.
- Most fruit is used for family and friends; very little is sold either locally or commercially.
- Livestock is grazed in a handful of orchards, these mainly being sheep, horses and fowl.
- The qualitative data demonstrates the changes that have occurred in the orchards of this area.

To conclude, Dumfries and Galloway contains a relatively small number of small orchards, most of which are quite actively managed and from which the fruit is used within the domestic setting. There is one private collection that contains 1000 apple varieties. Most of the historic mature orchards that were once recorded, are now no longer present.

DUMF0202 P7280124.JPG



Plate 01. A historic walled garden of a castle, newly planted with 1000 varieties of apple.

DUMF0202 P7280126.JPG



Plate 02. One of the areas of the historic garden planted with young apple trees.

DUMF0202 P7280130.JPG



Plate 03. An archway of apple trees in the historic walled garden of a castle.

DUMF0202 P7280133.JPG



Plate 04. Another area of the castle's walled garden is planted with a mix of fruit bushes and apple trees. Fruit bushes in the photo are affected by fireblight. Cancer is a problem on the fruit trees throughout (not shown).

DUMF0014 241016.JPG



Plate 05. A site of a neglected and overgrown domestic garden orchard with some fruit trees still present.

DUMF0011 Orchard.JPG



Plate 06. Well cared for small farmhouse orchard with some very impressive mature trees as well as new plantings.

DUMF0141 Apricot & fig.JPG



Plate 07.

DUMF0012 (1).JPG



Plate 08. An unkempt mature apple tree in a declining mature house garden orchard. Fruit not used currently as apparent from the windfalls.

DUMF0040-3.JPG



Plate 09. A small mature orchard of apples and damsons. An apple tree with bracket fungi visible in the photo. The orchard is in the process of replanting.

DUMF0047-6.JPG



Plate 10. A small mixed orchard by a farmhouse. Trees are over 60 years old but still produce well and are well used.

DUMF0204CallyGardens2.jpg



Plate 11. Calley Gardens nursery. A large walled garden with a small orchard of young to mid-age trees, mostly unmanaged.

DUMF0209_Whitefield.jpg



Plate 12. A remarkable medium-sized orchard in a domestic garden with a record of trees from 1943. The trees are not tall, as they have always been well-maintained and pruned annually. Lichen growth on branches typical of mature trees in the area.

DUMF0210-Headrick_Cottage.jpg



Plate 13. A small orchard of mixed ages and species in a well kept domestic garden.

DUMF0041-2.JPG



Plate 14. A site of a house garden orchard on a farm which had declined and was removed decades ago.

DUMF0044-3.JPG



Plate 15. A site of a disused walled estate garden which used to contain an orchard a number of years ago. Only a couple of fruit trees remain.

DUMF0032-1.JPG



Plate 16. A large domestic orchard of mature apple trees (>85 years old), predominantly eaters. Well used and maintained but not being replaced.

DUMF0090-1.JPG



Plate 17. A mature orchard in a domestic garden.

DUMF0094-1.JPG



Plate 18. Mature apple trees in a historic house garden - house currently under renovation.

DUMF0091-2.JPG



Plate 19. A small new orchard in a domestic garden.

DUMF0216-3.JPG



Plate 20. A small orchard in the grounds of the Caerlaverock Wetland Centre. The orchard was planted on World Wetlands Day 2 February 2011, in memory of Carol Hesketh.

DUMF0083-2.JPG



Plate 21. A domestic orchard of 20+ apples, damsons and pears planted in 1990s. The orchard is part of SRDP Organic Maintenance scheme.

DUMF0034-1.JPG



Plate 22. A lovingly restored domestic garden, including a small orchard.

DUMF0006 (2).jpg



Plate 23. One of mature apple trees in an orchard dating to 1850s.

DUMF0007 (1).jpg



Plate 24. Newly planted fruit trees in a walled garden under restoration.

DUMF0010 (3).jpg



Plate 25. A mature neglected farmhouse orchard.

DUMF0020 (2).jpg



Plate 26. A small mature farmhouse orchard of old Scottish apple varieties.

DUMF0023.jpg



Plate 27. A site of an orchard in a large walled estate garden - the trees used to be grown against the wall but have now long disappeared to give way to a landscaped ornamental garden.

DUMF0035 (4).jpg



Plate 28. A neglected small farmhouse orchard.

DUMF0036 (2).jpg



Plate 29. A small mature, and well maintained orchard in a walled garden - separated from the main landscaped garden by a tall beech hedge.

DUMF0036 (3).jpg



Plate 30. A mature fruit tree espalliered against the garden wall in a small, well-cared for orchard in a walled garden.

DUMF0072 Ladyfield East (1).jpg



Plate 31. One of a couple of trees remaining at an historic orchard site in the grounds of Crichton Royal Hospital hospital site, a part of its horticultural therapy.

DUMF0075 (2).jpeg



Plate 32. A site of a historical orchard, now lost to development.

DUMF0076.jpeg



Plate 33. A site of a historic orchard, now lost to development.

DUMF0116 (1).jpg



Plate 34. A small new orchard at Georgetown Primary School - there are signs of broken branches due to vandalism.

DUMF0117 (3).jpeg



Plate 35. A small young orchard in a well protected school garden of Noblehill Primary.

DUMF0135 (2).jpg



Plate 36. A small young orchard at Lochside Primary School - some damage suffered by trees as it's a part of P1 playground.

DUMF0136 (1).jpg



Plate 37. A mixed young orchard at Allanton Sanctuary walled garden.

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 30 mins. The maximum time on site was reported as 120 mins, while the minimum was 2 mins.

In Dumfries & Galloway, the total time-on-site was recorded as 38 hours.

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

The time to fill in the survey webform is recorded automatically by the forms service. It shows that on average it took 18 mins to complete a submission in this area.

The total time recorded for filling the survey webforms is 10 hours for this area.

This does not include preparation, fettling photos and ensuring all file uploads have the correct Orchard ID as filenames.