Traditional Orchard Survey instructions

people's trust for endangered species

For the purpose of this work we are defining an orchard as five or more fruit trees that are no more than 20m apart from crown edge to crown edge.

The survey form is a series of questions which should take approximately 5 - 15 minutes to complete once you have arrived at each site. The following pages will help explain the survey form in more detail.

You will be assigned a set of potential orchards that will be marked, with their reference number, on an Ordnance Survey map. Before setting out for the day, take some time to study the maps and identify where there are access points such as roads, public footpaths and rights of way. Planning a route prior to departure will save you both time and effort.

Your map may refer to lower priority survey sites which do not appear to meet the habitat definition. These are not a priority for surveying, but please visit them if you have time as there is a chance they may in fact be a traditional orchard or have significant interest.

You may be able to gather some of the information without the need to enter a site if it is visible from a public right of way. Please do not enter land that you do not have permission to access. Often the easiest way is to find the landowner is to knock on the door of the nearest house and enquire. Always take someone with you if you are doing this. Alternatively there are orchard owner questionnaire packs which can be posted through the door of the nearest dwelling. When doing this please write the site number of the orchard in the space provided on the questionnaire.

If an orchard owner approaches you or is easily identified then explain the aim of the survey and ask if they would allow entry to the orchard to undertake a survey. Most landowners are happy to talk about their orchards but if at any time you feel uncomfortable or if an unsympathetic orchard owner approaches you do not hesitate to move on to the next site. Please pass on my contact details (at the end of this document) to anybody that would like further information or clarification about the project.

Please familiarise yourself with the 'potential risks for survey volunteers' document provided in your survey pack before embarking on surveying and always let somebody know where you are planning to work. Do not put yourself or others at risk.

Equipment checklist

- Map
- Survey forms
- Identification sheets
- Orchard owner questionnaire packs
- Pens/pencils
- Long handled spoon
- Gloves
- Camera (optional)
- Mobile phone

The survey form

First establish if the orchard marked on your map still exists and is definitely an orchard. If not, still fill in numbers 1 – 6 on the survey form. Please make a note of the current land use in the comments section. For example intensive agriculture, woodland, development etc.

If there is an orchard present continue filling in the survey form by ticking the appropriate boxes. Fill in any other comments you feel may be useful at the end of the form.

1. Site number

This is the number of the orchard as marked on your map and will help us to organise the survey results.

2. Surveyor's name

By knowing who has undertaken each survey we will be able to easily contact the surveyor if there are any queries at a later date.

3. Orchard owner contact details

It will be helpful for future work if the contact details of the orchard owner can be obtained. For example we can contact owners with information about grants or training days in their area. Please ask for permission for People's Trust for Endangered Species to contact them regarding the project.

If you do not speak to an owner for a site please put an orchard owner questionnaire through the door so that they can provide us with the information should they so wish.

4. Date

The date that the survey was undertaken.

5. Visibility

This does not refer to access on to the site but to the visibility of the site.

Some sites will be easy to view, some will only be partially seen from the footpath or road and others may be impossible to see if you cannot gain access. The level of visibility will affect the level of information that can be gathered.

If the orchard can only be seen partially and you cannot gain access then tick the limited visibility box and fill in as much information as you can. If the orchard cannot be seen at all then still fill in numbers 1 – 5. In these instances please put an orchard owner questionnaire through the door.

6. Determination of orchard type

If there is an orchard present and it can be viewed easily and safely, does it appear to be traditionally managed?

An information sheet showing the differences between orchard types is provided in your survey pack together with a sheet outlining the indicators of orchard management. The simplest visual indicator of intensive management is the presence of herbicide-treated or cultivated strips/patches along the tree rows or beneath the trees, where the ground is generally bare or with some annual plant re-growth. These bare strips/patches contrast with the permanent grassland of the between-row spaces. You may need to look carefully for signs of chemical use as it may not be as evident at certain times of the year.

7. Orchard and tree management status

By looking at the orchard floor and fruit trees, you can determine how the site is managed.

The way in which the orchard floor is managed will affect the wildlife present. To establish ground floor management look for evidence of animals, machinery, uniform mow lines or chemical use.

Livestock grazing is ideal if undertaken at the correct intensity with appropriate livestock species. If no animals are present at the time of surveying then please try and identify stock from any droppings and look for grazing damage to trees. In some orchards, without tree protection, livestock can have a detrimental impact and animals may cause serious damage to trees.


Evidence of mowing


Evidence of herbicides


Tree guards


Grazing damage

Determine if the orchard trees are being managed - for example is there evidence of pruned branches, are there piles of cut branches (brash) on the ground or has the orchard become abandoned and overgrown with scrub? Refer to the information sheet outlining the indicators of orchard management.

8. Tree planting evidence

Maintaining a diverse age structure and ensuring the continued presence of the orchard in the landscape is one of the most important aspects of traditional orchard management.

Determine if the old orchard trees are being replaced when they die. Are there gaps in the orchard with no evidence of new tree planting or are gaps being filled with new trees? Is the orchard fully stocked (no gaps) and therefore there is no need to plant new trees at this time?


Mature orchard with gaps and no new planting


Mature orchard with new planting


Fully stocked orchard with few or no gaps

9. Fruit tree species

If possible identify the species of tree present. A simple fruit tree identification guide is included within your survey pack.

10. Number of old fruit trees

Estimate how many old fruit trees you think are present and tick the corresponding box. Old fruit trees are those with veteran features such as dead wood, cavities, rot holes and loose bark.

This will provide us with an idea of the extent of decaying wood habitat available to many different species. Larger tree populations might support a wider range of species and large numbers of old trees suggest continuity in the landscape allowing a greater diversity of species to colonise over time.

11. Number of young fruit trees

Estimate how many younger fruit trees, without the veteran tree features above, you think are present.

This will provide us with an idea of the ratio of old trees to younger trees in the orchard and to establish if younger trees are available to replace the older ones as they die.

12. Vegetation DAFOR scale

The type of vegetation present on the orchard floor can influence diversity.

For each vegetation type (brambles, nettles, thistles, grass and scrub) estimate the amount present and assign a letter code using the DAFOR scale below. If it is absent please leave the box BLANK.

D	Dominant	The main vegetation type. Usually more than 70% cover
A	Abundant	Many individuals or patches visible, usually 30-50% cover
F	Frequent	Several individuals or few patches, usually 10-20% cover
O	Occasional	A few individuals or small patches, usually 5-8% cover
R	Rare	Very small patch or individual, usually 1-3% cover

13. Site grade for noble chafer

By assessing the condition and age of the fruit trees in the orchard a grade can be given to the site that will provide an indication of suitability for the noble chafer beetle.

An orchard grading system sheet has been provided in your survey pack.

14. Veteran tree features

Is there any deadwood present in the orchard? This could be on the ground (e.g. detached fallen branches or parts of trunk lying on the floor), in the canopy or as whole standing dead trees.

Are there any trunk or branch cavities present on the trees? Inspect the main trunk to see if there are any large holes and look into the crown of the tree to see if there are smaller diameter holes in branches. Hollowing may be easily visible or can be concealed within an apparently intact trunk or limb. It occurs through a combination of wounding and decay and an entirely hollow stem or partial shell may result.

15. Noble chafer signs

With your arm, a long handled spoon, or similar such implement reach into any accessible hollows and collect a handful of the wood mould that is inside. Check this wood mould material for noble chafer droppings (frass). It may be useful to use a white sheet or piece of paper for this as when shaken the pellets usually come to the surface. See the noble chafer fact file in your survey pack for help with identification.

If you discover noble chafer larvae please leave them undisturbed, however if frass is found please take a small sample and post it to us for verification.


Looking for noble chafer evidence


Sifting for frass

Noble chafer frass


Noble chafer larvae

16. Other habitats

Have a look around the site to see if there are other important habitats to record. This may include species rich hedgerows, ponds and non-fruit tree species that are likely to increase diversity.

17. Other species

Make a note of any other species that you may encounter such as mistletoe, lichen, butterflies and birds of interest.

Comments

Add any additional information that you feel may be useful or of importance.

Un-mapped Orchards

Orchards may be encountered that are not marked on your maps. If such an orchard is discovered, please mark it on the map giving it a temporary number and complete a survey form for the site.

If you are not able to post your map back to us, please provide a grid reference or postcode and a clear description so that we can easily find where the site is.

On completion

Please return your completed survey forms together with your maps to the freepost address below (NB this must be written in capital letters. You do not need to affix a stamp):

FREEPOST PTES

I hope that you have enjoyed this work. If you would like to do some more surveys then I will be delighted to send you another set of maps. Either call or email me and I will send some more.

Thank you very much for you time in helping People's Trust for Endangered Species and the traditional orchard habitat!

Emily Thomas
Key Species Monitoring and Data Officer

emily.thomas@ptes.org
020 7498 4533