

Orchards in the Tamar Valley Area of Outstanding Natural Beauty

Survey Report 2010/2011



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Slew Orchard, Devon

1. Introduction

The Tamar Valley is well known for its heritage of traditional grazed orchards. During 2010 and 2011 the Tamar Valley AONB team undertook a comprehensive survey of old traditional orchards remaining in the area following a long period of decline. The importance of traditional orchards has been increasingly recognised with their inclusion as a Biodiversity Action Plan habitat in 2007.

The People's Trust for Endangered Species (PTES) has been undertaking a national study to map traditional orchards within the whole of England at the request of Natural England. This began as a pilot project to look at the main fruit-growing belt and was subsequently funded to roll out a national programme. After contacting the PTES the Tamar Valley AONB agreed to work with the PTES within the AONB area, using PTES standard forms and methodology.

For the AONB the purpose of the survey is to discover the status of traditional orchards today, to see if they are being actively managed or if they are threatened. The results of the survey will inform future policy and management planning.

2. Methodology

2.1 Desk based assessment

The PTES undertook a desk based assessment exercise to identify orchards from aerial photography. The orchards were mapped on a GIS system and basic information recorded. The polygonised data was made available to the Tamar Valley AONB.

The AONB Project Officer and Project Manager reviewed the orchard data supplied by the PTES using both existing knowledge of the area and aerial photography data. Boundaries were amended where appropriate, and orchards deleted or added where their status was known (see Appendix).

2.2 Preliminary survey

The results of the desk-based assessment were ground-truthed by AONB staff and volunteers, using the PTES preliminary survey forms. This was done for all orchards thought to be visible from a public right of way or highway, to avoid the need for landowner permission for orchards that had ceased to exist. Volunteers were brought into the Tamar Valley Centre for a short training session and were each given a survey pack as well as a list of orchards to visit.

Results from the preliminary survey were used to update the GIS dataset and calculate which sites could go forward to full on-site survey.

2.3 Full survey

All known landowners were written to asking for permission for a volunteer surveyor or member of staff to visit the orchard to fill out the full survey forms (see Appendix). Landowners were also contacted by phone where appropriate. For those orchards without known owners letters were sent to the nearest postal address to the orchard. This method then relied on households to pass the information back to us if we had an incorrect address, or pass the letter to the actual landowners.

In most cases appointments were made to visit the orchard with the landowner present. This allowed the Owners' questionnaire portion of the full survey to be filled in on site. The questionnaire was left with pre-paid envelopes at the orchard owner's house where they were not present at the time of survey.

2.4 Analysis

Basic information was captured from the returned forms into an excel spreadsheet. The presence or absence of the sites was copied to the GIS dataset to produce a definitive map of the orchard coverage in the Tamar Valley (see Appendix). Filled Survey forms and GIS information were passed on to the PTES for incorporation into the National Survey.

During the project Devon County Council expressed an interest in sites that would be suitable for consideration as County Wildlife Sites. The data were analysed against the requirements and owners of those that fit the criteria were contacted to ask permission for consideration as a CWS.

3. Results

Volunteers and staff visited 97 orchards and recorded the types of fruit trees present, whether old or newly planted trees, the current management regime and whether or not the orchard was in an agri-environment scheme. For a further 5 orchards information was gathered by the landowner or PTES direct.

Of the 102 orchards surveyed, 86 met the PTES definition of a traditional orchard with over 5 old trees. A further 16 orchards were either new or replanted with less than 5 old trees present. In terms of old trees, 46 of the orchards surveyed had less than 10 trees, and only 35 had over 10 trees, with none over 100. Newly planted or replanted orchards fared better for numbers of trees with 22 orchards over 30 trees and 4 orchards with over 100.

We were keen to find out if the traditional orchards were being actively managed, so surveyors looked for signs of management like pruning or replanting, and also management of the surrounding pasture by grazing or mowing. The survey revealed that 39 orchards were being actively managed and of these 31 were in an agri-environment scheme, underlining the importance of these schemes in encouraging orchard maintenance. Of more concern is the fact that 59 showed no sign of recent management, and 24 orchards were thought to be at risk. In most cases this was either lack of management, with excessive scrub growth for example, or damage by grazing stock. Grazing is a good way of keeping orchard pasture under control and can contribute to the biodiversity value but stock, especially cattle or horses can damage the trees if they are not guarded.

One of the main aims of the PTES survey was to look at habitat value, focusing on the old trees themselves. Over the 102 orchards that were surveyed, 71 included trees that demonstrated veteran tree features such as flaking bark, splits and holes in the trunk and heavy colonisation by lichens. These features show the importance of old orchards, in that apple trees show veteran characteristics comparatively early in their life span of approximately 100 years. The fissures and holes in the tree trunks and branches can host many species, such as birds, bats and insects. Orchards are now seen as comparable to ancient woodland in these habitat characteristics.

Different fruit varieties were recorded in the orchards and while apples occurred in each of the 102 orchards, cherries and pears occurred in 36, and plums in 27.

In Devon orchards over 0.5 ha were evaluated for their potential to become designated as County Wildlife Sites and 3 orchards were submitted to Devon Biological Records Centre, and with the consent of the landowners have now been successfully designated.

4. Discussion

Whilst it was valuable to be part of a wider survey the structure of the forms themselves resulted in limitations to the survey

- Although forms asked whether or not fruit trees other than apples were present, it did not ask for a specific number. The numbers of trees only listed young or old, so there is no way of teasing out the proportional representation of species.
- Some orchards had clearly been absorbed into formal gardens and for our purposes were not considered to be 'traditional orchards'. Some formal guidance on this may have been useful before the exercise

- commenced, as it is likely that some volunteers did not fully grasp the difference.
- There was no mechanism for recording the varieties of apples in each orchard. Although many owners did not know the varieties their orchard held, some were able to provide detailed records that are now held on file at the AONB office.

5. Further Work

As orchards with other fruit species have been recorded and landowner details are now known it would be a simple exercise to re-visit the sites to count the number of trees of each species. It may also be advantageous in future to formalise the data obtained from some owners regarding the varieties of apples within their orchards. The 2009-2014 Management Plan lists genetic fingerprinting of apple varieties as an exercise for consideration. Although two mother orchards exist within the AONB (Cotehele and Morwellham) there may be other varieties within the orchards of the valley that are not held at the above sites. Referencing the current orchards dataset against the historic Market Garden work may yield information about the time depth of these sites rather than comparing only to the first edition OS mapping. There is an existing GIS layer associated with the market gardening work.

6. Acknowledgements

The Tamar Valley would like to acknowledge the invaluable help of the volunteers who helped in the orchards survey; it would not have been possible without them. Our gratitude also extends to the staff at the PTES especially Anita Burrough.

7. Appendices

Map 1: Traditional Orchards 2011

Map 2: Traditional Orchards – Maximum historic extent

PTES Survey form