

ORCHARD SURVEYING,
ORIGINS, RESTORATION & RE-CREATION,
FRUIT & NUT IDENTIFICATION, ORIGINS & RESEARCH,
CULTURAL LANDSCAPE & CULINARY HISTORY,
TRADITIONAL ORCHARD SKILLS TRAINING.

“ORCHARDS EAST”

a collaboration



LandScape
group

University of East Anglia

SUFFOLK TRADITIONAL
ORCHARD GROUP

A member of
SUFFOLK BIODIVERSITY PARTNERSHIP

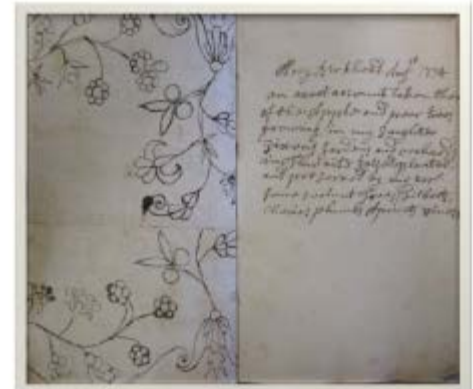


VARIOUS SURVEYS & METHODS

- **Before 2000 Hertfordshire (HOI) catalogued sites from old maps.**
- **2006/7 Norfolk EEAOP2000 & later Cambs.** Using Millenium Edition OS 1:50,000 (1.25"=1mile) maps. **Estimated that 108 commercial Norfolk orchards still existed** (smaller sites were not recorded on these maps).. Volunteer surveyors check each site.
- **2006/7 Suffolk: First GIS mapping?** 2nd Ed OS maps, 6" = 1mile (1905-1925 approx 6,250 sites). Survey began in 2009/10. Parish surveyors check each site PLUS the PTES data. **Continuing, but so far about 500 sites visited and confirmed as orchards, and 900 expected in total, almost all of the "residential" form.**
- **2008/9** start of **Peoples' Trust for Endangered Species survey of England** (under contract to Natural England): aerial survey and mapping. Digital data provided to ground based volunteers and local organizations.
- **2009/2010,UEA/Patsy Dallas**, surveyed 5 sample areas representing about 1/6 of Norfolk. This data suggests that a minimum of $6 \times 570 = 3,780$, and probable maximum of 7,000 orchard sites existed in 1880, **and probably over 1,000 today.**

Orchards in the Norfolk Landscape: historic evidence of their management, contents and distribution.

Patsy Dallas, MA
March 2010.



Mary Birkhead, Aug 1734
an exact account of the
of the Apples and pear trees
growing in my daughter
Dorcas garden and orchard
in Thetford town, planted
and preserved by my care.
Some of the trees, viz
cherries, plumbs, apricots, &c.

TRADITIONAL ORCHARDS IN SUFFOLK

The “Traditional Orchard”, was recognized as a UK Priority Habitat by the UK Joint Nature Conservation Committee (JNCC) in 2007. A short definition is:

“Groups of fruit and nut bearing trees, managed in a local or regional traditional manner without spraying, generally on vigorous rootstocks, in semi-natural grassland, often grazed.”

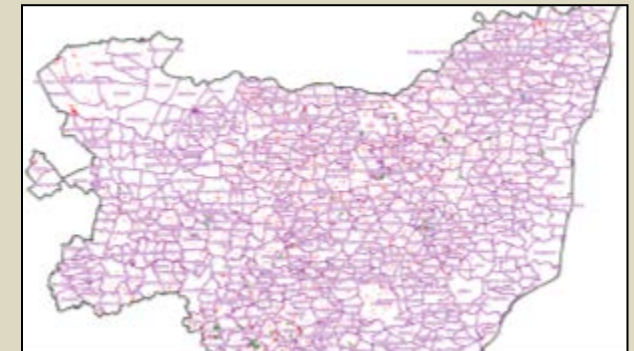
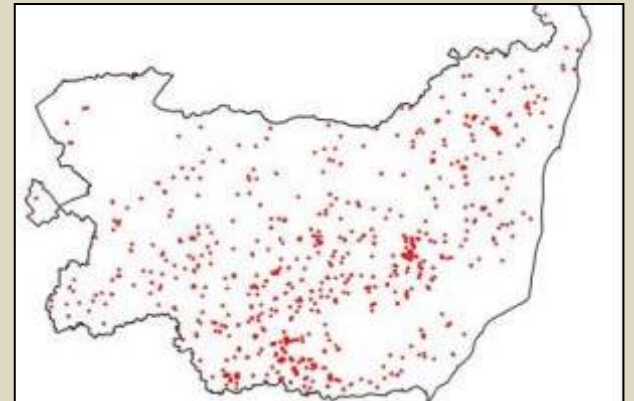
In 2009 the Suffolk orchards, over 6,250 orchard sites, on these maps were recorded by the Suffolk Biological Records Centre from 2nd Ed OS (6” = 1 mile) maps of 1905-1920.

Identifying which are still in existence requires a visit.

In 2009 People’s Trust for Endangered Species (under a contract from Natural England) started to record all English sites that seemed likely to be traditional large tree orchards using aerial/satellite surveys. They supplied the first Suffolk map to us in 2010 with 660 possible sites.

The PTES survey of Suffolk was not a complete record of all old orchards still in existence; and not all these sites are orchards, so they need to be visited and checked.

We needed a single map for both management and the surveyors that carried all the information all the information



STOG surveyors have visited over a thousand ancient sites many of which have vanished. However, many were found still to exist, and a large proportion (up to 70%) had not been recognized by PTES. Some of these are large wood-pasture-like / parkland sites with scattered trees, and other sites where the line structure no longer exists.



A wood pasture-like ancient Suffolk orchard in early spring. Pears, plums and cobnuts in open grassland. 18 trees in all. Originally had over 40 large trees. Framsdan, Suffolk .



Traditional orchards in Suffolk

Orchards are very vulnerable to change and many old sites now look like this....!

By 2013, about 300 of the possible PTES sites in Suffolk have been checked or visited; about 70 are not orchards.

It is now thought that over 900 orchards still exist in Suffolk, and that without both sources we could not locate them.

Several very large and old and important orchard sites have been discovered, not recorded previously by either PTES or by OS.



The leaning tree is the only orchard tree left in a tangle of new woodland (apple D'Arcy Spice)

The ORCHARDS EAST project sets out to survey the 6 counties of modern East Anglia/east of England.

In 2011 Peoples Trust for Endangered Species, using aerial surveys and maps, estimated 3,879 possible traditional orchard sites in East Anglia:

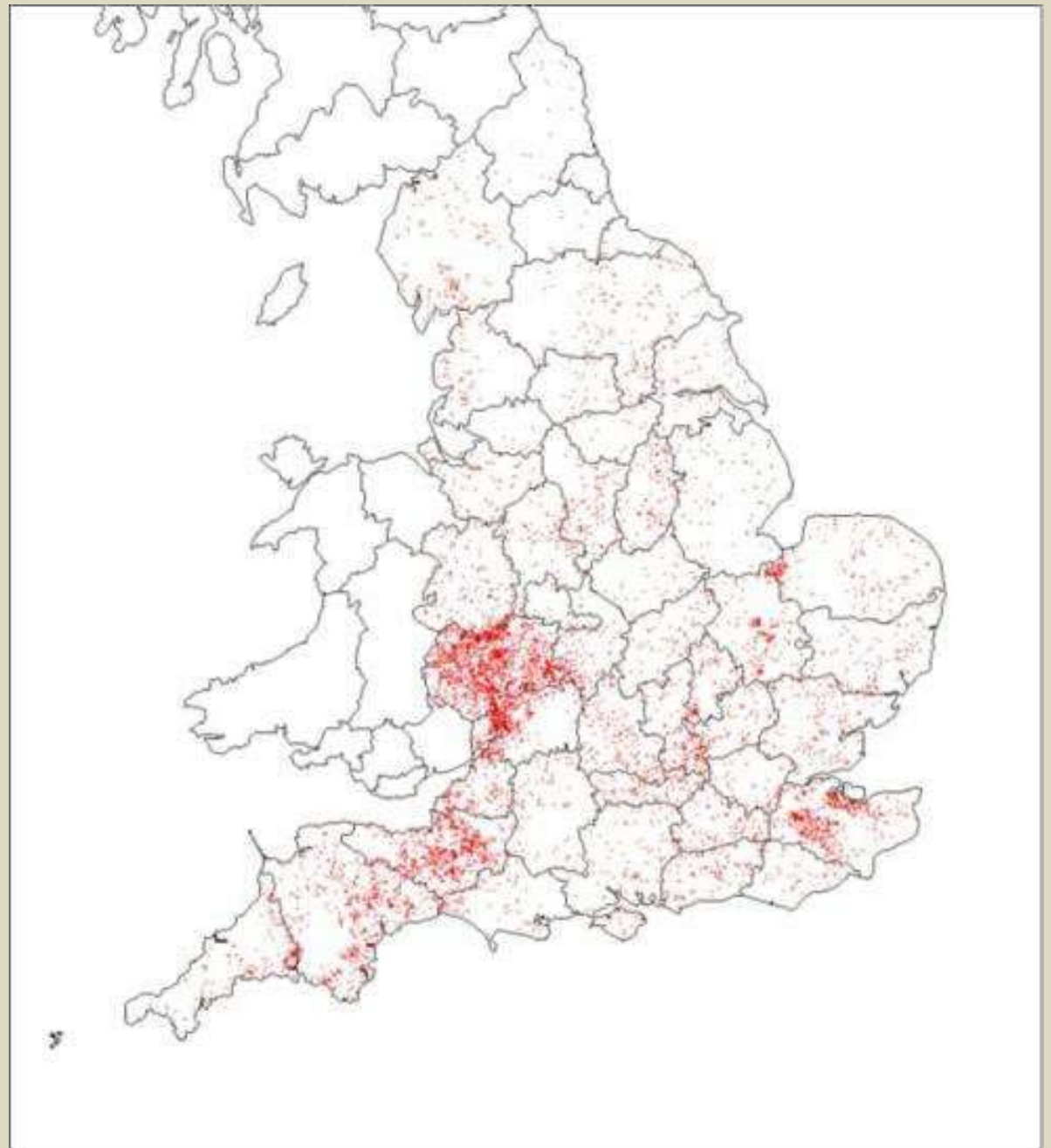
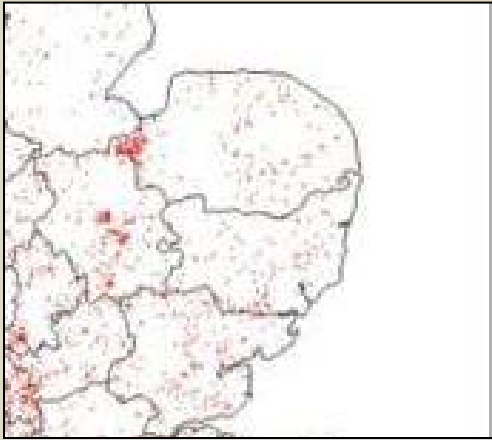
Bedfordshire	235
Cambridgeshire	890
Essex	832
Hertfordshire	477
Norfolk	825
Suffolk	620



It is difficult to estimate the actual number in the 6 counties as a whole.

However it seems likely that unless both PTES and Old 6" to the mile OS maps are used the true extent of what remains will not be discovered.

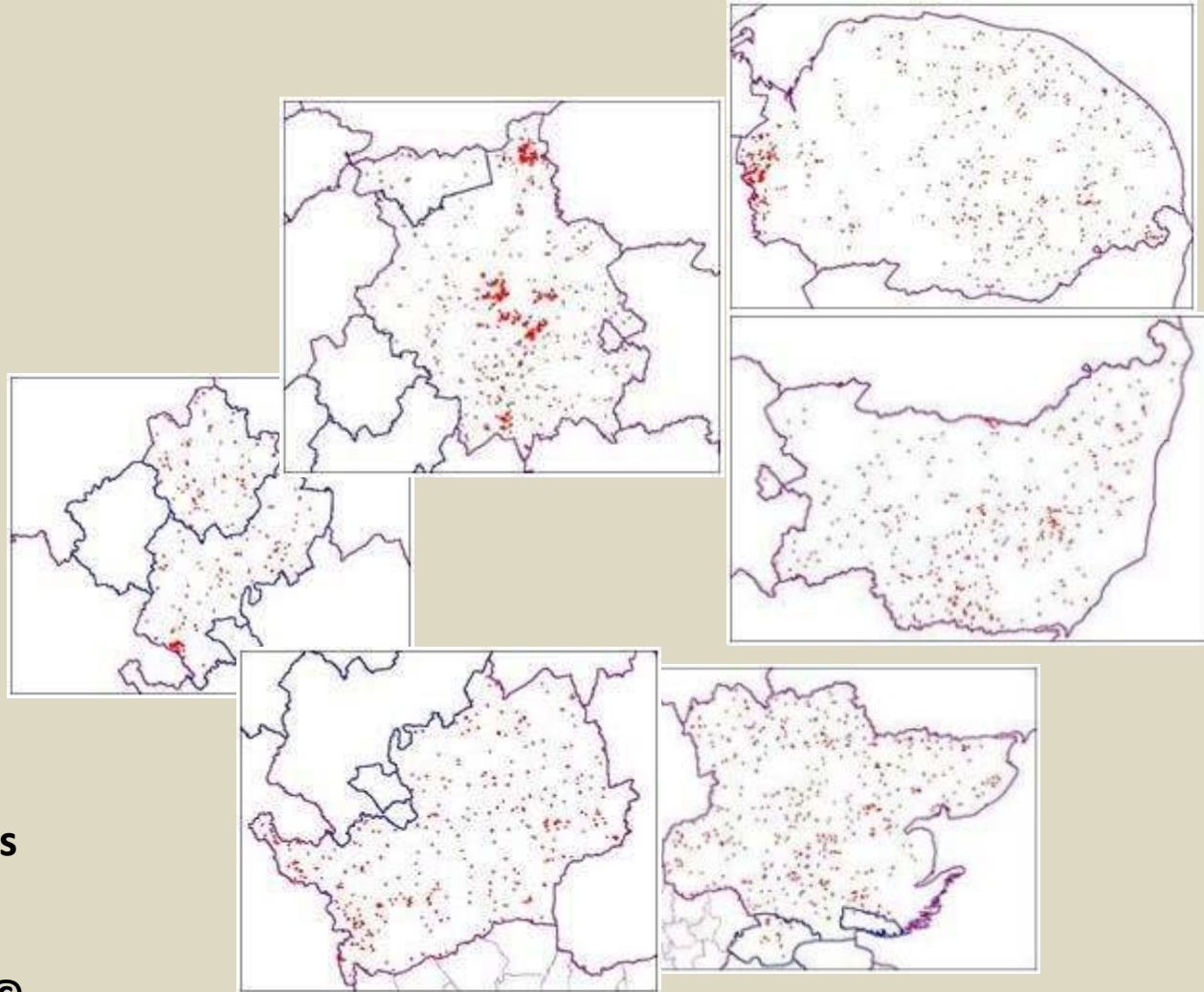
Using both sources for all 6 counties will enable a regional evaluation of the habitat, and provide the basis for further research.



**Extent of
traditional orchards
in England 2011.**

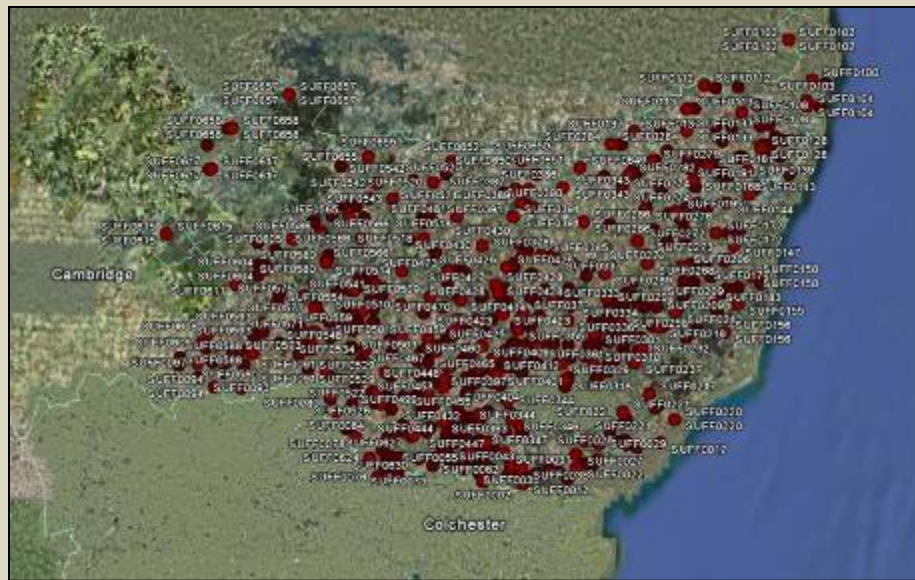
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100046223 (2011)**

ORCHARDS EAST



**Extent of
traditional orchards
in England, 2011.**

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The Project Manager has a suite of maps and annotated satellite images showing historic orchard sites and the PTES database of sites.

PTES sites can be shown as red dots on satellite images at different scales.





Map Search
Choose from the search criteria below

Places:

Feature Tools
Click on an icon below to bring up more options

OSGB36 | 1:23,276

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Coords: (607178,279060) Grid Ref:TH071790

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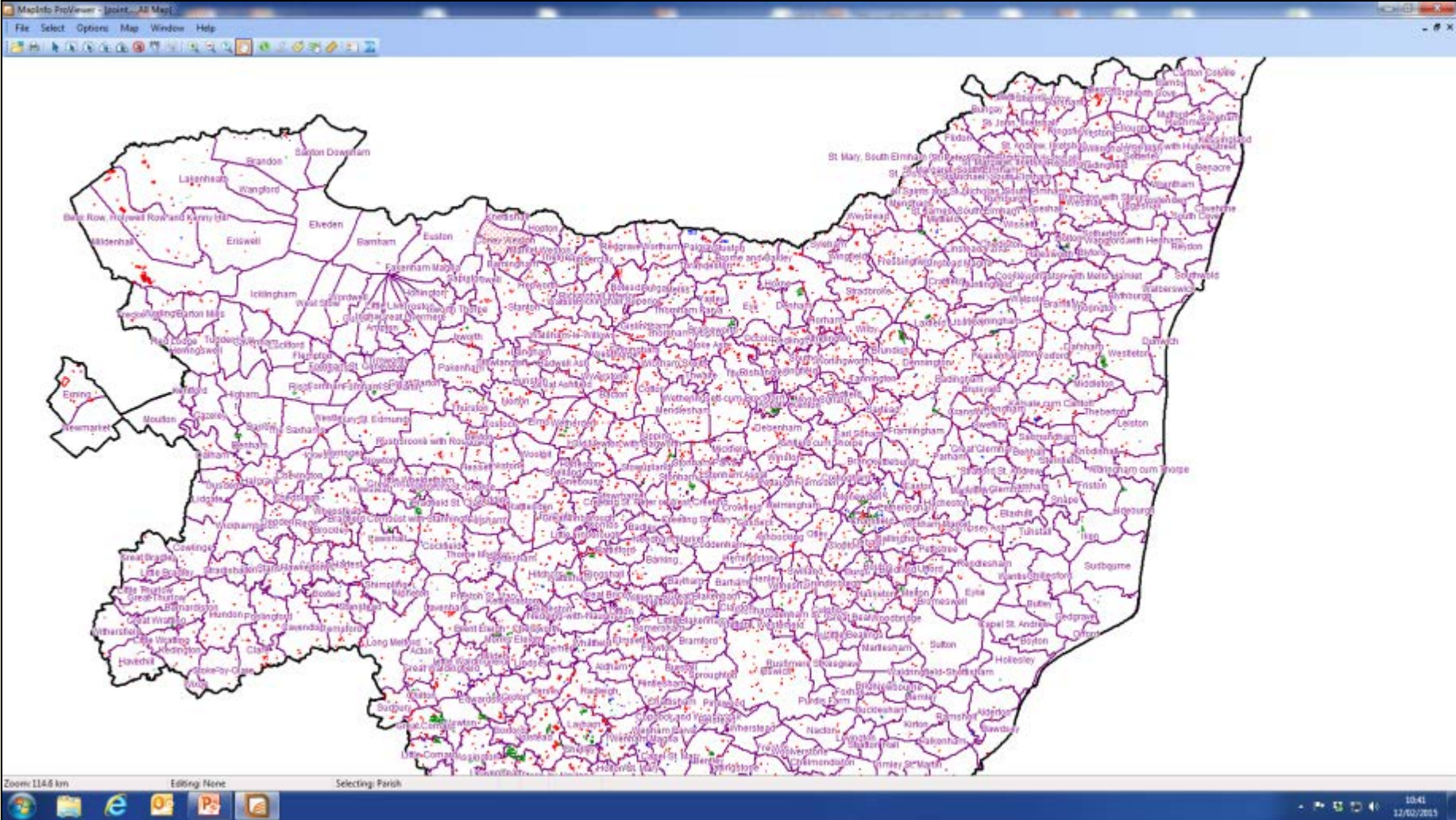
Proposed **Orchards East** Survey Method

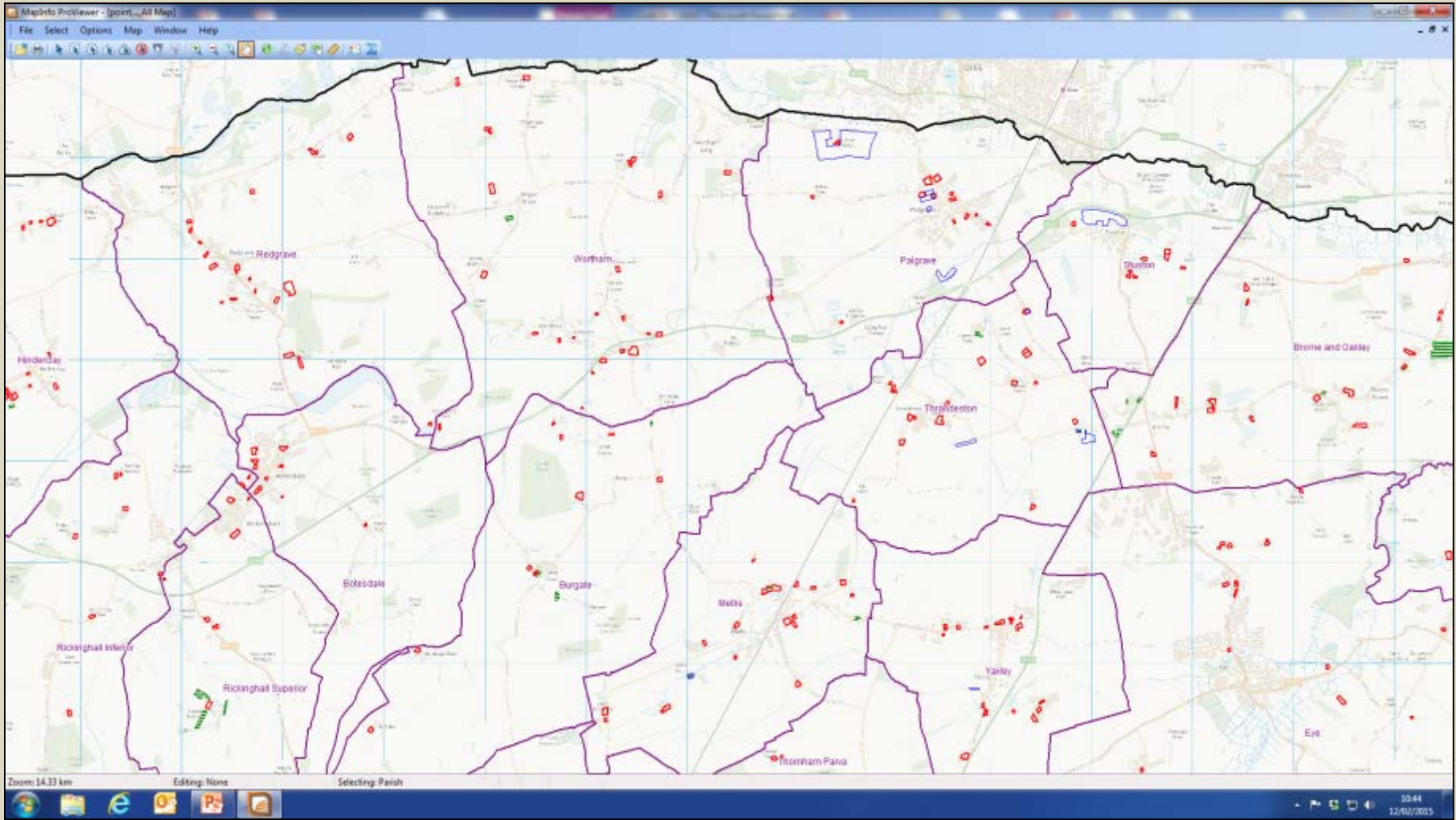
I

- 1 Agree the division of regions into practical Survey Management Areas, probably counties.

- 2 Mapping Centre or Centres agreed, and assemble source data and produce Survey Management Areas Orchard Maps on MapInfo.
 - a. Historic 2nd Ed OS orchards as **RED** polygons,
 - b. PTES sites (which include HLS agreement parcels) as **BLUE** polygons each with a PTES number eg **SUFF201**.
 - c. Current orchards as **GREEN** spotted or hatched polygons.

MapInfo screen view of Suffolk, as proposed for the

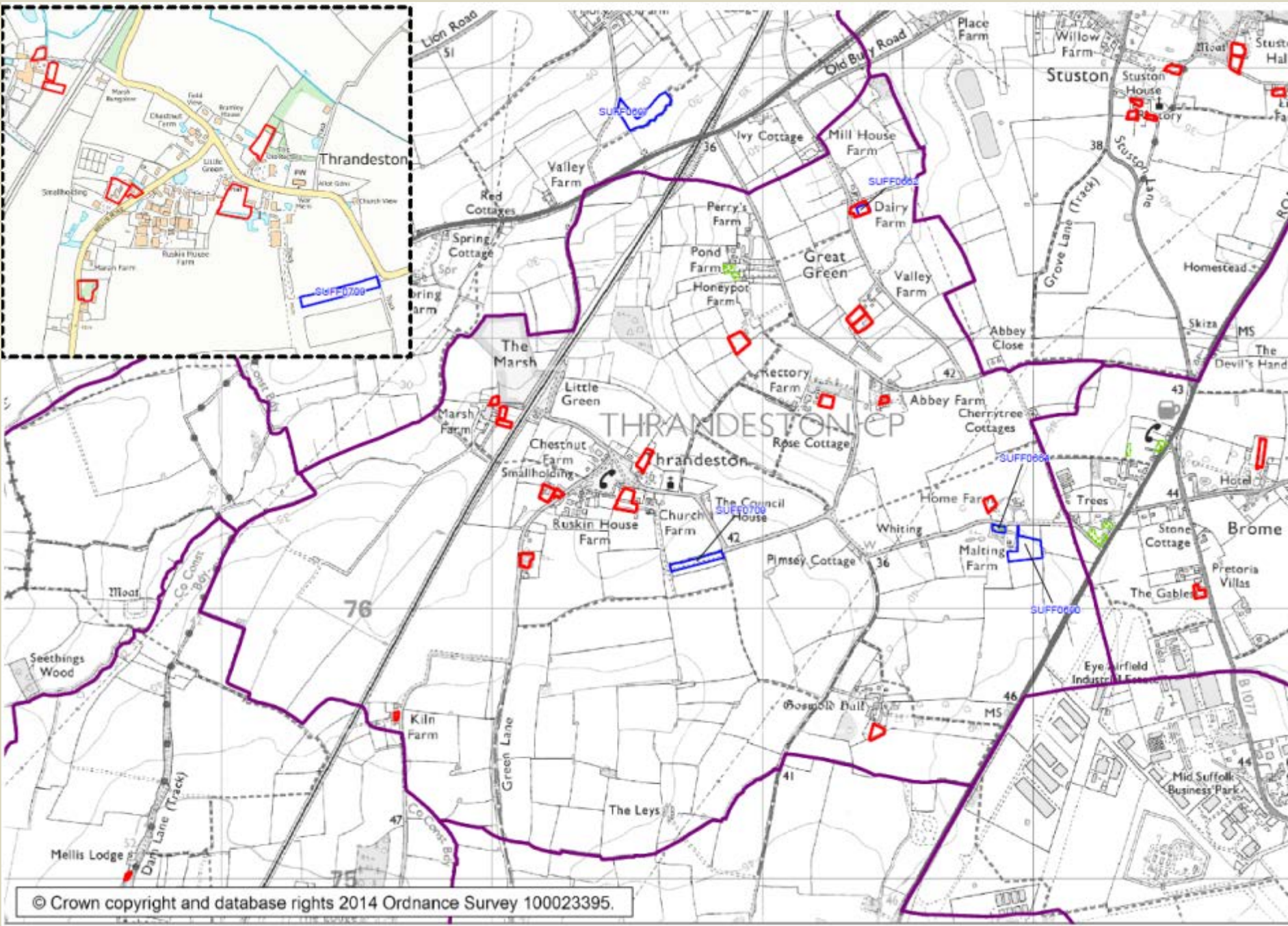




Proposed **Orchards East** Survey Method

II

- 3 Orchard Survey Manager appointed for each region.
- 4 Recruitment and training of volunteer surveyors and allocation of personal survey areas under guidance from the Orchard Survey Manager. Orchard Surveyor Training Courses using an agreed standard Phase 1 form
- 5 Each Volunteer Orchard Surveyor supplied with a digital pdf map file of their personal survey areas, probably a parish or group of parishes.
 - a. Historic 2nd Ed OS orchards as **RED** polygons,
 - b. PTES sites (which include HLS agreement parcels) as **BLUE** polygons each with a PTES number eg **SUFF201**.
 - c. Current orchards as **GREEN** spotted or hatched polygons.
 - d. A magnified scale inset can be made and located in a corner of the map



Proposed **Orchards East** Survey Method

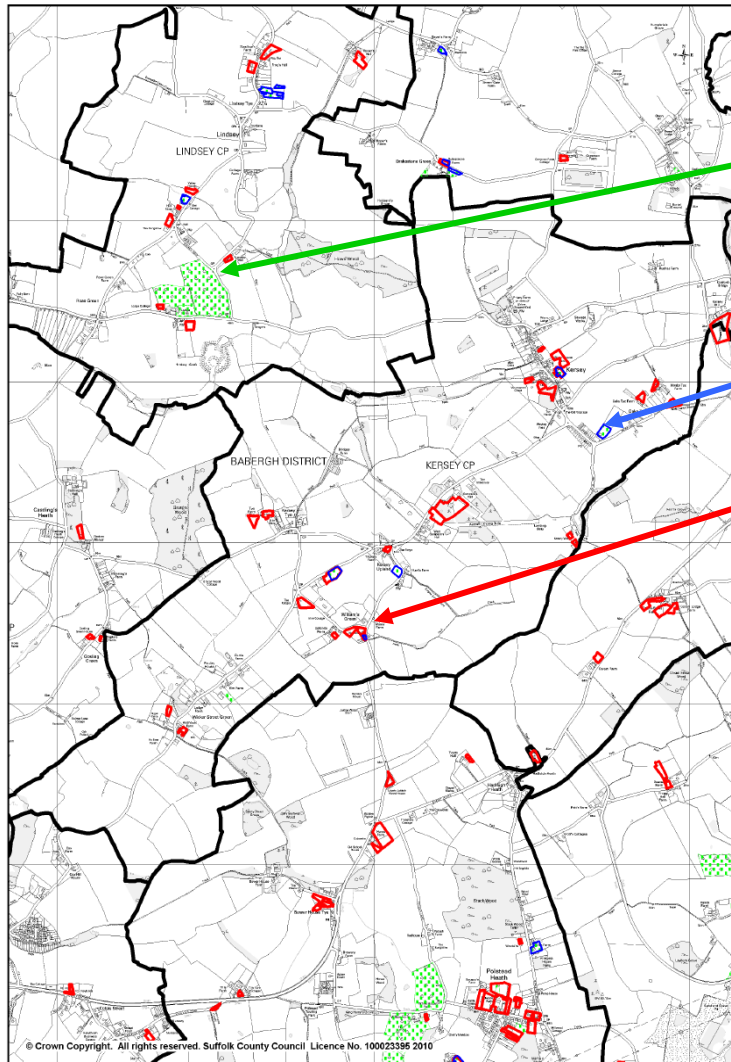
III

- 6** Surveyors print out their PDF map (in colour) and annotate all site numbers 1-n on the printed map (PTES Sites will be annotated with its PTES site no),
- 7** print out a blank survey form for each site,
- 8** and carry out the surveys, recording data.
- 9** Surveyors return completed survey sheets to the regional Orchard Survey Manager.

ORCHARD SURVEY PROCEDURE. Digital maps are available that show all known potential orchard sites as coloured overlaid polygons on modern maps, from three sources.

1 The Project Manager prepares a digital map file of the each parish a surveyor is working on and emails it, or post a print-out, to the surveyor.

Example of an Orchard map of Kersey, Suffolk, provided to the local surveyor



GREEN = sites designated by a green orchard symbol on the current OS digital MasterMap. Almost all these are modern commercial sites.

BLUE = sites recognized by PTES, using maps and Google earth aerial photographs, as likely to be Traditional Orchards.

RED = sites designated by an orchard symbol on the 2nd Ed 5" = 1mile OS maps of 1905-1920

2 After training the surveyor visits each site and completes a **survey sheet** with details for each site, and returns them.

3 A selection of the best sites are then scheduled for botanical, zoological, landscape or crop surveys.

Phase 1 SUFFOLK ORCHARD SURVEY, complete boxes, or delete as appropriate (tick one box for each tick. Tick any other information relevant on the back of this page.)					
Surveyor's name	Date of visit				
Parish	OS Grid Ref				
Site No	Location				
1 Does the orchard still exist completely or partially? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> OS Grid Ref of site (if any)					
2 How much of the mapped area of the site is still present as orchard? (Give percentage if possible, please)					
3 Approx how many fruit trees including stone fruits & nut trees are present within the site?					
4 a What is the form of most of the trees?					
Standard, 1-2m stems	Small multi-stemmed bushes or trees	Spindly bushes to 2m			
b Briefly describe the tree canopy, and how many are more than 20cm DBH in diameter.					
5 Are there fruit trees or bushes (including stone fruits & nut trees) growing in the hedges around the site?					
6 What is the composition of the ground cover?					
Mown grassland	Grass/grassland	Rough grassland	Scrub/shrubland	Bare ground	
7 Are there fruit bushes (including stone fruits & nuts) growing inside the boundary hedges of the site?					
8 If present, what animals are seen?					
Cats	Dogs	Horses	Chickens	Goats	Other (please specify)
9 Do trees show any signs of damage by livestock?					
10 Is the orchard no longer visible when in the current use of the site?					
Grassland	Arable	Housing	Commercial/industry	Other built development	
11 If the orchard no longer exists, are there any fruit trees still present on the site? If so, how many?					
12 Details of owner, or "owner" if available, name, address, tel. no, email, ... if possible.					

Phase 1 SUFFOLK ORCHARD SURVEY, complete boxes, or delete as appropriate

Use one sheet for each site. For any other information please write on the back of this page.

Surveyor's name		Dates of visit/s	
-----------------	--	------------------	--

Parish		OS Grid Ref	
Site No		Location	

1 Does this orchard still exist completely or partially Yes No ***if YES go to Q2, if NO go to Q10***

2 How much of the mapped area of the site is still present as orchard? (Give percentage if possible, please)

3 Approx how many fruit trees including stone fruits & nut trees are present within the site?

4 a What is the form of most of the trees?

Standards, 1.5m+ stems.	Small multi-stemmed bushes or trees	Spindly bushes to 2m.
-------------------------	-------------------------------------	-----------------------

b Briefly describe the size trees, and how many are more than 30cm (1ft) in diameter.

5 Are there fruit trees or bushes (including stone fruits & nuts) growing in the hedges around the site?

 Yes No

6 What is the composition of the ground cover?

Mown grassland	Grazed grassland	Rough grassland	Scrub/brambles	Bare ground
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7 Are there fruit bushes (including stone fruits & nuts) growing inside the boundary hedges of the site?

 Yes No

8 If grazed, what animals are used?

Cattle	Sheep	Horses	Chickens	Geese	Other (please specify)
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9 Do trees showing signs of damage by livestock?

 Yes No

10 If the orchard no longer exists what is the current use of the site?

Grassland	Arable	Housing	Garden/amenity	Other built development
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11 If the orchard no longer exists, are there **any** fruit trees still present on the site?

If so, how many?

12 Details of owner, or "carer", if available, name, address, tel. no, email..... if possible.

Proposed **Orchards East** Survey Method

IV

- 10** Evaluation of orchard survey forms and data logging. Accessed for comprehensibility, and need visit by specialists in wildlife, veteran trees, or fruit).
- 11** Once confirmed Orchard Survey Sheet data is logged onto a county or regional database, periodically despatched in a suitable format to UEA, PTES, and NE.
- 12** The final Orchards East survey output will comprise:
 - a. the database above in Access and Excel formats
 - b. the regional MapInfo files with their overlays as used by the Orchard Survey Manager.
 - c. Survey sheets retained as hard copy by county biological records offices

ORCHARDS EAST

MEMBERS ACTIVITIES WILL ALSO INCLUDE:

Learning to graft and bud and other propagation techniques.

Volunteer grafting of local traditional varieties for planting into orchards

Planning and planting new traditional orchards

Sharing and learning traditional fruit cooking

Researching historic fruit and orchard management skills and associated regional and local landscape history

Learning to identifying fruit species and varieties.

Discovering the orchard habitat and its biodiversity...not just the wildlife but also of the crop.

Contributing to the gathering of information, and production of Advice Notes, on orchard management for crop and wildlife, veteran fruit tree restoration and new planting.

Map Service Start-up	September	2015	December	2015
Recruit new volunteers	September	2015	August	2018
Phase I Orchard Surveys	September	2015	August	2018
Phase II & III Orchard Surveys	September	2015	August	2018
Survey & Production of Landscape History Report on Orchards	June	2016	August	2018
Recruit Volunteers for Documentary Research	September	2015	August	2018
Manage & Collate Survey Results	September	2015	August	2018
Oral History Project	September	2015	August	2018
Ad Hoc Fruit & Nut Identification Service	September	2015	August	2018
Special Event Fruit & Nut Identification Service	September	2015	August	2018
Planting Fruit & Nut Orchard Collections	September	2015	August	2018
Planting Amenity Collections	September	2015	August	2018
Culinary History Project	September	2015	August	2018
Traditional Orchard Advice Notes	September	2015	August	2018
Newsletter	September	2015	August	2018
Learning Fruit Identification	September	2015	August	2018
Learning Orchard Tree Propagation	September	2015	August	2018
Fruit & Nut Tree Propagation	September	2015	August	2018
National Traditional Orchard Conference	August	2018	August	2018
Oral History Project Workshops	June	2016	June	2018
Publication & Information	August	2018	August	2018
End of Project Orchard Party	August	2018	August	2018
Provision of Buying Scheme for Orchard Owners	September	2015	August	2018
Incorporation of Smaller Independent Orchard Groups into ERTOG (Orchards East) as an Umbrella Organisation to Provide Wider Benefits	September	2015	August	2018
Assist Development of an Existing Web-based Fruit Identification System	September	2015	August	2018
Provide Written & other Digital Media Evidence of the Science, Conservation & landscape Significance of Traditional Orchards in the Region	September	2015	August	2018
Work with Schools to Develop Educational Tools	September	2015	August	2018
Develop Community Orchard Database	September	2015	August	2018





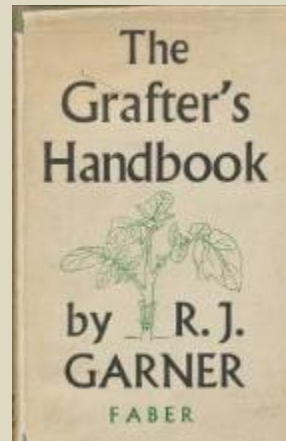
New “traditional” orchards.

Above: just planted.

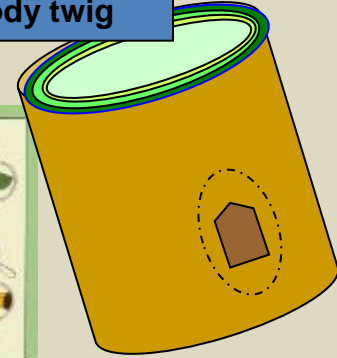
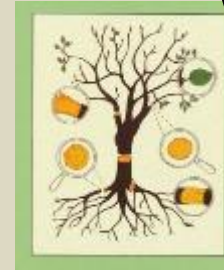
Top Right: 6-7 years old

Bottom Right: 9-12 years old.

All on traditional vigorous rootstocks; some are already cropping and could be productive for up to 100 years.



The anatomy of
a woody twig



Propagation training and production

In 3 years almost 1,000 trees propagated and given to orchard sites. Below: potted grafts growing on in a rabbit proof site.





An important part of Apple Day has become the juicing of apples. And not only apples: pears, quince and plums can be juiced too. The techniques vary but some are better than others...and some are much safer than others!

STOG produces Advice Notes on many subjects:
Planting trees,
Cobnuts,
Rare fruit varieties etc. **and is also researching a special one on juicing fresh fruit.**





Left: volunteers in an abandoned and very ancient orchard restoring old cobnut stools to production (NOT by coppicing which reduces fruiting almost totally)

They are removing the thin “wands”, reducing the number of large stems and reduces their overall height to encourage the short one year old growth that produces the flowers and the nuts.

Right: volunteers planted this 100 tree orchard and help to built its tree protectors for this sheep grazed new Stewardship orchard in Norfolk. This the largest traditional orchard to be planted in East Anglia this century!

STOG volunteers have worked outside Suffolk on several occasions already.



Learn to identify fruit species and varieties (all these have been found in East Anglian orchards (most frequent first):

apples,
pears,
plums,
gages,
cherry plums
cobnuts,
bullace,
cherries,
damsons,
walnuts
quince,
almonds,
mulberries,
medlar,
morellos/sour cherries,
apricots,
peaches,
nectarines,
mirabelles,
figs (figs were once grown commercially in Suffolk!),
chestnuts.



Cobnut, Cosford



Cherry Plum, Burrell's Red



Shepherd's Bullace

4 Warden Pears
(culinary), different
varieties all from
one orchard,



Identify fruit varieties found during surveying or brought in at "apple days" etc. This really goes on all year round!



April with cherries in blossom



A traditional orchard in East Anglia

Once a small holding. 26 trees still present, including a 200 year old pear (the largest tree above), apples, plums, cherry plums, damsons. cobnuts and cherries. Crop once sold at the gate and taken to Diss market weekly, from the 1920's.





Fruit identification.

- Ad hoc identification, of any fruit or nuts, at any time.
- Special events and apple days

