NORFOLK BIODIVERSITY ACTION PLAN

TRADITIONAL ORCHARDS

DEFINITION

A mixed plantation of fruit tree varieties, with trees propagated on vigorous rootstocks and trained as standards or half-standards, at a density of 200 trees per hectare or less.

Ref L/H1	Tranche 2	Local Habitat Action Plan
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1. INTRODUCTION

- There are usually many varieties of fruit trees in a given block; this leads to an extended period of flowering and fruiting, which benefits both insects (which feed on the nectar and pollen) and birds and mammals (which feed on the fruit).

- The grassland beneath old orchards may be species-rich unimproved grassland. In many areas of the country, there is a tradition of grazing these swards. The combination of old individual trees, within grassland, creates a habitat with similarities to wood/pasture.

- Trees within old orchards can be over 60 years old. Fruit trees decay more quickly than most British hardwoods and provide many deadwood habitats. Crevices and hollows provide nesting sites for birds such as spotted flycatchers and roosts for many species of bat. The non-acid bark supports a wide variety of mosses and lichens.

- The hedges surrounding orchards not only protect the fruit trees from frost and wind damage, but also provide additional habitats for wildlife. The best hedges for orchard wildlife are often comprised of mixed native species with an untended margin at the base. These provide an additional nectar source of value to invertebrates.

- Modern orchards are planted with many more (2,200) trees to the hectare. They have a very limited number of varieties and are grubbed up after 12-15 years. They are grafted onto dwarfing rootstock and are pruned heavily each year. A sterile strip of bare earth is maintained under the trees and during the summer months may be sprayed every 7 days. Hedges tend to be single species such as alder. Certain BAP species such as linnet and bullfinch are found in higher number in orchards.

2. CURRENT STATUS

Traditional orchards are a group of standard fruit trees planted on permanent grassland. They have been planted in a wide variety of situations and soil types for the production of a range of fruits.

National Status

- Of the 35,557 ha of orchards in England, only 14% are managed “traditionally” (DEFRA 1997).

Norfolk Historical Status

- Norfolk has a long history of orchards as an integral part of its land management. In the Domesday Book, two vills have names associated with apples:-

Appleton - Enclosure with apple trees. OE aeppel (apple tree) + tun (enclosure).

Applethorpe - Secondary settlement with apple trees. OE aeppel (apple tree) + ON thorpe (secondary settlement).

- The gardens of Norwich Cathedral Priory clearly had orchards, and in 1406, apple, pear and cherry orchards are recorded, as well as walnut and hazel trees. As well as the fruit, the orchards were valued for their flowers and as places for relaxation.

- Apple orchards also played an important role in local communities. In 1313, John Thorpe, and Alice his wife, were taken before the Courts for, amongst other things "felling and selling sixty apple trees ……. Worth 12d each". Again, in 1798, Randall Burroughes records "digging and cutting two useless apple trees out of the orchard and an elm that grew on the drain before the study window and by its shade greatly injured the orchard"; and

  "The apples this year were sold at Norwich at 6s per sack and 28 sent in and gave 6s to the man of Wicklewood who sold them. I reserved about 15 sacks of the best at home".

- The first reference to a named variety of apple in England was an exchequer account of 1290 that confirmed that Robert Evermere paid his annual rent of 200 Pearmains and 4 hogsheads of Pearmain cider for the petty serjeantry of Runham, Norfolk.
  (Source: Dr J Morgan, The Book of Apples, 1993.)

The Biodiversity Value of Traditional Orchards

- A study by the Central Science Laboratory found that there were more than twice as many birds of a greater species diversity in traditional orchards compared to modern ones.

- There is an immense range of local varieties of fruits, especially cider apples, plums and Perry pears. Pears, plums and damsons were also widely planted in hedgerows. These cultivars are an important element of biodiversity in their own right.

- Traditional standard orchards, whilst of 'artificial' origin, support many features which make them of value for wildlife.

- The trees are relatively short-lived and as a consequence produce decaying wood more quickly than most native hardwoods, making them important refuges for saproxylic invertebrates, hole-nesting and insectivorous birds.

- The fruit trees are valuable hosts for mistletoe and lichens.

- The fruits can provide important food sources in autumn and winter for birds – thrushes in particular being attracted to windfall apples – and – in their decaying state – insects, especially *hymenoptera* and *lepidoptera*.

- Blossom is an important nectar source for invertebrates.

- Orchards may also have a herb-rich grassland sward which may be managed as a meadow or pasture.

- If under-managed, shadier orchards can give rise to ranker communities, which are more typical of hedge bank flora.

- Modern commercial orchards are intensively managed, with trees being regularly replaced, the ground beneath the 'trees' being a sterile strip and the intervening grass closely mown. Pesticide use is also heavy. Consequently, they are of negligible value for wildlife, but can be improved with integrated crop management with hedgerows and windbreaks.

Norfolk Current Status

- A considerable percentage have been lost. Many orchards are on the edge of villages, and the pressures to provide extra housing have meant that many have been built on.

- Norfolk is particularly rich in apple varieties which have been found or been developed here, or have strong associations with the county. 73 of these varieties have been recorded, but only 38 of them are known today. There are also three Norfolk pears that still exist.

Norfolk Apples and Pears

- **Existing varieties, earliest recorded dates**

Dessert Apples		**Culinary Apples**	
Hubbard's Pearmain	1796	London Pippin	1500s
Caroline	1822	Dr Harvey	1629
London Pearmain	1842	Winter Majetin	1734
Sandringham	1883	Norfolk Beefing	1698
St Magdalen	1890	Striped Beefing	1794
Horsford Prolific	1900	Norfolk Summer Broadend	1796
Norfolk Royal	1901	Winter Broadend	1796
Admiral	1921	Vicar of Beighton	1894
Bann's	1928	Golden Noble	1820
Harling Hero	1928	Emneth Early	1899
Lynn's Pippin	1942	Norfolk Beauty	1901
Red Ellison	1942	Robert Blatchford	1914
Look East	1971	Hanworth Codlin	1950
Norfolk Coleman	1977		
Norfolk Royal Russet	1983	**Dual Use Varieties**	
Jordan's Weeping	(unknown)	Dutch Mignonne	1770
		Baxter's Pearmain	1821
		Adam's Pearmain	1826
		Hunter's Majestic	1914
Pears		Captain Palmer	1916
Robin	(unknown)	Leeder's Perfection	1917
Hacon's Incomparable	1792	New Costessey Seedling	1926
Blickling Pear		Green Roland	1945
		Herbert Eastoe	1948

- **Lost varieties, last recorded dates**

1600s…

Beachamwell	-

1700s…

Pine Apple Russet	1934	Early Nonpareil	1920s
New York Pippin	1884	Freethorpe Apple	1734
Belle Grideline	1884	Halvergate Apple	1734
Ten Shilling Apple	1934	Oxnead Pearmain	1872
Norfolk Stone Pippin	1889	Transparent Codlin	1885
Horsham Russet	1790		

1800s…

Seiley's Mignonne	1884	Norfolk Paradise	1884
Bland's Jubilee	1884	Norfolk Pippin	1829
Colonel Harbord's Pippin	1970s	Webb's Russet	1960s
Norwich Jubilee	1872	Norfolk Dumpling	1920s
Norfolk Bearer	1895	Sea Pippin	1829
Ringwood's Pippin	1829	Downham Pippin	1829
Hail Apple	1883	Saham Toney	1896
Lord Stanley	1872	Hethersett Pippin	1829
Foulden Pearmain	1818		

1900s…

Leslie Smith	1904	Autumn Glory	1908
Fenn's Seedling	1904	Norwich Pippin	1906

Some Associated Species

Spotted flycatcher (*Muscicapa striata*), Tree sparrow (*Passer montanus*), Stag beetle (*Lucanus cervus*), Noble chafer (*Gnorimus nobilis*), Green woodpecker (*Picus viridus*), Fieldfare (*Turdus pilaris*), Redwing (*Turdus iliacus*), Red-belted clearwing moth (*Synanthedon myopaeformis*), Mistletoe bug (*Anthocorin visi*), a lichen (*Parmelia acetabulum*), Mistletoe (*Viscum album*), Bullfinch (*Pyrrhula pyrrhula*)

3. CURRENT FACTORS CAUSING LOSS OR DECLINE IN NORFOLK

- Many traditional orchards are on the urban fringe, and are under threat from housing and other development.

- The loss of markets for the produce makes these orchards uneconomic, and liable to grubbing out.

- New orchards are seldom planted for similar reasons, leaving the old ones to decline and disappear through neglect.

4. CURRENT ACTION IN NORFOLK

- **Protection and Designations**

  Tree Preservation Orders.
  The Town and Country Planning Regulations 1999 makes it possible to place a Tree Preservation Order on fruit trees where it is in the interest of amenity to do so. However, TPOs cannot be used to control tree work in commercial orchards. Conservation Areas will also provide similar protection to TPOs.

  Local Nature Reserves.
  LNRs are designated by Local Authorities, in consultation with English Nature. (Section 21 of the National Parks and Access to the Countryside Act 1949.) The criteria for designation emphasises that sites selected as LNRs must be of special interest in the local area, or of reasonable natural interest, and of high value in the area, for the informal enjoyment of nature by the public.

  County Wildlife Sites.
  At present, no known designation of CWSs. This is thought to be because the designation of CWS is heavily biased towards vascular plants through the use of the National Vegetation Classifications whilst other fauna species and 'lower' plants are under-surveyed. However, Local Authorities are in the process of incorporating the

existing register into their Local Plan. This will mean that there will be a presumption against development on such sites. Old orchards are an under-surveyed resource.

- **Assistance**

(a) The Countryside Stewardship Scheme (CSS), formerly organised through DEFRA by the Farming and Rural Conservation Agency (RDS), used to pay for an agreed programme of orchard management over a ten year period. Management included pruning of old trees, replacement trees of traditional varieties and fencing. Whilst the scheme was very useful, monies available through the scheme as a whole did not match demand.

The new Environmental Stewardship Scheme gives assistance towards:-

- Creation of traditional orchards (specific target areas only).
- Restoration of traditional orchards.
- Maintenance of high value traditional orchards.
- Maintenance of traditional commercial orchards for historic and/or landscape benefit.

(b) The East of England Apples and Orchards Project is run by volunteer fruit experts and enthusiasts with the support of the Environment Section of Norfolk County Council. It aims to make sure that the county's heritage of orchard fruits is recorded and made safe for the future by:

- Surveying the county's orchards.
- Creating a database to assess the status and distribution of Norfolk's fruit varieties.
- Compiling a photographic record of Norfolk's fruit varieties.
- Encouraging and advising on the setting up and maintenance of demonstration orchards of Norfolk fruit.
- Advising groups and individuals on the planting of local varieties in new orchards, schools or community sites and gardens.
- Teaching orchard skills.
- Organising and taking part in Apple Days across the county.

(c) The County Council offers grant aid for the planting of new orchards composed of old Norfolk varieties.

5. ACTION PLAN OBJECTIVES AND TARGETS

National

- None.

Norfolk

- Maintain the extent of traditional orchards in Norfolk.

- Plant 2ha of new traditional orchards in Norfolk per annum.

- Increase the area of traditional orchards in agri-environment schemes by 5% per annum.

Traditional Orchards - Norfolk Action Plan

ACTION		RESPONSIBLE AGENCIES		TIMETABLE				
		Lead	Partner	2004	2005	2006	2007	2008
A.	**Policy and Legislation**							
	Ensure the relevant biodiversity policy is included in appropriate planning documents (see DoE PPS9).	NCC LAs	EEAOP			*		
	Use survey data to designate CWS and incorporate into local plans.	NWT NCC	LAs			*		
	Encourage local authorities to use existing TPO and LNR legislation, where appropriate to protect remaining traditional orchards.	LAs	ALL	*	*	*	*	*
	Encourage orchard planting and management schemes are targetted in Norfolk.	ALL		*	*	*	*	*
	Incorporate Site Safeguard and Management in SPG.	ALL		*	*	*	*	*
B.	**Site Safeguard and Management**							
	Continue to promote within Norfolk utilising agri-environment or other schemes.	RDS	DEFRA NCC EEAOP FWAG	*	*	*	*	*
	Use data from surveys to identify orchards meeting criteria for County Wildlife Sites, encourage AE take-up in these sites.	EEAOP	LAs DEFRA RDS		*	*	*	*
	Develop a process to encourage continued work after 10 year CSS agreement comes to an end.	RDS	FWAG, NCC	*	*	*	*	*
	Expand the viable populations of all fruit varieties associated with Norfolk.	EEAOP	ALL	*	*	*	*	*

Traditional Orchards - Norfolk Action Plan

ACTION		RESPONSIBLE AGENCIES		TIMETABLE				
		Lead	Partner	2004	2005	2006	2007	2008
	Pursue a site acquisition policy for those key sites which would most benefit from nature reserve management.	EEAOP	LAs	*	*	*	*	*
C.	**Advisory**							
	Devise/promote "Best Management Techniques" – middle ground between conservation and production.	EEAOP	RDS FWAG NCC		*	*		
	Provide advice to at least ten land owners per annum on traditional orchard management or planting.	NCC	NWT, FWAG, EEAOP, RDS		*	*	*	*
D.	**Future Research and Monitoring**							
	Identify and map all traditional orchards. Compile database on each orchard.	EEAOP		*	*			
	Aim to undertake a comparative study of the amounts of orchards shown on maps of the 1960s, the maps of county phase 1 survey in 1978 and maps derived from a new selective survey.	EEAOP	CEAS	*	*	*	*	
	Compile database on all fruit varieties within individual orchards.	EEAOP	NCC	*	*	*	*	*
	Improve access to existing and future data by entering on accessible GIS system when available.	NCC	EEAOP, NBRC	*	*	*	*	
	Identify orchards most at risk and draw up priority action plan.	EEAOP	RDS, NCC, NWT		*	*		

Traditional Orchards - Norfolk Action Plan

ACTION		RESPONSIBLE AGENCIES		TIMETABLE				
		Lead	Partner	2004	2005	2006	2007	2008
	Organise two training days per year on best management techniques for students, volunteers, contractors and landowners.	EEAOP	NCC Contrac -tors	*	*	*	*	*
	Promote role of Tree Wardens, Parish Councils and Footpath Wardens in monitoring orchards and trees in hedgerows.	LAs		*	*	*	*	*
	Promote biodiversity surveys in traditional orchards.	EEAOP	ALL	*	*	*	*	*
E.	**Communications and Publicity**							
	Produce introductory leaflet for orchard owners listing sources of advice, grants and contacts for people who can carry out practical procedures such as grafting.	EEAOP	FWAG NCC DEFRA		*			
	Help in the promotion of Apple Days.	EEAOP	NCC		*	*		
	Assist with the marketing of local and organic fruit varieties by involving landowners, growers, producers and marketing/ accreditation organisations to offer advice and set up a marketing strategy.	NCC	EEAOP Taste of Anglia	*	*	*	*	*
	Promote the importance of orchards within schools/education system through links with WATCH and teacher's INSET training.	NCC		*	*	*	*	*

Abbreviations

BTO	British Trust for Ornithology
CA	Countryside Agency
CEAS	Centre of East Anglian Studies
CLA	Country Landowners Association
DEFRA	Department for Environment Food and Rural Affairs
EEAOP	East of England Apple and Orchards Project
EN	English Nature
FWAG	Farming and Wildlife Advisory Group
LAs	Local Authorities
NBRC	Norfolk Biological Records Centre
NCC	Norfolk County Council
NWT	Norfolk Wildlife Trust
RDS	Rural Development Service
RSPB	Royal Society for the Protection of Birds

6. CONTACTS

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