

# Orchard Management Plan

v2

Name of Orchard	West Oaks (West)	Orchard Survey ID	L0003
Location	Barnhill Toll, Perth	IACS Holding No	
Name of Keeper	Network Rail	IACS Field No.s	
Date of preparation	10 <sup>th</sup> September 2012	Area (ha)	1.75ha
Duration of plan	10 yrs	Last revision date	12 <sup>th</sup> Oct '12



West Oaks (West) from the east

Compiled by CW Hayes Associates

[www.eco-consultancy.co.uk](http://www.eco-consultancy.co.uk)

on behalf of Tay Landscape Partnership and the Historic Orchard Forum

## 1 Introduction

This management plan has been prepared on behalf of the orchard owner and Tay Landscape Partnership. It does not constitute a formal agreement between these parties.

The plan has been produced in consultation with the orchard owner (or keeper) by CW Hayes Associates under contract to Tay Landscape Partnership as part of a wider project involving 15 historic orchards around the River Tay.

The plan is structured in the following way:

- Site Details
- Evaluation of the Orchard as it currently stands
- Vision, management objectives and strategy
- Proposed management actions
- Action plan & Timetable

## 2 Site Details

### 2.1 Location

Site Name:	West Oaks (West)
Nearest village:	Barnhill area of Perth
County:	Perthshire
Planning Authority:	Perth and Kinross Council
Community Council & Historical Parish:	Kinoull
Grid reference:	NO12626, 21998
Area:	1.75ha

### 2.2 Tenure

Name of owner:  
Network Rail Infrastructure Ltd  
FAO Allan McCarthy  
Buchanan House  
58 Port Dundas Road  
Glasgow  
G4 OLQ

### 2.3 Natural Environment Designations of Site

No nature conservation designation for orchard itself.

However the river banks at the edge of the orchard are recorded as a Special Area of Conservation (GB) .

200m north of the orchard is a large area designated a Site of Special Scientific Interest on Kinnoull Hill.

The orchard is included in the *Historic Environment Record* administered by Perth and Kinross Heritage Trust.

## 2.4 Access

**Footpaths:** A footpath runs beside River Tay from Rodney Gardens in Perth south to Willowgate Ponds and thence to A85 near Friaton Bridge landing. This is signed at both ends.

**Permitted Access:** There appears to be a practice and presumption of access to the orchard.

**Community Use:** This orchard has been used informally by individuals from Perth for some years.

**Physical access:** Walking access from the northern end, along the river side path that emerges in Rodney Gardens.

Walking access to the south is by the wide river side path. Vehicular access is also gained by this route, however it is across private land and the right of vehicular access is not known.

## 2.5 Concise Description of Site

This large former orchard site now has just the remnants of what must have been an impressive orchard. A collection of around 30 trees mainly aged pears and some apples is spread throughout the orchard. The site occupies a strip of land bounded by railway and the River Tay, and is subject to occasional inundation by the river.

## 2.6 Neighbouring Sites & Landscape Context.

The orchard is bounded to the northeast by the railway, which came in the 1840s. This is a dominant feature of the orchard. The other side of the railway (to the north) is the 'other half' of the orchard, now separately owned and not directly accessible, which stretches up to the A85 main road.

To the southwest, the orchard is constrained by a branch of the River Tay, beyond which is Moncrieff Island.

To the southeast, the orchard neighbours sport fishing ponds, formerly open pasture.

The whole area sits below the lower slopes of Kinnoull Hill to the northeast.

## 2.7 Previous Survey Work

This orchard was included in the following reports:

Lear, Andrew (2010), *Carse of Gowrie Orchard Condition Survey 2010. Report to Perth and Kinross Countryside Trust*, .

Hayes, Crispin W (2007), *Historic Orchards of the Carse of Gowrie. Phase 1 Survey: An Investigative Study on their Location, Extent and Condition*, (Report to Perth and Kinross Countryside Trust. Available [www.crispinwhayes.com/projects](http://www.crispinwhayes.com/projects)).

# 3 Orchard Evaluation

## 3.1 Character of orchard

The orchard site has an abandoned character; tall perennial weeds dominate apart from the mown route that forms the riverside path. The remaining old trees stand as sentinels of the large orchard that formerly stood here. They ensure this still feels like an orchard. That this was once one of the largest orchards in Barnhill, an area of Perth noted for its orchards, is evident.

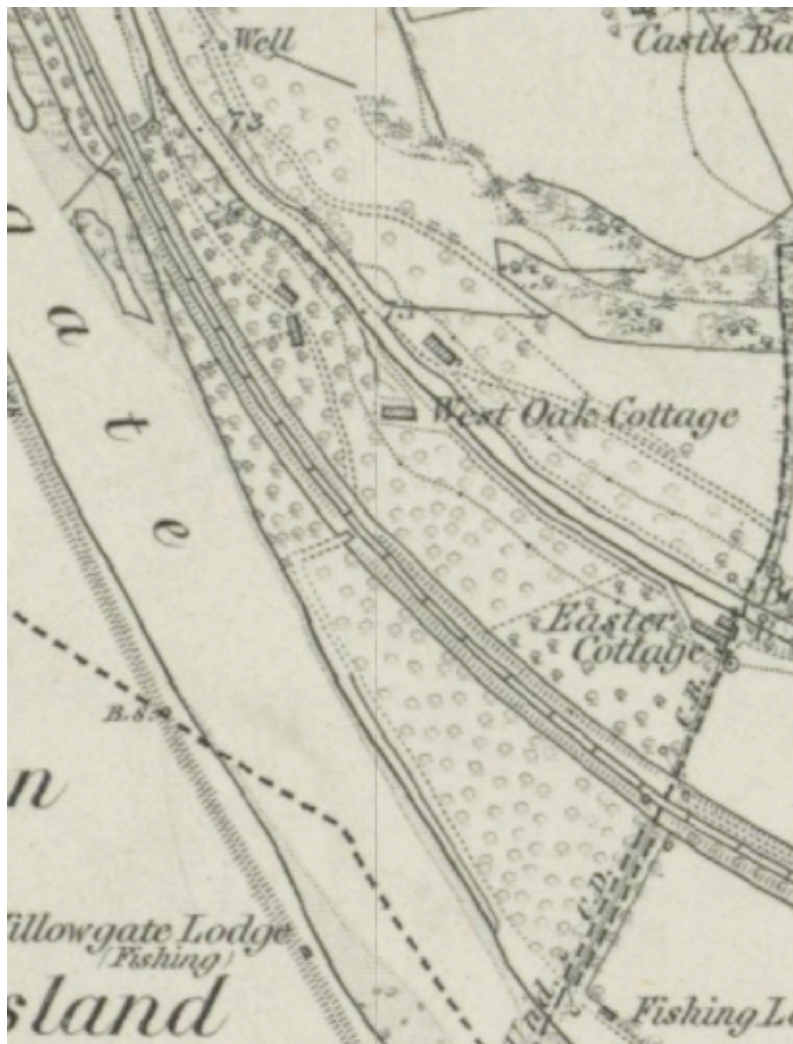
### 3.2 Key Features

- part of the former extensive Barnhill orchards and market gardens that stretched north, along the river and up the slope, and of which no others remain intact.
- one of the largest orchards in Barnhill.
- relatively undisturbed because of restricted vehicular access
- informal local use and management of trees
- heritage orchard on the outskirts of the city.

### 3.3 Historical Context and Cultural Heritage

The OS 1st edition map for the area published in the 1860s was examined.

**Figure 1: Orchard in 1860s**



Source: OS 1st Edition. out of copyright

West Oaks (East) is to the east of the railway and West Oaks (West) is to the west of the railway.

The map shows that for the West orchard, the whole site was covered in fruit trees. It shows an access track via a rail underbridge that was closed in 2006. The access track continues south along the riverbank into the neighbouring field, which since 2009 is the site of a fishing pond.

**Figure 2: Aerial image from 1950s**



Aerial photos from the 1950s show the rows of trees very clearly, in west and east of the railway, and indeed to the east of the main road.

A explanation of the different colours of the orchard floor in various parts of the these orchards has yet to be made.

**Figure 3: Modern aerial image**



Source: Tay Landscape Partnership © 2012 Getmapping Plc

The modern aerial shows the scattered remnant trees.

**History of Management:**

The orchard has not been managed comprehensively for many decades. The orchard is an almost entirely abandoned state.

A little bit of informal management has taken place in the last few years, with wire being placed on the trunks for rabbit protection. A few new trees have been planted and it is understood that this was carried out as part of the Perth 800 celebrations.

**Context in Local Community:**

This orchard would have been well known in Perth, as a large and visible orchard, standing as it does near one of the main roads into the city. As such its context is embedded in the heritage of the local community.

Nothing is known in regard to the more contemporary involvement of the local community with this orchard. Even pedestrian access was difficult until a few years ago when the riverside path was improved. However, some small amount of local use has clearly been taking place in recent years.

### 3.4 Built Heritage Aspects of the Orchard & Neighbouring Sites

**Scheduled Monuments:** None

**Listed Buildings:** At the west corner of the neighbouring West Oaks (East) orchard is Barnhill Tollhouse, which is A listed.

**National Monuments Record of Scotland:**

Limeyhaugh Fishing Lodge located on the banks 250m downriver from the orchard is included in the Record

**Inventory of Gardens and Designed Landscapes:** No entry

### 3.5 Climate, Aspect and Exposure of Orchard

The orchard sits on level ground beside the River, and though it does itself not have an aspect, Kinnoull Hill stands a kilometre or so to the northeast. The orchard appears to be relatively sheltered with large trees along the river bank. It is sheltered down the river valley by a line of large broadleaf trees on its southeastern boundary. The hill provides some shelter from the northeast.

### 3.6 Soil and Water

Context of comments: The fieldwork was carried out in August 2012 after one of the wettest summers on record. Comments relating to hydrologic aspects of the orchard should be considered in this context.

Geological mapping at a scale of 1:50,000 published by BGS was consulted to determine the superficial deposits for the area of the orchard. This source states that the superficial deposit is divided. At the north it consists of: “Glaciofluvial Sheet Deposits - Gravel, Sand And Silt. Superficial Deposits formed up to 2 million years ago in the Quaternary Period. Local environment previously dominated by ice age conditions.”

At the south of the site, the superficial deposits consist of: “Alluvium - Clay, Silt, Sand And Gravel. Superficial Deposits formed up to 2 million years ago in the Quaternary Period. Local environment previously dominated by rivers.”

A small hand dug trial pit was dug in the vicinity of some of the old fruit trees on the west side of the orchard (BNG NO 12625, 21986). The texture of the topsoil is described as:

Brown silty SAND.

### Hydrology

The majority of site appears to be well drained, there is no standing water in any part, and it is fairly dry underfoot. This concurs with what would be expected in these sorts of superficial deposits.

The exception is a strip at the southeastern boundary, perhaps 40m wide. It is slightly marshy and tends to be wet underfoot. Willow and other scrub grows in this part, though there are also fruit trees. There may be a ground water feature that creates this, or it may be an area of clay. A few metres away at the southeastern boundary is a deep ditch, yet the ground is marshy.

The site is known to periodically inundate when the river is in full spate. This does not appear to adversely affect the trees.

### 3.7 Boundaries & Fences

To the southeast is a line of broadleaf trees that forms the boundary, with maintained grass and fishponds beyond. To the northeast, the long boundary with the railway consists of a post and wire fence, beyond which vegetation is controlled by herbicide.

To the southeast, a line of a large mature broadleaves, line the riverbank.

### 3.8 Biodiversity

#### **Background:**

Traditional orchards and their associated habitats support a wide variety of wildlife including BAP priority habitats and species as well as a range nationally rare and scarce species. Their decline over the last century has led to increasing efforts to protect these important areas. In 2007, Traditional Orchards were designated a 'priority habitat' under the UK Biodiversity Action Plan (UK BAP) as a result of work carried out by a partnership of organisations and there is now a draft Habitat Action Plan for Traditional Orchards . Furthermore, The Scottish Government is currently consulting on the 2020 Challenge, Scotland's response to the EU Biodiversity Strategy for 2020 . The outcome of this consultation may well change how biodiversity is managed, and is thus relevant. At a regional level, a local Habitat Action Plan that includes orchards is in the consultative draft stage, and has been produced by Tayside Biodiversity Partnership. Though it focuses on garden and community orchards more than large field orchards, many of its features are relevant. The Species lists are not currently complete.

#### **Advice:**

Orchards are dynamic habitats that require trees of all stages of growth to function well both economically and for wildlife benefits. They will benefit from low intensity management, where there is little or no use of chemicals such as pesticides, herbicides and inorganic fertilisers. Biodiversity can be encouraged by retaining standing and fallen deadwood and pruning to rejuvenate the best of the old trees rather than grubbing up and replanting. Dead and decaying wood provides food and refuge for huge numbers of invertebrates, nesting holes for birds and bats and excellent habitat for lichen. The fruit trees form one part of a matrix of habitats for wildlife in the orchard that generally includes a grass sward and often other features such as hedges, woodland, standing and running water, bare soil, and structures such as outbuildings. The orchard floor is particularly important for biodiversity and traditionally managed by grazing or cutting. A varied grass sward will produce different floral assemblages that encourage different wildlife species, e.g. rough grass for bumblebees and tall herbs for insect food. However, in general grazing should keep the sward height between 5 and 15cm and hay should be cut after wildflowers have set seed.

This orchard supports a number of habitats of particular value to wildlife including a scatter of old fruit trees, broadleaf woodland and overgrown hedges in areas along the boundary, and the more open areas adjacent to the path. The field layer is dominated in the summer by extensive tall perennial weeds, particularly thistle, nettle, willowherb and the invasive non-native Himalayan Balsam, the latter having likely spread from the river bank where it is rife in many spots.

There is also evidence of more diverse spring flowering and woodland species in some areas, particularly associated with the lower orchard margins and under broadleaf trees.

Priority Habitats include Traditional orchard; Hedgerow; and Lowland mixed deciduous woodland.

The client has not required listing of species present on the site. Some biodiversity assessment work has recently been carried out on local orchards as noted in these reports<sup>1</sup>.

There was no evidence of UKBAP Priority Species during the site visit.

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<sup>1</sup> ECOS Countryside Services (2010), *Carse of Gowrie Orchards Habitat Survey and Biodiversity Audit. Report version 1 to Carse of Gowrie Historic Orchard Forum*, .

Douglass, J (2010), *A Lichen Survey of 3 Orchards in the Carse of Gowrie*.



#### Veteran Tree Features:

<input checked="" type="checkbox"/> holes in branches	<input type="checkbox"/> aerial roots	<input checked="" type="checkbox"/> trunk cavities
<input type="checkbox"/> water pools	<input checked="" type="checkbox"/> sap runs	<input checked="" type="checkbox"/> dead wood on ground
<input checked="" type="checkbox"/> dead wood in canopy	<input checked="" type="checkbox"/> loose bark	
<input checked="" type="checkbox"/> crevices in bark	<input type="checkbox"/> fungal fruiting bodies	

The veteran fruit tree features were identified in the orchard and indicate that there is likely to be a high level of biodiversity in these old trees.

### 3.9 Current orchard floor management & other undercrops

For the majority of the orchard there is no management whatsoever.

The riverside path forms a closely mown 2.5m wide path along the length of the orchard. Off the mown path, it is clear that some clearance around some of the nearest trees has taken place, perhaps early in the year with a strimmer.

There are no undercrops.

There appears to be no use of herbicides in the orchard, though they have been used above the orchard on the railway embankment.

### 3.10 Evaluation of Current Stock of Fruit Trees

This orchard was included in the 2010 Condition Survey. The information is given in the Table 1 below.

A further 4 trees were planted recently. It is understood that this was done as part of the Perth 800 celebrations.

The spacing of the old trees is difficult to determine because there are few trees beside one another. Tree 791 and its neighbour (both apples) are around 5m apart.

It is not clear if the orchard was originally on a rectangular or some other spacing.

### 3.11 Current Management of Orchard Trees

#### **Level of management:**

There has been a small amount of informal management of trees. Chicken wire has been wrapped around the base to prevent rabbit damage.

Apart from this, there has been no management of the existing trees whatsoever, for several decades.

### 3.12 Evidence of Pests and Diseases

#### **Pests:**

A dead rabbit were seen on site, so it is to be expected that there will be many more.

Though deer, or evidence of them was not seen, they are on the neighbouring site across the railway, and they may visitors.

#### **Soil & tree borne fruit tree diseases:**

Some trees have the common problems as noted in Table 1 .

**Table 1: 2010 Condition Survey for this Orchard**

Orchard/Tree	Date surveyed	GPS Eastings	GPS Northings	Species	Age Range	Girth	Height	Condition	Comments	Body Value	Biodiversity Notes	Propagation Priority	Work Requirements	
LO03/0775	13/09/2010	12537	22139	Pear	80-150	4.6	0.93	fair	Some cankered shoots, stump remains, rest rec. Lvs small pointed, fruit red flushed, small to medium, russet eyes and stalk, sweet.	High	Recumbent but attached to stump Moss	High	Re-train upright growth	
LO03/0776	13/09/2010	12538	22144	Pear	80-150	9	0.99	very good	Tall neat tree, narrow crown, misshapen like Packhams, delicious long thin fr, slit flush, centre rot, rounded leaf, green, glossy, ripens to yellow.	Med	Fruit	med	None	
LO03/0777	13/09/2010	12600	22061	Pear	80-150	5.6	0.98	very good	Leaning over railway to north, fall over many years ago, fr same as 0775, Russet eye / stalk. Small to Med, red flush on some pointed lvs	Med	moss, some deadwood	Low	net remove deadwood	
LO03/0778	13/09/2010	12592	22056	Pear	80-150	9.5	1.55	good	Tall open space / fr on ground, yellow sweet, v. ripe, red flush, 5cm diam, bergamotte shape	High	honey fungus on ground, hole at 1m, deadwood at top	med	net trunk	
LO03/0779	13/09/2010	12604	22071	Pear	80-150	7.1	1.43	poor	Misshapen, lost top, next to big Holly, Hard fr, bushy, fat at eye, good growth, crunchy but sweet, Pendulous, hollow trunk	High	dead old branch, holes, lichens	High	propagate, net, thin crown	
LO03/0780	13/09/2010	12591	22051	Apple	80-150	7	0.99	fair	Cooker, damage at base, netted, long leggy stems, gm fr, red flushed, tip bearer	Med	wood borer at old wound	med	lighten long branches, net	Bramley?
LO03/0781	13/09/2010	12590	22053	Apple	80-150	8.2	1.29	good	Cooker, netted. Tall, wide tree nr path, some pruning done, lots fr, tip bearer.	Med	some deadwood	Low	shorten long branches	Bramley?
LO03/0782	13/09/2010	12609	22042	Pear	80-150	3	1.01	very poor	Recumbent. Alive at end. 12m long, broken from stump, small yellow/red fr, delicious, some canker.	High	lots decay in stump, lichens	High	remove brambles, cover roots with soil	
LO03/0783	13/09/2010	12618	22053	Pear	80-150	5.4	1.42	good	Leaning heavy over railway, Lemon yellow red flushed, spotted on gm, Sweet but dry, pointed lvs, 2 vars possibly?	High	holes, hollow?	Low	none	
LO03/0784	13/09/2010	12600	22026	Pear	80-150	7.5	0.94	poor	Leaning heavy east, hollow, lots dead wood and dieback. Same var as 0785.	High	Split trunk, cavity, moss, lots dead twigs	High	reduce limbs	
LO03/0785	13/09/2010	12634	22028	Pear	80-150	7.3	1.13	good	Overbalanced to east, pendulous, by oak tree, pointed lvs, narrow, netted around base, russet at stalk, spotted, red flush, nice crunch	Med	moss, cracks in trunk	Low	thin shoots, lighten crown	
LO03/0786	13/09/2010	12604	22012	Apple	80-150	8.3	1.14	fair	Cooker, dead branch, tip bearer, high / wide, very green, red flush, lots fruit, netted	Med	wound at trunk base	med	none	Bramley?
LO03/0787	13/09/2010	12622	22018	Pear	80-150	8.5	1.13	good	Leaning east heavily, some damage, trunk good, russet at eye, spotted, pink flush when ripe, almost golden, some very russeted, pendulous, clean fruit	High	moss/lichens	Low	reduce/net	
LO03/0788	13/09/2010	12633	22013	Damson	5	4	0.25	good	New tree, bluish damson, whitish bloom, 3cm x 2cm, dirty yellow flesh, lvs yellowing, sour to eat, healthy tree.	low	fruit	Low	Feed tree, formative prune	
LO03/0789	13/09/2010	12650	22012	Pear	80-150	8.75	1.76	very poor	Tall, dead main branch, lower branch broken, yellow, spotted fruit, some red flushed, poor fruiting, same as 0785.	High	Dead branches, and on floor	High	Cut off lower branch	
LO03/0790	13/09/2010	12641	21992	Pear	80-150	8.7	1.86	fair	Multistem upright tree at 2m, lemon yellow when ripe, some red flushed, red petioles on leaves, lots fruit leaning east.	Med	Hole in branch 1.2m, lichens	med	Remove hanging branch	
LO03/0791	13/09/2010	12626	21996	Apple	80-150	9	1.16	poor	Very bad wound on east side trunk, bare stems, big cooker, tall leaning east, lower branches removed	High	Deadwood in middle, Cavity, lichens	med	Reduce slightly?	Bramley?
LO03/0792	13/09/2010	12604	22016	Pear	80-150	8	0.9	poor	Small tree by path, canker, water shoots in centre, russet around stalk, like others, spotted, pink flush	Med	Moss	Low	Thin shoots, remove cankered ones	
LO03/0793	13/09/2010	12612	21983	Apple	80-150	7.2	0.96	poor	Trunk netted, wide big tree, but balanced, hollow, cooker, lots fruit, one branch low to ground.	Med	Hollow, cavity	Low	Reduce slightly?	Bramley?
LO03/0794	13/09/2010	12631	21989	Pear	80-150	10	1.12	very good	Very healthy leaves, small yellow fruit, musky, small pointed leaves, straight trunk, fruit on ground yellow some russet.	Med	Pigeons nest	Low	None	
LO03/0795	13/09/2010	12667	22004	Pear	80-150	10.2	1.85	fair	Ripe, very few yellow/red fruit, as 0789, upcurved leaf, fruit on ground, tree leaning east, branch wound in crown.	med	Deadwood in crown, lichens	Low	Thin crossing branches	
LO03/0796	13/09/2010	12652	21983	Pear	80-150	8.3	1.28	fair	Also big tree leaning east, trunk good, fruit russeted at stalk, sparse foliage.	med	moss, some dead twigs, hole at 2.1m	Low	Feed?	
LO03/0797	13/09/2010	12663	22981	Pear	80-150	6.6	1.2	good	Wide tree, one very low horizontal branch, med size fruit, green to pink to yellow / red flush.	Med	rough bark, moss, lichens	Low	none	
LO03/0798	13/09/2010	12648	21965	Pear	80-150	8.2	1.12	poor	Balanced med sized tree, light crown, some dead twigs, canker, nice fruit, russeted stalk, crunchy not ripe.	med	med	med	None	
LO03/0799	13/09/2010	12687	21998	Pear	80-150	9	1.38	fair	Tall but balanced, pruning wounds at base, hollow, russet at stalk, pink flush.	med	lichens	low	Reduce slightly all limbs?	
LO03/0800	13/09/2010	12651	21941	Pear	80-150	5.6	1.14	poor	Upright small tree, sparse light foliage, some growth so OK, but russet at stalk, yellowing.	low	Deadwood	med	None	
LO03/0801	13/09/2010	12663	21949	Pear	80-150	3.5	1.2	very poor	A stump, but good, green spotted and pink flushed fruit, russeted at stalk, hard still.	med	hollow, holes, dead top and on ground	high	thin shoots	
LO03/0802	13/09/2010	12683	21953	Pear	80-150	7.2	1.52	fair	Tall, clear trunk to 3.6m, leaning east, hollow at base, fr ripening to yellow, pointed upcurved leaves.	med	holes at 1.2m, moss, lichens	low	none	
LO03/0803	13/09/2010	12693	21974	Pear	80-150	13	1.42	very poor	recumbent, roots exposed, was a very big tree, near railway and recently flooded, some canker	high	moss, decaying timber	high	pile soil around fallen trunk	
LO03/0804	09/12/2010	12720	21960	Apple	80-150	4	1.2	very poor	Dead? Recumbent, twigs getting eaten by rabbits, bark eaten away, fruit yellow, pink flush, near railway	med	Dying twigs and tree	high	none	
LO03/0805	09/12/2010	12763	21928	Pear	50-100	5.1	4.2	poor	3 small branches on tree on railway bank east corner very sparse but alive	med	wounds, deadwood	high	none	
LO03/0806	09/12/2010	12663	21936	Apple	90-40	0	0.4	very poor	Recumbent, fallen in last few weeks, small tree, apple striped red, flat round, some long angular.	high	recumbent, dying,	very high	propagate	Culter Grieve?
LO03/0807	09/12/2010	12673	21915	Pear	50-150	13	1.31	good	Seedling pear, on one trunk (?), very small round green russeted fruit, small round leaves, heavy tree, partly leaning to east, shaded to south by trees, has thorns	med	large tree, fruit	med	reduce weight	
LO03/0808	09/12/2010	12687	21891	Pear	80-150	9.5	1.14	fair	3 stems, one old, two young, old one leaning out, unbalanced	med	moss, lichen	med	reduce long branch	
LO03/0809	09/12/2010	12712	21866	Apple	80-150	7.5	1.49	fair	Quite wide apple, no fruit seen, wound at base, lower branches have been pruned off	med	moss lichen, some deadwood		none	
LO03/0810	09/12/2010	12713	21866	Apple	80-150	7	1.12	poor	2 stems break at 3 m, wound at base, wood borer, no fruit seen, little growth	med	moss, lichens	low	none	
LO03/0811	09/12/2010	12713	21872	Apple	80-150	8	1.62	fair	Small, golden King of the Pippins shape crab, many still on tree, almost edible.	med	fruit, moss	low	none	Crab Apple

### 3.13 Assessment of Current Fruit & Non-Fruit Production Potential

Indication on quality and quantity of fruits and other non-fruit products:

There are some pears on several of the pear trees, and a few apples on a couple of the apple trees. In previous years there has been a more substantial amount of fruit.

Use of fruit – It is thought that some of the fruit is used informally by local people.

### 3.14 Significant hazards, constraints and threats

Apart from ongoing dereliction, no other threats have been identified.

The presumed lack of vehicular access rights is clearly a constraint.

## 4 Vision, management objectives and strategy

### 4.1 Long term vision

The vision for the orchard is that it remains as one of the notable traditional orchards on the Carse of Gowrie. It is recognised that in order for the orchard as a whole to survive, better maintenance of existing trees and the planting of new trees is necessary.

A balanced approach to management will be adopted, so that the needs of biodiversity as well as fruit production will be taken into account.

It is envisaged that the orchard can produce a diversity of fruit and non-fruit products, and that these may be used to the benefit of the local economy and enhance the cultural heritage of the area.

The cultural and heritage aspects of the traditional orchards are recognised, and we see involving the local community to a limited extent is part of the future of this orchard.

### 4.2 Management Objectives

No.	Objective
1	Maintain the existence of the orchard, as an important element of the area's landscape character.
2	The retention and management of existing trees. Managed so as to prolong their life and improve their health.
3	The planting of new trees in recognition that renewal of individual trees is essential for survival of the orchard as a whole.
4	The choices of species and varieties of new plantings to reflect contemporary tastes and use, as well as heritage desires.
5	The propagation of good local examples of fruit tree specimens, even if variety is unknown or unidentified.
6	Management of the orchard trees for biodiversity as well as fruit production by being sensitive to the sometimes divergent needs of both aspects.
7	Management of the orchard floor for biodiversity as well as other uses, including undercrops.
8	Maintain other features such as hedgerows, water features, archaeological sites.
9	Make productive non-commercial use of orchard products; by engaging with the local community for their use.
10	Rebuild the cultural heritage associated with the orchards and their products by engaging in activities with the local community.

## 4.3 Strategy

The overall strategy is to work with the Historic Orchard Forum and the Tay Landscape Partnership in order to invest in the longterm health of the orchard by carrying out the restorative work and replanting. It is understood that these activities will require financial support.

It is recognised that the management of the orchard including pruning, picking and care of the orchard floor is a large task. The orchard keeper is interested in the use of management services so that the orchard can be managed on their behalf, and in particular by a community organisation.

## 5 Proposed Orchard Management Actions

### 5.1 Tree Management

#### **Restorative Pruning:**

All trees need restorative pruning.

#### **Formative pruning:**

On any youngstock that may be planted, annually for 1<sup>st</sup> 5 years.

#### **Maintenance Pruning:**

Little maintenance pruning will be required on the older pear trees, but new planting will require regular attention, ideally annually, minimum 1 in 3 yrs..

#### **Protection:**

Rabbit is required, as well as deer & vole for new plantings.

Some existing trees have rabbit protection to a degree. Some other existing trees need to have further work to protect them.

### 5.2 Planting

Recommended planting:

- 15 dessert apples, half standard
- 10 dessert apples, standard
- 5 cooking apples, standard
- 10 dessert pears, standard
- 10 plums, standard
- 3 nut trees such cob & filbert

The planting should take place in the middle third of the orchard, which is free draining but still open in terms of light. The planting should be at least 5m from the railway boundary, so as to remove any reason to be close to the railway. The planting should be at least 7m any large broadleaf trees that line the river bank to avoid excessive shading. The spacing and layout should be as to recreate the original lines of planting.

**Note:** Follow the advice given in Appendix 7.1 regarding exact placement of trees to avoid orchard replant disease.

### 5.3 Orchard Floor Management

Mow 2 - 3m wide rides through the current undergrowth to open up areas, provide access and ensure contrasting habitats so that tall weeds do not dominate. Cut around trees.

Mowing schedule twice a year; spring and late summer after grasses have gone to seed.

**Advice:**

Timing is particularly important if the orchard floor is managed by mowing or cutting for hay, as all the grassland cover is removed at the same time and this has a significant impact on flora, invertebrates and small mammals. In general, cutting should be carried out after wildflowers have set seed and any late summer cutting should be undertaken as late as possible to avoid interfering with breeding birds and small mammals. Cut rides in areas of rough, long grass rather than clearing a whole area to create a diverse sward structure, provide wildlife corridors and provide a refuge for the species displaced by the cutting.

### 5.4 Use of Fruit and Non-Fruit Orchard Products

It is proposed that the fruit is used by the community.

### 5.5 Management of Other Features

No other works envisaged at this stage.

### 5.6 Cultural & Social Initiatives

There is ongoing discussion regarding who will manage the orchard on behalf of the owner. It has been proposed that a community organisation undertake this work.

### 5.7 Consultation with other parties

None

## 6 Action Plan

The following is proposed to accomplish the management objectives:

Traditional Orchard Management Plan				Location ID					
Orchard Action Plan:		West Oaks (West)	L0003						
prepared by CW Hayes Associates on behalf of Historic Orchards Forum and Tay Landscape Partnership									
version:	1								
Project ID	Project Name	Description	Target Scale of Activity	Suggested Timescales					
				2013	2014	2015	2016	2017-2022	
03/21	Restorative pruning	Crown reduction and formative pruning	33 trees	✓					
03/22	Create rides for access and biodiversity	Cut 2.5m wide rides through vegetation to and around old trees.	400 lin m	Jan-13					
03/23	Install protection for existing trees	Chicken wire protection around existing trees.	10 trees		✓				
03/24	Planting new trees	at sites identified & tested above.	53 trees	select varieties	✓				
03/25	Install protection for new plantings	Wire enclosures for deer/rabbits, mulch mats, rodent guards.	53 trees		✓				
03/26	Formative pruning	of new plantings	53 trees			✓	✓		
03/27	Maintenance pruning	Continue to prune new trees and mature trees as required	86 trees			✓			✓
03/28	Community management project	Facilitate community use and management.		✓	✓	✓	✓		✓

## 7 Appendices

Appendices follow in full in the individually printed plans only.

### 7.1 Addressing Orchard Replant Disease

### 7.2 Recommendations for Species & Varieties