Fairfield Millennium Green and Community Orchard

Management Plan 2011

a DRAFT report for
the Fairfield Association

compiled by
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Acknowledgements: A management plan for the Fairfield Millennium Green and Community Orchard was first produced by Elizabeth Alexander in 2000. It was expanded and redrafted by Jon Barry in 2007 and further revised by the Fairfield Association's Orchard sub-group, which includes several regular volunteers and the volunteer co-ordinator, Simon Gershon. The last revision of the plan was produced and approved by the sub-group in March 2009. Plan revisions have been informed by the practices employed by the former orchard gardener, Steve Langhorn, by the experience of FMGCOT trustees and working parties on the orchard, and by the surveys carried out by Graeme Skelcher and Jennifer Newton in August and September 2008.

1 VISION STATEMENT

The Fairfield Millennium Green and Community Orchard is an area of open green space within Lancaster City, which has potential as a haven for both wildlife and low-key public recreation. The aim of the proposed management works is to maximise the wildlife and landscape value of the site and to encourage quiet recreational use of the site.

2 SITE DETAILS

2.1 Location

The site lies in the City of Lancaster, north Lancashire, immediately to the south-west of the city centre.

Site Name	**FAIRFIELD MILLENNIUM GREEN & COMMUNITY ORCHARD**
County	**LANCASHIRE**
Local Planning Authority	**LANCASTER CITY COUNCIL**
Civil Parish	**LANCASTER**
Grid Reference	**SD 469 611**
Access points	From public footpath at end of Sunnyside Lane.
Area	0.9 ha (2.3 acres)
Maps	1:50,000 - 97, 1:10,000 - SD 46 SE

2.2 Tenure

	Owned by Lancaster City Council leased to the Fairfield Association for 999 years at £1 a year.
Legal rights of access	Unrestricted public access over the whole site. A public footpath passes along the eastern edge of the site.
Common rights	None.
Bye-laws	None.

2.3 Status

The land currently has no formal nature conservation status. It lies 1km to the east of the Lune Estuary SSSI and the Morecambe Bay cSAC, pSPA and RAMSAR site.

2.4 Summary Description

The Millennium Green and Community Orchard covers an area of 0.9 ha and lies immediately to the west of the Fairfield Association Urban Nature Reserve (FAUNA). It comprises a mosaic of tall grassland and ruderal herbs with scattered trees (locally forming small copses) and scrub of both natural and planted origin, including a traditional orchard planted in 1999/2000.

The two main NVC (National Vegetation Classification - see Rodwell 1991 *et seq*.) communities present in open areas of the site are MG1 False oat-grass grassland and OV24 Nettle - cleavers community. The MG1 grassland is tall and rather rank grassland dominated by false oat-grass *Arrhenatherum elatius*, with frequent cock's-foot *Dactylis glomerata*. At Fairfield Orchard, this community occurs in a relatively species-poor form (probably MG1a Red fescue sub-community) but a few locally notable herbs are scattered within the sward including meadow crane's-bill *Geranium pratense*, meadow vetchling *Lathyrus pratensis*, common knapweed *Centaurea nigra* and greater bird's-foot trefoil *Lotus pedunculatus*. OV24 community is typically a fairly species-poor community, overwhelmingly dominated by common nettle *Urtica dioica* and with frequent cleavers *Galium aparine*. Small areas of short-sward grassland occur along maintained pathways and around the picnic bench, which most resemble MG6 Ryegrass - crested dog's-tail grassland with dominant ryegrass *Lolium perenne*. In the

southern part of the site, there are also small stands of OV26 great willowherb community and OV27 rosebay willowherb community (dominated respectively by great willowherb *Epilobium hirsutum* and rosebay willowherb *Epilobium angustifolium*), along with a small stand of tall-herb fen with locally abundant iris *Iris pseudacorus* and meadowsweet *Filipendula ulmaria* and frequent purple loosestrife *Lythrum salicaria*.

The woodland and scrub communities of the site are difficult to classify within the NVC scheme due to the influence of planting in the canopy and understorey, and the early stages of development in the field and ground layer. The hedgerows along the margins of the site are generally W21 Hawthorn - ivy scrub, with dominant hawthorn *Crataegus monogyna* and locally frequent elder *Sambucus nigra* and hazel *Corylus avellana*. Elsewhere scrub is probably mostly of more recent planted origin and includes scattered stands of dogwood *Cornus sanguineous* and blackthorn *Prunus spinosa*, with current bushes *Ribes* sp. in an arc around the Millennium Green, as well as the various planted fruit trees of the orchard which was planted over a 0.2 ha area of false oat-grass and nettle in the northern half of the site.

The woodland canopy includes sycamore *Acer pseudoplatanus*, ash *Fraxinus excelsior*, oak *Quercus sp*., silver birch *Betula pendula*, beech *Fagus sylvaticus* and willows *Salix sp*.. The frequency of nettle in the field layer suggests that the natural woodland type might be W6 Alder - nettle woodland, but in this case a willow-dominated variant rather than alder *Alnus glutinosa* dominant. This woodland is likely to be in the process of progression to W8 Ash - field maple - dog's mercury woodland or W10 Oak - bracken - bramble woodland, depending upon the nature of the soil.

2.5 Bibliography

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3 SITE AUDIT

3.1 Evaluation of Features

3.1.1 Size

At 0.9 ha, the site is not a large area in which to promote nature conservation but, together with the *c* 11 ha of the adjacent Fairfield Association Urban Nature Reserve, this area represents a sizable green space near to the centre of Lancaster. The total extent of the orchard covers approximately 0.2 ha, which is broadly consistent with the 0.18 ha mean area of the 448 traditional orchards found in Lancashire by Burrough *et al* (2011) (though smaller than the England mean of around 0.5 ha) and makes a significant contribution to the diversity of habitats within the Millennium Green and Community Orchard site.

3.1.2 Diversity

For its size, the site supports a fair diversity of habitats, including meadow, mature woodland, scrub, hedgerow and nettle beds, as well as the orchard and a very small area of tall-herb fen. There is also a reasonable diversity of plant species present, with a total of 84 non-woody vascular plant species being recorded during surveys in 2008 and 2010.

3.1.3 Naturalness

The site represents a relatively natural environment within an urban setting. There appears to have been a history of recent neglect, prior to the creation of the Orchard, allowing natural development of woodland and scrub, but there is also evidence of past artificial nutrient enrichment demonstrated by the abundance of nettle across the site. Positive land management since 1999 has created or enhanced the semi-natural habitats which presently cover the site.

3.1.4 Rarity

'Traditional Orchard' and 'Lowland Meadow' are both listed as 'key' habitats in the *UK Biodiversity Action Plan* (Anon. 1995). The former covers a total of approximately 25,000 ha in the UK, but the area in England is estimated to have declined by 63% since 1950. A survey completed in 2011 by Burrough *et al* found 35,366 individual traditional orchards in England, covering a total area of 16,992 ha; though 45% of those surveyed were found to be in a poor condition.

8 qualifying plant species under *Gr3* of the *Lancashire Biological Heritage Site guidelines* (Morries, Jepson & Bruce, 1996) have been recorded; these being marsh marigold *Caltha palustris,* common knapweed *Centaurea nigra,* meadowsweet *Filipendula ulmaria,* meadow crane's-bill *Geranium pratense,* meadow vetchling *Lathyrus pratensis,* greater bird's-foot trefoil *Lotus pedunculatus,* cowslip *Primula veris* and self-heal *Prunella vulgaris*. 10 such qualifying species are required by the guidelines for county recognition as a Biological Heritage Site.

3.1.5 Fragility

The site is generally robust and suitable for unrestricted pedestrian access, though occasional vandalism and security of the adjacent houses need to be considered in site design and management.

3.1.6 Typicalness

The site is fairly atypical in that it is an area of green-space which has survived development in an urban area, and has not been heavily improved as is typical of most agricultural land around Lancaster, but neither do the site's habitats represent a particularly typical example of the natural environment which would have existed around Lancaster prior to development.

3.1.7 Recorded History

The Millennium Green and Community Orchard was established by the Fairfield Association in 1999 on previously neglected City Council ground adjacent to a well-used public footpath between Fairfield and Aldcliffe. It was one of 250 millennium greens created across the country to mark the beginning of the new millennium.

Funding and support for the project came from 'Millennium Greens' (funded by the National Lottery and administered by The Countryside Agency), Lancaster City Council, Bass Charrington, the British Trust for Conservation Volunteers (BTCV), Lancaster BTCV, the Royal Botanical & Horticultural Society of Manchester and the Northern Counties and the Ramblers Association, as well as personal donations from local people. The orchard was descigned by landscape architect Georgina Peacock, while work was carried out by the BTCV, local community groups, local probation service and local volunteers.

3.1.8 Position in Ecological/Geographical Unit

The site is bounded by urban land (principally housing) to the north and west. However, immediately to the east lies the c 11 ha fields of the Fairfield Association Urban Nature Reserve (FAUNA), which is being managed for its wildlife interest through a combination of low-intensive pasture management, traditional meadow management and wetland creation, while to the south of this are further agricultural fields which continue for about 1km up to the Aldcliffe Marsh along the banks of the River Lune (part of the Lune Estuary Site of Special Scientific Interest (SSSI) and the Morecambe Bay candidate Special Area of Conservation (cSAC), proposed Special Protection Area (pSPA) and RAMSAR site). The site thus forms part of a large area of green space within the largely urban Lancaster city centre.

3.1.9 Potential Value

Much effort was put into the design and creation of habitats when the Millennium Green and Community Orchard was first established. Potential now lies in allowing woodland and some scrub habitats to mature naturally whilst carrying out careful management of the orchard, grassland and wetland habitats to ensure they are maintained in optimum condition for both wildlife and site visitors.

3.1.10 Intrinsic Appeal

The site offers a green contrast to city life in Lancaster and allows for leisure activities including walking, picnics and a quiet place to sit, as well as providing a variety of fruits (including local varieties) which are available for visitors to eat from the orchard. The site also hosts occasional fund-raising events for the Fairfield Association.

3.2 Summary of important features

Feature	Status
1. Habitat	
Traditional Orchard	UK BAP Priority Habitat
Lowland Meadow	UK BAP Priority Habitat
Swamps and Tall-herb Fen	UK BAP Priority Habitat
2. Species	
2.1 Vascular plants	
marsh marigold *Caltha palustris*	BHS Gr3 grassland qualifying species
common knapweed *Centaurea nigra*	BHS Gr3 grassland qualifying species
meadowsweet *Filipendula ulmaria*	BHS Gr3 grassland qualifying species
meadow crane's-bill *Geranium pratense*	BHS Gr3 grassland qualifying species
meadow vetchling *Lathyrus pratensis*	BHS Gr3 grassland qualifying species
greater bird's-foot trefoil *Lotus pedunculatus*	BHS Gr3 grassland qualifying species
cowslip *Primula veris*	BHS Gr3 grassland qualifying species
self-heal *Prunella vulgaris*	BHS Gr3 grassland qualifying species
2.2 Breeding birds *(bird species recorded breeding within 1km of Fairfield Orchard)*	
mallard *Anas platyrhynchos*	Amber list species (medium conservation concern)
kestrel *Falco tinnunculus*	Amber list species (medium conservation concern)
grey partridge *Perdix perdix*	Red list species (high conservation concern); UK BAP Priority species
lapwing *Vanellus vanellus*	Red list species (high conservation concern); UK BAP Priority species
snipe *Gallinago gallinago*	Amber list species (medium conservation concern)
swift *Apus apus*	Amber list species (medium conservation concern)
swallow *Hirundo rustica*	Amber list species (medium conservation concern)
house martin *Delichon urbica*	Amber list species (medium conservation concern)
dunnock *Prunella modularis*	Amber list species (medium conservation concern)
song thrush *Turdus philomelos*	Red list species (high conservation concern); UK BAP Priority species
mistle thrush *Turdus viscivorus*	Amber list species (medium conservation concern)
willow warbler *Phylloscopus trochilus*	Amber list species (medium conservation concern)
spotted flycatcher *Muscicapa striata*	Red list species (high conservation concern); UK BAP Priority species
starling *Sturnus vulgaris*	Red list species (high conservation concern); UK BAP Priority species
house sparrow *Passer domesticus*	Red list species (high conservation concern); UK BAP Priority species
linnet *Carduelis cannabina*	Red list species (high conservation concern); UK BAP Priority species
bullfinch *Pyrrhula pyrrhula*	Amber list species (medium conservation concern); UK BAP Priority species
reed bunting *Emberiza schoeniclus*	Amber list species (medium conservation concern); UK BAP Priority species

4 SITE OBJECTIVES

1. Enhance the nature conservation value of the orchard, meadow, woodland, scrub and wetland habitats on the site.

2. Enhance the landscape and aesthetic appeal of the site.

3. Encourage responsible access for the local community, educational and youth groups and other visitors.

4. Manage the site to be as self sustaining as possible with minimum maintenance required.

5 MANAGEMENT ACTIONS

5.1 Rationale

5.1.1 Nature Conservation

5.1.1.1 Orchard

Traditional orchards can potentially support a very high biodiversity, including vascular plants, mosses, fungi, lichens, invertebrates and birds, as well as helping to preserve uncommon and local varieties of fruit. Management is required to maintain the health of the fruit trees and ensure a satisfactory crop of fruit each year, including control of competing ground vegetation, pruning of the fruit trees and cutting back of trees or shrubs which are casting shade on the orchard. The orchard is currently managed under Higher level Stewardship which requires that there should be between 70 and 200 apple, pear, plum, cherry or meddler trees per ha (i.e. between *c* 14 and 40 at Fairfield) of traditional varieties on vigorous rootstock that are established and growing free from damage by livestock, and at least 90% of the trees alive at the start of the agreement should remain so for the lifetime of the agreement.

5.1.1.2 Meadow and nettle beds

The tall grassland and nettle beds within the Millennium Green and Community Orchard currently support a moderate range of vascular plant species and these habitats are often excellent for invertebrates; the former particularly for species which feed on coarse grasses (including the larva of the butterflies meadow brown and speckled wood), while nettles are particularly renown for being the larval food-plant of several large and colourful butterflies; peacock, small tortoiseshell, red admiral and comma. Rank grassland is also likely to provide good cover for small mammals such as wood mouse and field vole, which in turn may attract hunting kestrels and owls. This habitat may also be valuable foraging habitat for frogs, toads and newts breeding in nearby ponds or waterways.

Annual cutting of the grassland areas in late summer/ autumn will help to increase the botanical diversity of the sward, which in turn will enhance the value of the site for a greater diversity of invertebrate and other animal species. Cutting opens up the sward, which increases opportunities for herbs and fine-leaved grasses, rather than the rank and courser grasses which dominate otherwise, and also prevents encroachment by trees and scrub. Removal of cuttings is essential to prevent build up of nutrients which would favour more vigorous and competitive species such as nettles and course grasses. Cuttings should be removed from site or used to mulch fruit trees and bushes in the orchard where this is beneficial.

Ideally, the whole area should not be cut all at once but small sections cut over a period of days or even weeks. Meadows which are cut in their entirety within the same day tend to be poor for invertebrates

because of the sudden change in habitat from tall grass to short grass, and numbers are often unable to build up significantly in the intervening year. By staggering the cutting, and also leaving some marginal areas which either remain uncut or are cut on rotation every 3 to 5 years, ensures that there are always refuge areas for invertebrates and other animals immediately following cutting and these species are then better able to re-colonise the cut areas as the grass begins to grow again. Also, having some areas which are cut annually and some areas which are cut less frequently creates a greater diversity of sward conditions which will thus provide habitat for a greater diversity of species.

5.1.1.3 Woodland and scrub

Further site diversity is offered by the scattered scrub, which provides food sources for additional invertebrate species as well as perching posts which are important for several species. Scattered trees and scrub also provide shelter to the open areas which helps to keep these areas a little warmer, producing more favourable conditions for many invertebrate species.

Natural development of the woodland and dense scrub should be allowed to continue with minimum intervention. In particular any standing or fallen dead wood should be left *in situ*, unless removal is absolutely necessary for safety reasons, as this is extremely valuable for many invertebrate species and the birds which, in turn, feed on them. Control of spreading scrub at the margins of the woodlands and encroaching trees and scrub in the open areas will be necessary to prevent excessive shading of the orchard and grasslands and also to prevent succession of these areas to scrubland.

5.1.1.4 Wetland

The small area of tall-herb fen also adds to the diversity of habitats and will provide a niche for different invertebrate species. In particular, many of the spiders recorded by Jennifer Newton were found in this area, while wetter areas may also be attractive to dragonflies and damselflies.

Control of scrub around the wetland areas (notably the dogwood stands) and of dense vegetation within the wetland is necessary to prevent shading and drying of this land.

5.1.2 Landscape

In general, the aesthetic quality of the Millennium Green and Community Orchard will be maintained through the management described above to enhance the biodiversity. However, because of the site's amenity value, it is important to maintain the site's attractiveness by minimising the visual impact of management work (e.g. by tidying cut vegetation where appropriate) and giving consideration to landscape issues (e.g. maintaining views).

5.1.3 Access

The Millennium Green and Community Orchard, together with the adjacent public footpath, are heavily used, and providing a space for community leisure and enjoyment has always been a prime consideration in establishing the site. It is essential that current levels of access are maintained by repairing the paths where necessary, regular mowing of grassland vegetation adjacent to paths and in established amenity areas (e.g. the picnic area), trimming back of obstructing scrub or overhanging branches and appropriate management of any trees which are deemed to be unsafe and present a potential risk to visitors.

Use of the site of the site for community and educational purposes should continue to be encouraged.

5.1.4 Sustainability

The chief source of site maintenance is provided by volunteer work parties, mainly drawn from the local community. Thus the degree of management which can be achieved is limited by this factor. It is therefore essential that consideration is given to ensuring that proposals made are as self sustaining as possible or else require relatively low levels of management input.

At present, a monthly half-day weekend work party throughout the year, plus one monthly evening work party during the summer, are employed, comprising local volunteers. It may also be possible to recruit other groups (e.g. BTCV, Lancaster & Cumbria University student volunteers, Probation Service, local schools, Scouts and Guides, corporate volunteering days) from time to time; particularly for specific designated projects such as path re-laying and minor construction work. Aspects of the management plan that cannot be undertaken by these maintenance parties need to be carried out by paid contractors employed by the Fairfield Association.

5.2 Project register

Operational objective 1: Enhance the nature conservation value of the orchard, meadow, woodland, scrub and wetland habitats on the site.

Orchard

1. Mow the 'orchard' area (i.e. around the fruit trees) fully in March/April, then leave grass to grow long to protect the fruit trees until they are ripe or have been picked in September.
2. Monitor the orchard area during summer and mow nettle and bramble patches selectively as needed – in blocks rather than as a single whole.
3. Keep all newly-established trees clear and hand-weeded / mulched as much as required (April - August).
4. Tie up soft fruit in circular hedge whenever necessary (April - August).
5. Larger broken branches on fruit trees should be tidied up where appropriate (April - August).
6. Broken branches of plum or damson trees should be trimmed back in summer to prevent silver leaf (April - August).
7. In early July put up notices on fruit trees asking people not to pick the apples too early.
8. Carry out moderate pruning of fruit trees to establish/maintain shape and tidy up broken branches (not plum family) (September - February).
9. Cut back soft fruit hedge as appropriate; either shaped or individual plants pruned. Blackcurrants require removal of growth to ground for about one third of the bush. Blackthorn should be cut back hard from time to time so as not to swamp the soft fruit. The others can be shaped as appropriate
10. Mulch bases of soft fruit with compost / cardboard to keep weeds down(September - February).
11. Check tree ties and, wherever possible, remove and cut stake off at ground level(September - February).
12. Consider new tree planting (replacements for vandalised trees) (September - February)
13. Prune back buddleias to four feet (March - April).
14. Prune back large dog woods to ground level, and remove unwanted ones, on a rotating basis over several winters to ensure retention of the 'tunnel' effect and regeneration of young and colourful stems (March - April).
15. Coppice willows occasionally, with consideration to the visual effect here (March - April).
16. Mulch fruiting hedge with compost, especially if not done in the autumn (March - April).
17. Consider replanting edge of picnic area with walnut or black mulberry. Consider planting one or two medlars near the wet area.

Tall grass/ nettle beds

18. Mow most of the tall grassland areas and nettle beds annually in late summer/ autumn to help increase the botanical diversity of the sward. Cuttings should be removed from site or used to mulch fruit trees and bushes where this is beneficial. Mowing of small sections should be cut over a period of days or weeks (rather than cutting all at once).
19. Leave marginal areas of grassland (i.e. *c* 1 or 2 m bordering woodland/scrub) to remain uncut or cut on rotation every 3 -5 years.
20. Review oak circle situation in the autumn: either continue as at present or apply for grant to convert to wildflower meadow (if thought desirable, would require removing turf and replacing with a mix of sand, gravel and soil before re-seeding). **
21. Remove all remaining grey alders (and their suckers) on the edge of the picnic area.

Woodland/ scrub

22. Allow natural development of the woodland and dense scrub with minimum intervention.
23. Standing or fallen dead wood to be left *in situ*, unless removal is absolutely necessary for safety reasons.

24. Control spreading scrub at the margins of the woodlands and encroaching tress and scrub in the open areas to prevent excessive shading of the orchard and grasslands and also to prevent succession of these areas to scrubland (September - February).
25. Lay or shape hedges as appropriate, ensuring a reasonable depth for wildlife but not allowing the hedges to take over too much grassland (October - February).
26. Cut back undergrowth next to main hedges and trim hedge vertical face to ensure good growth next year. NB hedges planned for future laying must be allowed to grow taller. This should not be done before the end of October (September - February).
27. Fill hedge gaps by additional planting where necessary (e.g. at north end) (September - February).
28. Check whether smaller trees need removal, trimming or thinning (September - February).
29. Check and clean bird and bat boxes in autumn (September - October to ensure no disturbance of hibernating bats in winter and of breeding birds and bats in spring/summer).
30. Review bird and bat box placing and install additions / replacements if required (September - October).

Wetland

31. Cut back bindweed in the wetland area as necessary (April - August).
32. Remove excess vegetation from wet area to prevent summer drying (September - October).
33. Control scrub immediately surrounding the wetland area (notably the dogwood stands) to prevent shading and drying of this land (September - February).

Operational objective 2: Enhance the landscape and aesthetic appeal of the site.

1. Consider landscape and aesthetic issues in all management works (e.g. maintaining views, tidying cut materials next to pathways etc.).

Operational objective 3: Encourage responsible access for the local community, educational and youth groups and other visitors.

1. Mow an area of grass one-mower-width to the side of the stone paths once every month (April - August).
2. Mow all non-stone paths monthly: i.e. central path (north section), paths at western edge (north and south of oak circle), path behind fruiting hedge, and connecting paths. The routes of these paths should be varied regularly to avoid erosion as far as possible (April - August).
3. Mow the area around the picnic area monthly during the growing period (April - August).
4. Mow the oak circle monthly in the growing period, avoiding the wild geraniums which should be allowed to grow (April - August). **
5. All grass cuttings to be removed and used to mulch the fruiting hedge.
6. Cut back hedges on the local authority footpath side to allow pedestrian access. Any major pruning to be carried out October to January to avoid disturbance to breeding birds and removal of late-summer seed/fruit crops which are valuable to birds and other animals.
7. Cut back vegetation overhanging/encroaching on paths as necessary.
8. Check health of large trees and remedy if needed for safety purposes.
9. Follow up Bowland Tree Services' report (organise inspection, pruning and monitoring of named trees as recommended)
10. Check and repair stone paths.
11. Check health and repair the stumps in the picnic area if necessary.
12. Encourage use of the site of the site for occasional community/ educational purposes.

Operational objective 4: Manage the site to be as self sustaining as possible with minimum maintenance required.

1. Review management on a regular basis to ensure that key features can be maintained with the resources available and that long-term management is as self sustaining as possible.

6 SUMMARY OF WORKS - Ten-year work programme

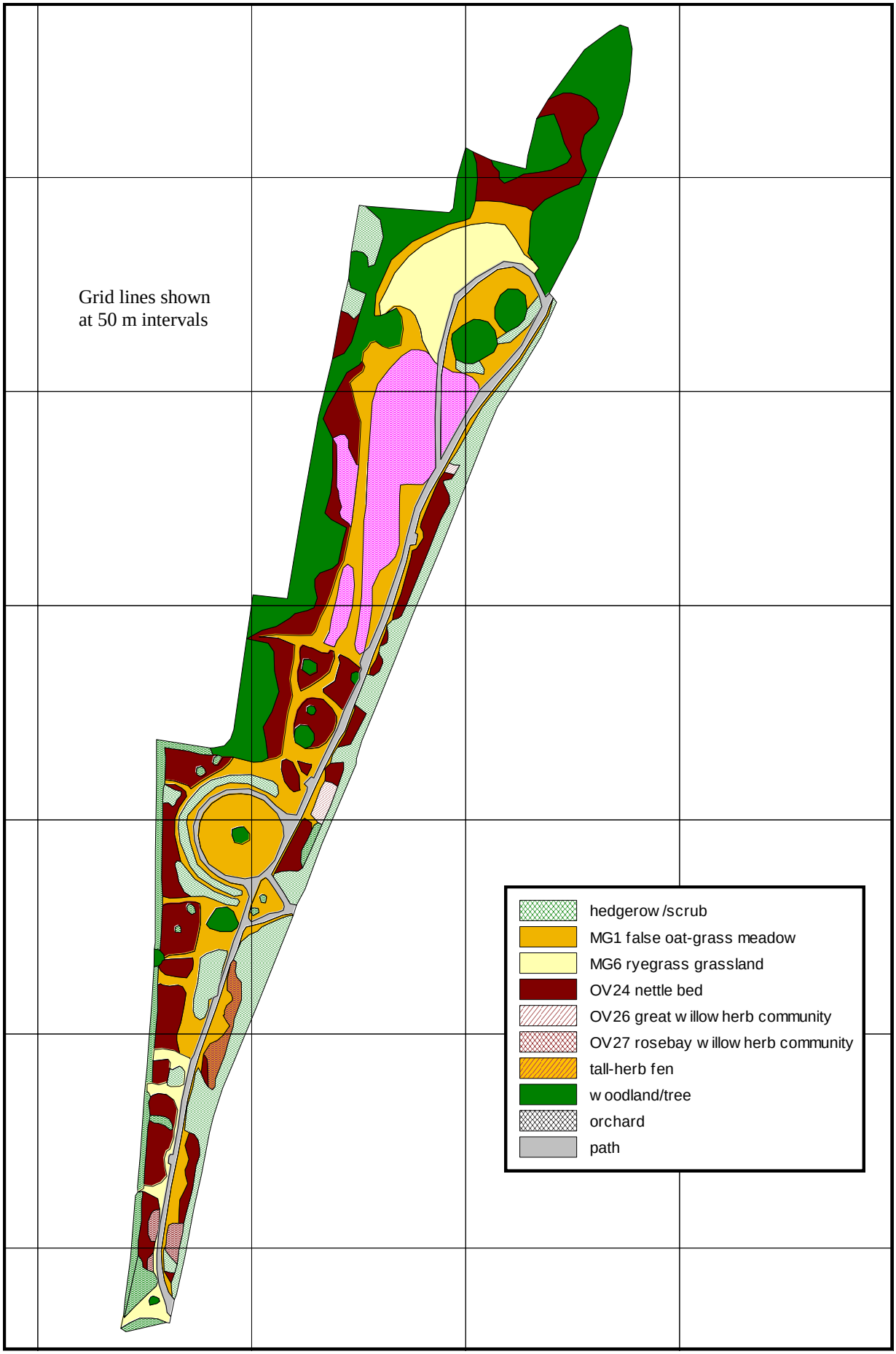
(1 = high priority, 2 = medium priority, 3 = low priority)

Project	year in which work to be done									
	11	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Habitat management										
Mow the 'orchard' area (i.e. around the fruit trees) fully in March/April, then leave grass to grow long to protect the fruit trees until they are ripe or have been picked in September.										
Monitor the orchard area during summer and mow nettle and bramble patches selectively as needed – in blocks rather than as a single whole.										
Keep all newly-established trees clear and hand-weeded / mulched as much as required (April - August).										
Tie up soft fruit in circular hedge whenever necessary (April - August).										
Larger broken branches on fruit trees should be tidied up where appropriate (April - August).										
Plum or damson tree broken branches should be trimmed back in summer to prevent silver leaf (April - August).										
Moderate pruning of fruit trees to establish/maintain shape and tidy up broken branches (not plum family) (September - February).										
Cut back soft fruit hedge as appropriate – either shaped or individual plants pruned. Blackcurrants require removal of growth to ground for about one third of the bush. Blackthorn should be cut back hard from time to time so as not to swamp the soft fruit. The others can be shaped as appropriate. Mulch bases of soft fruit with compost / cardboard to keep weeds down(September - February).										
Check tree ties and, wherever possible, remove and cut stake off at ground level(September - February). Consider new tree planting (replacements for vandalised trees) (September - February)										
Prune back buddleias to four feet.										
Prune back large dog woods to ground level, and remove unwanted ones, on a rotating basis over several winters to ensure retention of the 'tunnel' effect and regeneration of young and colourful stems. Coppice willows occasionally, mindful of the visual effect here too.										
Mulch fruiting hedge with compost, especially if not done in the autumn.										
New trees: consider replanting edge of picnic area with walnut or black mulberry. Consider planting one or two medlars near the wet area.										

Project	year in which work to be done									
	11	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Mow most of the tall grassland areas and nettle beds annually in late summer/ autumn to help increase the botanical diversity of the sward. Cuttings should be removed from site or used to mulch fruit trees and bushes where this is beneficial. Mowing of small sections should be cut over a period of days or weeks (rather than cutting all at once).										
Leave marginal areas of grassland (i.e. *c* 1 or 2 m bordering woodland/scrub) to remain uncut or cut on rotation every 3 -5 years.										
Review oak circle situation in the autumn: either continue as at present or apply for grant to convert to wildflower meadow (if thought desirable, would require removing turf and replacing with a mix of sand, gravel and soil before re-seeding). ** Mow the oak circle monthly in the growing period, avoiding the wild geraniums which should be allowed to grow. **										
Remove all remaining grey alders (and their suckers) on the edge of the picnic area.										
Allow natural development of the woodland and dense scrub with minimum intervention.										
Standing or fallen dead wood to be left *in situ*, unless removal is absolutely necessary for safety reasons.										
Control spreading scrub at the margins of the woodlands and encroaching tress and scrub in the open areas to prevent excessive shading of the orchard and grasslands and also to prevent succession of these areas to scrubland.										
Lay or shape hedges as appropriate, ensuring a reasonable depth for wildlife but not allowing the hedges to take over too much grassland.										
Cut back undergrowth next to main hedges and trim hedge vertical face to ensure good growth next year. NB hedges planned for future laying must be allowed to grow taller. This should not be done before the end of October.										
Fill hedge gaps by additional planting where necessary (e.g. at north end)										
Check whether smaller trees need removal, trimming or thinning.										
Cut back bindweed in the wetland area as necessary.										
Remove excess vegetation from wet area to prevent summer drying (October).										
Control scrub immediately surrounding the wetland area (notably the dogwood stands) to prevent shading and drying of this land.										
Consider landscape and aesthetic issues in all										

Project	year in which work to be done									
	11	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
management works (e.g. maintaining views, tidying cut materials next to pathways etc.).										
Mow an area of grass one-mower-width to the side of the stone paths once every month.										
Mow all non-stone paths monthly: i.e. central path (north section), paths at western edge (north and south of oak circle), path behind fruiting hedge, and connecting paths. The routes of these paths should be varied regularly to avoid erosion as far as possible.										
Mow the area around the picnic area monthly during the growing period.										
All grass cuttings to be removed and used to mulch the fruiting hedge.										
Cut back hedges on the local authority footpath side to allow pedestrian access. Any major pruning to be carried out October to January to avoid disturbance to breeding birds and removal of late-summer seed/fruit crops which are valuable to birds and other animals.										
Cut back vegetation overhanging/encroaching on paths as necessary.										
Check health of large trees and remedy if needed for safety purposes.										
Follow up Bowland Tree Services' report (organise inspection, pruning and monitoring of named trees as recommended)										
Estate work										
In early July put up notices on fruit trees asking people not to pick the apples too early.										
Check and clean bird and bat boxes in autumn/winter										
Review bird and bat box placing and install additions / replacements if required										
Check and repair stone paths.										
Check health and repair the stumps in the picnic area if necessary.										
Administration and planning										
Encourage use of the site of the site for occasional community/ educational purposes.										
Review management on a regular basis to ensure that key features can be maintained with the resources available and that long-term management is as self sustaining as possible.										

APPENDIX 1: MAP OF EXISTING HABITAT AND FEATURES - Scale 1:3000



APPENDIX 2: LIST OF NON-WOODY VASCULAR PLANT SPECIES RECORDED AT FAIRFIELD ORCHARD IN 2008 AND 2010

Relative abundance given on DAFOR scale (Dominant, Abundant, Frequent, Occasional, Rare)

		21/22 August 2008	14 May 2010	19 August 2010
Agrostis capillaris	common bent	F		O
Agrostis stolonifera	creeping bent	O		O
Alliaria petiolata	garlic mustard	O	F	**O**
Allium ursinum	wild garlic		R	
Alopecurus pratensis	meadow foxtail		F	O
Anthriscus sylvestris	cow parsley	O	F	O
Anthoxanthum odoratum	sweet vernal grass		O	
Arrhenatherum elatius	false oat-grass	A		F
Arum maculatum	lords-and ladies	O	O	**O**
Athyrium filix-femina	lady fern		R	
Bellis perennis	daisy	O		
Caltha palustris	**marsh marigold**		**R**	
Calystegia sepium	hedge bindweed	A	R	F
Cardamine flexuosa	wavy bittercress		R	
Carex hirta	hairy sedge	O	R	
Centaurea nigra	**common knapweed**	**R**		O
Circaea lutetiana	enchanter's nightshade	R		
Cirsium arvense	creeping thistle	O	O	
Cirsium vulgare	spear thistle	R	R	
Crocosmia aurea x *C. pottsii*	montbretia	R	R	
Dactylis glomerata	cock's-foot	F	O	F
Dryopteris dilatata	broad buckler-fern	O	R	
Dryopteris filix-mas agg.	male fern	O	R	
Epilobium angustifolium	rosebay willowherb	O	O	
Epilobium hirsutum	great willowherb	O	O	O
Epilobium montanum	broad-leaved	O		R
Equisetum arvense	field horsetail	O	O	R
Eupatorium cannabinum	hemp-agrimony	O		R
Festuca rubra agg.	red fescue	O	O	O
Filipendula ulmaria	**meadowsweet**	**O**	O	O
Galium aparine	cleavers	F	F	O
Galium mollugo	hedge bedstraw	O		R
Geranium phaeum	dusky crane's-bill		R	R
Geranium pratense	**meadow crane's-bill**	**F**	O	F
Geranium robertianum	herb Robert	O	O	
Geum urbanum	herb Bennet	O	O	O
Hedera helix	ivy	O	O	O
Heracleum sphondylium	hogweed	F	O	O
Holcus lanatus	Yorkshire-fog	O		O
Hyacinthoides x massartiana	hybrid bluebell		R	
Hyacinthoides non-scripta	bluebell		O	

		21/22 August 2008	14 May 2010	19 August 2010
Hypericum androsaemum	tutsan	R		
Iris pseudacorus	yellow iris	O	O	O
Juncus effusus	soft-rush	O		R
Lathyrus pratensis	**meadow vetchling**	**O**	O	O
Lolium perenne	common ryegrass	F		F
Lonicera periclymenum	honeysuckle	O	O	R
Lotus pedunculatus	**greater bird's-foot**	**O**		R
Lythrum salicaria	purple loosestrife	O		O
Matricaria discoidea	pineappleweed	R		
Meconopsis cambrica	Welsh poppy		R	
Myosotis sylvatica	wood forgetmenot		O	
Narcissus pseudonarcissus	daffodil		R	
Pentaglottis sempervirens	green alkanet		R	
Plantago lanceolata	ribwort plantain	O	O	O
Plantago major	greater plantain	O		O
Poa trivialis	rough meadowgrass	F		O
Polygonum aviculare agg.	knotweed	O		
Primula veris	**cowslip**		**R**	
Prunella vulgaris	**self-heal**	**R**		
Ranunculus acris	meadow buttercup		R	O
Ranunculus ficaria	lesser celandine		O	
Ranunculus repens	creeping buttercup	O	O	F
Rubus fruticosus agg.	bramble	A	F	O
Rubus idaeus	raspberry	R	O	
Rumex acetosa	common sorrel	R		
Rumex crispus	curled dock	R		
Rumex obtusifolius	broad-leaved dock	O	O	O
Senecio jacobaea	common ragwort	O	R	R
Senecio vulgaris	groundsel	R		
Silene dioica	red campion	O	O	O
Sisymbrium officinale	hedge mustard	R		R
Solanum dulcamara	bittersweet	R		
Sonchus asper	prickly sow-thistle	R		
Sonchus oleraceus	smooth sow-thistle	R		
Stachys sylvatica	hedge woundwort	F	O	
Symphytum officinale	comfrey			R
Taraxacum officinale agg.	dandelion	O	O	O
Trifolium repens	white clover	O	O	O
Triticum aestivum	bread wheat	R		
Urtica dioica	common nettle	A	A	A
Veronica persica	common field		O	
Vicia cracca	tufted vetch	R		
Vicia sepium	bush vetch		R	

Species in bold are listed as Biological Heritage Site (BHS) qualifying species under Gr3 grasslands. 10 such species should be reasonably distributed throughout the site or part of the site for BHS grassland qualification.

APPENDIX 3: LIST OF INVERTEBRATES RECORDED AT FAIRFIELD ORCHARD BY JENNIFER NEWTON, 2007 AND 2008

Bees		**Date**	**Where found**
Apis mellifera	Honey Bee	2/08/08	on bramble in hedge on field side of track
Bombus campestris	a bumblebee	2/08/08	on ragwort
Bombus hortorum	Small Garden Bumble Bee	2/08/08	on Epilobium hirsutum (marsh)
Bombus lapidarius	Large Red Tailed Bumble Bee	2/08/08	on Geranium
Bombus pascuorum	Common Carder Bee	2/08/08	especially on Geranium pratense
Bombus pratorum	Early Bumble Bee	2/08/08	on ragwort
Spiders			
Theridion sisyphium		17/10/07	off gorse
Theridion tinctum		17/10/07	
Enoplognatha ovata sens. str.		17/10/07	under pile of cut grass
Enoplognatha ovata sens. str.		2/08/08	in marsh vegetation (Lythrum, nettles, bindweed, Iris, Filipendula)
Erigone dentipalpis		17/10/07	in pile of cut grass
Tetragnatha montana		17/10/07	off oak
Pachygnatha clercki		2/08/08	off marsh vegetation (Lythrum, nettles, bindweed, Iris, Filipendula)
Pachygnatha clercki		17/10/07	off fern clump
Metellina segmentata sens. str.		17/10/07	off oak
Metellina segmentata sens. str.		2/08/08	on vegetation
Araneus diadematus		2/08/08	on vegetation
Pardosa amentata		17/10/07	under stones, logs, debris
Pisaura mirabilis		2/08/08	off marsh vegetation (Lythrum, nettles, bindweed, Iris, Filipendula)
Pisaura mirabilis		17/10/07	off gorse
Pisaura mirabilis		2/08/08	in nettles
Beetles			
Rhagonycha fulva	soldier beetle	2/08/08	
Halyzia sedecimguttata	Orange Ladybird	17/10/07	off nettles under alder
Adalia bipunctata	2-spot Ladybird	17/10/07	off willow
Adalia bipunctata	2-spot Ladybird	2/08/08	N end. Typical var.
Coccinella septempunctata	7-spot Ladybird	17/10/07	
Earwigs			
Forficula auricularia	Common Earwig	17/10/07	off holly
True bugs			
Liocoris tripustulatus		2/08/08	Voucher retained. Swept off nettles, N end
Heterotoma planicornis		2/08/08	swept of nettles
Acanthosoma haemorrhoidale		17/10/07	off holly
Pill bugs and sow bugs			
Porcellio scaber	Common rough woodlouse	17/10/07	under stones, logs, debris
Philoscia muscorum	Common striped woodlouse	2/08/08	under stones below lime tree
Philoscia muscorum	Common striped woodlouse	17/10/07	in pile of cut grass
Oniscus asellus	Common shiny woodlouse	17/10/07	in pile of cut grass
Porcellio scaber	Common rough woodlouse	2/08/08	under stones below lime tree
Butterflies and moths			
Anthophila fabriciana		17/10/07	
Agriphila straminella		2/08/08	grasses near apple tree area

Pieris brassicae	Large White	2/08/08	
Pieris rapae	Small White	2/08/08	brambles on field side of track
Pieris napi	Green-veined White	2/08/08	on brambles in hedge (field side of track)
Celastrina argiolus	Holly Blue	2/08/08	over scrub N end
Polygonia c-album	Comma	6/11/07	flying round orchard, mild sunny day
Polygonia c-album	Comma	2/08/08	on buddleia and nettles
Pararge aegeria	Speckled Wood	2/08/08	All through site, courtship in dense scrub at back of site, nectaring on ragwort
Maniola jurtina	Meadow Brown	2/08/08	at south end. Surprisingly rare
Stone centipedes			
Lithobius forficatus		2/08/08	under stones below lime tree
Dragonflies and damselflies			
Sympetrum striolatum	Common Darter	2/08/08	rank veg. near marsh
Harvestmen			
Mitopus morio		2/08/08	
Dicranopalpus ramosus		2/08/08	
Leiobunum rotundum		2/08/08	off marsh vegetation (Lythrum, nettles, bindweed, Iris, Filipendula)
Slugs and land snails			
Arion circumscriptus		17/10/07	under stones
Arion distinctus		17/10/07	under stones
Tandonia budapestensis	Budapest Slug	17/10/07	under stones
Limax maximus	Great Grey Slug	20/10/07	under stones
Deroceras reticulatum	Field (Netted?) Slug	2/08/08	under stones below lime tree
Cepaea hortensis	White-lipped Snail	20/10/07	under stones
Helix aspersa	Garden or Common Snail	20/10/07	under stones

APPENDIX 4: LIST OF RECORDED BIRD SPECIES
(based on a list compiled by Peter Crooks with some additions)

Bird species recorded within 1 km of Fairfield Orchard

Species	Status
Heron	Irregular? –by seasonal pond within FAUNA, July 2004
Mallard	Resident – breeding within FAUNA
Sparrowhawk	Resident – breeding within 1 km of FAUNA
Kestrel	Resident – breeding within 1 km of FAUNA
GREY PARTRIDGE	Resident – breeding within 1 km of FAUNA
Pheasant	Resident – breeding within 1 km of FAUNA
Moorhen	Resident – breeding within 1 km of FAUNA
LAPWING	Resident – breeding within FAUNA until 2002
Snipe	Resident? – in rush and on flooded fields within FAUNA
Green Sandpiper	Winter visitor – on flooded fields within FAUNA
Feral Pigeon	Resident – breeding within 1 km of FAUNA
Woodpigeon	Resident – breeding within FAUNA
Collared Dove	Resident – breeding within FAUNA
Little Owl	Resident – breeding within 1 km of FAUNA
Tawny Owl	Resident – breeding within 1 km of FAUNA
Swift	Summer visitor – breeding within 1 km of FAUNA
Great Spotted Woodpecker	Resident – breeding within 1 km of FAUNA
Swallow	Summer visitor – breeding within FAUNA
House Martin	Summer visitor – breeding within 1 km of FAUNA
Pied Wagtail	Resident – probably breeding within 1 km of FAUNA
Waxwing	Rare winter visitor – 2 at Millennium Orchard on 2/2/03
Wren	Resident – breeding within FAUNA
Dunnock	Resident – breeding within FAUNA
Robin	Resident – breeding within FAUNA
Redstart	Migrant – Millennium Orchard - 1 on 19/4/02, 4 on 30/4/02
Blackbird	Resident – breeding within FAUNA
Fieldfare	Winter visitor – eg. 40+ at Millennium Orchard on 2/2/03
SONG THRUSH	Resident – breeding within FAUNA
Redwing	Winter visitor – eg. 20 at Millennium Orchard on 2/2/03
Mistle Thrush	Resident – breeding within FAUNA
Sedge Warbler	Summer visitor – breeding within 1 km of FAUNA
Lesser Whitethroat	Summer visitor – breeding within 1 km of FAUNA
Common Whitethroat	Summer visitor – breeding within 1 km of FAUNA
Garden Warbler	Summer visitor – breeding within 1 km of FAUNA
Blackcap	Summer visitor – breeding within FAUNA
Chiffchaff	Summer visitor – breeding within FAUNA
Willow Warbler	Summer visitor – breeding within 1 km of FAUNA
Goldcrest	Resident – breeding within 1 km of FAUNA
SPOTTED FLYCATCHER	Summer visitor – breeding within 1 km of FAUNA
Long-tailed Tit	Resident – breeding within FAUNA
Coal Tit	Resident – breeding within FAUNA

Blue Tit	Resident – breeding within FAUNA
Great Tit	Resident – breeding within FAUNA
Nuthatch	Irregular – possibly breeding within 1 km of FAUNA
Magpie	Resident – breeding within FAUNA
Jackdaw	Resident – breeding within 1 km of FAUNA
Carrion Crow	Resident – breeding within FAUNA
STARLING	Resident – breeding within 1 km of FAUNA
HOUSE SPARROW	Resident – breeding within 1 km of FAUNA
Chaffinch	Resident – breeding within FAUNA
Greenfinch	Resident – breeding within FAUNA
Goldfinch	Resident – breeding within FAUNA
LINNET	Resident – breeding within 1 km of FAUNA
BULLFINCH	Resident – breeding within FAUNA
REED BUNTING	Resident – probably breeding within FAUNA

- **Species in red are 'Red list species' (high conservation concern)**
- **Species in orange are 'Amber list species' (medium conservation concern)**

(see Eaton *et al* 2009)

- **Species in capitals are UK Biodiversity 'Priority' species**