

Management Plan for Aston's Eyot

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This document records the history of Aston's Eyot, a description of the site, past management, management 2010-2013, the plan for ongoing management, and the rationale and principles which inform the management .

It is intended that it should be updated regularly, at the very least in 3 years time.

OUTLINE OF CONTENTS

History of AE	Page 2
Friends of Aston's Eyot	4
Aims of management as set out in constitution	
General principles underlying management	
Site description	6
Overall specific aims of management	7
Specific habitats & their management	7
Woodland	
Orchard	
Scrub	
Grassland	
River/ditch edge	
Paths	
Other habitat creation projects	
Species requiring specific management	16
Problem species	
Other species	
Work tasks by season	21
Monitoring	22
Birds	
Mammals inc badgers	
Reptiles & amphibian	
Butterflies	
Moths	
Ditch flora and fauna	
Plants	
Water quality & max/min heights	
Appendices and maps	

History of Aston's Eyot

Aston's Eyot is a 13 hectare* island in East Oxford, bordered by the Thames, Cherwell New Cut and Shire Lake Ditch. The centre of the site is at grid reference SP522050. It can be approached from Meadow Lane via the Kidneys Nature Park and across a footbridge, or from Jackdaw Lane off Iffley Road.

The site has been called Aston's Eyot since at least 1440 when All Souls' sold hay from "Astonseyte". All Souls' records go through to 1842 when the college leased it to "John Early of Newland and Witney, blanket manufacturer". It was bought by Christ Church in 1891, who are still the owners of the site. It used to be in the County of Berkshire, and is still part of St Aldate's parish and technically outside East Ward.

Until the mid nineteenth century the land was a low-lying riverside flood meadow. It was used as a pasture, hay meadow, and market garden. From the early 1900's to the late 1940's, the whole site was used as the rubbish tip for the City, dumping domestic, University and small business waste. Rubble and building waste seems to have been dumped mainly on the neighbouring meadow, the Kidneys. The remains of this rubbish now consists largely of pottery and glass, together with large quantities of ash and clinker which was also used to cap the rubbish. A thin layer of soil was added to the surface, but the capping was thin such that the rubbish below is regularly brought to the surface. The level of the land was raised by one to two metres over all the site except for a narrow strip 1-5 metres wide along the river and ditch edges. As a result of this increase in height, Aston's Eyot is no longer subject to flooding, with the exception of the water-edge strip.

After the Second World War the northern part of the site was used as a rugby pitch. However, due to problems caused to players by glass fragments rising through the surface, this was abandoned. Pigs were run under the area now known as Wild Wood. Fruit trees (still present) include apple, pear and sweet cherry, some planted but many more self-sown from planted trees and/or from dumped fruit waste. Informal tipping by individuals is said to have continued through the 1950's.

Since tipping ceased, the vegetation gradually developed so that the area has become a semi-natural wilderness, with scrub predominating.

Between 1974 and 1984 Christ Church gave Oxford City Council a non-exclusive licence to use Aston's Eyot as a public open space. This was popular with local people, not least because the gate at Jackdaw Lane was kept locked and cars kept out. The Plantation was established in 1981-2**, in part as an unsuccessful attempt to overcome the problem of bottle-digging (see next para). Many of the trees scattered through the Eyot were also planted at this time (1975-1980) by John Thompson in association with the City Council. ***

In 1983 Christ Church also leased the land to a bottle-digging club. During 1983-4 this club brought in large mechanical excavators which soon devastated a large area of the Eyot, digging down several feet over most of the site. The formerly locked gate was left open, and the club members' cars allowed on the land. The effects on the wildlife and habitat of Aston's Eyot of the bottle diggers' activities so shocked local people that they formed a committee to negotiate with Christ Church on behalf of the

plants and animals that were being destroyed. The affair brought considerable local press coverage and caused acrimony between college and townspeople. Christ Church allowed the bottle digging club to conclude its mechanical digging. However bottle diggers continued for a period to dig illicitly, although manually, and the college in an attempt to control this issued some individual licences. These were finally withdrawn in 1999, and digging then ceased. Although most of the trees and shrubs were left in place, the result of this extensive soil disturbance over many years, together with the high fertility associated with old rubbish tips, was that almost all the grassland on the site was lost and was replaced by the very extensive areas of nettles and creeping thistle still seen today.

The city council in the 1980s regarded Aston's Eyot as "such an important area of accessible urban countryside" that it was very anxious to continue with the management licence and prepared to find funds to do so. However, in practice this never happened due to the bottle-digging activities.

Foot-notes

* (page 2) Area of Aston's Eyot taken from the 1898 (revised 1900) Ordnance survey map and shows it as 32.4 acres or 13.13 hectares. Via Laurie Burrell.

** (page 2) As reported by Council Parks ranger Steve O'Farrell, and Oxford Conservation Volunteers, who both helped with the planting.

*** L. Burrell's records

Current Use

Christ Church has always indicated that it intends that Aston's Eyot should remain open to the public. Local people use the Eyot extensively for dog walking, walks, jogging, riding, fruit picking (mainly apples and blackberries), watching the river (including the Eights), picnicking, enjoying the natural environment, bird watching, and other such activities. It also became a popular site for rough sleepers, often with associated problems of alcohol and drug abuse.

The area is very valuable for wildlife with a mosaic of habitats including woodland, the characteristic scrub and bramble, open areas, the river banks, and the ditch. As feared by local people at the time, the area did not recover the wildlife diversity it had before the bottle-digging, the ground vegetation now being dominated by weeds such as nettles and thistles. Patches of Japanese Knotweed spread and by 2010 occupied a substantial area. Other than the cinder track, paths regularly became over-run with nettles (or Burdock in the case of Plantation Path by early summer each year.

Very little management was undertaken since the bottle-digging stopped in 1999, though the area was levelled. In 1999 the Iffley Fields Community Nature Plan was set up with the help of the City Council with the aim of protecting the natural environment between Donnington Bridge and Magdalen Bridge; at this time surveys of plants and animals on Aston's Eyot and the Kidneys were done, and efforts were made to persuade the Council and/or Christ Church to undertake some management, with no success. At one point it seemed that the Council might take on the management, but this came to nothing. However in 2010 they entered an agreement

with Christ Church to mow the main paths at least four times a year, but in cash-starved times were not able to do more.

Christ Church themselves declared that they were also unable to invest in management of Aston's Eyot. However they indicated that they would be happy for a local wildlife group to take it on. As a result Friends of Aston's Eyot was formed in September 2010 following a series of well-attended meetings of local people, to protect and manage the site.

Friends of Aston's Eyot

Aims of management as set out in the Constitution

(as agreed at the inaugural meeting of the Friends in September 2010)

“The aims of the Friends below apply primarily to Aston's Eyot (the area of East Oxford land bounded by the Thames, the Cherwell, and Shire Lake Ditch), but also to adjacent areas and the local river corridor where relevant. The Friends will work closely with any body (such as the existing Iffley Fields Community Nature Plan group) working for nature conservation in the East Oxford River Corridor and for the preservation of local open and green spaces.

- 2.1 To protect, care for, and manage or assist in the management of Aston's Eyot for wildlife and as a wild area.
- 2.2 To promote continuing open access to the public for quiet enjoyment of the area.
- 2.3 To maintain and where necessary restore the variety of wildlife habitats including woodland, scrub, grassland, orchards, river banks and aquatic habitats.
- 2.4 To survey and record species of fauna and flora present, reporting on the results of surveys where appropriate.
- 2.5 To involve the wider public in activities such as working parties, wildlife events and other appropriate events.

All activities on Aston's Eyot must be acceptable to the land-owners, with permission granted as necessary.”

Underlying rationale and factors to take into consideration for management aims

Public access - how to facilitate this without compromising wildlife & habitat protection. For example:

- a) **Paths** . In consultation with users in October 2010 and since, the consensus is that the current path network is about right ie should be no

more or no fewer. The current path network leaves large blocks of land relatively undisturbed, especially in summer when the nettles are up. For some minor paths going through more sensitive areas, there is a question of whether to effectively close them by letting them become overgrown with nettles during the bird breeding season, however in practice these paths have become so well trodden that this can now be only partially effective.

b) Problems arising from public access eg litter, dog faeces, fires (loss of wood, damage to vegetation), noisy parties, anti-social behaviour. All these need managing to limit their impact while not detracting from use.

c) Numbers of users. To publicise the Eyot and encourage use – or not?

Maintaining the Eyot as a wild area. This is widely felt to be very important, but there is some disagreement on exactly what this might involve. For some, it is about minimal intervention. However ecological succession will continue; the open areas will gradually be taken over first by bramble and then eventually by woodland, thus losing some of the habitats currently present. It also conflicts with the aim of restoring habitats damaged by past disturbance and lack of management. People also vary on how they view the nettles – a core feature of the Eyot with its own wildlife value, a recently arrived nuisance to be replaced with more attractive vegetation, and/or a useful way of protecting wildlife from people and dogs? A wild area also implies a minimum of rules, fences, locked gates, “keep out” signs – hence the importance of using where possible naturally occurring features such as nettles, bramble and blackthorn as natural barriers.

A balance has to be found and care taken in how management is undertaken, so that as far as possible the quality of wildness is retained. The Eyot should not become a park.

Promoting biodiversity. Past history has resulted in a loss of biodiversity, hence the desirability of habitat management and restoration, including planting and sowing native plant species not currently present but which are appropriate for the area. All introduced plant species should be with few exceptions UK natives, appropriate to the site, and sourced from either locally collected seed or from responsible companies propagating wild-origin stock.

Protecting particular habitats, species or species assemblages. Eg the remnants of original flood meadow vegetation, veteran Crack Willows, the Brown Hairstreak butterfly. There are a small number of BAP species present (species identified as in need of conservation action in the UK Biodiversity Action Plan), but rarities are not the main feature of this site.

The Eyot’s role as part of a wildlife corridor especially along the Thames and Cherwell rivers. Aston’s Eyot is not only important for wildlife in its own right, but can help species spread through the landscape by being part of a network of sites with good wildlife habitat not too far apart. Habitat restoration and management should take into account neighbouring sites such as the Kidneys, Swan Island, Long Meadow and Christ Church Meadow.

Protection of the Eyot from development. Although nominally protected as part of the flood plain and green belt, it can be further protected by promoting it as an informal nature reserve (ideally working towards more formal designation) and as a valuable amenity for the local community.

Site description

Other than the river and ditch banks, the site is relatively level, although in places there are some mounds and hollows left from the activities of bottle diggers.

The soil is somewhat variable as a result of differences in soil used for the final cap and the degree of mixing with the rubbish and clinker below. Mostly it has the clay component typical of local soils. Beneath the original soil is clay, as determined by auguring. Water retention varies: where there has been much mixing with the clinker below it can be very free draining. Soil pH over most of the site varies between 7.1 and 8.3 (average 7.8), however the soil in the Triangle differs and has a pH of 6.6 to 6.8. Fertility is high, in part as a result of the rubbish, and there is a high density of earthworms.

Habitats in brief

Currently approximately 50% of the site is wooded, and 50% open or scrub. Almost all of the area, wooded and open, is dominated by nettles.

The **woodland** includes:

The Plantation (6.5 acres) was planted in the 1981-2 and not managed subsequently until 2011. Mainly Ash, Poplar, Wild Cherry and Field Maple.

Wild Wood (4.7 acres) developed more naturally, with Sweet Cherry (planted), Ash, Willows, Alder, and Hawthorn, with plentiful ivy producing much of the cover.

The Orchard (2.6 acres) is an unusual feature with planted and/or self-sown apple trees with some pear and Cherry Plum, all unmanaged and aging. There is also significant Hawthorn and Blackthorn, and a few Sycamore, Ash, and Willow.

Dense copses (1.7 acres) of mainly Willow, Hawthorn & Blackthorn (developed naturally) scattered through the middle of the site.

The more open areas include:

Grassland (meadow areas, rough grass, and paths and bays) – 1.8 acres, most of it recently (2011-13) restored or created

Open areas, (approx. 6 acres) dominated by Nettles, Goosegrass, & Creeping Thistle, etc.

Open scrub (approx. 6 acres) with nettles, consisting mainly of Hawthorn, Blackthorn, Elder, Dog Rose, Willow and bramble, with or without scattered maturing trees (mainly Ash, also Poplars, Horse Chestnut, Oak, and Alder).

Waterways

The Thames and Cherwell bound two sides of the site, and the Shire Lake Ditch forms the boundary on the other two sides. The narrow strip of land beside the rivers and ditch is the only part of the site still at the original floodplain level, and has some remnants of the water meadow vegetation.

The fauna and flora in brief

Birds

The variety of habitats from waterside to scrub and woodland makes for a rich bird fauna. Records over the last 45 years give a total of 104 species, with 70-75 seen in any one year. Up to 37 species breed on The Eyot and adjacent areas, making the local tetrad (2x2km square) the most bird-diverse within the Oxford ring-road.

Species are listed in Appendix X.

Mammals

17 species are resident, including Roe Deer, Muntjac, Rabbits, and a large population of Badgers. The deer in particular have a significant impact on the flora and management of the site. Four species of bat have also been detected: Common and Soprano Pipistrelle regularly, but also Noctule and Daubenton's. Otters, Mink and

Water Voles have been seen over the last two decades but not recently. Hedgehogs are not currently present.

Reptiles and amphibia include Grass Snake, Slow Worm, Common Frog, Common Toad, and Smooth Newt. There have been occasional sightings of Great Crested Newts. The ditch is a breeding site for all the amphibia.

Invertebrates. 23 species of butterfly have been seen on Aston's Eyot and the neighbouring Kidneys in 2011-2013, including Brown Hairstreak. Moth sampling is incomplete but ongoing. A survey of bees in 2011 gave 44 species, of which 4 are designated "rare" or "nationally scarce" (I.Wright). Other groups are as yet little recorded.

Plants

A total of XX species have been recorded on site during 2010-2013, listed in Appendix X. A further XX species were seen in previous surveys but are no longer found, as is not unexpected given the scale of habitat changes over the last 50 years. Rare plants are not especially a feature of this site, but as habitats are restored and managed plant diversity can be expected to increase. A moss survey in 2011 revealed 23 species, 2 of which are regionally scarce (J.Wright).

Overall specific aims of management

Proportions of different habitat types and which habitats to maintain and/or restore.

The current ratios of woodland to open areas are agreed to be about right. In the open areas, the spread of bramble is accelerating, and this is likely to become a management issue. With the high deer density, spread of tree and shrubby species is currently severely curtailed, but the spread of bramble could allow more saplings to grow away successfully. Whether there is now enough grassland is still to be decided; the decision might be best left until the newly created meadows and bays "settle down" into a more natural appearance. The fact that there is extensive grassland in the neighbouring areas should be taken into account; nevertheless this is not necessarily easily accessible to wildlife which would benefit from it on the Eyot, and is not necessarily of high quality.

Specific habitats and their management

Woodland areas

General principles, including for less managed areas eg Wild Wood

Dead wood All types of dead wood habitat should be promoted: large and small branches, standing and fallen, in open and shady areas, and some in the ditch. This is best achieved by retaining areas away from paths which are hard to access due to nettles, bramble & other undergrowth; except for large trunks, wood in accessible areas is subject to use on bonfires or to arson. There are piles of logs from past and present pollarding and tree felling operations, but in general wood is best left where it falls unless this interferes with management of the ground vegetation eg scything nettles.

Undisturbed areas for breeding birds, mammals, etc. Another reason for leaving some areas inaccessible.

Ivy. Ivy on trees has significant wildlife value, for cover, autumn nectar and late winter berries. Thus it should be left in place. However it can increase the likelihood of wind-throw due to the extra weight and the sail effect of ivy in the canopy – so may be best removed from specimen trees. However if a tree already has a great deal of ivy in the canopy it may be better left, as if cut at the base the dead foliage will continue to cause problems, but the tree will have lost the support given by the ivy's trunks and roots.

Woodland structure. To work well for wildlife there needs to be a range of sizes of trees and shrubs such that the canopy has an understorey. There also needs to be some more open places such as glades or open bays pushing into the woodland, with enough light to allow good growth of ground vegetation where plants can grow, flower and set seed, and/or spread vegetatively.

Wild Wood

The Wild Wood area developed spontaneously, though the Sweet Cherry trees near the Cinder Track were planted, as were the Lombardy Poplars of which a few still survive.. Trees include Ash, Poplar, Alder and Willow, with Hawthorn (and Blackthorn?). Abundant Ivy provides good cover in some areas where it ramps over trees and fallen trunks. Mature trees are well spaced, but there is a lack of regeneration and more understorey would be desirable in some parts of the wood. There are some open areas, but these are heavily dominated by nettles; while this has a useful role of keeping some areas inaccessible to people and dogs, it would be of value to manage some of the more open areas near the path to increase plant diversity at the ground level.

Management 2011-2013. This area remained mainly unmanaged, except for planting some Holly and Hazel on the edge bordering Elder Bay, and snowdrops along Cherry Path.

Ongoing management. Consider some nettle control in small open areas near the path to promote some variation in ground vegetation.

The Plantation

Background. The plantation was densely planted on bare ground in 1981-2, and received no further management for 30 years. This resulted in many spindly overcrowded trees. Remaining trees are mainly Ash, Poplar, Wild Cherry and Field Maple, with a few Oak and Silver Birch. There are some large older Poplars and Ash trees along the top of the ditch bank, presumed to be 60-70 years old. The density resulted in an almost complete absence of understorey (there was one Hazel, 2-3 Bird Cherry, and a few Hawthorn and Elder) and over much of the area there was no ground vegetation. As access was easy, almost all dead tree trunks and branches except a few large ones were removed by the public for firewood.

Management 2010-13. In late winter 2012 and 2013 the whole area was thinned removing about one third of the trees in 2 stages. The majority of the logs were removed for sale, but in 2013 several piles were left at the south end. In the resulting gaps understorey native shrubs were planted during 2011-2013: Hazel, Hawthorn, Bird Cherry, Wild Privet, Dogwood, and Spindle. These were sourced to be of UK origin. All were protected with 4' high tree guards, as were a number of Holly seedlings which come up regularly but which are otherwise eaten by the deer which now occur on the site at a high density.

The straight edge of both the Plantation itself and Plantation Path was relieved by two patches of extra tree planting to curve the Plantation and path outwards at these points (Old Wiggle and New Wiggle). Nest-boxes for Tits, Tawny Owls, Kestrels and Stock Doves, plus bat boxes, were put up in 2011, 2012 and 2013.

At the south edge of the plantation there are now more open glades, where woodland grasses, Red Campion, Foxgloves, Primroses, Bluebells, Violets, Snowdrops and Winter Aconites have been introduced as seed, bulbs and/or plants (all as British native stock), to augment the species already there (mainly Ground Ivy, Hedge Woundwort, Garlic Mustard, Green Alkanet, and Lords and Ladies). All these except Snowdrops and Foxgloves are prone to being eaten by deer, though some survive. For this reason some plants were put inside the tree guards to ensure some successful flowering and to provide a secure base for vegetative spread. Through 2013 the nettles in these southern edge glades were controlled by a mixture of repeat cutting and one application of glyphosate

Ongoing management.

A further round of thinning is required over the next 2-3 years, taking out at least another third of the remaining trees. However Ash dieback (Chalara) may render this unnecessary, even if the affected trees take some time to die. The thinning is essential to let in enough light to allow an understorey to thrive.

Dead trees should be left standing unless they are a risk to the public eg because they are too near paths; they will provide valuable habitat for Woodpeckers, fungi, beetles and other invertebrates.

If loss of Ash trees is extensive, consider planting fast growing trees such as Silver Birch and Sycamore as well as other slower growing species. Note: Sycamore gives dense shade and seeds prolifically, however deer are likely to eat any resulting saplings.

Any further felled logs or dead wood should be left if possible, preferably where they fall. If this impedes with management of ground vegetation (nettle cutting for example) loose piles could be made.

Recently planted trees and shrubs should be checked annually to ensure the guards are still intact. Some should have wider wire netting guards to allow low bushy growth; these may need extending as the tree/shrub grows.

Nettles should be controlled in some of the Plantation – target about half, clearing the two ends (north and south) and along the inner path. Once controlled, further plantings of ground layer species can be considered.

The Orchard

This area of old neglected fruit trees (mainly Apple) is an unusual feature well worth preserving. Both the fruit trees themselves and the Hawthorn, Blackthorn and Willow clumps within it are valuable wildlife habitat. A plan for restoration and future management is to be researched and decided. It is likely to include removal of the Ash and Sycamore which are now overtopping the fruit trees, possible thinning and restorative pruning of the fruit trees, and nettle control. Note: the swathes of Sweet Violet once found here may appear again when more light is let in. It is currently the best area on the Eyot for mosses and liverworts, growing on trees especially on the east side where high tree density creates humidity and shelter while still letting in enough light. Planting of some new fruit trees could also be considered.

Scrub

Scrub is an under-represented habitat with the Oxford City Local Plan area, and is very valuable to wildlife. Due to the (relatively recent) increase in grazing pressure from deer, few tree saplings survive, but there are rapidly spreading patches of bramble, slowly spreading patches of Blackthorn, and good number of Hawthorn, Dog Rose, Elder (mainly veteran) and Willow.

Management 2010-2013

The species diversity of the scrub was augmented by adding other native tree and shrubby species : Hazel, Common Buckthorn, Alder Buckthorn, additional Hawthorn, Spindle, Dogwood, Guelder Rose, Wayfaring tree, Rowan, Silver Birch, Wild Cherry, Oak, Lime (mainly Small-Leaved Lime), Scots Pine and a few Yew, Holly, Beech, Wild Honeysuckle, and Buddleia. The increase in diversity of native shrubs will promote the numbers and diversity of invertebrates which feed or shelter on them; for example both Buckthorn species are the food-plant of Brimstone butterfly caterpillars. They will also increase the range of berries ripening at different stages of autumn and winter.

All plantings were given 4 ft high mesh tree-guards. These were planted in groups, and mainly to extend existing clumps, though a few isolated oaks were planted in open areas. New plantings were watered during dry patches in the first year. Tree guards were checked in winter and again in early summer, when the plants are also cleared of surrounding vegetation (mainly nettles) by scything or pulling, in a circle of 1-2 metres diameter around each plant. Sapling survival was over 80%, with the exception of Scots Pine and Alder where two thirds failed.

Ongoing management.

Existing plantings should continue to be checked and tree guards repaired where necessary. Annual weeding continues to be necessary until plants are well above the height of the guard.

There may be scope for additional plantings on the western half of The Scrubs, to augment species diversity there. Additionally, some young Elders should be guarded all over the site as most of the elders are currently overmature and seedlings are subject to heavy grazing pressure.

The spread of bramble patches is likely to become a problem as it spreads through the currently open areas, so in future will require management to control it.

It should be noted that Blackthorn is the food plant for caterpillars of the rare Brown Hairstreak butterfly (a BAP species). A few eggs of this butterfly have been found in recent winters, confirming its presence on the site. This butterfly prefers to lay on younger Blackthorn shoots, so either new sucker growth needs to be allowed (as at present), and/or older growth needs to be coppiced on rotation.

Grassland

Grassland present in 2010

Prior to bottle digging the open areas were scrub with rough grassland, and rabbits were numerous creating a number of areas of short grazed turf. After bottle digging ended, almost all this grassland was lost to nettles, and there were fewer rabbits. By 2010, there remained some small patches of rabbit-grazed turf along Middle Way, near Boathouse corner, and at the north end of the Triangle. The Cinder track had a

little short grass on the verges. There was some rough grass (dominated by False Oat grass) immediately north of the Blackthorn Clump extending here from middle Way nearly reaching to Plantation Path – but with at least 50% Creeping Thistle and/or Nettle. Otherwise there were just one or two very small patches adjacent to the Cinder track.

Rough grassland

Rough grassland is valuable habitat for invertebrates, reptiles and small mammals, and the birds of prey (eg. Kestrel) feeding on the latter. Flowers associated with it such as Teasel, thistles and umbellifers are important sources of pollen, nectar and seed. It also provides cover for larger mammals.

Management 2011-2013. The remnant areas of rough grassland have not been managed except where it occurs in bays near paths where it is subject to bay mowing regimes. A new patch of tussocky grassland with grassland flowers (Teasel, Common Knapweed, Red and White Campion, umbellifers, etc) was successfully created by sowing a “tussock mixture” from Emorsgate seeds (see appendix X) in Knotweed South, the large area of Japanese Knotweed south of the Cinder Track, once the knotweed was 95% eliminated. This required no further management other than some hand weeding and spot-spraying of nettle, thistle and burdock during establishment.

Ongoing management. All these areas would benefit from occasional mowing every 3-5 years on rotation, to prevent loss to nettles, thistles and bramble. This is best done in early spring to allow fresh growth. If the result is much nettle growth, it may be better to repeat the mow two or three times at monthly intervals until the nettles are weakened.

Meadow areas, and bays on Plantation Path

These habitats are grassland managed by a regular mowing (or grazing) regime which promotes finer grasses and a good range of associated herbs and flowers. This provides habitat for many invertebrates and small mammals, and is an important source of pollen and nectar rich flowers for bees, butterflies, and other insects.

Creation and management 2011-2013

In 2011, it was decided to convert a patch of 0.6 acres of Nettle and Creeping Thistle at the north end of Nettle Plain to flower-rich meadow, in order to increase the area of grassland and to diversify the grassland species present, in part replacing those once present but no longer found. Four approaches were trialled, with 2 regimes using glyphosate to remove vegetation prior to sowing with a meadow mixture, 1 with close mowing and raking followed by sowing, and one with close mowing and raking but no seed. Full details and results are in Appendix 4. This meadow was extended in 2012 and 2013, in part by converting some of the “mow only” zones to “glyphosate and mow” zones.

A second meadow area was created in the Old Knotweed Patch north of the Cinder track, when 95% Japanese Knotweed elimination left bare ground ready for sowing in April 2012.

Along the western side of Plantation Path five half-moon shaped bays 3-5 metres deep and totalling xx metres in length were created in similar fashion, making use of spaces where log piles had been left for several months in 2012 and 2013, setting back the nettles here. After the logs were removed the regrowth of nettles was treated with glyphosate, and the areas sown with meadow seed mixture in September.

First year management involved regular mowing to control nettle, thistle and burdock still appearing, and to allow smaller species to establish. Some clumps were allowed to develop and flower. **In the following year** (2013), about 25% of the area was cut in late May and again in September and October, and 65% cut in early August and again in October, mimicking traditional hay-meadow management. 10% was left uncut as small “islands” to allow invertebrates to overwinter.

Ongoing management of meadows

Rationale: A mowing regime is essential to maintain species diversity and to prevent the build-up of coarser grasses and plants. Yellow Rattle is an important component plant species of the meadow as it is semi-parasitic, feeding mainly on coarser grasses and thus helping control these. The hay-meadow system (cutting late July or early August and again in October and November if required) is required to allow the Yellow Rattle to form seed – as it is an annual it needs to produce seed every year. However in the absence of grazing animals to tread the seed into the ground with their hooves, success is variable and the seed may need augmenting by further sowing. An alternative system is the late May cut, timed to be post flowering of spring flowers in the meadow such as Cowslip. As the main grass growth season is May and June, this removes half the grass growth of the season. Flowering of the meadow will be delayed by a month, but the sward will be shorter and less likely to collapse than that left until the end of July. Yellow Rattle will not survive this regime, but the grass has been controlled in a different way. A range of sward heights is very beneficial to many invertebrates including grassland butterflies, so a mix of both these regimes is ideal, together with leaving up to 15% uncut in any one year (rotating patches). In all cases it is essential to rake off and remove cuttings, to help reduce fertility (high fertility will favour grass over flowers) and to prevent a thatch of dead material suffocating growth of smaller plants.

Mowing regime for 2014 onwards:

For the first cut, mow 50% in late May, 35% in late July or early August, and leave 15% uncut. Intermingle these areas to produce a mosaic effect (better both visually and for invertebrates). Mow late-May patches again in late September, and all except the 15% left uncut in October and if necessary November if grass growth is vigorous. In mild winters it is possible to mow again in March or early April before the cowslips flower and before Yellow Rattle seedlings are too far advanced. Keep the blades of the power-scythe on the higher setting which will produce a sward height of 3-8 cms – it may be necessary to repeat the mow after raking for a good result. For the meadow bays, mow the front half of the bay in late May, and the back half with the early August regime. (Or half the bays in May and half in August). Rake off and remove the cuttings after every cut. The piles of cut material produce useful habitat in their own right (eg for grass snakes).

Other bays

Creation and management 2011-13

Bays of various sizes to the side of main paths were mown both to maintain pre-existing areas of short flowering turf, and to create new ones. New ones initially mainly nettles were mown every few weeks through the growing season, as a method of eliminating the nettles and allowing other species to colonise or recover naturally. Bays already grassy were mown in mid/late summer and/or autumn, depending on state of flowering.

Ongoing management

Well established grassy bays: mow in late May or August depending on what species are present (CM-L to decide currently in Middle Way). Clumps of good flowers may be left. Mow all in autumn (October), ready for spring flowers.

Bays where nettles & other coarse plants still a problem: More frequent mows are required. Clumps of good flowers may be left to set seed.

Main paths and verges.

Cinder Track verges and the grassy main paths are currently the responsibility of City Council (Parks Dept) who since 2010 have a contract with Christ Church to cut four times a year. They initially use a flail mower pulled by tractor, and except for the first 2 years when paths were still overgrown with nettles, have in practice cut only once or twice. Friends of Aston's Eyot organised raking and removal of cuttings.

Ongoing management.

As the main paths are now grassy and well-used, it was agreed that from 2014 the Council would undertake just two cuts, in mid-late May and again in September, using cut-and-remove equipment to reduce the considerable labour of hand-raking. The cut material is then dumped by the driver well off the path in nettles. This regime allows both spring and summer plants to flower on the verges.

If cuttings are not removed by the Council, FoAE should undertake this.

Bramble and branches impinging on the paths should be trimmed periodically, and burdock on the path edge where the burrs will be a nuisance should be controlled.

Smaller paths

Background: Before nettle growth overwhelmed the site, there were small paths round the edge of the entire site along the river and ditch banks, and three paths from the Cinder Track through Wild Wood to the Cherwell, plus a path from Rabbit Corner into the Triangle (which at this time had far more rabbit-grazed turf). The water-edge path from Boathouse Corner to the Kidneys Bridge was reopened in summer 2010, and the rest in 2011, except that it was decided to allow most of the stretch from Kingfisher Point to the Jackdaw Lane bridge to remain impassable for wildlife cover, and not to reinstate the path into the Triangle, in both cases to leave these as areas for wildlife cover.

Seasonal paths? The paths through Elder Bay towards Wild Wood and from Kidneys Bridge round the Triangle were both left uncleared of nettles until mid July, to allow birds including waterbirds an undisturbed breeding season. The desirability of this policy remains disputed; in practice the paths are becoming increasingly well worn and thus never entirely closed.

Ongoing maintenance: Mow, scythe or strim as required in summer. Trim overhanging bramble and branches as required.

River and ditch bank vegetation

Background. The edges of the site along the waterways are of interest because they are at the original level pre-tipping, and have remnants of the original flood-plain vegetation. They are also an important transitional habitat between water and dry land, and vegetation other than just nettles is desirable for invertebrates, reptiles and

amphibians in particular. As elsewhere on the site, by 2010 the banks were mostly overwhelmed by nettles and creeping thistle.

Management 2010-2013.

Thames Bank. In addition to clearing a path along the river, in 2010 a start was made to control some large patches of Himalayan Balsam along the Thames bank. Smaller quantities of Orange Balsam were left. This has continued, greatly reducing the population once it was no longer allowed to set seed. Once the Thames bank was opened up, a problem arose that patches of remnant vegetation (Purple Loosestrife, Marsh Woundwort, Water Mint, Common Meadow Rue, Hemp Agrimony, Gypsywort, etc.) were being flattened by picnickers, fishers, and perhaps people arriving from boats. A decision was made to make the stretch from Rabbit Corner to Boathouse Corner more attractive to people through path maintenance and promotion of attractive views and vegetation, leaving the botanically more interesting section from Rabbit Corner to Muntjac Point less weeded and cleared (though not actually closed). In practice this has still to be achieved. Deer grazing also impacts on the vegetation here. One of only two small patches of Common Meadow Rue were protected in 2013 with a small wire-netting enclosure to protect it from deer and human damage, resulting in much more successful growth and flowering. In 2012 Christ Church pollarded the veteran willows along this stretch in the interests of clear views for University rowing activities.

Muntjac Corner to School Corner. Bays down to the ditch were cleared each July to allow pond-dipping activities, and some of the nettles controlled in spring (by pulling) along this stretch to promote other vegetation and marginal plants. A patch of Water Chickweed by Muntjac Point had to be left partly covered in light bramble as it is palatable to deer; this policy has allowed it to spread. Excess shrubby growth shading banks and water were cut back, leaving some dense clumps for cover. One third of the veteran willows here were pollarded in early spring 2012 and another third in 2013.

From Kidneys Bridge onwards there is no small path along the edge of the ditch but through the Plantation the path runs along the top of the raised bank. In this section where there is very little residual flood meadow vegetation, suitable species have been introduced by sowing and planting, following nettle control (see appendix X for details).

Cherwell riverbank. This section of the path is more shaded and mainly stays open through regular use. A decision was made not to remove a fallen willow or to further clear the path in the interests of keeping this section less disturbed and wilder in feel. A number of willows at Kingfisher Point and three others along the Cherwell were pollarded in April 2013.

Ongoing management

In April once nettles are beginning to grow, pull them out along the path verges and in open bays to the water-edge, to encourage spring and early summer flowers and grass; this will need to be done by hand, and is worthwhile in all water-edge areas which are open enough for grass growth. In June or July clear the path and immediate verges by strimming and scything from Rabbit Corner to Boathouse Corner, and clear and weed some open bays to the water edge by cutting or pulling nettles, thistles and burdock, to encourage people to walk this section rather than the Triangle section of the path. Paths and bays from Muntjac Point to School Corner can be cleared of nettles again in mid July, by hand and by scything or strimming, but leaving desirable vegetation in place.

Mid/late summer nettle and thistle control from Rabbit Corner to Muntjac Point needs to be balanced between promoting the growth of other species but leaving enough to protect against grazing and human pressures. However all Himalayan Balsam should be removed, preferably before flowering. Burdock should also be controlled in these areas.

The Shire Lake Ditch

Background. The Shire Lake Ditch was originally one of the two forks of the Cherwell emptying into the Thames, until the New Cut was dug in 1884 to improve flow. Except during floods, there is currently very little if any flow through the ditch, rather it fills and empties from each end. Barriers to flow include the low degree of fall between the two ends, restrictions to flow at the Jackdaw Lane bridge, logs and branches in the water, the tendency for the Thames end to accumulate debris from the river, and the consequent silting up such that there are several feet of soft sediment in the section of the ditch behind the debris barrier at the Thames end. Leaf fall into the ditch in Wild Wood and the Plantation, and from the bankside trees adds to the sediment.

It is debatable whether it is either feasible or desirable to attempt to recreate flow through the ditch. The Metal Salvage yard (“the scrapyards”) despite installing good quality drainage filtering systems does seem to leak pollution into the ditch, especially from the school end where large piles of scrap abut the boundary fence. Increasing the rate of flow may simply wash this pollution over sections with better water quality. Dredging might create flow, but it is likely to silt up again quite quickly. It may be better to accept the benefits of backwaters and more pond-like sections for fish fry at the Cherwell end, and for aquatic invertebrates and amphibia throughout. The tendency of some sections of the ditch to dry out in dry summers has the benefit of reducing fish numbers, reducing predation of frog and newt tadpoles inter alia. The quality of the ditch habitat is best improved by improving light levels, by regular pollarding of the bankside willows and by cutting back some of the shrubby growth overhanging the water, so that both submerged and marginal plants may grow. A certain amount of submerged dead wood (logs and smaller branches) is beneficial, providing shelter and hard surfaces. It would also be beneficial to vary the mainly straight vertical edges of the ditch by creating some more gradual beach bays in places.

Management 2011-2013

The mouth of the ditch at the Thames was dug out by hand in summer 2012 and 2013, with the aim of removing the causeway across that the accumulated debris produced, particularly as it prompted people to throw in extra logs etc which further impede flow. A secondary aim was to dissuade people from crossing from the Kidneys at this point to reduce disturbance in the Triangle. It was not very effective in promoting flow in the ditch.

Cutting back bank-edge woody growth, and willow pollarding did increase light levels in the water, and did increase growth of submerged plants such as *Calitriche stagnalis* (Common Water-starwort) and marginal and emergent plants such as *Glyceria*, Yellow Flag, and pond sedges. CHECK spp. Due to high nutrient levels more algae also grew both in clumps on the surface and on submerged branches.

Ongoing management

Dig out the Thames mouth section as required.

Maintain light levels by continuing willow pollarding and cutting back some of the overhanging vegetation.

Further habitats for creation

Bird seed patch

A new project is to create an area which is regularly cultivated in order to grow annual and biennial plants selected mainly for their value as winter bird seed, preferably but not necessarily native. Other benefits would be maintaining diversity of pollen and nectar plants, and regular provision of bare ground used by some invertebrates to breed in small holes (eg. many solitary bee species).

Suggested methods: A suitable patch has already been identified, the Tank Track, which is occasionally disturbed anyway if heavy vehicles are needed to drag trees from the Cherwell or to service the electricity sub-station here. The patch should be mowed in spring and all cut material removed. Regrowth of nettles should be sprayed off with glyphosate in mid summer (when they reach about 12 inches high). Then in late summer the whole patch should be rotovated with a heavy duty rotovator, raking off all vegetation and large debris. In September sow biennials such as Teasel and Evening Primrose. In early spring sow suitable annuals. There will be natural germination of Burdock, Thistles, Weld, Ragwort, and other species found on the Eyot – that can be all part of the mix though the Burdock might prove problematic. The following spring half the plot should be cleared and rotovated, and probably resown, the other half is left to allow the biennials to flower and set seed. This sets up a rotation where alternate halves of the plot are cultivated each year.

Note: This plan was put into action over winter 2014-5 and sowed with commercial bird seed with rape seed, canary seed, flax, millet, niger seed and sunflower in the mix.

Ponds.

There is much to be said for creating one or more ponds at a point where they will not be subject to winter floods, allowing them to be kept free of fish. This would benefit amphibia, especially newts, particularly Great Crested Newts if their presence is confirmed, as newt eggs and small tadpoles are vulnerable to fish predation (and predation by frogs but that could not be prevented). It would also benefit other invertebrates including dragonflies. This project needs advice and research as to feasibility, as any pond would need to be lined using a deer and badger proof method, and consideration would need to be given to how to direct clean rainwater into the pond to keep it from drying out in summer. It also needs to be located in a place where it is inaccessible to dogs, as many dogs enjoy splashing about in ponds which is likely to wreck the pond vegetation.

Species requiring specific management

“Problem” species

Deer

There are currently up to 6 Roe Deer and slightly more Muntjac regularly using the Eyot. The Roe in particular are relatively recent arrivals. (1998-9), the Muntjac have been present since about 1990. Both also use The Kidneys, Long Meadow, and probably Christ Church Meadow. Together they create heavy grazing pressure, such that there is virtually no tree regeneration. Some ground species such as Bluebell and

Primrose are also heavily grazed. In this urban setting control of numbers is not an option, and in fact people enjoy seeing them on the site.

Hence the management approach is to protect all plantings with tree-guards, protect naturally occurring saplings as required, and to have a limited number of wire-netting deer enclosures to allow certain species to establish and spread.

Dogs

Many people exercise their dogs on Aston's Eyot, and the terms of agreement with the local community are that this should be freely allowed. Two consequent problems need to be addressed: the potential disturbance to wildlife, and the problem of dog faeces.

Disturbance of wildlife is minimised by not adding any further new paths to the network, if necessary allowing some paths to become overgrown with nettles in early summer, and retaining much of the nettle and bramble to form a natural barrier.

Dog faeces are problematic where they foul paths and verges, and through the extra fertility added where they foul short turf areas such as meadows and bays. The current approach is through persuasion of owners to either bag and remove faeces altogether, or to move them from paths, verges and grassy areas into nettles and bushes. This is augmented by volunteer clean-ups. Note: The City's dog control orders apply to all areas of public access, including private land such as Aston's Eyot, so offenders could be fined if caught.

Plants

Japanese Knotweed.

Management 2010-2013. Extensive patches of Japanese Knotweed were already present in 2000; by 2010 there was approx. 0.8 acres of dense Knotweed in 2 patches on either side of the Cinder Track, plus a small patch near the tip of the Triangle. In autumn 2010, it was all cut down and burnt; care was taken not to remove any material from the patches where it was growing.

Subsequently two approaches were taken to eradicate it: cutting plus herbicide in Knotweed North (of Cinder Track) and half of Knotweed South, and a regime of regular cutting only in the other half of Knotweed South (now known as Claire's Patch).

In the areas receiving herbicide treatment, during the summer of 2011, the knotweed was cut to the ground in May, June and July; after mid July it was left to grow. Once it was beginning to flower in September (by now 4-6 foot high again), it was sprayed once with glyphosate (Round Up Root and Stump formulation) using a knapsack sprayer. The resulting dead material was finally cut and burnt on site in January 2012. This left almost completely bare ground overwinter, and in April very few shoots appeared. In mid April Knotweed North was sown with a meadow mixture, and Knotweed South was sown with a tussocky grass and herb mixture. Shoots of knotweed appearing were pulled or cut at intervals until mid July, after which they were left to grow and spot-sprayed with Round Up in late August and again in late September to treat any missed in August. This regime was repeated in 2013.

In Claire's Patch, the Knotweed consisted of clumps interspersed with grass and other vegetation. The knotweed was regularly scythed at 1-2 week intervals throughout the growing season in 2011, 2012 and 2013. The knotweed while not eradicated to the extent seen under the herbicided areas, became much weakened, and a flower-rich short grass sward has resulted.

Ongoing management. It is essential that the regimes outlined above are continued until no more shoots are seen, and that close monitoring continues after that to ensure

no return. It is also necessary to be alert to odd shoots appearing immediately around the patches, and any seen to be promptly removed, and preferably sprayed with herbicide in late summer or autumn.

Himalayan Balsam

Management 2010-2013. This plant, though attractive, is a non-native invasive species which damages riverbanks by forming dense patches preventing growth of other vegetation. As it is an annual species, it dies in winter leaving bare ground which is more vulnerable to erosion. In 2010 there were large quantities growing along the Thames bank in the Triangle section; it was pulled out in August 2010, and in subsequent years through the summer with the aim of preventing seeding and allowing other plants to grow. This approach was largely successful; by 2013 far fewer plants appeared. Its relative Orange Balsam was left in situ as it is a more delicate species which does not cause the same problems.

Ongoing management. Plants need to be searched for and removed on an ongoing basis. Because there are other areas of Himalayan Balsam on the other side of the river and further upstream, it can never be entirely eliminated.

Ragwort.

Common Ragwort *Senecio jacobaea* is poisonous to grazing stock, especially horses. Horses normally avoid eating fresh ragwort unless short of food, but are vulnerable to eating it dried in hay. It causes irreversible and serious liver damage. However ragwort is also a valuable wildlife plant, being the food plant for eg. the Cinnabar Moth, and an important late summer nectar source for bees, butterflies and other insects. Best practice is therefore to leave it when growing on land that is not used for grazing or hay-making, or immediately adjacent to land under these uses.

Policy for Aston's Eyot. There is no reason not to allow Common Ragwort to grow on Aston's Eyot where it will be very beneficial to wildlife. It is highly unlikely to be a threat to horses ridden through the site, and the site will always be unsuitable for grazing or making hay for horse consumption due to broken glass, dog faeces and other contaminants. There are no local hay fields, and the nearest horse pastures are far enough away for seed dispersal not to be a problem since the vast majority of seed produced travels only a few metres from the parent plant. Currently no particular management is required.

Burdock

Burdocks *Arctium lappa* & *A. minus* are valuable as a late summer nectar plant and for its seed which finches enjoy. However Burdock is problematic on path verges and grassy areas firstly because the burrs are a nuisance to people and dogs, and secondly because the large leaves take light from smaller plants and grasses. Burdock does not establish well in nettle patches; plants therefore tend to be found on path edges and mown areas where they are not wanted. Management is therefore required to get them growing where they will not be a problem.

Management 2011-2013 and ongoing. Excess plants on path verges or grassy areas should be controlled at the large rosette stage by repeated cutting or spot spraying. Note: they survive repeated cutting so if this approach is used it will need to be repeated quite frequently. To establish clumps further back from the path, eg in Nettle Plain, a good method is to clear small areas of nettles by mowing or glyphosate, to allow Burdock (and Welled Thistle) to establish. Along Plantation Path between the two wiggles it is worth retaining the bank of Burdock here as it allows

close observation of nectaring butterflies, and is not near sensitive grassland. Once flowering is over here it is worth pushing the plants over away from the path so that seed falls further back and not on the path itself. This needs to be done before the seed is ripe.

Thistles

All thistles are valuable for seed, pollen and nectar. Welled Thistle *Carduus crispus* is a common and particularly popular pollen/ nectar plant on the Eyot for bees, butterflies and other insects. It establishes well where there is bare ground or a break in nettle cover, but left unchecked forms very dense tall stands. This is not a problem when it establishes further back from paths or in clearings with burdock, but is a problem in bays and meadow areas where it out-competes other species and then tends to collapse. In bays and meadows it is best managed by pulling and mowing until late May/ early June, after which it grows into lighter stands of shorter plants intermingled with other species, and in this condition can be accepted as a valuable part of the meadow flora.

Ongoing management. As for Burdock to allow & encourage clumps of Welled Thistle and Spear Thistle in harmless places. Manage thistles in bays and meadows as outlined above. Retain large patches of Creeping Thistle in grass and/or nettles, though this species is best excluded from meadow areas where it can increase rapidly and become hard to control.

Nettles

Nettles form an important habitat in their own right, as a nutritious food plant for many species including a number of moths and butterflies, and as a source of seed. The thick layer of moss that forms under the nettles keeps the soil moist, protecting numerous *Cepaea spp.* Banded Snails, and keeping good numbers of Earthworms near the surface; this provides food for Badgers and other animals. They also form a natural barrier to people and dogs to enable areas of both woodland and open areas to remain undisturbed.

Management. Where it is desirable to control them, this can be achieved either by herbicide (which is very effective but also kills other vegetation) or by mowing several times through the growing season for 2-3 years. Cutting some small areas for example at the back of bays in mid summer promotes new growth valuable for later generations of butterflies. It also helps prevent lanky growth collapsing onto paths and grassy areas. New growth is also stimulated when patches are trampled by deer and badgers, however observation suggests that regrowth from cut nettles is preferred by egg-laying butterflies.

Bramble

Bramble is a food plant for many invertebrate species, has valuable flowers and fruits, and provides cover and breeding habitat. It is one of very few shrubby plants on the Eyot which can provide low cover in the presence of heavy grazing pressure from deer. It is also a very effective year-round barrier to people and dogs. However it is spreading fast over the open areas and in future years will almost certainly need to be controlled by a programme of cutting or mowing.

Ongoing management. Monitor spread into open areas in late winter or early spring when the nettles have been flattened. Over-mature clumps would benefit from cutting down to promote fresh growth. It needs controlling near paths and to prevent excessive invasion of grassy areas.

Other species needing particular management or consideration

Rarer plants.

Although rarities on a national or county-wide scale are not a particular feature of the Eyot, there are remnants of original vegetation in which some species have very few individuals surviving. These may be vulnerable to grazing or accidental damage. The best long-term solution is to increase numbers, by habitat improvement. In the short term it may be worth protecting the plants against grazing with netting guards or brash to maximise their chances of setting seed or spreading vegetatively. Propagation and replanting in other suitable parts of the site can also be considered.

Veteran Willows

Many of the Crack Willows along the river and ditch banks pre-date tipping on the site, and are thus some are over 100 years old and becoming fragile. The trees are valuable for the mix of live and dead wood and the hollow trunks provide shelter. They have always been pollarded: Christ Church used to do it routinely on a 3-5 year cycle. Now Christ Church will only do the ones along the northern half of the Thames bank, as necessary for maintaining sight lines on the river for university rowing. The Friends need to organise the pollarding of the rest on a cycle so that up to a third are done in any one year. The pollarding is necessary: the regrowth is more unstable, and this species is particularly prone to losing large branches, often tearing off large sections of bark from the trunks as they break away, and so shortening the life of the tree. Pollarding also opens up the water and ground below to light, allowing fresh growth.

Badgers

Badgers have only been present on the Eyot since 2005-7, but have increased rapidly in numbers; as of Feb 2013 there were 56 active sett entrances. Although some are beginning to forage further afield, such as in local gardens, most seem to find enough food on the Eyot, using the abundant earthworm population and fruit and berries. If this ceased to be the case and there were too many for the Eyot and neighbouring sites to support, one would expect to see an increase in Badger road casualties on local roads; currently no such deaths have been reported.

No particular management is required except to retain the nettle/bramble protective ring round the main areas with setts, and to continue not to allow new paths through these areas. It is also necessary to accept that short grass areas will be dug by foraging Badgers.

Rabbits

Rabbits are still in quite low numbers, and make little impact on the vegetation. Higher numbers would be desirable for re-creation of rabbit-grazed turf. Grassland restoration and meadow creation will help increase numbers. However it may be that numbers are limited by Badgers digging up nests and eating the young. A possible solution would be creation of an artificial warren site from which Badgers were excluded; if this were to be attempted it would be necessary to pick an area where there are currently no Badger tracks, as badgers would prove tricky to exclude if an enclosure crossed a regular Badger route.

Bats

Batboxes

Tree felling and pollarding – David Endacott’s instructions

Birds

(to be done)

Amphibia and reptiles

Management of the ditch and bank habitats aids amphibian breeding. It would be desirable to construct one or more hibernacula to give more well-protected over-wintering sites for both amphibian and reptiles. Both amphibian and reptiles currently also use heaps of cut vegetation, and Grass-snakes may also use them for egg-laying and as basking sites. It is therefore important to take great care if a pile needs to be moved not to damage any animals that might be present.

Bees, wasps, moths and butterflies

These insects (and many others) all benefit from a varied and abundant flora providing nectar and pollen: tree blossom, willow and bramble form an important part of this as well as smaller flowering plants. Umbellifers such as Hogweed, and Hemlock are important for some species such as flies and solitary wasps, as well as the many species more commonly recognised as having value for pollen and nectar. It is important that the variety and abundance is maintained all through the year from early spring to late autumn. Butterflies and moths need food plants for caterpillars; some species can be fairly specific such as the Brimstone butterfly needing Buckthorn. Many species of solitary bees and wasps are ground nesters and benefit from patches of bare soil.

Brown Hairstreak butterfly

This is a rare but increasing butterfly species in Oxfordshire. It lays eggs on young Blackthorn shoots, and its presence is usually only noted by finding the eggs. A few have been found in recent years. Suitable habitat can currently be created by allowing the Blackthorn to sucker naturally from established clumps. In the future, if it became necessary to limit the further spread of Blackthorn, it would be necessary to introduce a coppicing regime on a rotation so that there was always plenty of younger growth.

Work tasks by season**January to March**

January litter pick

Check tree guards .

Monitor bramble spread in open areas. Cut back/down some over-mature clumps and bramble encroaching paths and grassland.

Badger survey every 2 years (February best).
 Check nest-boxes if not done earlier
 Plant new trees or shrubs if required
 Best time for tree felling
 Cut back shrubby growth overshadowing the ditches

March/April

Early March – OxClean litterpick
 Best month for pollarding veteran willows (bats least likely to be disturbed).
 Check for frog & toad spawn, count where possible
 First mow for new areas coming into management
 Mow part of rough grassland (part each year on rotation) especially if becoming invaded by bramble etc.
 Plant woodland plants (eg foxglove, primrose) if required.
 Sow seed in bird food patch after rotovating.
 Pull nettles along Thames path.
 Mid April: search for and pull knotweed.

May

Mow new areas coming into management again
 Scythe nettles as required in Plantation
 Weed round newly planted trees and shrubs and check guards again
 Search for and pull knotweed in both main patches and the Triangle knotweed patch.
 Dig out ditch at Thames end if necessary
 Chase Council for path mowing in 2nd half May.
 Mow some nettle patches for fresh nettle for butterflies and moths
 Late May (post cowslip season) – mow half of meadow areas and rake off

- mow path edge half of Plantation Path bays
- mow some of Middle Way bays according to species present (agree with CM-L)
- mow all bays still dominated by nettles
-

June

Continue pulling knotweed if found
 Mow bays still dominated by nettles + other areas where nettles being controlled.
 Mow further patches of nettle to provide fresh growth for butterflies
 Scythe nettles in Plantation if necessary
 Control burdock in wrong places – in or next to meadows & bays and where they'll be a public nuisance.
 Scythe/strim river bank path on Kidneys and Rabbit Corner to Boathouse Corner

July/August

Mid July - scythe paths into Elder Bay and Kidneys Bridge to Muntjac Point, and scythe some bays down to water to allow pond-dipping along ditch
 Good month to survey ditch fauna/flora
 Mow nettly bays and other areas where nettle control in progress
 Late July / early August – first main mow for meadow patches not mown in May, plus back half of Plantation Path bays

Late August: Search for and spot-spray knotweed in both main patches

September

Remind Council to do final mow of paths, preferably towards end of month

Main mow for meadow areas first cut in May.

Check knotweed patches again and spray those missed in August

Pull knotweed in Triangle knotweed patch

Best month for planting bulbs if required

Any new meadow sowings do in first half September ideally

Sow Red Campion and other seed requiring vernalisation

Protect young elder saplings once findable

October

Mow all meadow areas (except the 15% to be left), all bays, and all verges if Council didn't do this.

November / December

In mild autumns may need to mow meadows again in November.

Monitoring STILL TO BE DONE

Birds

Mammals inc badgers

Reptiles & amphibian

Butterflies

Moths

Ditch flora and fauna

Other invertebrates

Water quality in ditch / water levels

Appendices and maps. STILL TO BE DONE

Map of Aston's Eyot with place names.

Appendix 1. List of tree and shrub species planted 2011-2013.

Appendix 2. List of plant species added as seed, bulbs or plants 2011-2013.

Appendix 3. Overall species lists

Appendix 4. Meadow creation methods. INCOMPLETE AS YET

In 2011, it was decided to convert a patch of 0.6 acres of Nettle and Creeping Thistle at the north end of Nettle Plain to flower-rich meadow, in order to increase the area of grassland and to diversify the grassland species present, in part replacing those once present but no longer found. Four approaches were trialled:

Plot A: Complete removal of vegetation to provide a sowing surface, by treating with glyphosate in late May, mid August and early September, coupled with hand removal of some larger surface nettle roots. In mid September the ground surface was raked and meadow mixture (standard meadow mixture sourced from Emorsgate Seeds) was sown on 14th September at 5gm/square metre.

Plot B: Complete removal of vegetation by mowing and removal in June and early August, and treating the regrowth in early September with a single application of glyphosate. The surface was raked and sown with meadow mixture in late September.

Plot C: No glyphosate used. Mowed and cuttings raked off in June, early August and early September to 2-3", and close mowed to produce 50% bare ground in mid September, then raked and sown on 22 September.

Plots D, E, and F: Mown and raked off only in June, August and September. No seed sown