

# **BBOWT Wild Oxford Project**

## **Rivermead Nature Park**

### **Report on the first year 2014 – 2015**

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## BBOWT Wild Oxford Project

### **Rivermead Nature Park**

Report on the first year 2014-2015 J A Webb



*View of Rivermead fen with tall herb vegetation,  
from mown path 25.10.2014*

### **Introduction and background**

Rivermead Nature Park, Rose Hill, Iffley, is owned by the University of Oxford and has been leased and managed by Oxford City Council (OCC) since 1<sup>st</sup> December 1990. It is a mosaic of lowland mixed deciduous woodland with elements of fen, wet woodland, a stream, drains, rough grassland, scrub and a pond. The Council covenanted to keep the land as a nature reserve and to manage it in accordance with the objectives specified in a draft management plan. These objectives were as follows:

- 1. To increase the educational use of the site**
- 2. To investigate enhancing the nature conservation value of the communities present on site.**

(Source: Rivermead Management Plan document 1996-2001, Oxford City Council)

The BBOWT Wild Oxford Project is currently of great assistance to the City Council in the fulfilment of these aims.

The original area so managed by OCC was 8 ha. It included an area of Thames-side wet woodland, springs and flushes to the north of the current southern management area known as Rivermead Nature Park (only 3.3 ha).

The whole of this northern and southern area has been designated a SLINC (Site of Local Importance for Nature Conservation) by Thames Valley Environmental Records Centre (TVERC).

The current Rivermead Nature Park is compartment 2 on the 1996-2001 management plan (supplied by C. Whitehead of OCC). This southern portion (Site centre grid ref. SP526032 ) is thus the only part of the SLINC to benefit from the Wild Oxford Project work.

This whole SLINC was assessed for potential upgrading to Local Wildlife Site status in 2013 but was rejected for this designation in early 2014.

The higher ground to the east of the Rose Hill estate is the rainwater catchment for the stream that runs through the site to the river. It is also the catchment for the springs that emerge at the base of a bank within the park.

The river Thames forms the western boundary and the level ground adjacent to the river is within the Thames floodplain.

The stream emerges from an outflow pipe at the east side of the site and now runs in a deeply eroded channel westwards to the Thames. It is presumed that this stream has a large input of road-surface run-off from urban development (the estate to the east) and that the erosion is the result of flash-flooding.

In the past, a metal and wooden structure forming a dam across the stream had been constructed, presumably partly as a bank erosion control measure. However this is clearly no longer functional, as the stream flow has caused erosion around one end of the barrier and there is now no restriction of the stream water flow.



*Metal and wooden structure that previously formed a barrier across the stream, now non-functional due to bank erosion around one end*

A structure resembling a metal telephone box in the middle of the site would seem to be connected to the sewage pipes crossing the site, judging by the smell emanating from it.

The site is popular with dog walkers and fishermen who traverse it to get to a fishing spot in the nature park on the bank of the Thames.

### **Site history**

No detailed research has been carried out but, in common with other such wetland sites unsuitable for agriculture, over 100 years ago the site was probably subject to extensive light grazing. This would have kept vegetation short and the fen flora diverse. A literature search in historic botanical texts did not reveal any historic site-specific plant references but one record of bog pimpernel *Anagallis tenella* is recorded in Druce (1927) as 'River-side, Iffley'. This typical short fen plant (frequent in the Lye Valley) is now rare in the county and almost certainly came from the calcareous springs in what is now the Rivermead SLINC. This is evidence that the area underwent grazing, which would have favoured the tiny bog pimpernel by reducing tall competing wetland vegetation.

### **Historical and current management**

Past management by OCC has entailed regular mowing of the main central path, as well as whatever tree work was necessary to maintain access and comply with health and safety requirements, e.g. removing and logging-up collapsing mature crack willows where they threatened pathways.

Prior to 1996 there had been some creation of clearings and planting of shrubs and flowers, but no details are given in the management plan as to which species.

In the two years before the start of the Wild Oxford Project occasional work sessions of the Thursday OCC Countryside Volunteers were held in the park under the direction of Countryside Ranger Carl Whitehead. The small reed/hemp agrimony area of the fen on a tufa spring was cut and raked for the first time in 2012 and again in 2013. A start was made in re-coppicing and re-pollarding crack willows actually growing in the fen peat.

## Habitats and species at Rivermead Nature Park today

### Pond

A pond of approximately 10m<sup>3</sup> was dug on the north-eastern side of the site in 1987 (information from the 1996-2001 management plan in OCC records). This pond is spring-fed and was probably excavated in a peaty (possibly previous fen) area. The pond is now much larger than that, so may have subsequently been extended. It has water soldier *Stratiotes aloides* as a submerged plant, as well as flag iris *Iris pseudacorus*, bulrush *Schoenoplectus lacustris* and greater reedmace *Typha latifolia* as emergents. The last species has colonised about half the pond and may need a degree of reduction in the future to maintain sufficient open water.

Submerged plants include water starwort *Callitriche* sp. and small quantities of stonewort *Chara* algae. The latter indicates that the water is neutral to alkaline (calcareous, lime-rich). Some duckweed *Lemna minor* may indicate slight nutrient enrichment. Past aquatic species surveys have found a diverse invertebrate fauna (Pond Action survey results from 1991, listed here in **Appendix 1** and sourced from the management plan 1996-2001) but a current survey of the aquatic invertebrates is much needed. The pond is an important breeding site for a sizeable population of common toads *Bufo bufo* in the spring. It is thus a BAP priority habitat.

A problem is developing due to the extensive shading by tall crack willows *Salix fragilis* to the west and east ends and also by tall crack willows that have fallen across and into the pond at the east end. This shading has resulted in a reduced aquatic vegetation flora and in considerable accumulations of dead leaves in the pond. Juvenile toads found during work sessions in the fen in 2014 indicate that toad breeding is currently successful despite the partial shading of the pond. The pond was seen to be occasionally visited by mallards *Anas platyrhynchos* and moorhen *Gallinula chloropus*.

Whilst the pond is obviously potentially a valuable educational resource for local schools, it has not been much used. One of the reasons for this is a lack of sufficient safe dipping access for young children.



*The pond, west end 27.03.2012*



*The pond, east end 27.03.2012*



*Toad and spawn in the pond, April 2015*



## Alkaline Fen

The presence of extensive tufa (calcium carbonate, limescale, strictly 'travertine') deposition along the spring line and peat formation to the north of the stream were first noted in the management plan of 1996-2001. My attention was drawn to this at a visit in March 2012 with Countryside Ranger Carl Whitehead. The visit revealed, in my view, a site of considerable interest and importance for the surviving wetland habitat. Whilst the flora currently in the wetland is not exceptional, the presence of a natural tufa-forming spring and wet, deep, peat area indicates that a relic portion of a small calcareous alkaline fen exists on site and has the potential to be a habitat for an important fauna of invertebrates specific to calcareous springs, and possibly a seed bank of valuable wetland species.

This type of fen is a European Priority Habitat and an ancient ecosystem, as the springs will have been running for thousands of years. The resource of this habitat is declining nationally and all examples need to be carefully preserved and kept in good condition. In addition to tufa formation, some of the springs further downhill towards the river produce orange rust-coloured deposits of iron oxide, indicating water arising from less calcium-rich deposits containing iron sulphide.



*Whitish tufa (travertine, lime, calcium carbonate) deposition*



*Iron oxide deposition in spring water*

The tufa-forming wetland was extensively colonised by trees, such as large crack willows *Salix fragilis* and scrub, mainly dewberry *Rubus cescius*. There was also some relic tall-herb vegetation, with common reed *Phragmites australis* and hemp agrimony *Eupatorium cannabinum* prominent. A very large bush of the alien shrub species *Lonicera nitida* shaded part of the north side of the fen wetland. Some of the large crack willows had previously fallen and this, combined with the dewberry scrub, made access very difficult, so the area of peat formation of the former alkaline fen could not be easily calculated. The fen habitat had almost disappeared and was really at the stage of being a 'ghost fen' well on the way to wet woodland.

Visible relic fen flora included a rather species-poor tall-herb assemblage in the semi-shade of crack willow trees. It contained common reed and hemp agrimony mixed with great willow herb *Epilobium hirsutum* and water figwort *Scrophularia aquatica*, with some wild angelica *Angelica sylvestris* and small amounts of soft rush *Juncus effusus*. Common valerian *Valeriana officinalis* and meadowsweet *Filipendula ulmaria* were rare.

Lower-growing plants included small amounts of water mint *Mentha aquatica*, common watercress *Nasturtium officinale* and sweet grass *Glyceria* sp., as well as the bryophytes fern-leaved hook-moss *Cratoneuron filicinum* and endive Pellia *Pellia endiviifolia*. The last two are indicators of the calcareous high pH spring water and were present amongst extremely common moss species, such as *Brachythecium rutabulum* and *Kindbergia praelonga*.



*Fern-leaved hook moss Cratoneuron filicinum, alkaline indicator on the fen peat*

The nearest NVC community for the fen before any work started would be S25 *Phragmites australis*–*Eupatorium cannabinum* tall herb fen.



*Rivermead Fen, from path on northern bank on 05.09.2013. Tall herbs with common reed, hemp agrimony and nettle, over-shaded by adjacent crack willows. Compare with clearance photos on page 23 from 2014.*



*Rivermead overgrown Fen from centre looking uphill to eastern spring-line 05.09.2013. Tall herb, common reed and dewberry vegetation in the foreground in open area of fen, heavily shaded by tall crack willows.*

Whilst there is still good water flow from the springs (surprising in view of the fact that much of the catchment of the springs is now the housing and impervious tarmac roads of the Rose Hill estate) the fen peaty areas nearest the stream are drier than they should be due to the flash flooding causing erosion and consequent lowering of the stream bed adjacent to the fen. This will have lowered the water table in the peat nearest the stream, drying it out. Whilst the metal and wood barrier across the stream might be repaired and function to retain water, the quality of the water in the stream may now not be good enough to use to re-wet the dried marginal fen zone. The advice of a hydrologist could perhaps be sought on this issue.

### **Wet meadow**

On the higher ground at the site entrance, just above the tufa- and peat-forming fen wetland, there was a small area of relic damp meadow transitional to the fen proper (i.e. fen meadow), with characteristic species such as hard rush *Juncus inflexus*, greater bird's foot trefoil *Lotus pedunculatus*, red clover *Trifolium pratense*, buttercups *Ranunculus repens* and *R. acris* and vetches, *Vicia* sp and meadow vetchling *Lathyrus pratensis*. The presence of adder's tongue fern *Ophioglossum vulgatum* indicates old grassland that is unlikely to have ever been ploughed. Past grazing is indicated by the frequency of hard rush.

This flowery area, which is valuable as a nectar and pollen source to insects, has a big patch of dewberry threatening to spread and engulf it.



*Looking west from site entrance over damp meadow area down into the fen area. First work session of the project in May 2014. Volunteers moving a log pile. Fen at this time mostly under willow trees in the distance.*

## **Woodland**

The majority of the Rivermead site could have been described as secondary woodland at the start of this project, with wet woodland on the peaty spring-fed areas. Tree species on site comprise mostly frequent large ash *Fraxinus excelsior* and crack willow *Salix fragilis*, with occasional grey willow *Salix cinerea*.

Adjacent to the river in the flood zone is a big clonal patch of very large grey poplar *Populus canescens* trees. Hazel *Corylus avellana* (coppice stools) is the next most frequent tree type on site. Then there are areas of ageing common hawthorn *Crataegus monogyna* and a little English elm *Ulmus procera* scrub growth. Occasional horse chestnut *Aesculus hippocastanum* and sycamore *Acer pseudoplatanus* trees complete the picture. Mostly this indicates self-sown secondary woodland, possibly NVC W5 in the ash-dominated areas, grading to W8 in the wetter, willow-dominated, peaty areas.

Although these woodlands may be mostly due to natural invasion and succession, it is likely that most of the hazel will have been planted, as this is very slow to invade.

Most of the larger trees have dense growth of common ivy *Hedera helix* climbing up their trunks. The woodland ground flora is composed predominantly of a thick mat of vegetative creeping ivy *Hedera helix* in the densest shade but in lighter areas there are patches of cow parsley *Anthriscus sylvestris*, wood false brome *Brachypodium sylvaticum*, ground ivy *Glechoma hederacea*, wood avens *Geum urbanum*, tufted hair grass *Deschampsia cespitosa*, cuckoo pint *Arum maculatum*, hedge woundwort *Stachys sylvatica* and early dog violets *Viola reichenbachiana*.



*Dense secondary woodland of ash, crack willow and hazel, with much ivy on trees and creeping along the ground, limiting flowering in ground flora*

Some clumps of wood sedge *Carex sylvatica*, remote sedge *Carex remota* and pendulous sedge *Carex pendula* are found in the lower floodplain land adjacent to the river. Clonal patches of dog's mercury *Mercurialis perennis* and enchanter's nightshade *Circaea lutetiana* are found occasionally on drier ground. Spring flowers include patches of snowdrops *Galanthus nivalis* (one double flowered) and bluebells *Hyacinthoides* sp. (most likely Spanish bluebells), primrose *Primula vulgaris*, early dog violets *Viola reichenbachiana* and lesser celandines *Ficaria verna*.

An amount of past dumping of garden rubbish on site seems likely to account for the presence of some of these species. Dense shading by trees has resulted in a very low frequency of attractive spring flowers but ferns like Broad buckler fern *Dryopteris dilatata* can survive. In some areas a dominance of nettle *Urtica dioica* and cleavers *Galium aparine* indicates nutrient-enriched soil.



*Mown path edges provide the few sites for light-loving ground flora – here early dog violet *Viola reichenbachiana* and lesser celandine, with dark-edged bee fly *Bombylius major*, April 2015*

### Dead wood



*Log piles and hollowing fallen trunks are common on site, to the benefit of invertebrates*

Woodland areas have many fallen trees, and dead wood in various stages of decay is frequent all over the site. Consequently there is a good range of fungi (brackets and toadstools) on dead wood, and one of them, a white aniseed scented bracket known as the perfumed bracket *Trametes suaveolens*, is rare.

Additionally, thanks to this dead wood resource the site is likely to have the large saproxylic invertebrate biodiversity associated with this habitat. Indications of this are the deadwood longhorn moth *Adela reamurella*, wasp beetle *Clytus arietis* and the spotted longhorn *Rutpela maculata* found on hogweed flowers, and sighting of one comb-horn (ctenophorine) cranefly *Ctenophora* sp. in flight in the spring. These *Ctenophora* species are all scarce-to-rare occupants of rotting wood; the commonest one likely to be present is *Ctenophora pectinicornis*.



*Encrusting fungus Datronia mollis and Bjerkandera sp bracket fungus on dead log*



*Three common deadwood breeding insects found at Rivermead in May 2014.*

*Left to right: the wasp beetle, spotted longhorn beetle and the moth Adela reamurella*

## **Scrub**

Scrub species found include abundant bramble/blackberry. This includes wild bramble *Rubus fruticosus* agg. species and something that might in some areas be the large, aggressive, escaped blackberry cultivar Himalayan Giant (possibly *Rubus armeniacus*). Dewberry *Rubus cespitosus* predominates on the damper soil. Small patches of raspberry *Rubus idaeus*, blackthorn *Prunus spinosa*, red currant *Ribes rubrum*, wild privet *Ligustrum vulgare* and one patch of the alien garden escape snowberry *Symphoricarpos albus* are present.



Spindle *Euonymus europaeus*, wild privet *Ligustrum vulgare* and holly *Ilex aquifolium* are rare. Elder *Sambucus nigra* bushes are found occasionally, but many are now dying, as conditions around them have become too shady. A large patch of alien shrubby honeysuckle *Lonicera nitida* occupied the north bank to the main fen area.

Climbers include wild clematis *Clematis vitalba* and great bindweed *Calystegia* sp, which cover some hawthorns and hazels, as well as extensively covering an area of dumped soil and logs in the south-east corner. The alien climber Russian vine *Fallopia baldschuanica*, an escape from hedges of adjacent gardens, has colonised scrub on the eastern margins of the site. These alien garden species are useless to native insects, although they may provide useful nesting sites for birds

### **Stream**

Where enough light reaches the stream bed, cushions of long-beaked water feather-moss *Platyhypnidium riparioides* are found on rocks. Where the stream banks are not being actively eroded by flash flooding, numbers of attractive hart's tongue fern *Asplenium scolopendrium* are found and occasionally the banks have a carpet of common mosses and liverworts, such as endive peltia *Pellia endiviifolia*.

### **Rank grassland and mown paths**

Rank grassland at the top of the site, adjacent to the road, shows evidence of soil disturbance and soil dumping. It is dominated by grasses such as false oat *Arrhenatherum elatius* and cocksfoot *Dactylis glomerata* and a valuable stand of hogweed *Heracleum sphondylium*, this last with flowers of great value as pollen and nectar sources for insects, including ones that may be breeding in the fen.

Mown paths around the site are mostly of low species diversity with dominant perennial rye *Lolium perenne* and white clover *Trifolium repens*, but occasional self-heal *Prunella vulgaris* and germander speedwell *Veronica chamaedrys* provide nectar sources.

Hawthorn *Crataegus monogyna* hedges border part of the site adjacent to the ring road and the hedge adjacent to the Rivermead road has recently been neatly laid, enhancing the entrance.

The only patch of comfrey on site is in a light area adjacent to a path. This was seen to be of importance to nectaring queen bumble bees.



*Comfrey adjacent to path 31.05.2014*

One individual of the common club-tail dragonfly *Gomphus vulgatissimus* was seen resting in sun on vegetation adjacent to a mown path. This would be breeding in the Thames but hunting for prey insects on site in sunny open areas.



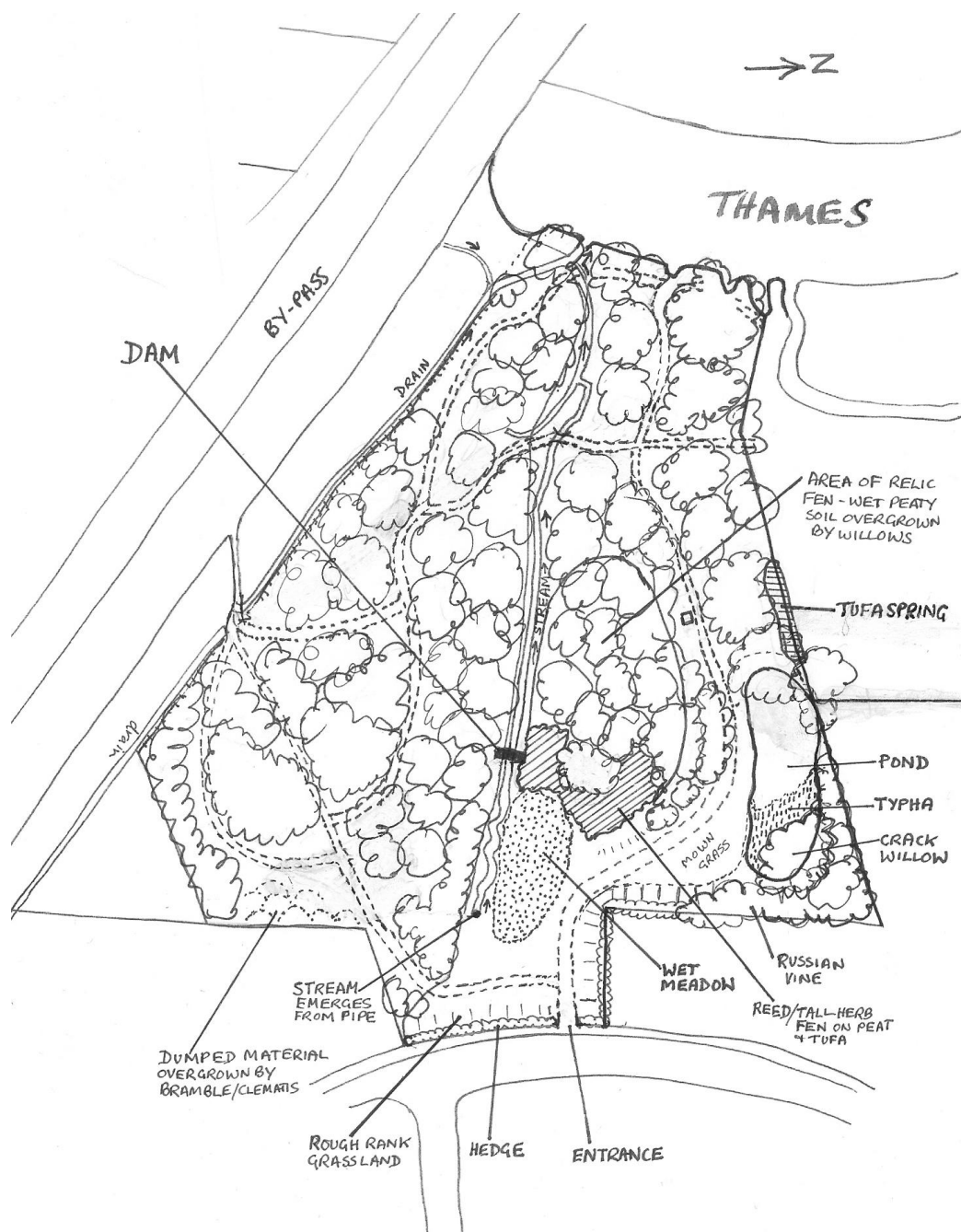
*Club-tailed dragonfly Gomphus vulgatissimus at Rivermead 31.05.2014*

Mammals noted, probably using all of the site, include moles, grey squirrels, muntjac deer, bank voles and wood mice.

The abundance of ivy cover up the trunks of trees indicates it may also be very useful to bats and most common garden birds have been seen on site.

**Figure 1:**

Sketch map indicating the juxtaposition and extent of the various habitat types in Rivermead Nature Park before the start of the Wild Oxford Project



**A full table of records of the species found at Rivermead Nature Park to date from 2012-2015 surveying is presented in Appendix 2 (separate document)**

## **BBOWT Wild Oxford Project**

At Rivermead the potential for the following possible habitat enhancements by the project work was identified as follows:

### **A. Alkaline fen restoration**

In view of the importance of the alkaline tufa-springs and peat area it was identified that biodiversity would benefit, if the large crack willows currently shading the area could be reduced by pollarding or coppicing to let more light in and allow the suppressed wetland ground flora to recover. This would also allow warmth to the peat, which would be beneficial to the life cycles of any rare invertebrates still present, such as larvae of soldierflies.

Cutting and raking-off invading bramble, dewberry and common reed in the areas without willow would be desirable for the same reasons. This would not eliminate all the shaded, peaty, wet woodland habitat in this SLINC, as there is an abundant resource of this in the northern section of the site, outside the City Council management area.

### **B. Pond restoration and access improvement**

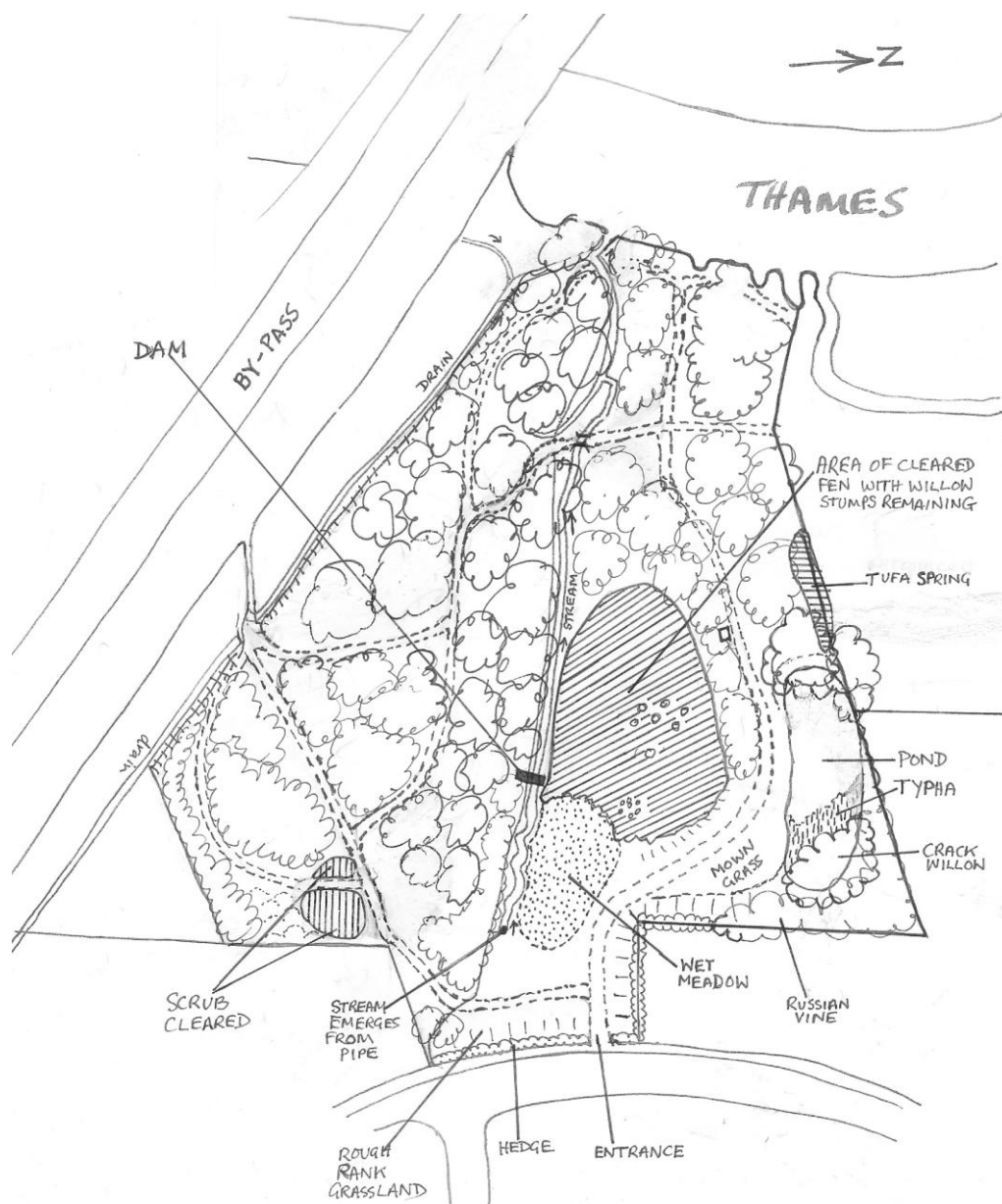
A reduction in the shade created by tall willows around the pond, as well as the removal of willows that have actually fallen in, would benefit aquatic plant diversity and consequently aquatic invertebrate diversity and toad breeding success. Educational pond dipping for children would be facilitated by a safe platform.

### **C. Glade creation and path widening - woodland and scrub biodiversity enhancement**

Before any work was done, the only areas with light-loving ground flora like celandines, ground ivy and violets, were on the edges of mown paths. Thus there was a limited resource for nectar and pollen-feeding insects, such as bees, butterflies and flies. Glade creation and path widening in the drier secondary woodland and scrub areas on site would enable the spread (or germination from buried seed) of a more diverse flora of greater benefit to insects.

## Results of the first year of the BBOWT Wild Oxford Project work, spring 2014 to spring 2015

**Figure 2:** Sketch map of Rivermead vegetation changes after one year of the Wild Oxford Project



### Time and volunteer input to the project

Volunteers under the leadership of Andy Gunn contributed to remedial work on the relic fen and the secondary woodland and made a start on the pond.

A total of 8 days' work at Rivermead was undertaken between March 2014 and March 2015, with an average of 12 volunteers at each session. As each session lasted for 5 hours, about 480 volunteer hours were put in (pers. comm. Andy Gunn). Monitoring of progress happened either during the sessions or by separate visits after work sessions.

Oxford City Council Countryside Service staff provided additional help with large crack willow tree felling and removal. Some Thursday work sessions by the OCC Countryside Service Volunteers team assisted with scrub removal and fen raking.

### **Alkaline Fen work**

After identification of the importance of the tufa-forming fen at this site, OCC Countryside Service Volunteers supervised by Carl Whitehead had several work sessions to start the process of opening up and extending the fen area. Reeds and tall-herb vegetation were cut and raked off for the first time by volunteers over a small area in April 2012 and again in 2013, with the addition of a start on reducing the large willows.

Most BBOWT Wild Oxford volunteer work happened in the fen during 2014. Progress was necessarily slow because of the number of very large crack willow trees, which were actually growing in the wet peat of the fen. Some of these had collapsed and fallen onto the fen making their removal necessary, with help from OCC, before much access for cutting the herbaceous vegetation was possible.



*Fen half cleared, progress partially impeded  
by large fallen crack willows, 06.12.2014.*



*Clearing fallen crack willows from fen 06.12.2014*



*Removing the large Lonicera nitida bush which was shading the north bank of the fen area, November 2014*



*Using slashers to clear dewberry-invaded fen area, 25.10.2014*

Whilst a start had been made on this habitat by OCC and volunteers in 2012 and 2013, progress was very limited due to time constraints. The Wild Oxford Project volunteer events enabled the whole area identified as remediable to fen to be cut short, with all trees coppiced/pollarded within one year, 2014.



*Raking cut vegetation material off the fen peat to a marginal pile, Nov. 2014*





*View across the project work cleared fen area on 25.02.2015 from the path.  
Taken from same position as photo on page 9 (before work).*

The total area estimated to be relic fen because of the wet peat visible at the surface was estimated as 0.25 hectares. Of this, only 0.04 hectares (596m<sup>2</sup>) was under reed and hemp agrimony, i.e. remnant tall herb fen. The rest had progressed further in succession, being under large crack willows and dewberry scrub. Clearance of the whole 0.25 hectares of fen area was achieved throughout the year.

It is early days for detecting a change in the vegetation after all the cutting and raking, which resulted in greater light levels at the peat surface. However, some vegetation response is noticeable in the greatly increased growth and flowering of watercress *Nasturtium officinale* and the growth and flowering of celery-leaved crowfoot *Ranunculus sceleratus* (not seen on site before this work and a known seed bank species).

### **Pond Work**

The major part of work on the pond is yet to be done but access is now better and safer with the installation of a recycled-plastic dipping platform structure on the bank adjacent to the path. Removal of willow trunks and branches that had fallen into the pond has started at the east end. This should enable a more diverse pond flora to start to re-establish, benefitting aquatic invertebrates and toads. A reduction in large willows at the pond's west end in 2015 will encourage a more diverse flora at that end as well.



*Pond now with installation of dipping platform, spring 2015*



*Beginnings of work on crack willows to remove branches shading and falling into the east end of the pond, April 2015*



*Shaded west end of pond with collapsing willows  
in need of future work 25.10.2014*

### **Scrub and path work**

A start was made on this in early spring 2014. An area (approx. 15m x 15m) to the south east side of the reserve has been cleared of bramble, which was overgrown by wild clematis and great bindweed. Risings were raked-off to habitat piles and the consequent disturbance to the soil will encourage future seed germination. Further glades of this size are planned for other suitable areas of the site.



*Scrub area at south-east site margin before work,  
dense bramble overgrown by wild clematis and great bindweed*



*Part of same scrub area at south-east site margin cut short to create a glade enabling ground flora regeneration, 2015*

## **Summary and Conclusions**

The BBOWT Wild Oxford Project has started to make a difference to the habitats in Rivermead Nature Park in the first full year. With an average of 480 volunteer hours worked, the fen area is showing a great degree of positive change, with open, light, conditions now prevailing. The response of the vegetation will not begin to be apparent until the end of 2015, however, and further measurement of any success will have to wait for botanical surveys at that time.

## **Achievements are:**

- All of the identified wet peaty area of the relic alkaline tufa-forming fen, which was covered either in large crack willows or dewberry, and the more open area of reed-dominated fen (0.25 ha) has been cut and the risings raked off. This is the area that has seen most attention and most progress over the year. This area will be cut short annually to encourage restoration of a more biodiverse tall-herb community from the seed bank.
- A start has been made on the creation of glades and path widening. Bramble scrub has been cut back on the south-east margin adjacent to a path to create the first of a series of sunlit glades.
- The pond now has safe dipping access for children in the form of a dipping platform. Work has started on reducing the tall crack willows that were shading the water and collapsing into the pond at the east end.

## Recommendations for the future

- It would be useful to have the hydrology of the site investigated and some assessment made of the advisability or not of repairing the metal and wood dam across the stream, which is no longer functional. Retarding and holding back the water flow in the stream may raise the water table in the bankside drier portions of the fen and aid in its restoration. A new dam further down the stream would be of more value, as it might enable the re-wetting of a greater area of fen cleared in the first year of the project work.
- A survey of aquatic invertebrates in the pond to check that the valuable assemblage discovered by previous surveys (see **Appendix 1**) is being maintained.

## Acknowledgements

I am grateful to Carl Whitehead of Oxford City Council for discussions and for access to documents held on the site in OCC archives and to Andy Gunn of BBOWT for discussions as the work progressed. Marilyn Cox gave invaluable editorial help with this report.

## References

**Druce G.C.** (1927) *Flora of Oxfordshire*, Clarendon Press, Oxford.

**Rivermead Management Plan (1996-2001)**. Oxford City Council, from the archive held by the Countryside Service Rangers.

## Wild Oxford Project

### Rivermead Nature Park

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#### Appendix 1

#### Results of Aquatic invertebrate survey by Pond Action in November 1991

Scientific Name	Group
<i>Sialis lutaria</i>	Alderfly
<i>Agabus bipustulatus</i>	Beetle
<i>Agabus sturmii</i>	Beetle
<i>Colymbetes fuscus</i>	Beetle
<i>Copelatus haemorrhoidalis</i>	Beetle
<i>Enochrus melanocephalus</i>	Beetle
<i>Enochrus testaceus</i>	Beetle
<i>Haliphus confinis</i>	Beetle
<i>Haliphus immaculatus</i>	Beetle
<i>Haliphus lineatocollis</i>	Beetle
<i>Haliphus obliquus</i>	Beetle
<i>Haliphus ruficollis</i>	Beetle
<i>Haliphus wehnckeii</i>	Beetle
<i>Helochares lividus</i>	Beetle
<i>Helophorus brevipalpis</i>	Beetle
<i>Hygrotus inaequalis</i>	Beetle
<i>Hyphydrus ovatus</i>	Beetle
<i>Ilybius ater</i>	Beetle
<i>Ilybius quadriguttatus</i>	Beetle
<i>Laccobius minutus</i>	Beetle
<i>Laccophilus minutus</i>	Beetle
<i>Potamonectes depressus</i>	Beetle

Scientific Name	Group
<i>Callicorixa praeusta</i>	Bug
<i>Corixa panzeri</i>	Bug
<i>Corixa punctata</i>	Bug
<i>Hesperocorixa sahlbergi</i>	Bug
<i>Microvelia reticulata</i>	Bug
<i>Nepa cinerea</i>	Bug
<i>Notonecta glauca</i>	Bug
<i>Notonecta marmorea</i>	Bug
<i>Plea leachi</i>	Bug
<i>Sigara dorsalis</i>	Bug
<i>Limnephilus lunatus</i>	Caddis fly
<i>Phryganea bipunctata</i>	Caddis fly
<i>Helobdella stagnalis</i>	Leech
<i>Theromyzon tessulatum</i>	Leech
<i>Cloeon dipterum</i>	Mayfly
<i>Bathynomphalus contortus</i>	Mollusc
<i>Lymnaea peregra</i>	Mollusc
<i>Physa acuta</i>	Mollusc
<i>Planorbis planorbis</i>	Mollusc
<i>Potamopyrgus jenkinsi</i>	Mollusc
<i>Aeshna cyanea</i>	Odonata
<i>Coenagrion puella</i>	Odonata
<i>Ischnura elegans</i>	Odonata
<i>Libellula depressa</i>	Odonata
<i>Sympetrum striolatum</i>	Odonata
<i>Asellus aquaticus</i>	Slater