FLEET POND
NATURE RESERVE
MANAGEMENT PLAN 2015 - 2022

Site Name	Fleet Pond Nature Reserve
Location	Fleet, North Hampshire
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SECTION 1 – INTRODUCTION & SITE INFORMATION

The Management Plan for Fleet Pond Local Nature Reserve draws on the expertise, knowledge, advice, recording and experience of many people involved in its management and conservation since it was acquired by Fleet Urban District Council in 1972.

Fleet Pond is owned by Hart District Council (HDC) and managed by Hart District Council Countryside Services. The Fleet Pond Society (FPS), founded in 1976, is a voluntary organisation with charity status (No. 290637) dedicated to the retention and enhancement of the Local Nature Reserve. The Fleet Pond Society work in partnership with the Hart Countryside Service Rangers in the management of the pond through volunteer work parties, projects and fundraising.

The relationship between Hart District Council and the FPS is a positive long-standing partnership to make the best decisions for the management of the Nature Reserve and public relations. Formal communication includes the HDC countryside ranger responsible for the management of Fleet Pond attending the FPS quarterly Executive Committee Meetings and attending the Societies AGM. In addition, there are also HDC and FPS Partnership Meetings as and when necessary, but mainly three times a year. A HDC Countryside Ranger also manages the monthly FPS Sunday volunteer days and supervises when possible the off shoot 'Last of the Summer Wine' Friday group.

Other regular communication with active FPS members includes e-mails and newsletters, updates on work planned and proposed ideas. HDC's Communications and Engagement Officer liaises with FPS's press officer on all publicity and press releases. Weekly face to face communication is common with some members of the FPS and general information is communicated where appropriate.

1. Preamble

The following comprises the agreed policy of Hart District Council in respect of the management of Fleet Pond Local Nature Reserve and will be/is approved by Hart District Council Cabinet.

General

Fleet Pond Nature Reserve will be managed in accordance with its status as a Site of Special Scientific Interest and Local Nature Reserve.

Close liaison will be maintained between Hart District Council and Natural England and Hart District Council and the Fleet Pond Society for the effective management of the Nature Reserve.

Habitat / Species

Habitats within the Nature Reserve will be managed sympathetically to promote appropriate diversity whilst conserving a mosaic including: open water, wetland, woodland and heathland. Management will aim to enhance habitat value to wild flora and fauna of all kinds occurring naturally within the site.

Access

Public access is freely available to the footpath network. The footpath network is managed to minimise disturbance to sensitive sites. Recreational facilities for the public are provided at the picnic area and benches are located around the site. There are a number of jetties and viewing platforms around the site.

Interpretation

Interpretative facilities are provided to encourage visitors to develop a greater awareness of the natural history, heritage and wildlife of the Nature Reserve.

Informal recreation

Informal recreation activities will aim to provide a medium through which a greater awareness of the Nature Reserve can be bred. Any events will be sympathetic and appropriate to the Nature Reserve and will not conflict with nature conservation interests.

Landscape

The landscape of the Nature Reserve will be maintained and enhanced wherever possible in relation to the wider landscape identified in the Hart District Landscape Character Assessment.

2. General Information

Fleet Pond Local Nature Reserve comprises 57.5 hectares of open water, marshes, reedbeds, wet and dry woodland, and wet and dry heathland. The lake at 21 ha is Hampshire's largest freshwater lake. Much of the Nature Reserve is SSSI, with the wetland being of national importance and the heathland of county importance. The site is owned freehold by Hart District Council and is managed by Hart Countryside Service (HCS).

2.1. Location

Fleet Pond Local Nature Reserve is located on the northern edge of the town of Fleet in Hart District of North East Hampshire.

Grid Reference	SU 820550 (centre of the lake).
Site Name	Fleet Pond
Site Status	The total reserve area is designated a Local Nature Reserve; of these 48 hectares is designated a Site of Special Scientific Interest (SSSI).
SSSI Name	Fleet Pond
Date Notified	1954 (under the 1949 Act)
Date Re-notified	1984 (under the Wildlife and Countryside Act 1981)
District	Hart
County	Hampshire
Local Planning	Hart District Council.

Authority	
Total Area	The Nature Reserve covers 57 hectares of which 48 hectares is designated SSSI. The Pond accounts for 21 hectares.
Legal Right of Access	There are no legal rights of access to the site. But the site is registered open access.
Byelaws	Fleet Pond Local Nature Reserve has byelaws in operation. They were updated in 2008. The revised version and the original version, drawn up in 1976, are held by Hart District Council at the Civic Offices, Fleet. (See copy in APPENDIX 1)

2.2. Land Tenure

All tenure documents are held by the Legal Unit of Hart District Council at the Civic Offices.

Ownership	The site is owned by Hart District Council. Their address is: The Civic Offices, Harlington Way, Fleet, Hampshire GU51 4AE.
Type of holding	Freehold
Date of acquisition	1972

This is not a legal document. Please refer to the original tenure documents before taking any decision or action which may have legal implications.

2.3. Management Infrastructure & Resources

Fleet Pond is managed as a Local Nature Reserve and Site of Special Scientific Interest by Hart District Council Countryside Services, as the owners of the land with overriding responsibility for the site. There is generous volunteer support from the Fleet Pond Society. Ultimately, any management decisions over the land will be made by Hart District Council as the legal owners of the land, however we try to accommodate the views and opinions of our various stakeholders where possible or appropriate.

The HDC Head of Service for Environmental Promotion has overall responsibility for the Countryside Service. The responsibility of site management falls to the Countryside Manager, Operations Manager, Visitor Services Manager and the Ranger for Fleet Pond. The Hart Countryside Ranger is responsible for operating and co-ordinating the implementation of the Management Plan for the site. The Ranger is also required to assist the other Ranger(s) of the Countryside Service in work at other sites within the District.

Within the Countryside team there are three other full time Countryside Rangers, one Senior Ranger, one Trainee Ranger (if available), Communications and Engagement Officer, Events and Education Ranger, a Biodiversity Officer, a Landscape and Conservation Manager, two Tree Officers, and a Tree Technician.

Litter bin collection is carried out via our shared Street Care Service with Basingstoke and Deane Borough Council. There are 9 rubbish bins and 1 recycling unit around the site in easily accessible and heavily used areas.

On site litter picking is carried out by the ranger team at least once per week, however there are one or two volunteers who also litter pick the site on an ad hoc basis.

Ditch maintenance works are completed annually and some entrance points are mown / cut back by the shared Grounds Maintenance Service with Basingstoke and Deane Borough Council.

A range of tools and equipment is available to the Rangers, including:

- 40 – 50 hp 4x4 tractor with front end loader with third service and various attachments.
- Small Kubota tractor for easy use on site
- John Deer All-Terrain Vehicle
- Tipping trailer with mesh sides
- Cut and Collect equipment, mower, baler, rake
- Mower unit for main tractor
- Pedestrian tractors with sickle bar mower, flail mower and rake for work in wet / soft areas that a full-sized tractor cannot access
- Chipper unit
- Chainsaws, brush cutters, blowers
- Tirfor Winches
- Pesticide safe mostly containing Roundup, application equipment and appropriate PPE
- Various workshop tools required to maintain the above, inc. COSHH safe and fuel safe
- Various hand tools required for the staff and volunteers to use

Countryside Rangers are qualified in the use of chainsaws, pesticide application, tractor driving, off-road driving, use of pedestrian mowers and use of brushwood chippers. Appropriate PPE is provided for all machinery and tasks as part of the standard uniform provision.

2.4. Health, Safety & Security

All work done on Fleet Pond is in line with our Corporate Health and Safety Policy and our departmental Health and Safety document. For all tools and equipment used on site specific risk assessments have been put in place and a task risk assessment is done before any volunteer activities.

Fleet Pond has an Emergency Plan that was produced in partnership with Hampshire Fire and Rescue Service. This identifies special danger areas, danger periods, fire prevention methods, organisation and an incident procedure. A copy of this plan can be found in the Countryside Workshop and electronically on the Hart District Council system.

Hazard trees in high and medium risk areas are surveyed annually in line with our corporate Tree Safety Policy by the Hart District Council Tree Officer. Trees in low-risk

areas that do not receive a high level of footfall are checked ad hoc by the site ranger whilst undertaking normal day to day duties.

Where appropriate, vegetation from path edges is cut back to provide good sight lines and visibility to make users of the site feel safe and secure. Structures such as bridges and boardwalks are either covered in a non-slip mesh or non-slip inserts to help reduce the risk of trips and slips. Site structure surveys are carried out annually to check for the safety and condition of all site furniture. Records of these surveys are kept at the Countryside Workshop and electronically on the Hart District Council system.

Figure 1: The Pond frozen over

Figure 2: The Pond in the snow

In the event of the Pond freezing over, a separate risk assessment has been put in place. Warning signs are installed as and when necessary at all main possible points of access onto the frozen pond such as all fishing jetties, boat jetties, beaches and main viewing points. These are in the national yellow and black warning format, warning of thin ice. Signs are checked daily when staff are at work, usually Monday – Friday.

Posters are put up at strategic locations stating that it is against the site byelaws to ice skate and that it is dangerous to go onto the ice. These explain what someone should do if they witness someone going through the ice.

A website and social media alert will also be posted about the dangers of going onto frozen water bodies throughout the prolonged periods of cold weather that cause the pond to freeze.

Staff do not go onto the ice at any point to remove persons or to rescue them. Fire and rescue are called in such an event. Staff should shout and warn persons to get off the ice if they see them upon it. Staff are also trained to use throw lines and take them out if they are called to an incident.

The occurrence of anti-social behaviour at Fleet Pond is happily minimal. There are some very occasional incidents of graffiti which are dealt with as soon as they are found by the site ranger.

The site ranger surveys all site structures annually for safety issues and any damage or repairs needed. This includes all bridges, benches, bins and notice boards.
They check structures for any visible signs of damage, test any supports with a sounding hammer, take a photo for record keeping and update the sites structure spreadsheet. Faults are ranked low, medium and high. Items marked as high are dealt with within a 2-week time frame, medium within 2 months and low up to 6 months.

All of Hart's land is under an Open Space Protection Order, which makes it an offence to not pick up after your dog or to not be carrying the means to pick up after your dog, under the Antisocial Behaviour, Crime and Policing Act 2014, Part 4, Section 59. To help enforce this we have dedicated enforcement officers, who are able to give on the spot fines of £75 for dog fouling or littering. This is provided through a contract with East Hampshire District Council. If there is a problem area, we can ask the enforcement officers to target this area until the issue has been resolved. In addition, the public are able to inform us of an area through our 'report a litter hot spot' function on our website (https://www.hart.gov.uk/report-litter-hotspot) or through the 'fix my street' function (https://hart.fixmystreet.com/).

3. Site Information

1.1. MAP 1 – Fleet Pond Nature Reserve

1.2. Access & Structures

The pond has a large variety of users, including young families, dog walkers, naturalists, cyclists and joggers. There are many access points around the pond, including small paths off the surrounding road edges and the main car park off Cove Road. Directions to the site can be found on the Hart District Council website at http://www.hart.gov.uk/fleet-pond. There are also four directional brown tourist signs on the approach roads to the site, to further direct people.

Footpaths and bridges

Fleet Pond LNR has a network of primary and secondary footpaths with 3 marked paths around the site (see map in APPENDIX 2), these are a long, a medium and a short route. The primary footpath network is constructed of hard-wearing materials sympathetic to the natural scene and inert so as not to damage the SSSI (e.g. hoggin). The secondary footpath network is maintained to a 'natural' appearance, sympathetic to their surroundings. A primary footpath provides a full circuit of the lake suitable for wheelchair users, bicycles and pushchairs.

There are also 16 bridges including a culvert at the Gelvert diversion, ranging from sleeper or wooden bridges providing access from adjoining roads and over streams and ditches, to those of a larger design. Three of these larger bridges are Carnival (crosses the outflow from the pond on the north edge), Brookly (crosses Brookly Stream) and The Flash (connects the northern footpath to the business park and Fleet Train Station), constructed from steel and wood which sit on concrete posts.

Green corridor

This project is included in S106 as a requirement from the nearby Hartland Park development; a "Green Corridor" will be created from Southwood to Fleet Train Station. Within Fleet Pond, this will entail widening and improving the northern pathway, with works planned for 2021/22. This green corridor will improve access for pedestrians and cyclists along the northern edge of the pond and improve and upgrade the pontoons, jetty and dipping pond. It will require civil works within the SSSI and as such requires a plan of ecological mitigation agreed with Natural England, this comprises:

Part 1: Create an open water flash with riparian edges in North East Marsh
Part 2: Reedbed and riparian edge creation on Brookly reedbed and Kenilworth wood

Picnic site and benches

There is a picnic site located within the woodland on the eastern side, close to the Reserve car park and with a good view of the lake. Six carved picnic tables are provided, as well as some carved standing and fallen wood, creating an area of interest for natural play. All carving is inspired by nature and relevant to the site. Benches are provided at Sandy Bay and at strategic locations around the primary footpath network. Several of these have been donated in memory of local residents according to the Hart District Council Memorial Bench Policy.

Car park and access track

The Reserve car park is located in the north-east corner of the Reserve with a capacity for approximately 40 cars. It is concrete based and is a remnant of the vehicle storage area constructed by the army when the site was a training area in the ownership of the Ministry of Defence (MoD). The concrete hard standings surround two heath islands.

The access track leads from the car park, runs eastward, parallel to the railway line, and joins the A3013 Fleet to Cove road via a narrow bridge over the railway track (Bramshot Bridge). At the southern side of the bridge the track leaves Hart District Council ownership.

The car park itself is circular in shape with 2 islands of heathland in the centre. A map board is located in the car park, along with a general waste and recycling unit.

Both the car park and access track will be resurfaced as part of the Green Corridor works above. Disabled bays and EV charging points will be installed in the new car park for the charging of electric vehicles.

Height restriction barrier and access gates

The height restriction barrier is located at the entrance to the car park to prevent large vehicles entering the site to deter fly tipping. Dragon's teeth are used to deter vehicles moving beyond the car parking area. Lockable bollards are located at points in the car park where it is required to provide access for maintenance vehicles or emergency vehicles to the Nature Reserve.

Fencing

Stock fencing is located around the grazing compartments. These are Wood Lane Heath, Fugelmere Marsh and Coldstream Marsh, with the possibility of grazing the north east reedbed in the future. The heath is still open to the public, with three kissing gates allowing access to the footpath across it. The stock fencing around Wood Lane Heath is to be replaced in 2022 with more robust metal posts, the two marshes are due to be replaced with metal posts by 2024.
The marsh areas are closed to the public for reasons of safety and to protect wildlife, however a few stiles are located along the fence line to allow easy access for any of the rangers, surveyors and livestock checkers who need to access the marsh.

Post and rail fencing is located along the edge of the bank on which the picnic site is located and at the extreme southern boundary of the Nature Reserve where it meets the MoD land. To protect sensitive sites from intrusion, excessive trampling, vegetation damage from both pedestrians, cyclists and erosion, low post and rail treated timber barriers have been installed at several points. Chestnut paling and/or stock fencing has been put up around some of the sensitive reedbeds and marshes to protect them against dog or pedestrian intrusion.

Figure 3: Launching a boat at Chestnut Grove

Fishing Jetties and Chestnut Grove Landing Stage

There are five fishing jetties constructed along the northern edge of the lake. These are well used by the public for fishing, feeding the ducks, photography, bird watching and quiet recreation. Fleet Pond Society volunteers built the Chestnut Grove landing stage, located on the western side of the lake, in 1977. This provides a launch facility for boats and an additional fishing jetty of scaffolding poles and timber footboards is constructed alongside the jetty. Improvements to all jetties has been made over several years. The jetties will be replaced systematically as and when required.

Boardwalks and Platforms

Boardwalks have been constructed in the following wetter locations.

- Along the footpath linking Sandy Bay with the Coldstream Glade.
- Along a section of the footpath to the south of Wood Lane Heath near the Guildford Road access point.
- From the Chestnut Grove landing stage to the beginning of Brookly Wood to direct pedestrians away from a narrow section of footpath subject to erosion into the drainage ditch.

There is also a viewing platform constructed of concrete and timber overlooking Wellington Reedbed.

The Lions' View

The Lions' View platform on the eastern side of Fleet Pond was built by the Fleet Pond Society in 2014 after a very generous donation from the Fleet Lions Club. The platform recognises a 118-year association of the military with Fleet Pond.

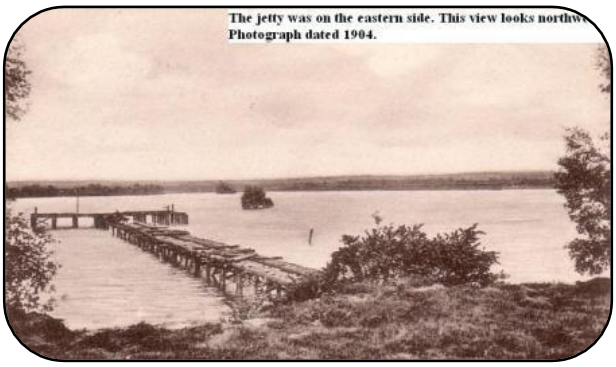


Figure 4: The old jetty - 1904

The viewpoint has been built on the old embankment laid down by the army in the 19th century as a base for a very large jetty which stretched out into the Pond to launch boat-based training exercises.

Figure 5: Colin Gray (Chair of FPS, far right), Terry Austin (Vice-chair, Left) & Kevin Williams on the Lions' View

Figure 6: Lions' Viewpoint access friendly ramp

The platform is accessible to everyone with plenty of room for buggies, wheelchairs and mobility scooters. Visitors can enjoy a view across the Pond from an area that was not previously accessible.

The platform was designed by Fleet Pond Society member Phil Gower and produced by his local business, Cove Industries. It is built on a series of green oak sleepers set in the ground all on the same level. Upright steel galvanised tubes with flat bases are bolted to

them with a steel galvanised frame bolted to these, to make the frame that the decking sits on and the handrails are bolted to. The frame is strengthened with cross members in places. It is a similar framing system to that used to build seaside piers.

Countryside service workshop

The workshop is located on the western side of the site, accessed from Kenilworth Road via Old Pump House Close. The original building was constructed in 1970 and was shortened and refurbished in 1996 when the building was handed over for use as a joint base for the Countryside Service and Fleet Pond Society Conservation Volunteers. The building is used as a secure store for tools and equipment used in the management of the site. All Fleet Pond Society management tools and equipment, tables and games for Fleet Pond fund raising activities and some archive material is stored in this building.

There is also a shipping container for storage of equipment. In 2014 the side of the container was painted with a woodland scene. This has been very popular with children visiting the pond and has become a meeting point for some of our volunteer days, activities and events.

1.3. Physical

Climate

The annual mean temperature for North East Hampshire is around 10°C, or slightly above this where urban heating effects are a factor. Summer temperatures are high, the region being one of the warmest in Britain.The mean daily maximum temperature in July is about 21.5°C. The 25-year average is of 91 days per year when the afternoon maximum exceeds 20°C.

The mean daily temperature in January is about 4°C, but the mean minimum for the month is 1.2°C. These figures may be lower in a low-lying, wet site such as Fleet Pond. The average number of nights with air frost per year is 53, but ground frosts may double this total and occur in every month except July. The air frost-free period is late May until late September.

The average annual total of bright sunshine at Farnborough is 1510 hours: the monthly average varies from 206 hours (June) to 42 hours (December).

Rainfall is extremely variable, between a low of 3.1 mm (February 1993) to a high of 181.7 mm (November 1974). The mean annual average at Farnborough is 670 mm.

Hydrology

Fleet Pond lies in the catchment of the River Hart (see APPENDIX 3 for a map of the catchment area). It also lies within the Loddon Catchment Area (see APPENDIX 4 for a map). The single stream flowing from the lake and the Little Pond (otherwise known as The Club Pond), and which was the Millstream, is a tributary of that river. At one time several streams flowed into Fleet Pond, but changes to land management and drainage regimes required by the residential area on the western side of the lake, have reduced these to two main streams and a drainage ditch.

The Brookly Stream flows in from the south-west. It rises near Ewshot. This stream collects water from the surface drains in Fleet town and overflow from the Basingstoke Canal at the weir near Reading Road Bridge.

The Gelvert Stream flows in from the south. This steam flows down from the reservoirs at Bourley, the Long Valley army training area and the wet heathland on Crookham Common. It collects overflow water from the Basingstoke Canal, at the weir between Norris Bridge and Pondtail (just north of Norris Bridge).

The Wellington Ditch enters the lake from the west, just north of Wellington Avenue. This collects surface water from neighbouring properties, the southern part of the Business Park and local roads.

The water level is dictated by a fixed weir located in the north-west corner of the Little Pond. The crest is 17 metres wide and is currently set at 67.728 metres above Ordnance Datum sea level. There are water gauges at six locations around the lake. These are at the Flow Arch (0), Chestnut Grove Landing Stage (1), the mouth of the Brookly Stream (2), Kenilworth Wood – southern end (3), Gelvert Marsh edge, just west of Sandy Bay (4) and Boathouse Corner (5). The Ordnance Datum settings for 1 – 5 are set at 67.400 metres; The Flow Arch Gauge (0) is set at 67.728 metres.

A programme of the monitoring of water levels in the lake and wetter zones has been conducted on a weekly basis from 1996. A series of 9 dipwells are used in addition to the water gauges (see map in APPENDIX 5) These records are held by Fleet Pond Society and copies have been supplied to Hart District Council.

Data on the chemical composition of the lake is held by the Secretary, Fleet Pond Society. This data is taken from the Hydro-ecological Survey conducted by Ron Allen Associates (The Environmental Project Consultancy Group). Chemical analysis for water quality from various points around the lake was conducted by HDC and the Environment Agency on a monthly basis in 1996/97. This data is held by Hart District Council and by Secretary, Fleet Pond Society.

During the restoration project of the pond between 2010 and 2015 various data sets on hydrology and water quality have been produced by University College London and Johns Associates. These records are held by HDC.

Geology

The Local Nature Reserve and the land immediately to the north-west and everything south are on Downwash Gravel, overlaying clay and loam Bracklesham Beds. The Dry Heath and other eastern parts of the Nature Reserve are on Bracklesham Beds overlain by Barton sand. The Downwash Gravel is a variable form of flinty loam material derived from washings from the higher gravel terraces and probably accumulated towards the end of the last Ice Age.

The underlying Bracklesham Beds are considerably older Tertiary Deposits of marine origin. They are typically clay but generally include more loam and sand layers.

Fleet Pond lake will have recently water-borne deposits (alluvium) of loam and sand on the lakebed and extending a short distance up the valleys of the inflowing streams. This

material probably underlies the fringing wetlands which have a thin layer of humid grass and sedge peats at the surface.

Geomorphology

The site is relatively flat throughout, although rising sharply to higher flat ground in the east and north-east. To the west the land rises more slowly to the Basingstoke Canal. Higher land makes up the large tracts of MoD-owned land to the south. North through Ancells Farm to the motorway the land lies lower than the lake. The depression in which the Fleet Pond lake lies is shallow throughout.

Soils

Soils within the Local Nature Reserve are of a type 643a Holidays Hill. Allen (1995) identified the characteristics as typically natural very acidic sand over clayey and loamy profiles with impeded drainage and tending to lie wet in winter where rainwater accumulates at the surface. Locally there are more freely draining acidic sands.

The Hydrogeological Survey by Ron Allen Associates reports the following:
On lower ground the soils have pools of seasonal surface water. Close to the lake soils are wetter and increasingly subject to high ground water. In both cases peaty material develops but is seldom more than 50cm thick.

1.4. Biological

Fleet Pond has a diverse array of flora and fauna due to its range of habitat types on site. Recording began as early as 1870 and still continues today. Much information is held by Hart District Council and the Fleet Pond Society. This will not be discussed here in order to keep this management plan concise. However for records of survey's undertaken, species lists and more detailed information please see APPENDIX 6.

Communities

Fleet Pond Nature Reserve is a complex site incorporating several broad habitat types: aquatic, wetland and swamp, heathland, grassland and woodland. Two vegetation surveys of the reserve were undertaken by Hampshire Wildlife Trust surveyors in 1995, one by Mary Flatt in July and one by Neil Sanderson in September. The system used was the National Vegetation Classification (NVC) as defined in British Plant Communities (Rodwell - 1991, 1992, 1994). Local Botanist Chris Hall has undertaken a number of surveys in more recent years.

For a summary of current knowledge of vegetation communities at Fleet Pond please see APPENDIX 7. Further work is required, some named communities are tentative and further field work may identify additional communities.

1.5. Cultural

Archaeology & Past Land Use

No scheduled archaeological monument exists on the site but there is a lot of historical interest. Fleet town itself grew initially as a result of Fleet Pond's attraction as a site for recreation for Londoners. The pond was the reason for the building of a halt on the railway

line to Basingstoke. Many families, with their servants and employees, moved into the area to benefit from its healthier atmosphere. Thus, Fleet Pond played an important role in the early development of Fleet.

Fleet Pond is recorded as an important mediaeval fishery, and this remained its primary use until the 19th century. The first documentary evidence of the fishery is dated 1324, though it had probably existed for some decades already. Some trace of medieval use could possibly survive on the reserve or nearby. Earthworks, in the form of field and enclosure banks, exist to the east and south of the pond. These date from the seventeenth and eighteenth centuries and are evidence of the farmland that formerly existed. Modern banks originating from the 20th century military use are also present, in the vicinity of the Dry Heath.

To the east, south and west was common land until the Enclosures of 1817 and 1834. These areas would have been grazed by a variety of stock; probably including cattle, sheep, horses, ponies and possibly geese. There is no record of peat cutting but it may have occurred on a small scale.

After enclosure the heathland became part of Fleet Farm. Farm records suggest an attempt was made to plough the heathland south of the pond (using the ridge and furrow technique), but this was soon abandoned and the land reverted to heath.

The land was acquired by the War Department in 1854 and used for training purposes. Stone marker posts still exist on site, installed by the War Department to mark the boundary of their land ownership. The dry heath area was used as a summer camping ground and, later, as a storage compound. During the latter period a number of structures and tracks were constructed and remains of some of these can still be found.

Botanically, Fleet Pond and its environs became well known during the Victorian era when it was visited by many botanists, including the leading botanists of the day. Local botanists who visited Fleet Pond included: R. S. Hill from the 1850s to the 1860s whose herbarium is now at the Natural History Museum, Kensington; Miss Charlotte Palmer collected from 1860 to 1905, her herbarium is now at the University of Oxford.

In 1912 the Royal Aircraft Factory at Farnborough used Fleet Pond for hydroplane (floatplane) trials. The soil ramp used to launch these prototypes still exists on the eastern side, where the Lions' View has been built.

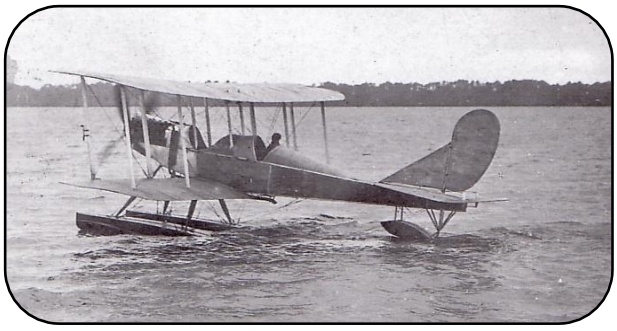


Figure 7: Geoffrey de Haviland tested several designs of floatplane on Fleet Pond from April 1912. Several he actually flew himself.

In the early 1960s the Property Services Agency (then land managers for the Ministry of Defence), attempted to convert the heathland between Westover Road and Guildford Road to forestry by planting Western Hemlock. Most of the crop succumbed to fires or shade from native trees and the area has remained as heathland.

In the early days of Fleet as a town, Fleet Pond was used for informal recreation. Walking, fishing, swimming. picnicking, ice skating, games on the ice (e.g. hurling, ice hockey), boating and nature study have all been undertaken over the years.

Present Land Use

Fleet Pond Nature Reserve is managed primarily as a Local Nature Reserve with an extensive area of SSSI (some 80% of the total area). A visitor survey was conducted in 2012 (please see APPENDIX 4 for the full Customer Survey Analysis Report) which found public use was mainly for informal recreation including walking, dog walking, jogging, and cycling. However it is also a valuable amenity for nature study, bird watching, fishing and limited boating. Schools, local colleges and organised groups use the site for educational purposes. The site is a resource for survey work and species monitoring and recording. Please see section 5 (public engagement) for further information.

Present Conservation Status

Fleet Pond was notified as a Site of Special Scientific Interest in 1951 under the 1949 Act. The boundary of the SSSI was revised in 1978 to cover an area of 48.5 hectares. The revised area was re-notified in 1984 under the 1981 Wildlife and Countryside Act. Wood Lane Heath and Brookly Wood, although not part of the SSSI, are designated as SINCs (Sites of Importance for Nature Conservation). Fleet Pond was designated a Local Nature Reserve in 1977 excluding the area known as Brookly Wood. This area has been added to the LNR designation with effect from 1999.

Environmental Relationships & Implications For Management

Fleet Pond Local Nature Reserve supports a mosaic of habitats in a relatively small area. Habitats such as reedbed, fen, marsh and heathland are, by their very nature, a transitional stage in the process of succession. This natural succession has to be managed in order to maintain the diversity of habitat.

A key characteristic of Fleet Pond LNR is its hydrology. Apart from the open water itself, many of the communities have a hydrological dependence, namely the reeds, fen, marsh, moist heath and waterlogged woodland. The marginal habitats are subject to accelerated succession. Scots pine and birch trees are intruding into the open heaths and alder and sallow into the wetter habitats. The soil levels are subject to build up by accumulated leaf litter, which offers increasing opportunities for tree seeds to germinate. The build-up of vegetative litter raises the soil levels in marshes and reedbeds thus reducing saturation. The saturation level of the reedbeds and marshes has been further reduced by the replacement of the original weir outlet by a much wider construction which has permitted larger volumes of water to leave the lake to the detriment of the water levels.

The fish species present in the lake have reduced in number as a result of reduced aquatic flora and invertebrates. The two main feeder streams have a direct impact on the water quality of the lake. The Brookly Stream, though originating in relatively rural countryside near Ewshot, flows for much of its course through the built-up areas of Fleet and Church Crookham. It carries pollutants to the pond in the form of road run-off (e.g. rubber, oil residues, salt), organic detritus from gardens, leaves, residues of garden chemicals (fertilisers, pesticides, herbicides), similar residues from the sports field at Oakley Park, seeds of exotic garden plants and urban litter. The most significant problem is incidents of the sewage pumping station at Avondale Road flooding and over spilling into Brookly Wood and stream. This ongoing risk will be reduced as part of the Fleet Pond Restoration Project (please see APPENDIX 2 for the full project document). The Gelvert Stream, though flowing mostly through semi-natural landscape, does flow under two roads (Bourley

Road and Aldershot Road) and across Tweseldown Racecourse, so is likely to carry traces of chemical pollutants. The natural sources of the Gelvert Stream lie in acidic wet heathland, but one branch carries surface run-off from Long Valley. This area has been subject to severe erosion as a result of heavy use by military vehicles, including tanks. The exposed sub-soils of fine clays and silt are not acidic (or any acidity is only slight). Until improved settlement areas were created in 1994, large quantities of this material were carried down to Fleet Pond. Substantial amounts still reached the pond in subsequent years, especially following heavy rain. In the last two years the Gelvert Stream has been diverted to reduce the level of silt entering the pond as part of the Fleet Pond Restoration Project (please see section 1.3.6.). Both streams receive overflow water from the Basingstoke Canal, mainly during autumn and winter. This is slightly alkaline and thus has implications for the quality of the water reaching the naturally acidic habitats of Fleet Pond.

On the western side of Fleet Pond LNR is an area of dense housing. The human impact and urban fringe implications of a heavily developed residential area are evident. Much use is made of the footpath network for walking, particularly dog walking and cycling. Some illegal dumping occurs both of garden refuse and fly tipping. Vandalism occurs at times. There is increasing pressure from dog walkers, especially with the rise of commercial dog walking industry and the recent restrictions on the neighbouring MOD land on licensing. A consultant will be commissioned to carry out a dog walking analysis of the pond to evaluate the added pressure and how it may affect the Nature Reserve. A consultation will then take place and a policy put in place over the next two years.

Disturbance and fragmentation have implications for sensitive sites. Fragmentation of habitats and trampling and impacting of soils have implications for ground flora and tree roots.

Light pollution is significant, particularly from the railway car park, but also from residential streetlights, security lights on industrial and business premises and homes along the western and northern margins. This has implications for the ambience of the Reserve and, more significantly, draws flying insects away from the area. This is particularly significant from high tech office blocks along the boundary of the reserve as part of the Waterfront Business Park. The developer has undertaken to reduce light output where possible.

Surrounding Landscape

The Local Nature Reserve lies within the Strategic Gap between Fleet and Cove/Farnborough as designated in the Hart District Council Local Plan (Replacement) 1996 to 2006 Saved Policies.

The landscape surrounding the site is described as follows:

Northern boundary: Fleet Pond L.N.R. is bordered along the entire northern boundary by the mainline railway (Waterloo to Southampton line) and the accompanying two storey car park. Beyond the railway line to the north is the Little Pond (10 ha) and the outlet weir to the millstream. Extending around the Little Pond is housing and a restaurant serviced by an A road (A3013) from Fleet to Cove, Farnborough and Junction 4a of the M3 motorway. A little to the north of the A3013 lies Ancells Farm Nature Reserve, an area of wet heath managed by Hampshire and Isle of Wight Wildlife Trust.

Western boundary: Along the entire western boundary lies a major residential area within the town of Fleet. The landscape character of this established part of Fleet is suburban. Six roads along this side of the Nature Reserve terminate at the boundary of the LNR. The north-west corner of the site is bounded by a small business and industrial estate next to Fleet Station. This estate occupies an area which was once a flash and part of Fleet Pond SSSI.

Southern and eastern boundaries: The landscape immediately bordering the LNR is wooded, consisting mainly of Oak, Birch and Pine. There are two large fields, formerly arable, in the central eastern section. In this area the topography changes from the low-lying levels around the pond and starts to rise with gentle undulations. All land on the southern and eastern boundaries is a Ministry of Defence training area and is managed by the Defence Estates Organisation based in Aldershot. Heathland glades exist within the scrub and woodland to the south and, to the east, Bramshot Common includes a large open area of heath and Gorse. Directly bordering the wet heath at the south east corner of the reserve is another area of wet heath which is managed and grazed by Hampshire and Isle of Wight Wildlife Trust and is designated as a SINC.

1.6. The Restoration Project

To see the full report please refer to the Fleet Pond Restoration Project, compiled by Johns Associates Environmental Consultants on behalf of Hart District Council, held on HDC's internal systems.

The Fleet Pond Restoration Project is a £1 million project led by Hart District Council, which resulted from 15 years of hard planning by HDC Countryside Services and the Fleet Pond Society, in partnership with Natural England, the Environment Agency and the Ministry of Defence.

The wildlife at Fleet Pond was in steady decline, as run off and streams flowing in from the surrounding areas led to a build-up of silt, reducing the quality of the water and aquatic life. The Restoration Project was needed to improve the wetland habitats and restore the Site of Special Scientific Interests aquatic flora and fauna.

Some of the key objectives of the Restoration Project included:

- Prevention of silt and debris entering Fleet Pond through Gelvert Stream by creating a stream diversion
- Rotational dredging and island creation
- Protection of reed bed margins from geese grazing
- Fish exclusion zone to encourage growth in the population of algae grazing zooplankton

The Project was funded by Natural England's Higher Level Stewardship Grant, the Water Framework Directive, the Conservation and Enhancement Scheme, Environment Agency grants and developers' contributions.

Much of the sediment that was dredged from the lake was used to create 26 new islands and reed bed extensions that are now refuges for breeding birds and other wildlife. Many bird species started breeding, with common terns and black headed gulls nesting and visiting wading birds such as lapwings and little ringed plovers.

The Project received an award for its outstanding work and has been recognised by the Institute of Civil Engineers (ICE), making the project the winner of its Sustainability and Environment Award.

Part of the Restoration Project was the Fleet Pond Society's Clearwater Campaign. This campaign was in partnership with Hart District Council, Natural England, the Environment Agency and other interested parties. As well as helping to fund and promote the Fleet Pond Restoration Project, the Clearwater Campaign also included projects to benefit people, by providing more seating, more and better information boards, the improvement of footpaths and bridges and repairing and installing more fishing jetties.

1.7. Ecological Enhancements Project

To the west of Fleet Pond a development consisting of 1500 units (Hartland Park) was approved as part of Harts emerging Local Plan. There is a requirement with the Hartland Park development's agreed S106 to provide biodiversity enhancements (above and beyond statutory requirements) at Fleet Pond (as well as other activities).

The study for ecological enhancements, completed in July 2021, aimed to highlight potential areas for restoration which would take into consideration the current pressures and influences as well as future threats which can affect the long term sustainability of Fleet Pond.

Five key objectives were used to help define, prioritise, and drive forward any additional restoration opportunities, they are as follows:

1. Ensure biodiversity restoration, conservation and enhancement occurs to the maximum extent possible – delivering an overall biodiversity net gain through all activities associated with Fleet Pond and supporting the SSSI to meet Favourable Conservation Status.
2. Expand and integrate nature-based solutions for flood, sediment and water quality management (including climate change) as a priority and preference.
3. Building in enhanced biocarbon capture and ensure long-term carbon storage if achieved through management activities.
4. Promote and enhance recreation, health and wellbeing (within the context of successful delivery of the other objectives).
5. Facilitate and communicate the wider socio-economic benefits from ecosystem services through the delivery of these objectives.

A total of 62 restoration opportunities were proposed, each was then categorised in terms of the first four objectives as detailed above (excluding socio-economic). Depending on how many of the objectives can be delivered by each opportunity, a ranking of 1 to 4 is given (1 [highest] = all objectives delivered; 4 [lowest] = one objective delivered).

Those opportunities that deliver on all categories have been reviewed and are considered to have the highest positive and integrated impact through biodiversity restoration, bioengineering or other accelerated means. These should be seen as the key priority measures to be delivered.

SECTION 2 – MANAGEMENT & SITE FEATURES

Fleet Pond Local Nature Reserve is a site with habitats that are considered rare in lowland Britain. In a wider perspective the Nature Reserve has importance as an example of a landscape which is in decline in the UK.

Management priority must be to conserve the mosaic of the site and the individual habitat components as important examples of their type.

1. Management Aims

In order to enhance and maintain the features of the site, 7 main aims have been identified.

1. To optimise the biodiversity of wetland, woodland, heathland and grassland habitats.
2. To safeguard all rare and notable species.
3. To reduce and control non-native plant species.
4. To maintain the water level and saturation of wetland at a level which is of maximum benefit to wildlife but which meet both statutory requirements and non-statutory obligations.
5. To maintain the accessibility and safety of the site for public use, promoting health and wellbeing, without compromising the nature conservation interests.
6. To provide interpretative facilities that will develop an awareness and understanding of the natural history of the site and educate users.
7. To meet all legal and other obligations.

1.1. Management Rationale

A nature reserve exists to serve a number of functions. It preserves examples of plant and animal communities which are rare, unusual or which are no longer commonplace. It will usually support populations of species which are also uncommon or rare, even if this applies only in a county context. A nature reserve should provide diversity and support many species in a small area. It should act as a reservoir and refuge from which species can spread to the wider countryside.

In order to maintain optimum diversity, a nature reserve requires management. To target management most effectively to the benefit of the widest variety of species a management plan is an essential tool. Few nature reserves are large enough for the natural process of succession, death, decay and regeneration to provide sustainable diversity. Fleet Pond Local Nature Reserve supports a variety of habitat types within a very small area. To maintain this unique mosaic of differing habitats, carefully planned, monitored and reviewed management is essential.

1.2. Management Options

The main aim is to maintain and enhance the wide diversity of habitats existing at Fleet Pond Local Nature Reserve. The designation of the area as a Site of Special Scientific Interest recognises the variety of species recorded on the Reserve. The variety of flora and fauna is dependent on the maintenance of this diversity.

The first objective of management should be directed to meeting the requirements of species currently present and those which might be expected to re-colonise if conditions become favourable. Account must be taken of traditional public use of the Reserve and the need to minimise impact on sensitive areas, while not impeding this access.

Varying methods of habitat management are reviewed in APPENDIX 8.

1.3. Vision

Fleet Pond LNR and SSSI is a site of excellence and a beautiful open space for people to enjoy. Whether for a dog walk, a day out with the kids or some wildlife watching it is open to everyone. The water body and surrounding habitats are a haven for wildlife attracting many species of birds, invertebrates and mammals and acquiring Favourable Status as the highest SSSI designation. Natural play is encouraged and accessible by all and interpretation is original and inspiring. The reserve holds a Green Flag Award and is recognised as a site of distinction that Hart District Council can be proud of.

A crucial part of the work of Hart Countryside Services is to make the experience of visiting the countryside come alive. There is a welcoming ranger team, lots of opportunities to join in guided activities, volunteer and to learn more about the natural world. A visit to a Hart Countryside site is a special experience. Providing an excellent service for our visitors is a core value for Hart Countryside Services. The Ranger team is committed to making this available to everyone, regardless of age, disability, gender, race, religion or belief.

2. Site Features

2.1. Overview Of Site Features

Ten features have been identified on site. These are:

1. The Lake
2. Islands
3. Streams and Ditches
4. Reedbeds and Fens
5. Marshes
6. Wet Heath
7. Dry Heath
8. Wet Woodland
9. Dry Mixed Woodland
10. Invasive Species

A full description of each feature follows in section 2.2.3.

2.1.1. Rarity Of Features

Many wetlands have been drained during the twentieth century for agricultural and commercial purposes. As a result the wetland habitat found at Fleet Pond Local Nature Reserve is rare in lowland Britain. Wetland habitat loss has led to the loss of many of the unique species associated with this specialist habitat. The extensive reedbeds of *Phragmites australis* are rare. Reedbed birds have subsequently become rarer. The bittern is one example. Bitterns have been recorded as winter visitors at Fleet Pond

regularly in previous years, as well as Cetti's warblers. Reed warblers breed regularly. For a full list of red and amber listed bird species recorded at the pond please see APPENDIX 9. There is also evidence of harvest mice nesting in the reedbed habitat, a Biodiversity Action Plan priority species.

Heathland was once widespread throughout Britain and was a common landscape of lowland. Land development for farming, housing, commerce and industry has meant that heathland has all but disappeared from many counties. A map of Fleet Pond dated 1844 shows the lake to have been largely surrounded by heathland, extending through to Yateley. Most of the heathland to the west has been lost to development. To the east and south heathland, fragmented by woodland, exists on land owned by the Ministry of Defence.

2.1.2. Fragility Of Features

Fragility as a criterion implies that a site is susceptible to damage. This is true of wetland and heathland habitats on the site.

Wetland is a habitat subject to damage through reduced water levels, pollution entering from the feeder streams and trampling. Reduced water levels leads to drying out of reedbeds and marshes and increased succession to scrub and woodland. Pollution damages flora and fauna in reedbeds, marshes and the lake itself. Intrusion into reedbeds also disturbs breeding and roosting birds.

Heathland habitats have poor soils and are very susceptible to trampling. Flora suffers from grazing by rabbits and deer. Both roe and muntjac are recorded as feeding within the reserve; the latter include the low flowering plants in their diet.

There are two basic woodland types: wet carr woodland around the lake edges and dry woodland in the eastern section in the Sandhills and Dry Heath compartments.

Wet woodland will decline if water levels and soil saturation are not retained. Dry woodland is more robust but, in some areas, lacks a diverse under-storey. This is particularly evident in young woodland where close-growing trees reduce light penetration to underlying soils.

Features can also be susceptible to damage by people and dogs etc. Therefore, certain areas have been designated as wildlife sensitive areas that are not open to public access.

2.2. Factors Affecting The Management Of The Features

2.2.1. On Site Natural Factors

Natural factors affecting the Local Nature Reserve are placed in two categories; positive trends which can assist long term objectives and negative trends which hinder long term objectives.

Negative trends

Fen and marsh communities - The trend is towards natural succession to wet woodland by the invasion of trees, mainly alder and sallow, by seeds and rootstock. Scrub develops from seedling trees and stumps left from felled trees. Without management secondary woodland develops attributable to:

1. Soil nutrient levels raised by the accumulation of leaf litter;
2. Seeding of trees from bordering woodland into the drier soils;
3. Loss of the level of soil saturation from raised soil level and the extraction of water by the trees.

Reedbeds - Reeds are very productive vegetation. They build up large quantities of leaf litter which raise soil level. The result is the loss of standing water among the reed stems and creation of dryer soils into which trees and other plants will seed. Tree scrub creates shade which eventually kills the reeds and aids the process of succession to woodland.

Natural succession would lead to the extension of the reedbeds into the open water, reducing the open water habitat. At Fleet Pond Local Nature Reserve this natural extension of the reedbeds occurs slowly. Possible reasons for this include grazing by Canada geese; others are suggested under 'external factors' below.

Heathland and grassland - Natural succession occurs in these open areas. These drier habitats are subject to the invasion of birch scrub and scots pine seedlings. Faster growing, more vigorous species e.g. purple moor grass, bramble, and bog myrtle can colonise open areas and smother slower growing, more fragile species.

Positive trends

Woodland - Within Fleet Pond Local Nature Reserve the woodland is at various stages of the successional process. Most is secondary woodland but there are good indications of a natural succession to oak dominated woodland, particularly along the eastern side of the Reserve. Here there are also indications of a development of hazel under-storey in the drier areas.

Brookly Wood has some good specimens of beech and Kenilworth Wood is an excellent example of crack willow wet woodland.

Alder carr is of excellent habitat quality along the western edges of the lake.

2.2.2. On Site Man-Induced Factors

The most significant man-induced trend on the site has been the imposed changes in water level. The level was lowered by one foot in 1964 (from 223.3 ft./68.0 m to 222.25 ft./67.742m) to permit the infill of the flash and construction of the industrial estate. It was lowered again in 1965 (to 222.0 ft./67.666m). The water level is currently fixed at 67.728m (222.2 ft.) OS Datum level by a fixed crest weir 17m wide which is outside the boundary of the Nature Reserve at the outlet from the Little (or Club) Pond. The weir is in Hart District Council ownership.

The result of lowered levels has been an acceleration of the drying out process of the wetland areas which, in turn, accelerates the succession of tree invasion and dry soil species e.g. bramble.

Erosion from visitor pressure is most evident on the eastern side of the Reserve. The embankment within the woodland has significant erosion from cyclists riding all-terrain cycles and from walkers breaking new paths through vegetation. This erosion may lead to loss of mature trees from soil loss if not controlled. Heathland areas are also prone to erosion and trampling from walkers. The result is loss of vegetation, new "desire lines" which encourage further intrusion and damage to peripheral species.

Introduced exotic flora is evident, mainly along the western edge as a direct result of illegal dumping of garden refuse. Some exotic species find their way into the reserve from seeding garden plants in gardens along the course of the Brookly Stream, as well as seeds being brought in by wildfowl, dogs and people such as *Crassula helmsii*. Invasive species are dealt with under Feature 10.

2.2.3. External Factors

A site such as Fleet Pond, which has an extensive wetland fed by feeder streams flowing from outside the Nature Reserve boundary, is particularly susceptible to external factors.

Data collected by the Environmental Agency shows that there is significant silt pollution from the Gelvert Stream. This enters the Reserve from the adjacent Ministry of Defence lands to the south. The Gelvert Stream collects surface water from the military track vehicle testing area at Long Valley. The effects of deposition of silt at Fleet Pond have been:

a) settlement on the lakebed significantly reducing depth.
b) fine silt particles remain for long periods in suspension reducing light penetration. This has led to the loss of virtually all aquatic vegetation and its dependant fauna over much of the lake.

The effects of silt pollution have been reduced by the diversion of Gelvert Stream as part of the Restoration Project.

The Brookly Stream enters the Reserve from the west. This stream collects surface water from the developed areas (housing and commercial) of Fleet town. This stream is therefore highly susceptible to pollution. Much vegetative debris (leaves and garden refuse) is deposited at the mouth of the stream. Pollutants from road surfaces will include salt from winter road treatment, oil and plastics, rubber from vehicle tyres and garden treatment chemicals.

The growth of population from the expansion of the settlement boundaries of Fleet and the surrounding towns has led to increasing visitor numbers. This includes regular visitors, e.g. dog walkers, who may visit more than once per day. Over half of the Reserve is open water and wetland so it is the terrestrial habitats which have to absorb the visitor pressure.

Visitor pressure is controlled mainly by the primary and secondary footpath network. Where erosion and intrusion caused by visitor pressure does occur, fencing (post and rail or chestnut paling) has been erected as a control measure.

People counters were installed on site for a monitoring period of three years, from 2015 to 2017. From the counters, we can estimate visitor numbers to be approximately 250,000 visits a year. This is likely to have risen. As part of the Green Grid works, two people counters will be installed at either end of the new path, to monitor the use of this improved route. The counters will also count bike movements.

2.2.4. Factors Arising From Legislation Or Tradition

Successful management and the safeguarding of the site will be dependent upon compliance with the following list of both legal and non-legal obligations:

Wildlife and Countryside Act 1981

Natural Environment and Rural Communities Act 2006
There is an obligation to consult Natural England before any work is undertaken which may affect the special interest as identified in the list of Potentially Damaging Operations (PDOs). The work set out in this Management Plan will be agreed with Natural England and therefore permission should not need to be sought again. Natural England's general purpose is to ensure that the natural environment is conserved, enhanced and managed for the benefit of present and future generations, thereby contributing to sustainable development.

National Parks and Access to the Countryside Act 1949
Power is given to a local authority for the establishment and maintenance of the nature reserve and to make provision for the recording, creation, maintenance and improvement of public paths and for securing access to open country.

Countryside and Rights of Way Act 2000
An Act to make new provision for public access to the countryside.

Occupiers' Liability Act 1957
The Occupiers' Liability Act imposes an obligation on Hart District Council to ensure that every reasonable care is taken to remove any risks to both legitimate visitors and to any trespassers on the site. In compliance it will be necessary to:

1. Ensure that all footpaths, boardwalks and any other construction are safe;
2. Remove any hazardous objects;
3. To conduct a safety audit in order to identify any further hazards.

Health and Safety at Work Act 1974
All operations carried out on site must be undertaken by, or under supervision of, trained personnel, using methods and equipment approved by the Health and Safety Executive and in compliance with the Hart District Council Countryside Sites Health and Safety

Statement. A safety audit of the Countryside Service was carried out in 2012 and is held as a separate document.

Hart District Council Safeguarding Policy
The HDC Safeguarding Policy imposes an obligation for countryside staff to be vetted under the requirements of the policy by means of a DBS check, before being left in the sole charge of children aged 16 years or less (as well as vulnerable adults).

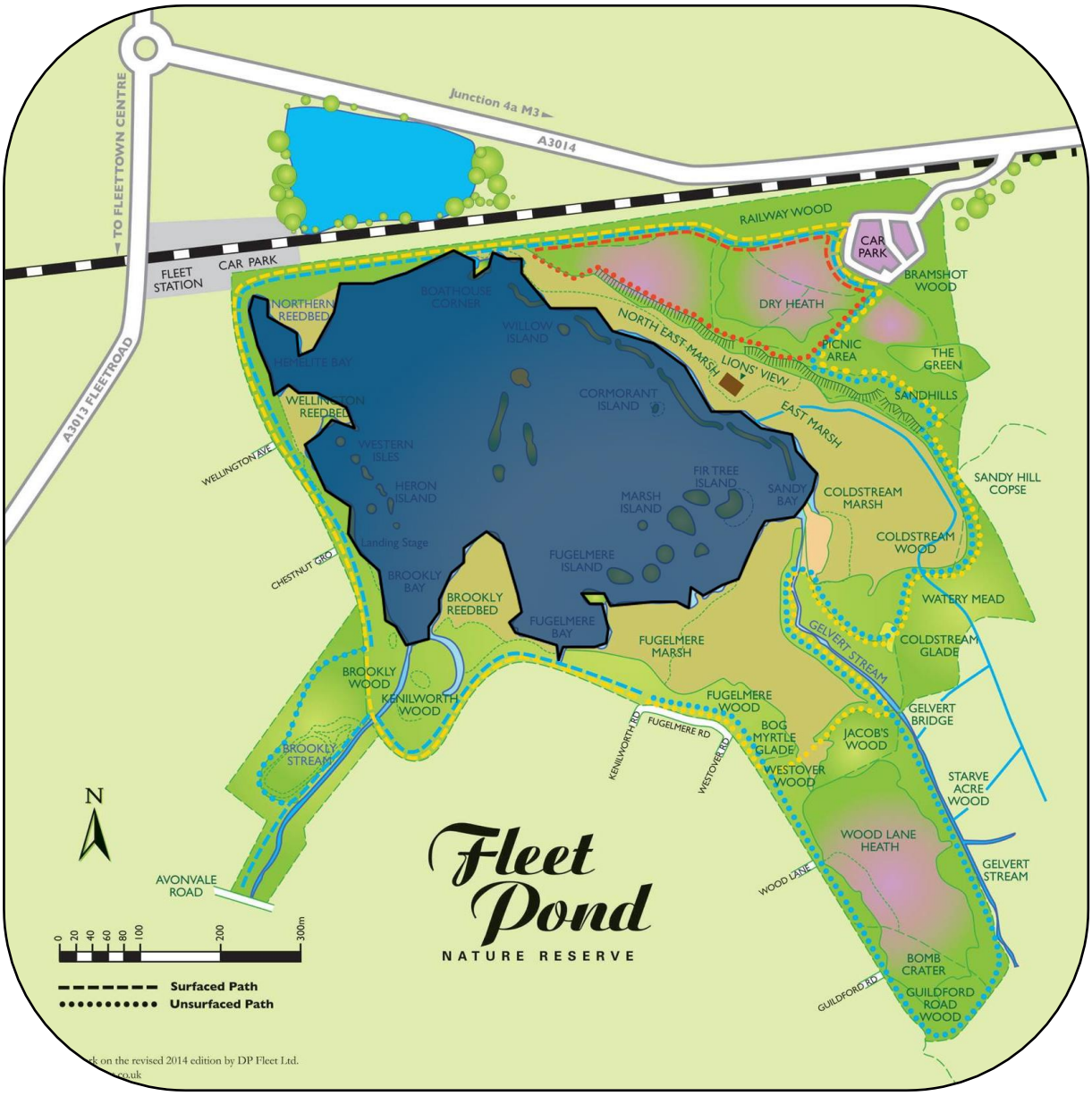
Environmental Agency
The Environmental Agency must be consulted in cases where management techniques require the use of chemicals on or in proximity to water and if any works may affect the flow of water to and from the pond, i.e. a new bridge over a stream. EA permits may also be required for any dredging operations.

Non-legal Accepted Practice
Fleet Pond Society will be consulted on any management proposal for the site.

Legal obligations of others
Visitors to the site are required to comply with the Nature Reserve by-laws when on site, unless these conflict with any of the above laws.

2.3. Site Features Information

FEATURE 1: MAP 2 – The Lake



Conservation status and importance

The Pond is designated SSSI and LNR. The whole site is important for the local community, but it is perhaps mainly the lake which draws visitors to the site. Being Hampshire's largest freshwater lake, it has a very high profile in the local and wider community. It provides a valuable amenity for those who want to fish, feed the ducks, bird watch or just take a walk.

Its current condition is classed by Natural England as ‘unfavourable recovering.’

Figure 8: Sunset over Fleet Pond

Description

The pond covers about 20 hectares and along its fringes is mainly wet woodland and reedbeds. Approximately 26 islands are found in the pond, which are a mix of wet woodland, reedbed (including reedbed extensions) and a gravel topped island for nesting terns and gulls (see feature 2). The reedbeds suffer from grazing by geese and other wildfowl. In an effort to reduce this, bogbean has been planted around reedbeds to prevent the geese from getting to the reeds. This has proved successful, and this also provides a valuable habitat for aquatic invertebrates.

Two streams run into the pond, Brookly stream from the southwest into Brookly Bay, and Gelvert stream from the south east into Sandy Bay. The water in both of these streams is alkaline and consequently alters the pH of the water body itself from acidic to slightly alkaline. The surrounding habitats, and the Pond itself, are based on acidic soils with acidic standing surface water in the wetter areas. However, as water levels rise in the winter months, flooding the wetland habitats, the conditions are changed from acidic to alkaline. The alkalinity should be reduced to prevent these seasonal changes from occurring.

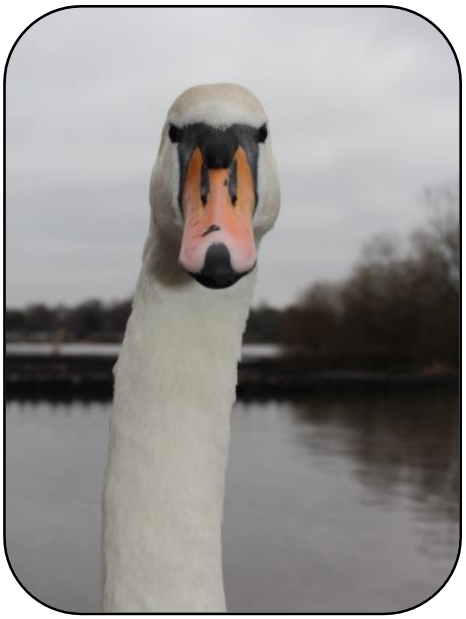


Figure 9: Mute Swan

There are 9 dipwells located around the site as part of a water level monitoring programme (See APPENDIX 5 for locations). These allow for the measurement of the upper level of the groundwater table and are monitored at regular intervals. Results from this are held separately to this plan, as is The Environmental Project Consulting Group report, “Hydro-Ecological Study and Groundwater Monitoring Scheme” (Allen, 1995) which contains further information on the Hydro-Ecology of Fleet Pond and the dipwells.

In order to increase aquatic vegetation in the pond a fish exclusion zone was created in 2014. This is situated between Chestnut Grove and Wellington Reedbed. This acts as an aquatic plant nursery ‘mesocosm’ within the SSSI. The aim is to promote the establishment and monitoring of a variety of Fleet Pond aquatic plants and should provide a marker of how the water should look between the islands.

Figure 10: Black headed gull

A list of rare and notable plant species can be found in APPENDIX 10. Many of these species have declined over the years and some have vanished altogether. The lack of aquatic vegetation makes the species that are found valuable, even though some are common.

Daubenton's bats are often seen hunting over the surface of the water, and other bat species are known to use the water as a hunting ground.

Vision

The pond holds a healthy, sustainable fish population that enhances the biodiversity of the lake. It is well balanced with predators such as pike and perch species, keeping small fish numbers low, so that Zooplankton can increase and support the wider food chain. All of the notable SSSI aquatic flora species are thriving, and invasive species are under control.

Inlets cut into the reed beds are creating refuges for fish and wading birds. Transitional stages from reedbed to lake are frequent, allowing aquatic flora and Odonata to be abundant. Natural refuges for fish, such as fallen trees and scrub in a few areas, are helping manage populations and fishermen are happy with the variety and quality of their catches from minimal jetties on the Northern end of the Lake.

Pollution has significantly reduced from any inflows. The lake is less eutrophic, and oxygen is at a healthy level to support a greater diversity of life.

Performance Indicators

Based on HLS indicators of success, these performance indicators give an indication as to the status of the feature. When the factors and attributes of the feature as listed below are found to be within the upper and lower limits, the feature is said to be in favourable conservation status.

- Cover of undesirable species over whole of feature
  Upper limit = 2%
  Lower limit = none set

- Cover of woody scrub on reedbed edges
  Upper limit = 10%
  Lower limit = 2%

Management

Management Options	Notes on Management Tasks	Time and Resources
Scrub control	Scrub around the edges of the reedbeds should be controlled to prevent it from encroaching into the water. Some trees such as willow may be coppiced on the water's edge to provide valuable habitat. A rotational scrub control plan is in place for the islands	Sep – Mar Ranger / volunteers
Undesirable species control	Please see Feature 10	As and when Rangers / Volunteers
Mechanical management	Large scale dredging took place in 2012/13. However, small scale dredging can take place in certain areas where the silt can be removed by mechanical diggers. This form of dredging may be necessary around islands and reedbeds to create varying depths of silt for wading birds and control water flow and quality, as well as discouraging public access to sensitive wildlife areas.	As and when Sep – Mar Contractors
Plant native water lilies	10 groups of 5 native water lilies (50 in total) to be planted in pre-determined locations. Two groups of lilies will be planted in the sheltered western area of the pond with the remaining eight groups to be planted in mid-water areas, see Map 12	Sep – Mar 2022-2023 Contractors
Install plant nursery protective cage	One protective cage installed to support the re-establishment of the newly planted water lilies along the western edge, see Map 12	Sep – Mar 2022-2023 Contractors
Install floating vegetated island rafts	Five floating vegetated islands to be installed with four positioned within the main water body, away from existing islands and one within the sheltered western edge, see Map 12	Sep – Mar 2022-2023 Contractors
Install woody debris reef	A total of 220m of woody debris reef to be installed in front of the floating marginal biohavens (see below) and along the western sheltered area, see Map 12	Sep – Mar 2022 – 2023 Contractors
Install floating marginal biohaven	Four floating biohavens are to be secured to the four man made mid-lake islands, totalling 180m. The biohavens will be partly pre-established when installed, see Map 12	Sep – Mar 2022 – 2023 Contractors

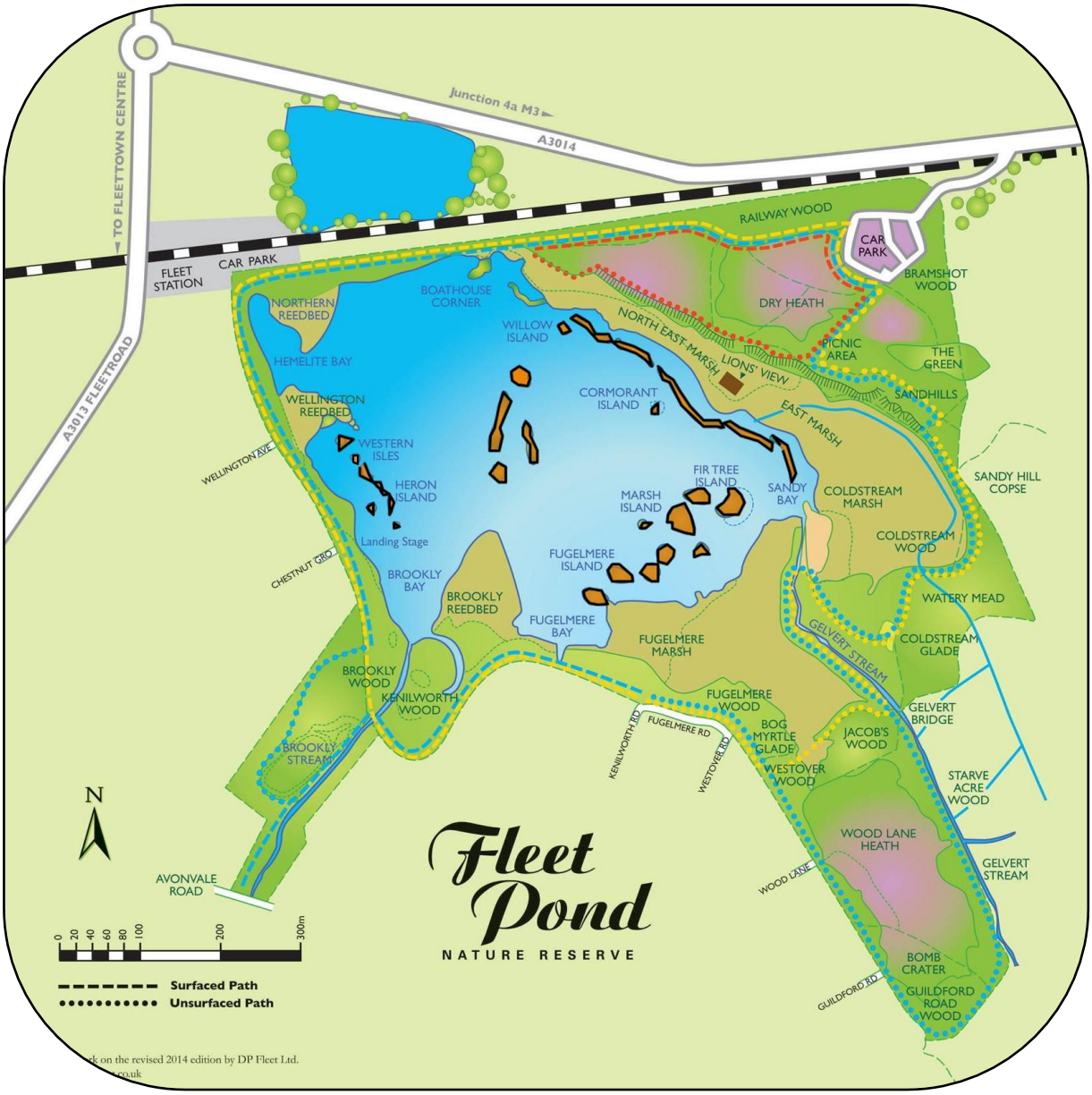
Bogbean translocation	Existing areas of bogbean to be re-located to pre-determined locations on site, see Map 12	Sep – Mar 2022 - 2023 Contractors
Planting reed plugs	Plant 100 reed plugs in suitable island/marginal locations (see Map 12) reed plugs are to be harvested from location within the reserve.	Sep – Mar 2022 – 2023 Contractors

An action plan for management tasks follows in Section 3.

Monitoring

Condition assessments annually
Water quality monitoring as and when required – nitrogen and phosphorous levels
pH monitoring as and when required – should be pH neutral
Invertebrate surveying every 5 years (Yr. 2) – as resources allow
Ornithological surveying – as resources allow
Botanical surveying every 5 years (Yr. 1) – as resources allow

FEATURE 2: MAP 3 – The Islands

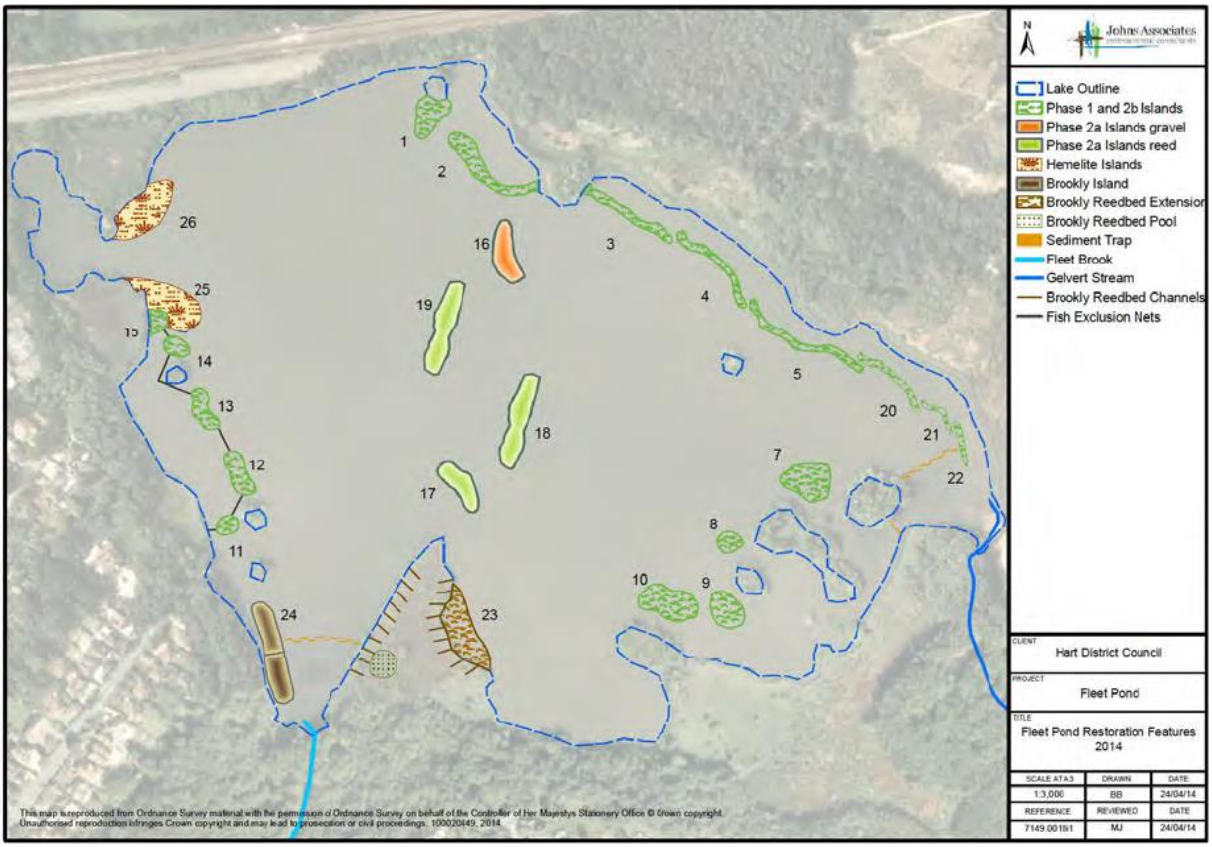


Conservation status and importance

The islands provide a refuge for breeding birds, especially common terns, an RSPB amber listed species. The islands also attract lapwings, oystercatchers, lesser black backed gulls and little ringed plovers which have schedule 1 protection. Some of the islands central positions will provide undisturbed habitat for migrant waders. For a list of red and amber listed bird species that have been recorded at the pond please see APPENDIX 10.

Description

Twenty-six islands and reed bed extensions were created as part of the Restoration Project, which has added more secure habitat for birds and other wildlife at the reserve. The map below shows the locations of the islands as well as giving them a corresponding number.



Clearwater Island (number 16 on the above map) was topped with geomesh and a layer of shingle in 2013 and has been successful in attracting common terns and black-headed gulls.

Some islands have suffered from encroaching scrub; this will be brought under control and there should be planting of reedbed habitat to encourage species such as bittern. Hollowed out areas within the islands may help reeds to become dominant and some islands have been lowered for this purpose. Wellington and Northern reedbed extensions have been planted with reeds transplanted from The Flash.

The control of invasive species is required as ongoing maintenance. Chicken wire, that was installed to help stabilise the islands, should be removed when reedbed vegetation is established. This may be replaced with wooden faggots. Bare earth on some of the smaller islands, that have been inserted to reduce wave action across the pond, would benefit some waders.

In addition, creation of a 50-metre-long dog proof fence along the length of the Sandy Bay embankment (created as part of the Restoration Project) is required to prevent disturbance to nesting birds and other wildlife in the fringing islands and reedbeds.

There are also seven older islands which are demarked by a dashed blue line in the above map. These support a heronry as well as other bird species such as cormorants. The majority of nests on Heron Island are currently centred on a few large mature trees, including a large fir. To ensure that the heronry remains viable into the future, several younger trees near to the existing trees should be allowed to grow to maturity. The closer they are to the current site the better. Herons will choose to nest near to or surrounded by water in most cases, so ideally the trees selected should reflect this preference.

Vision

Figure 11: Established islands

The islands are a safe haven for breeding birds with common terns nesting on site and birdlife such as little ringed plovers, oystercatchers, lapwing, common redshank and over wintering bittern. They are free from scrub and invasive plants and help to reduce the wave motion over the surface of the pond. They create pockets of refuge for young fish and other aquatic species. The islands support a healthy cover of common reed and other native wetland plant species. They are easy to maintain, with appropriate vegetation supporting the edges and growing in the varying depths and water levels achieved.

Performance Indicators

Based on HLS indicators of success, these performance indicators give an indication as to the status of the feature. When the factors and attributes of the feature as listed below are found to be within the upper and lower limits, the feature is said to be in favourable conservation status.

- % of Common Reed over whole of feature
  Upper limit = 80%
  Lower limit = 60%

- Common Reed stems per m^2 within area of dominant reed
  Upper limit = none set
  Lower limit = 150 stems

- Height of Common Reed prior to cutting
  Upper limit = none set
  Lower limit = 100cm

- Cover of scrub (over whole of feature)
  Upper limit = 10%
  Lower limit = 0%

- Reedbed should be covered by surface water November – March
  Upper limit = 95% coverage, 100cm deep
  Lower limit = 50% coverage, 30cm deep

- Area of reedbed allowed to remain dry during November – March
  Upper limit = 10%
  Lower limit = 5%

- Cover of invasive species over whole of feature
  Upper limit = 5%
  Lower limit = none set

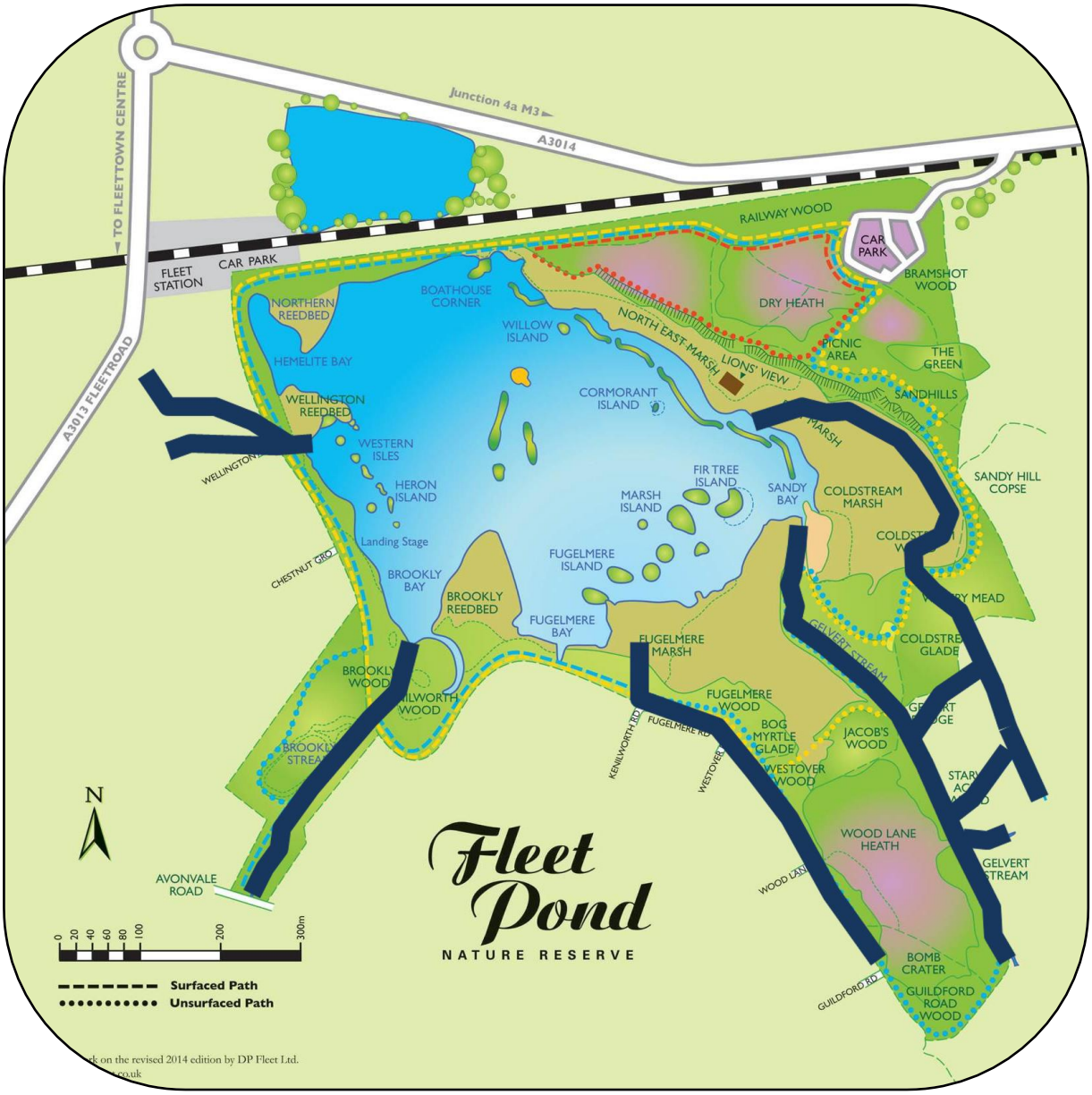
Management (AW As and When)

Management Options	Notes on Management Tasks	Time and Resources
Scrub control	Annually remove woody species from edges of the new islands. Three islands to be cleared as part of the Countryside Stewardship CS agreement, see Map 13, to be completed by December 2023	Sep – Mar Rangers / vols / contractor from boat
Invasive Species Control	Please see Feature 10.	Rangers / Contractor
Maintain goose fencing	To be revised – may be replaced with more effective method such as faggots	Rangers / Contractors
Planting Reeds	Reeds can be cut and extracted by the roots from The Flash and other areas agreed by Natural England and re-planted on appropriate islands. Some reeds may have to be obtained from outside sources. When the criteria for reed reaches the desired density and height a rotational cutting and removing reed plan should be implemented.	Sep – Oct Rangers / Vols / Contractors
Maintain gravel base	On Clearwater Island for nesting terns. Top up AW. Would expect to see at least 6 breeding pairs as a minimum.	Rangers / Vols / Contractors
Bare Ground retention	Small areas of bare ground creation with hand tools	Sep – Feb Volunteers
Island enhancement	The island edges are in need of long-term stabilization and protection from erosion and invasive plants and scrub. The possibility of installing coir bunds around the edges of the new islands and reedbed extensions will be explored. These could be planted with common reed seeds and/or reed plugs as well as with reeds transplanted from the existing established reed beds. This is subject to discussion and consent from NE and EA.	Sep – Feb Contractors As and when funding available and consents achieved.

Monitoring

Condition Assessments annually
Botanical surveying every 5 years (Yr. 1) – if resources allow
Breeding bird survey as and when required

FEATURE 3: MAP 4 – Streams & Ditches



Conservation status and importance

The streams and ditches all run into the SSSI Pond, carrying water from the surrounding catchment area. A map of the local catchment area can be found in APPENDIX 3.

The conservation interest of the streams and ditches lies in the fact that they run through the SSSI and has an effect on the water tables in the reserve. The flowing water also provides an important habitat for some species.

Description

Two streams run into the Pond; Brookly Stream and Gelvert Stream.

The Brookly stream flows through the town of Fleet itself, carrying with it debris from the town and surrounding roads. This is causing a large build-up of debris in Brookly Bay where the stream enters the Pond. A silt curtain has been installed as part of the

Figure 12: The Gelvert Stream

Restoration Project where Brookly Stream enters the pond; this catches much of the silt entering the lake to be removed as and when required.

There is also a series of ditches carrying water that comes into the reserve mainly from the surrounding roads. The ditches, however, do not empty directly into the Pond itself, but into areas of wet woodland or reedbed where the water is partially filtered before entering the water body. Areas of particular importance are the ditches flowing into Wellington reedbed, Fugelmere Marsh and Brookly Wood.

The ditches are kept open by clearing debris when water levels are high to reduce any risk of flooding and are dug out with a mini digger as and when necessary, to maximise their capacity. The ditches are mainly dry in the summer months but contain water for most of the winter.

There is an outflow from the Pond itself at the northern end. This flows under the railway line and into a smaller pond, belonging to the restaurant next to it, the other side. Two sets of Victorian railway arches can also be found on the northern end also running under the railway line; however these are blocked at the far end and water would only flow into these if water levels were very high. Network Rail is responsible for any maintenance to these tunnels.

Figure 13: A ditch in summer

Wildlife interest in the waterways is not high and there are few note-worthy species. However, kingfishers often feed along the streams and some species of dragonflies, damselflies, crane fly and other Diptera species are reliant on flowing water.

Vision

The streams and ditches around the site are open and free from debris, blockages and silt. Ditches are dug out to maintain their water carrying capacity and to prevent nearby roads and footpaths becoming flooded during heavy rainfall and they are free from invasive species. The paths alongside streams provide a peaceful walk, where birds such as herons and kingfishers can be glimpsed.

Figure 14: A Kingfisher

Performance Indicators

These performance indicators give an indication as to the status of the feature. When the factors and attributes of the feature as listed below are found to be within the upper and lower limits, the feature is said to be in favourable conservation status.

- Amount of ditch/stream kept clear as percentage of total
  Upper limit = none set
  Lower limit = 2%

- Number of culverts kept clear
  Upper limit = none set
  Lower limit = 0

- Level of bank erosion
  Upper Limit = 10%
  Lower limit = none set

- Presence of invasive species *(including Crassula helmsii)*
  Upper limit = 10%
  Lower limit = none set

- Depth of channel
  Upper limit = none set
  Lower limit = 30% decrease in depth

Management

Management Options	**Notes on Management Tasks**	**Time and Resources**
Undesirable species control	Please see Feature 10.	As and when Rangers / Volunteers
Clearance of debris and blockages	Any major debris or blockages from streams and ditches should be removed. Checks for blockages are especially important after heavy rainfall. Ditches are to be dug out as and when necessary to maximise the capacity.	As and when Rangers / Volunteers
Ditch clearance	Ditches should be kept open and their carrying capacity maintained by using a mini digger.	As and when. Rangers
Insert dog steps, hazel hurdles, coir rolls and posts	Where bank erosion (Gelvert Stream) is most evident through dogs entering and exiting the water insert dog steps in suitable locations and in all others use hazel hurdles or coir rolls and posts.	As and When Rangers / Volunteers
Installation of a small leaky wooden dam	As part of the Countryside Stewardship agreement, installation of a permanent leaky wooden dam along the Gelvert stream to	By December 2023

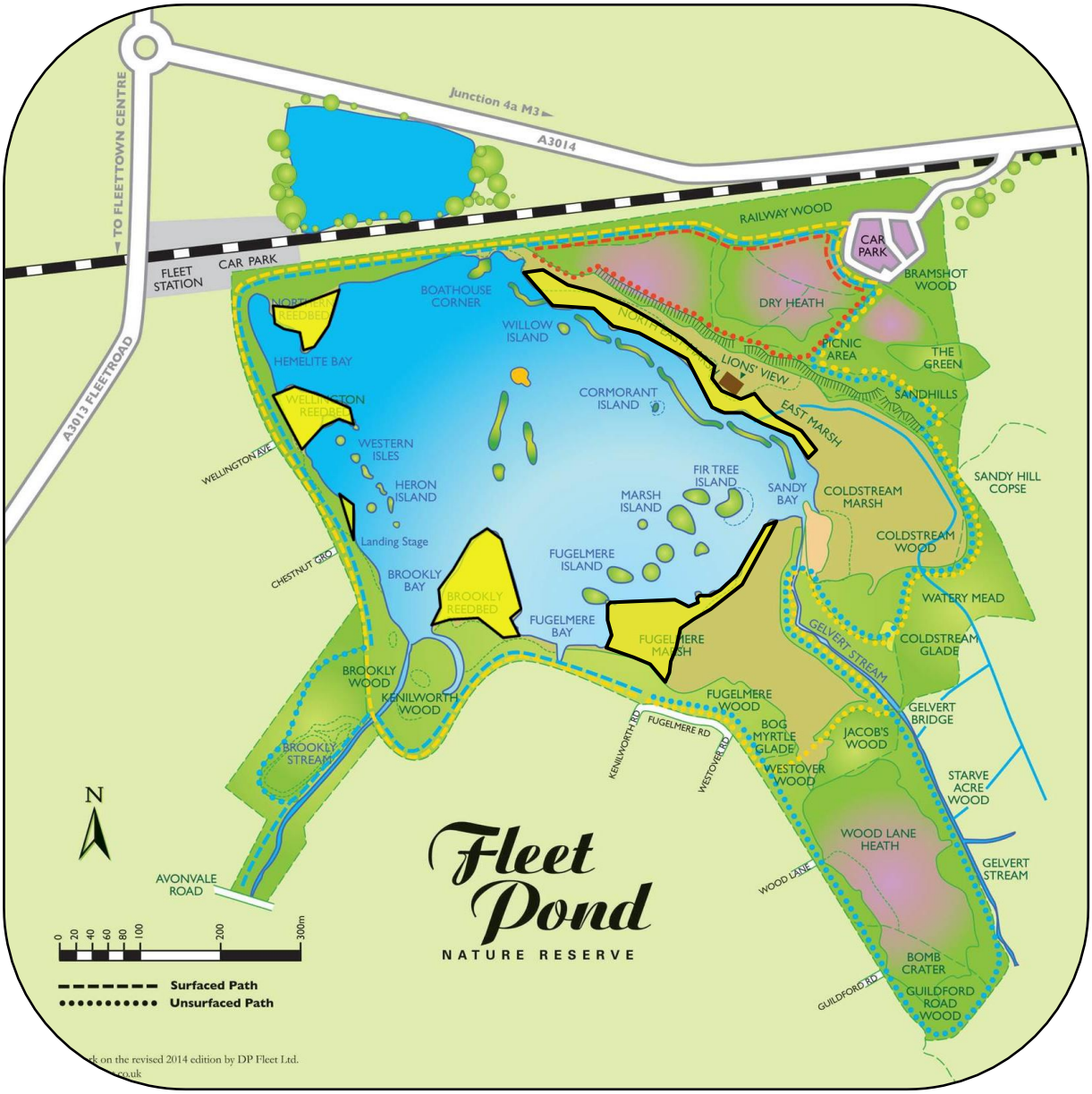
	maintain water flow along the diversion channel to Coldstream Marsh. See Map 12 for location.	Contractors

An action plan for management tasks follows in Section 3.

Monitoring

Water quality monitoring annually
Botanical surveying every 5 years if resources allow (Yr. 1)

FEATURE 4: MAP 5 – Reedbeds



Conservation status and importance

The reedbeds at Fleet Pond are found within the SSSI boundary. Reedbeds are designated as a priority habitat due to the decline in area of the habitat and a decline in the species that depend upon it, including many important birds and invertebrates. The lack of appropriate management can also lead to reedbeds drying out or scrub and trees encroaching.

Figure 15: Wellington Reedbed

Description

There are four reedbeds on the western side of the Pond. They are called Northern reedbed (comprising 0.47 ha), Wellington reedbed (0.96 ha), Brookly reedbed (0.88 ha) and Chestnut Grove reedbed (0.07 ha). Unlike the reedbeds and fens on the eastern side of the Pond, these four reedbeds are not associated with marshes, but are instead fringed by wet woodland. Bird species such as reed warbler and reed bunting are known to nest in the reedbeds every year in good numbers and harvest mice nests have also been found.

Brookly reedbed is the most difficult to get to as it is very wet and unstable even in the dry summer months. This reed bed was extended in 2013 and had channels dug into it along with an open pool of water in its middle.

Wellington reedbed is fairly accessible as it is not far from a surfaced path and the woodland fringing it is not too dense. It was also extended in 2013 as part of the Restoration Project and channels inserted in the fringes to create sheltered areas for wildfowl.

Figure 16: Reedbed Clearance

Northern reedbed is also fairly accessible with only a thin section of small alder and willow trees between it and the path that runs along the northern bank of the pond. These trees would benefit from coppicing to maintain their vigour and create a denser barrier against intrusion into the reedbed. The amount of scrub in here is fairly low; however on the edge of the reedbed where it meets the water there is a fair amount of scrub growing, as with the other two reedbeds. This reedbed was also extended in 2013 along with Wellington reedbed.

North East Marsh is a narrow stretch of reedbed. In 2013 stock fencing was extended from East Marsh to include this area to Boathouse Corner. This is to prevent intrusion by dogs and people. This section has a large amount of reedbed with some fen and is fringed by woodland, mainly alder and willow. There is also a good amount of standing dead wood in here.

Figure 17: Juvenile Cuckoo

It is good practice to also manage the wet woodland on the edges of the reedbed as it can encroach, produce shading and litter accumulation as well as using up a lot of water (Hawke and Jose, 1996). The woodland should be prevented from encroaching and coppicing would be beneficial as it would reduce shading and provide good habitat for other species. Occasional scrub within the reedbed (i.e. one or two trees) could also be beneficial as it provides habitat and perches for birds.

Reed warblers are the most common bird found nesting in the reeds in the summer months. Reed buntings and sedge warblers are also known to breed at Fleet Pond. There has historically been breeding cuckoos, most likely as a result of the high numbers of reed warbler, a species parasitized by cuckoo. (For a full list of red and amber listed bird species recorded at the pond please see APPENDIX 9).

A list of rare and notable species of plant can be found in APPENDIX 10.

In January 2015 a reedbed specialist from the RSPB undertook a health survey of the reedbeds and wetlands. A report entitled RSPB Advisory Report Fleet Pond, which includes recommendations for future management, was produced and can be found in O:/Countryside/Fleet Pond/Reedbed-Wetland Management. Recommendations arising from this report have been added into this plan.

Specific management details for each reedbed can be found in APPENDIX 11 and should be consulted before any work takes place.

A reedbed audit should take place every 3 years in partnership with the Fleet Pond Society to monitor the health of the habitat. Blank audit forms and a corresponding map can be found in share/Countryside/Fleet Pond/Reedbed-Wetland Management.

Vision

The reedbeds are dominated by common reed, with other desirable reedbed species such as yellow loosestrife and bulrush found amongst the tall stems. New greens shoots of reed begin emerging in spring and by summer the reedbeds are alive with the sound of reed warblers, sedge warblers and reed buntings. The reeds provide shelter for many other animals such as harvest mice, grass snakes, frogs, toads and many species of invertebrates. The edges of the reedbeds are protected from grazing animals such as geese by bogbean, which also supports a rich diversity of life.

Performance Indicators

Based on HLS indicators of success, these performance indicators give an indication as to the status of the feature. When the factors and attributes of the feature as listed below are found to be within the upper and lower limits, the feature is said to be in favourable conservation status.

Figure 18: Grass Snake

- Cover of scrub (over whole of feature)
  - Upper limit = 10%
  - Lower limit = 1%

- Litter layer coverage
  - Upper limit = 30%
  - Lower limit = none set

- Litter layer depth
  - Upper limit = 20cm
  - Lower limit = none set

- Reedbed should be covered by surface water November – March
  - Upper limit = 95% coverage, 100cm deep
  - Lower limit = 50% coverage, 30cm deep

- Areas of Reedbed should remain dry
  - Upper limit = 10%
  - Lower limit = 5%

Management

Management Options	Notes on Management Tasks	Time and Resources
Scrub control	Scrub in the middle and around the edges of the reedbeds should be reduced and controlled. Stumps need to be cut low and treated to prevent regrowth. Surrounding woodland also needs to be controlled and potentially coppiced to prevent encroachment and shading. Any encroaching woodland should be cut down and treated with approved herbicide. The bulk of the brash produced will be chipped on to the woodland edge off the reedbed where appropriate and refuges created using stacked core wood. If there is a lack of standing deadwood ring bark some appropriate trees to create this valuable habitat. Connectivity between Wellington to Chestnut and North East Marsh to Lion's View will be completed by contractors as part of the Countryside Stewardship capital works, to be completed by December 2023 (see Map 13)	Sept – Feb Rangers / Volunteers

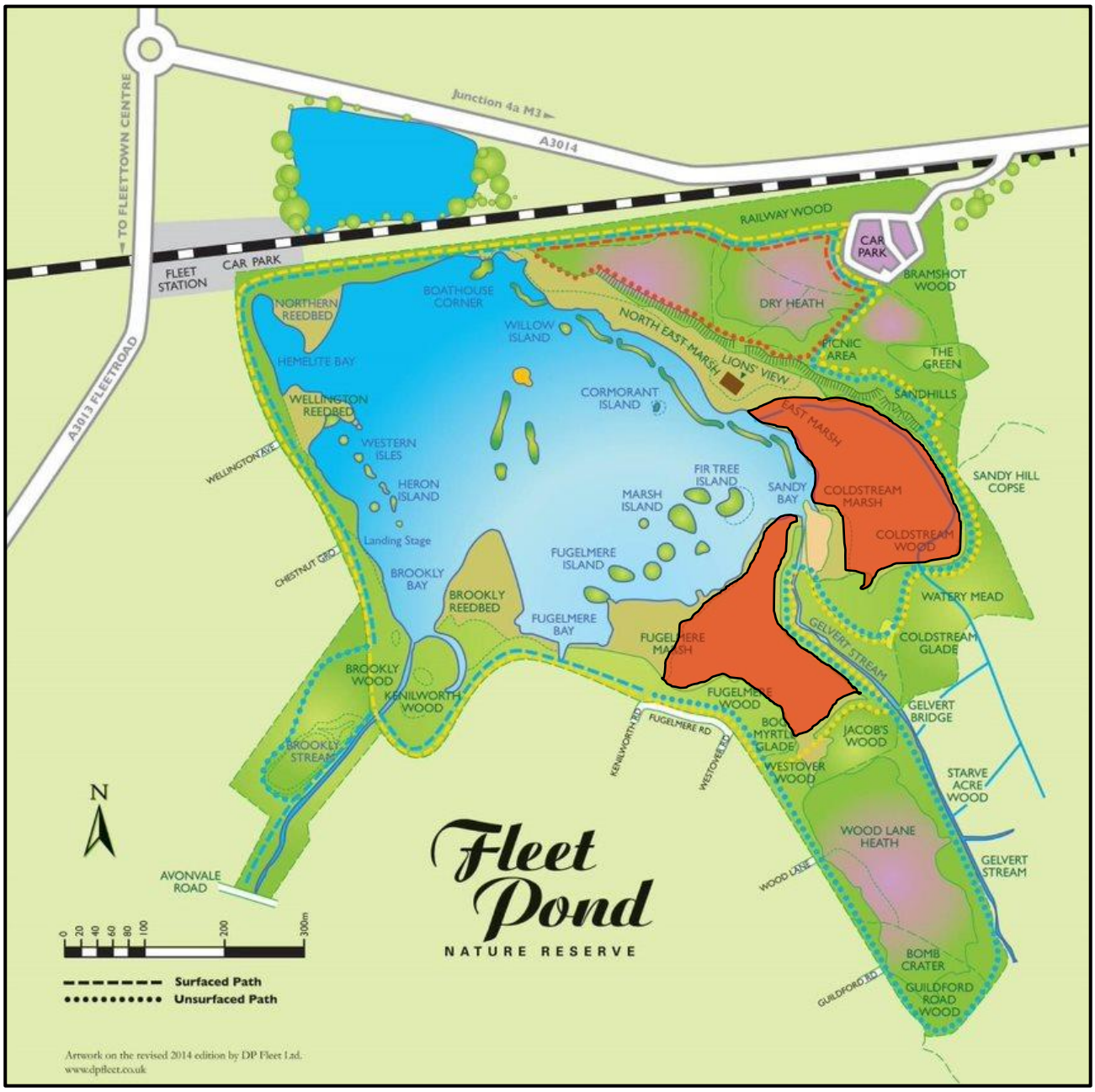
Mowing	Mowing of the reedbeds must take place at the driest possible time during the winter period, which is usually around September once the birds have finished breeding. Mowing can be carried out either with a brushcutter or with a BCS pedestrian mower. Depending on ground conditions, mowing can be time consuming, i.e. when there are lots of stumps to avoid or there are wet patches of ground. This should be carried out on rotation with the other reedbeds on site with compartments within reedbeds being cut every 5 – 6 years. Refuges of uncut reed should be left for harvest mice.	Sep – Feb Rangers / Volunteers
Burning	Burning may take place as part of the 5 – 7-year rotational reed bed management to remove the excess of cut reeds. Burning is used as an appropriate tool which is carried out under controlled methods by rangers on raised fire platforms. All ash should be removed from site.	Sep - Feb Rangers / Volunteers
Bogbean Management	The bogbean has been further extended around the reedbeds to reduce grazing pressure from geese and other wildfowl and may possibly benefit from further extension to other areas of the pond including The Flash. The bogbean also provides a valuable habitat for aquatic invertebrates. It can be pulled up from abundant areas and transplanted. However we need to maintain a balance between areas of bogbean edges to that of open water habitat.	Rangers / Volunteers
Chemical management	Stumps should be treated with herbicide; however any stumps next to open water cannot be treated unless the operator has the correct qualification. May use eco-plugs as an alternative.	Stump treating As and When.
Open water creation	As part of the Northern Path mitigation work, an open water flash will be created in North East marsh. An excavator will be used to scrape an area approximately 780m², scraped material will be banked in the woodland edge. See Map 13	Feb – March 2022 Contractors
Reedbed extension and riparian edge create	As part of the Northern Path mitigation work, contractors will be extending Brookly reedbed by removing encroaching scrub up to an existing ditch line from the southern edge of the reedbed (approximately 0.23ha). See Map 13	Feb – March 2022 Contractors

An action plan for management tasks follows in Section 3.

Monitoring

Reedbed Audit every 3 years
Botanical surveying every 5 years if resources allow (Yr. 1)
Invertebrate surveying every 5 years if resources allow (Yr. 2)
Ornithological surveying as and when required
Ariel photography to monitor the size of the reedbeds as and when

FEATURE 5: MAP 6 – Marshes & Fens



Conservation status and importance

The marshes and fens at Fleet Pond are all designated as SSSI. This type of wetland habitat is also very rare in lowland England and is one of the most important habitats of the whole site.

These sections of the site were once under water when the pond was at its original water level. They became exposed when the water level was lowered and provided a good habitat for all wildlife.

Description

There are two main areas of marsh at Fleet Pond Coldstream Marsh and Fugelmere Marsh. These compartments are divided by wet woodland and Sandy Bay. Sandy Bay is an open area made up of sand which was dredged out of the pond in the 1980's. More dredged material was added in 2012 as part of the Restoration Project. It does have wildlife value; however it is mainly used as a recreational area by the public and so experiences a high level of disturbance from people and dogs.

The vegetation structure of each marsh varies as different work has been carried out in each over the years. The marshes change into reedbed as they approach the edge of the pond, some areas of which are quite extensive and should be managed as set out above.

Fugelmere Marsh and Coldstream Marsh are fenced and grazed during the summer. In 2003 trial scrapes were carried out and these gave some very positive results with many important species being recorded over the next few years. A large area of scrub was cleared in winter 2008. This was then mechanically scraped, with shallow areas scraped for vegetation and reeds to establish, and deeper areas scraped creating temporary pools.

Figure 19: A newly scraped area

As part of the 2022-2026 Countryside Stewardship agreement, a number of scrapes will be created in Coldstream and Fugelmere. There will be one large scrape in Coldstream which will continue from the work completed in 2008 and four smaller scrapes within Fugelmere marsh. The scrapes will create open water and riparian edge habitats which will benefit the ecology of the marshes as well as help with water retention.

Large areas of woodland and scrub were cleared in Fugelmere in 2012/13 to increase the area of marshland habitat and vegetation scraped to restore marshland plant species. Grazing was introduced in 2011.

The reedbeds that fringe the pond in Fugelmere are fairly open with not too much scrub, however they are very difficult to get to as the water levels in this section are high.

Figure 20: A newly created wet scrape

A list of rare and notable plant and invertebrate species can be found in APPENDIX 10.
Many reed warblers are also found in these areas and cuckoos can be heard. The marshes are also used by wintering snipe, sometimes in their hundreds. A level of scrub is required by the snipe to maintain the suitability of this habitat. A list of red and amber listed bird species at the pond can be found in APPENDIX 9.

The small red damselfly has also been recorded in Coldstream Marsh, along with a large number of other Odonata species.

Grass snakes are regularly seen in both marshes during the summer, as well as the occasional adder, common lizards and slow worms.

Vision

Both areas of marsh are covered by swards of wetland plant species, graduating into reedbed towards the pond itself. The marshes remain wet all year round and become flooded in the winter months. Wildfowl often take advantage of these secluded wet areas in the winter and in the summer the wet marsh areas are alive with dragonflies and damselflies as they hunt and search for mates. A large number of insect species are also recorded here, several of which are nationally rare.

Cows graze these areas in the summer, keeping taller vegetation and grasses short to allow the wetland plants to flourish. Grass snakes and common lizards can be seen basking in the sun on top of the grassy tussocks, while roe deer are seen grazing the marshes or just keeping to the shade of the surrounding woodland. Scrub is kept to a minimum by the grazing animals and willing volunteers, while undesirable species are also kept at bay.

Figure 21: Golden Ringed Dragonfly

Performance Indicators

Based on HLS indicators of success, these performance indicators give an indication as to the status of the feature. When the factors and attributes of the feature as listed below are found to be within the upper and lower limits, the feature is said to be in favourable conservation status.

- Cover of undesirable species
  Upper limit = 5%
  Lower limit = none set

- Cover of scrub (over whole of feature)
  Upper limit = 5%
  Lower limit = 0%

- Cover of surface water (The whole surface should be wet from October to May. The surface should receive at least one flood per year and remain damp. Seepage should be visible all year round and the soil should be damp.)
  Upper limit = 100%
  Lower limit = 5%

- During the agreement, typical fen vegetation including rushes, sedges and wetland flora such as tormentil, lesser spearwort, water mint, bog pimpernel, marsh thistle, yellow flag and smaller sedge species cover should be equal to or greater than 80%

For wetland grazing

- Graze between 1 March and 30 October to achieve a diverse vegetation structure with area of short vegetation and taller tussocks
- Keep a monthly record of stock numbers grazing on Fugelmere and Coldstream marshes.

Management

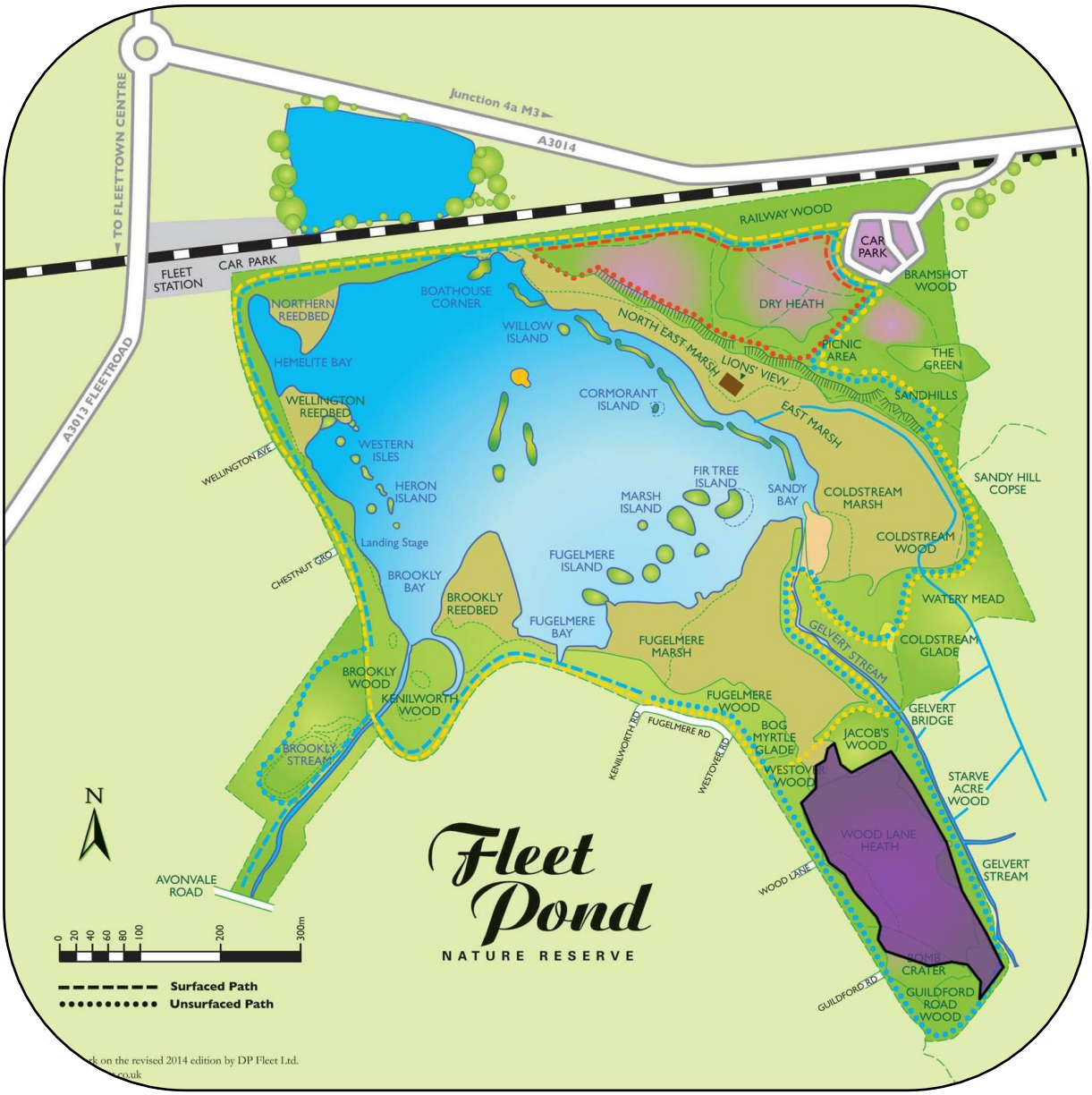
Management Options	Notes on Management Tasks	Time and Resources
Scrub control	The scrub in both marshes needs to be controlled to avoid it becoming established. Stumps should be treated with an approved herbicide, and any roots should be pulled up where possible. The bulk of the brash produced will be chipped on to the woodland edge, off the reedbed, where appropriate and refuges created using stacked core wood. If there is a lack of standing deadwood ring bark some appropriate trees to create this valuable habitat. A section of encroaching scrub from Fugelmere Marsh will be removed as part of the Countryside Stewardship agreement, to be completed by December 2023. See Map 13	Sep – Mar Rangers / Volunteers / Contractors
Scrape creation	As part of the Countryside Stewardship agreement, scrapes and/or shallow pools are to be created in pre-determined areas in Fugelmere and Coldstream to reduce scrub and grass tussocks, increase water retention and benefit inverts and birds, subject to botanical surveys. See Map 13	Dec – Mar 2022-2023 Contractors
Grazing	Coldstream and Fugelmere will continue to be grazed, to achieve a diverse vegetation structure with areas of short vegetation and taller tussocks.	1st March – 30th October
Cutting	If the cover of soft rushes reaches its upper limit it may need to be controlled by cutting and collecting. This can be done in late autumn or late winter/very early spring with a BSC commander if the water levels are appropriate.	Oct / Nov + / or Feb / Mar
Chemical treatment	Spraying should be done in the summer months with appropriate herbicide. Stumps, if they are not able to be pulled up, should be treated with appropriate herbicide.	Spraying Apr – Sep Stump treating As and When.

An action plan for management tasks follows in Section 3.

Monitoring

Condition assessments annually
Botanical surveying every 5 years if resources allow (Yr. 1)
Invertebrate surveying every 5 years if resources allow (Yr. 2)
Ornithological surveying as and when required

FEATURE 6: MAP 7 – Wet Heathland



Conservation status and importance

The wet heath, or Wood Lane heath as it is also known, is designated as a SINC (Site of Importance for Nature Conservation) and although it is not included in the SSSI it is part of the Local Nature Reserve. It was designated as a SINC on account of its heathland vegetation and because it contains more than 1 notable species.

The area of Fleet in which the wet heath lies was once dominated by the heathland that was Crookham Common. Some small pockets such as this still remain and it is more important than ever that these areas are conserved. Lowland heath is also included as a UK priority habitat on the UK Post-2010 Biodiversity Framework, due to the large decline this habitat has undergone in the last 200 years.

Description

A fenced enclosure was created around the heath in 2004 and it has been grazed every summer since, which has had positive results. Before this traditional form of management was introduced, the only management carried out was clearance of scrub and the occasional accidental fire.

Figure 22: Grazing the wet heath

Outside of the fenced area, a footpath surrounds this section and a path also runs across the heath with access via three kissing gates.

The heath is surrounded by dry mixed woodland, consisting mainly of birch, oak and pine. The north corner is dominated by a section of wet woodland (called Jacob's Wood). This is made up mostly of young birch and willow. A few pine and birch trees are also present in the centre of the heath.

In several places around the edges of the heath, wet scrapes and temporary pools have been created.

The heath currently has a good structural diversity. The amount of purple moor grass is being controlled by the grazing and there is also good evidence that the grazing animals are also suppressing the growth of any small birch saplings, further reducing the need for manual management.

Figure 23: Demoiselle

A list of rare and notable plant and invertebrate species can be found in APPENDIX 10.

Adder, grass snake, slow worm and common lizard are all frequently recorded.

Vision

The heath is in good condition and is dominated by heather, with a good mix of age classes. Bog myrtle can also be found in patches, providing cover for the roe deer who take advantage of the quiet and undisturbed heath. In spring and summer, flora such as bog asphodel and heath spotted orchid can be seen in flower. A few trees are scattered around the heath providing perches for birds and some shade for the cows that graze the heath in the summer months. These cows keep the scattered scrub and purple moor grass under control, providing perfect conditions for heather and other heathland plants to flourish. Temporary pools and wet areas created by mechanical diggers provide habitat for populations of dragonflies, damselflies and other insects. Grass snakes, adders and common lizards can be seen basking in areas of bare ground or low vegetation.

Performance Indicators

Based on HLS indicators of success, these performance indicators give an indication as to the status of the feature. When the factors and attributes of the feature as listed below are found to be within the upper and lower limits, the feature is said to be in favourable conservation status.

- Recently burnt areas (for whole of feature)
  Upper limit = 5%
  Lower limit = 0%

- Cover of dwarf shrubs (at least 2 species)
  Upper limit = 90%
  Lower limit = 30%

- Wide range of age classes of dwarf shrubs present
  Pioneer: 10% - 40%
  Building: 20% - 80%
  Mature: 20% - 80%
  Degenerate: 10% - 30%
  No more than 10% cover of dead dwarf shrubs

- At least 2 desirable wildflower species should be occasional. Species include Bog Pimpernel *(Anagallis tenella*), Sundews (*Drosera spp*), Heath Bedstraw (*Galium saxatile*), Needle Whin (*Genista anglica*), Bog Asphodel (*Narthecium ossifragum*), Butterworts (*Pinguicula spp*), Heath Milkwort (*Polygala serpyllifolia*), Tormentil (*Potentilla erecta*), Saw Wort (*Serratula tinctoria*), and Devil's-bit Scabious (*Succisa pratensis*).
  Upper limit = none set
  Lower limit = 2

- Cover of bare ground
  Upper limit = 10%
  Lower limit = 2%

- Cover of Common / Western Gorse (for whole of feature)
  Upper limit = 10%
  Lower limit = 1%

- Cover of scrub (for whole of feature)
  Upper limit = 10%
  Lower limit = 2%

- Cover of *Sphagnum* moss
  Upper limit = none set
  Lower limit = 10%

- Cover of purple moor-grass
  Upper limit = 66%
  Lower limit = none set

- Cover of bracken stands
  Upper limit = none set
  Lower limit = less than 5%

Management

Management Options	**Notes on Management Tasks**	**Time and Resources**
Grazing	Graze the wet heathland to maintain at least two species of dwarf heathland shrubs. Control grazing so that trampling and disturbance is minimal	Spring – Autumn
Mowing	Mowing old patches of heather will encourage the growth of new heather to maintain age structure diversity. This is can either be carried out using a tractor and a cut and collect mower or a BCS.Cut material is removed from the heath.	Sep – Mar Rangers
Fire breaks	Pre-agreed fire breaks to be cut on a regular basis. Cut using either BCS mower or brushcutters, remove all cut material.	Oct – Feb Rangers/volunteers
Scrub control	Any large scrub not being controlled by grazing should be removed, such as birch and bog myrtle. Invasive plants should also be controlled. Large trees can be cut with chainsaws. Any smaller trees and scrub can be cut using hand tools. Cut material is removed from the heath.	Sep – Mar Rangers / Volunteers
Bracken	Bracken needs to be controlled to prevent it spreading from some of the surrounding woodland and across the heath. It can either be sprayed with appropriate herbicide or pulled up by hand.	Apr – Sep Rangers / Volunteers

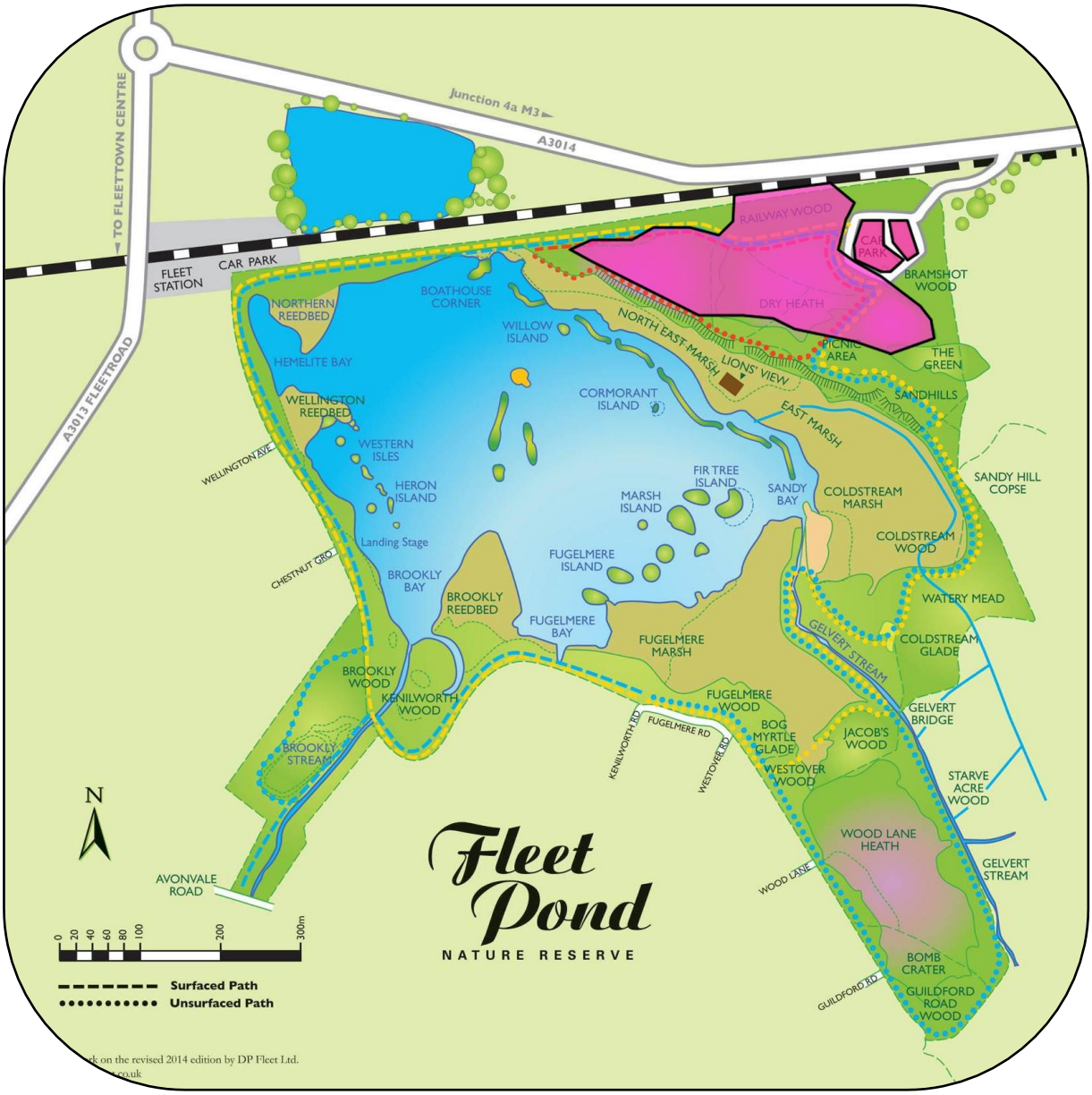
Turf cutting and scraping	Areas dominated by purple moor grass can be scraped to encourage the growth of new heather and other heathland species as well as creating wet shallow pools.	Dec – Mar Contractors
Chemical treatment	Stumps from cut trees can be treated with approved herbicides to prevent re-growth. This is generally done in winter. Invasive plant species such as rhododendron can be sprayed with herbicide. This will be carried out during the growing season.	Stump treatment as and when. Spraying May - Sep Rangers

An action plan for management tasks follows in Section 3.

Monitoring

Condition assessments annually
Botanical surveying every 5 years if resources allow (Yr. 1)
Invertebrate surveying every 5 years if resources allow (Yr. 2)
Dip-well water level monitoring annually

FEATURE 7: MAP 8 – Dry Heathland



Conservation status and importance

The dry heath is designated as SSSI. Lowland heath is also included on the UK Post-2010 Biodiversity Framework as a priority habitat.

This section of the Pond was once dominated by dry heathland but trees have encroached reducing the extent and quality of the heathland. As with the wet heath, it is essential to preserve and enhance this habitat due to the large decline it has undergone in the last 200 years. It also supports a number of rare and notable species.

Description

The dry heath lies on the highest ground of the whole site and covers about 5 hectares, including two islands in the centre of the car park. The access track enters the car park located at the north east corner of the site. From the car park several paths criss-cross the heath and to the east of the heath, mature pine woodland dominates. The rest of the heath is surrounded mainly by young birch woodland. There are a few patches of dense scrub in the centre of the heath, including a good patch of aspen, which are retained for birds and invertebrates etc.

A programme of heathland restoration has been carried out since 2003 with the aim of improving the quality of the dry heath by reducing unwanted scrub and dominant grasses and increasing heather and other heathland species. Currently the general age structure of the heather is good with patches of pioneer, building, mature and degenerate. A short stretch of hedgerow of mainly birch, gorse and aspen was laid from the car park towards the heath to improve access in 2014.

Figure 24: The Dry Heath

A list of rare and notable plant and invertebrate species can be found in APPENDIX 10.

The dry heath also supports a good population of reptiles. Adder, grass snake, slow worm and common lizard are all frequently recorded.

Several species of bat have also been recorded hunting over the heath including common pipistrelle, soprano pipistrelle and noctules. The roosts of these bats are most likely in some of the surrounding woodland which contains a few older oaks and pines.

Vision

The heath is dominated by heather at all stages of growth. Patches of common gorse are scattered around the heath creating good habitat for many birds and providing a valuable nectar source for insects. The cover of scrub is kept under control by groups of volunteers who come to help maintain this special habitat every winter. The patches that remain provide valuable cover for birds. Oak and aspen trees are scattered around the heath also providing good habitat for many birds and invertebrates, standing deadwood also provides nesting sites for woodpeckers. A good mix of heathland plant species, lichens, bryophytes and fungi can be found scattered in amongst the heather. The heath also supports a large number of invertebrate species, adders, common lizards and toads. On summer and autumn evenings, bats can often be seen hunting over the heath as the sun goes down. A few paths criss-cross the heath, allowing visitors to enjoy a walk through this valuable habitat while leaving it undisturbed.

Performance Indicators

Based on HLS indicators of success, these performance indicators give an indication as to the status of the feature. When the factors and attributes of the feature as listed below are found to be within the upper and lower limits, the feature is said to be in favourable conservation status.

- Recently burnt areas (for whole of feature)
  Upper limit = 5%
  Lower limit = 0%

- Cover of dwarf shrubs (at least 2 species)
  Upper limit = 90%
  Lower limit = 30%

- Wide range of age classes of dwarf shrubs present
  Pioneer: 10% - 40%
  Building: 20% - 80%
  Mature: 20% - 80%
  Degenerate: 10% - 30%
  No more than 10% cover of dead dwarf shrubs

- At least 2 desirable wildflower species should be occasional. Species include Thrift (*Armeria maritima*), Heath Bedstraw (*Galium saxatile*), Needle Whin (*Genista anglica*), Common Cat's-ear (*Hypochoeris radicata*), Common Bird's-foot-trefoil (*Lotus corniculatus*), Ribwort Plantain (*Plantago lanceolata*), Sea Plantain (*Plantago maritima*), Heath Milkwort (*Polygala serpyllifolia*), Tormentil (*Potentilla erecta*), Sheep's Sorrel (*Rumex acetosella*), Spring Squill (*Scilla verna*), Saw Wort (*Serratula tinctoria*), Creeping Thyme (*Thymus praecox*) and Common Dog-violet (*Viola riviniana*).
  Upper limit = none set
  Lower limit = 2

Figure 25: Four-spot Spider

- Cover of bare ground
  Upper limit = 10%
  Lower limit = 2%

- Cover of Common / Western Gorse (for whole of feature)
  Upper limit = 10%
  Lower limit = 1%

- Cover of scrub (for whole of feature)
  Upper limit = 10%
  Lower limit = none set

- Cover of *Sphagnum* moss
  Upper limit = none set
  Lower limit = 1%

- Cover of purple moor-grass
  Upper limit = 33%
  Lower limit = none set

Management

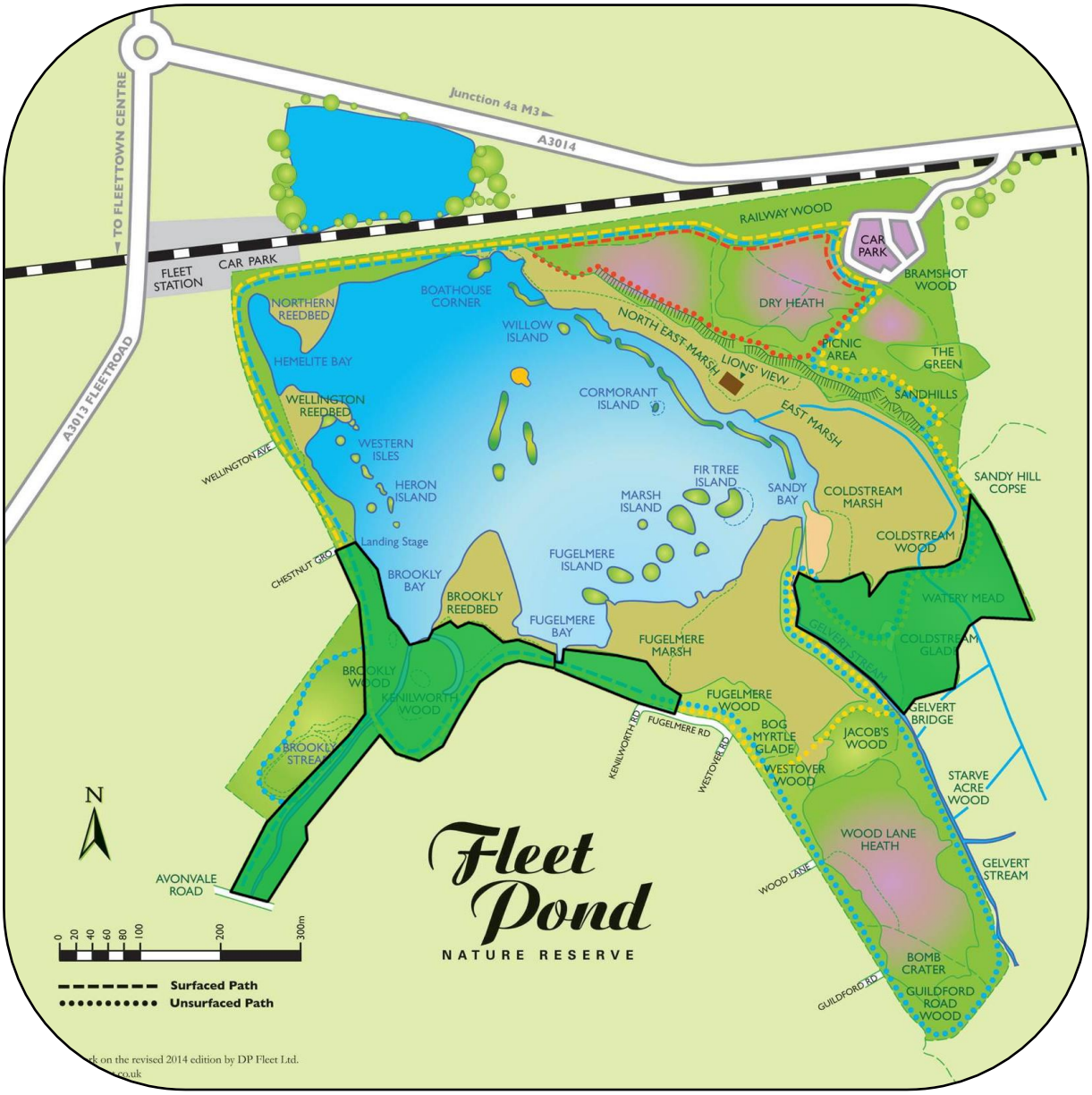
Management Options	Notes on Management Tasks	Time and Resources
Turf cutting and scraping	Areas dominated by purple moor grass can be scraped to encourage the growth of new heather and other heathland species. Any tree removal should be followed up by scraping to restore the heathland.	Dec – Mar Contractors
Mowing	Mowing old patches of heather will encourage the growth of new heather to maintain age structure diversity. A mower can also be used to suppress birch saplings. This is carried out using either a tractor and a cut and collect mower or a brushcutter. Cut material is removed.	Sep – Mar Rangers / Volunteers
Scrub control	Birch scrub should be controlled. Gorse should also be controlled to maintain age structural diversity. Any gorse cutting should be complete by mid-February. Invasive and undesirable plants (brambles) should also be controlled and should be prevented from encroaching on to the heath. Large trees can be cut with chainsaws. Any smaller trees and scrub can be cut or dug up using hand tools. Cut material is removed from the heath.	Sep – Mar Rangers / Volunteers
Bracken	Bracken needs to be controlled to prevent it spreading from some of the surrounding woodland and across the heath. It can either be sprayed with appropriate herbicide or pulled up by hand.	Apr – Sep Rangers / Volunteers
Chemical treatment	Stumps from cut trees can be treated with approved herbicides to prevent re-growth. This is generally done in winter.	Stump treating As and When.

An action plan for management tasks follows in Section 3.

Monitoring

Condition assessments annually
Botanical surveying every 5 years if resources allow (Yr. 1)
Invertebrate surveying every 5 years if resources allow (Yr. 2)

FEATURE 8: MAP 9 – Wet Woodland



Conservation status and importance

All areas of wet woodland at Fleet Pond are included in the SSSI. Wet woodland is also a priority habitat due to the levels of decline it has undergone. It supports a large number of bird species throughout the year as well as other animal groups. Willow has a large number of invertebrates associated with it and ground flora in wet woodlands is very diverse, and often includes rare or notable species. Standing deadwood and deadwood on the ground also means a very diverse fungi population often exists.

Description

There are two large distinct sections of wet woodland at Fleet Pond, as shown on the map above. Kenilworth Wood is 2.51 ha of undisturbed wet woodland. No paths run through this section, however the Brookly stream runs through before it enters the Pond. The other large section marked above is Watery Mead. This area is divided up by footpaths and the Gelvert Stream diversion.

Figure 26: Earth star fungus

There are also scattered patches of alder and willow all around the site wherever there is wet ground, mainly along the margins of the marshes and reedbeds and also along the banks of Brookly Stream. However, it is the sections marked on the map which are of the greatest interest and importance. The tree covered bank on the far northern edge of the pond that borders the railway car park is owned by Network Rail.

Figure 27: Kenilworth Wood

All areas of wet woodland are dominated by alder, willow and birch. Little management work is carried out at present and there is no history of management such as coppicing taking place on site. In fact the woodland is mostly less than 70 years old, as the entire area surrounding the lake was once completely open. It is only in recent years that the woodland has encroached and established.

An entomological survey in 2008 indicated very good numbers of species in Kenilworth Wood, many of which are rare or notable (please see APPENDIX 10) Currently there is a good amount of ground flora, as natural succession in the woodland has created more open areas where trees have failed and more light is able to get to the woodland floor. There are also good levels of both standing and ground deadwood. Invasive species such as bamboo and cherry laurel are present in patches.

Figure 28: The Wet Woodland

Watery Mead is young, dense woodland divided up by footpaths and with a couple of open glades in the middle providing the areas

of the most biological interest. The glades were once more open than they currently are, providing a warm, sunny and open habitat for many species of invertebrates and plants.

Figure 29: Common Darter

Birds are one of the most important groups of animals using the wet woodlands, with a large number of species using the habitat throughout the year. In the winter, large flocks of lesser redpoll and siskin feed on the alder seeds and in the summer many species including song thrush, lesser spotted woodpecker, treecreeper and nuthatch nest or forage in the woodlands. For a full list of red and amber listed bird species recorded at the pond please see APPENDIX 9.

A list of vascular plant species of conservation concern can be found in APPENDIX 10.

Vision

The wet woodlands around Fleet Pond are largely left to their own devices with gaps naturally being created in the canopy, allowing light to reach the diverse ground flora below. There is a diverse age structure of native trees with good levels of regeneration. The woods are alive with birds all year round with many species nesting and foraging in them over the summer months and flocks of wintering birds such as siskin and redpoll feeding on the alder seeds in the colder months. Glades and open spaces are maintained with a diverse flora, making them a perfect area for butterflies, dragonflies and other insects in the summer. Deadwood provides habitats for invertebrates and fungi, with fungi being diverse and abundant throughout the whole wood. The amount of undesirable species is low and under control.

Performance Indicators

These performance indicators give an indication as to the status of the feature. When the factors and attributes of the feature as listed below are found to be within the upper and lower limits, the feature is said to be in favourable conservation status.

- Extent of canopy cover
  Upper limit = 90%
  Lower limit = 75%

- Cover of temporary or permanent open spaces
  Upper limit = 25%
  Lower limit = 10%

Figure 30: Comma

- Locally native tree and shrub species
  Upper limit = none set
  Lower limit = 90%

- Amount of dead wood over whole feature
  Upper limit = 20%
  Lower limit = 5%

- Ground flora referable to relevant woodland communities
  Upper limit = none set
  Lower limit = 80%

Management

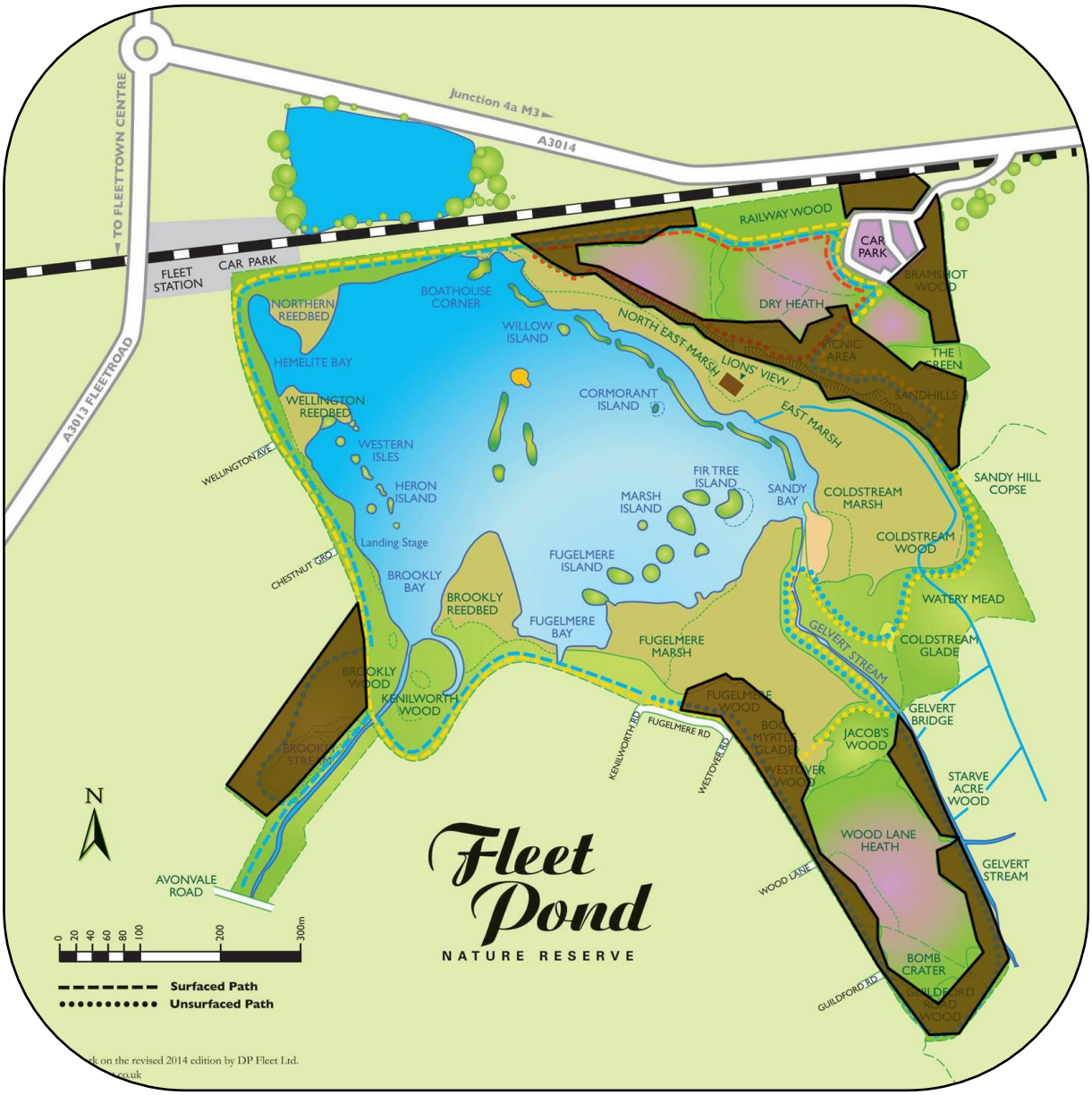
Management Options	**Notes on Management Tasks**	**Time and Resources**
Thinning	Little formal management is needed in woodlands generally. The woodland largely looks after itself as natural succession takes place. However, some areas of woodland would benefit from selective thinning of the understory (especially holly) to increase ground flora and allow more light to specimen trees.	Sep – Feb Rangers / Contractors / Volunteers
Scrub control	Scrub in the glades needs to be controlled and reduced. A rotational action plan should be devised to ensure glades are re-visited every 3 years to clear back any encroaching sc	Sep – Mar Rangers / Volunteers
Undesirable species control	Please see Feature 10.	All year, As and When Rangers / Volunteers
Chemical treatment	Invasive plant species can be sprayed with herbicide. This is carried out during the growing season. Any stumps of invasive species or felled trees cut down during the winter season should be treated directly after cutting.	Spraying Apr – Sep Stump treating As and When.

An action plan for management tasks follows in Section 3.

Monitoring

Condition assessments annually
Botanical surveying every 5 years if resources allow (Yr. 1)
Invertebrate surveying every 5 years if resources allow (Yr. 2)

FEATURE 9: MAP 10 - Dry Mixed Woodland



Conservation status and importance

Dry woodland is very common throughout Britain. There are no specific conservation statuses associated with it; however it remains important for many species of birds, mammals and invertebrates. It also supports a number of fungi and botanical species.

Description

The dry mixed woodland at Fleet Pond is scattered around the whole site. The majority is found in the north and east of the site around the picnic area, car park, surrounding the wet heath and bordering the MOD land, as well as in Brookly Wood.

The species composition varies in the different areas. Brookly Wood is not in the SSSI boundary but is designated as a SINC. It is surrounded by housing on nearly all sides and the Brookly Stream runs into the reserve from Fleet and through this section. The section of trees next to the stream is mainly alder, making this mainly wet woodland. The rest of this area is dry woodland dominated by beech, oak and birch. The under storey is dominated by undesirable species. Bamboo dominates large areas and rhododendron and cherry laurel are also present (for management of undesirable species please see Feature 10). The wetter areas have better vegetation diversity and structure.

Figure 31: Dry Mixed Woodland

The area to the east of the site bordering the MOD land contains mainly large oaks with some pine and birch. The oaks are most likely the oldest trees on the whole site. In spring there are several areas of bluebells growing here.

The woodland surrounding the dry heath is mainly young birch with some pine and oak. The section to the east of the heath and the car park is mature pine woodland.

The thin strip of woodland surrounding the edge of Fugelmere Marsh and the wet heath is mainly birch, pine and some oak. There is an understory of holly in many areas and some small patches of rhododendron, cherry laurel and common laurel.

Rare and notable species

The lesser spotted woodpecker has been seen regularly in the north east area of the site. It has been recorded as breeding at Fleet Pond (please see APPENDIX 9 for a list of red and amber listed bird species). There is plenty of standing dead wood in the woodlands, much of this is made up of pine totem poles, providing perfect breeding sites for woodpeckers and other bird species. Dead limbs on living pines are also good habitats for the lesser spotted.

Figure 32: Robin

This woodland also provides a good habitat for fungi with a good number of species having been recorded here as well as a variety of dragonflies and damselflies.

Vision

Within the woods, different ages and species of locally native trees are represented. Veteran trees are haloed to allow them to spread and grow. Paths criss-cross through the wood allowing visitors to wonder through avenues of trees and enjoy the sights and sounds of the many bird species that use the woods. Deadwood on the ground creates an

important habitat for many species of fungi and invertebrates, while standing deadwood creates the perfect nesting opportunities for woodpeckers and bats. The ground flora is diverse in its structure and there are good levels of regeneration occurring throughout the woods.

Performance Indicators

These performance indicators give an indication as to the status of the feature. When the factors and attributes of the feature as listed below are found to be within the upper and lower limits, the feature is said to be in favourable conservation status.

- Extent of canopy cover
  Upper limit = 90%
  Lower limit = 75%

- Cover of temporary or permanent open spaces
  Upper limit = 25%
  Lower limit = 10%

- Locally native tree and shrub species
  Upper limit = none set
  Lower limit = 90%

Figure 33: Seven spot ladybird

- Dead wood (trees/ha equivalent)
  Upper limit = none set
  Lower limit = 3

- Ground flora referable to relevant woodland communities
  Upper limit = none set
  Lower limit = 80%

Management

Management Options	Notes on Management Tasks	Time and Resources
Thinning	Little formal management is needed in woodlands generally, unless there has been formal management such as coppicing carried out previously. The woodland largely looks after itself as natural succession takes place. However some areas of dry woodland would benefit from selective thinning of the understory to increase ground flora and allow more light to specimen trees. Some of the larger oaks could benefit from haloing.	Sep – Mar Rangers / Contractors
Fencing	Maintain split chestnut fencing to protect ground flora	Contractors

Undesirable species control	Please see Feature 10. Holly should also be controlled in places to avoid this shading out the woodland floor level and reducing flora diversity.	Rangers / Volunteers
Stream diversion	The ditch channels re-profiled in 2012 /13, through Watery Mead to take flood flow from the Gelvert stream, should be walked once a year and any fallen trees or branches removed from them that may hinder flow. They should be cleaned out with a small excavator at least once every five years.	Rangers / Contractors
Chemical treatment	Invasive plant species can be sprayed with herbicide. This is carried out during the growing season. Any stumps of invasive species cut down during the winter season should be treated directly after cutting.	Spraying Apr – Sep Stump treating as and when.

An action plan for management tasks follows in Section 3.

Monitoring

Condition assessments annually
Botanical surveying every 5 years if resources allow (Yr. 1)
Invertebrate surveying every 5 years if resources allow (Yr. 2)

FEATURE 10: Invasive Species

Description

There are a few problem species at the pond most of which are a common concern at many other nature reserves around the country. These include bamboo, skunk cabbage, Himalayan/Indian balsam, common and cherry laurel, rhododendron, New Zealand pygmy weed, American crayfish and mink.

Please see APPENDIX 12 for a map showing the problem areas within the reserve.

Vision

Invasive alien species are eradicated where possible or under control where eradication is not possible. They do not have a significantly detrimental impact on other important native plant and animal species.

Figure 34: Mink

Performance Indicators

These performance indicators give an indication as to the status of the feature. When the factors and attributes of the feature as listed below are found to be within the upper and lower limits, the feature is said to be in favourable conservation status.

- % of bamboo found over whole of site
  - Upper limit = 2%
  - Lower limit = none set

- % of New Zealand pygmy weed found over whole site
  - Upper limit = 10%
  - Lower limit = none set

- % of skunk cabbage found over whole of site
  - Upper limit = 2%
  - Lower limit = none set

- % of Himalayan/Indian balsam found over whole of site
  - Upper limit = 1%
  - Lower limit = none set

- % of laurel and rhododendron species found over whole of site
  - Upper Limit = 0%
  - Lower limit = none set

- % of other alien invasive species found over whole of site (including mink and American crayfish)
  - Upper limit = 2%

Lower limit = 0%

Management

Management Options	Notes on Management Tasks	Time and Resources
Himalayan/Indian Balsam	Himalayan/Indian balsam has been found in small numbers along Brookly stream. Pulling the plants up has reduced numbers to only a few per year. If any are seen, they should be removed as the seeds can spread rapidly.	As and when seen Rangers / Volunteers
Bamboo	Bamboo may be dug out by machinery and follow up sprayed with appropriate herbicide where accessible.	As and when Contractors
Skunk Cabbage	Spray annually with appropriate herbicide.	Mar – Aug Rangers
New Zealand Pygmy weed	Spray annually with appropriate herbicide prioritising islands, reedbeds and marshes.	As and when agreed by Natural England avoiding breeding bird season. Rangers / Contractors
Rhododendron, Laurels and other invasive woody species	Cut and treat stumps and/or spray with appropriate herbicide.	Rangers
Crayfish	Monitor as part of fishing strategy. Investigate use of crayfish traps.	Contractor / Volunteers
Mink	Monitor using unset traps October – March. Use of contractor if evidence is found and traps are set.	Ranger / Volunteers / Contractor

An action plan for management tasks follows in Section 3.

Monitoring

Condition Assessments annually
Botanical surveying every 5 years if resources allow (Yr. 1)
Crayfish/mink trapping if used

SECTION 3 – ACTION PLAN

The Action Plan sets out management tasks by feature and divides the work up into 5 years. The total amount of work needed may not be finished in these 5 years, but at the end of this time a review of the work should be completed and the Management Plan updated. The Action Plan acts as a guide for management tasks and should be flexible if necessary.

Year 1 starts in April 2022 and each year will run from April to March the following year. This coincides with the financial year and each year also includes a summer season and a winter season.

Blue boxes indicate when the tasks should be carried out; white indicates that the work should not be carried out during these months due to the bird breeding season or to protect other wildlife.

a/w – As and when necessary or when time and resources allow.

Site maps follow the Action Plan, showing where on site works listed in the Action Plan will take place. These works include woodland thinning areas and reedbed cutting.

A financial summary, to give an indication only of funding over the next five years, can be seen in APPENDIX 13.

Feature	Task	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Notes
The Lake	Scrub control on margins *Rotationally cut the scrub to prevent scrub encroachment*													Yr 1–5, a/w
	Dredging *When available, dredge parts of the lake*													Yr 1–5, a/w
	Plant native water lilies *50 native water lilies to be planted in pre-determined locations*													Yr 1-2
	Install plant nursery protective cage *One protective cage to protect newly planted water lilies along the western edge*													Yr 1-2
	Install floating vegetated island rafts *Five vegetated islands to be secured in pre-determined locations around the pond*													Yr 1-2
	Install woody debris reef *Secure woody debris reef in pre-determined locations*													Yr 1-2
	Bogbean translocation *Existing areas of bogbean to be*													Yr 1-2

	relocated to pre-determined locations on site													
	Install floating marginal biohaven *Four floating biohavens to be secured in pre-determined locations around the pond.*													Yr 1-2
	Planting reed plugs *Plant 100 reed plugs in suitable, pre-determined locations*													Yr 1-2
Islands	Scrub control on edges *Rotationally cut and remove scrub*													Yr 1-5
	Maintain gravel *Clearwater Island to be maintained as a gravel topped island.*													Yr 1–5, a/w
	Maintain open water conditions *Allow for a diversity in age structure and density on the islands*													Yr 1–5, a/w
Streams and Ditches	Undesirable species control *Vigilance on species control, action to be taken in the case of invasion.*													Yr 1–5, a/w
	Clearance of debris and blockages *Allow free-flow of water through the site*													Yr 1–5, a/w

	Digging of ditches *Mechanically excavated on rotation*													Yr 1–5, a/w
	Insertion of Dog Steps, hazel hurdles or coir rolls *When required to secure the banks from erosion*													Yr 1–5, a/w
	Installation of a small leaky wooden dam *Maintain the water flow through the diversion channel to Coldstream Marsh*													Yr 1-2
Reedbeds	Scrub clearance *By year 5, scrub should cover between 1% and 10% of the area*													Yr 1-5 in rotation
	Coppicing of woodland edge *Rotationally cutting the woodland border to maintain a screen where needed*													Yr 1-5 in rotation
	Reed cutting *Rotationally cut each area of reedbed. Remove cut material from site.*													Yr 1-5 in rotation
	Manage water levels *Maintain water control structures such as culverts, sluices, ditches*													
	Extending areas of bogbean *Re-locate bogbean to pre-identified areas on site*													Yr 1–5, a/w

Marshes	Grazing *Graze between 1st March and 31st October to achieve a diverse vegetation structure*													Yr 1-5
	Scrub clearance *Rotationally cut scrub across the marshes to retain an open condition with scattered trees, scrub to cover no more than 5% of the area.*													Yr 1-5 in rotation
	Scraping/shallow pool creation *Creation of pools and scrapes (various sizes) by mechanical means.*													Yr 1 and 2
	Cut and collect soft rushes *Where required, rotationally cut patches of dense rush. Remove arisings from site.*													Yr 1–5, a/w
	Manage water levels *Maintain water control systems such as culverts, sluices and ditches*													
Lowland Heath (wet and dry heath)	Grazing: *Grazing on the wet heath (Wood Lane Heath).*													Yr 1-5
	Scrub management *Manage birch and pine scrub so that by year 5, cover is no more than 10%*													Yr 1–5, a/w

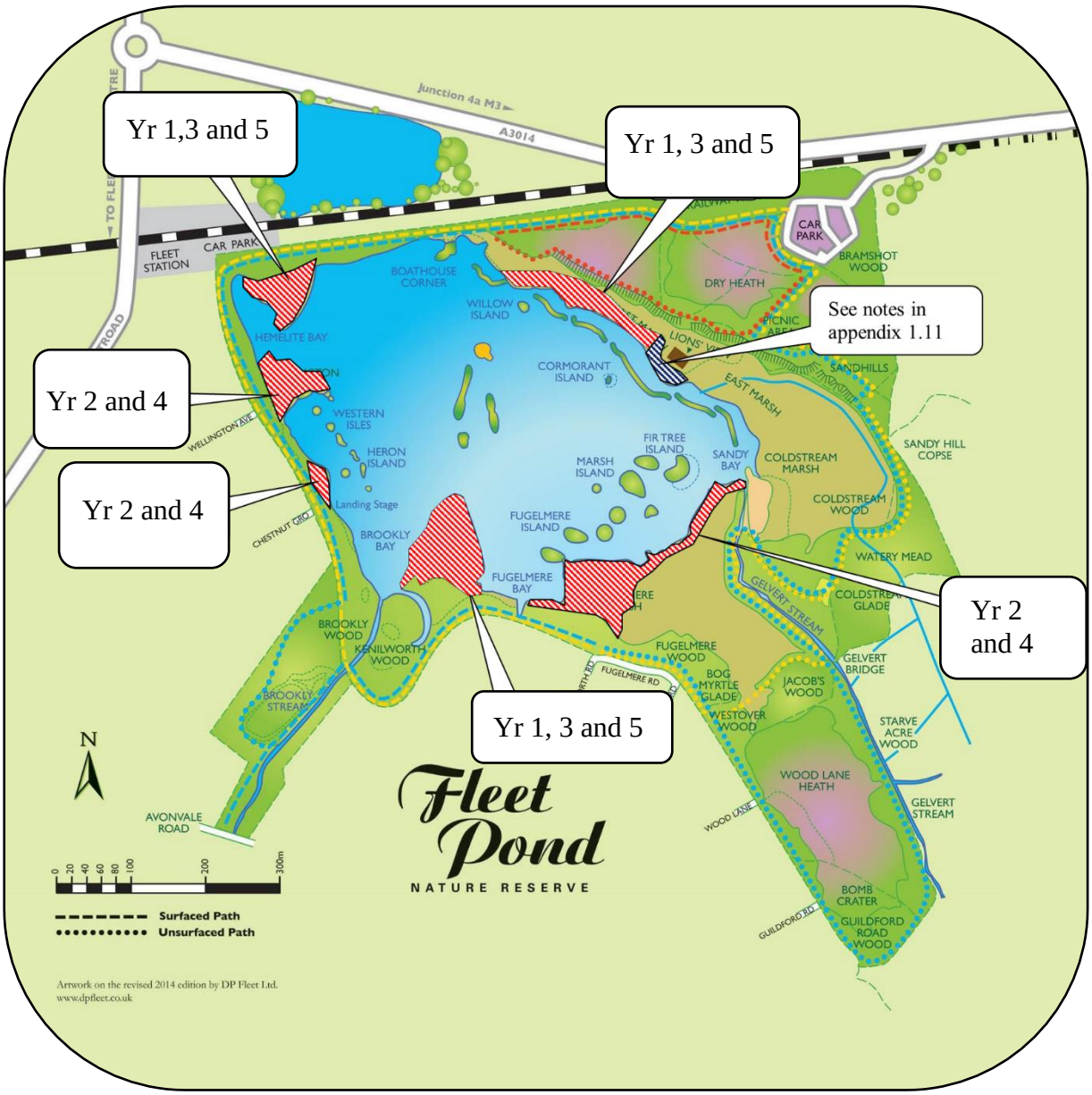
	Gorse management *Through rotational burning/cutting and removing arisings*						■	■	■	■	■	■		Yr 1-5
	Cut and collect mowing *Rotationally cutting the heathland to achieve variable age structure*						■	■	■	■	■	■		Yr 1–5, a/w
	Bare ground creation *Either through grazing or the creation of scrapes*							■	■	■	■	■		Yr 2-3
	Bracken control *Rotationally manage dense bracken stands by cutting/brusing/spraying*	■	■	■	■	■								Yr 1–5, a/w
	Undesirable species control *E.g. Rhododendron and laurel species.*	■	■	■	■	■	■	■	■	■	■	■	■	Yr 1–5, a/w
	Firebreak maintenance *Provide and maintain fire control measures as agreed in the Wildfire Response Plan*						■	■	■	■	■	■		Yr 1-5
Wet Woodland	Scrub control in the glades *Maintain 10% open spaces within the woodland*						■	■	■	■	■	■		Yr 1–5, a/w
	Thinning *Rotationally thin trees across the compartment to allow for a diverse age and height structure.*						■	■	■	■	■	■		Yr 1 and 4

	Undesirable species control *E.g. Rhododendron and laurel spp.*													Yr 1–5, a/w
Dry Mixed Woodland	Halo large oaks *Clear trees around pre-identified future veteran oaks*													Yr 3
	Undesirable species control *E.g. Rhododendron and laurel spp.*													Yr 1–5, a/w
	Manage dangerous trees in high-risk areas *Annual tree inspections*													Yr 1–5, a/w
	Thinning *Rotationally thin trees across the compartment to allow for a diverse age and height structure.*													Yr 2 and 3
Invasive Species	Pulling of Himalayan/Indian balsam *Hand pull plants before seeds set*													Yr 1–5, a/w
	Spray New Zealand pygmy weed *Identify areas on site and chemically spray where appropriate*													Yr 1-5
	Bamboo removal *Maintain a programme of chemically spraying bamboo across problem areas*													Yr 1, 3, 5
	Skunk cabbage *Manually remove plant and roots to prevent re-growth*													Yr 1–5, a/w

	Spray, cut and remove invasive woody species													Yr 1–5, a/w

3. Work Plan Maps

3.1. Five Year Work Plan: MAP 11 – Reedbeds & Marshes
(subject to RSPB reedbed condition assessment)



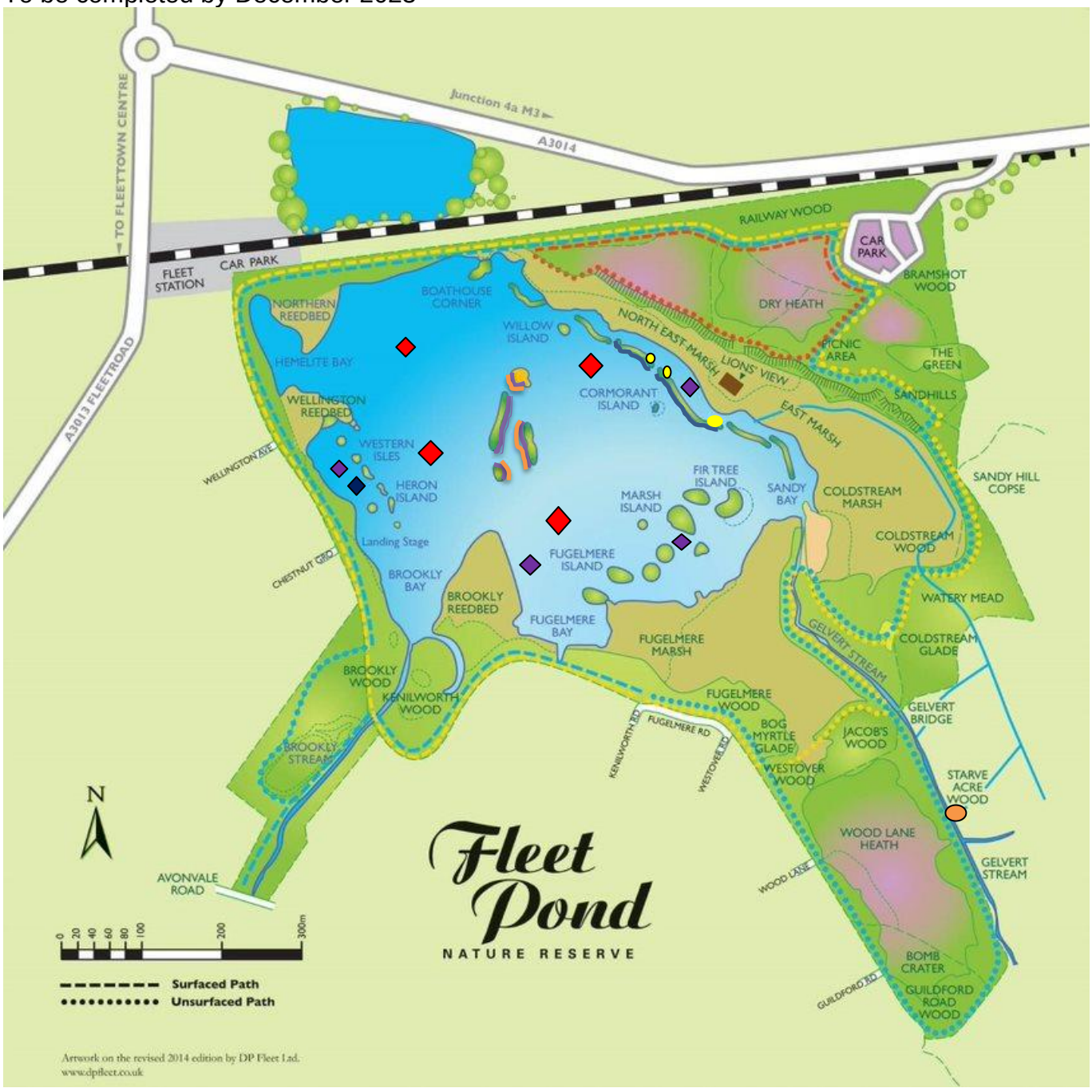
Each reedbed will be visited every 2 years, during which an area with be cut and the cut material removed from site.

Year 1, 3 and 5: Brookly Reedbed, Northern Reedbed and North East Marsh

Year 2 and 4: Fugelmere Reedbed, Wellington Reedbed and Chestnut Reedb

3.2 Map 12 Countryside Stewardship Capital work: Lake features

To be completed by December 2023



Key

- Reed plugs
- Planted water lilies
- Floating vegetated rafts
- Plant nursery cage
- Floating marginal biohaven
- Bogbean translocation
- Woody debris reef
- Leaky wooden dam

3.3 Map 13 – Northern Path mitigation works and Countryside Stewardship Capital works: Scrub removal and scrape creation

Key

Indicates the approximate locations for scrub removal in difficult places (CS capital work)

Indicates the approximate locations for scrape creations within the marshes (CS capital work)

Indicates the approximate location for reedbed creation (Northern Path mitigation work)

Indicates the approximate location for flash creation (Northern Path mitigation work)

3.4 Map 14 – Habitat compartment map

Key:

H1-H5

Dry heathland sub-compartment, rotational scrub management and heather cuts (20% heather cuts per sub-compartment within 5 years)

H6

Wet heathland scrub management, annual overall management, grazing

H6a-H6c

Wet heathland rotational heather cuts (20% per sub-compartment within 5 years)

F1-F6

Fen/marsh sub-compartments, rotational scrub management and cutting

R1-R6
Reedbed sub-compartments, rotational scrub, and reed management

Islands
Rotational island management

Invasive species management
Priority 1 – *Crassula*, bamboo
Priority 2 – Himalayan balsam
Priority 3 – Duck weed, skunk cabbage, rhododendron
Priorities subject to monitoring populations over time.

SECTION 4 – SUSTAINABILITY

At a full Council meeting on the 29th of April 2021, councillors committed to becoming a carbon neutral authority by 2035 and a carbon neutral district by 2040. A climate change working group is now set up, who meet regularly to discuss the climate change action plan.

The Hart Climate Change Action Plan 2020-2023 sets out the process by which the Council will become a net zero carbon emitter. Reduction of CO2 is at the front and centre of our policies and formal decision making. The plan can be seen at https://hart.gov.uk/climate-change-0.

Figure 35: Carved Heron totem pole

The Countryside Service endeavour to be as sustainable as possible. For example, any woodland work undertaken, large pieces of timber produced are considered for construction of products to use at the site, such as planks for boardwalks, path edging or wooden drop posts. This reduces the carbon footprint of wood brought into site. Large pieces of fallen dead wood or standing trees are also considered for carving, for art and natural play, such as the play log and totem pole in the picnic area. Any other such opportunities that arise will be taken advantage of in a similar manner.

Figure 36: Carved natural play log in picnic area

Woodchip created through any habitat management work is used to either create habitat piles for invertebrates and reptiles or recycled for use around the district on Hart District Council owned planting beds and managed verges by the shared grounds maintenance service. This saves on moving large amounts of woodchip in from outside the district.

In addition all our site furniture is made from FSC certified sustainably sourced timber.

The use of pesticides is limited as much as possible, only being used when necessary, for example when treating invasive species such as New Zealand pygmy weed and skunk cabbage.

Horticultural peat is not used. Peat can be used for propagating and growing plants, because it retains moisture and stores nutrients. However, taking peat from its natural home of organic wetlands destroys wildlife habitats for many rare species. Peat bogs are also major carbon sinks, holding four times as much carbon as

forests. When peat is extracted from bogs it releases huge amounts of carbon dioxide into the atmosphere.

When undertaking any large procurement, sustainability is always considered as part of the scoring process. This means we can use the most environmentally friendly companies possible.

We are also working to reduce the use of single use plastics (SUPs). This is a council wide initiative. Where it is relevant to the commons, is in our booking procedure for events and activities. Part of the booking form specifically asks people to detail how they intend to reduce or eliminate the use of SUPs.

The ranger team have invested in electric power tools, such as electric chainsaws, phasing out petrol driven tools. EV charging points are being installed at Fleet Pond car park and will be considered at any new facilities.

The management of disposal of scrub, through various management techniques such as burning or chipping is being considered, to provide the best outcome for habitat management, as well as limiting the release of carbon.

SECTION 5 – PUBLIC ENGAGEMENT

1. Fleet Pond Visitor Strategy

Hart District Council has a commitment to encourage personal health and wellbeing, and to enhance the environment. The Council's Corporate Vision is to for Hart 'to become the best place, community and environment to live, work and enjoy.

The Vision includes:

- The creation of green corridors between all settlements to encourage sustainable healthy transport (the Green Grid) and provide cycles for hire to enable movement.
- Enhancing our leisure provision e.g., new country parks delivering improved facilities, and through promotion of culture and heritage in the districts e.g., through events.

Figure 37: View over the water

This includes enhancements at Fleet Pond, which is now part of the Green Grid. The development of Fleet Pond Nature Reserve in promoting health and wellbeing aids in meeting Hart's corporate objectives. These facilities will include accessible natural play for all, a valuable green space for dog walkers, joggers, cyclists and fishermen, a place of peace and tranquillity for nature lovers and art, heritage and education in all we do.

2. Health & Wellbeing

Fleet Pond is a popular site for a variety of activities which stimulate healthy living and wellbeing including, jogging, walking, volunteering, cycling and quietly experiencing nature.

Fleet Pond Society has worked to install a number of benches around Wood Lane Heath. This enables visitors that are less mobile to access the long walking route providing plenty of opportunities to rest and encouraging them to improve their health and fitness. Benches are provided throughout the site to enable stopping places for rest and relaxation.

Figure 38: Minding the Garden wellbeing group at the pond

We have close links with local organisation Hart Voluntary Action who organise and run

Hart Health Walks, encouraging less active people to get out and get healthy in their local environment. A very successful Hart Health Walk runs at Fleet Pond monthly.

Previously, the Fleet Pond Ranger has worked with a variety of local Care Homes to encourage people suffering with dementia to use the Nature Reserve. Being in the countryside can stimulate the senses and invoke memories, helping people with this debilitating illness.

3. Community Involvement

3.1. Volunteering

3.1.1. The Fleet Pond Society

The Fleet Pond Society (FPS) was formed in 1976 and has approximately 900 members. The Society initiated the Clearwater Campaign to restore Fleet Pond Nature Reserve in partnership with Hart District Council, Natural England, the Environment Agency and other interested parties. Its Patron is the popular TV personality and naturalist, Chris Packham.

Figure 39: FPS members with Clearwater Campaign Flag

The FPS now has a healthy following of volunteers and a regular blog and newsletter. They hold events throughout the year and support others. They run, in partnership with the rangers, a regular volunteer day every second Sunday of the month, excluding July and August. As well as this the FPS work around the reserve in-between volunteer days and have an offshoot group called ‘Last of the Summer Wine’ that meet Friday mornings. The FPS raises funds for many projects around the reserve.

3.1.2. Corporate Volunteering

Fleet Pond is a popular venue for corporate groups and many of the same organisations visit for a day or two each year to carry out conservation tasks and team building. These include, Barclay Card, Dimension Data, BT, Virgin, the Environment Agency, NOKIA, Premier Inn, Scottish and Southern Energy, Fujitsu and many others. Corporate volunteering allows local businesses to give back to the community whilst working for nature conservation and building a stronger team.

Figure 40: Corporate Volunteer Group

3.1.3. Young Volunteers

Scouts, Cubs and Guides from local areas and further afield visit the nature reserve for conservation tasks and activities. The RSPB Wildlife Explorers regularly volunteer at the Nature Reserve. We regularly have work experience placements and young adults completing their Duke of Edinburgh Award.

3.2. Partnership Working

3.2.1. Other Conservation Organisations

Hart Countryside Services works in close liaison with Natural England. The site is a SSSI and therefore consent is required from Natural England as the statutory conservation body for SSSI's in England, before any work is started. They have been a partner in the Fleet Pond Restoration Project and part funded this major scheme. They also provide us with annual Higher Level Stewardship funding for conservation work on site. Communication involves regular on-site meetings as well as more formal applications.

The HDC Countryside Service and the Fleet Pond Society have a good relationship with the RSPB. The RSPB organise ad hoc events at the Pond (with prior consent from HDC), such as promoting the Great Garden Bird Watch, bird walks and attendance at our Wildlife Day. They also provide expert advice for habitat management including reedbed quality assessments.

Figure 41: Bird ringing on the islands

A CES (Constant Effort Site) project was initiated by a local bird ringer who is an active member of the British Trust for Ornithology. Until recent years, regular bird ringing took place in the reedbeds and marshes and allowed us to monitor the variety and number of species using the habitat. This helped us to inform management decisions in the future. Unfortunately, due to Covid 19, this effort has since stopped, however we do hope to re-establish this when possible.

Hampshire Ornithological Society (HOS) has a long-standing relationship with Hart District Council Countryside services. Many members of HOS bird watch at the pond and have done for many years. They have written articles on behalf of HDC on the bird life at the pond and are always prepared to offer specialist advice.

Fleet Pond borders land managed by the Hampshire and Isle of Wight Wildlife Trust (HIWWT). Regular liaison and an effective working relationship with the HIWWT ranger's supports our management and tasks are sometimes contracted out to their volunteer groups. We organise days to visit each other's reserves and share management knowledge and experience. Training days and conferences organised

by either organisation are also attended to network effectively. We also coordinate grazing and often work together to move stock on and off site.

3.2.2. Other Local Organisations

HDC Countryside Service has a long-standing relationship with the Environment Agency (EA). Two previous employees of the EA (now retired) are active members of the FPS and know the site well. They have compiled surveys mainly centred on the water quality and aquatic life of the pond.

We work alongside the Basingstoke Canal Authority. The overflow of the canal is relieved into Fleet Pond when necessary and so communications between the two authorities has to be clear and effective.

4. Marketing

Hart Countryside Services works to a communications plan which is produced by the communications and engagement officer and monitored by the Visitor Services Manager.

This document summarises annual events, press releases and publications through websites and social media for all of Hart Countryside's sites, including Fleet Pond Nature Reserve.

Marketing at Fleet Pond is integral to help maintain and monitor local community use. Successful marketing allows the community to fully utilise and benefit from this nature reserve.

4.1. Website

Information about Hart Countryside sites can be found on www.hart.gov.uk/countryside-nature. The Communications and Engagement Officer is responsible for keeping the website up to date. The success of the website is monitored by our corporate communications team. The website includes interactive google maps to help visitors locate the reserve. The website is mobile and tablet compatible.

A booking system for guided walks has been developed and can be found at www.hart.gov.uk/guided-walks-booking-form. Not only does this allow the public to easily book onto guided walks but it also assists in building up a mailing list. Members of the community can choose to be added to our guided walks mailing list by entering their email address at the foot of the form.

Hart District Council work to a style and plain English guide which is followed to ensure the website is easy to read and navigate.

4.2. Social Media

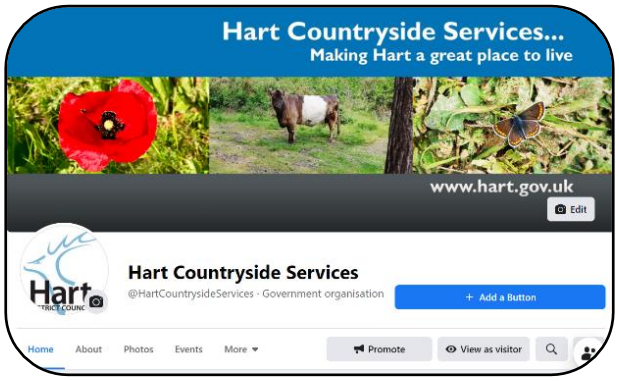


Figure 42: Screen shot of the Countryside Services Facebook page

Hart Countryside Services has its own Twitter (@HartCountryside) and Facebook (HartCountrysideServices) accounts. Posts are monitored by the Communication and Engagement Officer. These are used to post information about events, activities, wildlife sightings and works being carried out around the Pond. The Communication and Engagement Officer is responsible for replying to messages and posts on these sites as soon as possible in business hours Mon-Fri. Interaction with the community through these sites is monitored via Sprout Social.

The Fleet Pond Society have their own website (www.fleetpondsociety.co.uk), Facebook (Fleet Pond Society) and twitter (@FleetPondSoc) sites. On a regular basis the society re-tweets or shares ranger updates on their own pages.

4.3. Events & Activities

Events and activities are held at Fleet Pond throughout the year. Posters are produced in house by the Events and Education ranger. Posters follow a strict corporate brand guide which can only be altered if discussed and agreed with the corporate communications officer. This ensures consistency of style helping to strengthen the Hart Countryside brand, increasing recognition. Posters are displayed in each notice board found around the reserve and are posted on social media sites. Annual events include bug hunting and pond dipping sessions, bush craft, a family Halloween event, den building and very popular bat walks to name but a few. Unfortunately, due to Covid-19 our events programme was put on hold, however we hope to reintroduce walks and events during 2022.

4.4. Press Releases


News Round

A day of discovery at Fleet Pond Wildlife Day

Figure 43: Press release

Articles about habitat works, activities, wildlife and events are regularly printed in the Hart councils own in house newspaper ‘Hart News’. The Countryside Service has a two-page spread in this paper which is published twice annually and is distributed to every house in the district. Articles also feature in newspapers such as Hampshire Life and the Fleet News and Mail.

All press releases must go through the Communications and Engagement Officer and the council’s Communications Officer. The Communications Officer then

circulates the articles to the agreed media contacts, in accordance with the council's communications strategy.

4.5. Interpretation

The urban development of Fleet town has brought with it the impacts associated with population increase. To mitigate against some of these issues a Visitor Strategy was developed for Fleet Pond. The Visitor Strategy is now out of date and due a complete review in the coming years.

New development in the area has offered the opportunity for further funding but also associated with this is further population growth. Hart Countryside will need to develop a robust consultation and interpretation plan to facilitate these changes. Fleet Pond is now part of the green grid project https://www.hart.gov.uk/harts-green-grid. A signage strategy is being commissioned, to be completed in 2022, to aid in the development of consistent and branded signage across all Hart District Council owned sites. Old interpretation, notice boards and entrance signs will be phased out as and when they need replacing.

The reserve has 2 large 360º notice boards at the picnic area and Boathouse Corner. Interpretation on these boards will be specific to the area in which they are located. For example the board at Boathouse Corner has information on fishing permits, as it is located next to the pond.

A map board is located at the car park to direct visitors towards these two main areas with 360º notice boards for more detailed information. Small half panel notice boards or map boards will be situated at the most well used site access points.

Interpretative panels have been erected at strategic points around the reserve. Locations include, Fugelmere Bay, Sandhills and Hemelite Bay. The panels describe specific habitats and give examples of flora and fauna to be found. The panel found at Hemelite Bay depicts the more common birds which can be observed from the north-western bank. All these boards need replacing and the information on them needs to be updated, once the signage strategy is in place.

4.6. Education

Fleet Pond Local Nature Reserve has many people living in close proximity with an interest in the site. Much of this interest is channelled through membership of Fleet Pond Society. The Society draws members from people living on the western side of the Reserve in roads which border the site as well as from the wider community.

Beaver, guide, scout and school groups are encouraged to visit the reserve during ranger working hours Mon-Fri if they wish to have a ranger present. If this is not possible, groups can hire the services pond dipping and bug hunting kits, out of working hours. Leaders are offered the opportunity to visit the Education Ranger during working hours so the ranger can familiarise them with the reserve and show leaders where to and how to run these activities safely. This pre visit is used as an opportunity to record group risk assessments and numbers. Self-led visit data is kept in a spreadsheet by the Education Ranger.

The Fleet Pond Society built a pond dipping platform in 2012 which they often use with organised groups such as Beavers and Brownies, as well as running popular pond dipping sessions at Hart District Council's annual Wildlife Day. The dipping platform was funded by the Fleet Morning Women's Guild.

The management of educational visits is currently under review. The service wishes to improve the clarity of what the Countryside Service can offer the community educationally, whist maintaining a fair and sustainable service for the future.

Figure 44: Countryside Services stall at Wildlife Day

The rangers also attend exhibition events to promote the countryside sites, habitat management, conservation and responsible dog ownership. This includes organising Fleet Ponds own Wildlife Day, where local wildlife organisations come together to help educate and promote the local community about biodiversity and wildlife. Unfortunately, due to Covid, Wildlife Day has not been held for the last two years. We are currently reviewing whether this should be reinstated or whether it is an opportunity to try something new. As well as this, we attend events held locally such as Yateley Fun Fest, Hartley Wintney Village Festival and Elvetham Heath Village Fete.

SECTION 6 – APPENDICES

1. Site Byelaws

Hart District Council

Fleet Pond Local Nature Reserve

BYELAWS

The Hart District Council in exercise of the powers conferred upon them by Section 20 21(4) and 106 of the National Parks and Access to the Countryside Act 1949 in accordance with Section 236 of the Local Government Act 1972 hereby make the following byelaws for the protection of the Local Nature Reserve at Fleet Pond, Fleet in the County of Hampshire.

1. In these byelaws

   (a) 'The Reserve' means the pieces or parcels of land containing in the whole 58 hectares or thereabouts and situate in Fleet in the County of Hampshire declared to be managed as a Local Nature Reserve by the declarations dated the 29th September 1977 and 25th April 1996 made by the Hart District Council in pursuance of Section 21 of the National Parks and Access to the Countryside Act 1949. The Reserve is
   (b) For the purposes of identification shown as nearly as may be on the map annexed to these byelaws and therein edged in red.
   (c) 'The Council' shall mean the Hart District Council
   (d) 'Firearm' shall have the same meaning as in Section 57 of the Firearms Act 1968.

2. Within the Reserve the following acts are hereby prohibited except insofar as they may be authorised by the Council in accordance with the byelaw 3 or are necessary to the proper execution of his or her duty by an officer of the Council or by any person, or servant of any person, employed or authorised by the Council.

   Restriction of Access

   a) Entering at any time those parts of the Reserve edged green.

   Damage to or disturbance of things in the Reserve

   a) Spreading or using any net or setting or using any lamp or other instrument or any snare or lure, for the taking, injury or destruction of any living creature.
   b) Taking, molesting or intentionally disturbing, injuring or killing any living creature.

c) Taking or intentionally disturbing or destroying eggs, larvae, pupae or other immature stags, or the place used for the shelter or protection of any living creature.
d) Intentionally removing, displacing or damaging any tree, shrub, plant, fungus or part thereof (whether living or dead), or any unfashioned mineral thing including water and soil.
e) Climbing or ascending any tree or climbing or placing a ladder or steps against any tree.

Bringing animals to the Reserve

a) Intentionally bringing or permitting to be brought into the Reserve any living creature or the egg of any living creature or any plant or any seed or any other part of any plant, in such circumstances that is likely that such creature or plant will reproduce or propagate itself, or such egg will hatch, or such seed will germinate.
b) Bringing into, or permitting to remain within, the Reserve any dog unless it is kept either on a lead or under proper control and is prevented from worrying or disturbing any animal or bird or fouling on or within two meters of any pathway or open space where fouling does occur that the person in charge of the dog removes it.
c) Turning out any animal or poultry to feed or graze.
d) Bringing or permitting to be brought into the Reserve any horse, pony or beast of draught or burden or any other animal.

Areas of Water

a) Committing any act which pollutes or is likely to cause pollution of any water.
b) Bathing or wading in any water in contravention of a notice exhibited beside that water by order of the Council.
c) Water skiing or ice skating.
d) Sailing model boats.
e) Propelling (by any means whatsoever) any boat on an area or stretch or water other than a public waterway in contravention of a notice exhibited beside that water by the Council.
f) Mooring or leaving or launching any boat elsewhere than on a mooring site indicated by a notice exhibited by the Council as being available for this purpose.
g) Obstructing the flow of any drain or watercourse.

Use of Vehicles

a) Driving, riding, propelling or leaving any mechanically propelled vehicle (including hovercraft) elsewhere then on a highway or road, or in a place indicated by a notice as being available for the purpose.
b) Launching or landing, except in case of emergency, any aircraft, including hang glider, motorised glider or microlite craft.

c) Operating any aircraft, including hang glider, motorised glider or microlite craft, at such a height that persons on the ground or in buildings may be inconvenienced or annoyed or animals may be disturbed.

Use of Certain Equipment

a) and (xxii)
b) Using any apparatus for the transmission, reception, reproduction, or amplification of sound, speech or images by electrical or mechanical means, except apparatus designed and used as an aid to defective hearing and apparatus used in vehicle so as not to produce sound audible by a person outside the vehicle.
c) Using any device designed or adapted for detecting or locating any metal or mineral.

Use of Firearms etc.

a) Being in possession of a firearm, with ammunition suitable for use in that firearm, or discharging a firearm or lighting a firework.
b) Projecting any missile manually or by artificial means (including by means of crossbow or catapult).

General Prohibition

a) Erecting, occupying or using any tent, shed, caravan or other structure for the purpose of camping elsewhere than in an area indicated by a notice as being available for camping.
b) Flying any kite or model aircraft.
c) Erecting any post, rail, fence, pole, booth, stand, building or other structure.
d) Posting or placing any notice or advertisement.
e) Selling or offering, or exposing for sale, or letting for hire or offering or exposing for letting for hire, any commodity or article or selling or offering for sale any service.
f) Engaging in any activity which is causing or likely to cause disturbance or holding any show, performance, public meeting, activity, exhibition, or sports or the playing of any organised games.
g) Intentionally or recklessly removing or displacing any notice board, notice exhibited by order of the Council, apparatus, wall, boundary bank, fence, barrier, railing, post or hide.
h) Roller skating, skiing, tobogganing or skateboarding.
i) Lighting any fire, stove, heater, or other appliance capable of causing a fire elsewhere than in an area indicating by a notice as being available for camping.
j) Letting fall or throwing any lighted match or lighted substance in a manner likely to cause a fire.
k) The dropping of litter or the intentional leaving of items in a place other than a receptacle provided by the Council for deposit of litter or refuse.
l) The dumping of garden refuse or any refuse domestic or otherwise.

Intentionally obstructing any officer

a) Intentionally obstructing any officer of the Council or any person, or the servant of any person, employed or authorised by the Council in the execution of any works including research or scientific work connected with the laying out, maintenance or management of the Reserve.

3. (1) The Council may issue permits authorising any person to do any act or class if acts within the Reserve or any part thereof which would otherwise by unlawful under these byelaws.

(2) Any such permit shall be issued subject to the following conditions: -

a) that it must be carried whenever a visit is made to the Reserve, and produced for inspection when required by a person duly authorised by the Council in the behalf; and

b) that it may be revoked by the Council at any time.

4. These byelaws shall not operate so as to interfere with the exercise

a) by a person of: -
   (i) a right vested in him or her as owner, lessee or occupier of land in the Reserve
   (ii) Any easement or profit a prendre of which s/he is entitled
   (iii) Any public right of way

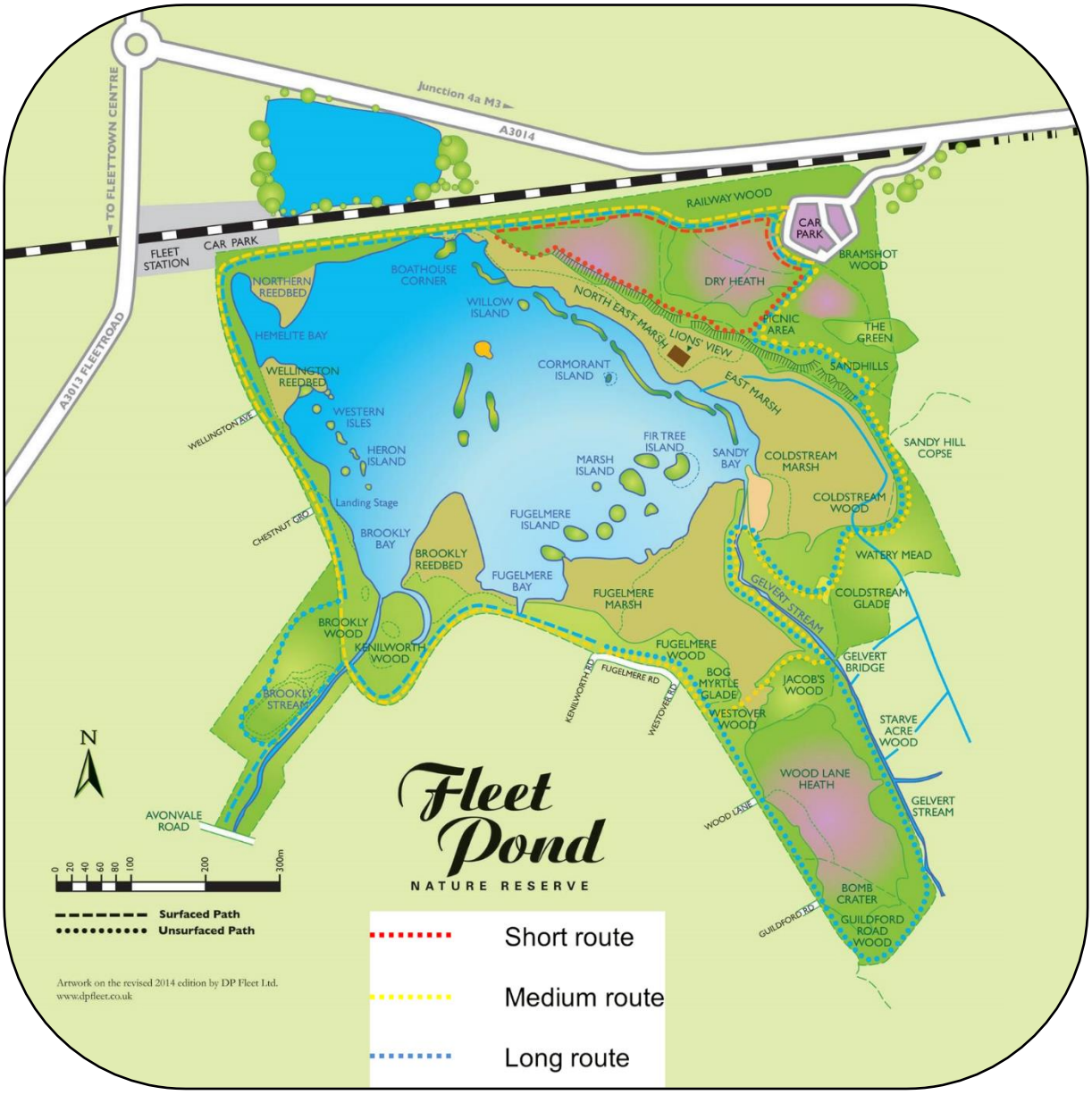
b) of any functions of a local authority, statutory undertaker or drainage authority

c) by a Constable or a member of the armed forces or of any fire brigade or ambulance service of the performance of his or her duty.

5. Any person who offends against any of these byelaws shall be liable on summary conviction to a fine on level 2 as laid down in the Criminal Justice Act and in the case of a continuing offence to a further fine of each day during which the offence continues after the said conviction.

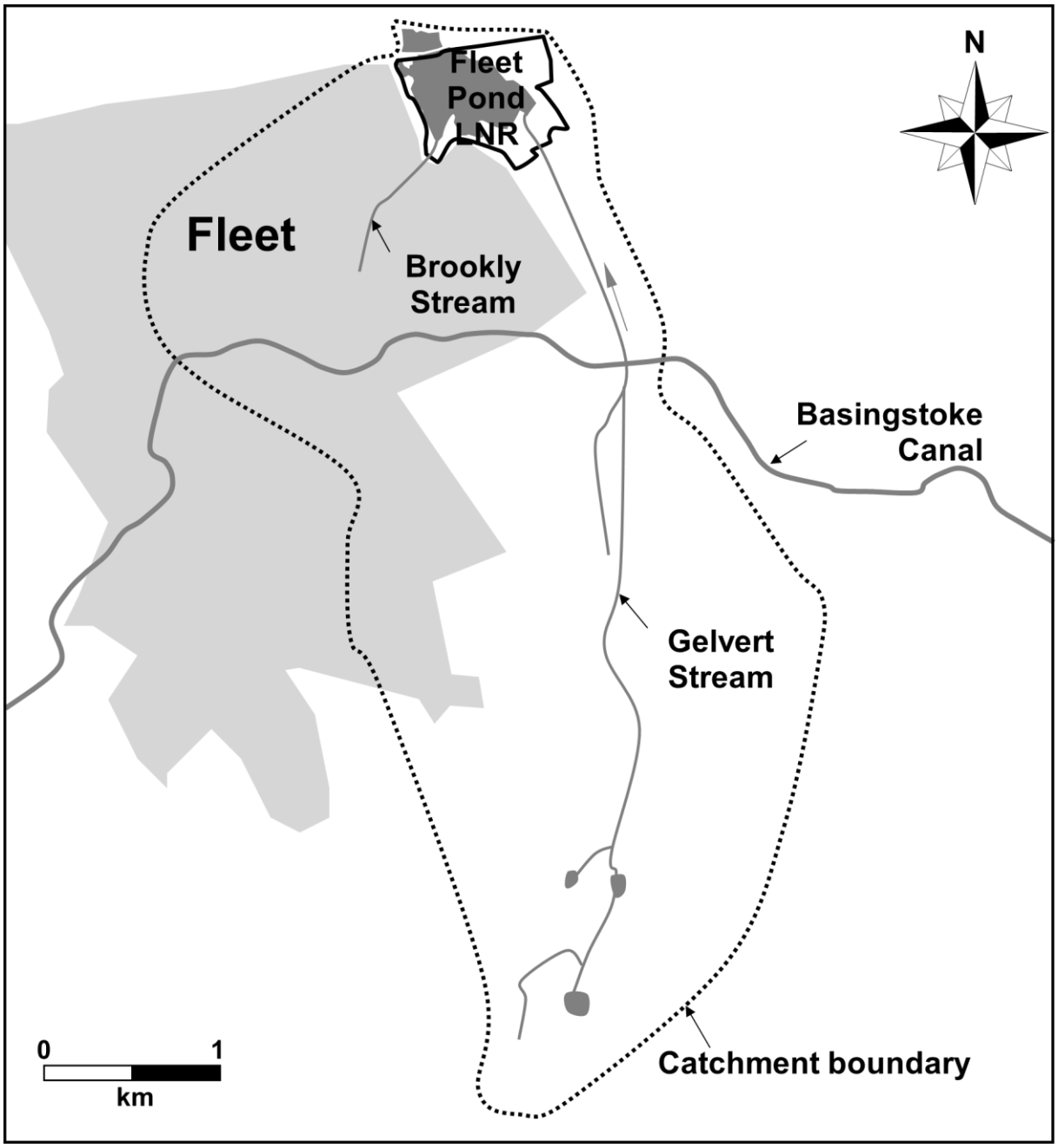
6. The byelaws relating to the Reserve which were made by the Council on the 24th November 1978 and were confirmed by the Secretary of State on the 17th July 1979 and hereby repealed.

2. MAP 15 – Walking Routes



3. MAP 16 – Illustration of the Fleet Pond catchment area

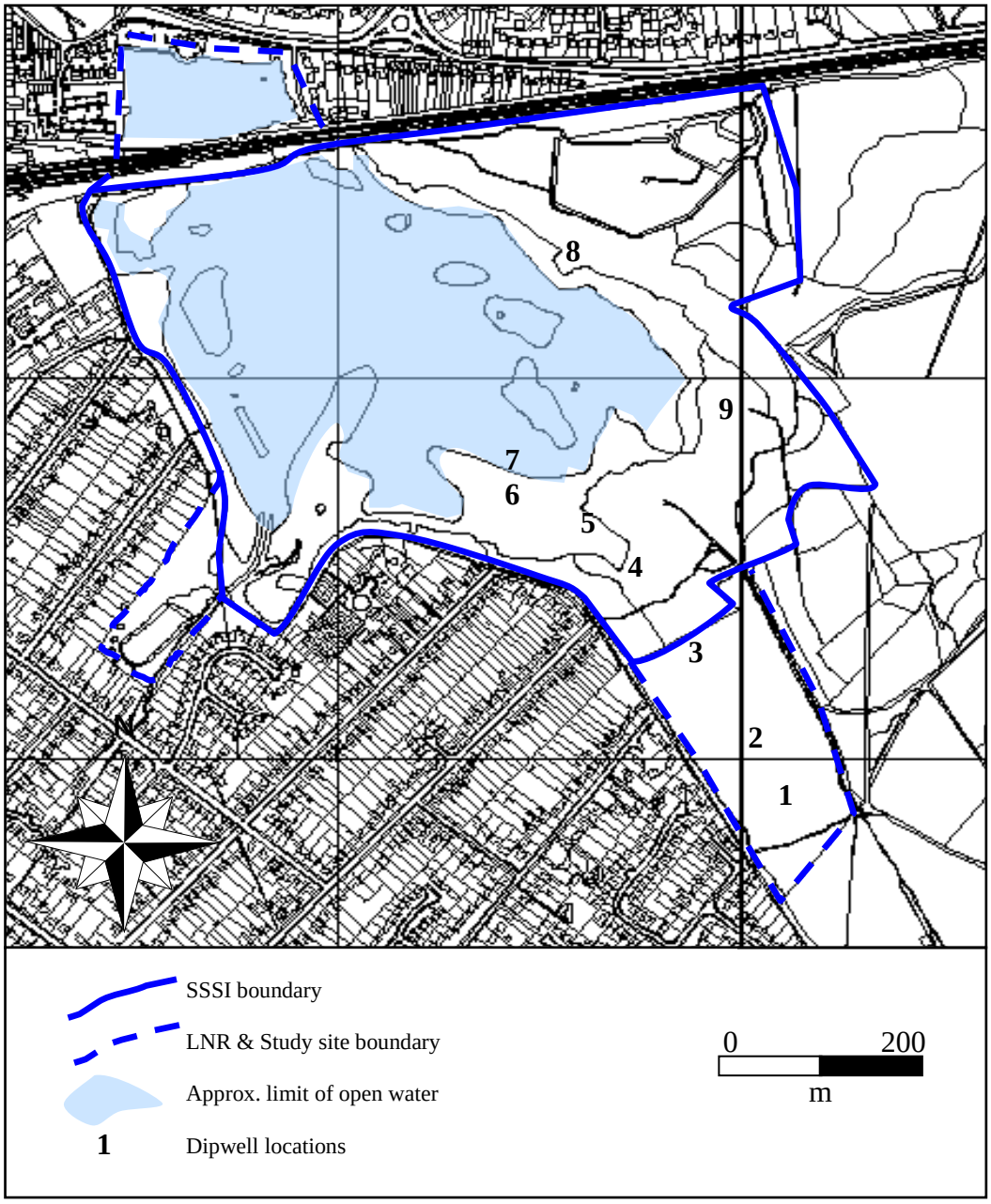
From WWT Wetlands Advisory Service report “Factors Controlling the Distribution and Condition of Vegetation at Fleet Pond”, 2003.



4. MAP 17 – Loddon Catchment Area

5. MAP 18 – Dipwell Locations

From WWT Wetlands Advisory Service report “Factors Controlling the Distribution and Condition of Vegetation at Fleet Pond”, 2003.



6. Biological Records, Surveys Undertaken & Species Lists

Flora

Vascular plants - Good numbers of early records exist, especially for the period from 1870 to 1900, but with a few from the 1850s. A few records exist for around 1920 and many for the period 1932 to 1941. Full surveys were made of the environs of Fleet Pond in 1956, C1960, C1964, 1970 and 1976 to 1978. Regular recording has taken place since 1983 (592 species recorded to the end of 1999).

Bryophytes - A few early records exist by Monckton (C1920) and Wallace (1930s). Recent surveys are by Alan Crundwell (1985 and 1986); Alan Crundwell and Chris Hall (1992) and Neil Sanderson (1995). (88 species recorded).

Lichens – Partial lists for some areas of the reserve exist recorded in 1988, 1992 and 1995. (47 species recorded).

Fungi - Since 1978 there has been frequent recording of fungi, most of which has been done in autumn. Species lists are on file for 1978, 1979, 1980, 1981, 1982, 1983, 1985, 1988, 1990, 1991, 1993, 1994, 1995, 1996, 1997 and 1998. Over 300 species have been recorded. The most recent survey was carried out in 2000, when 297 species were recorded. A further 34 specimens were collected that could not be identified.

Fauna

Birds - Regular year-round recording has been undertaken since 1969, placing Fleet Pond among the better recorded sites in the region. The earliest study to focus on Fleet Pond and its environs identified 154 species over a four-year period (Elms 1973) and a few years later 124 species were recorded in a single calendar year (Miller 1977). A recent annotated checklist (Rowland 1998) listed 201 species recorded since 1969. All totals include vagrants and rare visitors. About 130 species are resident on the reserve or regularly visit it and in 1997 some 45 species certainly or probably bred. Of these 130, nine are on the RSPB Red List and 15 are on the Amber List of species in decline. Twelve are priority species in the Biodiversity Action Plan.

Mammals - There has been very little systematic recording and much that is on file is anecdotal. A small mammal survey in 1989 identified six species as resident and six species of bat have been identified since 1994 using detectors. A further survey was conducted in 1999. In all a total of 29 mammal species have been reported in the Reserve since 1980, but three of these are probable misidentifications. Of the remainder, 13 are resident, eight are regular visitors and five rare visitors. The most important species in conservation management terms is Harvest Mouse *Micromys minutus* (confirmed present in 1999; Garland 1999) as it is a Biodiversity Action Plan Priority Species. Mink have become a problem in recent years with adults and young regularly being sighted. Wildfowl young have also declined in recent years, most likely due to predation by Mink.

Fishes - Fifteen species have been reported in the lake and feeder streams since 1984, though several of these are apparently rare.

Reptiles and Amphibians - Recording since 1985 suggests nine species are present, eight native plus the introduced red-eared terrapin Trachemys scripta.

Dragonflies and Damselflies - Recording began in 1938 and has continued, sometimes with long lapses, until the present. A detailed survey was made by Mike North in 1984/85 (North and Hall 1985) and some monitoring has been carried out almost annually since. During the 60 years an astonishing 28 species have been recorded but all have declined and some have not been reported since the 1960s. Recent recording suggests 16 species are present annually.

Butterflies – A species list for the southern parts of the reserve exists for 1955. A butterfly transect was initiated by Mike North in 1985 and continued until 1990. Regular butterfly counts resumed in 1995 and continue. A review of all butterfly records was compiled (Hall 1997). A total of 32 species have been recorded since regular recording began in 1985, of which 24 occur annually.

Moths – Some early records exist for Fleet Pond from the 1950s. Moth traps have been operated with increasing frequency since 1976, though not in every year and nearly all recording has taken place on the eastern side of the reserve. Species lists exist for 1976, 1983, 1986, 1987, 1993, 1994, 1995, 1997 and 1998. Total species recorded during the past 25 years now number about 360, of which 15 are nationally scarce and a further 40 are local.

Grasshoppers, Crickets and related Orthoptera – Species lists are on file for 1985, 1987 and 1994, plus there are some records of the more unusual species in other years. Thirteen species have been recorded, of which two are nationally scarce and several are very characteristic of the types of habitat found at Fleet pond but not in ordinary countryside.

Bees and Wasps - A survey exists for heathland to the east of Fleet Pond, including Sandhills, from 1946-48, when the area was rich in these insects. The spread of scrub, bracken and woodland since then has considerably reduced the fauna. Just eight species were found in 1987 (Oates 1987). However, a recent more extensive survey of the entire reserve was more encouraging, though numbers of many species were small. This identified 31 species of bee and 30 wasps, seven of them nationally scarce and two Red Data Book species (Edwards 2008).

Ants - A survey of the Dry Heath in 1994 identified eight species. A recent survey of the entire reserve increased this total to 9, including one that is nationally scarce (Edwards 2008).

Hoverflies – This specialist group has been recorded twice by experienced entomologists. Surveys just over a decade ago revealed a rich fauna comprising 71 species (Oates 1987, 1988) and including species of conservation importance. A recent survey (Edwards 2008) identified only 49 species but 20 of these were additions to the earlier list. There are thus fairly recent records for over 90

hoverflies, a third of the species known to occur in the British Isles. Furthermore, of these ten are listed as nationally scarce (Falk 1992).

Craneflies – This specialist group has been recorded on two occasions. The first, a far from comprehensive investigation, identified 23 species (including the only Red Data Book species then known at Fleet Pond) and establishes the wetlands of the SSSI as a valuable site for these insects (Oates 1988). A second, very recent investigation identified 47 species (Edwards 2008) and brought the reserve list up to 57 species. These include the Red Data Book *Tipula marginella* (synonym *T. marginata*) on Fugelmere Marsh and three that are nationally scarce.

Other flies – Both Matthew Oates (1987/88) and Mike Edwards (1997/98) recorded certain other families of flies as well as their target species. Records included a number of very noteworthy species, especially the Red data Book robber fly *Eutolmus rufibarbis* on the Dry Heath, Wood Lane Heath and in the wet woodland (2008), and the Red Data Book thick-headed fly *Myopa fasciata* on the Dry Heath (2008). Four nationally scarce species were recorded during these surveys.

Beetles – Several species lists exist for the reserve from 1964, 1977, 1982, 1994, 1995, 1997 and 1998, all recorded by entomologists with a special interest in beetles. These surveys, when combined, result in a list of 310 species for the reserve, with almost 280 of those confirmed during the 1990s. Beetles are a very large group of insects and many more could be anticipated. The list includes 16 species of ladybirds and 52 species of water beetles. Ten per cent of the beetles so far recorded are nationally rare or scarce and include the Red Data Book leaf beele *Cryptocephalus biguttatus*, found on Wood Lane Heath in 2008. Three other Red Data Book beetles were present in 1964 and may yet be refound: the leaf beetle *Zeugophora flavicollis* (associated with aspen) and two weevils *Bagous lutosus* and *Bagous puncticollis*, both occuring in wetlands and both listed as endangered in Britain. The last British record anywhere of *B. lutosus* was at Fleet Pond in 1964. The list also includes 38 nationally scarce species, 30 of which have been confirmed by surveys during the 1990s. One, the nationally scarce tumbling flower beetle *Tomoxia bucephala*, recorded at Watery Mead in 1998, is a Biodiversity Action Plan Priority Species. The beetle fauna of Fleet Pond LNR is of undoubted national importance. 114 species were recorded in 2008 during a general entomological survey of the site (Edwards 2008).

Plant Bugs – This large group of insects, which includes many familiar garden insects, lacked any modern records until the recent survey work by Peter Hodge (Hodge 1997, 1998). There is also a list on file from 1964. Recent field work identified 85 mainly common species, but two are nationally scarce. Both inhabit marshes. 44 species were recorded during a general survey (Edwards 2008) including one Red Data Book species.

Spiders – A survey conducted during 1998 identified 130 species and four harvestmen. Other recent records bring the total to 136 species of spider, of which nine are nationally scarce. Seven of the scarce species and the highest total of species overall were found on the Dry Heath (Jones 1998).

Molluscs - A survey of terrestrial and water margin habitats identified 50 species in 1996. The recorder felt that the additional species would be present in the lake. No uncommon species were found.

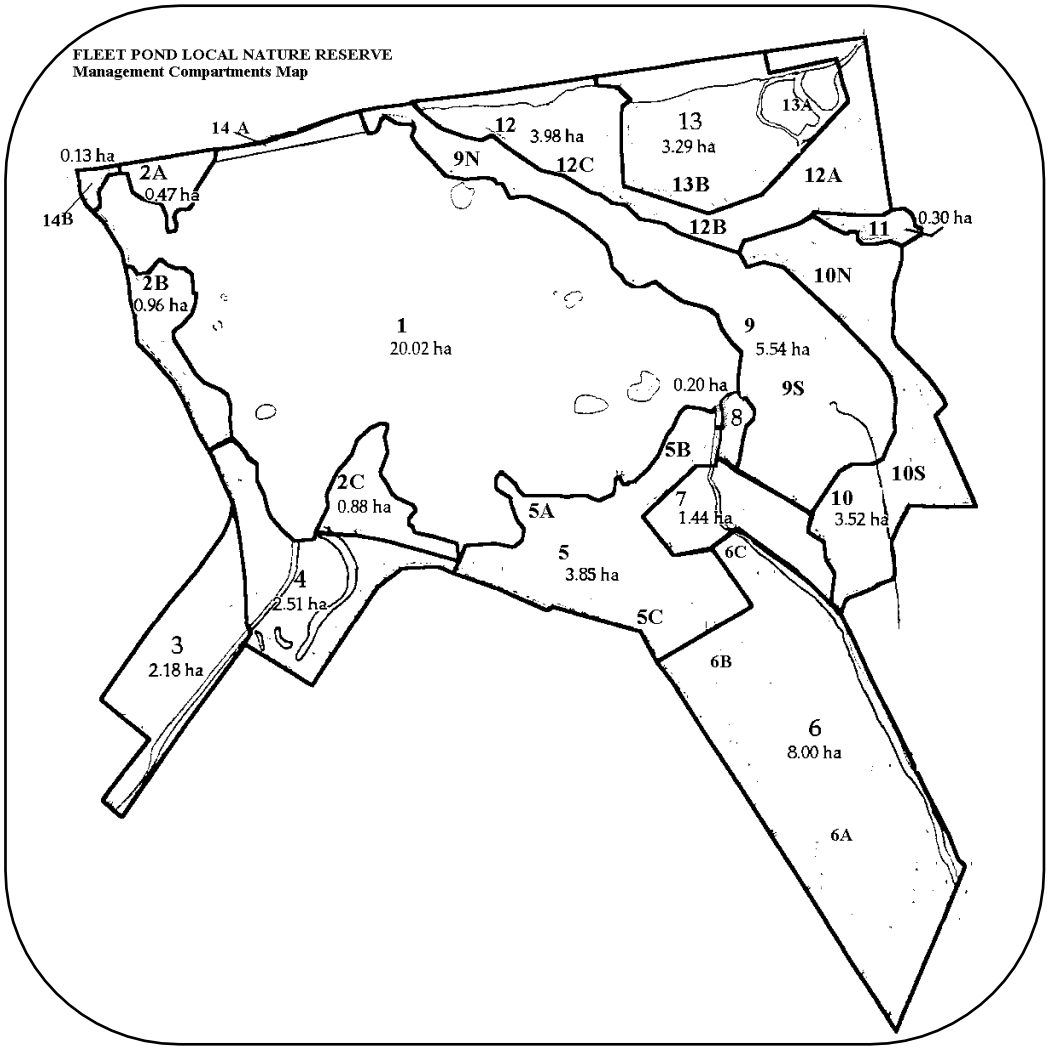
Other Fauna – A small number of records are on file for other groups, mainly invertebrates. A survey of aquatic invertebrates was undertaken in 1999 and a survey of small mammals took place in 2000. Fauna recorded to date around Fleet Pond exceeds 1,400 species.

7. MAP 19 – Vegetation Communities

Fleet Pond Nature Reserve is a complex site in incorporating several broad habitat types: aquatic, wetland and swamp, heathland, grassland and woodland. Two vegetation surveys of the reserve were undertaken by Hampshire Wildlife Trust surveyors in 1995, by Mary Flatt in July and by Neil Sanderson in September. Both were making their first visit to Fleet Pond and both had only limited time on site. The system used was the recently published National Vegetation Classification (NVC) as defined in British Plant Communities (Rodwell - 1991, 1992, 1994) but neither surveyor produced a NVC map for the site.

The following is a summary of knowledge of vegetation communities at Fleet Pond. Further work is required, some named communities are tentative and further field work may identify additional communities. A corresponding compartment map can be seen below.

Please take note that this is an old map and some of the compartments have changed due to management. Compartment 7 no longer exists. This was Alder Wood, completely cleared to extend the marshes in compartment 5. Compartment 12C is now part of compartment 13. 12A is also much smaller with the extension of Dry Heath towards compartment 11.



Aquatic

Several communities are believed to be represented but this aspect of the reserve's vegetation requires study.

Wetland

The wetlands fringing the lake comprise a complex mosaic of swamp and mire communities, including vegetation which Sanderson (1995) describes as "of regional importance as probably the best poor fen complex in Southern England". The wetlands are situated in Compartments 2, 5 and 9: they are priority areas for protection and conservation. The Compartment boundaries are drawn to include the inter-related wet carr woodlands.

S4 Phragmites australis swamp and reedbeds.
Both S4a Phragmites australis sub-community and S4b Galium palustre sub-community are believed to be represented. Dominant over parts of Compartments 2, 5 and 9S. See also S26.

S7 Carex acutiformis swamp
Very locally dominant in Compartments 5 (Gelvert Marsh) and 9.

S10 Equisetum fluviatile swamp
Compartment 5 on Fugelmere Marsh.

S13 Typha angustifolia swamp
In the pool by the flow arch; formerly also on the margin of Hemelite Bay and Gelvert Marsh.

S17 Carex pseudocyperus swamp
The community developing on parts of the recently cleared North East Marsh in Compartment 9 seems closest to this.

S26 Phragmites australis - Urtica dioica tall herb fen
The drier reedbeds fringing the north east side, Compartment 9N, should be placed here rather than in S4.

M5 Carex rostrata - Sphagnum squarrosum mire
On Fugelmere Marsh (Compartment 5) and East Marsh (Compartment 9). This is extremely rare in Southern England and, consequently, of extremely high conservation significance.

M6d (ii) Carex echinata - Sphagnum auriculatum mire, Juncus acutiflorus sub-community
Occurs on East Marsh (Compartment 9S) and very locally on Fugelmere Marsh (Compartment 5). It also survives in an impoverished form on Coldstream Marsh (Compartment 9S) and the southern end of Fugelmere Marsh and on the north edge of Bog Myrtle Glade (Compartment 6B).

A tussocky, Molinia-dominated grassland has developed on ungrazed areas of both Coldstream and Fugelmere Marshes where they have become drier. As these lack both Erica tetralix and Potentilla erecta it is perhaps best to regard them as degraded forms of M6 which is restorable through management.

Heathland

M25a Molinia caerulea - Potentilla erecta grassland/heath, Erica tetralix sub-community
Extensive on Wood Lane Heath, extending into the Bog Myrtle Glade, Gelvert Marsh (all Compartment 6) and Coldstream Glade (Compartment 10). Heathland on which Myrica gale is abundant is included in M25a by NVC. Neglected, unmanaged or frequently burned wet heathland usually degrades into M25a from the more diverse wet heathland community M16a Erica tetralix - Sphagnum compactum wet heath.

M16a Erica tetralix - Sphagnum compactum wet heath, typical sub-community
Wood Lane Heath (Compartment 6). It is possible the herb-rich variant M16a, the Succisa pratensis - Carex panicea sub-community also occurred in the past.

H1-H2 Heathland
Further study is required to satisfactorily classify the dry heath of Compartment 13.
It appears to be either:
A mosaic of H2a Calluna vulgaris - Ulex minor heathland, typical sub-community / H2c Molinia caerulea sub-community / U1 acidic grassland;
or:
a mosaic incorporating forms of H2 heathland with H1 Calluna vulgaris - Festuca filiformis heathland in the driest areas. H2c is apparently also present very locally on the Wood Lane Heath.

Grassland

U1e Festuca filiformis - Agrostis capillaris - Rumex acetosella grassland, Galium saxatile - Potentilla erecta sub-community. Grassland at the Green (Compartment 11) and at various parts of the Dry Heath (Compartment 13) probably all belong in this community, but further study of these grasslands may reveal classifiable variants.

MG6b Lolium perenne – Cynosurus cristatus pasture, Anthoxanthum odoratum sub-community.
Very locally along path edges of the Dry Heath where the soil is less acidic.

Bracken

U20 Pteridium aquilinum - Galium saxatile bracken community West side of the Green and in a glade at the west end of the Dry Heath, but in Compartment 12. More open, grassy stands with herbs beneath are U20a, dense stands of bracken are U20c. Bracken within woodland falls within a woodland type.

Woodland

Under the Peterkin system much of the classifiable drier woodlands at Fleet Pond LNR are 6Db lowland Oak - Birch woods or 6Dc lowland Oak - Hazel woods. The Alder carr falls within 7A (drier woods) and 7B (fen Alder woods).

Under the NVC system the Reserve's woodlands are varied; the following categories have been recognised.

W1 Salix cinerea - Galium palustre woodland/scrub
Fringing the lake to the north, Compartments 2A, and 14.

W2a Salix cinerea - Betula pubescens - Phragmites australis woodland, Alnus glutinosa - Filipendula ulmaria sub-community
Developing over former reedswamp along the west margin of the lake (Compartment 2B).

W4a Betula pubescens - Molinia caerulea woodland, Dryopteris dilatata - Rubus fruticosus sub-community.
Very local and rather poorly represented, on the drier parts of Compartment 9S.

W4c Sphagnum sub-community
The main woodland type fringing Coldstream Marsh (Compartment 9S) and Fugelmere Marsh (Compartment 5).

W5a Alnus glutinosus - Carex paniculata woodland, Phragmites australis sub-community.
Fringing the North East Marsh, Compartment 9N.

W6a Alnus glutinosus - Urtica dioica woodland, typical sub-community.
Brookly Wood, Compartment 3.

W6b Salix fragilis sub-community
The water-logged variant, forming most of Kenilworth Wood and extending north of the Brookly Stream, Compartment 4. This type of woodland is extremely valuable for invertebrates.

W6c Betula pubescens sub-community
The driest variant, probably present in Brookly Wood.

W10 Quercus robur - Pteridium aquilinum - Rubus fruticosus woodland.
Widespread in the reserve but sub-communities have not yet been worked out. This is a very variable type but possibly all of the drier woodlands, except those on the most free-draining soils, belong here.

W16a Quercus - Betula - Deschampsia flexuosa woodland.
Surrounds the Dry Heath as Compartment 12.

8. Methods Of Habitat Management

Non-intervention

The benefits and disadvantages of non-intervention at Fleet Pond LNR are very much dependent on the specific habitat. In the open areas of reedbed, marsh and heathland non-intervention has led to the intrusion of trees and scrub to the detriment of indigenous species. In the woodland it has permitted a young and dense early growth to mature into a variety of woodland types. Some intervention may be necessary to assist progression to mature woodland, but the natural succession is in progress.

It can be seen from the above that, in terms of biodiversity, some areas have little or no need for management intervention, while other areas will continue to need intervention to maintain the diversity.

Scrub control

Scrub control has been the method employed at Fleet Pond since 1983 to manage wetland and heathland areas. It has the desired effect of stimulating the regeneration of flora which would otherwise be lost in shaded positions.

Experience has shown that the most effective results can be obtained by treating the cut stumps with an approved herbicide. The method of application requires an experienced hand and will often require a return for further treatment in subsequent years. The implications of repetitive use of herbicide in sensitive habitats have to be considered. Monitoring before re-application is essential to ensure only target species are affected. Any herbicide treatment must be by qualified personnel using herbicides approved by the Environment Agency and Natural England. Herbicide must not be applied within 1 metre of open water without the appropriate qualification.

Scrub control by hand lopping, mechanical brush-cutting and sawing have a role. Removal of the roots is beneficial; but this is labour intensive unless an experienced winch operator is available. Where machinery can be used to remove roots without extensive damage to the site, benefits include opening and disturbing soil in which seeds may be dormant.

Seedlings and smaller bushes can be hand-pulled or removed with a ‘lazy dog’ tool, mattock or fork. This will also bring benefits from disturbed soil in limited areas.

Not all scrub should be removed. Isolated bushes or groups of scrub should be retained in open areas and at woodland edges as these are valuable to birds and invertebrates.

Tree clearance

In areas where woodland has established, it may be necessary to fell blocks of trees. This has been carried out in the past around the dry heath to make way for areas of heathland restoration. Further clearance may be necessary in other areas around

the Pond. However, the trees in these areas have little wildlife or historical interest, and the majority are less than 20 years old.

A felling licence from the Forestry Commission is required if more than 5 cubic metres of timber are felled in one calendar quarter and/ or the trees are greater than 8cm in diameter measured at 1.3 metres from the ground.

Undesirable species control

Invasive species, such as Rhododendron, Cherry Laurel, Bamboo, Himalayan Balsam, Skunk Cabbage and New Zealand Pygmy Weed, need to be controlled and reduced to avoid them becoming established. Where possible these species should be removed with the roots.

However, if this is not possible the plants can be cut down. For some species such as Rhododendron and Cherry Laurel, the stumps can be chemically treated. Alternatively the re-growth or the whole plant can be sprayed during the growing season.

Chemical management

Natural England and the Environmental Agency have lists of herbicides approved for use on nature reserves and in wetland habitats. Herbicides can be used to control certain species. For example scrub (see Scrub Control above). Correctly and carefully applied, a kill rate of up to 95% can be achieved on dry habitat species e.g. birch. Kill rate in wetlands is lower, but can achieve up to 65% on alder. Sallow *Salix* species are more resilient however.

There is need for extreme caution. Non target species may be killed, even when applied by experienced and qualified operators. The impact on invertebrates has been poorly studied and there is evidence that dead wood fungi growth is inhibited for up to two years after treatment (C. Hall personal records). However, if an appropriate chemical is selected, negative impacts are reduced.

Non-chemical methods of control are always preferable on a nature reserve and particularly on SSSI designated land.

Raking

Raking is of benefit to newly opened areas, e.g. glades, extensions to heaths by tree felling. Leaf litter and accumulated, decomposed litter can be raked to expose the original soil surface in which seeds will be dormant.

This method is also beneficial when cutting reedbeds as the accumulated litter of old reeds can be raked up after cutting has taken place.

Mowing

Mowing of heather dominated heathland is a good method of establishing structural diversity of the heather. However, regeneration of heather can be inhibited if buried

by mowed material and the nutrients which enter the soil as the cut material decomposes, enriches the soil and encourages colonisation by grasses. The cut material should therefore be raked up if cut with a brushcutter, or a cut and collect mower should be used and the material taken off site.

Mowing with a pedestrian mower and sickle bar cutter can also be used in the reedbeds to cut old reeds, then using a brushcutter in the harder to reach areas with softest ground, i.e. at the pond edge. Cut material can be rowed up for burning using the pedestrian tractor and rake.

Grazing

Grazing was traditionally the way in which heaths were managed from prehistory to the 19th Century. It remains a management tool on some heaths to this day. Grazing controls invasive scrub and young trees, keeps grassland shorter, regularly "prunes" heather, adds diversity into the sward through dung and removes and distributes nutrients.

Numerous minor disturbances are inflicted on the soil and vegetation through the activities of the animals. Bare patches and breaks in the sward are created in which seeds will germinate. Many plants are adapted to grazing. It is widely held to be the best management technique available on its own or in combination with other techniques such as mowing and raking.

Grazing is complex. There is still much to learn about the techniques and their effects. Hence there is need for the technique to be monitored. Results will differ depending on the types of animal used (including use of traditional or rare breeds instead of modern farm stock). Mixed grazing using horses and cattle generally produces better results because of the differing ways in which the animals graze and browse. The season of grazing and stocking density are also important considerations. Habitats can often be restored after neglect but over-grazing may cause permanent harm. Stocking densities should be low. Under spring or summer grazing some plant species may need to be protected.

Turf Scraping

Peat cutting for fuel was a small scale, traditional use of bogs. It created a succession of vegetation from boggy pools at the bottom of the most recent cut to the comparatively drier wet heath at the top. The disturbance exposed long dormant seeds and allowed the germination of bog plants. A similar effect can be achieved by deliberate turf stripping, removing established vegetation in small patches in order to recreate early successional stages. Re-cutting small sections of ditch should have beneficial effects by exposing dormant seeds. The technique works best in wet heath and should ideally be carried out in winter after seed fall. Exposure of seeds to the sun in summer months may lead to losses through desiccation. Care must be taken not to remove the entire seed bank by cutting too deeply.

Mechanical management

Mechanical management has the advantage of tackling larger tasks in a shorter timescale. Chainsaws can tackle the removal of larger trees more effectively than hand tools. The Brushcutter is very effective on thinner scrub and can be adapted for use in path clearance, bramble and bracken control. A hedge-cutter will help to keep protective hedging neat and dense and be more labour-effective than hand tools for long stretches of hedging.

The use of tracked excavators for heavy work such as ditch clearance has advantages. In selected areas of marsh, where the soil stability permits, excavators can effectively remove stumps. Providing the work is strictly supervised or done by experienced operators, the disturbance to the soil can, in fact, have beneficial effects by opening soil to sunlight and thus regenerating dormant seeds.

Pools for invertebrates e.g. dragonflies, can also be created by use of an excavator with an experienced operator. A skilled operator can create the range of depths and graded edges which are most beneficial for a range of invertebrates while creating diversity of soil structure in which a range of flora will germinate.

9. Table Of RSPB, BTO & JNCC Red & Amber Listed Birds Of Conservation Concern, Recorded At Fleet Pond

Key: RSPB = Royal Society For Protection Of Birds
BTO = British Trust For Ornithology
JNCC = Joint Nature Conservation Committee

Red list species are those that are 'Globally Threatened' according to IUCN (International Union for Conservation of Nature and Natural Resources) criteria; those whose population or range has declined rapidly in recent years; and those that have declined historically and not shown a substantial recent recovery.

Amber list species are those with an unfavourable conservation status in Europe; those whose population or range has declined moderately in recent years; those whose population has declined historically but made a substantial recent recovery; those with limited populations and low breeding rates; and those with internationally important or localised populations.

English Name	Scientific Name	Status at Fleet Pond	Red/Amber listed
Greylag Goose	*Anser*	Occasional visitor	Amber
Eurasian Teal	*Anas crecca*	Wintering	Amber
Mallard	*Anas platyrhynchos*	Resident	Amber
Northern Shoveler	*Anas clypeata*	Wintering	Amber
Common Pochard	*Aythya ferina*	Wintering	Amber
Little Grebe	*Tachybaptus ruficollis*	Wintering	Amber
Spoonbill	*Platalea leucorodia*	Vagrant	Amber

Bittern	*Botaurus stellaris*	Wintering	Red
Lesser Black-backed Gull	*Larus fuscus*	Occasional visitor	Amber
Yellow-legged Gull	*Larus michahellis*	Vagrant	Amber
Common Tern	*Sterna hirundo*	Breeding	Amber
Stock Dove	*Columba oenas*	Resident	Amber
European Turtle Dove	*Streptopelia turtur*	Summer and Passage	Red
Common Cuckoo	*Cuculus canorus*	Breeding	Red
Common Swift	*Apus*	Summer	Amber
Kingfisher	*Alcedo atthis*	Resident and Breeding	Amber
Green Woodpecker	*Picus viridis*	Resident and Breeding	Amber
Lesser Spotted Woodpecker	*Dendrocopos minor*	Resident and Breeding	Red
Marsh Tit	*Poecile palustris*	Resident	Red
Sand Martin	*Riparia*	Summer and Passage	Amber
Swallow	*Hirundo rustica*	Summer	Amber
House Martin	*Delichon urbicum*	Summer	Amber
Willow Warbler	*Phylloscopus trochilus*	Summer and Passage	Amber
Little Egret	*Egretta garzetta*	Resident	Amber
Red Kite	*Milvus*	Occasional visitor	Amber
Osprey	*Pandion haliaetus*	Passage	Amber
Kestrel	*Falco tinnunculus*	Resident	Amber
Northern Lapwing	*Vanellus vanellus*	Passage	Red
Jack Snipe	*Lymnocryptes minimus*	Wintering	Amber
Common Snipe	*Gallinago gallinago*	Wintering	Amber
Woodcock	*Scolopax rusticola*	Summer and wintering	Amber
Common Sandpiper	*Actitis hypoleucos*	Passage	Amber
Green Sandpiper	*Tringa ochropus*	Passage	Amber
Common Redshank	*Tringa totanus*	Wintering	Amber
Black-headed Gull	*Chroicocephalus ridibundus*	Breeding	Amber
Mediterranean Gull	*Larus melanocephalus*	Wintering	Amber
Common Gull	*Larus canus*	Wintering	Amber
Common Whitethroat	*Sylvia communis*	Breeding	Amber

Dartford Warbler	*Sylvia undata*	Occasional Visitor	Amber
Firecrest	*Regulus ignicapilla*	Occasional Visitor	Amber
Starling	*Sturnus vulgaris*	Resident	Red
Fieldfare	*Turdus pilaris*	Wintering	Red
Song Thrush	*Turdus philomelos*	Breeding	Red
Redwing	*Turdus iliacus*	Wintering	Red
Mistle Thrush	*Turdus viscivorus*	Breeding	Amber
Spotted Flycatcher	*Muscicapa striata*	Breeding	Red
Common Redstart	*Phoenicurus phoenicurus*	Passage	Amber
Dunnock	*Prunella modularis*	Breeding	Amber
House Sparrow	*Passer domesticus*	Resident	Red
Grey Wagtail	*Motacilla cinerea*	Resident	Amber
Meadow Pipit	*Anthus pratensis*	Winter visitor	Amber
Lesser Redpoll	*Acanthis cabaret*	Wintering	Red
Bullfinch	*Pyrrhula*	Resident	Amber
Reed Bunting	*Emberiza schoeniclus*	Breeding and wintering	Amber

10. Rare & Notable Species

The Lake

Here follows a list of aquatic species recorded by Chris Hall in 2002 and taken from the report “A Survey of the Aquatic Vegetation of Fleet Pond, Hampshire” (Hall, 2002). Aquatic here is defined as any flowering plant that grows submerged in standing or flowing water or which floats on the water’s surface.

Name	Scientific Name	Notes
Blunt-fruited Starwort	*Callitriche obtusangula*	Present in patches around the Pond margins, the edges of reedbeds and in Brookly Stream.
Common Starwort	*Callitriche stagnalis*	Frequent patches along edge of Brookly reedbed, abundant at Sandy Bay. Other scattered patches around Pond and reedbed margins.
Hornwort	*Ceratophyllum demersum*	Two isolated free-floating pieces found. Does not occur naturally in the Pond. Likely to be surplus material from garden ponds.
Canadian Pondweed	*Elodea canadensis*	Plentiful in one patch at Sandy Bay.

Nuttall's Water-thyme	*Elodea nuttallii*	Locally dominant at Sandy Bay. Present in other patches around the Pond margins.
Common Duckweed	*Lemna minor*	Widespread. Sometimes dominant on shallow pools but absent from extensive areas of water margins.
American Duckweed	*Lemna minuta*	A native of N. America. Can out compete native duckweeds. Found here in sheltered placed among reedbeds.
Ivy Duckweed	*Lemna trisulca*	Rare at Fleet Pond. Found on the edge of Kenilworth Bay.
White Water Lily	*Nymphaea alba*	Found near Boathouse corner.
Small Pondweed	*Potamogeton berchtoldii*	Found on margin of Brookly Bay and by reed margins near Fugelmere Island.
Curled Pondweed	*Potamogeton crispus*	Plentiful in Brookly Stream. Found also in the Flash. Not found in the lake.
Broad-leaved Pondweed	*Potamogeton natans*	Only a few leaves found in the flash. Ought to be very frequent.
Blunt-leaved Pondweed	*Potamogeton obtusifolius*	One plant found on margins of Gelvert Marsh. Also in Boathouse corner.
Fennel Pondweed	*Potamogeton pectinatus*	One plant recorded growing on silt in shallow clear water on Margin of Kenilworth Bay. Also on reedbed edge at Sandy Bay.
Steam Crowfoot	*Ranunculus penicillatus*	In Brookly Stream but numbers have decreased.
Great Duckweed	*Spirodela polyrhiza*	Widespread but localised. Most plentiful in the Flash and margins of Hemelite Bay.
Horned Pondweed	*Zannichellia palustris*	Most plentiful pondweed at Fleet Pond. Localised to sites where water is shallow and there is protection from grazing animals.

Reedbeds

Vascular plant species of conservation concern recorded in the reedbeds by Chris Hall (Hall, 2006.) (Reedbed compartment 2A – Northern, 2B – Wellington, 2C – Brookly.)

Name	English Name	Conservation Status	Date	Reedbed
Thelypteris palustris	Marsh Fern	Nationally Scarce. Regionally Rare. HS	2004	Wellington and Brookly
Salix purpurea	Purple Willow	Regionally Uncommon.	2006	Wellington
Carex curta	White Sedge	Regionally Scarce. HS	2005	Wellington

Carex pseudocyperus	Hop Sedge	Regionally Scarce. HS	2004	Northern, Wellington and Brookly
Bidens cernua	Nodding Bur-marigold	Regionally Uncommon	2004	Wellington
Callitriche obtusangula	Water Starwort	Regionally Scarce. HS	2002	Wellington and Brookly
Epilobium palustre	Marsh Willowherb	Regionally Uncommon	2002	Brookly
Hottonia palustris	Water Violet	Nationally Uncommon. Regionally Rare. HR	1990	Brookly
Lemna trisulca	Ivy-leaved Duckweed	Regionally Uncommon	2002	Brookly
Menyanthes trifoliata	Bogbean	Regionally Uncommon	2006	Northern and Wellington
Oenanthe fistulosa	Tubular Water Dropwort	RDB Vulnerable. Regionally Scarce. HS	1999	Wellington
Potentilla palustris	Marsh Cinquefoil	Regionally Scarce. HS	2006	Wellington
Rorippa amphibia	Greater Yellow Cress	Regionally Uncommon. HS.	2004	Northern and Wellington
Spirodela polyrhiza	Great Duckweed	Regionally Scarce. HR.	2002	Northern, Wellington and Brookly
Veronica scutellata	Marsh Speedwell	Regionally Uncommon	2002	Wellington

RDB – Red Data Book
Nationally Scarce, Confirmed since 1986 from 16 – 100 ten km squares in England, Wales and Scotland (less than 3.5% of the total.)
Nationally Uncommon, Confirmed since 1986 from 101 – 250 ten km squares in England, Wales and Scotland (c. 3.5% - 8.5%). These species are considered to be "Quality habitat indicators" by Natural England.
Regionally Vulnerable. Recently confirmed from 1 - 15 tetrads in Central Southern England.
Regionally Rare. Recently confirmed from 16 - 35 tetrads (0.5 - 1%) in Central Southern England.
Regionally Scarce. Recently confirmed from 36 - 150 tetrads (1 - 4%) in Central Southern England.
Regionally Uncommon. Recently confirmed from 151 - 300 tetrads (4 - 8.5%) in Central Southern England.
HR – Listed as rare in the draft version of the Hampshire Scarce Plant Register
HS – Listed as scarce in the draft version of the Hampshire Scarce Plant Register

Marshes And Fens

Nationally scarce and Red Data Book species of insect found in the marsh areas from Fugelmere through to East Marsh, as identified by Mike Edwards, 2008. (Edwards, 2008)

Species Name	Conservation Status	Also Found in 2008 in	Notes
Tipula marginella (Diptera, a cranefly)	RDB 3	Kenilworth Wood	Very localised, but then frequent. Associated with small areas of bare mud or peat near water. Larvae are aquatic.
Crudosilis ruficollis (Coleoptera)	Nationally Scarce b	Kenilworth Wood	Frequently found. Formerly a rare and very local wetland species but it has evidently spread over the last 40 years.
Tillus elongates (Coleoptera, Chequered beetle)	Nationally Scarce b		Infrequently found and local. Associated with ancient broad-leaved woodland where it is predatory on woodworm beetles, especially *Ptilinus pectinicornis* and *Anobium.*
Tapinotus sellatus (Coleoptera, a weevil)	Nationally Scarce a	Kenilworth Wood	Rarely found. Avery local weevil which has only been recorded from 7 vice counties, all in southern England. It is a wetland species, generally occurring along lake margins. Phytophagous. Associated with Yellow Loosestrife.
Platycis minutes (Coleoptera)	Nationally Scarce b		Infrequently found. Associated with ancient woodland and wood pasture, the larvae occurring in rotten heartwood of beech and ash. Restricted to lowland sites in England and Wales.
Conocephalus discolour (Orthoptera)	Nationally Scarce a	Wet Heath	Long-winged Cone-head. Commonly found. Increasingly widespread throughout southern England.

Psacadina verbekei (Diptera)	Nationally Scarce		Frequently found. Associated with marshy areas and margins of water bodies. Larvae develop in aquatic snails.
Tanyptera atrata (Diptera, a cranefly)	Nationally Scarce		Locally frequently found, but sporadic. The larvae live in old Birch.
Lasioglossum malachurum (Hymenoptera, bee)	Nationally Scarce a		Commonly found. Eusocial species which forms large colonies. Formerly a largely coastal species. Increased its range during the 1990's. Polyectic.
Macropis europaea (Hymenoptera, bee)	Nationally Scarce a	Kenilworth and Gelvert Woods	Locally frequently found. Unusually for a bee, this species is strongly associated with fens and marshes, where its forage plant, Yellow loosestrife occurs. Oligolectic. Ground nesting.

RDB 1. Endangered. Species currently (post 1970) known to exist in five or fewer ten-kilometre squares.
RDB 2. Vulnerable. Species in severely declining or vulnerable habitats, or of low known populations. Known to exist (post 1970) in ten, or fewer, ten-kilometre squares.
RDB 3. Rare. Species with small populations, not at present Endangered or Vulnerable, but which are felt to be at risk. Species currently known to exist (post 1970) in fifteen, or fewer, ten-kilometre squares.
RDB K. Species of undoubted RDB rank, but with insufficient information for accurate placement; includes possible recent arrivals.
Nationally Scarce. Species currently (post 1970) known to exist in one hundred, or fewer, ten-kilometre squares.
In some groups these are further sub-divided into: -
Nationally Scarce a. Species currently (post 1970) known to exist in thirty, or fewer, ten-kilometre squares.
Nationally Scarce b. Species currently known to exist in thirty-one to one hundred ten-kilometre squares.

Notes on species of conservation concern recorded on East and Coldstream Marshes, summer 2008, by Chris Hall. (Hall, 2009).

Name	Scientific Name	Conservation Status	Notes
Marshwort	*Apium inundatum*	Infrequently found. Regionally Scarce	Recorded on the turf strip. First record at Fleet Pond since 1959.
Lesser Water Plantain	*Baldellia ranunculoides*	RDB Near Threatened. Nationally Uncommon. Regionally Rare.	Recorded on turf strip. Many plants in flower across all tuft stripped areas in 2009. Now listed as Near Threatened on the Red Data Book list.
Nodding Bur-marigold	*Bidens cernua*	Infrequently found. Regionally Uncommon.	Two plants found on bare mud in centre of the Marsh.
White Sedge*	*Carex canescens*	Regionally Scarce.	All plants small, suggesting recovering from over grazing.
Star Sedge *	*Carex echinata*	Regionally Uncommon	Immature plants confined to Coldstream Marsh.
Bottle Sedge*	*Carex rostrata*	Regionally Scarce	A key species of poor-fen communities, part of a scarce vegetation type in S. England.
Bladder Sedge *	*Carex vesicaria*	Regionally Scarce	Grows intermixed with Bottle Sedge.
Meadow Thistle	*Cirsium dissectum*	Infrequently found. Regionally Uncommon	First record on Coldstream Marsh since 1999 due to a more open sward.
Waterwort	*Elatine hexandra*	Nationally Uncommon. Regionally Rare.	Found on wet and bare patches of turf stripped ground.
Needle Spike-rush	*Eleocharis acicularis*	Nationally Uncommon. Regionally Rare.	Found on turf strips on Coldstream Marsh. Requires open conditions with little competition.
Floating Clubrush*	*Isolepsis fluitans*	Regionally Scarce.	Found on turf stripped areas.
Bristle Clubrush	*Isolepsis setacea*	Regionally Uncommon	One plant recorded on margin of East Marsh pool.
Shoreweed	*Littorella unifora*	Regionally Vulnerable	Well established on turf stripped areas where rushes are sparse.
Water Purslane	*Lythrum portula*	Regionally Uncommon	A large patch recorded on the margin of East Marsh pool.

Alternate-flowered Water Milfoil	*Myriophyllum alterniflorum*	Regionally Rare	Plentiful on submerged wet mud on the turf scrapes.
Royal Fern	*Osmunda regalis*	Infrequently found. Regionally Scarce.	Fenced off in the Marsh to protect the plants from grazing.
Pillwort	*Pilularia globulifera*	RDB Near Threatened. Nationally Scarce. Regionally Vulnerable	First record in 2008 since 1970. Found on mud on scraped areas and after a season of severe poaching in 2007. The “holy grail” of Fleet Pond botany.
Marsh Cinquefoil*	*Potentilla palustris*	Regionally Scarce	Plentiful throughout the Marsh. A key species at Fleet Pond.
Moor Crowfoot	*Ranunculus omiophyllus*	Regionally Scarce	Only a few modern records. Found on mud.
Marsh Speedwell	*Veronica scutellata*	Regionally Uncommon	A scarce variant was also found on Coldstream Marsh in 2008. Recorded on turf stripped areas.

Notable species found in Coldstream and Fugelmere marsh as identified by Hampshire Biodiversity Information Centre (HBIC) in August 2019

Name	Scientific Name	Conservation Status	Notes
Lesser Marshwort	*Apium inundatum*	IUCN Vulnerable Regionally Rare	
Heather	*Calluna vulgaris*	IUCN Near Threatened	
White Sedge	*Carex canescens*	County Scarce	
Star Sedge	*Carex echinate*	IUCN Neat Threatened	
Bottle Sedge	*Carex rotstrata*	Country Scarce	
Long-stalked Yellow-Sedge	*Carex viridula subsp. brachyrrhyncha*	County Scarce	
Oblong-leaved Sundew	*Drosera intermedia*	IUCN Vulnerable	
Needle Spike-rush	*Eleocharis acicularis*	IUCN Near Threatened	

Floating Club-rush	*Eleogiton fluitans*	County Scarce	
Common Cottongrass	*Eriophorum anhustifoliu m*	IUCN Vulnerable	
Marsh Pennywort	*Hydrocotyle vulgaris*	IUCN Near Threatened	
Marsh St John's-wort	*Hypericum elodes*	IUCN Near Threatened	
Shoreweed	*Littorella uniflora*	County Scarce	
Bog-myrtle	*Myrica gale*	IUCN Near Threatened	
Tormentil	*Potentilla erecta*	IUCN Near Threatened	
Marsh Cinquefoil	*Potentilla palustris*	IUCN Near Threatened	
Common Wintergreen	*Pyrola minor*	IUCN Near Threatened	
Lesser Spearwort	*Ranunculus flammula*	IUCN Vulnerable	
Grey Club-rush	*Schoenoplectus tabernaemontai*	County Rare	
Marsh Fern	*Thelypteris palustris*	Nationally Scarce County Scarce	
Pink Water-Speedwell	*Veronica catenate*	County Scarce	
Heath Speedwell	*Veronica officianalis*	IUCN Near Threatened	
Marsh Speedwell	*Veronica scutellate*	IUCN Near Threatened	

*** -** Also recorded in Fugelmere Marsh in 2007 areas of turf striping (Hall, 2008)

RDB – Red Data Book species
Nationally Scarce: confirmed since 1986 from 16 – 100 ten km. squares in England, Wales and Scotland (less than 3.5% of the total).
Nationally Uncommon: confirmed since 1986 from 101 – 250 ten km. squares in England, Wales and Scotland (c. 3.5% - 8.5%).
Regionally Vulnerable: Recently confirmed from 1 - 15 tetrads in Central Southern England.
Regionally Rare: Recently confirmed from 16 - 35 tetrads (0.5 - 1%) in Central Southern England.

Regionally Scarce: Recently confirmed from 36 - 150 tetrads (1 - 4%) in Central Southern England.
Regionally Uncommon: Recently confirmed from 151 - 300 tetrads (4 - 8.5%) in Central Southern England.
Infrequently Found: Species which, though relatively widespread and surviving in large populations at some sites, are absent from much of the modern countryside, have a scattered or restricted distribution, occur mainly in nature reserves or other protected landscape and survive elsewhere only as small, relic populations. They may be extinct in some counties.

Wet Heathland

Botanical species of conservation interest as identified by Chris Hall, 2008. (Hall, 2008) All are Notable Species of Hampshire.

Name	Scientific Name	Conservation Status	Location	Notes
Bog Pimpernel	*Anagallis tenella*	Regionally uncommon	Scrapes	Two occurances, one in 2005 and second in 2008, both on turf scrapes. No records previous to 2005.
Green-ribbed Sedge	*Carex binervis*	Regionally uncommon	Heath and scrapes	One population was found in 2004. In 2008 three new populations had appeared as a direct result of tree clearance, scraping and grazing.
Star Sedge	*Carex echinata*	Regionally uncommon	Heath and scrapes	A target species for the wet heath habitat restoration. Two tufts recorded in 2008.
Heath Spotted Orchid	*Dactylorhiza maculata*	Regionally uncommon	Heath	A characteristic species of botanically rich Molinia mire and wet heath. Three spikes in 2008 probably as a result of grazing. This is the best recorded total since 1984.
Heath Spike-rush	*Eleocharis multicaulis*	Regionally scarce	Heath and scrapes	In 2008 it was present on eight of the nine scrapes, very abundant in some areas.
Bog St. John's Wort	*Hypericum elodes*	Infrequently found.	Scrapes	18 rosettes in a small ditch cleared as part of

		Regionally uncommon		the turf strip at Bog Myrtle Glade.
Floating Club-rush	*Isolepsis fluitans*	Regionally scarce	Heath and scrapes	Recorded in 2005 on a turf scrape, population had increased in 2008.
Bristle Club-rush	*Isolepsis setacea*	Regionally uncommon	Heath	One plant in 2008. The first record for the Wet Heath.
Heath Rush	*Juncus squarrosus*	Regionally uncommon	Heath and scrapes	Grazing is helping to maintain the conditions required by this species which is established on four sites around the heath.
Water Purslane	*Lythrum portula*	Regionally uncommon	Scrapes	Records from two sites on the heath in 2008.
Bog Asphodel	*Narthecium ossifragum*	Regionally scarce	Heath	Grazing has opened up the sward for this species to increase. Two flower spikes recorded in 2008.
Royal Fern	*Osmunda regalis*	Infrequently found. Regionally scarce	Scrapes	Ferns recorded in three locations. Colonisation is a result of the turf scrapes.
Deer Grass	*Trichophorum germanicum*	Regionally scarce	Heath	Five plants in 2005 had increased to eleven in 2008 as a result of mowing old heather and grazing to create an open and shorter sward.

Regionally Vulnerable. Recently confirmed from 1 - 15 tetrads in Central Southern England.
Regionally Rare. Recently confirmed from 16 - 35 tetrads (0.5 - 1%) in Central Southern England.
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Nationally scarce and Red Data Book species of insect identified by Mike Edwards, 2008. (Edwards, 2008)

Species Name	Conservation Status	Also Found in 2008 in	Notes
Cryptocephalus biguttatus (Coleoptera, a pot beetle)	RDB 2		Rarely found. Associated with open growth of *Erica tetralix* in humid conditions.
Eutolmus rufibarbis (Diptera, a robberfly)	RDB 3	Gelvert Wood, Dry Heath	Locally frequently found. Associated with dry grassy areas and heaths. First record for the Wet Heath.
Symmorphus crassicornis (Hymenoptera, a potter wasp)	RDB 3	Dry Heath	Infrequently found. The species had undergone a significant decline since 1970. It is the host of BAP priority species *Chrysis fulgida.*
Ampedus elongantulus (Coleoptera)	Nationally Scarce a		Infrequently found, very local. Larvae develop in dead wood.
Crytocephalus bipunctatus (Coleoptera)	Nationally Scarce b		Widespread but local in Britain.
Gonioctena decemnotata (Coleoptera)	Nationally Scarce b	Dry Heath	Infrequently found. Adults and larvae feed on Aspen leaves.
Curculio rubidus (Coleoptera, weevil)	Nationally Scarce b		Frequently found in broad-leaved woodland.
Orchestes iota (Coleoptera, weevil)	Nationally Scarce b		Infrequently found and very local in acidic bogs in southern England.
Conocephalus discolour (Orthoptera)	Nationally Scarce a	Gelvert to East Marshes	Long-winged Cone-head. Increasingly widespread across southern England.
Mutilla europaea (Hymenoptera, a solitary wasp)	Nationally Scarce b		Rarely found. A parasitoid of bumblebee colonies.
Lasius brunneus (Hymenoptera, an ant)	Nationally Scarce b		Locally frequently found. Nests in old trees, especially Oaks.
*Idioptera pulchella (*Diptera, a cranefly)	Nationally Scarce		Locally frequently found. Largely a northern species associated with boggy ground.

Sympetrum sanguineum (Odonata)	Nationally Scarce b		Ruddy Darter. Frequently found but local.

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RDB 3. Rare. Species with small populations, not at present Endangered or Vulnerable, but which are felt to be at risk. Species currently known to exist (post 1970) in fifteen, or fewer, ten-kilometre squares.
RDB K. Species of undoubted RDB rank, but with insufficient information for accurate placement; includes possible recent arrivals.
Nationally Scarce. Species currently (post 1970) known to exist in one hundred, or fewer, ten-kilometre squares.
In some groups these are further sub-divided into: -
Nationally Scarce a. Species currently (post 1970) known to exist in thirty, or fewer, ten-kilometre squares.
Nationally Scarce b. Species currently known to exist in thirty-one to one hundred ten-kilometre squares.

Dry Heathland

Regionally scarce, rare, uncommon and vulnerable botanical species as identified by Chris Hall in 2007 during the monitoring programme for turf scrapes on the dry heath. (Hall, Feb 2008) Most are Notable Species of Hampshire.

Name	Scientific Name	Conservation Status
Moor Sedge	*Carex binervis*	Regionally Uncommon
Hawkweed	*Hieracium umbellatum*	Regionally Uncommon
Imperforate St. John's Wort	*Hypericum maculatum*	Regionally Uncommon
Sheepsbit	*Jasione montana*	Regionally Scarce
Heath Rush	*Juncus squarrosus*	Regionally Uncommon
Mat Grass	*Nardus stricta*	Regionally Scarce
Birdsfoot	*Ornithopus perpusillus*	Regionally Uncommon
Lousewort	*Pedicularis sylvatica*	Regionally Uncommon

Regionally Vulnerable. Recently confirmed from 1 - 15 tetrads in Central Southern England.
Regionally Rare. Recently confirmed from 16 - 35 tetrads (0.5 - 1%) in Central Southern England.
Regionally Scarce. Recently confirmed from 36 - 150 tetrads (1 - 4%) in Central Southern England.

Regionally Uncommon. Recently confirmed from 151 - 300 tetrads (4 - 8.5%) in Central Southern England.
Infrequently Found. Species which, though relatively widespread and surviving in large populations at some sites, are absent from much of the modern countryside, have a scattered or restricted distribution, occur mainly in nature reserves or other protected landscape and survive elsewhere only as small, relic populations. They may be extinct in some counties.

Nationally scarce and Red Data Book species of insect identified by Mike Edwards, 2008. (Edwards, 2008)

Species Name	Conservation Status	Also Found in 2008 in	Notes
Eutolmus rufibarbis (Diptera, a robberfly)	RDB 3	Gelvert wet Wood, Wet Heath	Locally frequently found. Associated with dry grassy areas and heaths. First record for the Wet Heath.
Myopa fasciata (Diptera, thicked headed fly)	RDB 3		Infrequently found. A heathland species of late summer, probably parasitic upon *Andrena fuscipes.*
Symmorphus crassicornis (Hymenoptera, a potter wasp)	RDB 3	Wet Heath	Infrequently found. The species had undergone a significant decline since 1970. It is the host of BAP priority species *Chrysis fulgida.*
Nysius helveticus (Hemiptera, groundbug)	RDB 3		Infrequently found. A rare species confined to southern England. Associated with bell heather on heathland.
Polydrusus formosus (Coleoptera, a weevil)	Nationally Scarce a		Locally frequent. Associated with a variety of deciduous trees in rides and clearings in broad-leaved woodland.
Gonioctena decemnotata (Coleoptera)	Nationally Scarce b	Wet Heath	Infrequently found. Adults and larvae feed on Aspen leaves.
Coccinella magnifica (Coleoptera, Scarce 7-spot ladybird)	Nationally Scarce a		Very locally frequently found. Has strong association with the presence of Wood Ants, although the exact nature of this is not clear.
Metrioptera brachyptera (Orthoptera)	Nationally Scarce b		Bog Bush-cricket. Locally commonly found. A species of wet acidic places on lowland heaths and open heathy woodland, although adults may be found in rather dry locations during late summer.
Ectobius lapponicus (Dictyoptera)	Nationally Scarce b		Dusky Cockroach. Frequently found. Associated with edge habitats on a variety of soil types.
Xanthandrus comtus (Diptera, a hoverfly)	Nationally Scarce		Infrequently found. Associated with scrub. Its larva feeds on small caterpillars.

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RDB 2. Vulnerable. Species in severely declining or vulnerable habitats, or of low known populations. Known to exist (post 1970) in ten, or fewer, ten-kilometre squares.
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Wet Woodland

Nationally scarce and Red Data Book species of insect found in the wet woodland areas. Identified by Mike Edwards, 2008. (Edwards, 2008)

Species Name	Conservation Status	Also found in 2008 in	Notes
Eutolmus rufibarbis (Diptera, a robberfly)	RDB 3	Dry and Wet Heaths	Locally frequently found. Associated with dry grassy areas and heaths. First record for the Wet Heath.
Tipula marginella (Diptera, a cranefly)	RDB 3	Marshes	Very localised, but then frequent. Associated with small areas of bare mud or peat near water. Larvae are aquatic.
Dolichovespula saxonica (Hymenoptera, Saxon Wasp)	RDB K		Found in both Kenilworth and Gelvert Woods. Becoming frequently found, particularly in heathy locations.
Crudosilis ruficollis (Coleoptera)	Nationally Scarce b	Marshes	Frequently found. Formerly a rare and very local wetland species but it has evidently spread over the last 40 years.
Lythraria salicariae (Coleoptera)	Nationally Scarce b		Infrequently found. Associated with loosestrifes, predominately yellow, *Lysimachia vulgaris.*

Tapinotus sellatus (Coleoptera, a weevil)	Nationally Scarce a	Marshes	Rarely found. A very local weevil which has only been recorded from seven vice counties, all in southern England. A wetland species, generally occurring along lake margins. Phytophagous. Associated with yellow loosestrife.
Cheilosia soror (Diptera, a hoverfly)	Nationally Scarce		Infrequently found. Strongly associated with chalk and limestone areas. Thought to breed in truffles and possibly other underground fungi.
Eupeodes nitens (Diptera, a hoverfly)	Nationally Scarce		Infrequently found. Most records are for the Welsh boarders, but it is widely scattered elsewhere. Associated with broad-leaved woodland.
Volucella inanis (Diptera, a hoverfly)	Nationally Scarce		Infrequently found. The larvae live as ectoparasites of the grubs of social wasps.
Dolichovespula media (Hymenoptera, a potter wasp)	Nationally Scarce a		Commonly found. A recent colonist in Britain. Since 1980 this species has spread steadily northwards and westwards from its first recorded localities in East Sussex.
Ectemnius ruficornis (Hymenoptera, solitary wasp)	Nationally Scarce b		Infrequently found. Possibly more specifically associated with woodland than other Ectemnius species. Dead wood nesting. Hunts flies.
Lestiphorus bicinctus (Hymenoptera, solitary wasp)	Nationally Scarce b		Infrequently found and local. Preys on froghoppers.
Macropis europaea (Hymenoptera, bee)	Nationally Scarce a	Marshes	Found in Kenilworth and Gelvert Woods. Locally frequently found. Unusually for a bee, this species is strongly associated with fens and marshes, where its forage plant yellow loosestrife occurs. Oligolectic. Ground nesting.

RDB 1. Endangered. Species currently (post 1970) known to exist in five or fewer ten-kilometre squares.

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Vascular plant species of conservation concern recorded in the wet woodlands by Chris Hall (Hall, 2006.)

Name	English Name	Conservation Status	Date	Comp.'s
Oreopteris limbosperma	Lemon-scented Fern	Regionally Scarce. HS	2002	7
Osmunda regalis	Royal Fern	Regionally Scarce. HR	2005	7
Salix purpurea	Purple Willow	Regionally Uncommon	2006	4
Carex vesicaria	Bladder Sedge	Regionally Scarce. HS	2004	7
Alisma lanceolatum	Narrow-leaved Water Plantain	Regionally Rare. HR	2002	4
Callitriche obtusangula	Water Starwort	Regionally Uncommon	2002	4
Lythrum portula	Water Purslane	Regionally Uncommon	2004	4
Potamogeton berchtoldii	Small Pondweed	Regionally Scarce. HS	2004	4
Potamogeton obtusifolius	Blunt-leaved Pondweed	Regionally Rare. HS	2004	4
Rorippa amphibia	Greater Yellow Cress	Regionally Uncommon. HS	2004	4
Spirodela polyrhiza	Great Duckweed	Regionally Scarce. HR	2002	4

Regionally Vulnerable. Recently confirmed from 1 - 15 tetrads in Central Southern England.

Regionally Rare. Recently confirmed from 16 - 35 tetrads (0.5 - 1%) in Central Southern England.
Regionally Scarce. Recently confirmed from 36 - 150 tetrads (1 - 4%) in Central Southern England.
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11. Reedbed Work Plan 2022-2026

YEAR	REEDBED	MANAGEMENT
2022/23	North East Brookly Chestnut	Within each of the three listed reedbeds, a manageable pre-marked compartment will be cleared of reeds and scrub. A combination of the BCS and brushcutters should be used to cut all the reeds in the indicated areas. Efforts should be concentrated to raking as much as possible to reduce the litter layer left on the reedbed. All scrub should be treated with a suitable chemical herbicide by a qualified herbicide user. Once cut, the arisings are to be removed from site using the most suitable method. If a fire is used to dispose of the arisings, the ash should be removed from the site to reduce the impact on pH and nutrient levels. Due to historical management and the overall size of Chestnut, there may be a benefit to limiting the cutting on site to allow the reeds to better establish. The level of intervention for Chestnut can be decided after a reedbed audit during Summer 2022. As part of the Northern Path mitigation work, Brookly reedbed will have scrub removal from the woodland edge to reduce encroachment.
	Fugelmere Bay	Fugelmere Bay is a small area alongside Fugelmere reedbed which allows views across the pond from the two benches placed there. Allow 1.5 day a year to cut and remove the area to maintain the open view.
2023/24	Fugelmere Wellington Northern	Within each of the three listed reedbeds, a manageable pre-marked compartment will be cleared of reeds and scrub.

		A combination of the BCS and brushcutters should be used to cut all the reeds in the indicated areas. Efforts should be concentrated to raking as much as possible to reduce the litter layer left on the reedbed. All scrub should be treated with a suitable chemical herbicide by a qualified herbicide user. Once cut, the arisings are to be removed from site using the most suitable method. If a fire is used to dispose of the arisings, the ash should be removed from the site to reduce the impact on pH and nutrient levels.
	Fugelmere Bay	Fugelmere Bay is a small area alongside Fugelmere reedbed which allows views across the pond from the two benches placed there. Allow 1.5 day a year to cut and remove the area to maintain the open view.
	Lion's View	Consider cutting the reeds in front of Lion's View if the view becomes reduced because of the reed growth. This area was last cut in 2020/21. Cut all the reeds in the area in front of the viewing platform, rake and remove all the arisings. If scrub is beginning to encroach on the left hand side, cut back to the main tree line to maintain the reed habitat. Ensure all stumps are treated with a suitable herbicide.
2024/25	North East Brookly Chestnut	Within each of the three listed reedbeds, a manageable pre-marked compartment will be cleared of reeds and scrub. This will be separate compartments to those covered in 2022/23. A combination of the BCS and brushcutters should be used to cut all the reeds in the indicated areas. Efforts should be concentrated to raking as much as possible to reduce the litter layer left on the reedbed. All scrub should be treated with a suitable chemical herbicide by a qualified herbicide user. Once cut, the arisings are to be removed from site using the most suitable method. If a fire is used to dispose of the arisings, the ash should be removed from the site to reduce the impact on pH and nutrient levels.
	Fugelmere Bay	Fugelmere Bay is a small area alongside Fugelmere reedbed which allows views across the pond from the two benches placed there. Allow 1.5 day a year to cut and remove the area to maintain the open view.

2025/26	Fugelmere Wellington Northern	Within each of the three listed reedbeds, a manageable pre-marked compartment will be cleared of reeds and scrub. This will be separate compartments to those covered in 2023/24. A combination of the BCS and brushcutters should be used to cut all the reeds in the indicated areas. Efforts should be concentrated to raking as much as possible to reduce the litter layer left on the reedbed. All scrub should be treated with a suitable chemical herbicide by a qualified herbicide user. Once cut, the arisings are to be removed from site using the most suitable method. If a fire is used to dispose of the arisings, the ash should be removed from the site to reduce the impact on pH and nutrient levels.
	Fugelmere Bay	Fugelmere Bay is a small area alongside Fugelmere reedbed which allows views across the pond from the two benches placed there. Allow 1.5 day a year to cut and remove the area to maintain the open view.

12. MAP 20 – Invasive Species

Key:

Bamboo

Skunk cabbage (note: majority of skunk cabbage was dug out 2020/21 from the areas indicated on the map, continue to monitor for any re-shoots.

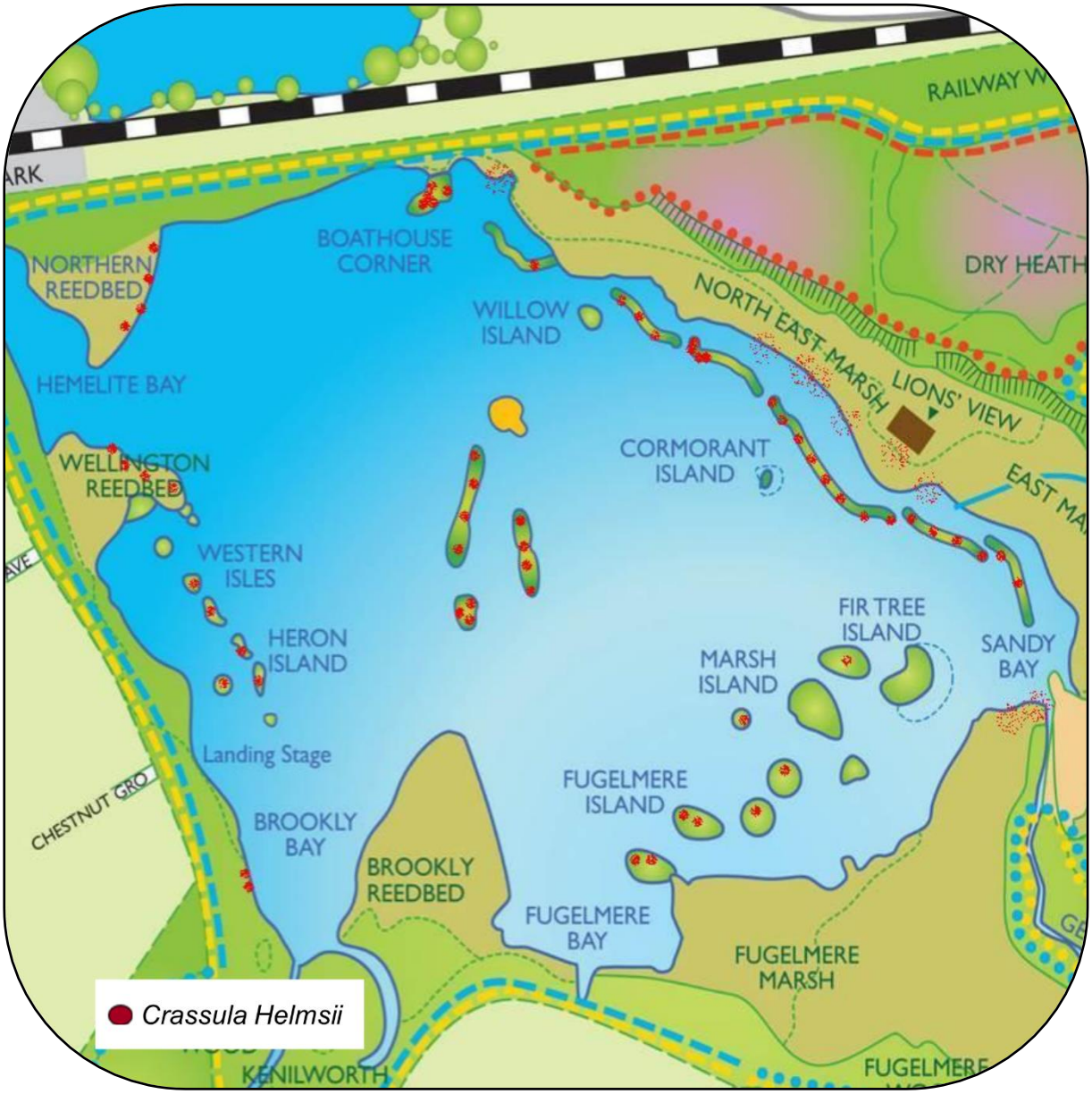
Himalayan balsam

Bracken

Rhododendron and Laurel sp.

Locations are indicative, an invasive species survey and mapping session will be required in 2022 to confirm the extent of invasives.

MAP 21 – Extent of New Zealand Pygmy Weed



13. Financial Summary – Prediction Only Resources For Work Within This Plan

	2021/22	2022/23	2023/24	2024/25	2025/26
Contractors budget – Fleet Pond only	£6,300	£10,500	£10,500	£10,500	£10,500
NE HLS Funding – Fleet Pond only	£0	£4841.76	£4841.76	£4841.76	£4841.76
NE CES Capital Projects funding	-	£126,411.39	-	-	-
Equipment, tools and materials – shared between all countryside sites	£19,500	£19,500	£19,500	£19,500	£19,500
Consultants – shared between all countryside sites	£7147	£7147	£7147	£7147	£7147
Publicity – shared between all countryside sites	£7000	£7000	£7000	£7000	£7000
Training – shared between all countryside staff	£9400	£9400	£9400	£9400	£9400

14. Photo Credits

- **Figure 4,** = The old jetty – 1904, courtesy of Percy Vickery
- **Figure 5 and 6,** = Lion's Viewpoint photos courtesy of the Fleet Pond Society
- **Figure 7,** = Floatplane courtesy of Percy Vickery
- **Figure 8,** = Sunset over the pond courtesy of Mark Hodson
- **Figure 14,** = Kingfisher courtesy of Alex Berryman (www.alexberrymanphotography.co.uk)
- **Figure 18,** = Grass Snake courtesy of Alex Berryman (www.alexberrymanphotography.co.uk)
- **Figure 21,** = Golden Ringed Dragonfly courtesy of Alex Berryman (www.alexberrymanphotography.co.uk)
- **Figure 30,** = Comma butterfly courtesy of Ian Julian (www.natureandpictures.com)
- **Figure 41,** = Bird ringing on the island's courtesy of Terry Austin

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