Fleet Pond Management Plan
2015 – 2020
# 1. Introduction and Site Information

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SECTION I: INTRODUCTION AND 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 news letters, updates on work planned and proposed ideas. HDC’s Marketing and Education Ranger 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.

1.1. 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.

1.2. 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).

1.2.1. Location

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

<table>
<thead>
<tr>
<th>Grid Reference</th>
<th>SU 820550 (centre of the lake).</th>
</tr>
</thead>
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<tr>
<td>Site Name</td>
<td>Fleet Pond</td>
</tr>
<tr>
<td>Site Status</td>
<td>The total reserve area is designated a Local Nature Reserve; of this 48 hectares is designated a Site of Special Scientific Interest (SSSI).</td>
</tr>
<tr>
<td>SSSI Name</td>
<td>Fleet Pond</td>
</tr>
<tr>
<td>Date Notified</td>
<td>1954 (under the 1949 Act)</td>
</tr>
<tr>
<td>Date Renotified</td>
<td>1984 (under the Wildlife &amp; Countryside Act 1981)</td>
</tr>
<tr>
<td>District</td>
<td>Hart</td>
</tr>
<tr>
<td>County</td>
<td>Hampshire</td>
</tr>
<tr>
<td>Local Planning Authority</td>
<td>Hart District Council.</td>
</tr>
<tr>
<td>Total Area</td>
<td>The Nature Reserve covers 57 hectares of which 48 hectares is designated SSSI. The Pond accounts for 21 hectares.</td>
</tr>
<tr>
<td>Legal Right of</td>
<td>There are no legal rights of access to the site. But the site is</td>
</tr>
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Access
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 1.10.

1.2.2. Land Tenure

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

<table>
<thead>
<tr>
<th>Ownership</th>
<th>The site is owned by Hart District Council. Their address is: The Civic Offices, Harlington Way, Fleet, Hampshire GU51 4AE.</th>
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<tr>
<td>Type of holding</td>
<td>Freehold</td>
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<tr>
<td>Date of acquisition</td>
<td>1972</td>
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This is not a legal document. Please refer to the original tenure documents before taking any decision or action which may have legal implications.

1.2.3. Management Infrastructure and 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 Leisure and Environmental Promotion has overall responsibility for the Countryside Service. The responsibility of site management falls to the Ecology and Countryside Manager, Senior Ranger, Assistant Senior Ranger 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, (their expertise is split into a ranger responsible for marketing and education, and two site maintenance rangers) one Trainee Ranger, two Apprentice Rangers (if available), a Biodiversity Officer, a Landscape and Conservation Manager and a Tree Officer.

Litter bin collection is carried out via our shared Street Care Service with Basingstoke and Deane Borough Council. There are 8 rubbish bins and 1 recycling unit around the site in easily accessible and heavily used areas.
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
- Tipping trailer with mesh sides
- Cut and Collect equipment, mower, baler, rake
- Ride on mower unit and / or 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 can not 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 & 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.

1.2.4. Health, Safety and 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.

An independent Health and Safety audit of the Countryside Service was last carried out by QLM (Quality Leisure Management) in 2014 and scored highly. QLM deliver industry best practice health and safety consultancy, supporting leisure facilities (including open spaces) with practical and cost-effective health and safety solutions. They work with industry lead bodies and have been instrumental in the development of industry standards and guidance publications. They are also available for specialist advice.

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. All site structures are surveyed annually by the maintenance ranger for safety issues or damage. Repairs are carried out as soon as practical depending on the level of risk caused by the damage. Records are kept of tree and structure surveys electronically on the Hart District Council system.

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.

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.

A Water Safety assessment was carried out by Hart District Council’s Corporate Health and Safety Officer in 2013, a report of which can be found in the Health and Safety folder in the Countryside Workshop or on Harts internal systems.
1.3. Site Information

1.3.1 Site Map

1.3.2. Access and 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 1.1), 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.

**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. Five 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. (Please see annexe 1).

**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 track is macadam-finished, repaired with a mixture of crushed concrete and hoggin where the tarmac has deteriorated. The loose nature of the sub soil through which the track runs leads to subsidence and breakage of the track base. A scalping layer was put down in 2012 to minimise the erosion and the formation of pot holes, however the track is still in need of resurfacing. Options will be reviewed as/if funding becomes available.

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.

**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 and Coldstream Marsh, with the possibility of grazing the north east reed bed in the future. The heath is still open to the public, so three kissing gates allow access to the footpath across it. 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.

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. Access to one of the jetties is via a grounded pontoon. This pontoon was covered by a wood board walk in November 2000 to improve safety and the end jetty extended to a T-shape to increase fishing swims. Fleet Pond Society volunteers built the Chestnut Grove landing stage, located on the western side of the lake, in 1977. The jetty was constructed of rubble and concrete. This provides a launch facility for boats and an additional fishing jetty of scaffolding poles and timber footboards is constructed alongside the jetty. The Chestnut Grove landing stage was improved in summer 2000 by Hart Countryside Service to provide a launch ramp for boats and the scaffold extension was replaced with a plastic pile driven jetty in 2008. The jetties all need systematic replacement as they deteriorate and potentially become unsafe, current priorities are the large T-jetty and Hemelite Bay.

Boardwalks and Platforms
Boardwalks have been constructed in the following wetter locations;

- Along the footpath linking Sandy Bay with the Coldstream Glade.
- Along the footpath from Sandy Bay alongside Fugelmere Marsh. (This may be replaced in the future with a raised pathway).
- Along a section of the footpath to the south of Wood Lane Heath near the Guildford Road access point.
- Two short sections through Bog myrtle glade.
- A boardwalk with handrails was installed in summer 2000 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 that is due to be replaced over the next 5 years.
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.

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.

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 these, to make the frame that the decking sits on and the hand rails 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, an office for the Countryside Rangers and a meeting room. 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.

1.3.3. Physical

1.3.3.1. 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.

1.3.3.2. Hydrology

Fleet Pond lies in the catchment of the River Hart (see appendix 1.7 for a map of the catchment area). It also lies within the Loddon Catchment Area (see appendix 1.8 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 stream 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. 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 (please see page 20) 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.

1.3.3.3 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 lake bed 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.

1.3.3.4 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.

### 1.3.3.5. 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 rain water accumulates at the surface. Locally there are more freely draining acidic sands.

The Hydroecological 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.

### 1.3.4. 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 1.2.

#### 1.3.4.1. 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, 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 1.3. Further work is required, some named communities are tentative and further field work may identify additional communities.

### 1.3.5. Cultural

#### 1.3.5.1. Archaeology and 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.

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.

1.3.5.2. 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 annexe 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) on page 68 for further information.

1.3.5.4. 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 renotified in 1984 under the 1981 Wildlife & Countryside Act. Wood Lane Heath and Brookly Wood, although not part of the SSSI, are designated as SI.NCs (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.

1.3.5.5. Environmental Relationships and 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 page 20 for a summary on the Restoration Project or annexe 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 street lights, 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.

### 1.3.5.6. 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.

1.3.6. 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.

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 & 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 Interest's 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 have already started breeding, with Common Terns and Black headed Gulls nesting and visiting wading birds such as Lapwings and Little ringed Plovers.

The Project received a reward 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.

There is still work to do on the islands, as we begin to establish Common Reeds and other plant life to support a greater biodiversity of life across the site.

Part of the Restoration Project is the Fleet Pond Society’s Clearwater Campaign. This campaign is in partnership with Hart District Council, Natural England, the Environmental Agency and other interested parties. As well as helping to fund and promote the Fleet Pond Restoration Project the Clearwater Campaign also includes 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. A film clip by Chris Packham on the Clearwater Campaign can be seen on the Fleet Pond Society’s website at www.fleetpondsociety.co.uk.

SECTION 2: MANAGEMENT AND 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.

2.1. Management

2.1.1. 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 safe-guard 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.
2.1.2. 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.

2.1.3. 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 1.11.

2.1.4. 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 aspires to hold 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.
2.2. Site Features

2.2.1. 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.

2.2.1.1. 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 1.6. 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. Heathland exists within the Nature Reserve as two woodland glades. 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.

2.2.1.2. 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.

2.2.2. Factors affecting the management of the features

2.2.2.1. 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. Molinia, 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.

2.2.2.2. 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.

2.2.2.3. 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 lake bed 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. A 2005 visitor survey by a student from Farnborough Sixth Form College put visitor pressure at an estimated 150,000 visits per year.

2.2.2.4. Factors arising from legislation or tradition

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

**Wildlife & 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.
2.2.3. Site Features Information

2.2.3.1. Feature 1: 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.’

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.

26 species of moderately species rich emergent plants were recorded in 2008 by a team from University College London and OPAL Water Centre Projects. Due to the suspended solids in the water, submerged vegetation is lacking, however this may be improved through the Restoration Project.
Two streams run into the pond, Brookly stream from the south west 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.

There are 9 dipwells located around the site as part of a water level monitoring programme (See Appendix 1.4 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 July 2008 the zooplankton fauna of the Pond was surveyed by the team from University College London and OPAL Water Centre Projects. The results were fairly typical of a shallow nutrient enriched lake with good numbers of the water flea *Daphnia galeata* recorded. Small and large bodied zooplanktons were found suggesting that fish grazing pressures are moderate.

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 new islands.

35 galvanised metal gabion baskets are currently positioned across the lake to create individual nursery compartments or ‘zooplankton microcosms.’ There are also 10 within the fish exclusion zone, which are lined with mesh to deter small fish from entering. Installed in 2014, these will be maintained and monitored by Johns Associates (contracted project managers for the Restoration Project).

A list of rare and notable plant species can be found in Appendix 1.5. 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 Jetty’s 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%

- **Number of fish in aquatic nursery**  
  Upper limit = 0  
  Lower limit = none set

**Management**

<table>
<thead>
<tr>
<th>Management Options</th>
<th>Notes on Management Tasks</th>
<th>Time and Resources</th>
</tr>
</thead>
</table>
| **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 waters edge to provide valuable habitat. | Sept – March  
Ranger / volunteers |
| **Undesirable species control** | Please see Feature 10 | As and when  
Rangers / Volunteers |
Electro fishing
aquatic nursery

The fish exclusion zone should be electrofished annually to ensure that species of fish which can be detrimental to the successful growth of zooplankton and aquatic plant life are not getting into the area and the netting is maintained.  

Annually
Contractors

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
Sept – March
Contractors

An action plan for management tasks follows in Section 3.

Monitoring

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

2.2.3.2. Feature 2: 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 1.6.

Description

Twenty six new islands and reed bed extensions have been 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 new 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. In the next stage of the project new areas of reedbed will be created on the edges of the new islands to provide additional marginal and open water habitat, provide a visual screen if they are exposed in low water conditions and to protect them from wave erosion.

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 new 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 established 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.

Vision

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 m² within area of dominant reed
  Upper limit = none set
  Lower limit = 150 stems

- Height of Common Reed prior to cutting

An established island on the Pond
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)

<table>
<thead>
<tr>
<th>Management Options</th>
<th>Notes on Management Tasks</th>
<th>Time and Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrub control</td>
<td>Annually remove woody species from edges of the new islands.</td>
<td>Sept- Mar Rangers/vols/contractor from boat</td>
</tr>
<tr>
<td>Invasive Species Control</td>
<td>Please see Feature 10.</td>
<td>Rangers/contractor</td>
</tr>
<tr>
<td>Maintain goose fencing</td>
<td>To be revised – may be replaced with more effective method such as faggots</td>
<td>Rangers/Contractors</td>
</tr>
<tr>
<td>Planting Reeds</td>
<td>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.</td>
<td>Sept - Oct Rangers/Vols/Contractors</td>
</tr>
<tr>
<td>Maintain gravel base</td>
<td>On Clearwater Island for nesting Terns. Top up AW. Would expect to see at least 6 breeding pairs as a minimum.</td>
<td>Rangers/Vols/Contractors</td>
</tr>
<tr>
<td>Bare Ground retention</td>
<td>Small areas of bare ground creation with hand tools</td>
<td>Sep – Feb Volunteers</td>
</tr>
<tr>
<td>Island enhancement</td>
<td>The island edges are in need of long term stabilization and protection from erosion and</td>
<td>Sep – Feb Contractors</td>
</tr>
</tbody>
</table>
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.

As and when funding available & consents achieved.

**Monitoring**

Condition Assessments annually  
Botanical surveying every 5 years (Yr 1)  
Breeding bird survey annually

**2.2.3.3. Feature 3: Streams and Ditches**

![Map of Fleet Pond Nature Reserve](image_url)

**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 1.7.

The conservation interest of the streams and ditches lies in the fact that they run through the SSSI and has an affect 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 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. Please refer to the Restoration Project works for 2015 which detail a survey that will be conducted of all the inflows from the surrounding areas and a plan will be put in place to reduce pollution (see project plan by Johns Associates).

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 every few years, or 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.

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.

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

<table>
<thead>
<tr>
<th>Management Options</th>
<th>Notes on Management Tasks</th>
<th>Time and Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undesirable species control</td>
<td>Please see Feature 10.</td>
<td>As and when</td>
</tr>
<tr>
<td>Clearance of debris and blockages</td>
<td>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.</td>
<td>As and when</td>
</tr>
<tr>
<td>Ditch clearance</td>
<td>Ditches should be kept open and their carrying capacity maintained by using a mini digger.</td>
<td>As and when. Rangers</td>
</tr>
<tr>
<td>Insert Dog Steps</td>
<td>Where bank erosion (Gelvert Stream) is most evident through dogs entering and exiting the water insert dog steps</td>
<td>As and When</td>
</tr>
</tbody>
</table>

An action plan for management tasks follows in Section 3.
Monitoring

Water quality monitoring annually
Botanical surveying every 5 years (Yr 1)

2.2.3.4. Feature 4: 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.

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. Half of this was cut in autumn/ winter 2003. The reedbed recovered very well the following spring/ summer with a dense sward of new reed, indicating that cutting of the reeds and removing all the old dead stems to reduce litter accumulation, can help to improve the condition of this habitat. The whole of the reedbed was cut in 2008 and has again recovered well since with a good density of reed and a reduction in scrub. The amount of scrub in Wellington has been reduced in recent years to facilitate mowing of the reeds. Wellington Reedbed was also extended in 2013 as part of the Restoration Project and channels inserted in the fringes to create sheltered areas for wildfowl.

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.

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 & 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 is also a high number of 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 1.6).

A list of rare and notable species of plant can be found in appendix 1.5.

In January 2015 a reedbed specialist from the RSPB started to undertake a health survey of the reedbeds and wetlands. A report will be produced by late 2015 to inform future management of these areas. Any recommendations arising out of this report will be considered for inclusion in the management plan.
Objectives

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 Bog Bean, 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.

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

- **Vegetation should include Common Reed**
  Upper limit = none set
  Lower limit = 60%

- **Common Reed stems per m² 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%

- **Litter layer coverage**
  Upper limit = none set
  Lower limit = 10%

- **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

<table>
<thead>
<tr>
<th>Management Options</th>
<th>Notes on Management Tasks</th>
<th>Time and Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrub control</td>
<td>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.</td>
<td>Sept – Feb Rangers / Volunteers</td>
</tr>
<tr>
<td>Mowing</td>
<td>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 reedbeds being cut every 5 – 6 years.</td>
<td>Sep– Feb Rangers / Volunteers</td>
</tr>
<tr>
<td>Burning</td>
<td>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, either burnt in rows after raking or on raised fire platforms.</td>
<td>Sept- Feb Rangers/Volunteers</td>
</tr>
<tr>
<td>Bogbean Management</td>
<td>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 bog bean edges to that of open water habitat.</td>
<td>Rangers/Volunteers</td>
</tr>
<tr>
<td>Chemical management</td>
<td>Stumps should be treated with herbicide; however any stumps next to open water can not be treated</td>
<td>Stump treating As and When.</td>
</tr>
</tbody>
</table>
An action plan for management tasks follows in Section 3.

Monitoring

Condition assessments annually
Botanical surveying every 5 years (Yr 1)
Invertebrate surveying every 5 years (Yr 2)
Ornithological surveying annually
Ariel photography to monitor the size of the reedbeds as and when

2.2.3.5. Feature 5: 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, North East, East and Coldstream Marshes and Fugelmer and Gelvert Marshes. 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.

North East Marsh is a narrow stretch of reedbed which was cut in 2014. 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.

East 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.

A newly scraped area  
A newly created wet scrape

Fugelmere Marsh also underwent small scrapes in 2003. These were also highly successful with important plant species reappearing and the scrapes creating a good habitat for many Odonata species.

Large areas of woodland and scrub were cleared in both Fugelmere and Gelvert Marsh 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 and Gelvert Marsh 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.

A list of rare and notable plant and invertebrate species can be found in Appendix 1.5. Many Reed Warblers are also found in these areas and Cuckoos are often 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 1.6.
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.

Several plant species have been lost in recent years, including Red Data Book species such as Tubular Water Dropwort, Frogbit and Small Water Pepper. The infrequently found Blunt-leaved Pondweed has also not been re-recorded in Coldstream Marsh, although is still present in Fugelmere. Several rare species have reappeared due to the management work carried out in the marshes in recent years. It will therefore be interesting to see if any of the above species make a reappearance.

Objectives

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.

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 = 10%
  - Lower limit = 0%
• Bog-moss (Sphagnum) should be at least frequent across the area of fen
  Upper limit = found in 60% of stops
  Lower limit = found in 35% of stops

• At least 2 desirable species should be at least occasional across the area of fen.
  Including the species: Bogbean (Menyanthes trifoliata), Bog mosses (Sphagnum spp.),
  Branched Bur-reed (Sparganium erectum), Cottongrass (Eriophorum angustifolium),
  Common Butterwort (Pinguicula vulgaris), Common Skullcap (Scutellaria galericulata),
  Common Reed (Phragmites australis), Common Valerian (Valeriana officinalis),
  Gypsywort (Lychnis europaeus), Hemp-agrimony (Eupatorium cannabinum),
  Lesser Spearwort (Ranunculus flammula), Marsh Arrowgrass (Triglochin palustre),
  Marsh Bedstraw (Galium palustre), Marsh Cinquefoil (Potentilla palustris), Marsh-
  marigold (Caltha palustris), Marsh Pennywort (Hydrocotyle vulgaris), Marsh Valerian
  (Valeriana dioica), Meadowsweet (Filipendula ulmaria), Purple-loosestrife (Lythrum salicaria),
  Ragged Robin (Lychnis flos-cuculi), Reed Canary-grass (Phalaris arundinacea),
  Reedmace (Typha latifolia), Reed Sweet-grass (Glyceria maxima), Sedges, Water
  Forget-me-not (Myosotis scorpioides), Water Horsetail (Equisetum fluviatile), Water
  Mint (Mentha aquatica), Wild Angelica (Angelica sylvestris), Yellow Flag (Iris pseudacorus) and
  Yellow Loosestrife (Lysimachia vulgaris).

  Upper limit = none set
  Lower limit = 2

• Average height of vegetation across the Fen
  Upper limit = 50cm
  Lower limit = none set

• 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%

For wetland grazing

• Vegetation cover should be in tussocks or in patches over 50cm high
  Upper limit = 35%
  Lower limit = 25%

• The vegetation should include a mosaic of shorter and / or taller plant species.

Management

<table>
<thead>
<tr>
<th>Management Options</th>
<th>Notes on Management Tasks</th>
<th>Time and Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrub control</td>
<td>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</td>
<td>Sept – March Rangers / Volunteers / Contractors</td>
</tr>
</tbody>
</table>
of the brash produced will be chipped on to the woodland edge, off the reedbed, where appropriate and refuges created using stacked core wood.

<table>
<thead>
<tr>
<th>Turf cutting &amp; stripping</th>
<th>Scrapes and/or shallow pools to be carried out in certain sections in Fugelmere and Coldstream to reduce scrub and grass tussocks and benefit inverts and birds, subject to botanical surveys.</th>
<th>Dec – March</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grazing</td>
<td>Coldstream, East marsh, Fugelmere and Gelvert will continue to be grazed.</td>
<td>April – Sept</td>
</tr>
<tr>
<td>Chemical treatment</td>
<td>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.</td>
<td>Spraying April - Sept Stump treating As and When.</td>
</tr>
</tbody>
</table>

An action plan for management tasks follows in Section 3.

Monitoring

Condition assessments annually
Botanical surveying every 5 years (Yr 1)
Invertebrate surveying every 5 years (Yr 2)
Ornithological surveying annually

2.2.3.6. Feature 6: 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.

This 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.

Outside of the fenced area, a footpath surrounds this section with a boardwalk covering a wet section at the southern end, 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. These were done in 2003 and have been monitored for vegetation and invertebrates since to establish the success of this form of management.

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.

In the centre of the heath it becomes very wet and boggy and the central northern section is currently dominated by Bog Myrtle. This plant, although an important heathland species, has spread across the heath and is now at the point where it may need to be controlled in some areas and removed to avoid it becoming too dominant.
A list of rare and notable plant and invertebrate species can be found in appendix 1.5. The number of insect species found on the Wet Heath has increased since grazing was introduced from 67 in 2003 to 141 in 2008. Recent records (Hall, 2008 and Edwards, 2008) also show the presence of Small Red Damselfly, a restricted species.

Adder, Grass Snake, Slow Worm and Common Lizard are all frequently recorded.

Objectives

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 = 95%
  Lower limit = 25%

- **Wide range of age classes of dwarf shrubs present**
  Pioneer: 10% - 15%
  Building: 25% - 40%
  Mature: 25% - 40%
  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).

- Cover of bare ground
  Upper limit = 10%
  Lower limit = 1%

- Cover of Common / Western Gorse (for whole of feature)
  Upper limit = 10%
  Lower limit = 2%

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

- Cover of bryophytes and lichens
  Upper limit = none set
  Lower limit = 10%

Management

<table>
<thead>
<tr>
<th>Management Options</th>
<th>Notes on Management Tasks</th>
<th>Time and Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grazing</td>
<td>Continue with the grazing strategy to reduce Purple Moor Grass and scrub. A stocking rate of between 2 to 4 cows is appropriate.</td>
<td>Spring – Autumn</td>
</tr>
<tr>
<td>Mowing</td>
<td>Mowing old patches of Heather will encourage the growth of new heather to maintain age structure diversity. This is carried out using a tractor and a cut and collect mower. Cut material is removed from the heath.</td>
<td>Sept – March Rangers</td>
</tr>
<tr>
<td>Scrub control</td>
<td>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.</td>
<td>Sept – March Rangers / Volunteers</td>
</tr>
<tr>
<td>Bracken</td>
<td>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.</td>
<td>Apr – Sep Rangers/Volunteers</td>
</tr>
<tr>
<td>Turf cutting &amp; Scraping</td>
<td>Areas dominated by Molinia can be scraped to encourage the growth of new Heather and other heathland species as well as creating wet shallow pools.</td>
<td>Dec – March Contractors</td>
</tr>
<tr>
<td>Chemical</td>
<td>Stumps from cut trees can be treated with approved</td>
<td></td>
</tr>
</tbody>
</table>
An action plan for management tasks follows in Section 3.

**Monitoring**

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

### 2.2.3.7. Feature 7: Dry Heathland

![Map of Fleet Pond](image)

**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. Turf scraping of areas dominated by Purple Moor Grass was carried out in 2003 and 2005. In 2007 and 2008 scraping was carried out on areas that had been cleared of young Birch woodland. This form of management has been highly successful and large patches of Heather and other important heathland species have returned. The piles of the top soil layer that were scraped off have also become good habitats for small mammals, reptiles and invertebrates, as they are covered by Brambles and grasses etc. 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.

A list of rare and notable plant and invertebrate species can be found in appendix 1.5.

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.

Objectives

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.
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 = 95%
  - Lower limit = 25%

- **Wide range of age classes of dwarf shrubs present**
  - Pioneer: 10% - 15%
  - Building: 25% - 40%
  - Mature: 25% - 40%
  - 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

- **Cover of bare ground**
  - Upper limit = 10%
  - Lower limit = 1%

- **Cover of Common / Western Gorse (for whole of feature)**
  - Upper limit = 25%
  - Lower limit = 2%

- **Cover of scrub (for whole of feature)**
  - Upper limit = 15%
  - Lower limit = 2%

- **Cover of bryophytes and lichens**
Upper limit = none set  
Lower limit = 10%

**Management**

<table>
<thead>
<tr>
<th>Management Options</th>
<th>Notes on Management Tasks</th>
<th>Time and Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Turf cutting &amp; scraping</strong></td>
<td>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.</td>
<td>Dec – March, Contractors</td>
</tr>
<tr>
<td><strong>Mowing</strong></td>
<td>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.</td>
<td>Sept – March, Rangers / Volunteers</td>
</tr>
<tr>
<td><strong>Scrub control</strong></td>
<td>Birch scrub should be controlled. Gorse should also be controlled to maintain age structural diversity. Invasive and undesirable plants 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.</td>
<td>Sept – March, Rangers / Volunteers</td>
</tr>
<tr>
<td><strong>Bracken</strong></td>
<td>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.</td>
<td>Apr – Sep, Rangers/Volunteers</td>
</tr>
<tr>
<td><strong>Chemical treatment</strong></td>
<td>Stumps from cut trees can be treated with approved herbicides to prevent re-growth. This is generally done in winter.</td>
<td>Stump treating As and When</td>
</tr>
</tbody>
</table>

An action plan for management tasks follows in Section 3.

**Monitoring**

Condition assessments annually  
Botanical surveying every 5 years (Yr 1)  
Invertebrate surveying every 5 years (Yr 2)
2.2.3.8. Feature 8: 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.

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.

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
60 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 1.5). 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.

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. They have become overgrown with Bramble and scrub over the years and some work has been done in the last few years to open them up again.

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 1.6.

A list of vascular plant species of conservation concern can be found in appendix 1.5.

Objectives

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%

- **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**

<table>
<thead>
<tr>
<th>Management Options</th>
<th>Notes on Management Tasks</th>
<th>Time and Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Thinning</strong></td>
<td>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.</td>
<td>Sep – Feb Rangers/Contractors/Volunteers</td>
</tr>
<tr>
<td><strong>Scrub control</strong></td>
<td>Scrub in the glades needs to be controlled and reduced.</td>
<td>Sept – March Rangers / Volunteers</td>
</tr>
<tr>
<td><strong>Undesirable species control</strong></td>
<td>Please see Feature 10.</td>
<td>All year, As and When Rangers / Volunteers</td>
</tr>
<tr>
<td><strong>Chemical</strong></td>
<td>Invasive plant species can be sprayed with herbicide.</td>
<td>Spraying</td>
</tr>
</tbody>
</table>
An action plan for management tasks follows in Section 3.

**Monitoring**

- Condition assessments annually
- Botanical surveying every 5 years (Yr 1)
- Invertebrate surveying every 5 years (Yr 2)

### 2.2.3.9. Feature 9: Dry Mixed Woodland

![Dry Mixed Woodland Map]

**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 and Skunk Cabbage dominate 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. In 2014 a pond at the northern end of Brookly Wood was dredged. Small trees were also thinned to allow more light in to the area. In early 2015 a culvert will be installed to link the Brookly stream with the woodland pond and the existing outflow weir for the pond rebuilt. This is so, that when the stream is in ‘spate’ or ‘flood,’ some of the flow will be diverted into the pond. Any suspended material in the stream water will then settle in the pond rather than going into the main pond. This will also act to ‘refresh’ the water in the woodland pond rather than it being stagnant.

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 1.6 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.

There is a Badger sett being used in the summer months in Brookly wood. 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.

**Objectives**

**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%

- **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

<table>
<thead>
<tr>
<th>Management Options</th>
<th>Notes on Management Tasks</th>
<th>Time and Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Thinning</strong></td>
<td>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 understorey to increase ground flora and allow more light to specimen trees. Some of the larger Oaks could benefit from haloing.</td>
<td>Sep – March Rangers/Contractors</td>
</tr>
<tr>
<td><strong>Fencing</strong></td>
<td>Currently knee high rails are in place along some pathways near the picnic area. This is to protect the ground condition from compaction and erosion, mainly from mountain bikers. These rails will be replaced in 2015/16 with a more robust design.</td>
<td>Contractors</td>
</tr>
<tr>
<td><strong>Undesirable</strong></td>
<td>Please see Feature 10. Holly should also be</td>
<td></td>
</tr>
</tbody>
</table>

Seven Spot Ladybird
An action plan for management tasks follows in Section 3.

**Monitoring**

Condition assessments annually
Botanical surveying every 5 years (Yr 1)
Invertebrate surveying every 5 years (Yr 2)

**2.2.3.10. 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 Pygmyweed, American Crayfish and Mink.

Please see appendix 1.9 for a map showing the problem areas within the reserve.

**Objectives**

**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.

**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 Pygmyweed 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**

<table>
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<tr>
<th>Management Options</th>
<th>Notes on Management Tasks</th>
<th>Time and Resources</th>
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<tbody>
<tr>
<td>Himalayan/Indian Balsam</td>
<td>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.</td>
<td>As and when seen Rangers/vols</td>
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<td>Bamboo</td>
<td>Bamboo may be dug out by machinery and follow up sprayed with appropriate herbicide where accessible.</td>
<td>As and when seen Contractors</td>
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<tr>
<td>Skunk Cabbage</td>
<td>Spray annually with appropriate herbicide.</td>
<td>Mar – Aug Rangers</td>
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<tr>
<td>New Zealand Pygmyweed</td>
<td>Spray annually with appropriate herbicide prioritising islands, reedbeds and marshes.</td>
<td>As and when agreed by Natural England avoiding breeding bird season. Rangers/Contractors</td>
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<tr>
<td>Rhododendron, Laurels and other invasive woody species</td>
<td>Cut and treat stumps and/or spray with appropriate herbicide.</td>
<td>Rangers</td>
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<tr>
<td>Crayfish</td>
<td>Monitor as part of fishing strategy.</td>
<td>Contractor/Volunteers</td>
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</tbody>
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Investigate use of Crayfish traps.

| 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 (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 2015 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 1.13.
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3.1 Work Plan Maps

3.1.1 Five Year Work Plan Map – Reedbeds and Marshes (subject to RSPB reedbed condition assessment)

Year 1 – Clear scrub on edge of Fugelmere Marsh

Year 2 – Wellington Reedbed

Year 3 – Chestnut Grove Reedbed

Year 4 – ½ of Brookly Reedbed & ½ of NE Marsh

Year 5 – Northern Reedbed

(Year 6 – Other ½ of Brookly Reedbed & other ½ of NE Marsh)
3.1.2 Five Year Work Plan Map – Woodland thinning

Year 1 – thin understory (woody material <10cm DBH) and halo specimen trees

Year 2 – Selectively thin understory and halo specimen trees

Year 3 – Thin understory (woody material <10cm DBH) and halo specimen trees

Year 4 – Selectively thin understory and halo specimen trees
SECTION 4: Sustainability

It is a key priority in the Hart District Council Corporate Objectives to enhance the environment by:

“Ensuring a clean, green and safe environment by maintaining and enhancing a high quality, sustainable environment for the people who live in, work in, or visit the District.”

The council is committed to issues on climate change, reducing its carbon emissions and being as sustainable as possible in their management of Fleet Pond.

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 in to 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.

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 Pygmyweed 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. The UK peat industry alone is responsible for 630,000 tonnes of carbon emissions a year. Hart District Council is committed to peat free management.
SECTION 5: Public Engagement

5.1. 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 Plan underlines this through the theme of contribution to the general health and wellbeing of our community via the promoting of cultural and leisure facilities which enhance quality of life.

The Hart Leisure Strategy 2007 to 2017 Mission Statement states:

‘Hart District Council aims to enable the provision of a range of high quality and accessible facilities, services and opportunities which meet the leisure, sport, health and physical activity needs of the District’s communities’.

One component of this is Hart’s parks, open spaces and commons. 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.

In order to implement these objectives a five year Visitor Strategy for Fleet Pond has been written, which sets out the key actions and priorities required to deliver the vision for Fleet Pond. For the site to compete effectively, it needs to develop specific experiences for the visitor, to highlight the things that make Hart unique.

The Visitor Strategy has been written as a five year plan to enable progression and delivery of some long term objectives and actions. The strategy has taken account of emerging trends in the countryside sector and captures these as opportunities for Fleet Pond over the next five years. The Visitor Strategy includes:

- Access
- Art and Heritage
- Dog Walking
- Education
- Fishing
- Green Flag
- Health and Wellbeing
- Marketing
- Recreation

The full Visitor Strategy can be found in Annexe 3.
5.2. Health and Wellbeing

Fleet Pond is a popular site for a variety of activities which stimulate healthy living and wellbeing including, jogging, walking, volunteering and cycling. We focus our events and activities to meet Hart District Council’s Health and Wellbeing Strategic goals, working in partnership with Leisure Services. These are:

- **Starting Well** – ensuring every child can thrive
- **Living Well** – empowering people to live healthier lives
- **Ageing Well** – supporting people to have independence, choice and control and timely access to high quality services
- **Healthier Communities** – developing strong, supportive communities

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.

We have close links with local organisations Hart Voluntary Action and Minding the Garden, who use the great outdoors to support people with mental health problems, such as depression and anxiety. Anyone volunteering with Minding the Garden will attend regular gardening sessions in private gardens and community areas, all under the careful supervision of a Garden Project Officer. This group comes to Fleet Pond in the summer months and carries out suitable tasks as required.

The Fleet Pond Ranger is also working 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. Access and path improvements are taking place to facilitate these groups, which require more specific additions to the existing access within the reserve. Links have been formed with BUPA, Woodhill and Hillbrow Dementia Centres locally, to work with them to start using the reserve as a regular venue for their outdoor excursions. This is an on going project that includes history talks in the centres and liaison with the carers to ensure access conditions are appropriate for their groups. A possible link with Hart Leisure Centre and the HDC Leisure Services team has been explored to link in with the ‘Steady and Strong’ Classes and jointly approaching other care homes in the district.
5.3. Community Involvement

5.3.1. Volunteering

5.3.1.1. 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.

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.

5.3.1.2. 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, Dimension Data, BT, the Environment Agency, NOKIA, Premier Inn, Scottish & 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.

5.3.1.3. 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.

5.3.2. Partnership Working

5.3.2.1. 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 Wildlife Explorers, a children’s wildlife club run by the RSPB, take part in conservation and educational tasks around the reserve. 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.

A CES (Constant Effort Site) project has been initiated by a local bird ringer who is an active member of the British Trust for Ornithology. Regular bird ringing takes place in the reedbeds and marshes and allows us to monitor the variety and number of species using the habitat. This helps us to inform management decisions in the future.

Hampshire Ornithological Society (HOS) has a long standing relationship with Hart District Council Countryside services. In 2014 a statement was prepared and endorsed by HOS highlighting the value of Fleet Pond Local Nature Reserve to Hampshire's birds. A copy of this report can be found in the Countryside Workshop. 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 others 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.

The Hampshire Conservation Volunteers (HCV) also visits the site most years for a conservation task.

5.3.2.2. 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. The EA also have their annual team building day at the pond, volunteering with the Rangers. The electro-fishing and the fish exclusion zone (please see restoration project report) is partly managed by our EA representative.
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.

Tackle Up is our local fishing contact with business premises in Fleet High Street. We have a close working relationship with the owners of Tackle Up who provide a contact for our local fishermen who use the pond. They are key in the management of fishing at the reserve, including selling of permits and equipment. The future of fishing management is to be considered formally in 2015 through direct consultation with the fishermen who use the pond.

Hampshire Youth Offenders Service also occasionally joins our volunteer days and makes use of the Reserve for Community Service.

5.4. Marketing

Hart Countryside Services works to a marketing plan which is produced by the Marketing and Education Ranger and monitored by the Senior Ranger.

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.

5.4.1. Website

Information about Hart Countryside sites can be found on www.hart.gov.uk/countryside-nature. The Marketing and Education Ranger is responsible for keeping the website up to date. The success of the website is monitored by google analytics. 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.

5.4.2. Social media

Hart Countryside Services has its own Twitter (@HartCountryside) and Facebook (HartCountrysideServices) accounts. Posts are monitored by the Marketing and Education Ranger. These are used to post information about events,
activities, wildlife sightings and works being carried out around the Pond. The Marketing and Education Ranger 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 retweets or shares ranger updates on their own pages.

5.4.3. Events and Activities

Events and activities are held at Fleet Pond throughout the year. Posters are produced through Big Wave, an external media company. 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 an Easter walk, dawn chorus walks, a family Halloween event, den building and very popular bat walks.

5.4.4. Press Releases

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.

All press releases must go through the Marketing and Education Ranger 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.

5.4.5. Interpretation

The urban development of Fleet town has brought with it the impacts associated with population increase. To mitigate against some of these issues as a result of this, a Visitor Strategy has been developed for the pond (see annexe 3). Without the provision of a height barrier illegal dumping occurs around the Reserve and in the Reserve car park. There is a clear need for a height barrier to remain in place. Therefore a bespoke welcome barrier will
replace the current outdated barrier. This will incorporate the site name and act as a welcoming feature, steel silhouettes will be representative of site wildlife.

An increase in vandalism also associated with population growth has led Hart Countryside to develop a robust interpretation plan. Preventative planning has been used when considering new site features and has been strongly considered in the design of new site furniture. (See visitor’s strategy, annexe 3).

It is planned that the reserve will have 2 large 360° 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 will have information on fishing permits, as it is located next to the pond.

A map board and lightly carved directional posts will be located at the car park to direct visitors towards these two main areas with 360° notice boards for more detailed information. Small half panel notice boards or map boards will be situated at most other site access points. Smaller lightly carved directional posts will direct visitors to the main points around the reserve (car park, Sandy Bay, Boathouse Corner). These will be located at path junctions only.

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. This was installed in 2001. All of these boards need replacing and the information on them needs to be updated.

The Reserve is intensively used for walking, particularly dog walking. All new interpretation/site furniture will include the dog walking traffic light system. (See Visitor Strategy, annexe 3).

5.4.6. 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 borrow the services pond dipping and bug hunting kits, out of working hours. Leaders are offered the opportunity to visit the Marketing and 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 Marketing and 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, whilst maintaining a fair and sustainable service for the future.

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. As well as this we attend events held locally such as Yateley Fun Fest and Elvetham Heath Village Fete.
Section 6 - APPENDICES
1.1 - Map of Walking Routes

- Short route
- Medium route
- Long route
1.2. Biological records, surveys undertaken and 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).


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 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 occurring 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.
1.3. 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
    Compartments 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.
1.4. Dipwell Locations

# 1.5. Rare and 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 waters surface.

<table>
<thead>
<tr>
<th>Name</th>
<th>Scientific Name</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blunt-fruited Starwort</td>
<td>Callitriche obtusangula</td>
<td>Present in patches around the Pond margins, the edges of reedbeds and in Brookly Stream.</td>
</tr>
<tr>
<td>Common Starwort</td>
<td>Callitriche stagnalis</td>
<td>Frequent patches along edge of Brookly reedbed, abundant at Sandy Bay. Other scattered patches around Pond and reedbed margins.</td>
</tr>
<tr>
<td>Hornwort</td>
<td>Ceratophyllum demersum</td>
<td>Two isolated free-floating pieces found. Does not occur naturally in the Pond. Likely to be surplus material from garden ponds.</td>
</tr>
<tr>
<td>Canadian Pondweed</td>
<td>Elodea canadensis</td>
<td>Plentiful in one patch at Sandy Bay.</td>
</tr>
<tr>
<td>Nuttall’s Water-thyme</td>
<td>Elodea nuttallii</td>
<td>Locally dominant at Sandy Bay. Present in other patches around the Pond margins.</td>
</tr>
<tr>
<td>Common Duckweed</td>
<td>Lemna minor</td>
<td>Widespread. Sometimes dominant on shallow pools but absent from extensive areas of water margins.</td>
</tr>
<tr>
<td>Ivy Duckweed</td>
<td>Lemna trisulca</td>
<td>Rare at Fleet Pond. Found on the edge of Kenilworth Bay.</td>
</tr>
<tr>
<td>White Water Lily</td>
<td>Nymphaea alba</td>
<td>Found near Boathouse corner.</td>
</tr>
<tr>
<td>Small Pondweed</td>
<td>Potamogeton berchtoldii</td>
<td>Found on margin of Brookly Bay and by reed margins near Fugelmere Island.</td>
</tr>
<tr>
<td>Curled Pondweed</td>
<td>Potamogeton crispus</td>
<td>Plentiful in Brookly Stream. Found also in the Flash. Not found in the lake.</td>
</tr>
<tr>
<td>Broad-leaved Pondweed</td>
<td>Potamogeton natans</td>
<td>Only a few leaves found in the flash. Ought to be very frequent.</td>
</tr>
<tr>
<td>Blunt-leaved Pondweed</td>
<td>Potamogeton obtusifolius</td>
<td>One plant found on margins of Gelvert Marsh. Also in Boathouse corner.</td>
</tr>
<tr>
<td>Fennel Pondweed</td>
<td>Potamogeton pectinatus</td>
<td>One plant recorded growing on silt in shallow clear water on Margin of Kenilworth Bay. Also on reedbed edge at Sandy Bay.</td>
</tr>
<tr>
<td>Steam Crowfoot</td>
<td>Ranunculus penicillatus</td>
<td>In Brookly Stream but numbers have decreased.</td>
</tr>
<tr>
<td>Great Duckweed</td>
<td>Spirodela polyrhiza</td>
<td>Widespread but localised. Most plentiful in the Flash and margins of Hemelite Bay.</td>
</tr>
<tr>
<td>Horned Pondweed</td>
<td>Zannichellia palustris</td>
<td>Most plentiful pondweed at Fleet Pond. Localised to sites where water is shallow and there is protection from grazing animals.</td>
</tr>
</tbody>
</table>
REEDBEDS

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

<table>
<thead>
<tr>
<th>Name</th>
<th>English Name</th>
<th>Conservation Status</th>
<th>Date</th>
<th>Reedbed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thelypteris palustris</td>
<td>Marsh Fern</td>
<td>Nationally Scarce, Regionally Rare. HS</td>
<td>2004</td>
<td>Wellington and Brookly</td>
</tr>
<tr>
<td>Salix purpurea</td>
<td>Purple Willow</td>
<td>Regionally Uncommon.</td>
<td>2006</td>
<td>Wellington</td>
</tr>
<tr>
<td>Carex curta</td>
<td>White Sedge</td>
<td>Regionally Scarce. HS</td>
<td>2005</td>
<td>Wellington</td>
</tr>
<tr>
<td>Carex pseudocyperus</td>
<td>Hop Sedge</td>
<td>Regionally Scarce. HS</td>
<td>2004</td>
<td>Northern, Wellington and Brookly</td>
</tr>
<tr>
<td>Bidens cernua</td>
<td>Nodding Bur-marigold</td>
<td>Regionally Uncommon.</td>
<td>2004</td>
<td>Wellington</td>
</tr>
<tr>
<td>Callitriche obtusangula</td>
<td>Water Starwort</td>
<td>Regionally Scarce. HS</td>
<td>2002</td>
<td>Wellington and Brookly</td>
</tr>
<tr>
<td>Epilobium palustre</td>
<td>Marsh Willowherb</td>
<td>Regionally Uncommon.</td>
<td>2002</td>
<td>Brookly</td>
</tr>
<tr>
<td>Hottonia palustris</td>
<td>Water Violet</td>
<td>Nationally Uncommon. Regionally Rare. HR</td>
<td>1990</td>
<td>Brookly</td>
</tr>
<tr>
<td>Lemna trisulca</td>
<td>Ivy-leaved Duckweed</td>
<td>Regionally Uncommon.</td>
<td>2002</td>
<td>Brookly</td>
</tr>
<tr>
<td>Menyanthens trifoliata</td>
<td>Bogbean</td>
<td>Regionally Uncommon.</td>
<td>2006</td>
<td>Northern and Wellington</td>
</tr>
<tr>
<td>Oenanthe fistulosa</td>
<td>Tubular Water Dropwort</td>
<td>RDB Vulnerable. Regionally Scarce. HS</td>
<td>1999</td>
<td>Wellington</td>
</tr>
<tr>
<td>Potentilla palustris</td>
<td>Marsh Cinquefoil</td>
<td>Regionally Scarce. HS</td>
<td>2006</td>
<td>Wellington</td>
</tr>
<tr>
<td>Rorippa amphibia</td>
<td>Greater Yellow Cress</td>
<td>Regionally Uncommon. HS.</td>
<td>2004</td>
<td>Northern and Wellington</td>
</tr>
<tr>
<td>Spirodela polyrhiza</td>
<td>Great Duckweed</td>
<td>Regionally Scarce. HR.</td>
<td>2002</td>
<td>Northern, Wellington and Brookly</td>
</tr>
<tr>
<td>Veronica scutellata</td>
<td>Marsh Speedwell</td>
<td>Regionally Uncommon.</td>
<td>2002</td>
<td>Wellington</td>
</tr>
</tbody>
</table>

RDB – Red Data Book
Nationaly Scarce, Confirmed since 1986 from 16 – 100 ten km squares in England, Wales and Scotland (less than 3.5% of the total.)
Nationaly 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)

<table>
<thead>
<tr>
<th>Species Name</th>
<th>Conservation Status</th>
<th>Also Found in 2008</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tipula marginella</strong> <em>(Diptera, a cranefly)</em></td>
<td>RDB 3</td>
<td>Kenilworth Wood</td>
<td>Very localised, but then frequent. Associated with small areas of bare mud or peat near water. Larvae are aquatic.</td>
</tr>
<tr>
<td><strong>Crudosilis ruficollis</strong> <em>(Coleoptera)</em></td>
<td>Nationally Scarce b</td>
<td>Kenilworth Wood</td>
<td>Frequently found. Formerly a rare and very local wetland species but it has evidently spread over the last 40 years.</td>
</tr>
<tr>
<td><strong>Tillus elongates</strong> <em>(Coleoptera, Chequered beetle)</em></td>
<td>Nationally Scarce b</td>
<td></td>
<td>Infrequently found and local. Associated with ancient broad-leaved woodland where it is predatory on woodworm beetles, especially <em>Ptilinus pectinicornis</em> and <em>Anobium</em>.</td>
</tr>
<tr>
<td><strong>Tapinotus sellatus</strong> <em>(Coleoptera, a weevil)</em></td>
<td>Nationally Scarce a</td>
<td>Kenilworth Wood</td>
<td>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.</td>
</tr>
<tr>
<td><strong>Platyctis minutes</strong> <em>(Coleoptera)</em></td>
<td>Nationally Scarce b</td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Conocephalus discolor</strong> <em>(Orthoptera)</em></td>
<td>Nationally Scarce a</td>
<td>Wet Heath</td>
<td>Long-winged Cone-head. Commonly found. Increasingly widespread throughout southern England.</td>
</tr>
<tr>
<td><strong>Psacadina verbekei</strong> <em>(Diptera)</em></td>
<td>Nationally Scarce</td>
<td></td>
<td>Frequently found. Associated with marshy areas and margins of water bodies. Larvae develop in aquatic snails.</td>
</tr>
<tr>
<td><strong>Tanyptera atrata</strong> <em>(Diptera, a cranefly)</em></td>
<td>Nationally Scarce</td>
<td></td>
<td>Locally frequently found, but sporadic. The larvae live in old Birch.</td>
</tr>
<tr>
<td><strong>Lasioglossum malachurum</strong> <em>(Hymenoptera, bee)</em></td>
<td>Nationally Scarce a</td>
<td></td>
<td>Commonly found. Eusocial species which forms large colonies. Formerly a largely coastal species. Increased its range during the 1990's. Polylectic.</td>
</tr>
</tbody>
</table>
Macropis europaea  
(Hymenoptera, bee)  
Nationally Scarce  
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).

<table>
<thead>
<tr>
<th>Name</th>
<th>Scientific Name</th>
<th>Conservation Status</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nodding Burmarigold</td>
<td>Bidens cernua</td>
<td>Infrequently found.</td>
<td>Regionally Uncommon. Two plants found on bare mud in centre of the Marsh.</td>
</tr>
<tr>
<td>White Sedge*</td>
<td>Carex canescens</td>
<td>Regionally Scarce.</td>
<td>All plants small, suggesting recovering from over grazing.</td>
</tr>
<tr>
<td>Star Sedge *</td>
<td>Carex echinata</td>
<td>Regionally Uncommon.</td>
<td>Immature plants confined to Coldstream Marsh.</td>
</tr>
<tr>
<td>Bottle Sedge*</td>
<td>Carex rostrata</td>
<td>Regionally Scarce</td>
<td>A key species of poor-fen communities, part of a scarce vegetation type in S. England.</td>
</tr>
<tr>
<td>Bladder Sedge*</td>
<td>Carex vesicaria</td>
<td>Regionally Scarce</td>
<td>Grows intermixed with Bottle Sedge.</td>
</tr>
<tr>
<td>Meadow Thistle</td>
<td>Cirsium dissectum</td>
<td>Infrequently found.</td>
<td>Regionally Uncommon. First record on Coldstream Marsh since 1999 due to a more open sward.</td>
</tr>
<tr>
<td>Waterwort</td>
<td>Elatine hexandra</td>
<td>Nationally Uncommon.</td>
<td>Regionally Rare. Found on wet and bare patches of turf stripped ground.</td>
</tr>
<tr>
<td>Needle Spike-rush</td>
<td>Eleocharis acicularis</td>
<td>Nationally Uncommon.</td>
<td>Regionally Rare. Found on turf strips on Coldstream Marsh. Requires open conditions with little competition.</td>
</tr>
</tbody>
</table>
**Floating Clubrush**
*Isolepis fluitans* Regionally Scarce. Found on turf stripped areas.

**Bristle Clubrush**
*Isolepis 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**

**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.

- Also recorded in Fugelme 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.

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**WET HEATHLAND**

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

<table>
<thead>
<tr>
<th>Name</th>
<th>Scientific Name</th>
<th>Conservation Status</th>
<th>Location</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bog Pimpernel</td>
<td>Anagallis tenella</td>
<td>Regionally uncommon</td>
<td>Scapes</td>
<td>Two occurrences, one in 2005 and second in 2008, both on turf scrapes. No records previous to 2005.</td>
</tr>
<tr>
<td>Green-</td>
<td>Carex binervis</td>
<td>Regionally</td>
<td>Heath</td>
<td>One population was found</td>
</tr>
<tr>
<td><strong>ribbed Sedge</strong></td>
<td>uncommon</td>
<td>and</td>
<td>scrapes</td>
<td>in 2004. In 2008 three new populations had appeared as a direct result of tree clearance, scraping and grazing.</td>
</tr>
<tr>
<td>------------------</td>
<td>----------</td>
<td>-----</td>
<td>---------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Star Sedge</strong></td>
<td><em>Carex echinata</em></td>
<td>Regionally uncommon</td>
<td>Heath and scrapes</td>
<td>A target species for the wet heath habitat restoration. Two tufts recorded in 2008.</td>
</tr>
<tr>
<td><strong>Heath Spotted Orchid</strong></td>
<td><em>Dactylorhiza maculata</em></td>
<td>Regionally uncommon</td>
<td>Heath</td>
<td>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.</td>
</tr>
<tr>
<td><strong>Heath Spike-rush</strong></td>
<td><em>Eleocharis multicaulis</em></td>
<td>Regionally scarce</td>
<td>Heath and scrapes</td>
<td>In 2008 it was present on eight of the nine scrapes, very abundant in some areas.</td>
</tr>
<tr>
<td><strong>Bog St. John’s Wort</strong></td>
<td><em>Hypericum elodes</em></td>
<td>Infrequently found. Regionally uncommon</td>
<td>Scrapes</td>
<td>18 rosettes in a small ditch cleared as part of the turf strip at Bog Myrtle Glade.</td>
</tr>
<tr>
<td><strong>Floating Club-rush</strong></td>
<td><em>Isolepis fluitans</em></td>
<td>Regionally scarce</td>
<td>Heath and scrapes</td>
<td>Recorded in 2005 on a turf scrape, population had increased in 2008.</td>
</tr>
<tr>
<td><strong>Heath Rush</strong></td>
<td><em>Juncus squarrosus</em></td>
<td>Regionally uncommon</td>
<td>Heath and scrapes</td>
<td>Grazing is helping to maintain the conditions required by this species which is established on four sites around the heath.</td>
</tr>
<tr>
<td><strong>Water Purslane</strong></td>
<td><em>Lythrum portula</em></td>
<td>Regionally uncommon</td>
<td>Scrapes</td>
<td>Records from two sites on the heath in 2008.</td>
</tr>
<tr>
<td><strong>Bog Asphodel</strong></td>
<td><em>Narthecium ossifragum</em></td>
<td>Regionally scarce</td>
<td>Heath</td>
<td>Grazing has opened up the sward for this species to increase. Two flower spikes recorded in 2008.</td>
</tr>
<tr>
<td><strong>Royal Fern</strong></td>
<td><em>Osmunda regalis</em></td>
<td>Infrequently found. Regionally scarce</td>
<td>Scrapes</td>
<td>Ferns recorded in three locations. Colonisation is a result of the turf scrapes.</td>
</tr>
<tr>
<td><strong>Deer Grass</strong></td>
<td><em>Trichophorum germanicum</em></td>
<td>Regionally scarce</td>
<td>Heath</td>
<td>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.</td>
</tr>
</tbody>
</table>
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.


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

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.

**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.

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


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.


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

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.

**WET WOODLAND**

Nationally scarce and Red Data Book species of insect found in the wet woodland areas. Identified by Mike Edwards, 2008. (Edwards, 2008)
<table>
<thead>
<tr>
<th>Insect Name</th>
<th>Classification</th>
<th>Status</th>
<th>Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Eutolmus rufibarbis</em> (Diptera, a robberfly)</td>
<td>RDB 3</td>
<td>Dry and Wet Heaths</td>
<td>Locally frequently found. Associated with dry grassy areas and heaths. First record for the Wet Heath.</td>
<td></td>
</tr>
<tr>
<td><em>Tipula marginella</em> (Diptera, a cranefly)</td>
<td>RDB 3</td>
<td>Marshes</td>
<td>Very localised, but then frequent. Associated with small areas of bare mud or peat near water. Larvae are aquatic.</td>
<td></td>
</tr>
<tr>
<td><em>Dolichovespula saxonica</em> (Hymenoptera, Saxon Wasp)</td>
<td>RDB K</td>
<td></td>
<td>Found in both Kenilworth and Gelvert Woods. Becoming frequently found, particularly in heathy locations.</td>
<td></td>
</tr>
<tr>
<td><em>Crudosilis ruficollis</em> (Coleoptera)</td>
<td>Nationally Scarce b</td>
<td>Marshes</td>
<td>Frequently found. Formerly a rare and very local wetland species but it has evidently spread over the last 40 years.</td>
<td></td>
</tr>
<tr>
<td><em>Lythraria salicariae</em> (Coleoptera)</td>
<td>Nationally Scarce b</td>
<td></td>
<td>Infrequently found. Associated with loosestrifes, predominately yellow, <em>Lysimachia vulgaris</em>.</td>
<td></td>
</tr>
<tr>
<td><em>Tapinotus sellatus</em> (Coleoptera, a weevil)</td>
<td>Nationally Scarce a</td>
<td>Marshes</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td><em>Cheilosia soror</em> (Diptera, a hoverfly)</td>
<td>Nationally Scarce</td>
<td></td>
<td>Infrequently found. Strongly associated with chalk and limestone areas. Thought to breed in truffles and possibly other underground fungi.</td>
<td></td>
</tr>
<tr>
<td><em>Eupeodes nitens</em> (Diptera, a hoverfly)</td>
<td>Nationally Scarce</td>
<td></td>
<td>Infrequently found. Most records are for the Welsh boarders, but it is widely scattered elsewhere. Associated with broad-leaved woodland.</td>
<td></td>
</tr>
<tr>
<td><em>Volucella inanis</em> (Diptera, a hoverfly)</td>
<td>Nationally Scarce</td>
<td></td>
<td>Infrequently found. The larvae live as ectoparasites of the grubs of social wasps.</td>
<td></td>
</tr>
<tr>
<td><em>Dolichovespula media</em> (Hymenoptera, a potter wasp)</td>
<td>Nationally Scarce a</td>
<td></td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td><em>Lestiphorus bicinctus</em></td>
<td>Nationally</td>
<td></td>
<td>Infrequently found and local. Preys</td>
<td></td>
</tr>
</tbody>
</table>
(Hymenoptera, solitary wasp) Scarce b 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.

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

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

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
1.6. Table of RSPB (Royal Society for Protection of Birds), BTO (British Trust for Ornithology) & JNCC (Joint Nature Conservation Committee) red and amber listed Birds of Conservation Concern, recorded at Fleet Pond

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.

<table>
<thead>
<tr>
<th>English Name</th>
<th>Scientific Name</th>
<th>Status at Fleet Pond</th>
<th>Red/Amber listed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greylag Goose</td>
<td>Anser anser</td>
<td>Occasional visitor</td>
<td>Amber</td>
</tr>
<tr>
<td>Eurasian Teal</td>
<td>Anas crecca</td>
<td>Wintering</td>
<td>Amber</td>
</tr>
<tr>
<td>Mallard</td>
<td>Anas platyrhynchos</td>
<td>Resident</td>
<td>Amber</td>
</tr>
<tr>
<td>Northern Shoveler</td>
<td>Anas clypeata</td>
<td>Wintering</td>
<td>Amber</td>
</tr>
<tr>
<td>Common Pochard</td>
<td>Aythya ferina</td>
<td>Wintering</td>
<td>Amber</td>
</tr>
<tr>
<td>Little Grebe</td>
<td>Tachybaptus ruficollis</td>
<td>Wintering</td>
<td>Amber</td>
</tr>
<tr>
<td>Spoonbill</td>
<td>Platalea leucorodia</td>
<td>Vagrant</td>
<td>Amber</td>
</tr>
<tr>
<td>Bittern</td>
<td>Botaurus stellaris</td>
<td>Wintering</td>
<td>Red</td>
</tr>
<tr>
<td>Lesser Black-backed Gull</td>
<td>Larus fuscus</td>
<td>Occasional visitor</td>
<td>Amber</td>
</tr>
<tr>
<td>Yellow-legged Gull</td>
<td>Larus michahellis</td>
<td>Vagrant</td>
<td>Amber</td>
</tr>
<tr>
<td>Common Tern</td>
<td>Sterna hirundo</td>
<td>Breeding</td>
<td>Amber</td>
</tr>
<tr>
<td>Stock Dove</td>
<td>Columba oenas</td>
<td>Resident</td>
<td>Amber</td>
</tr>
<tr>
<td>European Turtle Dove</td>
<td>Streptopelia turtur</td>
<td>Summer &amp; Passage</td>
<td>Red</td>
</tr>
<tr>
<td>Common Cuckoo</td>
<td>Cuculus canorus</td>
<td>Breeding</td>
<td>Red</td>
</tr>
<tr>
<td>Common Swift</td>
<td>Apus apus</td>
<td>Summer</td>
<td>Amber</td>
</tr>
<tr>
<td>Kingfisher</td>
<td>Alcedo atthis</td>
<td>Resident &amp; Breeding</td>
<td>Amber</td>
</tr>
<tr>
<td>Green Woodpecker</td>
<td>Picus viridis</td>
<td>Resident &amp; Breeding</td>
<td>Amber</td>
</tr>
<tr>
<td>Lesser Spotted Woodpecker</td>
<td>Dendrocopos minor</td>
<td>Resident &amp; Breeding</td>
<td>Red</td>
</tr>
<tr>
<td>Marsh Tit</td>
<td>Poecile palustris</td>
<td>Resident</td>
<td>Red</td>
</tr>
<tr>
<td>Sand Martin</td>
<td>Riparia riparia</td>
<td>Summer &amp; Passage</td>
<td>Amber</td>
</tr>
<tr>
<td>Swallow</td>
<td>Hirundo rustica</td>
<td>Summer</td>
<td>Amber</td>
</tr>
<tr>
<td>House Martin</td>
<td>Delichon urbicum</td>
<td>Summer</td>
<td>Amber</td>
</tr>
<tr>
<td>Willow Warbler</td>
<td>Phyllloscopus trochilis</td>
<td>Summer &amp; Passage</td>
<td>Amber</td>
</tr>
<tr>
<td>Little Egret</td>
<td>Egretta garzetta</td>
<td>Resident</td>
<td>Amber</td>
</tr>
<tr>
<td>Red Kite</td>
<td>Milvus milvus</td>
<td>Occasional visitor</td>
<td>Amber</td>
</tr>
<tr>
<td>Osprey</td>
<td>Pandion haliaetus</td>
<td>Passage</td>
<td>Amber</td>
</tr>
<tr>
<td>Kestrel</td>
<td>Falco tinnunculus</td>
<td>Resident</td>
<td>Amber</td>
</tr>
<tr>
<td>Northern Lapwing</td>
<td>Vaneellus vanellus</td>
<td>Passage</td>
<td>Red</td>
</tr>
<tr>
<td>Species</td>
<td>Scientific Name</td>
<td>Season</td>
<td>Status</td>
</tr>
<tr>
<td>---------------------------</td>
<td>------------------------</td>
<td>-----------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Jack Snipe</td>
<td>Lymnocryptes minimus</td>
<td>Wintering</td>
<td>Amber</td>
</tr>
<tr>
<td>Common Snipe</td>
<td>Gallinago gallinago</td>
<td>Wintering</td>
<td>Amber</td>
</tr>
<tr>
<td>Woodcock</td>
<td>Scolopax rusticola</td>
<td>Summer and wintering</td>
<td>Amber</td>
</tr>
<tr>
<td>Common Sandpiper</td>
<td>Actitis hypoleucos</td>
<td>Passage</td>
<td>Amber</td>
</tr>
<tr>
<td>Green Sandpiper</td>
<td>Tringa ochropus</td>
<td>Passage</td>
<td>Amber</td>
</tr>
<tr>
<td>Common Redshank</td>
<td>Tringa totanus</td>
<td>Wintering</td>
<td>Amber</td>
</tr>
<tr>
<td>Black-headed Gull</td>
<td>Chroicocephalus ridibundus</td>
<td>Breeding</td>
<td>Amber</td>
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1.7. Map illustration of the Fleet Pond catchment area

1.8. Loddon Catchment Area Map
1.9. Invasive Species Maps

Please take note that this is an old map and some of the descriptions have changed due to management. Alder Wood was completely cleared to extend Gelvert and Fugelmere Marshes and the dry heath has been extended to the east.
Crassula Helmsii

Extent of New Zealand Pygmy Weed
1.10. 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

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

Damage to or disturbance of things in the Reserve

(ii) 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.

(iii) Taking, molesting or intentionally disturbing, injuring or killing any living creature.

(iv) 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.
(v) 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.

(vi) Climbing or ascending any tree or climbing or placing a ladder or steps against any tree.

Bringing animals to the Reserve

(vii) 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.

(viii) 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.

(ix) Turning out any animal or poultry to feed or graze.

(x) 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

(xi) Committing any act which pollutes or is likely to cause pollution of any water.

(xii) Bathing or wading in any water in contravention of a notice exhibited beside that water by order of the Council.

(xiii) Water skiing or ice skating.

(xiv) Sailing model boats.

(xv) 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.

(xvi) 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.

(xvii) Obstructing the flow of any drain or watercourse.

Use of Vehicles

(xviii) Driving, riding, propelling or leaving any mechanically propelled vehicle (including hovercraft) elsewhere than on a highway or road, or in a place indicated by a notice as being available for the purpose.

(xix) Launching or landing, except in case of emergency, any aircraft, including hang glider, motorised glider or microlite craft.

(xx) 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

(xxii)
(xxii) 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.

(xxiii) Using any device designed or adapted for detecting or locating any metal or mineral.

Use of Firearms etc.

(xxiv) Being in possession of a firearm, with ammunition suitable for use in that firearm, or discharging a firearm or lighting a firework.

(xxv) Projecting any missile manually or by artificial means (including by means of crossbow or catapult).

General Prohibition

(xxvi) 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.

(xxvii) Flying any kite or model aircraft.

(xxviii) Erecting any post, rail, fence, pole, booth, stand, building or other structure.

(xxix) Posting or placing any notice or advertisement.

(xxx) 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.

( xxi) 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.

(xxii) 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.

(xxiii) Roller skating, skiing, tobogganing or skateboarding.

(xxiv) 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.

(xxv) Letting fall or throwing any lighted match or lighted substance in a manner likely to cause a fire.

(xxvi) 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.

(xxvii) The dumping of garden refuse or any refuse domestic or otherwise.

Intentionally obstructing any officer

(xxviii) 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 be unlawful under these byelaws.

3(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.
1.11. 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.
1.12. Photo Credits

- Page 13 – The old jetty courtesy of Percy Vickery
- Page 13 - Lion’s View point photos courtesy of the Fleet Pond Society
- Page 17 – Floatplane courtesy of Percy Vickery
- Page 28 – Sunset over the pond courtesy of Mark Hodson
- Page 36 – Kingfisher courtesy of Alex Berryman (www.alexberrymanphotography.co.uk)
- Page 40 – Grass Snake courtesy of Alex Berryman (www.alexberrymanphotography.co.uk)
- Page 44 – Golden Ringed Dragonfly courtesy of Alex Berryman (www.alexberrymanphotography.co.uk)
- Page 56 – Comma courtesy of Ian Julian (www.natureandpictures.com)
- Page 71 – Bird ringing on the islands courtesy of Terry Austin

All other photos used are owned, to the best of our knowledge, by Hart District Council.
### 1.13. Financial Summary – prediction only resources for work within this plan

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