

# New Forest

Guidelines for maintenance  
operations within sensitive areas



# Contents

# Appendices



|       |  |    |   |    |
|-------|--|----|---|----|
| 1     | Joint statement  | 1  | Appendix A: SSSI citation   | 14 |
| 2     | Introduction and scope   | 2  | Appendix B: SAC citation  | 20 |
| 3     | Key contacts   | 2  | Appendix C: EC Directive 79 409 – SPA                             | 22 |
| 4     | Natural England  | 2  | Appendix D: Ramsar  | 22 |
| 5     | Nature conservation importance   | 3  | Appendix E: Bats and trees  | 24 |
| 6     | Bournemouth Water aims and objectives  | 4  | Appendix F: EA guidelines for working near or across watercourses | 25 |
| 7     | Natural England aims and objectives  | 4  | Appendix G: Process water with use of siltbuster                  | 28 |
| 8     | Joint nature conservation objectives between Natural England and Bournemouth Water | 4  | Appendix H: Overview of how to use protocol – guide for staff     | 28 |
| 9     | Legislative framework  | 5  | Appendix I: Operation activity and permissions needed             | 29 |
| 9.1   | Water Industry Act 1991 and Water Act 2003   | 5  | Appendix J: Risk assessment                                       | 30 |
| 9.2   | The Wildlife and Countryside Act 1981  | 5  | Appendix K: Notification form for works                           | 30 |
| 9.3   | Owners/occupiers   | 5  | Appendix L: Example of notification of emergency works            | 31 |
| 9.3.1 | Operations likely to damage the special interest                                   | 5  |   |    |
| 9.4   | Section 28G authorities (public bodies)  | 6  |   |    |
| 9.5   | General duty of public bodies  | 6  |   |    |
| 9.6   | The habitats and the birds directives  | 6  |   |    |
| 9.7   | Ramsar site  | 7  |   |    |
| 9.8   | Protected species  | 7  |   |    |
| 9.8.1 | Sand lizard, smooth snake and great crested newt                                   | 7  |   |    |
| 9.8.2 | Common lizard, slow worm, grass snake and adder                                    | 8  |   |    |
| 9.8.3 | Smooth newt, palmate newt, common frog and common toad                             | 8  |   |    |
| 9.8.4 | All bats and their roosts  | 9  |   |    |
| 9.8.5 | Badgers  | 9  |   |    |
| 9.8.6 | Exceptions   | 9  |   |    |
| 10    | Issues   | 9  |   |    |
| 11    | Protocol agreement for planned works within sensitive areas                        | 10 |   |    |
| 11.1  | Pipe and cable laying  | 10 |   |    |
| 11.2  | General  | 11 |   |    |
| 11.3  | Mainlaying procedure   | 11 |   |    |
| 12    | Dissemination to contractors   | 12 |   |    |
| 13    | Emergency works  | 12 |   |    |
| 14    | Exceptional circumstances  | 12 |   |    |

# Joint Statement

The New Forest is of international importance for nature conservation and its protection and management is subject to national and European legislation as it supports protected habitats and species.

The overriding objective of both Bournemouth Water and Natural England is to understand and protect the nature conservation interests in the New Forest Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar site.

Bournemouth Water and Natural England have developed this site management statement jointly, with a view to providing a clear working framework to guide managers and operational staff in dealing with routine, planned and emergency maintenance operations within the New Forest on designated land. It forms the basis for any notice of assent required under Section 28 of the Wildlife and Countryside Act 1981 (W&CA) as amended by the Countryside and Rights of Way Act 2000 (CRoW).

Whilst this document has been designed specifically for the New Forest, it will provide a useful basis for maintenance operations carried out in sensitive habitats elsewhere.

Signed on behalf of Bournemouth Water:

Name: Bob Taylor

Position: Managing Director

Date: 13 July 2015

.....

Signed on behalf of Natural England:

Name:

Date: 13 July 2015

.....

## 2. Introduction and scope

Bournemouth Water is committed to its environmental objectives as set out in the company environmental policy statement, which states that we will manage our activities and assets to protect and improve habitat and increase biodiversity.

This model agreement and specification for implementing works will enable Bournemouth Water to meet these objectives when carrying out routine maintenance in the New Forest.

The overriding aim of this document is to develop a common understanding between the organisations, develop a specification for all to sign up to for implementing works in the New Forest area, and to work in partnership in achieving the aims and objectives of both organisations. This approach will allow for closer and more efficient working.

This document provides a clear working framework to deal with both planned and emergency maintenance operations on designated land. The document identifies the procedures which have potential to damage the environment and agrees working methodologies for routine maintenance operations to minimise the impact on the environment. It sets out expectations and informative notes for emergency procedures and the way in which Natural England and Bournemouth Water should interact over major schemes. These agreed procedures will protect and enhance biodiversity while improving, maintaining and operating the supply network. In addition, Bournemouth Water is committed to carrying out additional positive work to further conservation and enhancement of habitat wherever possible.

The document identifies the specific nature conservation interest features within the New Forest SSSI, SAC, SPA and Ramsar site. It lists the objectives for the management of those features, describes the objectives for management and summarises agreed joint Natural England and Bournemouth Water objectives. It describes the issues and the legislative framework and processes involved in its management. The types of operational works are described together with the agreed procedures and programmes. Finally the management required to restore the site to favourable condition for nature conservation is described.

## 3. Key contacts

Other than Bournemouth Water and Natural England, the model agreement and specification applies to all contractors working on behalf of Bournemouth Water.

This agreement must be understood and accepted throughout the hierarchy of each organisation through continuous dialogue and liaison.

Bournemouth Water REGISTERED OFFICE George Jessel House Francis Avenue, Bournemouth, BH11 8NX  
Tel (44) 01202 591111

Natural England  
Hampshire and Isle of Wight  
Cromwell House, 2nd Floor  
15 Andover Road, Winchester, SO23 7BT  
Tel (44) 0300 060 2514

## 4. Natural England

Natural England works to ensure that the use and management of the natural environment is more sustainable. It brings together advice and funding to promote farming and land management practices that benefit wildlife and encourage biodiversity.

Natural England is working to enhance biodiversity, landscapes and wildlife in rural, urban, coastal and marine areas; promote access, recreation and public well-being, and contribute to the way natural resources are managed so that they can be enjoyed now and by future generations.

Natural England has responsibilities for conserving and enhancing the marine and coastal environment and for promoting its sustainable use and opportunities for public enjoyment. Work includes monitoring marine protected areas and creating new ones, working to improve coastal and marine biodiversity and working with government on the Marine Bill.

All company and contract staff are required to attend a short awareness seminar with the company Environmental Performance Manager.

## 5. Nature conservation importance

The New Forest SSSI, SAC, SPA and Ramsar are one of the most important sites for wildlife in the UK and are of exceptional importance for nature conservation. It supports a complex mosaic of wildlife habitats including unique habitats and refuges (see appendices A-D).

The New Forest embraces the largest area of 'unsown' vegetation in lowland England and includes the representation on a large scale of habitats formerly common but now fragmented and rare in lowland western Europe. The intimate mosaic of habitats owes much to the local geology and traditional commoning grazing system, a situation which is uncommon in lowland England. The habitats include lowland heath, valley and seepage step mire or fen and ancient pasture woodland, including riparian and bog woodland. Nowhere else do these habitats occur in combination and on so large a scale. Within the matrix of habitats are pasture woodland and scrub dominated by oak, beech and holly; heathland and associated grassland; wet heath, valley mire-fen and plantations dating from various periods since the early 18th century and a range of acid to neutral grasslands.

The New Forest contains the most extensive areas of active wood-pasture in North West Europe comprising mature, semi-natural beech, which represent Atlantic beech forests in the most southerly part of the habitat's range, together with old oak. This mosaic, with other types of woodland and heath, has allowed unique and varied assemblages of epiphytic lichens and saproxylic (dead wood) invertebrates – in particular the stag beetle, to be sustained in situations where the woodland is open and the tree trunks receive sunlight.

Occasionally in wet hollows, birch – willow stands occur over valley bog vegetation, with fringing alder – *Sphagnum* stands where there is some water movement. These stands of bog woodland appear to have persisted for long periods in stable association with the underlying *Sphagnum* bog-moss communities. The rich epiphytic lichen communities and pollen record provide evidence for the persistence of this association.

The forest also contains many streams and small rivers some of which are less affected by drainage and canalisation than those in any other comparable area in the lowlands of England. Associated with many of the streams, particularly those with alkaline and neutral groundwater, are areas of alder woodland which collectively form an extensive resource with a rich flora. In places there are examples of transitions from open water through reedswamp and fen to alder woodland. In other places there are transitions to oak woods and beech forests with holly and sometimes yew in the shrub layer.

The site contains the most extensive stands of lowland northern Atlantic wet heaths in southern England, mainly of the *Erica tetralix* – *Sphagnum compactum* type; *Schoenus nigricans* – *Narthecium ossifragum* mire is also found on this site. The wet heaths are important for rare plants, such as marsh gentian and marsh clubmoss and a number of dragonfly species, including the scarce blue-tailed damselfly, southern damselfly and small red damselfly.

The largest area of lowland dry heathland in the UK is also found in the forest. It is particularly important for the diversity of its habitats and the range of rare and scarce species it supports. The dry heaths of the New Forest comprise two main communities; the *Calluna vulgaris* – *Ulex minor* heath type, and *Ulex minor* – *Agrostis curtisii* heath type. There are a wide range of transitions between dry heath and wet heath, *Molinia* grassland, fen, acid grassland and various types of scrub and woodland. The New Forest *Molinia* meadows are unusual in the UK in terms of their species composition and management. The healthy form of *Molinia caerulea* – *Cirsium dissectum* fen-meadow occurs in areas of heavy grazing by ponies and cattle in areas known locally as 'lawns', often in a fine-scale mosaic with wet heaths and other mire and grassland communities. These lawns occur on flushed soils on slopes and on level terrain on the floodplains of rivers and streams. The grasslands are species-rich, and particular features are the abundance of small sedges such as carnation sedge, common sedge and yellow-sedge, *oedocarpa* and the more frequent occurrence of mat-grass and petty whin compared to stands elsewhere in the UK.

The dry heath communities are one of the European interest features for which the New Forest is designated as a SAC. At the eastern end there are smaller areas of former pasture woodland which although no longer grazed, retains characteristic typical of the habitat such as mature beech and oak with holly understorey with long established lichen and moss communities. These relatively undisturbed grass and heathland areas are important refuges for a range of small mammals and reptiles.

Of the six species of native reptiles occurring in the New Forest, (adder, grass snake, smooth snake, common lizard, sand lizard, and slow worm) only smooth snake and sand lizard are confined to heathland habitats. The smooth snake is less demanding in habitat requirements than sand lizard, utilising the full range of dry and wet heath communities and is far more widespread and better able to cope with open forest heathland management regimes. All the reptiles have some protection under UK legislation. Smooth snake populations and their habitat are further protected through European legislation.

Hatchet Pond and associated ponds are examples of oligotrophic (nutrient poor) waterbodies amidst wet and dry lowland heath developed over fluvial deposits.

It contains shoreweed and isolated populations of northern species such as bog orchid and floating bur-reed, alongside rare southern species such as Hampshire-purslane. This pond is important as a southern example of this lake type where northern species more common in the uplands of the UK, co-exist with southern species.

The site also contains nutrient poor vegetation on the edge of large temporary ponds, shallow ephemeral pools and poached damp hollows in grassland, which support a number of specialist species in a zone with toad rush. These include the two nationally scarce species coral-necklace and yellow centaury, often in association with allseed and chaffweed. Continuous grazing pressure is of prime importance in the maintenance of the outstanding flora of these temporary pond communities.

Temporary ponds occur throughout the forest in depressions capable of holding water for part of the year. Most ponds are small (between 5-10m across) and although great in number, amount to less than 10ha in total area. Many of these contain great crested newt.

## 6. Bournemouth Water aims and objectives

Bournemouth Water is responsible for operating and maintaining a public water supply network to approximately half a million people in southern England. Bournemouth Water's objective is to supply an adequate quantity of wholesome drinking water while meeting all of the associated legal obligations and do so in an environmentally sustainable manner in support of the local economy.

Bournemouth Water is keen to ensure a more effective delivery through better working relationships with all its stakeholders and is fully aware of the impact its operations have on the community in general. It is committed to the ISO 4001 environmental management system that it has in place. Bournemouth Water is a statutory undertaker of the Wildlife and Countryside Act and NERC Act (see 9.2, 9.5). Working with Natural England to support delivery of the favourable condition of the SSSI is just one example.

Bournemouth Water recognises the need to maintain a balance between effective operation of the supply network for commercial needs and the environmental impact of operation and maintenance of the 3000km of water main and associated fittings within its distribution network.

## 7. Natural England aims and objectives

Natural England's principal aim is to work with others to promote wildlife gain and to ensure that England's finest wildlife and geological areas are healthy, both now and in the future.

Natural England is responsible for granting consents and assents on designated sites and giving advice on plans, projects and strategies that could have an impact on designated sites.

Natural England has two general objectives which apply to the whole of the New Forest SSSI, SAC and SPA:

- to maintain existing New Forest habitats of international and national importance for nature conservation (wood pasture, enclosure woodland, ancient semi-natural woodland, bog woodland, alder woodland on floodplain, wet and dry heathland and valley mire, wet and dry grassland, permanent and temporary ponds and rivers and streams) in a favourable condition which sustains optimal populations of characteristic and rare plants and animals
- to restore habitats in unfavourable condition

These objectives are in line with the Government's Key Performance Measure to increase the area of SSSIs in favourable condition whilst maintaining 95 percent area in favourable or recovering condition.

## 8. Joint nature conservation objectives between Natural England and Bournemouth Water

- to maintain New Forest habitats in favourable condition and protect rare and vulnerable species

## 9. Legislative framework

### 9.1 Water Industry Act 1991, Water Act 2003 and Water Act 2014 (or Water Industry Act 1991 and Water Act 2014)

In England and Wales the Water Act of 1989 established the water companies which operate under strictly conditioned licences and whose performance is regulated and monitored by the Director General of Water Services, the Office of Water Services (OFWAT) and the Drinking Water Inspectorate (DWI). In 1991, all previous water law was consolidated in a new Water Industry Act, the implementation of which is promoted by detailed regulations based on the definition of service quality standards. The 1991 Water Industry Act has subsequently been enhanced by the 2003 Water Act and the more recent 2014 Water Act.

The duties and obligations imposed on both the water undertakers and their employees are now more onerous and complex than at any other time. Within the practical field of operations emphasis continues to be placed on the prevention of contamination or misuse of water, sustainable use of water resources and making water supply more resilient to natural hazards such as drought and floods. Water undertakers must also respond to the requirements of the customers through quick and efficient maintenance and repair of the distribution system.

### 9.2 The Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act 2000

Sites of Special Scientific Interest (SSSI) are notified under section 28 of the Wildlife and Countryside Act 1981 (W&CA), as amended by the Countryside and Rights of Way Act 2000 (CRoW). This Act has relevance to BW as an owner/occupier, a section 28G body (see 9.4) and as a public body.

In accordance with Government policy aimed at preventing damage to SSSIs and to encourage them to be managed in a way consistent with achieving favourable condition, the W&CA as amended by CRoW provides legal mechanisms aimed at achieving positive management for SSSIs. This builds upon the positive relationships between Natural England and many owner/occupiers, but also provides effective back-up mechanisms should constructive dialogue break down.

### 9.3 Owners/occupiers

SSSI designation places a duty on owner/occupiers to consult Natural England over prescribed operations. These are operations requiring Natural England's prior consent and are listed for the New Forest SSSI as the Operations Likely to Damage (OLD):

#### 9.3.1 Operations likely to damage the special interest (OLD1003036)

Ref. No. Type of Operation

- 1 Cultivation, including ploughing, rotovating, harrowing, and re-seeding.
- 2 Changes in the grazing regime (including type of stock, intensity or seasonal pattern of grazing).
- 3 The introduction of stock feeding or changes in stock feeding practice.
- 4 The introduction of mowing or changes in the mowing or cutting regime (including hay making to silage).
- 5 Application of manure, fertilisers and lime.
- 6 Application of pesticides, including herbicides (weedkillers).
- 7 Dumping, spreading or discharge of any materials.
- 8 Burning and changes in the pattern or frequency of burning.
- 9 The release into the site of any wild, feral or domestic mammal, reptile, amphibian, bird, fish or invertebrate or any plant or seed.
- 10 The killing or removal of any wild mammal, reptile, amphibian, bird, fish or invertebrate, including pest control.
- 11 The destruction, displacement, removal or cutting of any plant or plant remains, including tree, shrub, herb, hedge, dead or decaying wood, moss, lichen, fungus, leaf-mould and turf.
- 12 The introduction of tree or of changes in trees and or woodland management including afforestation, planting, clear and selective felling, thinning, coppicing, modification of the stand or underwood and changes in species composition.
- 13a Drainage (including moor-gripping, the use of mole, tile, tunnel or other artificial drains).
- 13b Modification of the structure of watercourses (e.g. rivers, streams, springs, ditches, dykes, drains), including their banks and beds, as by re-alignment, re-grading and dredging.
- 13c Management of aquatic and bank vegetation for drainage purposes.

- 14 The changing of water levels and tables and water utilisation (including irrigation, storage and abstraction from existing water bodies and through boreholes).
- 15 Infilling of ditches, drains, ponds, pools, marshes or pits.
- 16a The introduction of freshwater fishery production and/or management, including sporting fishing and angling.
- 20 Extraction of minerals, including peat, shingle, sand and gravel, topsoil, subsoil, chalk, lime and spoil.
- 21 Construction, removal or destruction of roads, tracks, walls, fences, hardstands, banks, ditches or other earthworks, or the laying, maintenance or removal of pipelines and cables, above or below ground.
- 22 Storage of materials.
- 23 Erection of permanent or temporary structures, or the undertaking of engineering works, including drilling.
- 25 Removal of geological specimens, including rock samples, minerals and fossils.
- 26 Use of vehicles or craft likely to damage or disturb features of interest.
- 27 Recreational or other activities likely to damage features of interest.
- 28 The introduction of game or waterfowl management and changes in game and waterfowl management and hunting practice.

Owners/occupiers cannot legally undertake any OLD without Natural England's prior consent, except under certain specific conditions (e.g. emergency situations). The CRoW amendments allow Natural England to enter into positive management agreements with owner/occupiers and where this cannot be agreed, to enforce such management (in accordance with a management scheme under section 28J or a management notice under section 28I, subject to appeal procedures).

#### 9.4 Section 28G authorities (public bodies)

Section 28G authorities include local authorities, the Highways Agency, Verderers, Natural England and the Forestry Commission who are required to give notice to Natural England before carrying out any OLD that would affect a SSSI. This applies where the public body is exercising its statutory functions on a SSSI or on land outside the SSSI where those functions affect a SSSI. Natural England must respond with a notice assenting to the operation (with or without conditions) or they may refuse assent.

Should an authority chose to carry out the operation without Natural England's assent, then they are required to notify Natural England not less than 28 days prior to the start of works; notify Natural England how it has taken account of its written advice in response to the notice; cause as little damage as is reasonably practicable, taking account of Natural England's advice and restore any damage they cause.

Section 28G authorities are also required to notify Natural England before permitting any OLD, allowing 28 days before deciding whether to refuse a permission or grant it with conditions, taking into account Natural England's advice.

Authorities proposing to permit an operation against the advice of Natural England must notify Natural England of the terms of that permission, including a statement of how it has taken account of its advice and not permit the operation to start before 21 days of their notifying Natural England.

#### 9.5 General duty of public bodies

Public bodies have a general statutory duty to further the conservation and enhancement of SSSIs in carrying out their functions. Section 40 of the NERC Act (Natural Environment and Rural Communities Act 2006) states: "Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity". In addition PPS 9 sets out the National Planning Policy as "planning decisions should aim to maintain and enhance, restore and add to biodiversity".

#### 9.6 The Habitats Directive and the Birds Directive

The European Habitats and Birds Directives provide the legal framework for the creation of a network of protected wildlife areas across the European Union known as 'Natura 2000', nature into the year 2000 and beyond. This network consists of SACs designated under the Habitats Directive (92/43/EEC) and SPAs classified under the Birds Directive (79/409/EEC).

In the UK the requirements of the Habitats Directive have been turned in UK law by The Conservation (Natural Habitats, & c.) Regulations 1994 as amended and consolidated into The Conservation of Habitats and Species Regulations 2010. (See Appendix B and C).

## 9.7 Ramsar site under the Ramsar convention on wetlands of international importance

The objective of the Ramsar Convention is to 'stem the progressive encroachment on and loss of wetlands now and in the future'. To achieve this, the Convention seeks to promote the wise use of all wetlands and special protection for wetlands included in the list of Wetlands of International Importance. (See Appendix D).

As a matter of policy, Ramsar sites in England are protected as European sites as set out in The Conservation of Habitats and Species Regulations 2010 (SI No. 2010/490). The vast majorities are also classified as SPAs and all terrestrial Ramsar sites in England are also notified as Sites of Special Scientific Interest (SSSIs).

Under this legislation, a competent authority, before deciding to undertake, or give any consent, permission or other authorisation for a plan or project which:

- a. is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects),  
and
- b. is not directly connected with or necessary to the management of that site, must make an appropriate assessment of the implications for that site in view of that site's conservation objectives.

## 9.8 Protected species

Conservation legislation covers certain individuals in addition to particular wildlife habitats and geological sites. Species may be protected under the W&CA as amended by CRoW 2000 and some are protected under the Conservation of Habitats and Species Regulations 2010, these being referred to as European protected species. All six species of protected native reptiles occur in the New Forest; adder, grass snake, smooth snake, common lizard, sand lizard and slow worm which are protected by a range of national and/or European legislation. Amphibians are also afforded protection; the great crested newt is protected by European legislation. Several bat species occur in the New Forest and all are protected under European legislation. Badgers also occur and are protected under national legislation.

Those likely to be found within the New Forest include the following, but please note this list is not exhaustive and if in doubt further advice should be sought from Natural England.

### 9.8.1 Sand lizard, smooth snake and great crested newt

These are European protected species and are protected against:

- intentionally, recklessly or deliberately killing,
- injuring or taking (capture etc), possession
- disturbance and destruction of breeding, resting and sheltering places
- sale, barter, exchange, transporting for sale and advertising to sell or to buy



Sand lizard (*Lacerta agilis*)



Smooth snake (*Coronella austriaca*)



Great crested newt (*Triturus cristatus*)

### 9.8.2 Common lizard, slow worm, grass snake and adder

These are protected against:

- intentionally or recklessly killing
- injuring and trade (sale, barter, exchange, transporting for sale and advertising to sell or to buy)



Common lizard (*Lacerta viripara*)



Slow worm (*Anguis fragilis*)



Grass Snake (*Natrix natrix*)



Adder (*Vipera berus*)

### 9.8.3 Smooth newt, palmate newt, common frog and common toad

These are protected against:

- trade (sale, barter, exchange, transporting for sale and advertising to sell or to buy)



Smooth newt (*Lissotriton vulgaris*)



Palmate newt (*Lissotriton helveticus*)



Common frog (*Rana temporaria*)



Common toad (*Bufo bufo*)

### 9.8.4 All bats and their roosts

These are European protected species and are protected against intentionally, recklessly or deliberately killing, injuring or taking (capture etc.), possession, disturbance, damage, destruction or obstruction of breeding, resting and sheltering places, including bat roosts and known hibernacula – if bats are present or not, sale, barter, exchange, transporting for sale and advertising to sell or to buy. (See Appendix E for detailed guidance).



Daubenton's bat (*Myotis daubentonii*)

### 9.8.5 Badgers

Badgers are protected under separate legislation (Protection of Badgers Act 1992) against wilful killing, injuring, taking (capture etc.), possession and to cruelly ill-treat or attempt to do so and to intentionally or recklessly interfere with, damage, destroy or obstruct access to a sett and disturb badgers whilst they are occupying a sett.



Badger (*Meles meles*)

### 9.8.6 Exceptions

An important defence to any prosecution that might be brought is the exception that where the killing, injuring or taking, disturbance and destruction of breeding, resting and sheltering places, has occurred inadvertently as an incidental result of a lawful operation by an authorised person (ie the owner or occupier or any person authorised by the owner or occupier), no offence has been committed. All recognised forest and heathland management operations are lawful and although these can be carried out at times of year when

reptiles (in particular) are vulnerable, the spirit of the Act is clear – the needless and deliberate destruction of protected species is unacceptable and the onus is on the operator to carry out operations in a reasonably sensitive way. Planning of habitat management and other works to avoid killing, injuring or disturbance to protected species is crucial.

Essential maintenance operations which are likely to cause disturbance or worse must be planned and designed with species protection properly integrated and costed. As a minimum this will involve careful preliminary searches of known reptile sites by experienced and appropriately licensed specialists.

Where works cannot proceed without disturbance then special measures must be put in place to accommodate the species interests. This will be subject to individual design plans involving full consultation and approval with Natural England.

## 10. Issues

The New Forest is of international importance for nature conservation and its protection and management is subject to national and European legislation.

- Bournemouth Water's key objective with regard to the environment is to minimise the impact of the network on both the natural and built environment.
- Agreed procedures should be developed between all parties to protect and enhance biodiversity and the nature conservation interest while improving, maintaining and operating the network.
- Management plans for all Bournemouth Water landholdings within the New Forest have been developed to maximise biodiversity and protect and enhance habitat.

# 11. Protocol agreement for planned works within sensitive areas

This section lays out the tasks undertaken by Bournemouth Water and its contractors on a routine or programmed basis. The protocol agreement for planned works applies to Bournemouth Water direct labour, term contractor and any operative working on behalf of Bournemouth Water.

Consideration during the planning process should be made to the following:

- All bat species and their roosts are fully protected in Britain, advice regarding bats and trees through Natural England's guidance note should be taken (Appendix E). Please note that if bats or evidence of bats are found at anytime then all works must stop immediately and Natural England contacted for further guidance.
- All British birds, their nests and eggs are protected in law. To reduce the likelihood of harm to breeding birds, clearance of trees and areas of scrub should avoid the bird breeding season, contact Natural England for further guidance.
- Protected species likely to be found within sensitive areas e.g. reptiles contact Natural England for further guidance.

In all cases the location and route of the proposed works will be assessed to avoid unnecessary impact within any designated sensitive area and the immediate area surrounding the site.

If the proposed works fall within a sensitive area, Bournemouth Water will refer to the protocols set out in the operation activity and notification guide (Appendix I), and will make contact as early as possible with Natural England if required, followed by the landowner and any other parties that Natural England subsequently feels should be informed. A location plan and confirmation of the extent of proposed works, incorporating dates, duration and materials will be submitted to Natural England for information and their records.

Natural England should make known any exceptional conditions or detailed site specific advice which is not covered within the general methodology for pipe laying within sensitive areas. A site meeting will be organised if required by Natural England and any other

relevant parties. Alternative pipe laying options (no dig technology) may need to be considered for site specific locations in order to minimise any disturbance of the ground surface and its vegetation.

## 11.1 Pipe and cable laying

The purpose of this method of working statement is to inform all 28G authorities, owner/occupiers and their contractors of the care that must be taken when carrying out operation or works on SSSI, SPA, SAC and Ramsar sites in view of their ecological importance and their national and international protection.

### Excavation and reinstatement

- All materials excavated shall be carefully lifted and stored separately in the correct order according to turf/vegetation, topsoil and subsoil.
- All materials are to be stored on Terram or similar sheeting to protect the vegetation and ground underneath and prevent it from drying out.
- Excavated material is not to be placed in adjacent ditches or on adjacent banks (note: these are particularly important ecologically and must not be disturbed).
- In digging any trench in a road or track, excavated material will be contained within the boundary of the track at all times and not be permitted to spill onto the vegetation either side.
- Care should be taken when excavating within or under any tree canopy adhering to National Joint Utilities Group (NJUG) guideline no.10 (available from the Network Maintenance dept). Excavations within or under the canopy of trees shall be made using handtools only. Care should be taken to ensure that tree roots are not cut or injured.
- All excavations will be barriered and suitably guarded during the pipe laying works and when left unattended to protect commoners' stock and members of the public from injury.
- All materials excavated shall be returned to the position from which it was taken in the correct order and restored to its original profile.
- Any excavation is to be thoroughly compacted on reinstatement to minimise settlement. Any defects apparent 2 years after the excavated materials were replaced will be repaired and made good by the 28G authority or their contractors.
- Vegetated turf to be reinstated and allowed to recover naturally

- Any seeding required will be in accordance with Natural England and the land owner. If re-seeding of disturbed land is to be carried out a locally sourced grass seed mixture that is locally agreed/approved shall be used.

## 11.2 Protocol agreement for planned works within sensitive areas

- A full schedule of the condition of the working area before works begin will be made, this may consist of (any or all of) photographs, written notes and video footage and will be kept on file for future reference. A further schedule of the area will be made three months from completion of the works.
- Bournemouth Water will carry out operations in such a way and at such a time as to minimise the damage as reasonably practical to the sensitive area. This will include restricting vehicle movements within the sensitive area. Staff and contractors must be informed of the need to keep traffic movements to a minimum.
- Only emergency work will be undertaken within the sensitive area when the ground is waterlogged and no unnecessary vehicles are to be used.
- Machinery will be confined to the barriered area along the route of the proposed works.
- Any fuel/diesel required will be stored securely and correctly banded in the event of it being required long term.
- Storage of materials will be within a protected/ barriered area or kept offsite. Any materials or equipment placed on the land temporarily shall be kept in a neat and tidy condition and safe to any stock or wild animals.
- All pipe left unattended will be capped to ensure the integrity and security of the fitting and maintain the safekeeping of the sensitive area.
- All manhole covers or other accessories installed shall be positioned so as not to stand proud of or above the natural level of the adjacent or surrounding land.
- All mechanical equipment will be in good working order and free from any oil/hydraulic leaks.
- Guidelines for working near or across watercourses/ streams should be followed to avoid contamination during the works (see Appendix F). Advice and consent should be obtained from the Environment Agency.
- All ditches or streams will be crossed by laying the pipe at a minimum depth of one metre beneath the

ditch bed and overlaying with concrete.

- Upon completion of the works to leave the land in the condition originally found. Any barriers, dragon's teeth or car free area ditching that is removed or disturbed during the course of the works shall be reinstated and made good.

## 11.3 Mainlaying procedure

### Preliminary

Higher Performance Polyethylene (HPPE) PE 100 pipes with electro-fusion joints or butt fusion will be used in sizes 90mm through to 1000mm.

Barrier Polyethylene PE 100 barrier pipes will be used in sizes 90mm through to 180mm to be used on brownfield sites and contaminated land.

Brownfield or contaminated sites requiring water mains above 180mm PE will require ductile iron or steel pipes with a fully protected coating eg Pam Natural, against corrosion. They will be installed using the rapid joint or bolted gland joints.

In wet conditions the PE 100 pipes will be jointed with the S.A.V. Couplers, Redman pressure fittings or Aqua Grip Johnson joints with inserts.

#### a) Steel

Steel pipes will be fully protected against corrosion.

#### b) Ductile iron

Ductile iron fittings may be protected with a coating of blue epoxy. Where fittings are used which are not coated, these will be wrapped in a blue plastic sheet, and joints sealed with waterproof tape or denso strip.

Cathodic protection will be provided as and when instructed by the Network Maintenance department.

#### c) Fibreglass

No extra protection required.

### Mainlaying positions of hydrants, wash outs etc.

Mains will be laid to the line and level specification as set out on drawings provided by Bournemouth Water following consultation with Natural England and the land owner.

For use of siltbuster guidelines, see Appendix G.

## 12. Dissemination to contractors

The following information is supplementary to normal practice when carrying out any activities within the protected area.

Before carrying out any activities within this area the following procedures must be adhered to. This is to prevent the company and the individual from being prosecuted under the Countryside Rights of Way Act 2000.

### Note

All works not listed in these method statements will be subject to individual assessment and approval by Natural England under the standard methodology of Section 28 of the Wildlife and Countryside Act 1981 as amended by CRow Act 2000.

Positive work to further the conservation and enhancement of SSSIs will be carried out where possible.

## 13. Emergency works

When works are required in an emergency, the minimum amount of work will be done to address the situation. Due care and attention should be paid to ensure works are carried out in an environmentally sensitive manner (as conditions permit).

Where any emergency work is undertaken within a designated environmentally sensitive area, notification of the activity must be sent to Natural England as soon as practically possible. The notification must include the following information:

- location details including grid reference,
- description of work completed,
- brief explanation of measures employed to minimise environmental impact.

On completion of any emergency works, a further inspection of site conditions will be undertaken 3 months from the date of works closed to allow a final appraisal of the impact of our activities and arrange for any remedial work to be undertaken. The notification form to be submitted to Natural England is shown in Appendix L.

## 14. Exceptional circumstances

There will also be circumstances in which unexpected environmental issues arise, for example if a reptile is found on site although all appropriate checks were carried out and results negative. Works should be stopped immediately (or as soon as it is safe to do so). Contact should be made with the company Environmental Manager, who will advise on what needs to be done, visit the site if necessary to assess the situation and refer to Natural England if appropriate.

# Appendices

|   |    |
|---|----|
| Appendix A: SSSI citation   | 14 |
| Appendix B: SAC citation  | 20 |
| Appendix C: EC Directive 79 409 – SPA                             | 22 |
| Appendix D: Ramsar  | 22 |
| Appendix E: Bats and trees  | 24 |
| Appendix F: EA guidelines for working near or across watercourses | 25 |
| Appendix G: Process water with use of siltbuster                  | 28 |
| Appendix H: Overview of how to use protocol – guide for staff     | 28 |
| Appendix I: Operation activity and permissions needed             | 29 |
| Appendix J: Risk assessment                                       | 30 |
| Appendix K: Notification form for works                           | 30 |
| Appendix L: Example of notification of emergency works            | 31 |

## Appendix A: SSSI citation

County: Hampshire/Wiltshire Site Name: New Forest SSSI

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981

Local Planning Authority: Hampshire County Council, New Forest District Council, Wiltshire County Council, Salisbury District Council, Test Valley Borough Council

National Grid Reference: SU 298081

Ordnance Survey Sheet 1:50,000: 195, 196 1:25,000: SU 10, 11, 20, 21, 30, 31, 40, SZ 29, 39

Area: 28,947.37 (ha) 71,528.95 (ac)

Date Notified (Under 1949 Act): 1959, 1971, 1974

Date of Last Revision: 1979

Date Notified (Under 1981 Act): 7 May 1987

Date of Previous Revision: 1987

Date of Last Revision: 28 February 1996

Date Confirmed: 14 November 1996

### Other Information:

The New Forest is classified as a Grade 1 site in 'A Nature Conservation Review' edited by D. A. Ratcliffe (Cambridge University Press, 1977) and includes seven Geological Conservation Review sites. The major part of the site has been designated as a Special Protection Area under the EC Directive 79/409 on the Conservation of Wild Birds and as a Ramsar Site under the Ramsar Convention on Wetlands of International Importance. The site is mainly Crown Land together with the manorial wastes of Plaitford, Furzley, Half Moon, Cadnam, Hale Purlieu and Hightown Commons belonging to the National Trust; Hyde and Gorley Commons and parts of Rockford and Ibsley owned by Hampshire County Council; the rest of Rockford and Ibsley Commons, Minstead Manor, Kingston Great Common, Bisterne Common, West Wellow and Copythorne Common and most of the unimproved meadows are privately owned. Part of Kingston Great Common is a National Nature Reserve and there are three reserves managed by the Hampshire Wildlife Trust at Bagnum, Long Aldermoor and Holmsley. The Crown Land is managed by the Forestry Commission on behalf of the Minister of Agriculture. The Court of Verderers have statutory powers within the Forest although they own very little land and no domestic stock. The Forestry Commission, along with the Verderers, and English Nature have signed a Minute of Intent which provides for the participation of English Nature in the preparation of management plans and consultation over annual management programmes. Selected areas were notified in 1959 and a much larger area in 1971. Further additions were made in 1974, 1979 and 1987.

### Reasons for Notification:

The New Forest embraces the largest area of 'unsown' vegetation in lowland England and includes the representation on a large scale of habitat formations formerly common but now fragmented and rare in lowland western Europe. They include lowland heath, valley and seepage step mire, or fen, and ancient pasture woodland, including riparian and bog woodland.

Nowhere else do these habitats occur in combination and on so large a scale. There are about 4,600 hectares of pasture woodland and scrub dominated by oak, beech and holly; 11,800 hectares of heathland and associated grassland; 3,300 hectares of wet heath and valley mire-fen and also 8,400 hectares of plantations dating from various periods since the early 18th century. Within this matrix of habitats are a range of acid to neutral grasslands where the vegetation owes much to the local geology and continuous grazing, a situation which is uncommon in lowland England. Scattered around the New Forest and throughout the small pockets of enclosed farmland are a series of unimproved meadows which have similarities with these Open Forest grasslands.

A network of small streams draining the system form an unusual community which results from the combination of nutrient-poor, acid waters and outcrops of neutral enriched soils.

There are many ponds of varying sizes and water chemistry including several ephemeral ponds. This wide range of habitats support an assemblage of nationally rare and scarce plants and a nationally important assemblage of rare and scarce invertebrates. The area supports internationally important breeding populations of certain bird species and the wintering population of another as well as an assemblage of birds associated with specific habitats such as old woodland or wetlands. Within the New Forest there are seven sites which are of special geological or physiographic interest including valley mires, the headwaters of the Highland Water, stream sections with exposures of fossil-bearing strata and a gravel pit rich in palaeolithic artefacts.

The New Forest is probably sufficiently large to ensure the long term survival of the characteristic flora and fauna within the wide range of habitats. Smaller isolated examples of the component habitats are vulnerable to biological impoverishment but here in the New Forest has survived largely because of the persistence of a pastoral economy based on the exercise of common rights of grazing and mast together with protection afforded by Crown ownership. This, and the management of vegetation in the Open Forest through burning and cutting programmes, administered by the Forestry Commission on the Crown Lands, maintains the quality of the grazings, ensures the prevention of natural succession and encourages local diversity in plant communities. The pastoral economy

in turn depends on the continued existence of a small community of commoners who make up a discrete social unit and this combination of natural and cultural elements contributes to the maintenance of the New Forest habitats.

Geomorphologically the Forest comprises a series of eroded terraces capped with flint gravel, brickearth and other superficial deposits. The terraces are highest and most fragmented by erosion in the north and lowest and most complete in the south. Erosion has exposed the underlying Tertiary strata, in wide valleys and hollows separating the terraces. Soils are mainly acid, poor in nutrients, susceptible to leaching and only slowly permeable. Locally, however, there are enriched areas such as the exposed Headon Beds in the south which support relatively species-rich grassland or mire floras. The Forest streams, mires and abundant wet flushes along slope springlines help to create a humid microclimate which, in the woodlands in particular, provides the right conditions for epiphytic lichens, bryophytes and ferns, a situation which has become rare elsewhere.

The unenclosed woodlands are dominated by oak and beech in varying proportions. Oak is generally dominant on the heavier soils, and some areas comprise nearly monospecific oakwoods, whereas the beech tends to dominate on sandy knolls and well drained terrace edges. Holly is the dominant shrub layer species. The number of tree species is higher in linear riverine woodland where ash is abundant and carr of alder, willow and holly are common. Age structure of the woodland is closely related to past fluctuations in herbivore densities. The oldest generation of trees still standing are oaks and beeches of early 17th century origin. A high proportion of these and later 17th century trees are pollarded. The main younger generations have arisen since about the mid 19th century. Older trees support the richest known woodland lichen flora in lowland Europe, and an exceptionally species-rich deadwood fauna, mainly beetles *Coleoptera*, including the stag beetle *Lucanus cervus* and now rare in Europe, and flies *Diptera*. The lichen flora includes two rare species, *Catillaria laureri* and *Parmelia minarum* (Sch.8)\*\*. The woods are also rich in fungi that are specific to pasture woodland such as *Hericium erinaceous*, *Mycena picta*, *Creolophus circhatus* and *Flammulaster limulata*. The woodland ground flora varies according to soil type but grazing often gives the impression of it being impoverished. On base-rich soils, however, species diversity increases with grazing whereas on more acid soils the vascular plants may be reduced but bryophytes become more extensive and diverse. Woodland species such as *Dicranum majus*, *Rhitiadelphus loreus* and *Leucobryum juniperoideum* can be common whilst rarer species include *Bassania trilobata* and *Saccogyna viticulosa*. The vascular plants include about 60 species associated with old

woodland. These older trees also support a high density of holoenesting, insectivorous birds, such as redstart *Phoenicurus phoenicurus*, and provide roost sites for several species of bat including the very rare Bechstein's bat *Myotis bechsteini*\*\*

The silvicultural enclosures include 40% broad-leaved trees, mainly oak and beech, which, with the unenclosed woods, comprises the largest tract of native broad-leaved woodland in southern England. The inclosures include many fragments of former pasture woods totalling about 285 hectares and these are relatively unmodified by enclosure. Much of the remaining broad-leaved component comprises mature oak plantation which when in proximity to unenclosed woodland can take on the characteristics of pasture woodland. In South Bentley Inclosure the epiphytic flora has developed with similar species to the adjacent unenclosed Anses Wood. Some of the inclosures have only low grazing pressure and the ground flora then provides food plants for certain invertebrates, such as silver-washed fritillary *Argynnis paphia* and white admiral *Limenitis camilla*.

The heathlands, including grass heaths and acid grasslands comprise a series of plant communities, the composition of which is related to soil structure and permeability and the effects of grazing. Dry heath dominated by heather *Calluna vulgaris* and bell heather *Erica cinerea* and bristle bent *Agrostis curtisii* grades into humid heath in which cross-leaved heath *Erica tetralix* and purple moor-grass *Molinia caerulea* are constant species. The humid heath on slowly permeable and often seasonally waterlogged soils is spatially dominant here although only recognised as a transitional community elsewhere. On the wetter humic soils heather becomes less frequent and typically deer grass *Trichophorum cespitosum*, heath rush *Juncus squarrosus* and the 'smaller' *Sphagnum* species *Sphagnum compactum* and *S. tenellum* become frequent. The heathlands have well-developed lichen-rich communities in which a number of *Cladonia* species are present. These include the nationally scarce *C. incrassata* and an abundance of species such as *C. strepsilis* and *Pycnothelia papillaria*. Other lowland plants occur such as the rare dung fungus *Poronia punctata* which grows on pony dung. Within the heathland mosaic, on pockets of richer soils, acid grassland occurs. These areas can change from grass to heath depending on the grazing intensity. They are dominated by bristle bent and purple moor-grass with varying amounts of heather, gorse *Ulex europaeus* and bracken *Pteridium aquilinum*.

The acid to neutral grasslands are strongly influenced by the underlying geology and by grazing. The naturally infertile soils support herb-rich vegetation communities on the drier brown earths and stagnogleys and a complex range of wet acid grasslands on gleys and peats. The acid grasslands are often quite extensive,

relatively species-rich and comprise two main elements: (a) species which benefit from heavy grazing and are mostly prostrate or are able to survive in dwarf form and (b) species which are less palatable. The former includes rosette forming species such as hawkbits *Leontodon*, cat's-ear *Hypochoeris radicata*, mouse-ear hawkweed *Hieracium pilosella* and yarrow *Achillea millefolium* and a profusion of small herbs with low growth forms such as tormentil *Potentilla erecta*, heath bedstraw *Galium saxatile*, lousewort *Pedicularis sylvatica*, self heal *Prunella vulgaris*, eyebrights *Euphrasia*, squirrel-tail fescue *Vulpia bromoides*, all-seed *Radiola linoides* and numerous sedges. The less palatable species with a more upright growth form include yellow centaury *Cicendia filiformis* which is nationally scarce, common centaury *Centaureum erythraea*, field gentian *Gentianella campestre* and moonwort *Botrychium lunaria*.

The more neutral grasslands known locally as 'lawns' occur as linear features following many of the small streams, roadside verges around settlements – village greens, and as glades in association with pasture woodland. They are influenced by such factors as soils, topography, the nutrient quality of floodwater and frequency of numbers of grazing animals. Typical species on the wetter lawns are velvet bent *Agrostis canina* and an abundance of wetland sedges, rushes and herbs. The drier communities around settlements are dominated by common bent-grass *Agrostis capillaris* with some perennial rye-grass *Lolium perenne*, crested dog's-tail *Cynosurus cristatus*, daisy *Bellis perennis*, and most distinctively mats of abundant chamomile *Chamaemelum nobilis*, which is nationally rare and declining. Associated with these settlement edge lawns that are seasonally poached and heavily grazed are an assemblage of nationally rare and scarce plants. They include small fleabane *Pulicaria vulgaris* and pennyroyal *Mentha pulegium* both (RDB)\* (Sch 8)\*\*. Slender marsh bedstraw *Galium debile* (RDB)\* and coral necklace *Illecebrum verticillatum*, which is nationally scarce, also occur. Hampshire purslane *Ludwigia palustris* (RDB)\* occurs in the poached muddy pools and is confined in England to the New Forest area.

The unimproved meadows in and around the Forest have similarities with the acid to neutral grasslands within the Open Forest. The frequent spring-lines and infertility of the soils have hindered agricultural improvement and these meadow communities are now rare or scarce in England. The main vegetation types are herb-rich, permanent pastures on the drier brown earths and stagno-gleys and a complex range of wet acid grasslands on gleys and peats. The former could be described as the typical grassland of grazed hay-meadows usually dominated by common bent *Agrostis capillaris* and red fescue *Festuca rubra* but containing a high proportion of herbs. The character of the wet grassland is more complex. Moderately-grazed, rush-dominated stands are mostly dominated by sharp-

flowered rush *Juncus acutiflorus* and accompanied by soft rush *Juncus effusus* but the other associates can be quite diverse. Lightly-grazed grassland dominated by *Molinia caerulea* is especially variable with both heathy, fen meadow and mire communities present.

Pony-grazed grasslands lack any tall dominants and consist of a species-rich mixture of velvet bent *Agrostis canina* and sedges, much like the wetter Open Forest lawns. Within these vegetation types there are pockets containing diverse herb-rich communities. Very dry soils, for instance, support parched acid-grassland which is typically hard-grazed and disturbed and provides suitable habitat for spring annuals such as subterranean clover *Trifolium subterraneum*. In contrast the wettest parts of spring-lines often support mire communities typical of the Open Forest with Sphagnum species dominant and scarce plants present such as brown beak-sedge *Rhynchospora fusca*. Much rarer are the base-rich mire communities which occur in close juxtaposition with acid communities such as the small, marshy flushes at Upper Pennington Common.

The Forest contains about 90 clearly separable valley mires, or fen, within about 20 different valley systems. This is thought to be more than survive in the remainder of Britain and Western Europe. This suite of mires sits within a relatively unpolluted catchment and for this reason the greater part of the New Forest has been designated as an internationally important wetland, a Ramsar site. The mires receive the products of leaching from the higher ground and are thus comparatively base-enriched. Structurally they comprise a distinctive sequence of plant communities arranged laterally to the axis and exhibiting increased enrichment from the outer margin to the centre. Similarly, the mires tend to become progressively base-enriched with progress downstream from the valley head, and this also influences the complex arrangement of plant communities. The zonation from enriched fen along the axes of many mires, to acid mire at the outer margins, gives rise to a great diversity of plant species. The richest mires have in excess of 150 species including many locally distributed and rare plants. Slender cottongrass *Eriophorum gracile* (RDB)\* (Sch.8\*)\*\* is confined in England to sites in the New Forest and one in Surrey. The list of nationally scarce plants found on mires and their heathy margins include pillwort *Pilularia globulifera*, bog orchid *Hammarbya paludosa*, bog hair-grass *Deschampsia setacea*, marsh gentian *Gentiana pneumonanthe*, marsh clubmoss *Lycopodiella inundata*, brown beak-sedge and marsh fern *Thelypteris palustris*\*.

Of the many ponds within the Forest the less acidic ponds support important populations of amphibians, including the rare great crested newt *Triturus cristatus* (Sch.5)\*\*. The wetland habitats collectively form probably the most important single suite of habitats for dragonflies *Odonata* in Britain. Twenty-seven species

breed in the New Forest including the rare southern damselfly *Coenagrion mercuriale* (RDB)\*. The temporary ponds that dry out in the summer provide ideal conditions for some specially adapted invertebrates including fairy shrimps *Chirocephalus diaphanus* and one such pond is the only known British locality for the tadpole shrimp *Triops cancriformis* both (RDB)\* (Sch.5)\*\*.

The plant community associated with the streams is restricted almost exclusively to the New Forest. (The only other stream of this type is the River Fowey on Bodmin Moor.) This is because of the combination of nutrient-poor acid waters and outcrops of neutral-enriched soils. The Lymington River is the largest stream system within the Forest showing all the typical characteristics. The tributary known as the Ober Water is recognised in the Nature Conservation Review as a lowland base-poor stream with a very diverse flora. Surveys of the Forest streams have recorded twenty of the fifty-four British species of fish and a wide variety of invertebrates. Some streams are used by otters, a species which has declined and which is fully protected through Schedule 5\*\*.

The Forest supports populations of nine rare and twenty-five nationally scarce vascular plants\*. Of the rare plants five have been mentioned above. Dorset heath *Erica ciliaris* occurs at two locations and the wild gladiolus *Gladiolus illyricus* (Sch.8)\*\*, which is confined to the New Forest in Britain, is present in many of the bracken stands where it is normally associated with bluebells and wood anemones. Heath lobelia *Lobelia urens* is only found at one locality, as is the early gentian *Gentianella anglica* which occurs in association with imported chalk!

The New Forest supports nationally important breeding populations of birds as listed in Annex 1 of the EU Directive on the Conservation of Wild Birds including, nightjar *Caprimulgus europaeus*, woodlark *Lullula arborea*, Dartford warbler *Sylvia undata*, and kingfisher *Alcedo atthis*. The Forest also supports a wintering population of hen harrier *Circus cyaneus* which is also listed on Annex 1. Other breeding birds include an assemblage of waders comprising lapwing *Vanellus vanellus*, redshank *Tringa totanus*, curlew *Numenius arquata*, snipe *Gallinago gallinago* and ringed plover *Charadrius hiaticulata* which all depend to a great extent on the Forest's wetland habitats.

Populations of all Britain's native reptiles are present in the New Forest including sand lizard *Lacerta agilis* (Sch.5)\* and smooth snake *Coronella austriaca* (Sch.5), which both occur in suitable localities throughout the heathland.

The wide range of habitats within the New Forest, and its large size, make it an important site for populations of several groups of invertebrates. Of the 2,500 species of British butterflies and moths *Lepidoptera*, nearly half have been recorded from the Forest and over a third of

the British species of beetle have been recorded as well as many species from other invertebrate groups. Many of these species are recorded in the Red Data Book and even more are considered notable. For some of these species, such as the New Forest Cicada *Cicadetta montana*, the New Forest is the only or main centre of distribution in Britain.

The seven sites of special geological or physiographic interest are as follows:

Studley Wood stream section is a prolific Tertiary locality exposing the only complete exposure of the silty Huntingbridge Formation of the Bracklesham Group. This is also the stratotype for the Studley Wood Member of the Formation. This series of units forming the top of the Bracklesham beds is remarkable for its molluscan faunas and the number of species limited to the Formation. Numerous corals, scaphopoda, bivalves and gastropods occur here. This is an outstanding Eocene locality of great interest in studies of Tertiary stratigraphy and palaeontology within the Hampshire Basin and across north western Europe.

Shepherd's Gutter stream section has been known to geologists since at least the middle of the 19th century and this locality is renowned for its rich Tertiary marine faunas. It shows a section through the Selsey Formation of the Bracklesham Group, of Middle Eocene age, and includes several mollusc-rich horizons and one kind of *Nummulites* correlatable with the Isle of Wight and Bracklesham sections. This is a key locality for its correlations between the classic Eocene localities of the Hampshire Basin, and for its prolific molluscan faunas.

Parkhill Enclosure ditch section is the only exposure in England outside the Isle of Wight to show upper middle Headon Bends. The occurrence of a fauna of *Cerithidea ventricosa* and other mollusca in the Headon clays here allows correlation with the type sections of the Isle of Wight. The fauna of well preserved shells and fish remains makes this one of the richest Tertiary faunal localities on the mainland. It is an important site for its palaeontology and for correlations within the Hampshire Tertiary Basin.

Woodgreen gravel pit exposes Pleistocene gravel, deposited by the River Avon, rich in Palaeolithic artefacts. Palaeolithic assemblages provide major evidence for the subdivision of the terrace sequence in The Solent Basin, where they are particularly important owing to a dearth of palaeontological sites. The Woodgreen pit has yielded over 400 artefacts, making it one of the most prolific in The Solent catchment. This is an important site which has significant potential to further elucidate the complex history of the River Avon gravels and the evolution of The Solent river.

Mark Ash Wood is a valley mire complex of considerable importance for palynological and palaeoecological studies. Peat growth at the site dates from the early part of the Devensian late-glacial to

the sub-Atlantic period. Mark Ash Wood contains the oldest post-glacial peats in the New Forest area and is exceptional for high accumulation rates during late-glacial times. Macrofossil and pollen analyses have yielded some of the earliest British post-glacial records of bryophytes. Mark Ash Wood is also of importance in tracing the early post-glacial immigration and expansion of plant species, and has been used as a reference site for correlation in southern England.

Cranes Moor is a large mire complex, set in a shallow basin containing significant peat accumulations dating back to Devensian late-glacial times. It is a key reference site for palynological studies in southern England. It is also unusual for the apparently rapid accumulation of peat in the Boreal period, and is therefore particularly important in the study of the early immigration and expansion of flora in post-glacial times. Several studies of vegetational history have been carried out in the post-war period at a number of sub-sites within the basin including, most recently, an integrated investigation of macrofossils, pollen, and other microfossils, together with radiocarbon correlation of cores.

Highland Water is a unique area demonstrating a combination of low management and low human impact on fluvial processes.

It is particularly important on two accounts. First, it provides a valuable opportunity to study the role and influence of vegetation in hydrological and fluvial processes. Second, it is of exceptional value for the study of debris dams which have a significant effect on channel processes, travel times of flood hydrographs, channel roughness and flow resistance. The hydrological and fluvial characteristics of the Highland Water are typical of those that formerly occurred in much of southern England.

\* Nationally rare species are equivalent to those listed in the British Red Data Book which include those considered endangered, vulnerable or rare.

Nationally notable/scarcely species are estimated to occur in 16- 100 10km grid squares in Britain.

\*\* Species as listed under Schedule 5 or Schedule 8 of the Wildlife and Countryside.

## Appendix B: SAC citation

EC Directive 92/43 on the Conservation of Natural Habitats and of Wild Fauna and Flora Citation for Special Area of Conservation (SAC)

Name: The New Forest

Unitary Authority/County: Hampshire, Wiltshire

SAC status: Designated on 1 April 2005

Grid reference: SU225075 SAC EU code: UK0012557  
Area (ha): 29262.36

Component SSSI: Landford Bog SSSI, Langley Wood and Homan's Copse SSSI, Loosehanger Copse and Meadows SSSI, Roydon Woods SSSI, The New Forest SSSI, Whiteparish Common SSSI

### Site description:

The New Forest embraces the largest area of 'unsown' vegetation in lowland England and includes the representation on a large scale of habitats formerly common but now fragmented and rare in lowland western Europe. The intimate mosaic of habitats owes much to the local geology and traditional commoning grazing system, a situation which is uncommon in lowland England. The habitats include lowland heath, valley and seepage step mire, or fen, and ancient pasture woodland, including riparian and bog woodland. Nowhere else do these habitats occur in combination and on so large a scale. Within the matrix of habitats are pasture woodland and scrub dominated by oak, beech and holly; heathland and associated grassland; wet heath, valley mire-fen and plantations dating from various periods since the early 18th century, and a range of acid to neutral grasslands.

The New Forest contains the most extensive areas of active wood-pasture in north west Europe comprising mature, semi-natural beech *Fagus sylvatica*, which represent Atlantic beech forests in the most southerly part of the habitat's range, together with old oak *Quercus* spp. This mosaic, with other types of woodland and heath, has allowed unique and varied assemblages of epiphytic lichens and saproxylic (dead wood) invertebrates – in particular the stag beetle, *Lucanus cervus* – to be sustained in situations where the woodland is open and the tree trunks receive sunlight.

Occasionally in wet hollows, birch – willow *Betula* – *Salix* stands occur over valley bog vegetation, with fringing alder *Alnus* – *Sphagnum* stands where there is some water movement. These stands of bog woodland appear to have persisted for long periods in stable association with the underlying *Sphagnum* bog-moss communities. The rich epiphytic lichen communities and pollen record provide evidence for the persistence of this association.

The Forest also contains many streams and small rivers some of which are less affected by drainage and canalisation than those in any other comparable area in the lowlands of England. Associated with many of the streams, particularly those with alkaline and neutral groundwater, are areas of alder *Alnus glutinosa* woodland which, collectively, form an extensive resource with a rich flora. In places there are examples of transitions from open water through reedswamp and fen to alder woodland. In other places there are transitions to oak woods and beech forests with holly and sometimes yew in the shrub layer.

The site contains the most extensive stands of lowland northern Atlantic wet heaths in southern England, mainly of the *Erica tetralix* – *Sphagnum compactum* type; *Schoenus nigricans* – *Narthecium ossifragum* mire is also found on this site. The wet heaths are important for rare plants, such as marsh gentian *Gentiana pneumonanthe* and marsh clubmoss *Lycopodiella inundata*, and a number of dragonfly species, including the scarce blue-tailed damselfly *Ischnura pumilio*, southern damselfly *Coenagrion mercuriale* and small red damselfly *Ceriagrion tenellum*.

The largest area of lowland dry heathland in the UK is also found in the Forest. It is particularly important for the diversity of its habitats and the range of rare and scarce species it supports. The dry heaths of the New Forest comprise two main communities; the *Calluna vulgaris* – *Ulex minor* heath type, and *Ulex minor* – *Agrostis curtisii* heath type. There are a wide range of transitions between dry heath and wet heath, *Molinia* grassland, fen, acid grassland and various types of scrub and woodland. The New Forest *Molinia* meadows are unusual in the UK in terms of their species composition and management. The heathy form of *Molinia caerulea* – *Cirsium dissectum* fen-meadow occurs in areas of heavy grazing by ponies and cattle in areas known locally as ‘lawns’, often in a fine-scale mosaic with wet heaths and other mire and grassland communities. These lawns occur on flushed soils on slopes and on level terrain on the floodplains of rivers and streams. The grasslands are species-rich, and particular features are the abundance of small sedges such as carnation sedge *Carex panicea*, common sedge *C. nigra* and yellow-sedge *C. viridula* ssp. *oedocarpa*, and the more frequent occurrence of mat-grass *Nardus stricta* and petty whin *Genista anglica* compared to stands elsewhere in the UK.

Hatchet Pond, and associated ponds, are examples of oligotrophic (nutrient-poor) waterbodies amidst wet and dry lowland heath developed over fluvial deposits. It contains shoreweed *Littorella uniflora* and isolated populations of northern species such as bog orchid *Hammarbya paludosa* and floating bur-reed *Sparganium angustifolium*, alongside rare southern species such as Hampshire-purslane *Ludwigia palustris*. This pond is important as a southern example of this lake type where northern species, more common in the uplands of the UK, co-exist with southern species.

The site also contains nutrient-poor vegetation on the edge of large temporary ponds, shallow ephemeral pools and poached damp hollows in grassland, which support a number of specialist species in a zone with toad rush *Juncus bufonius*. These include the two nationally scarce species coral-necklace *Illecebrum verticillatum* and yellow centaury *Cicendia filiformis*, often in association with allseed *Radiola linoides* and chaffweed *Anagallis minima*. Continuous grazing pressure is of prime importance in the maintenance

of the outstanding flora of these temporary pond communities. Temporary ponds occur throughout the Forest in depressions capable of holding water for part of the year. Most ponds are small (between 5-10m across) and, although great in number, amount to less than 10ha in total area. Many of these contain great crested newt, *Triturus cristatus*.

Qualifying habitats: The site is designated under article 4(4) of the Directive (92/43/EEC) as it hosts the following habitats listed in Annex I:

- Alkaline fens. (Calcium-rich springwater-fed fens)
- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*). (Alder woodland on floodplains)\*
- *Asperulo-Fagetum* beech forests. (Beech forests on neutral to rich soils)
- *Atlantic acidophilous* beech forests with *Ilex* and sometimes also *Taxus* in the shrublayer (*Quercion robori-petraeae* or *Ilici-Fagenion*). (Beech forests on acid soils)
- Bog woodland\*
- Depressions on peat substrates of the *Rhynchosporion*
- European dry heaths
- *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*). (Purple moor-grass meadows)
- Northern Atlantic wet heaths with *Erica tetralix*. (Wet heathland with cross-leaved heath)
- Old acidophilous oak woods with *Quercus robur* on sandy plains. (Dry oak-dominated woodland)
- Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoeto-Nanojuncetea*. (Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels)
- Oligotrophic waters containing very few minerals of sandy plains: *Littorelletalia uniflorae*. (Nutrient-poor shallow waters with aquatic vegetation on sandy plains)
- Transition mires and quaking bogs. (Very wet mires often identified by an unstable ‘quaking’ surface)

Qualifying species: The site is designated under article 4(4) of the Directive (92/43/EEC) as it hosts the following species listed in Annex II:

- Great crested newt *Triturus cristatus*

- Southern damselfly *Coenagrion mercuriale*
- Stag beetle *Lucanus cervus*

Annex I priority habitats are denoted by an asterisk (\*).

This citation relates to a site entered in the Register of European Sites for Great Britain.

Register reference number: UK0012557 Date of registration: 14 June 2005

## Appendix C: EC Directive 79/409 - SPA

EC Directive 79/409 on the Conservation of Wild Birds: Special Protection Area

THE NEW FOREST (Hampshire)

The site qualifies under Article 4.1 by regularly supporting in summer over 300 pairs of nightjar *Caprimulgus europaeus* (at least 15% of the British breeding population); 51-54 pairs of woodlarks *Lullula arborea* (about 24% of British); 454 pairs of Dartford warbler *Sylvia undata* (75% of British); and 2 pairs of Honey Buzzard (7% of British, confidential record). Notable also are up to 10 pairs of kingfisher *Alcedo atthis*.

In winter the site qualifies under Article 4.1 by regularly supporting about 15 hen harriers *Circus cyaneus* (2% of the British wintering population).

The New Forest also qualifies under Article 4.2 by supporting, in summer, up to 25 pairs of hobby *Falco subbuteo* (3% of the British breeding population) and in excess of 350 pairs of wood warbler *Phylloscopus trochilus* (at least 3% of British – the population size fluctuates and much larger numbers are present in some years). Notable also are breeding populations of lapwing *Vanellus vanellus* (about 350 pairs); redshank *Tringa totanus* (120 pairs); curlew *Numenius arquata* (120 pairs); snipe *Gallinago gallinago* (160 pairs); stonechat *Saxicola torquata* (up to 430 pairs); and redstart *Phoenicurus phoenicurus* (400+ pairs).

In addition to its importance for the individual species listed above, the site is of exceptional scientific interest for its assemblage of lowland heathland breeding birds. These include nightjar, woodlark, Dartford warbler and stonechat.

## Appendix D: Ramsar

Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat

THE NEW FOREST (Hampshire)

### Criterion 1

The New Forest qualifies under Criterion 1 by virtue of its valley mires and adjacent wet heaths which are of outstanding scientific interest. It includes about 90 valley mires and associated peatland types deriving water from catchments of heathland and woodland whose uncultivated and undeveloped state buffer the mires against adverse ecological change. They thus comprise an integral part of the Ramsar site. The mires and other peatlands cover 2,390 hectares (about 16% of the New Forest). This is the largest concentration of intact valley mires of their type in Great Britain.

Base-poor, acid valley mires with associated seepages form the predominant mire type. Locally, more base-rich spring fed mires can be found and in some places there is the development of mires which are more topogenous in character. These valley mires have received and continue to receive a great deal of scientific attention and they are regarded as the 'locus classicus' of this type of mire formation in Britain.

The vegetation zonation characteristic of these valley mires largely reflects hydrological gradients relating to the amount of flushing and the height and fluctuation of the water table. The dry heath of the upper slopes grades into wet heath on the lower slopes represented by the *Erica tetralix* – *Sphagnum compactum* community. This vegetation type is largely confined to the south and east of England.

The valley floor, characterised by a constantly high water table, features three main communities: occupying the largest area of the mire expanse is the vegetation community *Narthecium ossifragum* – *Sphagnum papillosum*, represented by the *Rhynchospora alba* – *Sphagnum auriculatum* sub-community. Linear bog pools of the *Sphagnum auriculatum* type may show orientation across the main axis of the valley. This patterning is reminiscent of patterned ombrotrophic mires found in northern Britain. Water tracks within the main mire expanse feature the community *Hypericum elodes* – *Potamogeton polygoniferous*.

Within many of the valley mires the zone of greatest flushing is located along the central axis of drainage. This zone is often characterised by *Alnus glutinosa* – *Carex paniculata* carr. The area separating this community from that of the mire expanse may be locally occupied by swamp and semi-swamp communities such as *Carex rostrata* and *Carex rostrata* - *Potentilla palustris* respectively. In contrast, some mires are flushed by water of a more base-rich chemical composition and these are characterised by the community *Schoenus nigricans* - *Juncus subnodulosus*.

The extent of mire development and the range and zonation of mire plant communities is characteristic of the New Forest. This type of mire-heath ecosystem occurs both westwards into Dorset and eastwards into Surrey and Sussex. However, the numbers of intact

valley mires declines away from the core area of the New Forest, as does the diversity of plant communities.

Phytosociologically the valley mires of the New Forest occupy a distinct position between the strongly Atlantic locations to the west and the more Continental locations to the east. Locally, base-rich springs and small valley mires feature the community *Carex dioica* - *Pinguicula vulgaris*. This community is principally associated with the uplands and its location within the New Forest is regarded as unusual and important. The occurrence of *Pinguicula lusitanica*, found in this mire type and within some valley mires is also considered important as it represents the western extreme of the southern core of distribution of this species.

A further important wetland habitat found within the New Forest is pools located within the heath-mire matrix. These contain nutrient enriched water and are characterised by a very species rich assemblage of aquatic and associated plants. Some of these, such as *Ludwigia palustris* and *Galium debile*, are nationally rare.

The valley mires and other peatland and wetland habitats within the New Forest are of major importance for invertebrates. There are differences in faunal composition between the various valley mires, so that it is the presence of the whole suite of mires that accounts for the overall species richness, and the exceptional value of the New Forest compared with other sites where far fewer valley mires are available. Sampling has demonstrated that 10% of the fauna of individual mires is comprised of Red Data Book or national scarce species.

## Criterion 2a

The New Forest qualifies also under Criterion 2a by supporting a number of rare species of plants and animals. Seven species of nationally rare wetland plants are present. These are dwarf spikerush *Eleocharis parvula*; slender cottongrass *Eriophorum gracile*; slender bedstraw *Galium debile*; Hampshire purslane *Ludwigia palustris*; penny royal *Mentha pulegium*; and small fleabane *Pulicaria vulgaris*. In addition, the following species of nationally scarce wetland plants have been recorded: bog hair grass *Deschampsia setacea*; bog orchid *Hammarbya paludosa*; pillwort *Pillularia globifera*; six-stammenned waterwort *Elatine hexandra*; slender spike-rush *Eleocharis acicularis*; marsh gentian *Gentiana pneumonanthe*; coral necklace *Illecebrum verticillatum*; touch-me-not *Impatiens noli-tangere*; marsh clubmoss *Lycopodium inundatum*; mousetail *Myosurus minimus*; corky-fruited water-dropwort *Oenanthe pimpinelloides*; yellow bartsia *Parentucellia viscosa*; annual beard grass *Polypogon monspeliensis*; the annual herb *Polygonum minus*; three-lobed water crowfoot *Ranunculus tripartitus*; brown beak sedge *Rhynchospora fusca*; marsh fern *Thelypteris thelypteroides*; and intermediate bladderwort *Utricularia intermedia*.

The invertebrate fauna of the valley mires and associated wetlands is particularly rich, reflecting the diversity and

extent of the wetland habitats. At least 65 Red Data Book species have been recorded. These include species listed as endangered: the water weevils *Bagous brevis*, *Bagous czwalinai*, *Bagous longitarsis*, and *Bagous nodulosus*, the dung beetle *Aphodius niger*, the ground beetle *Pterostichus aterrimus*, the water beetles *Bidessus unistriatus* and *Paracymus aeneus*, the ant *Formic transcaucasica*, the tadpole shrimp *Triops cancriformis*, the flea beetle *Longitarsus ferrugineus*, the ground beetles *Tachys edmondsi* and *Tachys walkerianus* and the horsefly *Chrysops sepulchralis*; species listed as vulnerable: the snail *Lymnaea glabra*, the marsh grasshopper *Stethophyma grossum*, the beetle *Biblioplectus tenebrosus*, the water beetles *Agabus brunneus*, *Graptodytes flavipes*, *Helophorus laticollis*, *Hydroporus rufifrons*, the rove beetle *Manda mandibularis*, the micromoth *Stenoptilia graphodactyla*, the fly *Phaonia jaroschewskii*, the hoverfly *Eristalis cryptorium*, the aquatic crustacean *Chirocephalus diaphanus*, the spider *Thanatus formicinus*, the money spider *Trichonsuc hackman*, the fly *Eyndyas nigripes*, and the reed beetle *Donacia bicolora*; species listed as rare: the medicinal leech *Hirudo medicinalis*, the sea anemone *Nematostella vectensis*, the blue damselfly *Coenagrion mercuriale*, the ground bug *Pachybrachius luridus*, the water beetles *Enochrus isotae*, *Haliphus variegatus*, *Helophorus longitarsis*, *Hydrochus elongatus* and *Hydrovatus clypealis*, the rove beetles *Hygropora cunctans*, *Paederus caligatus*, and *Aleochara discipennis*, the leaf beetle *Hydrothassa hannoveriana*, the marsh moth *Athetis pallustris*, the moth *Pelosia muscerda*, the crane fly *Tipula marginata*, the horsefly *Atylotus latiatratus*, the fly *Dolichopus andalusiacus*, the hoverfly *Pelecocera tricincta*, the fly *Themira nigricornis*, the snail killing fly *Tetanocera frevi*, the shrimp *Gammarus insensibilis*, the wolf spider *Arctosa fulvolineata*, the ground beetle *Anisodactylus poeciloides*, the weevil *Bagous frit*, the water weevil *Bagous colligensis*, the soldier beetle *Cantheria fusca*, the moths *Crambus uliginosellus* and *Buckleria paludum*, and the fly *Telmaturgus tumidulus*; and the following species for which there is insufficient information to place them in any category: the polychaete worm *Armandia cirrhosa*, the aquatic crustacean *Allomelita pellucida*, the ground hopper *Limotettix atricapillus*, and the horseflies *Tabanus bovinus* and *Tabanus miki*.

Some of the species listed, like the tadpole shrimp, are only known from the New Forest in Britain. The site also supports the major part of the British population of species such as the bog ant, the marsh grasshopper, and the aquatic crustacean *Chirocephalus diaphanus*.

## Criterion 2b

The New Forest qualifies under Criterion 2b because of the high ecological quality and diversity of the mire communities and their undisturbed transition zones. The invertebrate fauna holds important concentrations of rare and scarce wetland species. This complex of semi-natural habitats is essential to the maintenance of the genetic and ecological diversity of southern England.

## Citation Details

The New Forest Special Protection Area for Wild birds (SPA)

The site qualifies under Article 4.1 of the EC Directive 79/409 by regularly supporting the following species:

Breeding: Nightjar

Woodlark Dartford warbler Honey buzzard Kingfisher

Wintering: Hen Harrier

It also qualifies under Article 4.2 by supporting the following breeding species:

Hobby

Wood warbler Lapwing Redshank Curlew

Snipe Stonechat Redstart

Ramsar Site under the Ramsar Convention on Wetlands of International Importance

The site qualifies under Criterion 1 by virtue of its valley mires and adjacent wet heaths.

It qualifies under Criterion 2a by supporting a number of rare wetland plants and animals.

It qualifies under Criterion 2b because of the high ecological quality and diversity of the mire communities and their undisturbed transition zones.

## Appendix E: Bats and trees guidance notes

All bat species and their roosts are fully protected in Britain under the Wildlife and Countryside Act 1981(as amended) and the Conservation of Habitats and Species Regulations 2010, making it an offence to:

- intentionally kill, injure, or take a bat
- intentionally or recklessly damage, destroy, or obstruct access to any structure or place used for shelter or protection by a bat
- intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for that purpose

If bats use your trees or proposed works may have an impact on bats or their roosts, an offence could be committed. It is your responsibility, along with the person who will undertake the work, to observe the law and make sure no offence is committed.

If you consider that there is potential for the tree(s) to be used by bats, we recommend that a bat survey of the tree(s) is undertaken by a consultant (a list of bat consultants can be obtained from Natural England).

If bats or bat roosts are found to be present, a licence from Defra may be required for the work to be undertaken legally. This licence simply permits works which effect bats or their roosts which are otherwise unlawful.

However if you consider that there is a low probability of bats using your tree(s), we recommend that you consider the following advice prior to starting the works:

### Timing of tree works

- to reduce the chance of disturbing a bat roost it is important to avoid the summer (breeding season) and winter (hibernation) months
- works to trees with potential for bats is best done from late August to early October when young bats are mobile and on the wing, female bats are unlikely to be pregnant and the hibernation season has not yet begun
- March to April is also a suitable time, though consideration should also be given for nesting birds as these are also protected by law
- crown pruning and minor tree works can also be completed over the winter months – the removal of potential roost sites during this time should be avoided, as some bat species hibernate in trees

### Best practice methods

- keep tree work to a minimum retaining all potential roosts where possible
- a precautionary inspection of the tree(s) by the tree surgeon looking for signs of bats should be carried out before starting work. This should include an inspection of all holes and niches using a torch and preferably an endoscope. If bats or signs of bats are found, no work should start and Natural England should be contacted for further advice.
- where possible avoid cross cutting in proximity to cavities or hollows
- limbs with internal fissures should be pruned carefully to maintain integrity of features as potential roost sites
- any sections felled containing cavities should be lowered carefully and left on the ground (preferably for 24 hours) with the openings clear, allowing anything inside an opportunity to escape
- split limbs that are under tension may need to be wedged open to prevent their closure when pressure is released, potentially trapping bats
- if ivy covers areas of a tree's trunk or branches there is roosting potential behind it; potential roosts in the tree

may also be hidden behind it. Dealing with ivy covered trees depends on the amount of ivy. If there is a thick mass of ivy growth it may be practical to consider felling the tree on the basis that the thickness of the foliage will soften the fall and reduce the shock. This tree can then be inspected on the ground and if possible left for 24 hours, before section cutting. If the tree is only partially covered, pruning or sectioning may be more appropriate. If the works are not urgent cutting the ivy at its base and completing the work when the ivy is dead, thus reducing the bat roosting potential should be considered. However where stems of ivy create a dense mass against the trunk there will always be roosting potential.

**If bats or evidence of bats are found at anytime, all works must stop immediately and Natural England contacted for further advice.**

## Appendix F: EA Guidelines for working near or across watercourses

### Environment Agency advice for discharge of water

The most reliable method to prevent pollution of the watercourse would be to discharge the water to foul sewer with the consent of the local WASC. If this is not an option, some kind of settlement system to ensure that the discharged water does not contain any solids should be used.

The best option would be to discharge the water onto grassland and let it naturally soak back into the ground. Alternatively a sand filtration system using a skip containing some sand or sandbags could be set up.

The water should be pumped into the skip and discharged through a hole at the bottom into a surface water drain taking care not to pick up any contamination before going into the drain. The watercourse should be regularly checked for signs of contamination and the activity ceased if it is causing pollution.



ENVIRONMENTAL ALLIANCE - WORKING TOGETHER

## DEWATERING OF UNDERGROUND DUCTS AND CHAMBERS : PPG20

## POLLUTION PREVENTION GUIDELINES

*These notes are for guidance only and aim to assist those engaged in the dewatering of underground ducts and inspection chambers. They have been produced by the Environment Agency in England and Wales, the Scottish Environment Protection Agency and the Environment and Heritage Service in Northern Ireland, referred to jointly as the Agency or Agencies. By following this advice, it should be possible to avoid causing pollution. In some instances, however, it may still be necessary to contact the Agency for further advice. Contact details will be found at the end of these guidelines.*

### 1. GENERAL

The Agencies are responsible for the protection of "controlled waters" from pollution and it is an offence to cause such a pollution, either deliberately or accidentally. "Controlled waters" includes all watercourses, lakes, lochs, coastal waters and water contained in underground strata (groundwater). The formal consent of the Agency is required for many discharges to controlled waters, including both direct discharges to watercourses and discharges to soakaways. Such consents are granted subject to conditions and are not granted automatically. In the case of underground ducts and chambers, it is generally considered to be impractical to issue a formal consent for dewatering discharges of volume less than 5m<sup>3</sup>, although the Agency reserves the right to do so.

Operators may also be subject to control under waste management regulations. Please also note that dewatering to the foul sewer or to surface water drains requires the prior approval of the local sewerage undertaker or its sewerage agent.

### 2. INTRODUCTION

It is often necessary for utility companies and their contractors to dewater underground ducts or chambers. Such discharges tend to be of low volume (less than 5m<sup>3</sup>) and they occur widely. Unfortunately, water that has accumulated within a duct or chamber may be contaminated with substances such as oil, silt and dissolved chemicals, all of which can adversely affect water quality. In order to protect our rivers and groundwater, it is therefore essential to exercise care when pumping out.

### 3. AVOIDING POLLUTION

#### a. By design

Ducts and chambers should ideally be designed and constructed so that they are resistant to the ingress of water, thus reducing the need to pump them out periodically. The introduction of a slope to one end and a sump in the construction of chambers will facilitate de-watering.

#### b. By pumping to foul sewer

Whenever practicable, the operator should dewater the duct or chamber to the foul sewer (subject to the approval of the sewerage undertaker or its sewerage agent) or to a licenced waste disposal site or treatment facility.

### c. By controlling quality

If discharge to the foul sewer is not an option, the responsibility lies with the operator to check the quality of the water. If there are any doubts about the quality of the water, it should be contained and removed to a licenced waste disposal site or treatment facility by a licenced waste disposal contractor. Discharging from the duct or chamber to a surface water drain or directly to controlled waters may only proceed subject to the following:

- i. The clarity of the water must first be checked by carefully taking a surface sample in a transparent container. The operator should minimise disturbance of the water in the duct or chamber as this may stir up any settled silt. If the sample is obviously contaminated with silt in suspension, is unnaturally discoloured or has an unusual odour it should not be discharged. The water should be pumped to suitable containers, or removed by vacuum tanker, and then taken to a licenced waste disposal site.
- ii. Any light contamination by oil can be removed from the surface of the water with absorbent materials. Where the water is heavily contaminated with oil, the entire contents of the duct or chamber should be pumped to suitable containers or removed by vacuum tanker and taken to a licenced waste disposal site. If a duct or chamber is susceptible to oil pollution, absorbent pillows or pads can be left in place and removed at the next visit. Pipelines carrying potentially polluting materials such as oil should be constructed of materials resistant to corrosion or should be double walled or sleeved.
- iii. Dewatering should be undertaken carefully in order to minimise silt and other suspended solids in the discharge. The suction end of the pump should be positioned off the bottom of the duct or chamber, as far as possible above the interface between any settled solids and the water. Wherever possible pumped discharges should be directed across grass covered ground to reduce the suspended solids load. If there are any settled solids on the bottom of the duct or chamber, these should be removed and disposed of properly after pumping has been completed.
- iv. Automatic dewatering pumps within ducts and chambers are discouraged as there will be no check on water quality prior to discharge. Similarly, ducts and chambers should not be connected into the surface water drainage system.

All the Agencies' pollution prevention guidance notes are available on the web sites listed below.

#### ENVIRONMENT AGENCY

**HEAD OFFICE**  
Rio House, Waterside Drive, Aztec West  
Almondsbury Bristol BS32 4UD.  
Tel: 01454 624 400 Fax: 01454 624 409  
World Wide Web: <http://www.environment-agency.gov.uk>

#### REGIONAL OFFICES

**ANGLIAN**  
Kingfisher House  
Goldhay Way  
Orton Goldhay  
Peterborough PE2 5ZR  
Tel: 01733 371 811  
Fax: 01733 231 840

**MIDLANDS**  
Sapphire East  
550 Streetsbrook Road  
Solkhull B91 1QT  
Tel: 0121 711 2324  
Fax: 0121 711 5824

**NORTH EAST**  
Rivers House  
21 Park Square South  
Leeds LS1 2QG  
Tel: 0113 244 0191  
Fax: 0113 246 1889

**NORTH WEST**  
Richard Fairclough House  
Knutford Road  
Warrington WA4 1HG  
Tel: 01925 653 999  
Fax: 01925 415 961

**SOUTHERN**  
Culdbourne House  
Chatsworth Road  
Worthing  
West Sussex BN11 1LD  
Tel: 01903 832 000  
Fax: 01903 821 832

**SOUTH WEST**  
Manley House  
Kestral Way  
Exeter EX2 7LQ  
Tel: 01392 444 000  
Fax: 01392 444 238

**THAMES**  
Kings Meadow House  
Kings Meadow Road  
Reading RG1 8DQ  
Tel: 0118 953 5000  
Fax: 0118 950 0388

**WYLSSE**  
Rivers House  
St Mellons Business Park  
St Mellons  
Cardiff CF3 0EY  
Tel: 029 2077 0088  
Fax: 029 2079 8555

#### SCOTTISH ENVIRONMENT PROTECTION AGENCY

**HEAD OFFICE**  
Erskine Court  
The Castle Business Park  
Stirling FK9 4TR  
Tel: 01786 457 700  
Fax: 01786 446 885  
World Wide Web: <http://www.sepa.org.uk>

#### REGIONAL OFFICES

**NORTH REGION HQ**  
Graesser House  
Fodderty Way  
Dingwall IV15 9XB  
Tel: 01349 862 021  
Fax: 01349 863 987

**WEST REGION HQ**  
SEPA West  
5 Redwood Crescent  
Peel Park  
East Kilbride G74 5PF  
Tel: 01355 574 200  
Fax: 01355 574 688

**EAST REGION HQ**  
Clearwater House  
Heriot-Watt Research Park  
Avenue North  
Riccarton  
Edinburgh EH14 4AP  
Tel: 0131 449 7296  
Fax: 0131 449 7277

#### ENVIRONMENT & HERITAGE SERVICE

Calvert House  
23 Castle Place  
Belfast  
BT1 1FY  
Tel: 028 9025 4868  
Fax: 028 9025 4777

The 24-hour emergency hotline number for reporting all environmental incidents relating to air, land and water in England, Wales, Scotland and Northern Ireland.

#### EMERGENCY HOTLINE

# 0800 80 70 60



ENVIRONMENTAL ALLIANCE – WORKING TOGETHER

## Appendix G: Process water with use of siltbuster

Process water, dewatering, damaged water main, groundwater, or site run off can be treated for discharge off site either to a water course or sewer.

Check list of parts

- Water inlet – 4" female bauer coupling
- Water outlet – 6" female bauer coupling
- Water drain down valve – 2" globe valve
- Standard unit end mounted sludge valves – 2" globe valves The siltbuster unit incorporates four lifting eyes, one located at each of the upper corners of the unit for lifting with chains strops etc. Fork lift channels are also provided at the base of the unit to enable lifting by a fork lift. **WARNING** – the unit should NOT be lifted or moved by applying force to any component other than those described.

### Set up and operation

The siltbuster should be located in a position where

- The ground is firm enough to support the flooded weight of the unit (approx 10 tonnes).
- The ground is reasonably level. The top edge of the unit should be placed level to within 10mm.
- Sufficient clearance overhead is required to allow for the periodic removal of individual lamella plates.
- Safe access to the unit for routine inspection and adjustment is available

### Emptying the siltbuster

The frequency of emptying the siltbuster unit is dependent on the solids loading and the nature of the solids. Larger grain size (sands and gravels) do not generally flow as easily as finer sizes (silts).

Emptying the siltbuster can be carried out in a number of ways.

- Drain sludge via the sludge discharge valves on either end of the unit using the weight of water to push out the sludge.
- Drain the water out of the unit using the water drain down valve, remove some of the plates to gain access to the sludge and use a vacuum tanker (gully sucker) to remove the sludge.
- For difficult to handle material, remove the plates to access the sludge and remove manually or mechanically.

## Appendix H: Overview of how to use protocol – guide for staff

\*Check on your GIS if you are within or adjacent to a designated site, if so please take the following steps;

For all operations (emergency and all levels of planned)

- Follow all guidelines for legal obligations to protected species - chapters 9.8 (page 6-8) and 11.0 (page 9)
- Follow all obligations to the designated sites and adhere to the general guidelines - chapter 11.2 (page 9)
- All subcontractors will be made aware of their obligations - chapter 12 (page 10)
- Be aware of exceptional circumstances - chapter 14 (page 10)
- Check if permission is needed from Natural England - Appendix I (page 24)

In addition to the above the following should be adhered to if you are doing the following works;

### Emergency/unplanned works

- Follow emergency works guidelines - chapter 13 (page 10)
- Read risk assessment - Appendix J (page 24)
- Fill in form - Appendix L (page 25)

### Planned maintenance and minor works

- Identify if operations are listed as minor/routine - Appendix I (page 24)
- Follow planned work protocol - chapter 11 (page 8)
- Read risk assessment - Appendix J (page 24)
- Fill in form - Appendix K (page 25)

### Planned major work

- Identify if operations are listed as major/medium - Appendix I (page 24)
- Follow planned work protocol - chapter 11 (page 8)
- Follow pipe and cable laying procedure - chapter 11.1 (page 9)
- Follow mainlaying procedure - chapter 11.3 (page 10)
- If working near or across a watercourse follow Appendix F (page 20)
- If dewatering underground ducts and chambers follow pollution prevention guidelines - Appendix F (pages 21-22)
- If processing water - Appendix G (page 23)
- Read risk assessment - Appendix J (page 24)
- Fill in form - Appendix K (page 25)

## Appendix I: Operation activity and permissions needed

| Job Description                                    | Definition   | Scale          | Natural England permission required   |
|--|--|----------------|---|
| Mains, valves, fittings inspection/ operation      | Mains inspection checking position, route and operation of plant. Will include leakage activities. No excavation | Minor /Routine | No - covered by the protocol  |
| Mains Flushing/cleansing                           | Will involve discharge of water<br>May be an activity undertaken as a consequence of a burst main                | Minor /Routine | No additional permission needed if works can be carried out in line with the protocol<br>Emergency -notification sent as soon as practically possible - form to be filled in and submitted to Natural England |
| Planned maintenance of mains, valves or fittings   | Maintenance work involving excavation  | Major /Medium  | No additional permission needed - just notification with how works will be carried out on standard form in keeping with protocol  |
| Planned maintenance of valves, fittings            | Maintenance of valves, fittings within existing chamber. No excavation required.                                 | Minor /Routine | No - covered by protocol  |
| Unplanned maintenance of mains, valves or fittings | Unplanned maintenance work involving excavation  | Major /Medium  | Notification sent as soon as practically possible - outlining which methods used  |
| Unplanned maintenance of valves or fittings        | Unplanned maintenance of valves, fittings within existing chamber. No excavation required                        | Minor /Routine | No - carried out in accordance with protocol methodology  |
| Mains renewal/Diversion                            | Replacing an existing asset on/near existing position/ route   | Major /Medium  | Notification by form 4 weeks before works commence  |
| Installation of new main                           | Laying of new water main   | Major /Medium  | Yes - full liaison and permission is necessary. Notice period dependent on extent of works  |
| Meter Reading                                      | Routine meter reading  | Minor /Routine | No  |
| Leak Detection                                     | Planned non-intrusive detection  | Minor /Routine | No  |

If permission/notification is required for works on Forestry Commission land, requests should be made to the Forestry Commission. If works are on other land, requests should be made direct to Natural England.

## Appendix J: Risk Assessment for emergency/planned works within environmentally sensitive sites

| Hazard   | Controls in Place   | 1.2.1 Issue At Risk   | Worst Possible Outcome  | Likelihood  | Risk Grade |
|--|---|---|---|-------------|------------|
| Damage to designated SSSI, SAC, SPA or Ramsar sites within Bournemouth Water area of supply during operational activities                        | Adhering to agreed Guidelines for work within sensitive areas: 'Guidelines for Maintenance Operations within Sensitive Areas'.            | Issue At Risk<br>Temporary or permanent damage to the flora, fauna or geological or physiographical features of environmentally sensitive sites                                     | Possible contravention of the Wildlife and Countryside Act 1981 / Countryside and Rights of Way Act 2000 Section 28 resulting in a fine up to £20,000.<br>Corporate Image | v. unlikely | low        |
| Failure to notify relevant authorities of emergency/planned works within SSSI, SAC, SPA, or Ramsar designated sites within specified time scales | Adhering to agreed guidelines for work within sensitive areas: 'Guidelines for Maintenance Operations within Sensitive Areas'             | as above  | as above  | v. unlikely | low        |
| Ingress of a polluting matter into any controlled waters.  | Adhering to agreed Guidelines for work within sensitive areas: 'Guidelines for Maintenance Operations within Sensitive Areas'.            | Pollution of a designated controlled water area   | An offence under Section 85(1) of the Water Resources Act 1991.<br>Corporate Image  | v. unlikely | low        |
| Failure to adhere to agreed guidelines for work within sensitive areas: 'Guidelines for Maintenance Operations within Sensitive Areas'.          | In house training with regard to use and requirements of the guidance document.<br>External 'onsite' training provided by Natural England | Temporary or permanent damage to the flora, fauna or geological or physiographical features of environmentally sensitive sites.<br>Pollution of a designated controlled water area. | Possible contravention of the Wildlife and Countryside Act 1981 / Countryside and Rights of Way Act 2000 Section 28 resulting in a fine up to £20,000.<br>Corporate Image | v. unlikely | low        |

## Appendix K: Notification forms for works needing permission or notification

|   |                                      |
|---|--------------------------------------|
| Dates and duration of the works to be undertaken  |                                      |
| Location details including grid reference (attach map)  |                                      |
| Bournemouth Water officer in charge and contact details   |                                      |
| Description of works to be carried out including size of operation  |                                      |
| Brief explanation of what measures (methodologies and materials) will be employed to minimise damage to habitat | We will use our protocol methodology |

- Attach method statement for major works
- If works are on Forestry Commission land, this form should be sent direct to the Forestry Commission with a copy sent to Natural England.

If works are on other land, this form should be sent direct to Natural England

# Appendix L: Example of notification of emergency works

To: Natural England

cc: Forestry Commission

From: Bournemouth Water

Re: Notification of Works on S.S.S.I designated area Burst water main

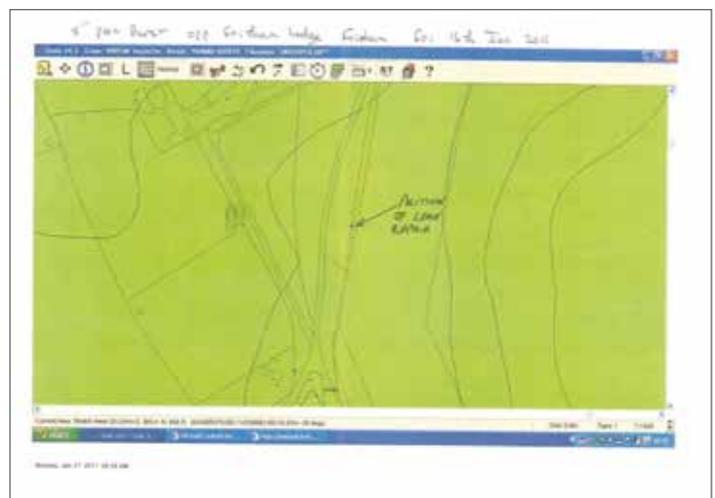
Location: Opposite Fritham House, Fritham Grid reference: 424305,114559 (plan attached)

Reason: Repair burst 8" water main on 14.01.11

Method: Excavated material used as backfill. All material excavated returned to the position from which it was taken in the correct order in which it was taken.

Existing turves replaced.

Site and access route left in a clean and tidy condition.



**Bournemouth Water Ltd**

George Jessel House, Francis Avenue,  
Bournemouth, BH11 8NX

[Customer Service 01202 590059](tel:01202590059)

Fax 01202 597022

[customerservice@bournemouthwater.co.uk](mailto:customerservice@bournemouthwater.co.uk)

Automated card payment service 0800 389 5110

Freephone Leakline 0800 587 8979

[www.bournemouthwater.co.uk](http://www.bournemouthwater.co.uk)