

# **Excavation of the non-native invasive species creeping water primrose from Round Pond, Breamore Marsh, Hampshire**



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March 2015

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## **Summary**

Creeping water primrose is regarded as a top priority species for eradication in the UK.

Creeping water primrose was first found in Round Pond, Breamore Marsh in autumn 2009.

Since then the outbreak has been sprayed and hand pulled on an annual basis as a special project within a Higher Level Stewardship (HLS) agreement, depending on weather constraints.

In 2013 it was decided that the management undertaken was only caretaking the problem so a more radical approach was needed. The decision was made to control the creeping water primrose by excavating the pond.

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## 1. Background

### 1.1. Breamore Marsh SSSI

Breamore Marsh Site of Special Scientific Interest (SSSI) is a privately-owned grassland containing a series of shallow pools, currently in unfavourable recovering condition, having been ecologically improved in part through the implementation of a Higher Level Stewardship (HLS) grazing regime.

The ponds at Breamore have been attracting naturalists since the 1930s due to the presence of rare plants such as the brown galingale *Cyperus fuscus* (Figure 1).

In 1976 the botanist Paul Bowman established a monitoring protocol for the ponds. This monitoring has been undertaken annually since 1992 by local botanist Clive Chatters. The monitoring is a relatively simple 'walkover' survey taking less than two hours in the field, which with preparation, travel time, report writing and dissemination of results takes less than a day to complete (Chatters, 2009).

The discovery of creeping water primrose *Ludwigia grandiflora* in 2009 was a by-product of the annual survey of brown galingale. The nature of the survey means we can be confident as to when creeping water primrose became established. The survey resulted in action being instigated to control the creeping water primrose at an early stage of colonisation of the site.

The annual monitoring of wetlands is rare and not readily deliverable outside the voluntary sector. The circumstances at Breamore were fortuitous but are unlikely to be replicated at other sites at risk from colonisation by creeping water primrose.

Since this initial discovery in 2009, the creeping water primrose and two other invasive non-native species (INNS) namely New Zealand Pygmyweed *Crassula helmsii* and water fern *Azolla filiculoides* have increasingly colonised one pond within the marsh and are jeopardising the return of the SSSI to favourable condition due to the impacts on the native flora. Creeping water primrose is regarded as a priority for eradication in the UK. The need for a rapid response is recognised by the Invasive Non-native Species Framework Strategy for Great Britain (Defra, 2008). Any treatment is usually 3+ years to ensure control and ultimate eradication.

The results of Clive Chatters' survey of Brown Galingale at Breamore Marsh on 6 September 2014 are given at Appendix 1.



**Figure 1:** Brown galingale *Cyperus fuscus*

## **1.2. Source to Sea Project**

The Source to Sea project is a strategic INNS removal partnership between the local Wildlife Trusts in the River Avon catchment (Hampshire and Isle Wight Wildlife Trust, Dorset Wildlife Trust and Wiltshire Wildlife Trust) and the Environment Agency. This particular project to remove creeping water primrose from Round Pond is a collaborative project between Hampshire and Isle Wight Wildlife Trust, Natural England, and the Environment Agency (the latter two organisations providing funding for the project). The project, in liaison with Natural England and the Environment Agency advised the landowner as to the best possible solution for control and eradication of this INNS, and project officer Jo Gore managed contractor works in 2014/15.

## **1.3. Historical Treatment**

Since the initial discovery during August 2009 of creeping water primrose and New Zealand pygmyweed in Round Pond at Breamore Marsh, the New Forest Non-Native Plants Project and subsequently the Source to Sea Project have continued to supervise the control work on behalf of Breamore Estate.

Natural England provided initial funds for treatment work in 2009. The Estate then entered an Environmental Stewardship Agreement and money was provided for treatment under a special project.

### **1.3.1. Timetable of historical treatment work: 2009 - 2012**

2009 – Chemical treatment with Roundup Pro Biactive and the adjuvant Topfilm took place on 29<sup>th</sup> October 2009.

2010 – Chemical treatment with Roundup Pro Biactive and the adjuvant Topfilm took place on 9<sup>th</sup> August, 16<sup>th</sup> September and 15<sup>th</sup> October 2010. A hand pull took place on 2<sup>nd</sup> November.

2011 – Chemical treatment with Roundup Pro Biactive and the adjuvant Topfilm took place on September 16<sup>th</sup>, October 5<sup>th</sup> and October 28<sup>th</sup> 2011. An additional hand pull by local volunteers took place on November 1<sup>st</sup>.

2012 - During 2012 no work to control *Crassula* or creeping water primrose was able to take place due to the extremely wet summer. This meant that at no time did the pond draw down to enable the chemical treatment or any other treatment to take place. The special project funding from the HLS was therefore deferred to be used during 2013.

### **1.3.2. A new approach**

It was decided that, due to the weather-dependent nature of treating the creeping water primrose with chemicals, a new approach was needed. In consultation with Dr Johan Van Valkenburg (Plant Protection Service, Netherlands), Megan Ellershaw (Natural England), Catherine Chatters (New Forest Non-Native Plants Project) and Dr Jonathan Newman (Centre for Ecology and Hydrology) that excavation would be a possible solution.

Funding was granted from Megan Ellershaw of Natural England (20K) and from Trevor Renals, Senior Technical Advisor, Non-Native Species, Environment Agency (15k) to support the project.

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2013 – March - Site visit with Johan Van Valkenburg (Plant Protection Service, Netherlands) who has extensive problems with creeping water primrose in the Netherlands, to discuss possible mechanical excavation of Breamore Pond (Figure 2 and Figure 3).



**Figure 2:** Jo Gore on a cold, wet visit to Breamore Marsh with Johan van Valkenburg of the Netherlands Plant Protection Service on 21 March 2013 (Photograph: Catherine Chatters)



**Figure 3:** Jonathan Newman (Centre for Ecology and Hydrology), Megan Ellershaw (Natural England), Johan van Valkenburg (Netherlands Plant Protection Service), Martin Rand (BSBI Vice County Recorder, Manuel Dueñas (Centre for Ecology and Hydrology) and Jo Gore (Source to Sea) at Round Pond on 21 March 2013 (Photograph: Catherine Chatters)

Jo Gore commissioned Neil Sanderson Botanical Survey and Assessment to carry out a baseline botanical survey of the water bodies on Breamore Marsh. This survey work was paid for by NE through Megan Ellershaw. The report titled 'A Botanical Survey of Ponds at Breamore Marsh SSSI, Hampshire' (Sanderson, 2013) is given at Appendix 2.

10<sup>th</sup> June 2013 – Jo Gore visited Breamore Marsh with Tom Selby to ascertain whether an application would need to be made to Hampshire County Council for Ordinary Watercourse Consent. Tom also calculated the area of the pond. He also considered whether the pond was suitable for great crested newts. It was concluded that Ordinary Watercourse Consent was not needed. At this stage it was considered that the pond was unsuitable for Great Crested Newts.

On 24<sup>th</sup> June 2013 - John Durnell and Joanne Gore met the landowner and his Farm Manager David Northway to discuss the project. At this meeting three potential sites for the disposal of dredged material were visited.

Site one was a quarry at SU1626719987. This was a 10 minute drive away from Breamore Marsh along the main A338. Although a dry site with no risk of run off it was thought that the risk of contamination by taking the material so far plus the additional costs/time of transporting so far excluded this site.

Site two was a large arable field at SU1566120181. This field was again accessed by a ten minute drive along the A338 which again raised concerns with the risk of contamination. The other issue with this field is that the Estate had already placed orders for fertiliser and seed for 2014.

Site three at SU1532718515 was just around the corner from Breamore Marsh. It was a small field with quarry just a couple of minutes drive along a minor road. This site was in cultivation but would have been harvested before the work took place. This site, it was felt, presented the least risk of contamination/inconvenience and reduced costs being so close to the Marsh.

8<sup>th</sup> July 2013 - Jo Gore visited Breamore Marsh with John Durnell (HIWWT) and Anna Fraser (EA) to look at disposal sites and confirmed EA preferred site for disposal.

24<sup>th</sup> July 2013 - Neil Sanderson carried out baseline survey of Breamore Marsh. This ascertained that there were no other non-native species present in the other water bodies on the marsh.

24<sup>th</sup> July 2013 - John Durnell met with Kingcombe Aquacare at Round Pond to discuss excavation. Kingcombe Aquacare produced a quote of £88,655.62

17<sup>th</sup> September 2013 - Joanne Gore met Jess Pain (HIWWT) at Round Pond to obtain quote for work at Round Pond.

17<sup>th</sup> September 2013 - Joanne Gore met with Simon Thurgood, (Aquascience) to obtain quote for work at Round Pond.

26<sup>th</sup> September 2013 - meeting with Alaska Environmental Contracting Ltd. Alaska provided a quote.

It was becoming increasingly apparent that it was getting quite late in the season for any mechanical removal to take place and that there were a lot of questions that still needed answering. It had also been indicated that the funds may no longer be available to pay for

the project. With these uncertainties and with the weather starting to change Jo Gore therefore organised purchase orders for Kingcombe Aquacare to carry out 2 chemical treatments at Round Pond to treat the New Zealand pygmyweed and creeping water primrose using Roundup Pro Biactive with the adjuvant Topfilm. The price of these treatments was £978.55 (inc VAT) each.

24<sup>th</sup> September 2013 - first treatment of New Zealand pygmyweed and creeping water primrose at Round Pond by Kingcombe Aquacare with Roundup Pro Biactive with the adjuvant Topfilm.

9<sup>th</sup> October 2013 - the Environment Agency wrote to HIWWT to confirm that the proposal to spread the arisings on the field (to confer benefit to the agricultural land) had been registered as 'exempt' under The Environmental Permitting (England and Wales) Regulations 2010.

16<sup>th</sup> October 2013 - second treatment of New Zealand pygmyweed and creeping water primrose at Round Pond by Kingcombe Aquacare with Roundup Pro Biactive with the adjuvant Topfilm.

22<sup>nd</sup> October 2013 - John Durnell (HIWWT) sent an email to all parties stating that he did not feel that it would be possible to carry out the works during 2013 considering the unanswered questions.

9<sup>th</sup> December 2013 – revised quote received from Kingcombe Aquacare for £72,000 ex VAT. This quote did not include any fencing work.

The money promised to fund the project was rolled over to the following year.

## 2. Work during 2014

### 2.1. Waste Exemptions v Waste Permits

It was realised that the waste exemptions that had been granted during October 2013 by the Environment Agency to allow for the material to be spread on the selected field would not be adequate as the field did not have enough area to fulfil the waste exemptions conditions

Refer to Appendix 3 for correspondence relating to Waste Exemptions.

Refer to Appendix 4 for briefing note produced by Anna Fraser of the Environment Agency.

Jo Gore therefore approached the Environment Agency suggesting that instead of spreading the material onto the field it would be better to place the material into the hollow that was already present in the field.

It was considered that the benefits of this approach would be:

- the field would not have to be taken out of cultivation by the landowner for one to two years to prevent fragments of creeping water primrose spreading to other areas on the wheels of the agricultural machinery;
- during the spring of 2013 the bottom half of the proposed field was very wet and a pool of water had formed that lay next to an adjacent pond presenting a huge biosecurity risk.

However this meant that the excavated material could no longer be disposed of under the waste exemptions. If the material was placed in the hole it would be necessary to apply to



the Environment Agency for an Environmental Permit which would have cost many thousands of pounds and would have taken a lot of time to organise.

To overcome this problem, Trevor Renals Chief Technical Advisor (Environment Agency) successfully instigated a change of policy at a national level within the Environment Agency regarding disposal of material that contains invasive non-native species like creeping water primrose.

This change of policy enabled the local area office at Blandford to issue a Local Enforcement Decision, a copy of which is provided at Appendix 5. Local Enforcement Decisions apply on a case by case basis. It was then possible to deposit the material in the hole without the need for an environmental permit.

## **2.2. Planning Permission**

Now that the material was being considered as waste it was necessary to apply for planning permission. New Forest District Council was consulted but as the proposed operation related to disposal of a waste material it was necessary to apply for planning permission from Hampshire County Council.

A variety of reports needed to be commissioned to support the planning application.

- Topographical survey of hollow (done in house by Jo Gore and Ben Davies to reduce costs) (Appendix 6)
- Arboricultural report (Appendix 7)
- Soil Analysis (Appendix 8)
- Ecological Appraisal of the hollow (Appendix 9)
- Supporting Statement (Appendix 10)

The information was then given to local planning consultant David Cutler who submitted the application.

Planning permission (reference 14/11272) was granted on 28<sup>th</sup> October 2014.

## **2.3. Consent for working on the SSSI**

Consent was granted by Natural England (Simon Curson) in accordance with the Wildlife and Countryside Act 1981 for carrying out the excavation work at Round Pond on Breamore Marsh SSSI (Appendix 11).

## **2.4. Great Crested Newts**

An appraisal for the suitability of Round Pond for the protected species great crested newts had been carried out during 2013. This appraisal determined that the pond, due to its temporary nature and drying out on an annual basis, was not suitable for great crested newts.

During 2014, the ecology team (Hampshire & Isle of Wildlife Trust) decided to carry out a survey of the ponds on Breamore Marsh, checking for the presence of great crested newts as well as to make sure that the non-native species, signal crayfish were not present.

During this survey, it was confirmed that there were no signal crayfish but that a small population of great crested newts was indeed present.

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With this discovery it was then necessary to apply for a great crested newt translocation licence.

The licensing process usually takes at least 60 days but NE fast tracked the process for this project and the licence came through in less than 30 days (Appendix 12)

Before the translocation took place a newt fence had to be erected (Figure 4). To save costs this was done in house, by hand, utilising Trust staff and volunteers from Blashford Lakes Study Centre. The fence was 380m long. It took three days to install the fence and translocation buckets (9<sup>th</sup> – 11<sup>th</sup> September)

The site was visited twice a day every day to check for newts (Figure 5). If the temperature dropped below 5 degrees centigrade then that day did not count. If a great crested newt was found then that day was also discounted. It was necessary to have 5 clear days without finding newts after 30 days of the start of the translocation (Jackson, 2014).

The translocation finished on the Friday before the contractors were due to start on the Monday morning!

The translocation ended on 24<sup>th</sup> October 2014.

The process of the translocation is described in Appendix 13.



**Figure 4:** HIWWT Ecology Team, Jo Gore (Source to Sea), Blashford Lakes volunteers and Ben Davies digging in newt fence (Photograph: Sarah Jackson)



**Figure 5:** Great crested newt caught during translocation (Photograph: Sarah Jackson)

## **2.5. Public Engagement**

An evening meeting for residents surrounding Breamore Marsh was organised for 4<sup>th</sup> September 2014. Posters were put up around the Marsh and on a local notice board as well as a letter box drop to local residents.

The land owner, Joanne Gore (Source to Sea HIWWT), Robert Chapman (Living Landscapes Manager New Forest and Avon Valley, HIWWT), Simon Curson (NE), Clive Chatters (Head of Policy and Evidence, HIWWT) attended the meeting.

The meeting was well supported by residents with over 20 people attending. The proposed works and the special qualities of the marsh were discussed.

## **2.6. Scrub Clearance**

A team of staff from the Trust's Ecology team plus volunteers helped Jo Gore clear areas of bramble from the pond edges to ensure that there were no areas where protected species and creeping water primrose could be hidden (Figure 6). This also made it easier for the contractors to scrape clean the edges of the pond. This work took place between 20<sup>th</sup> – 22<sup>nd</sup> October 2014.



**Figure 6:** Clearing scrub at Round Pond

## **2.7. Excavation**

A variety of contractors had been approached to carry out the excavation work during 2013. Quotes varied widely ranging from over £85,000 to £27,000.

In summer 2014 Alaska Environmental Ltd was instructed to carry out the work. They are a contractor who had been involved with wetland work with HIWWT in the past

Unfortunately due to the uncertainty of a start date and the season disappearing Alaska pulled out and an alternative contractor had to be found.

A further 3 contractors were approached and asked to quote for the project and Aquascience Ltd were chosen. Aquascience are a wetland specialist who work all over the country and have dealt with many non native species eradication projects. They demonstrated a sound awareness for the need for biosecurity throughout all aspects of this project.

Excavation work began on 27<sup>th</sup> October, 2014. The weather was on our side. Usually the pond is at its driest during August but in 2014 the pond was at its driest during the first week in October.

The excavation work took place over a period of 12 days and was completed on November 11<sup>th</sup> 2014 (Figure 7, Figure 8, Figure 9, Figure 10).

The contractors worked between 8am and 5pm and not at the weekend. Every effort was taken to minimise the impact on local residents.

All the work had to take place within the confines of the new fence.

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Using a long reach excavator, the silt was removed to the gravel bed (average depth 30cm) and deposited at the edge of the pond to dry down. The driest end of the pond was cleared first and heaped at the edges which then allowed water in the pond to drain down from the wetter end which was then in turn cleared to the edges.

The silt was then gathered up using a wheeled dumper and a mini digger. During this process the edges were also scrapped back by 1m to ensure that any remnants of creeping water primrose growing in the marginal vegetation were removed. The material was piled in an area at one end of the pond. A small bund of material was created behind which the material was piled ready to be removed to the hollow. This allowed for further drying of the material and held back the rising water levels.

A platform of sleepers and mesh was created as a turning area for the tractor and trailer to access the marsh without causing too much damage. This also meant that the wheels of the tractor did not come into contact with contaminated material which could have been transported out onto the road. The material was transported by a tractor and sealed trailer to the field. In order to keep this process efficient a tracked dumper and another long armed excavator were brought in to speed up the collection of silt to the point where it was being loaded into the trailer. This reduced the waiting time and kept the works on schedule.

Exactly 100 trailer loads were transported to the hollow.

At the end of each day the road was swept to remove any mud dropped from the tractor wheels.

The entrance to the fence was also reinstated each evening to ensure that any protected species did not enter the site.



**Figure 7:** Excavation of Round Pond during Autumn 2014

*Excavation of non-native invasive species creeping water primrose from Round Pond, Breamore Marsh, Hampshire*



**Figure 8:** Excavation of Round Pond during Autumn 2014



**Figure 9:** Excavation of Round Pond during Autumn 2014



**Figure 10:** Excavation of Round Pond during Autumn 2014

During the excavation process the contractors were also working to prepare the hollow (Figure 11).

A mini digger was used to create a bund to protect the trees growing nearby and also to bund the bottom of the hollow to ensure that the material remained in the hollow. Material was deposited from the top of the hole to ensure that the tractors wheels were not spreading accidentally picking up non-native species fragments from the deposited material.

To reduce the damage to the farmer's field the same track was used to access the hole. This caused a certain amount of rutting which needed to be repaired at the end of the excavation. It was not necessary to have machinery within the hollow as the nature of wet material slumped down into the hole thus further reducing the biosecurity risk.

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**Figure 11:** Material in hollow before bund was closed



**Figure 12:** Small area of compaction at edge of SSSI

At the end of the excavation all machinery was thoroughly washed down before leaving the site.



## **2.8. Capping Material**

The capping of the material, to fulfil the conditions of the Local Enforcement Decision and planning permission, could not take place immediately due to the ground conditions. This also gave time for water within the silt to drain away. The area was left bunded to ensure that any movement of the material was contained during the winter. Safety fencing and signs were erected around the site.

In consultation with the land owner the material was capped on 5<sup>th</sup> and 6<sup>th</sup> February 2015 during a period of frosty weather which allowed for access to the field without rutting (Figure 13 and Figure 14). Material which had been scraped from the site was used to cap the hole to a depth of at least 20cm. This means that the farmer has access to his field during 2014 and will shortly be cultivating. The original method of spreading the material on the field would have meant that the farmer would not have been able to cultivate the field for at least 1 growing season and there would have been a risk of spreading fragments on the machinery wheels every time the field was entered.

The area is due to be seeded with a mix of wildflowers and grasses to fulfil planning conditions.



**Figure 13:** Capping the excavated material with 20cm of material to fulfil the local enforcement notice and planning condition



**Figure 14:** The hollow after capping work ready to be seeded in the spring.

## **2.9. Road repairs**

Due to heavy use of the field access by the tractor and trailer the road unfortunately suffered damage which needed to be repaired. A purchase order for the work was issued before Christmas but the contractor didn't turn up. Another contractor was found but there were delays due to the wet weather and icy conditions. The repairs eventually took place on 19<sup>th</sup> February, 2015.

## **2.10. Hand pulls of creeping water primrose**

Whilst visiting the site during 2014 Jo Gore decided to do a survey of the connecting ditch and found some creeping water primrose growing there. Jo Gore immediately contacted Martin Rand (County Plant Recorder) who came and confirmed the presence of creeping water primrose in the ditch. Consent was gained from NE to hand pull the plants (Figure 15). The site was then revisited on a regular basis to ensure that no further plants were found.



**Figure 15:** Martin Rand and Jo Gore at Breamore Marsh during hand pull of creeping water primrose

### **2.11. Burning of brash**

Ed Bennett and Jo Gore burnt the brash (Figure 16) that had been cut prior to the excavation, after getting consent from NE on 23<sup>rd</sup> February, 2015. The burn sites were tidied up the next day and ash removed.



**Figure 16:** Burning brash on old bramble sites with Ed Bennett (Blashford Lakes Reserves Officer)

### **2.12. Continuing surveillance**

Regular visits have been carried out since completion of the excavation to remove floating plant fragments and to check the temporary screen installed to prevent fragments floating to other areas of the marsh.

Since February the screen is changed on a weekly basis to ensure that water flow is not impeded.

### **2.13. Budget breakdown**

The project was funded by grants from both Natural England (20K) and Environment Agency (17K). The unexpected occurrence of great crested newts meant that further funds had to be requested. This request was met by receiving a further 12K from EA Blandford. The newt translocation was carried out by Hampshire and Isle of Wight Wildlife Trust's Ecology Team. This was not part of their planned work schedule for 2014 and put a huge extra pressure on this team but reduced the cost of the translocation by more than 50% of the commercial rate.

The budget breakdown is provided at Appendix 14.

### **3. Work 2015 onwards**

It is hoped that there will be continued support from the Environment Agency during 2015 and beyond to ensure that this project is a success.

A grant application has submitted to cover regular visits during 2015, surveys of the Marsh to ascertain the effects of the work and to ensure that creeping water primrose has not spread to other areas and also for contractor work to spray any outbreaks that might arise.

It has been suggested that it will be necessary to continue this surveillance for up to 5 years to ensure success.

### **4. Other meetings associated with work at Breamore Marsh 2014/15**

24 <sup>th</sup> March 2014	Meeting with Anna Fraser (EA) and Robert Chapman (HIWWT) re Round Pond
31 <sup>st</sup> March 2014	Meeting with Simon Curson (NE) , Robert Chapman (HIWWT) and landowner (Breamore Estate) re Round Pond.
30 <sup>th</sup> April 2014	Meeting HIWWT Planning team re Round Pond
14 <sup>th</sup> May 2014	Tour of Round Pond and hollow with Trevor Renals
20 <sup>th</sup> May 2014	Meeting with planning consultant David Cutler, Round Pond
21 <sup>st</sup> July 2014	Soundwood Consultancy (tree consultants), hollow Breamore
22 <sup>nd</sup> July 2014	Ecological survey undertaken of hollow in disposal site at Breamore
24 <sup>th</sup> July 2014	Meeting Martin Rand, County Plant Recorder to plot and hand pull creeping water primrose from ditch at Breamore Marsh
31 <sup>st</sup> July 2014	Topographical Survey of Hollow by Jo Gore and Ben Davies
11 <sup>th</sup> August 2014	Environchem take samples for soil analysis to Fareham
18 <sup>th</sup> August 2014	Meeting David Cutler, Planning Consultant, at Round Pond, Breamore
18 <sup>th</sup> August 2014	Hand pull of creeping water primrose
4 <sup>th</sup> September 2014	Evening meeting with local residents, Simon Curson (NE), Clive Chatters HIWWT), Robert Chapman (HIWWT,) landowner
9 <sup>th</sup> September 2014	Hand pull of creeping water primrose

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9 <sup>th</sup> Sept 2014	Installation of Newt Fence at Round Pond
10 <sup>th</sup> Sept 2014	Installation of Newt Fence at Round Pond
11 <sup>th</sup> Sept 2014	Installation of Newt Fence at Round Pond
15 <sup>th</sup> September 2014	Meeting with contractor Farwells at Round Pond
16 <sup>th</sup> September 2014	Meeting with BT engineer at Round Pond, Breamore
16 <sup>th</sup> September 2014	Hand pull of creeping water primrose with Ben Davies/Jo Gore.
18 <sup>th</sup> September 2014	Meeting with contractor Alistair Sampson at Round Pond, Breamore
18 <sup>th</sup> September 2014	Meeting with Rob Storey, Planning Officer, HCC
21 <sup>st</sup> September 2014	Newt translocation am/ pm
30 <sup>th</sup> September 2014	Newt translocation pm
1 <sup>st</sup> October 2014	Newt Translocation pm
5 <sup>th</sup> October 2014	Newt Translocation pm
8 <sup>th</sup> October 2014	Newt Translocation pm
12 <sup>th</sup> October 2014	Newt translocation am/ pm
19 <sup>th</sup> October 2014	Newt translocation pm
20 <sup>th</sup> October 2014	Scrub clearance Round Pond
21 <sup>st</sup> October 2014	Scrub clearance Round Pond
22 <sup>nd</sup> October 2014	Scrub clearance Round Pond Newt Translocation am/pm. Torching pm
23 <sup>rd</sup> October 2014	Newt translocation / torching pm
27 <sup>th</sup> Oct - 11 <sup>th</sup> Nov 2014	Daily visits to Round Pond, Breamore Marsh to supervise excavation work
30 <sup>th</sup> October 2014	Meeting with Simon Curson/ Amy Wilson Round Pond
31 <sup>st</sup> October 2014	Visit to local resident Breamore to liaise about excavation work
2 <sup>nd</sup> November 2014	Visit to resident at Breamore Marsh to give advice re Bee Orchids as a result of work at Round Pond
17 <sup>th</sup> November 2014	Visit to Round Pond to pick up plant fragments
21 <sup>st</sup> November 2014	Meeting with Simon Curson at Round Pond to look at excavation work
1 <sup>st</sup> December 2014	Visit to Round Pond to pick up plant fragments
9 <sup>th</sup> December 2014	Visit by Jo Gore to Round Pond to pick up plant fragments
15 <sup>th</sup> December 2015	Drop off fencing material to grazier
21 <sup>st</sup> January 2015	Visit to Breamore Marsh to meet landowner re capping

*Excavation of non-native invasive species creeping water primrose from Round Pond, Breamore Marsh, Hampshire*

2 <sup>nd</sup> February 2015	Site meeting with Robert Chapman(HIWWT), Mark Stollery (Aquascience), landowner and manager (Breamore Estate) to discuss capping
5 <sup>th</sup> February 2105	Site visit to supervise capping work.
10 <sup>th</sup> February 2015	Site visit to sign off capping work and meet landowner
19 <sup>th</sup> February 2015	Visit to view road repair
23 <sup>rd</sup> February 2015	Visit to burn brash/changed screen
24 <sup>th</sup> February 2015	Visit to clear up ash
2 <sup>nd</sup> March 2015	Visit to change screen

## 5. Acknowledgements

Thanks to Trevor Renals (Environment Agency), Sarah Jackson (HIWWT), Catherine Chatters (HIWWT) for permission to use their photographs in this report.

The work to control creeping water primrose at Breamore Marsh SSSI would not have been possible without the support and/or financial help from the following organisations:



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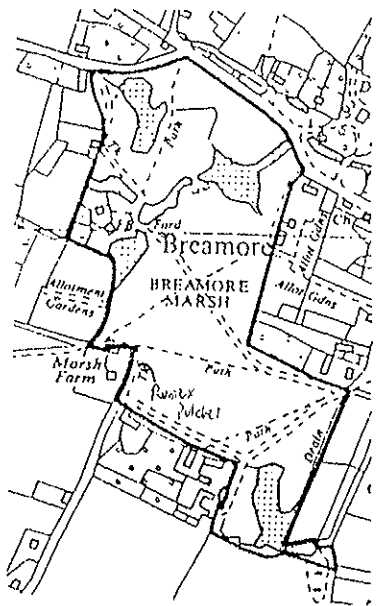
**Sanderson, N. (2013).** *A Botanical Survey of Ponds at Breamore Marsh SSSI.* Neil Sanderson Botanical Survey & Assessment

## **Appendices**

- Appendix 1 Breamore Marsh Brown Galingale survey 6 September 2014 by Clive Chatters
- Appendix 2 Neil Sanderson Botanical Survey and Assessment: A Botanical Survey of Ponds at Breamore Marsh SSSI, Hampshire 2013
- Appendix 3 Correspondence relating to waste exemptions
- Appendix 4 Breamore Marsh SSSI favourable condition project: briefing note on options for invasive non-native species management version 5 prepared by A. Fraser/A. Wilson (Environment Agency)
- Appendix 5 Environment Agency 'Local Enforcement Decision'
- Appendix 6 Topographical Report
- Appendix 7 Arboriculture Survey
- Appendix 8 Soil Analysis
- Appendix 9 Ecological Appraisal of the hollow
- Appendix 10 Supporting Statement
- Appendix 11 SSSI consent
- Appendix 12 Great crested newt translocation licence
- Appendix 13 Great crested newt report by Sarah Jackson, November 2014
- Appendix 14 Breakdown of Budget

# Appendix 1





*Cyperus fuscus*

Brown Galangale Survey

6<sup>th</sup> Sept-2014

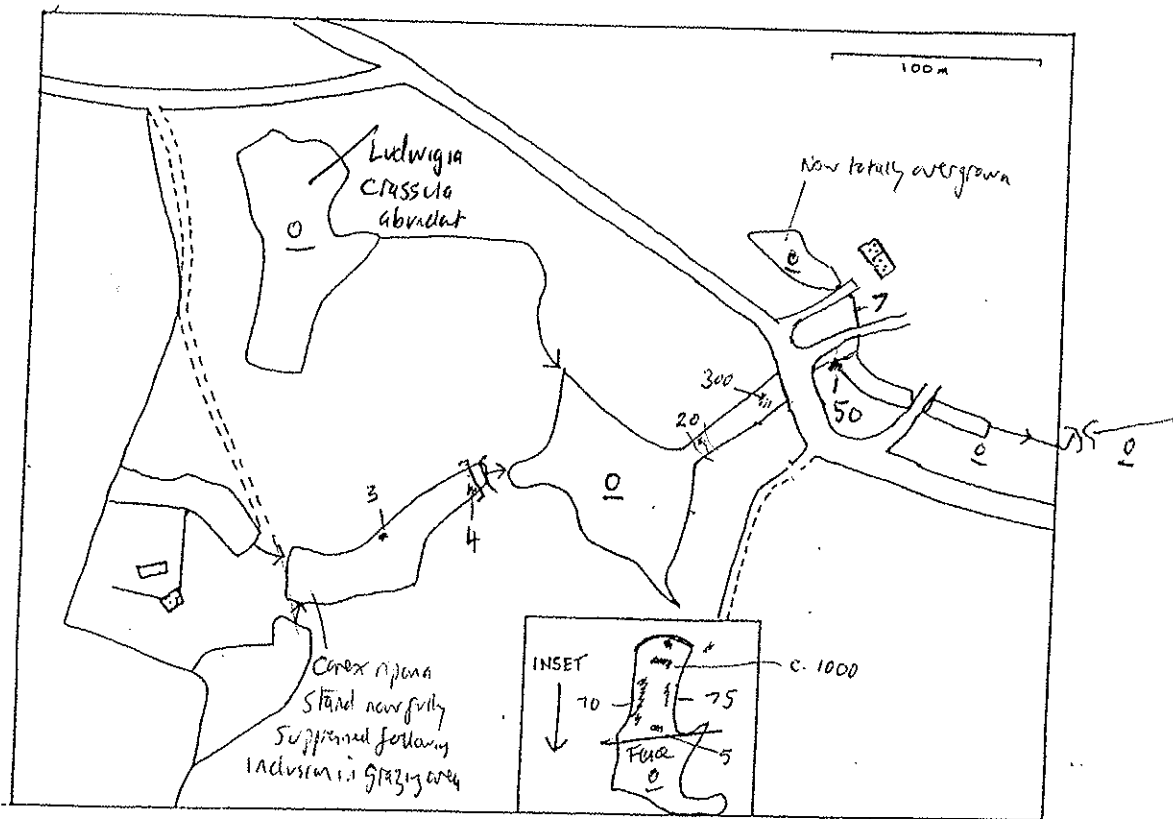
C Chatter

85 minutes on site

Adequate light

11 native bullocks

17 Geese.



Fence lines as in 2013

Estimated Population c. 1500

The habitat is in a very good condition.  
The cold August possibly delayed germination

Population estimate made using the usual technique  
Where plants were locally abundant only a few were large enough to flower.

No Limosella seen

but little dock & putative hybrids  
by trackside & under ancient ground fence.

## **Appendix 2**

**A BOTANICAL SURVEY OF PONDS AT  
BREAMORE MARSH SSSI, HAMPSHIRE  
2013**



September 2013  
N A Sanderson BSc MSc  
For English Nature & Hampshire Wildlife Trust



---

**NEIL SANDERSON**  
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# A BOTANICAL SURVEY OF PONDS AT, BREAMORE MARSH SSSI, HAMPSHIRE, 2013

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### Cover Pictures.

**Top Picture:** large plants for the Nationally Rare and Section 41 species *Cyprus fuscus* in a cattle poached crossing in a shallow part of the Long Pond Complex.

**Bottom Picture:** *Ludwigia grandiflora* – *Crassula helmsii* vegetation in Round Pond occupying formerly open poached mud similar to that pictured in Long Pond above.

# A BOTANICAL SURVEY OF PONDS AT, BREAMORE MARSH SSSI, HAMPSHIRE, 2013

## 1.0 INTRODUCTION

### 1.1 Breamore Marsh

#### 1.1.1 Site

Breamore Marsh is an SSSI on the lower terrace of the River Avon in Hampshire. The citation states:

An important surviving manorial green on which goose and cattle grazing persists. The grassland flora, whilst limited, is of interest in the extent to which its species composition has been derived from its grazing history. The marsh includes a series of shallow pools and connecting waterways which support an exceptionally rich aquatic flora. The ponds have margins of base-enriched bare mud in summers that are not excessively wet, with a near-unique assemblage of aquatic and semi-aquatic plants, including the national rarity Brown Cyperus *Cyperus fuscus*, Common Mudwort *Limosella aquatica* (which has only two or three other sites in Hampshire), and Pennyroyal *Mentha pulegium*.

The green includes three main pond complexes (**Map 1**), Round Pond in the north west, Long Pond across the north of the green and Mitchell's Pond in the south east. The green is still grazed with cattle contained by electric fencing. This grazing does not cover all the ponds, even on the SSSI, and these ungrazed ponds are now densely covered by scrub and lack any significant botanical conservation interest. Of the open ponds Round Pond has been invaded by two highly aggressive exotic invasive species: *Crassula helmsii* and *Ludwigia grandiflora*. These have been highly problematic and have badly damaged the nature conservation interest of Round Pond. Various attempts to eliminate these species have failed and the option to dig out Round Pond completely is planned.

#### 1.1.2 Brief

In 2013, Neil A Sanderson, Botanical Survey & Assessment was commissioned by Hampshire Wildlife Trust and Natural England was commissioned to carry out a botanical survey of Breamore Marsh SSSI prior to work to remove Creeping Water Primrose *Ludwigia grandiflora*.

## 2.0 METHODS

### 2.1 Timing

Breamore Marsh was first visited on the 24<sup>th</sup> July 2013, when all the communities except for the mud annual communities. The latter were only just appearing in July and were surveyed in 27<sup>th</sup> August 2013.

### 2.2 Recording

The vegetation of the ponds was mapped using the following main generalised habitats: Marginal Swamps, Mud Annual Communities, Tall Herb Stands on Mud and *Ludwigia grandiflora* – *Crassula helmsii* Vegetation on Mud, along with other minor features. For each main habitat the flora was recorded and quadrats recorded from representative samples of the variation within the habitats. The quadrats were recorded using the methods recommended by the National Vegetation Survey (NVC) (Rodwell, 1992, 1995 & 2000). The data collected was compared manually to the NVC data tables to determine the relationships with the NVC.

### 2.3 Data

#### 2.3.1 Nomenclature

The nomenclature follows Stace (2010) for vascular plants and Hill et al (2008) for bryophytes. Synonyms for vascular plants for changes since Stace (1997).

#### Vascular Plants

New Name	Old Name
Nasturtium officinale	Rorippa nasturtium-aquaticum

#### 1.2.6 National Rarity

For vascular plants Nationally Rare and Nationally Scarce is derived from Preston et al (2002), Red Data Book status follows Preston (2006). For bryophytes the definitions of Nationally Rare and Nationally Scarce species follows Preston (2006). Red Data Book status is as revised in Hodgetts (2011).

Biodiversity Action Plan species (Biodiversity Reporting and Information Group, 2007) are now listed as Species of Principal Importance in England in Section 41 of The Natural Environment and Rural Communities (NERC) Act. The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

Abbreviations used in the text are listed below:

RDB	= Red Data Book Species, (CR, EN, VU & NT Species)
VU	= Vulnerable Red Data Book species
NR	= Nationally Rare
NS	= Nationally Scarce
S41	= Section 41 Species

*September 2013*

*A Botanical Survey of Ponds at Breamore Marsh SSSI, 2013*  
*Botanical Survey & Assessment*



## 3.0 SURVEY

### 3.1 Communities

#### 3.1.1 Introduction

The three ponds have distinct zonations (**Maps 4 - 6**), which are described below, although this is complicated by shade from trees, local under grazing and the invasion of exotic species. The individual ponds, with species list and quadrat data are described in the following sections.

#### 3.1.2 Marginal Swamps

All the ponds are ringed by a narrow zone, transitional from the adjacent Rush Pastures (Holcus lanatus – Juncus effusus Grassland typical sub-community, MG10a). This mainly passes into marginal swamp, with the exception of Long Pond where the marginal swamp is discontinuous. The swamp is predominantly dominated by *Eleocharis palustris*, although at Mitchell's Pond, *Glyceria fluitans* is locally dominant, probably due to under grazing around this pond. Frequent associates are *Galium palustre* ssp. *elongatum*, *Lycopus europaeus* and *Mentha aquatica*, with occasional distinctive species including the Vulnerable RDB and Section 41 species *Oenanthe fistulosa* (**Map 3**) and *Lysimachia vulgaris* at Mitchell's Pond and the declining *Veronica scutellata* at round pond. At Round Pond the moss *Drepanocladus aduncus* forms a mat under the *Eleocharis palustris*, but is absent from the other ponds. This is a widespread species of nutrient rich lowland ephemeral ponds. The community is well developed at Mitchell's and Round Ponds but is more fragmentary are Long Pond. The exotic invasive species *Crassula helmsii* and *Ludwigia grandiflora* have penetrated this community at Round Pond but only have a limited impact within it; grazing and completion from the native species appears to be preventing the loss of the community.

In terms of the NVC the main community is referable to Eleocharis palustris Swamp, Eleocharis palustris sub-community (S19a), the areas locally dominated by are referable to Glyceria fluitans Swamp (S22).

#### 3.1.3 Mud Annual Communities

Below the zone where Eleocharis palustris Swamp (S19a) can survive areas where animal gain enough access to reduce the cover of tall herbs communities of low growing annuals and some low perennials survive, the latter locally dominate where the mud is little poached by animals, especially in the under grazed Mitchell's Pond. The latter were dominated by *Apium nodiflorum*, *Nasturtium officinale* and locally *Veronica beccabunga*, with small plants of *Mentha aquatica* and *Myosotis scorpioides*. What was mainly bare mud in the July visit was well vegetated during the August visit by species which were germinating in July. In the shallow sections where more churned up, the *Apium nodiflorum* and *Nasturtium officinale* mat is broken up and numerous annual species germinated in late season. Deeper in the recently germinated annuals dominated. These including substantial populations of the Vulnerable and Section 41 species *Cyperus fuscus* (**Map 3**), along with frequent *Rorippa palustris*, *Persicaria maculosa*, *Gnaphalium uliginosum* and *Chenopodium rubrum* along with scattered typical nutrient enriched ephemeral pond species *Bidens cernua*, *Bidens tripartita*, *Ranunculus scleratus* and *Plantago major*. One significant find was the Nationally Scarce ephemeral pond liverwort *Riccia cavernosa* in the main pond in

Long Pond. The mixed mud annual community is well developed in both Long Pond and Mitchell's Pond, although the latter is being invaded by *Persicaria amphibia* due to under grazing. In Round Pond this habitat has almost entirely been displaced by dense growths of the exotic invasive species *Crassula helmsii* and *Ludwigia grandiflora*.

In terms of the NVC the less trampled *Apium nodiflorum* - *Nasturtium officinale* vegetation is referable to NVC community Other Water Margin Vegetation Glycerion - Sparganion (S23) but this is actually a ragbag of related communities (Rodwell et al, 2000). The community is probably referable to the *Apium nodiflorum*, as described by the Dutch plant communities field guide (Sýkora, 2008). This is a widespread community of lightly grazed water margins. The mud annual community is best referred to the Rorippa palustris - Gnaphalium uliginosum Community (OV31) NVC community. This vegetation type is included within the Class Isoeto - *Nanojuncetea*, and in the Alliance *Nanocyperion*. As such this vegetation would be accommodated within the Annex 1 Habitats Directive habitat 3130 Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto - Nanojuncetea. The substantial population of *Cyperus fuscus* makes this match particularly significant.

### 3.1.3 Tall Herb Stands on Mud

Deeper into Long and Mitchell's Pond distinctive tall herb communities dominated by *Mentha aquatica* and *Veronica x lackschewitzii*. The latter is a vigorous hybrid between *Veronica anagallis-aquatica* x *Veronica catenata* that largely displaces *Veronica anagallis-aquatica* in southern base rich waters. The community has few associates but there is usually some *Apium nodiflorum*, *Myosotis scorpioides* and *Nasturtium officinale* in gaps. The reasons why some mud is bared in early season and some has a perennial tall herb vegetation established are not always clear but the *Mentha aquatica* - *Veronica x lackschewitzii* tall herb vegetation is mainly found on less trampled areas. In Round Pond it is totally displaced by a very species poor community of *Persicaria amphibia* with little else associated where the grazing is fenced out permanently, this community is invading both grazed mud communities in Round Pond, some the community requires some grazing to be maintained. In Long Pond the community has largely been displaced by dense growths of the exotic invasive species *Crassula helmsii* and *Ludwigia grandiflora* but it oddly survives in the north east corner for no obvious reason.

In terms of the NVC the *Mentha aquatica* - *Veronica x lackschewitzii* tall herb vegetation is referable to NVC community Other Water Margin Vegetation Glycerion - Sparganion (S23) but this is actually a ragbag of related communities (Rodwell et al, 2000). The community is probably closest to *Polygono-Veronicetum annagallidis - aquaticae*, as described by the Dutch plant communities field guide (Sýkora, 2008). In the Netherlands this is characteristic of mud banks in eutrophic, hard water, optimally developed in the freshwater tidal rivers, on open localities where competition is poor, such as small drainage gullies, depressions on low flats. A similar community has been observed on the fresh water tidal banks in the Test at Red Bridge Marshes. It may be a quite uncommon community. The amphibious *Persicaria amphibia* community is specifically mentioned by Rodwell (1995) as occurring but is not be accommodated within the aquatic community *Persicaria amphibia* Community (A10) or described elsewhere in the NVC.

### 3.1.4 **Ludwigia grandiflora - Crassula helmsii Vegetation on Mud**

In Long Pond all the mud communities below the Eleocharis palustris Swamp (S19) have been displaced by a community dominated by robust growths of the exotic invasive species *Ludwigia grandiflora* and *Crassula helmsii*, with the latter forming an understory under the former. Very little else survives within this community.

### 3.1.5 **Aquatic Communities**

It had been intended to examine the ponds in June to record the presence of any aquatic communities. By July there was only open water left in two sections of Round Pond, these were smaller in August, leaving wet mud that was being colonised by the invasive exotic *Ludwigia grandiflora*. There were still some floating communities of *Lemna minor* and *Lemna trisulca* and the remains of *Azolla filiculoides* on the mud. Stranded *Lemna minor* was seen in the other two ponds and there was some terrestrial *Ranunculus peltatus* on the mud. This suggests that the NVC community Lemna minor Community (A2), occurred on the surfaces of the pond. Potentially there was some development of the NVC community Ranunculus peltatus Community (A20).

### 3.1.6 **Trees and Scrub**

Areas shaded by ancient Willows and younger scrub occurred in the grazed section of Long Pond and there is a patch of young Sallow and Willow in Mitchell's Pond. The sections of Long Pond and Mitchell's Pond not within the grazed areas are entirely dominated by scrub and trees, except where open water survives. Shaded areas of pond supported impoverished versions of the adjacent open pond communities.

## 3.2 **Flora**

### 3.2.1 **Total Floras**

The total species lists recorded from the ponds are listed in **Species List 1**, with 68 species recorded in total, including two Vulnerable Red Data Book species and one Nationally Scarce species. Of these Round Pond, was the noticeably the most species poor, with 28 species recorded as opposed to 36 and 49 for the grazed sections of Mitchell's Pond and Long Pond respectively. Seven species, including the two invasive exotic species *Crassula helmsii* and *Ludwigia grandiflora*, were recorded only in Round Pond, while 33 were not found in Round Pond including the two Red Data Book species, and the one Nationally Scarce species. The other species not found in Mitchell's Pond and Long Pond included the exotic floating fern *Azolla filiculoides*, which may occur in the other ponds but is a species that is unlikely to be a conservation issue in ephemeral ponds. Two of the species not found in the other ponds were of some interest *Veronica scutellata* and *Drepanocladus aduncus*, the former is a declining wetland species. The moss *Drepanocladus aduncus* is a widespread species of lowland moderately nutrient rich ephemeral ponds, which is also found in ditches and marshes, there is no evidence it is declining. Both were found in the Eleocharis palustris Swamp (S19). The lower numbers of species recorded in Round Pond is certainly due to the loss of most of the various mud communities that must have been present to the invasion by the exotic species. No evidence in colonisation of the other ponds by either *Crassula helmsii* or *Ludwigia grandiflora* was observed.

Two species mentioned in the citation *Limosella aquatica* (NS) and *Mentha pulegium* (Endangered, NS) were not refound, but these have not been recorded since 1983 and 1969 respectively (Rand & Mundell, 2011 & the “NBN” website).

### 3.2.2 Rare Species

The following rare species were recorded in 2013:

*Cyperus fuscus* (Vulnerable RDB, National Rare, Section 41 species): the population at Breamore Common is the largest surviving in England but varies hugely year to year due to the degree to which the ponds dry out in late summer (Rand & Mundell, 2011). In the very wet year 2012 none were found in Round Pond and only three plants in Mitchells’s Pond where contactors clearing a way line had disturbed to pond margin. Over other the years counts have varied from 100s of plants to thousands. In 2013 this nationally very rare plant was having a very good year, with very approximately 200,000 plants estimated as present. Some substantial reas of mud were carpeted in plants with densities of about 5 to 10 plants per 10 x 10cm. The populations are mapped on **Map 3** and listed below:

**Round Pond**, strong healthy populations in pond and ditch with margin grazed at time of survey:

**CF01** (SU15644 18085): a level lightly poached area deeper in pond of OV31, the population of *Cyperus fuscus* here is huge: 10 plants per 10 x 10cm over 5m<sup>2</sup> = 5,000 plant plus scattered plants to west

**CF02** (SU15639 18091): near pond edge, to east c 10 plants in S23/OV31 near pond edge.

**CF03** (SU15647 18095): further east from CF02, near pond edge c 40 plants in S23/OV31.

**CF04** (SU15578 18080): western end of pond and east of bridge in poached area in S23 *Veronica beccabunga* - *Nasturtium officinale*, c15 *Cyperus fuscus* plants along northern edge of pond east of bridge.

**SF05** (SU15575 18081): western end of pond and east of bridge in poached area in S23 *Veronica beccabunga* - *Nasturtium officinale*, c 20 plants west of bridge on north side, with a few plants on the south side.

**CF06 - CF10** (SU15627 18060, SU15647 18059, SU15642 18075, SU15631 18069 & SU15631 18060): a large area of open mud on the south side of the main pond, *Cyperus fuscus* - *Nasturtium officinale* OV31 community on higher mud with OV31 composed only of annuals species lower down with *Cyperus fuscus* A - D. Area occupied is 14 x 10m and 5 x 7m, with density of about c7 plants per 0.01m<sup>2</sup> in 175m<sup>2</sup> = 122,500 plants.

**CF11 - CF14** (SU15670 18079, SU15668 18085, SU15661 18084 & SU15661 18080): east end of main pond, bare on edge the with dense OV31 on level mud *Cyperus fuscus* present and frequent in central section of mud patch but mainly still young plants. Central section of mud patch, 5 x 8m with c 5 plants per 0.01 m<sup>2</sup> = 20,000 plants.

**CF15** (SU15677 18100): stock crossing point on ditch with OV31 with *Cyperus fuscus* over 4m<sup>2</sup> c3 plants per 0.01m<sup>2</sup> = 1,200 on west side and over 3m<sup>2</sup> with c3 plants per 0.01m<sup>2</sup> = 900 plant to east.

**CF16** (SU 15687 18109): scattered plants and clumps down ditch from CF15 to willow c 200 plants on edge of *Mentha aquatica* tall herb vegetation

**CF17** (SU 15701 18124): band of OV31 on edge of *Mentha aquatica* tall herb vegetation 4 x 0.5m c5 plants per 0.01m<sup>2</sup> = 1000 plants.

**CF18 - CF19** (SU15712 18125 & SU15719 18130): abundant large *Cyperus fuscus* plants at stock crossing over ditch by road, with two large dense patches. In OV31 vegetation with high *Apium nodiflorum* cover. Covers c9m<sup>2</sup> at c 5 plant per 1 m<sup>2</sup> = 4,500 plants

**CF20 - CF21** (SU15551 18046 & SU 15544 18041): in the far west of the pond system in ditch bottom and crossing points in OV31 with high *Nasturtium*

*officinale* cover, *Cyperus fuscus* in area 10 x 1m at about c 5 plant per 1 m<sup>2</sup> = 5,000 plants. Untrampled mud has *Veronica beccabunga* S23.

**Mitchell's Pond**, large populations but plants mostly being overgrown by invading perennials and pond margin not apparently grazing in July of August, although grazed earlier year:

**CF22** (SU15699 17683): in area cleared under way line in north of pond, one very large plant *Cyperus fuscus* being over grown by *Apium nodiflorum*.

**CF23** (SU15702 17686): in area cleared Sallow under way line in northern edge, larger open vegetation area, with *Apium nodiflorum* dominant, grading to richer OV31. *Cyperus fuscus* in most open area 1m<sup>2</sup> c50 plants, however, getting over grown.

**CF24 - CF27** (SU15696 17666, SU15692 17661, SU15683 17658 & SU15685 17662): on the east side of pond, very dense *Cyperus fuscus* population in OV31 vegetation which was getting rank, with tall herbs invading but more open lower down. *Cyperus fuscus* over and area of 8 x 10m with about 50% occupation at c8 plants per 1m<sup>2</sup> = 32,000 plants.

**CF28** (SU15694 17652): to south of CF24 - CF27, there is a thin scattered of *Cyperus fuscus* plants in denser *Persicaria amphibia* - *Mentha aquatica* invading OV31 vegetation, then second more open area CF28 on of 5 x 1m OV31 with dense invading *Lycopus europaeus* seedlings, with *Cyperus fuscus* scattered c50 plants.

**CF29** (SU15688 17643): patch of OV31 in *Mentha aquatica* - *Veronica x lackschewitzii* tall herb vegetation with *Rorippa palustris* dominant c50 *Cyperus fuscus* plants.

**CF30** (SU15682 17652): on the west side there are smaller patches of OV31 with *Cyperus fuscus* between the *Eleocharis palustris* swamp (S19) and the tall herb *Mentha aquatica* - *Veronica x lackschewitzii* vegetation. Southern patch 2.5 x 1m very dense locally but overgrowing by *Apium nodiflorum* with c 5 *Cyperus fuscus* plants per 0.01m<sup>2</sup> = 1,250 plants.

**CF31** (SU15681 17655): as above, southern patch with 3 x 0.5m with c 5 plants per 0.01m<sup>2</sup> = 300 plants.

**Other Populations at Braemore**, the *Cyperus fuscus* population extends north east of the SSSI in ditches where it is maintained by goose grazing, and this area also had a massive population in 2013 (Clive Chatters, pers. com.)

*Oenanthe fistulosa* (Vulnerable RDB, Section 41 species): a species of shallow winter flooded area in grasslands, greatly declined across lowland Britain, but with strong populations in the lower Avon valley and in the New Forest. Rank & Mundell (2011) has an old record from the Braemore Marsh area but give no recent record, the latest NBN record is 1978. In 2013, a patch found on the north east margin of Mitchell's Pond at SU15714 17681.

***Riccia cavernosa*** (Nationally Scarce): a Nationally Scarce species found on mud on nutrient rich ephemeral, which has not been recorded from South Hampshire since 1972 and has never been recorded from Breamore Marsh. In 2013 it was found to be frequent over a small area of OV31 community in the centre of the *Cyperus fuscus* population (CF06 – CF10) on the south side of the main pond at Long Pond (SU1563 1807). In 2013 Martin Rand (pers. com.) also independently found the liverwort in Mitchell's Pond and Round Pond.

**Species not Refound:** too rare species have not been seen at Breamore Marsh for several decades. Of these *Mentha pulegium* (Endangered, NS) is a species of the poached grass edges to ephemeral ponds. The green is now too under grazed and not remotely suitable habitat was seen. *Limosella aquatica* (NS) is a species that has been recorded from OV31 type vegetation (Rodwell, 2000), so habitat should still exist for it. It can be very spasmodic in its appearance, but is surprising it did not turn up in 2013, a good year for mud annuals. The localised records for Breamore Marsh (Rand & Mundell, 2011) are all for Mitchell's Pond and Clive Chatters has records for *Limosella aquatica* in 1992, 1993, 1994, 2002, 2005 and 2009 (Chatters, pers. com.) all from Mitchell's Pond. The pond might have been too under grazed for this species to appear in 2013.

### SPECIES LIST 1 Total List for all Three Ponds

Species	Long Pond	Mitchell's Pond	Round Pond	Conservation Status
TREE SEEDLINGS				
<i>Salix cinerea</i> ssp <i>oleifolia</i>		1		
GRASSES				
<i>Agrostis stolonifera</i>	1	1	1	
<i>Glyceria fluitans</i>	1		1	
<i>Holcus lanatus</i>	1			
<i>Phalaris arundinacea</i>	1	1		
<i>Poa annua</i>			1	
<i>Poa trivialis</i>	1			
OTHER VASCULAR PLANTS				
<i>Alisma plantago-aquatica</i>	1	1	1	
<i>Apium nodiflorum</i>	1	1	1	
<i>Azolla filiculoides</i>			1	
<i>Bidens cernua</i>	1	1		
<i>Bidens tripartita</i>	1	1		
<i>Callitriche stagnalis</i>	1			
<i>Carex hirta</i>	1	1	1	
<i>Carex riparia</i>	1			
<i>Chenopodium rubrum</i>	1	1		
<i>Cirsium arvense</i>	1			
<i>Crassula helmsii</i>			1	
<i>Cyperus fuscus</i>	1	1		VU, NR, S41
<i>Eleocharis palustris</i>	1	1	1	
<i>Epilobium hirsutum</i>	1			
<i>Epilobium parviflorum</i>	1	1	1	
<i>Equisetum palustre</i>	1			
<i>Galium palustre</i> ssp. <i>elongatum</i>	1	1	1	

Species	Long Pond	Mitchell's Pond	Round Pond	Conservation Status
Gnaphalium uliginosum	1	1		
Iris pseudacorus		1	1	
Juncus articulatus	1			
Juncus bufonius	1			
Juncus effusus	1	1	1	
Juncus inflexus	1		1	
Lemna minor	1	1	1	
Lemna trisulca			1	
Lotus pedunculatus	1			
Ludwigia grandiflora			1	
Lycopus europaeus		1	1	
Lysimachia nemorum		1		
Lysimachia nummularia		1		
Lysimachia vulgaris		1		
Lythrum salicaria		1		
Mentha aquatica	1	1	1	
Myosotis scorpioides	1	1		
Nasturtium officinale	1	1	1	
Oenanthe crocata	1			
Oenanthe fistulosa		1		VU, S41
Persicaria amphibia		1		
Persicaria hydropiper	1			
Persicaria maculosa	1	1	1	
Plantago major	1			
Potentilla anserina	1	1	1	
Pulicaria dysenterica	1	1		
Ranunculus flammula	1			
Ranunculus peltatus	1		1	
Ranunculus repens		1		
Ranunculus scleratus		1		
Rorippa palustris	1	1		
Rumex conglomeratus	1		1	
Rumex sanguineus	1			
Scrophularia auriculata	1			
Senecio aquaticus	1			
Senecio vulgaris	1			
Solanum dulcamara	1	1		
Urtica dioica	1			
Veronica beccabunga	1		1	
Veronica catenata		1		
Veronica scutellata			1	
Veronica x lackschewitzii	1	1	1	
MOSES				
Drepanocladus aduncus			1	
LIVERWORTS				
Riccia cavernosa	1			NS
Totals: all three ponds 68	49	36	28	VU = 2 S41 = 2 NR = 1 NS = 2



### 3.3 Site Descriptions

#### 3.3.1 Long Pond

The Long Pond complex includes two ponds to the west outside of the grazed area; these are deeply shaded by scrub and appear species poor and degraded by long term grazing removal. The surveyed area to the east (**Map 4**) consists of a wide ditch, with a wider pond in the centre. The grazing is much lighter than would have historically occurred in a village green but is just adequate to maintain the core ephemeral, pond habitats. The pond and ditch is lined by ancient willows, some of which are showing signs of collapsing. The marginal communities are limited within this system by the narrowness of the ditch and shade but an area of Eleocharis palustris Swamp, Eleocharis palustris sub-community (S19a) occurs on the south side of the pond, but this community is not as well developed as on the other ponds.

Below this is a fringe of water margin vegetation with *Apium nodiflorum* and *Nasturtium officinale* (*Apium nodiflori*) and mud annual communities (Rorippa palustris - Gnaphalium uliginosum Community, OV31), with the latter dominant. Within the pond this occurs around the margin and in some level areas of mud deeper in. In the ditches this zone is more restricted and is found mainly to stock crossing points and area where stock accessed to drink earlier in the year. *Veronica beccabunga* is more prominent in the water margin vegetation. This is the best developed area of mud annual vegetation in the three ponds examined. 2013 proved to be a very good year for *Cyperus fuscus* (VU, NR, Section 41), with populations scattered along the site with some enormous stands in the main pond, with an estimated total population of about 160,400 plants. In addition the Nationally Scarce liverwort *Riccia cavernosa* was recorded, new to the site and the first record for south Hampshire since 1972.

In the deeper and less accessible area of the pond and the ditch were dominated by species poor tall herb stands on mud with *Mentha aquatica - Veronica x lackschewitzii* vegetation (*Polygono - Veronicetum annagallidis-aquaticae*).

The system is connected in winter by a grassy ditch to Round Pond, but none of the invasive exotics have invaded yet.

#### Quadrats:

##### Quadrat BMPQ1 (SU15641 18079) 24/7/2013

*Mentha aquatica - Veronica x lackschewitzii* Water Margin Vegetation (S23, *Polygono - Veronicetum annagallidis-aquaticae*)

Species	Domin Cover
<i>Mentha aquatica</i>	8
<i>Myosotis scorpioides</i>	3
<i>Nasturtium officinale</i>	4
<i>Veronica x lackschewitzii</i>	7
Bare	2

##### Quadrat BMPQ2 (SU15663 18056) 24/7/2013

Eleocharis palustris Swamp, Eleocharis palustris sub-community (S19a)

Species	Domin Cover
---------	-------------

**Grasses**

Phalaris arundinacea 6

**Other Vascular Plants**

Eleocharis palustris 7

Juncus effusus 2

Mentha aquatica 3

Nasturtium officinale 1

Bare 5

**Quadrat BMPQ11** (SU15644 18085) 27/8/2013Rorippa palustris - Gnaphalium uliginosum Community (OV31)**Species**                      **Domin Cover****Other Vascular Plants**

Bidens cernua 2

Bidens tripartita 2

Chenopodium rubrum 5

Cyperus fuscus 6

Gnaphalium uliginosum 3

Mentha aquatica 3

Myosotis scorpioides 3

Nasturtium officinale 7

Persicaria maculosa 3

Rorippa palustris 3

Bare 6

**Quadrat BMPQ12 (SU15638 18060) 27/8/2013**Rorippa palustris – Gnaphalium uliginosum Community (OV31)

<b>Species</b>	<b>Domin Cover</b>
<b>Grasses</b>	
Poa trivialis	1
<b>Other Vascular Plants</b>	
Callitriche stagnalis	2
Chenopodium rubrum	3
Cyperus fuscus	7
Eleocharis palustris	3
Mentha aquatica	5
Myosotis scorpioides	2
Nasturtium officinale	7
Persicaria maculosa	3
Plantago major	3
Ranunculus peltatus	2
Rorippa palustris	3
Urtica dioica	2
Bare	6

**SPECIES LIST 2**  
**List for Grazed Area of Long Pond**

<b>Species</b>	<b>Margins</b>	<b>Low Veg on Mud</b>	<b>Tall Herb on Mud</b>	<b>Conservation Status</b>
GRASSES				
Agrostis stolonifera	O	R		
Glyceria fluitans	O	O		
Holcus lanatus	R			
Phalaris arundinacea	F			
Poa trivialis		R		
OTHER VASCULAR PLANTS				
Alisma plantago-aquatica			O	
Apium nodiflorum	O	A	O	
Bidens cernua		O		
Bidens tripartita		O		
Callitriche stagnalis		O	O	
Carex hirta	O			
Carex riparia	O			
Chenopodium rubrum		F		
Cirsium arvense		R		
Cyperus fuscus		A - D		VU, NR
Eleocharis palustris	A	O		
Epilobium hirsutum	O		R	
Epilobium parviflorum	O			
Equisetum palustre	R			
Galium palustre ssp. elongatum	F			
Gnaphalium uliginosum		R		
Juncus articulatus	O			
Juncus bufonius		R		
Juncus effusus	F			

Juncus inflexus	O			
Lemna minor		O		
Lotus pedunculatus	O			
Mentha aquatica	F	F	D	
Myosotis scorpioides	O	A	A	
Nasturtium officinale	O	A	F	
Oenanthe crocata	R			
Persicaria hydropiper	R	R		
Persicaria maculosa		F		
Plantago major		R		
Potentilla anserina	R	R		
Pulicaria dysenterica	R			
Ranunculus flammula	R			
Ranunculus peltatus		R		
Rorippa palustris		F		
Rumex conglomeratus	O			
Rumex sanguineus	R			
Scrophularia auriculata	R			
Senecio aquaticus	R			
Senecio vulgaris		R		
Solanum dulcamara	R	R		
Urtica dioica		R		
Veronica beccabunga		F	R	
Veronica x lackschewitzii		F	D	
LIVERWORTS				
Riccia cavernosa		O		NS
<b>Total No Species</b>	<b>29</b>	<b>30</b>	<b>9</b>	

### 3.3.2 Mitchell's Pond

As with Long Pond a large proportion of this pond is outside of the grazing unit. The ungrazed pond margins are shaded or dominated by species a very species poor amphibious *Persicaria amphibia* community and appear to have no botanical interest surviving. The grazing unit with Mitchell's Pond (**Map 5**) is separate from the main unit by a fenced track across the green and was very under grazed in 2013. It had been grazed before July but was not grazed in the crucial July - August period. Low growing mud communities were closed swards and being invaded by perennials. As a result the interest was just being maintained but not in a favourable condition. There is a patch of Sallow scrub in the northern section of the pond, which had been partly cleared due to way leave clearance.

There is a well developed marginal swamp Eleocharis palustris Swamp, Eleocharis palustris sub-community (S19a) but with under grazing leading to loss to species poor amphibious *Persicaria amphibia* community or to Glyceria fluitans Swamp (S22). The VU RDB and Section 42 species *Oenanthe fistulosa* was recorded in this community after a long absence.

Below this the pond is fringed of water margin vegetation with *Apium nodiflorum* and *Nasturtium officinale* (*Apietum nodiflori*) and mud annual communities (Rorippa palustris - Gnaphalium uliginosum Community, OV31). The former is more widespread than in Long Pond due to lack of recent poaching, both were being invaded by species poor tall herb communities. The conditions, however, did allow

the very rare *Cyperus fuscus* (VU, NR, Section 41) to survive in large numbers, even if as plants being over grown by other species, with an estimated 33,700 plants present.

Below this in the deeper and less accessible area of the pond and the ditch were dominated by species poor tall herb stands on mud with *Mentha aquatica* – *Veronica x lackschewitzii* vegetation (*Polygono* – *Veronicetum annagallidis-aquaticae*). This is also being displaced by a very species poor amphibious *Persicaria amphibia* community adjacent to the ungrazed area.

**Quadrats:****Quadrat BMPQ3** (SU15689 17648) 24/7/2013*Mentha aquatica* – *Veronica x lackschewitzii* Water Margin Vegetation (S23, *Polygono* – *Veronicetum annagallidis-aquaticae*).**Species**                      **Domin Cover****Other Vascular Plants**

<i>Apium nodiflorum</i>	3
<i>Mentha aquatica</i>	8
<i>Solanum dulcamara</i>	1
<i>Veronica x lackschewitzii</i>	7
Bare	3

**Quadrat BMPQ3** (SU15694 17633) 24/7/2013Amphibious *Persicaria amphibia* community**Species**                      **Domin Cover****Other Vascular Plants**

<i>Alisma plantago-aquatica</i>	1
<i>Mentha aquatica</i>	5
<i>Persicaria amphibia</i>	9

**Quadrat BMPQ3** (SU15694 17633) 24/7/2013*Eleocharis palustris* Swamp, *Eleocharis palustris* sub-community (S19a)**Species**                      **Domin Cover****Grasses**

<i>Agrostis stolonifera</i>	2
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**Other Vascular Plants**

<i>Alisma plantago-aquatica</i>	1
<i>Carex hirta</i>	5
<i>Eleocharis palustris</i>	8
<i>Galium palustre</i> ssp. <i>elongatum</i>	3
<i>Lycopus europaeus</i>	2
<i>Mentha aquatica</i>	4
<i>Persicaria amphibia</i>	4

**Quadrat BMPQ13** (SU15691 17658) 27/8/2013*Rorippa palustris* – *Gnaphalium uliginosum* Community (OV31)**Species**                      **Domin Cover****Other Vascular Plants**

<i>Alisma plantago-aquatica</i>	1
<i>Bidens tripartita</i>	3
<i>Chenopodium rubrum</i>	2
<i>Cyperus fuscus</i>	8
<i>Eleocharis palustris</i>	3
<i>Mentha aquatica</i>	5
<i>Nasturtium officinale</i>	6
<i>Persicaria amphibia</i>	6
<i>Persicaria maculosa</i>	2

Rorippa palustris	4
Bare	2

**Quadrat BMPQ14** (SU15677 17670) 27/8/2013*Apium nodiflorum* – *Nasturtium officinale* water vegetation (S23, *Apium nodiflori*)**Species**                      **Domin Cover****Other Vascular Plants**

<i>Alisma plantago-aquatica</i>	1
<i>Apium nodiflorum</i>	7
<i>Bidens tripartita</i>	2
<i>Mentha aquatica</i>	3
<i>Myosotis scorpioides</i>	4
<i>Nasturtium officinale</i>	8
<i>Rorippa palustris</i>	1
Bare	1

**SPECIES LIST 3****List for Grazed Area of Mitchell's Pond**

Species	Margins	Low Veg on Mud	Tall Herb on Mud	Persicaria amphibia	Conservation Status
<i>Salix cinerea</i> ssp. <i>oleifolia</i>	R				
<i>Agrostis stolonifera</i>	O	R			
<i>Phalaris arundinacea</i>	O				
<i>Alisma plantago-aquatica</i>	R	R		R	
<i>Apium nodiflorum</i>	O	A - D	O		
<i>Bidens cernua</i>		O			
<i>Bidens tripartita</i>		O			
<i>Carex hirta</i>	1				
<i>Chenopodium rubrum</i>		F			
<i>Cyperus fuscus</i>		A - D			VU, NR, S41
<i>Eleocharis palustris</i>	1	R		R	
<i>Epilobium parviflorum</i>	1				
<i>Galium palustre</i> ssp. <i>elongatum</i>	1	R		R	
<i>Gnaphalium uliginosum</i>		F			
<i>Iris pseudacorus</i>	1				
<i>Juncus effusus</i>	1				
<i>Lemna minor</i>			O		
<i>Lycopus europaeus</i>	1	F	R		
<i>Lysimachia nemorum</i>	1				
<i>Lysimachia nummularia</i>	1				
<i>Lysimachia vulgaris</i>	1			R	
<i>Lythrum salicaria</i>	1				
<i>Mentha aquatica</i>	1	F	D	R	
<i>Myosotis scorpioides</i>	1	F			
<i>Nasturtium officinale</i>		A			
<i>Oenanthe fistulosa</i>	1				VU, S41
<i>Persicaria amphibia</i>	1	F	F	D	
<i>Persicaria maculosa</i>		O			
<i>Potentilla anserina</i>		R			
<i>Pulicaria dysenterica</i>	1				
<i>Ranunculus repens</i>	1				
<i>Ranunculus scleratus</i>		O			
<i>Rorippa palustris</i>		F			



Solanum dulcamara		R	R	R	
Veronica catenata		R			
Veronica x lackschewitzii	1	O	D	R	
<b>Total No Species</b>	<b>23</b>	<b>22</b>	<b>7</b>	<b>8</b>	

### 3.3.2 Round Pond

This pond has remained unshaded and is reasonably well grazed at the same level as Long Pond. It has, however, been invaded by the exotic invasive species *Ludwigia grandiflora* and *Crassula helmsii* (**Map 6**).

There is a well developed marginal swamp Eleocharis palustris Swamp, Eleocharis palustris sub-community (S19a), which is only lightly invaded by *Ludwigia grandiflora* and *Crassula helmsii*. This includes the declining *Veronica scutellata* and the characteristic moss *Drepanocladus aduncus*, neither of were not seen on other ponds in 2013.

Blow the S19 swamp, the mud communities are largely displaced by a species poor dense smothering *Ludwigia grandiflora* – *Crassula helmsii* community. This has displaced both low vegetation of water margin vegetation and mud annual communities and the tall herb *Mentha aquatica* – *Veronica x lackschewitzii* vegetation (*Polygono* – *Veronicetum annagallidis-aquaticae*). A small amount of the latter survives to the north west but the mud annual community has almost entirely disappeared. The small trampled areas of mud were dominated by short plants of *Ludwigia grandiflora*, with this community eliminated by the invasive exotics.

The open water supported a floating plant community Lemna minor Community (A2)m earlier in the season, which remained as stranded plants on the mud

#### Quadrats:

##### Quadrat BMPQ6 (SU15514 18113) 24/7/2013

Eleocharis palustris Swamp, Eleocharis palustris sub-community (S19a)

Species	Domin Cover
<b>Grasses</b>	
<i>Agrostis stolonifera</i>	3
<i>Glyceria fluitans</i>	2
<b>Other Vascular Plants</b>	
<i>Eleocharis palustris</i>	8
<i>Galium palustre</i> ssp. <i>elongatum</i>	4
<i>Ludwigia grandiflora</i>	2
<i>Lycopus europaeus</i>	2
<i>Mentha aquatica</i>	5
<i>Veronica scutellata</i>	5
<b>Mud</b>	
<i>Drepanocladus aduncus</i>	10

##### Quadrat BMPQ7 (SU15505 18124) 24/7/2013

*Ludwigia grandiflora* – *Crassula helmsii* community

Species	Domin Cover
<b>Other Vascular Plants</b>	
<i>Alisma plantago-aquatica</i>	1
<i>Crassula helmsii</i>	9
<i>Eleocharis palustris</i>	4
<i>Lemna minor</i>	4

Lemna trisulca	2
Ludwigia grandiflora	7
Mentha aquatica	1
Ranunculus peltatus	1

**Quadrat BMPQ8** (SU 15503 18162) 24/7/2013Eleocharis palustris Swamp, Eleocharis palustris sub-community (S19a)

<b>Species</b>	<b>Domin Cover</b>
<b>Grasses</b>	
Glyceria fluitans	2
<b>Other Vascular Plants</b>	
Carex hirta	5
Eleocharis palustris	8
Galium palustre ssp. elongatum	4
Ludwigia grandiflora	3
Lycopus europaeus	1
Mentha aquatica	5
Veronica scutellata	4
Veronica x lackschewitzii	1
<b>Mosses</b>	
Drepanocladus aduncus	5

**Quadrat BMPQ9** (SU15504 18171) 24/7/2013*Ludwigia grandiflora* – *Crassula helmsii* community

<b>Species</b>	<b>Domin Cover</b>
<b>Other Vascular Plants</b>	
Crassula helmsii	4
Eleocharis palustris	3
Lemna minor	3
Ludwigia grandiflora	10

**Quadrat BMPQ10** (SU15482 18190) 24/7/2013*Mentha aquatica* – *Veronica x lackschewitzii* Water Margin Vegetation (S23, *Polygono* – *Veronicetum annagallidis-aquaticae*).

<b>Species</b>	<b>Domin Cover</b>
<b>Grasses</b>	
Glyceria fluitans	3
<b>Other Vascular Plants</b>	
Apium nodiflorum	3
Eleocharis palustris	4
Galium palustre ssp. elongatum	4
Mentha aquatica	6
Nasturtium officinale	2
Veronica x lackschewitzii	8

**SPECIES LIST 4**  
**List for Round Pond**

Species	Margins	Tall Herb on Mud	Ludwigia Community	Conservation Status
GRASSES				
<i>Agrostis stolonifera</i>	O			
<i>Glyceria fluitans</i>	R	R		
<i>Poa annua</i>			R	
OTHER VASCULAR PLANTS				
<i>Alisma plantago-aquatica</i>			O	
<i>Apium nodiflorum</i>		O		
<i>Azolla filiculoides</i>			R	
<i>Carex hirta</i>	R			
<i>Crassula helmsii</i>	O		D	
<i>Eleocharis palustris</i>	D	O	R	
<i>Epilobium parviflorum</i>	O			
<i>Galium palustre</i> ssp. <i>elongatum</i>	F	O		
<i>Iris pseudacorus</i>	R			
<i>Juncus effusus</i>	O			
<i>Juncus inflexus</i>	R			
<i>Lemna minor</i>			O	
<i>Lemna trisulca</i>			O	
<i>Ludwigia grandiflora</i>	O		D	
<i>Lycopus europaeus</i>	R			
<i>Mentha aquatica</i>	F	A	O	
<i>Nasturtium officinale</i>	R	O		
<i>Persicaria maculosa</i>			R	
<i>Potentilla anserina</i>			R	
<i>Ranunculus peltatus</i>			R	
<i>Rumex conglomeratus</i>		R		
<i>Veronica beccabunga</i>		R		
<i>Veronica scutellata</i>	F		R	
<i>Veronica x lackschewitzii</i>	R	D	R	
MOSESSES				
<i>Drepanocladus aduncus</i>	D			
<b>Total No Species</b>	<b>17</b>	<b>9</b>	<b>14</b>	

3.4 Maps

Botanical Survey and Assessment  
3 Green Close, Woodlands, SO40 7HU  
023 8029 3671

**Breamore Marsh SSSI Ponds**

Location of Ponds

Map 1

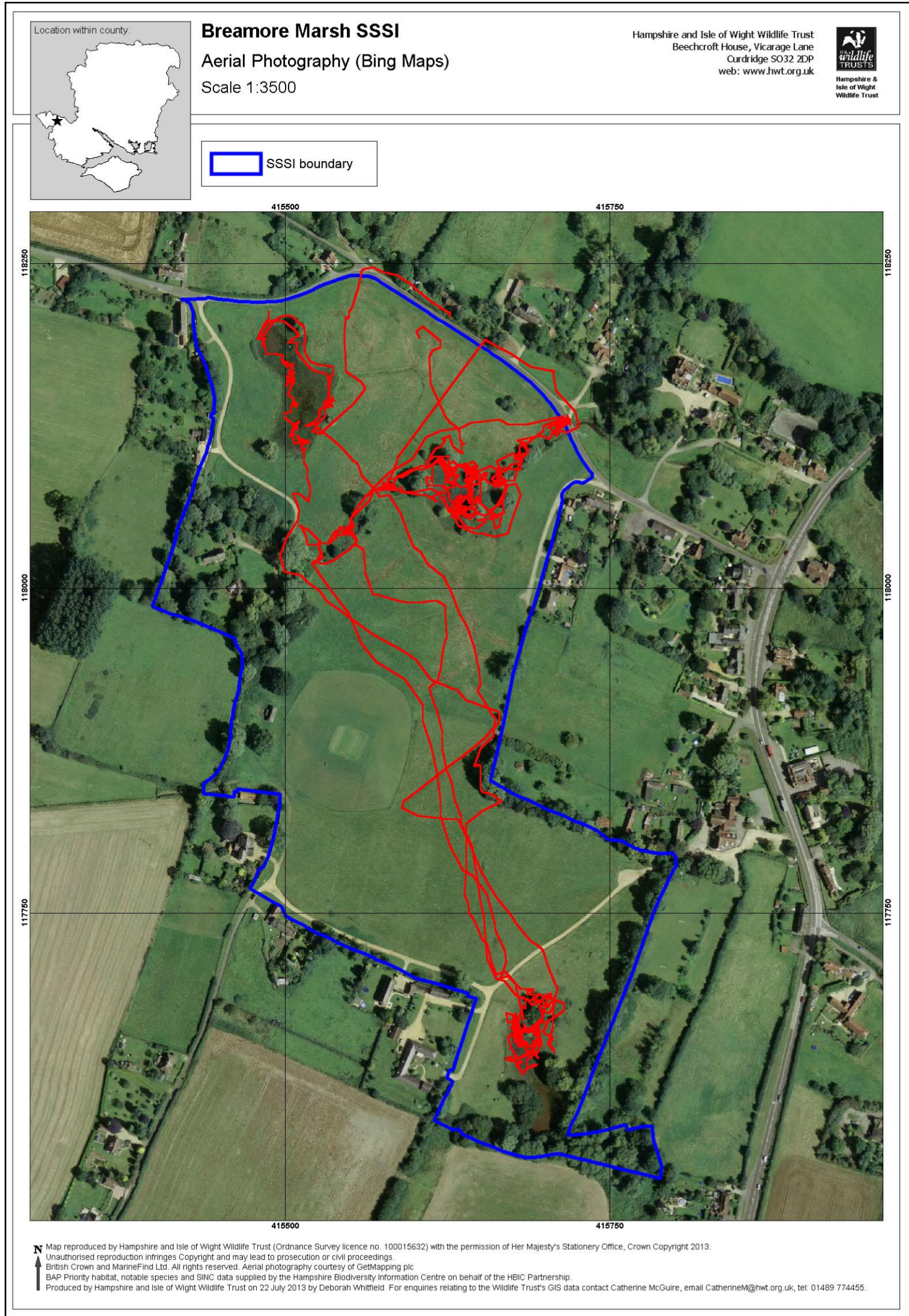


Botanical Survey and Assessment  
3 Green Close, Woodlands, SO40 7HU  
023 8029 3671

**Breamore Marsh SSSI Ponds**

Survey Route

Map 2



Botanical Survey and Assessment  
3 Green Close, Woodlands, SO40 7HU  
023 8029 3671

**Breamore Marsh SSSI Ponds**

Rare Plants

Map 3





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Botanical Survey and Assessment  
3 Green Close, Woodlands, SO40 7HU  
023 8029 3671

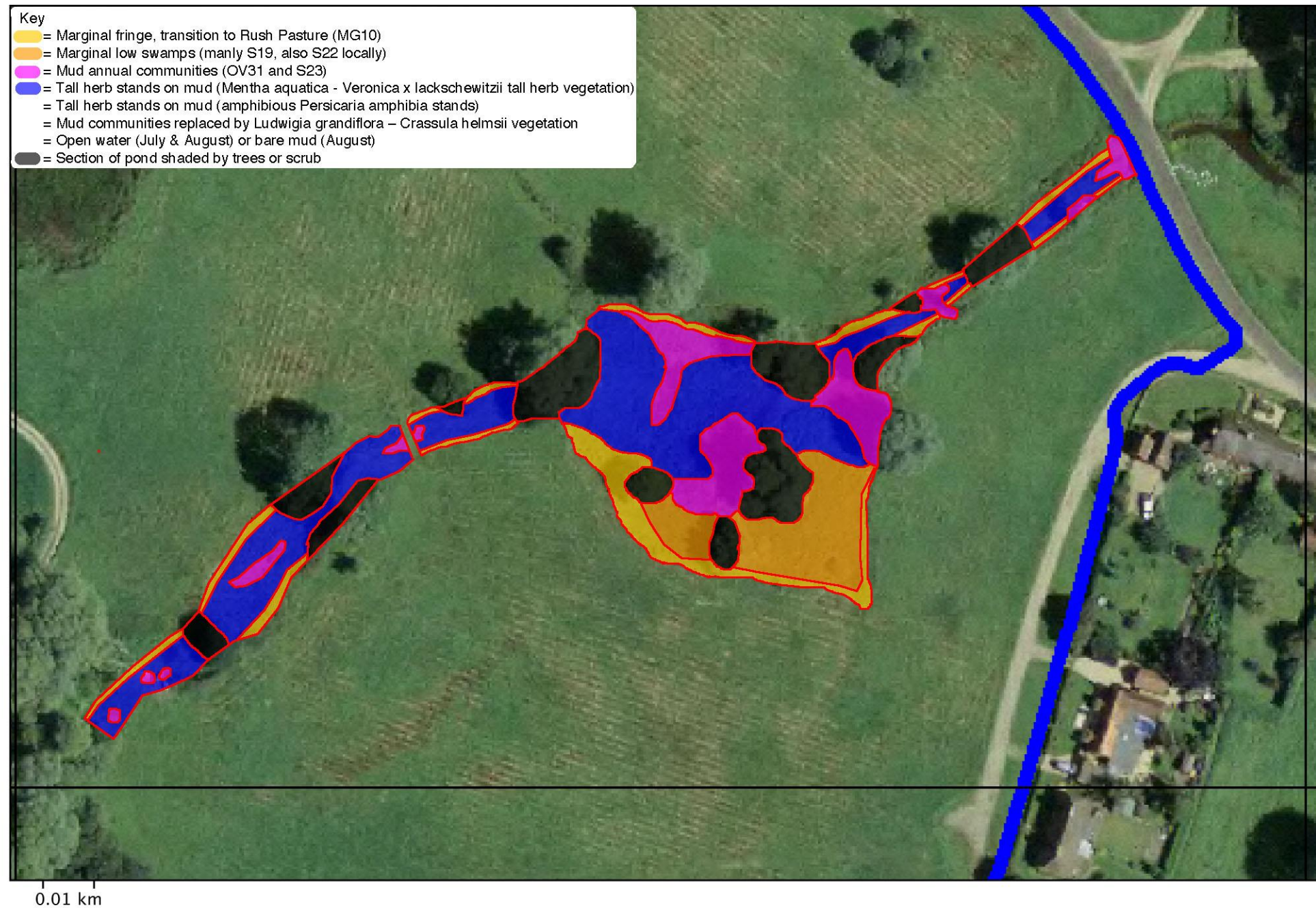
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### Breamore Marsh SSSI Ponds

Vegetation, Long Pond

Map 4

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Botanical Survey and Assessment  
3 Green Close, Woodlands, SO40 7HU  
023 8029 3671

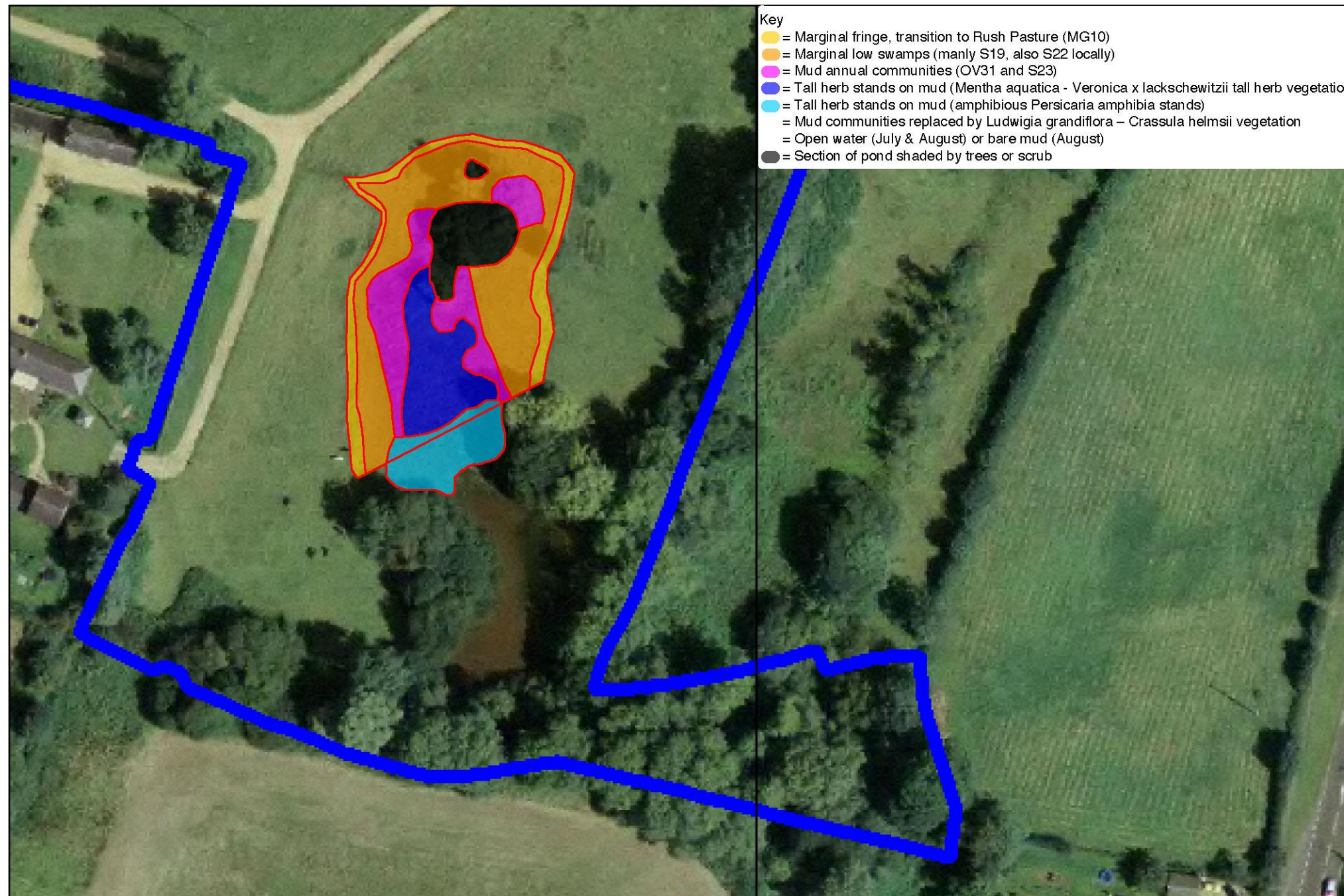
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### Breamore Marsh SSSI Ponds

Vegetation, Mitchell's Pond

Map 5

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0.01 km

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Botanical Survey and Assessment  
3 Green Close, Woodlands, SO40 7HU  
023 8029 3671

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## Breamore Marsh SSSI Ponds

Vegetation, Round Pond

Map 6

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### 3.5 Photographs

#### 3.5.1 Marginal Swamps



**Photo 1.** Mitchell's Pond, July 2103, (BMQ05), marginal Eleocharis palustre Swamp (S19), passing into mud annual communities to the right with *Mentha aquatica* – *Veronica x lackschewitzii* tall herb stands beyond.



**Photo 2.** Long Pond, July 2103 (BMQ05), more poached marginal Eleocharis palustre Swamp (S19 with a narrow band of mud annual communities to the right with *Mentha aquatica* – *Veronica x lackschewitzii* tall herb stands beyond.



**Photo 3.** Round Pond, July 2103, (BMQ08), marginal Eleocharis palustre Swamp (S19), passing sharply into *Ludwigia grandiflora* – *Crassula helmsii* Vegetation on mud beyond.



**Photo 4.** Round Pond, July 2103, (BMQ06), marginal Eleocharis palustre Swamp (S19), close view with *Veronica scutellata* and a plant *Ludwigia grandiflora*.

### 3.5.2 Mud Annual Communities



**Photo 5.** Long Pond, July 2103, area of largely bare mud that by late August supported large population of *Cyperus fuscus* population (CF06 – CF10) in Rorippa palustris – Gnaphalium uliginosum Community (OV31).



**Photo 6.** Long Pond, August 2103, area of largely bare mud in July that by late August supported large population of *Cyperus fuscus* population (CF06 – CF10) in Rorippa palustris – Gnaphalium uliginosum Community (OV31).



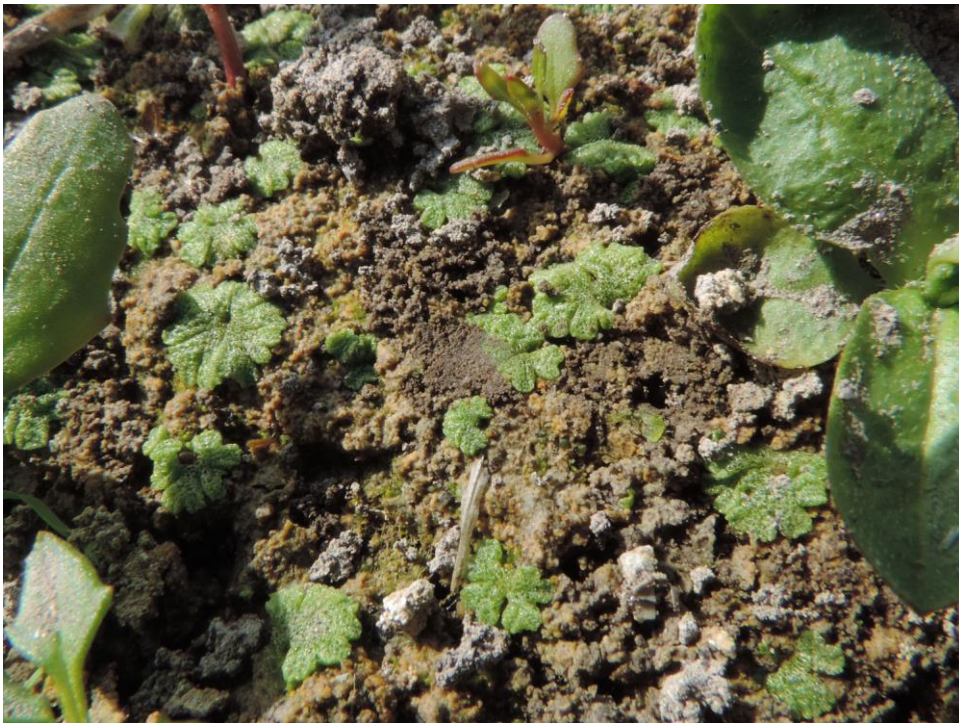
**Photo 7.** Long Pond, August 2103 (BMQ11 & CF01), Rorippa palustris - Gnaphalium uliginosum Community (OV31) vegetation with young *Cyprus fuscus*. Lower in the mud annual zone and here probably less dependant on poaching.



**Photo 8.** Long Pond, August 2103 (BMQ12 & CF06 - CF10), Rorippa palustris - Gnaphalium uliginosum Community (OV31) vegetation with abundant *Cypris fuscus*. This quadrat is high in the mud annual zone and *Apium nodiflorum* dominance is prevented here by cattle poaching.



**Photo 9.** Long Pond, July 2103 (CF06 - CF10), nascent Rorippa palustris - Gnaphalium uliginosum Community (OV31) vegetation marked by germinating *Cyprinus fuscus* plants.



**Photo 10.** Long Pond, August 2103 (CF06 - CF10), Rorippa palustris - Gnaphalium uliginosum Community (OV31) vegetation with the Nationally Scarce liverwort *Riccia cavernosa*, new to Breamore Marsh and the first record for Hampshire since 1972.





**Photo 11.** Long Pond, August 2103 (CF18 - CF19), Rorippa palustris – Gnaphalium uliginosum Community (OV31) and Apietum nodiflori vegetation with abundant *Cyprus fuscus* at a stock crossing point.



**Photo 12.** Long Pond, August 2103 (CF18 - CF19), large *Cyprus fuscus* at a stock crossing point.



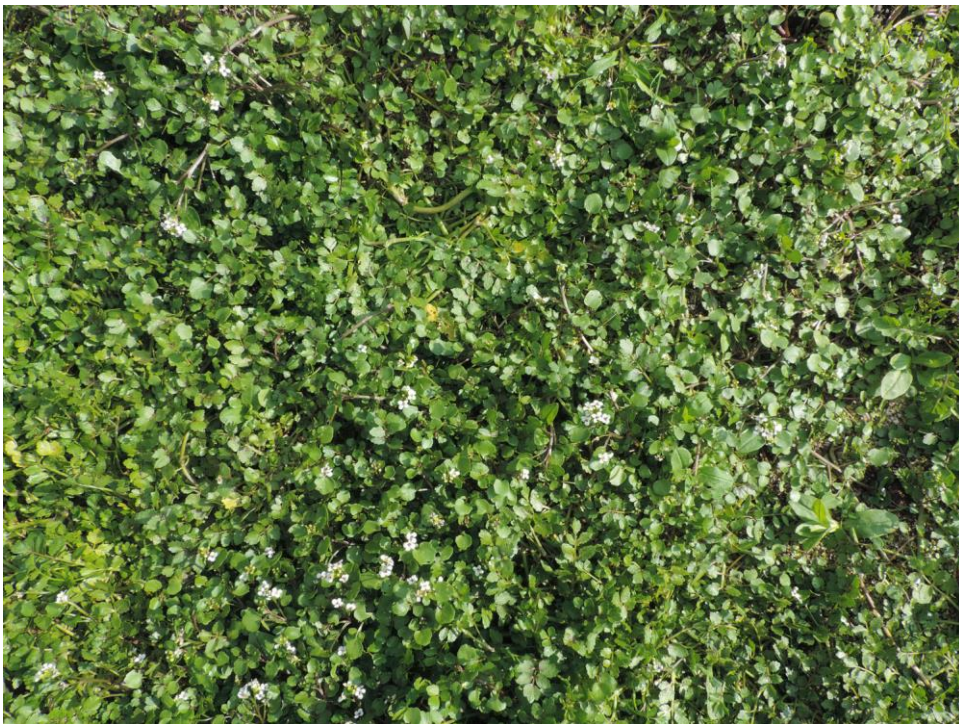
**Photo 13.** Mitchell's Pond, August 2103 (MPQ13, CF24 – CF27), Rorippa palustris – Gnaphalium uliginosum Community (OV31) vegetation with abundant *Cyprus fuscus* but with invading *Persicaria amphibia* due to lack of late summer grazing.



**Photo 14.** Long Pond, August 2103 (MPQ13 CF24 – CF27), dense Rorippa palustris – Gnaphalium uliginosum Community (OV31) vegetation in the above site, *Cyprus fuscus* forming a dense mat of small plants being over grown by other annuals



**Photo 15.** Mitchell's Pond, July 2103 *Apium nodiflorum* – *Nasturtium officinale* (*Apietum nodiflori*) vegetation on mud that has not been trampled in summer. This displaces the much more species rich *Rorippa palustris* – *Gnaphalium uliginosum* Community (OV31) vegetation if grazing is absent in the latter part of the season as here



**Photo 16.** Mitchell's Pond, August 2103 (MPQ14) a close view of *Apium nodiflorum* – *Nasturtium officinale* (*Apietum nodiflori*) vegetation on mud that has not been trampled in summer.

### 3.5.3 *Ludwigia grandiflora* – *Crassula helmsii* Vegetation



**Photo 16.** Round Pond, July 2103 (BMQ07), *Ludwigia grandiflora* – *Crassula helmsii* vegetation that has displaced mud annual communities.



**Photo 17.** Round Pond, July 2103 (BMQ09), closer view of *Ludwigia grandiflora* – *Crassula helmsii* vegetation that has displaced mud annual communities.



**Photo 18.** Round Pond, July 2103 (BMQ09), *Ludwigia grandiflora* – *Crassula helmsii* vegetation that has displaced mud annual communities.



**Photo 19.** Round Pond, July 2103 (BMQ09), *Ludwigia grandiflora* – *Crassula helmsii* vegetation that has displaced mud annual communities.

### 3.5.4 *Mentha aquatica* – *Veronica x lackschewitzii* Tall Herb Vegetation



**Photo 20.** Long Pond, July 2103, *Mentha aquatica* – *Veronica x lackschewitzii* Tall Herb Vegetation growing in the little grazed soft base of the pond.



**Photo 21.** Long Pond, July 2103 (BMQ01), a closer view of *Mentha aquatica* – *Veronica x lackschewitzii* Tall Herb Vegetation growing in the little grazed soft base of the pond.



**Photo 22.** Mitchell's Pond, July 2103 (BMQ03), a close view of *Mentha aquatica* – *Veronica x lackschewitzii* Tall Herb Vegetation growing in the little grazed soft base of the pond.



**Photo 22.** Mitchell's Pond, July 2103, showing the fence and ungrazed pond beyond. The rich varied communities of the grazed pond give way to very species poor *Pericaria amphibia* vegetation and Sallow scrub. The *Pericaria amphibia* is invading due to lack of late summer grazing.

## 4.0 DISCUSSION

### 4.1 Survey

The survey is intended to provide a baseline against which drastic treatment of the invasive exotics at Round Pond can be assessed. It has demonstrated the impoverishment of Round Pond caused by two invasive exotics there. A few species of interest were found to be confined to the marginal swamp zone in Round Pond but were not found in other ponds. Of these it is possible that the declining *Veronica scutellata* might be lost from Breamore Marsh with the scrapping out of the pond and the marginal swamp. It is a much less significant species than the mud annual communities surviving in other ponds that have been lost from Round Pond and could be lost from the marsh completely if the exotics spread out of Round Pond. If *Veronica scutellata* fails to reappear after a successful eradication of the exotics, it could be reintroduced.

### 4.2 Comments

#### 4.2.1 Conservation Value

The conditions in 2013 were fortuitously exceptionally good for assessing the condition of the ephemeral ponds on Breamore Marsh. An enormous population of *Cyperus fuscus* was recorded, probably the largest ever seen, and the vegetation of greatest interest was determined to be referable to NVC community *Rorippa palustris* – *Gnaphalium uliginosum* Community (OV31). This vegetation type is included within the Class Isoeto – *Nanojuncetea*, and in the Alliance *Nanocyperion*. As such this vegetation would be accommodated within the Annex 1 Habitats Directive habitat 3130 Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or Isoeto – *Nanojuncetea*. The substantial population of *Cyperus fuscus* makes this match particularly significant.

Breamore Marsh SSSI supports one of the best developments of the *Isoeto – Nanojuncetea* aspect of the Annex 1 Habitats Directive habitat 3130 Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or Isoeto – *Nanojuncetea* in Britain. It is therefore surprising that Breamore Marsh is not an SAC for this habitat, especially as it simply could be added to the New Forest SAC, which is currently the only lowland site notified for Habitat 3130. In fact the New Forest is the only British SAC notified for the *Isoeto – Nanojuncetea* aspect of this Annex 1 habitat, in spite of several high quality sites surviving outside of the New Forest. The reason of this appears to be that JNCC lacks any expertise in ephemeral ponds and has failed to assess the ephemeral pond resource of Britain for its European importance. This can be seen in the recent Habitats Directive Article 17 reporting by JNCC, where, for both this habitat and 3110 Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*), only large permanent lakes were assessed.

A full assessment of habitats 3110 and 3130 in lowland England and Wales, where several important sites have not been notified as SACs is required.



#### 4.2.2 Management

The management of the marsh is not ideal; the grazing is certainly lower than would have been experienced in the past. The Vulnerable RDB Pennyroyal *Mentha pulegium* has long been lost, certainly due to this low grazing pressure.

The electric fencing system leaves out substantial areas of Long and Mitchell's Ponds, which have now lost their conservation interest. The grazing intensity is just maintaining the interest around Long Pond but is too low around Mitchell's Pond. At the latter grazing during July and August must be reinstated as a matter of urgency. In all grazed areas the grazing intensity ideally needs to be high enough to produce widespread areas of short swards.

The young scrub in Mitchell's Pond should be removed, there is plenty of recent scrub in ponds outside of the fences. Pollarding some of the ancient Willows around Long Pond, to prevent them collapsing into the ponds and to extend their lifespan should be considered.

In the long term, the idea would be to grid the minor tracks and restore the parts of Long and Mitchell's Ponds, which have currently lost their conservation interest.

## 5.0 REFERENCES

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September 2013

*A Botanical Survey of Ponds at Breamore Marsh SSSI, 2013*  
*Botanical Survey & Assessment*

“NBN”

# Appendix 3

## Joanne Gore

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**From:** Bright, Anna <anna.bright@environment-agency.gov.uk>  
**Sent:** 02 October 2013 13:23  
**To:** Joanne Gore  
**Cc:** John Durnell  
**Subject:** waste exemptions for Breamore  
**Attachments:** U10 standard terms.pdf; t23 standard conditions.pdf

Hi Jo,

Apologies for the delay. I have completed the waste exemptions for Breamore – they are T23 – *Aerobic composting and associated prior treatment* and U10 *Spreading waste to confer benefit to agricultural land*.

Note the waste language and terms being used, such as plant/organic matter and dredgings – might want to mirror this in your discussions with planning.

They are currently being processed in your name (DOB 01/01/1900) and pond grid reference for “Breamore Marsh SSSI and adjoining land”, and will be sent to you once complete (should be by end of the week). The case references in the meantime are EPR/MF0831HJ/A001 and EPR/BF0231HQ/A001 respectively.

Please note that these are not waste licences – they are exemptions for our work, assuming we stick to the standard terms and conditions (attached). The most pertinent are:

- Up to 80 tonnes of plant matter across 12 months;
- Up to 150/tons/ha of dredging across 12 months, to a limit of 1250 tons;
- the principle that the dredgings and associated organic plant matter will be of benefit to the recipient site;
- The exemption is for the site, not the activity or the person;
- our code is *170506 plant tissue waste from inland waters only* and *170506 dredging spoil*;
- the waste is spread adjacent to the place from where it was dredged. (Given best practice is not to deposit in the floodplain and this is the nearest deposit point under same landowner, this seems satisfactory, and the example of an estate is used).

Hope this helps with your planning discussions.  
Anna.

Anna Bright (nee Fraser) MCIEEM  
Biodiversity Technical Specialist

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Rivers House, Sunrise Business Park, Higher Shaftesbury Road, Blandford Forum, DT11 8ST

The presence of **Invasive Non-Native Species** in our watercourses pose threats to biodiversity, increase flood risk, affect the state of our water environment and cost the British economy a minimum of £1.7 billion per annum. Find out more [here](#).



Check, Clean, Dry significantly helps reduce the risk of spreading invasive non-native species and disease. [Find out more here.](#)

Information in this message may be confidential and may be legally privileged. If you have received this message by mistake, please notify the sender immediately, delete it and do not copy it to anyone else.

## T23 – Aerobic composting and associated prior treatment

319\_11

April 2012 version 2

### What's the purpose of this exemption?

This exemption allows you to compost small volumes of vegetation, cardboard and food wastes to produce a compost that can be spread on land to provide benefit. This could be in the form of adding nutrients or to improve structure of the soil. You can also treat the waste, before you compost it, by chipping or similar activities.

### What types of activities can I do?

Example activities include:

- A school composts kitchen and garden waste in its grounds.
- An allotment association composts their old plants and trimmings.
- A community composting group brings locally produced vegetable peelings and garden waste to a central point for composting, prior to use back in local gardens.

### Where can I carry out this activity?

This can be done at any place that can comply with the environmental controls listed below.

### What can't I do?

You can't:

- Purposefully treat the waste in the absence of oxygen (anaerobically). See **Related exemptions**.
- Treat wastes that are not listed in **What waste can be used under this exemption?**
- Treat **hazardous waste**.
- Treat wastes that are animal by-products, unless you also have appropriate authorisation from Animal Health. See **What else do I need to know?** below.

### What are the key limits?

There are two separate limits for the amount of waste you can store or treat at a place at any one time.

You can store or treat up to 80 tonnes of waste at any one time if you are:

- composting waste at the **place of production** and

- the resultant compost is to be used at that place.

This could apply to:

- a large estate, for example a National Trust property, where garden waste is collected, composted and then used on the estate.
- a plant nursery where dead plants are collected, composted and then the resultant compost is used for growing new plants.
- An allotment association where garden waste is collected, composted and then used at the same allotments.

You can store or treat up to 60 tonnes of waste at any one time if you are:

- bringing waste from other places to the place where it will be composted or
- going to use the resultant compost at a different place than where it is composted.

This could apply to:

- An allotment association if garden waste and vegetable peelings are brought in from various houses and the resultant compost is to be used on the allotments.
- A community composting group collects locally produced food and garden waste from various houses, composts the waste and then the resultant compost is used by the community on their gardens.

Within the limits specified above and dependant on the source of the wastes being composted, you can use the following amounts of certain wastes at any one time:

- Up to 10 tonnes of paper or cardboard;
- Up to 20 tonnes of manure;
- Up to 10 tonnes in total of the wastes listed in Table 2.

You can store those wastes listed in Table 1 for up to one month prior to treatment.

You can store those wastes listed in Table 2 for up to seven days prior to treatment.

You can store the resultant compost for up to 12 months after treatment is complete. This storage counts towards the total quantity limit for the site.

**'What waste can be used under this exemption?'** lists the waste types and quantities that can be treated or stored over any three year period.

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incident hotline  
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floodline  
0845 988 1188

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## What are the key conditions?

The limits outlined include all waste at any stage of the process on site. This includes the storage of waste before composting and the resulting finished compost.

The treatment must produce a **stable sanitised material** (see **compost**) capable of being spread onto land to provide a benefit such as nutrients or improvement to soil structure.

## What else do I need to know?

Associated prior treatment in relation to this exemption means screening, chipping, shredding, cutting, pulverising or sorting waste for the purposes of aerobic composting.

## Composting

Aerobic composting is the purposeful decomposition of biodegradable waste by bacteria, yeast and fungi in the presence of oxygen which produces a stable "**compost**" (stable sanitised material).

Composting may be done in open windrows or heaps which are regularly turned or in small closed vessels which is known as In-Vessel Composting (IVC).

Composting is an active process and you must maintain the correct conditions to prevent the treatment becoming anaerobic, which leads to odours and a poor compost.

Further information on odour control can be found in our horizontal guidance H4:  
<http://www.environment-agency.gov.uk/business/topics/permitting/36414.aspx>

There is a composting industry code of practice which can be found on the Association For Organics Recycling website : <http://www.organics-recycling.org.uk/page.php?article=1749&name=The+Composting+Industry+Code+of+Practice>

## Animal by-products regulations

If you are treating catering waste from premises handling meat or products of animal origin, you will need to comply with the:

The Animal By-Products (Enforcement) (England) Regulations 2011

[http://www.legislation.gov.uk/uksi/2011/881/pdfs/uksi\\_20110881\\_en.pdf](http://www.legislation.gov.uk/uksi/2011/881/pdfs/uksi_20110881_en.pdf)

The Animal By-Products (Enforcement) (Wales) Regulations 2011

[http://www.legislation.gov.uk/wsi/2011/600/pdfs/wsi\\_20110600\\_en.pdf](http://www.legislation.gov.uk/wsi/2011/600/pdfs/wsi_20110600_en.pdf)

**Catering waste** means 'all waste food including used cooking oil originating in restaurants, catering facilities and kitchens, including central kitchens and household kitchens'.

These wastes must be treated under an authorisation granted by Defra's Animal Health section. There are exceptions for cases such as schools, hospitals and prisons if the waste is both composted and used at those premises.

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If you are not sure whether you require such an authorisation, please contact your local Animal Health Division office. Contact details can be found at: <http://animalhealth.defra.gov.uk/about/contact-us/index.htm>

## Compost quality protocol

Working with WRAP (Waste & Resources Action Programme), we have developed a quality protocol for producing compost from different types of segregated biowaste, including food and garden plant waste. The aim is to help you to produce a compost that will not be classified as waste.

If you comply with the Compost Quality Protocol and produce a compost that complies with the PAS100 standard, we will not consider the compost as waste.

Please note that registration under this exemption or any other exemption does not mean that you don't need to comply with other legislation.

## What waste can be used under this exemption?

The waste codes below are those listed in the List of Wastes (LoW) Regulations. You should read the guidance on the LoW to ensure that the waste type you want to treat fits within the waste code.

In some instances the waste types permitted are more restricted than the LoW code. This is indicated by the word "only" in the waste type description in the table below.

You need to make sure your waste falls within the LoW code and the written description in the table.

Further guidance on this can be found at:  
<http://www.environment-agency.gov.uk/business/topics/waste/32140.aspx>

**Table 1**

Codes	Waste types
170506	Plant tissue waste from inland waters only
020103, 200201	Plant tissue waste
020106	Horse manure and farmyard manure only
020107	Biodegradable waste from forestry only
020199	Fully biodegradable animal bedding
200101	Paper and cardboard
200201	Biodegradable waste plant matter only

**Table 2**

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<a href="http://www.environment-agency.gov.uk">www.environment-agency.gov.uk</a>		

Codes	Waste types
020202	Animal tissue waste
020501, 020601	Materials unsuitable for consumption or processing
200108	Biodegradable kitchen and canteen waste
200302	Biodegradable waste from markets only

The full text of the legislation can be found at:

<http://www.legislation.gov.uk/ukxi/2010/675/contents/made>

Amended April 6th 2012 by <http://www.legislation.gov.uk/ukxi/2012/630/regulation/13/made>

## Related exemptions

- T24 Anaerobic digestion at premises used for agriculture and burning of resultant biogas.
- T25 Anaerobic digestion at premises not used for agriculture and burning of resultant biogas.
- U10 Spreading waste on agricultural land to confer benefit
- U11 Spreading waste on non-agricultural land to confer benefit.

## Related permits

If you want to compost more waste than is allowed under this exemption you will need to apply for an environmental permit.

Further information can be found at:

<http://www.environment-agency.gov.uk/business/topics/permitting/32330.aspx>

## Registration of this exemption

A link to the registration process is available on the following web page:

<http://www.environment-agency.gov.uk/business/topics/permitting/116406.aspx>

## Definitions

“**catering waste**” means ‘all waste food including used cooking oil originating in restaurants, catering facilities and kitchens, including central kitchens and household kitchens’.

“**compost**” means a solid particulate material that is the result of composting, which has been sanitised and stabilised, and which confers beneficial effects when added to soil, used as a component of growing media or used in another way in conjunction with plants.

“**hazardous waste**”, except in Section 5.1 of Part 2 of Schedule 1:

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(a) in relation to England, has the meaning given in regulation 6 of the Hazardous Waste (England and Wales) Regulations 2005,

(b) in relation to Wales, has the meaning given in regulation 6 of the Hazardous Waste (Wales) Regulations 2005.

Guidance on what is hazardous waste can be found at: <http://www.environment-agency.gov.uk/business/topics/waste/32200.aspx>

**“place of production”** means in relation to any waste, the place where the waste was originally produced.

The full list of definitions can be found in the [Glossary](#) of terms.

customer service line  
03708 506 506

incident hotline  
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# U10 – Spreading waste on agricultural land to confer benefit

361\_11

April 2012 version 2

## What's the purpose of this exemption?

To allow specified wastes to be spread on agricultural land to replace manufactured fertilisers or virgin materials such as quarried lime that are used to improve or maintain soils.

## What types of activities can I do?

You can:

- Spread the listed wastes on **agricultural land** to improve or maintain the physical, chemical and biological properties of the soil to support crop growth.

For example you can:

- Add digestate produced in an anaerobic digestion (AD) plant operated under either a T24 or T25 exemption as an alternative to using a manufactured inorganic fertiliser.
- Add chalk to soil as a liming agent to improve soils which require lime to support particular crops.

## Where can I carry out this activity?

On agricultural land that has been registered under this exemption.

## What can't I do?

You can't:

- Spread the listed wastes if they do not provide a benefit to the land.
- Spread the listed wastes on non-agricultural land. Please see **Related exemptions and Related permits** below for more information.
- Spread any wastes that are not listed under this exemption even if they would provide benefit.
- Dispose of waste under this exemption.

See **What else do I need to know?** below.

## What are the key limits?

The table in 'What waste can be used under this exemption?' lists the waste types and quantities and storage limits that can be used.

The maximum amount of the waste you can spread to provide benefit is shown in column 3 but only the amount of waste that is necessary to benefit the soil should be spread. This may be less than the amount permitted in the table.

The quantity limits in the table relating to the use or storage of the waste apply regardless of whether more than one farmer uses the land. For example, if one farmer rents land for six months and spreads 50 tonnes of compost per hectare, the next person who rents the land could not register this exemption to spread a further 50 tonnes per hectare of compost within that 12 month period.

The maximum amount of the waste you can store at any one time is set out in column 4.

## What are the key conditions?

Waste must be stored in a **secure** location prior to spreading.

You must not spread the waste if the land upon which you are spreading is:

- waterlogged, frozen or snow covered; or
- has been frozen for 12 hours or more in the 24 hours before you want to start spreading.

This is because the waste is unlikely to be absorbed into the soil and may run-off into watercourses under such conditions.

Biobed or biofilter material must be stored for 12 months prior to spreading it. This is to ensure any non-hazardous pesticide residues that remain in the material are fully broken down before the material is spread on land.

Milk waste listed under this exemption is for waste produced on farms only; you cannot import milk waste from dairies and creameries back to your farm to spread. Milk waste has some additional conditions:

- It must not be stored for more than 24 hours before it is spread.
- It must be diluted with an equal or greater quantity of water or slurry before it is spread.
- You can only spread it on the same area of land once in any four week period.

To minimise the risk of pollution none of the wastes listed in the table except for dredging spoil (170506) may be stored or spread within 10 metres of a watercourse and 50 metres from a spring, well or borehole.

Dredging spoil must be spread on land next to where it was dredged from.

Sludges, untreated wash waters and effluent from treatment of wash waters from cleaning fruit and vegetables, on farm only, can only be spread at the place where they are produced.

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## Record keeping

You must keep records of the quantity, nature and origin of all waste spread on your land as part of your U10 exemption. These records must be kept for 2 years and be available for inspection if we ask. If you are already required to keep records under the Nitrate Pollution Prevention Regulations 2008 or the Nitrate Pollution Prevention (Wales) Regulations 2008 (sometimes referred to as NVZ rules) you do not need to keep these additional records.

## What else do I need to know?

Please note that registration under this exemption or any other exemption does not mean that you don't need to comply with other legislation.

## Agricultural land

Agricultural land is premises that are used for an activity defined as 'agricultural' in the Agriculture Act 1947. This includes land used for:

- horticulture; fruit growing; seed growing; dairy farming; livestock breeding and keeping; grazing; all arable farming; growing willow (osier land).

It also includes:

- meadow land; market gardens; nursery grounds; woodlands which are secondary to the use of land for other agricultural purposes; timber production; and land where other non-food crops are grown (e.g. energy crops for bio-fuel).

## Agricultural benefit

Agricultural benefit includes maintaining or improving the soil's suitability for crops or for grazing by:

- Providing plant nutrients (for example, nitrogen, phosphorus, potassium, magnesium, sodium).
- Improving soil chemical properties (for example, liming/ pH).
- Improving soil physical properties (such as adding organic matter to improve soil structure).

## Meaning of "Pursuant to"

The second column of the Table in '**What waste can be used under this exemption?**' allows certain wastes only if they are produced "pursuant to" a specific exemption.

For example: "compost produced pursuant to a treatment described in paragraph T23 or T26 only".

This means that you cannot register an exemption under U10 to spread compost or digestate produced at sites that are:

- operating under a permit which allows them to accept a wider range of wastes than those listed under T23 or T26.

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[www.gov.uk/environment-agriculture.gov.uk](http://www.gov.uk/environment-agriculture.gov.uk)

You can register a U10 exemption to spread compost produced at a facility operating under an environmental permit provided the conditions of the permit mirror the conditions in T23 and T26.

Further information is available in our position statement on [The meaning of pursuant to in exemptions U10 and U11](#).

## Meaning of “Place”

Exemptions are registered for a 'place'. When you are registering exemptions for activities on your farm, 'place' is taken to include:

- the farm in question;
- outlying land; and
- discrete farmyards that are being managed as a single farm unit or form one business location.

Yards and land parcels with different addresses and correspondence addresses are considered separate units and each should be registered as a separate 'place'.

## Other wastes

Wastes that are not listed under the exemption cannot be spread on the land even if they would provide benefit. If you want to spread waste types that are not listed, you will need to apply for an environmental permit. Further guidance on environmental permits and what you need to do can be found in our [Making the steps to permitting guidance](#).

## What waste can be used under this exemption?

The wastes codes below are those listed in the List of Wastes (LoW) Regulations. You should read the guidance on the LoW to ensure that the waste type you want to treat fits within the waste code.

In some instances the waste types permitted are more restricted than the LoW code. This is indicated by the word “only” in the waste type description in the table below.

You need to make sure your waste falls within the LoW code and the written description in the table.

Further guidance on this can be found at:

<http://www.environment-agency.gov.uk/business/topics/waste/32140.aspx>

Codes	Waste types	Quantity limit over 12 months	Storage limit	Additional specific conditions
010102, 010408, 170504	Chalk only	50 tonnes per hectare	200 tonnes	A
020101	Sludges from washing and cleaning	50 tonnes per	200 tonnes	A, F

customer service line  
03708 506 506

incident hotline  
0800 80 70 60

floodline  
0845 988 1188

[www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)

	fruit and vegetables on farm only	hectare		
020199, 020399	Untreated wash waters from cleaning fruit and vegetables on farm only	100 tonnes per hectare	200 tonnes	A, F
020305	Effluent from the on-site treatment of wash waters from cleaning fruit and vegetables on farm only	100 tonnes per hectare	200 tonnes	A, F
020401, 020399	Soil from cleaning and washing fruit and vegetables only	50 tonnes per hectare	200 tonnes	A
100101	Ash from wood chip boilers produced pursuant to an operation described in the paragraph numbered U4 in this Chapter only	1 tonne per hectare	10 tonnes	A
170506	Dredging spoil (other than those mentioned in 170505) generated from the creation or maintenance of habitats, ditches or ponds within parks, gardens, fields and forests only	150 tonnes per hectare	1,250 tonnes	C
020199	Spent compost from the growing of mushrooms only	50 tonnes per hectare	500 tonnes	A
190599	Compost produced pursuant to a treatment described in the paragraph numbered T23 or T26 of Chapter 2 only	50 tonnes per hectare	500 tonnes	A
190604	Digestate produced pursuant to a treatment described in the paragraph numbered T24 or T25 of Chapter 2 only	50 tonnes per hectare	200 tonnes	A
190812	Waste consisting of biobed or biofilter material produced pursuant to a treatment described in the paragraph numbered T32 of Chapter 2 only	50 tonnes per hectare	200 tonnes	A, D
<b>Codes</b>	<b>Waste types</b>	<b>Quantity limit over 24 hours</b>	<b>Storage limit</b>	

customer service line  
03708 506 506

incident hotline  
0800 80 70 60

floodline  
0845 988 1188



020199	Milk from agricultural premises only	50 cubic metres of diluted milk per hectare	200 tonnes	A, B, E
--------	--------------------------------------	---	------------	---------

### Key to additional specific conditions

A the location of any waste which is stored or land which is spread is at least 10 metres from a watercourse and 50 metres from a spring, well or borehole

B prior to spreading the waste is diluted with not less than an equal quantity of water or slurry and the land is spread not more than once in any 4-week period

C the waste is spread adjacent to the place from which it was dredged

D the waste is stored at least 12 months prior to spreading

E the waste is not stored for longer than 24 hours before spreading

F the waste is spread at the place where it is produced

### The full text of the legislation can be found at:

<http://www.legislation.gov.uk/ukxi/2010/675/contents/made>

Amended March 28 2011 by <http://www.legislation.gov.uk/ukxi/2011/988/contents/made>

Amended April 6 2012 by <http://www.legislation.gov.uk/ukxi/2012/630/regulation/13/made>

### Related exemptions

- U11 Spreading waste on non-agricultural land to confer benefit.
- U12 Use of mulch
- U13 Spreading plant matter to confer benefit.

### Related permits

If you want to spread a wider range of wastes or spread more waste than is allowed under this exemption you will need to apply for an environmental permit. Further information can be found at:

<http://www.environment-agency.gov.uk/business/topics/permitting/32330.aspx>

### Registration of this exemption

A link to the registration process is available on the following web page:

<http://www.environment-agency.gov.uk/business/topics/permitting/116406.aspx>

### Definitions

customer service line  
03708 506 506

incident hotline  
0800 80 70 60

floodline  
0845 988 1188

**"digestate"** is the final output from the treatment of organic and biodegradable waste either anaerobically or aerobically. The digestate may be whole digestate, separated fibre or separated liquor and can be used in compost as an input material or process additive or spread to land as a soil nutrient and conditioner.

**"secure"** - a container, lagoon, location or other place is secure in relation to waste kept in it if:

- all reasonable precautions are taken to ensure that the waste cannot escape from it; and
- members of the public are unable to gain access to the waste.

The full list of definitions can be found in the [Glossary](#) of terms.

customer service line  
03708 506 506

incident hotline  
0800 80 70 60

floodline  
0845 988 1188

[www.environment.scot.nhs.gov.uk](http://www.environment.scot.nhs.gov.uk)

Ms Joanne Gore  
Hampshire Wildlife Trust,  
Testwood Lakes Centre  
PO Box 268,  
Brunel Road,  
Totton,  
Hampshire,  
SO40 3XP,  
England

**Our ref:** XLET7 Confirmation of  
Registration

**Your ref:**

**Reg. Customer I.D. No:** a000892932

**Date:** 09/10/2013

Dear Ms Gore

### **The Environmental Permitting (England and Wales) Regulations 2010 Confirmation of Registration**

**Exemption Ref:** EPR/BF0231HQ/A001  
**Location of the** Breamore Marsh SSSI and adjoining land, Breamore Marsh,  
**Operation:** Breamore, Fordingbridge, Hampshire, SP62EJ, England

Following receipt of your submission, we can confirm that we have now registered the operation(s) listed on the attached schedule, as exempt under the above Regulations, at the site shown above.

However you should be aware that this/these activities is/are only lawful where you:

- comply with the conditions of the exemption(s) that you have registered (these conditions can be seen at <http://www.environment-agency.gov.uk/exemptions>) and,
- carry out the activity without endangering human health or harming the environment and, in particular:
  - (a) without risk to water, air, soil, plants or animals;
  - (b) without causing a nuisance through noise or odours; and
  - (c) without adversely affecting the countryside or places of special interest.

I must warn you that if you fail to comply with the conditions of the exemptions, endanger human health or the environment, then regardless of your registration and this letter, you may be acting unlawfully and may face enforcement action. In addition, please note that this registration(s) only confirms an exemption(s) from environmental permitting and does not absolve you from the need to comply with other legislative requirement such as:

- the need to obtain appropriate **planning permission** for your activity.

The granting of an exemption by the Environment Agency does not mean that the activity in question does not require planning permission. Planning permission may still be required for an exempt waste operation. It is your responsibility to obtain planning permission, if needed, before any waste operations are commenced. I need to warn you that failure to have appropriate planning permission may result in enforcement

The Environment Agency does not endorse any business. You cannot use our logo on your website or promotional literature or say that we specifically recommend or approve you. However you can state that you are registered by the Environment Agency, if this is the case, and have a link to our website <http://www.environment-agency.gov.uk>.

If you have any queries about your registration please contact:-  
Environment Agency, National Customer Contact Centre, 99 Parkway Avenue, Parkway Business Park, Sheffield, S9 4WF  
Customer Services Line: 03708 506 506  
Fax: 01142 626 697  
Email: [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk)  
2011 track change

2133\_EPS\_PermlIssue\_E December

action by the local planning authority. It is your responsibility therefore to contact your local planning authority at an early stage to ascertain whether a planning application is required.

- the need to have a **Flood Defence Consent**.

You may need a flood defence consent if you intend to raise ground levels within a flood plain - this is particularly relevant if you have registered a U1 or D1 exemption to raise ground levels within the flood plain of a main river. This consent may also be required where the development may obstruct flood flows or maintenance access to a main river or you propose works directly to the river, such as outfalls or access crossings. In all cases, you will have to demonstrate that flood risk in the locality will not be worsened by your actions, and if it would be then consent may be refused.

You can see whether your development is in a flood plain or near a main river by looking at "What's in my backyard" on our website (<http://www.environment-agency.gov.uk/homeandleisure/37793.aspx>). You can get more information on whether you need a Flood Defence Consent by phoning us on **03708 506 506** and speaking to the local Development and Flood Risk team.

You should note that failure to obtain a flood defence consent where it is needed may result in enforcement action. It is your responsibility to obtain this consent, where it is needed, before you begin operations. Our booklet 'Living On The Edge' gives more information about consents and is available online at <http://www.environment-agency.gov.uk/homeandleisure/floods/31626.aspx>

If any of these exempt operations were previously authorised by an environmental permit which you now consider to be redundant, please contact our Customer Services on 03708 506 506 so that we can explain what will happen to your permit.

The exemption(s) will remain valid at this site until 08/10/2016. We will remind you that the exemption(s) are due for renewal at least one month before this date. You can renew at any time during the month prior to expiry but if you fail to renew during this period, you will have to make a new application.

If your operations change at any time during the registration period and you wish to add or remove exemptions at your site, you can do this by contacting one of our customer service providers on 03708 506 506.

If you have any queries about this matter please contact us by telephone on 03708 506 506 or email us at [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk) quoting your customer reference number a000892932 and site reference number EPR/BF0231HQ/A001.

Yours sincerely



Jo Price

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If you have any queries about your registration please contact:-  
Environment Agency, National Customer Contact Centre, 99 Parkway Avenue, Parkway Business Park, Sheffield, S9 4WF  
Customer Services Line: 03708 506 506  
Fax: 01142 626 697  
Email: [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk)  
2011 track change

## Customer Operations Manager

The Environment Agency does not endorse any business. You cannot use our logo on your website or promotional literature or say that we specifically recommend or approve you. However you can state that you are registered by the Environment Agency, if this is the case, and have a link to our website <http://www.environment-agency.gov.uk>.

If you have any queries about your registration please contact:-  
Environment Agency, National Customer Contact Centre, 99 Parkway Avenue, Parkway Business Park, Sheffield, S9 4WF  
Customer Services Line: 03708 506 506  
Fax: 01142 626 697  
Email: [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk)  
2011 track change

2133\_EPS\_Permission\_E December

# Schedule of exempt waste operations

## ***Relevant objectives***

The following schedule lists the exemption(s) that you have registered.

However you should be aware that this/these registration(s) is/are only valid where you:

- comply with the conditions of the exemption(s) that you have registered (these conditions can be seen at <http://www.environment-agency.gov.uk/exemptions>) and,
- carry out the activity without endangering human health or harming the environment and, in particular:
  - (a) without risk to water, air, soil, plants or animals;
  - (b) without causing a nuisance through noise or odours; and
  - (c) without adversely affecting the countryside or places of special interest.

If you fail to comply with the conditions of the exemptions, endanger human health or the environment your registration and this schedule has no standing in law and you may face enforcement action.

## ***Details of exempt waste operations***

Name of Establishment or Undertaking: Ms Joanne Gore

Trading name (if any):

Address: Testwood Lakes Centre  
PO Box 268,  
Brunel Road,  
Totton,  
Hampshire,  
England,  
SO40 3XP

Exemption Ref No: BF0231HQ

Address where the operation can be carried out: Breamore Marsh SSSI and adjoining land  
Breamore Marsh,  
Breamore,  
Fordingbridge,  
Hampshire,  
England,  
SP62EJ

NGR: SU1551418154

## Paragraph Number & Description:

### 2 Operations

#### 2.1 Permitted activities

2.1.1 U10 - Spreading waste on Agricultural Land to confer Benefit (Agricultural Waste only)

***Date of issue: 09/10/2013***

**Please note:** If at any time you stop carrying out any of these exempt waste operation (s) and you wish to **de-register** you can inform us of this by entering the paragraph number of the exemption you wish to de-register in the space below and returning a signed copy of this schedule to us. When we receive the schedule we will de-register the exemption, remove it from the public register and provide you with confirmation that your exemption has been de-registered.

Alternatively you can send a letter, signed by the exemption holder, detailing the reference number of the exemption you wish to de-register, the paragraph number and the location. Please post your letter or copy schedule to the address provided below:-

Environment Agency

National Customer Contact Centre  
99 Parkway Avenue  
Parkway Business Park  
Sheffield  
S9 4WF

***I wish to de-register the exemptions below***

***Signature (of exemption holder)***



# Appendix 4

**Breamore Marsh SSSI favourable condition project:** briefing note on options for invasive non-native species management

8<sup>th</sup> July 2013 v2  
25<sup>th</sup> March 2014 v3

**Aim: to continue control programme of INNS management in Breamore Marsh, to ultimately reduce distribution and density leading to eradication, and therefore restoration of SSSI favourable condition.**

1. Background

Breamore Marsh SSSI is a privately owned fen and wet grassland SSSI (groundwater fed), currently in unfavourable recovering condition, having been improved in part due the implementation of an HLS grazing regime.

However, since 2009, several invasive non-native species (INNS) (*Ludwigia* creeping water primrose, *Crassula* Australian Swamp Stonecrop and *Azolla* water fern) are increasingly colonising one pond of the marsh, and are threatening the return to favourable condition due to the impacts on the native fauna (survey indicates very little of cited species remain). *Ludwigia* and *crassula* are two of the priority INNS for action considered by the Environment Agency, in a preventative and rapid response approach as supported by the *Invasive Non-native Species Framework Strategy for Great Britain* (Defra, 2008). Any treatment is usually 3+ years to ensure control and ultimate eradication.

The Source to Sea project is a strategic INNS removal partnership between the local wildlife trusts in the Avon river catchment (in this case Hampshire & Isle of Wight) and the Environment Agency, with Natural England support. The project will advise the landowner as to the best possible solution for control and eradication of these INNS, and project officer Jo Gore will manage any contractor works in 2014/15.

2. History of INNS management

Year	Treatment	Season	Treatment carried out by
2009 <i>Ludwigia</i> detected	1 x targeted glyphosate spray	Summer / autumn	Local contractor
2010	3 x targeted glyphosate spray		
2011	3 x targeted glyphosate spray		
2012 <i>Azolla</i> and <i>crassula</i> detected	No glyphosate spray possible due to weather conditions		
2013	<b>2 x targeted glyphosate spray</b> INNS have continued to increase spread and density throughout the SSSI marsh.		
2014	<b>Creeping water primrose and crassula have spread to ditch outflowing from Round Pond – immediate hand pull of CWP in ditch to contain the problem and checks 2 week basis throughout the summer.</b> Mechanical excavation		
2015	<i>Follow up treatment expected</i>		

3. Management Options for 2013/14 and beyond (preferred option illustrated in green)

Option	Advantages	Disadvantages	Cost
--------	------------	---------------	------

<b>Do nothing</b>		<ul style="list-style-type: none"> <li>SSSI flora and fauna ultimately overtaken by INNS resulting in “destroyed” condition;</li> <li>High risk of INNS spread and associated impacts to main River Avon SAC/SPA and beyond;</li> <li>Contradictory to the UK INNS Framework Strategy for GB (Defra, 2008).</li> </ul>	n/a
<b>1 Continue glyphosate spray as previous</b>	<ul style="list-style-type: none"> <li>Repeat treatment so administratively straightforward;</li> <li>Minimal risk of contractor spreading INNS to another site.</li> </ul>	<ul style="list-style-type: none"> <li>Weather dependant;</li> <li>Limited success on distribution and density of INNS thus far;</li> <li>Effective on emergent plants only;</li> <li>Risk of deoxygenation.</li> </ul>	<£5k
<b>2 Removal by hand</b>	<ul style="list-style-type: none"> <li>Admin straightforward;</li> <li>Selective to preserve remaining flora and fauna.</li> </ul>	<ul style="list-style-type: none"> <li>Labour intensive;</li> <li>Risk of fragmentation, increasing future distribution and density of INNS.</li> </ul>	<£5k
<b>3 Combination of (1) and (2)</b>	as previous	as previous	<£5k
<b>4 Mechanical excavation of INNS</b>	<ul style="list-style-type: none"> <li>Rid of both submerged and emergent;</li> <li>May rid of seed/fragment bank in marsh;</li> <li>Proven eradication technique from previous experience.</li> <li>Reduces bulk on INNS for follow up treatment in 2014 and beyond;</li> <li>Dredgings can potentially be recycled.</li> </ul>	<ul style="list-style-type: none"> <li>High site biosecurity required to limit any spread whilst working<sup>1</sup>;</li> <li>Safe disposal required to prevent regrowth<sup>2</sup>;</li> <li>Numerous permissions and consents required<sup>3</sup>.</li> </ul>	<£40k

<sup>1</sup> To be ensured in contractor method statement

<sup>2</sup> See section 5.11

<sup>3</sup> See section 5

#### 4. Environmental considerations and consents/permissions

##### 4.1. Biosecurity

To be incorporated in contractor method statement - to include strict biosecurity working practices in relation to vehicles/people and equipment used on site. Wash down facilities at appropriate locations should be used to ensure plant fragments are not transferred to other sites during transport.

##### 4.2. SSSI permissions from Natural England

Permission letter required from Simon Curson, Natural England Officer, after providing:

- Pre-treatment vegetation survey to record current condition;
- Method statement, incorporating impacts on current SSSI features.

##### 4.3. Protected species survey

Great crested newts are present in the marsh. Surveys have been carried out and confirm their presence mitigation measures and recommendations will be made and incorporated into the method statement.

##### 4.4. Local wildlife sites

Notification to local authority of works (Breamore Marsh North LWS)

##### 4.5. Area of Outstanding Natural Beauty

Notification to AONB Cranborne Chase & West Wiltshire Downs. The marsh and deposit site are not in AONB so this is not necessary.

##### 4.6. Planning permission

Required and in the process of application

4.7. Noise / visual impact on local population

The contractor will be required to stick to strict working hours between the hours of 8am to 5pm Monday to Friday. Any complaints from local residents will be dealt with immediately. A public meeting will be arranged to inform the local population of the proposed works.

4.8. Public Right of Way

It is not intended to close or divert the public footpath as this would incur many months of delay on the project. Fencing will be erected to prevent people entering the work area and a site supervisor will be on site at all times that vehicles are working to ensure safety of the public. Warning signs will be erected to warn people of the presence of moving vehicles.

4.9. Impact on archaeology

A search of old maps has concluded that the hollow came into existence circa 1909 and is of minimal archaeological interest. The land owner has had a survey of the recipient field and this has found no evidence of archaeology in the field.

4.10. Flood risk

The site is not in the flood plain and therefore ordinary water course consent is not required. No structures are being altered.

4.11. Waste disposal/ licensing regime/Regulatory Position Statement/

Eradication of the NNIS at Breamore has been unsuccessful with the methods previously used over the past several years. The new proposed method of excavated has proven successful on other projects in other areas. Excavation of the plant material and dredging will be trialled in 2014. This is considered a controlled waste, as is anything that we discard, intend to discard or required to discard, therefore subject to the Environmental Permitting (England and Wales) Regulations 2010. Exemptions (Schedule 3) are available through registration with the EA, otherwise a permit would normally be required which is prohibitively costly. Exemptions are not suitable in this case due to the amount of dredging material to be disposed of and the permit process is time consuming, costly and can be deemed inappropriate for the work being carried out (nature reserve dredging). There is a code of practice for Japanese knotweed which means this can be buried on site without the requirement for a waste permit. Meetings were held with heads of the National Waste Teams, Technical National and local experts on NNIS, and the Area Environment Manager in 2014 to try and resolve the need to apply for a waste permit and employ a similar regime which has been developed for the Japanese knotweed. This will make it easy for landowners and environmental partners to manage NNIS in the future.

A National Regulatory Position Statement (NRPS) was put together and agreed (see Appendix 1). The local waste teams have also put a Local Regulatory Position Statement (LRPS) together to ensure the works can be completed safely without causing environmental damage and without the need for a permit (see Appendix 2).

### **Waste Hierarchy**

The options for the disposal of the NNIS and dredgings associated have been considered in the table below. The waste hierarchy places an emphasis on reuse and recycling before the disposal option is considered. The NRPS recognises that biosecurity is very important in the determination of which options should be considered. E.g. spreading to land under an exemption is not appropriate due to the increased biosecurity risk which is presents and also the quantity of dredged material exceeds that permitted. For optimal biosecurity the waste needs to be located in one place away from any wet areas to ensure the NNIS present die. (EA excavation guidance for managing invasive non-native species, specifically for *Ludwigia*, is to dry at sites away from water bodies and wetland areas, ensuring that cannot inadvertently

be transported elsewhere. In addition, for *Crassula*, it states that dredged material should be piled in heaps and covered with thick black polythene sheeting or at least 20cm of soil (*Managing INN plants*, Environment Agency, 2010). *Azolla* will die if not in contact with water and/or is easily controlled using the biological control *Azolla weevil Stenopelmus rufinasus* available online).

Option	Effective control against INNS	Disposal cost	Risk of recurrence or spread	Recycling / agricultural benefit	Permit or exemption	Other notes
<b>Burning</b>	No	Low	Low	No	Exemption	
<b>Burying / landfill</b>						
• regulated site	Yes	High (transport)	Low	No	-	
• private nearby	Yes	Mid	Low	No	RPS applies	Preferred option
• on site	No (too wet)	Low	Mid	Yes	Permit	
<b>Composting</b>						
• regulated site	Yes, if capped	High (transport)	Mid	Possible	-	
• private nearby	Yes, if capped	Mid	Mid	Possible	Depends	
• on site	No (too wet)	Low	High	Yes	Depends	
<b>Drying and incorporation into ploughing regime</b>						
• private nearby	Yes	Mid	Mid	Yes	Exemption	Not suitable due to quantity of dregings
• on site	No (too wet)	Low	High (too wet)	Yes		

**Table 1: waste disposal options following excavation of pond.** Preferred option illustrated with green border.

After considering all of the disposal options the preferred option is burying close to the removal site in a hollow on dry land. This is the most environmentally friendly, biosecure and cost effective method.

### Details of preferred option

Source to Sea project will be carrying out the work on behalf of the landowner, the project is a partnership involving Environment Agency, Natural England. The proposed contractor Alaska Environmental Contracting Ltd, Stokeford Farm, Wareham, Dorset BH20 6AL.

Method statement to be finalised by contractor, but to include:

- Work will be carried out in October dependant on planning permission
- Cattle to be removed and excluded and electric fence to be erected around site to exclude members of the public fence;
- Newt translocation to take place as set out by the method statement produced by Sarah Jackson (HIWWT Ecologist) 30 days prior to works.

- Scrub to be removed from around the edge of the pond
- Scrub to be removed from the hollow
- 30cm (max) depth of vegetation, silt, soil and gravel (dredging) to be removed throughout the pond.
- Machinery to work from the northern side of the pond scraping the material to one edge to reduce impact on the SSSI and to work away from the public footpath.
- Dredgings to be removed and transported in biosecure way ( contractor to ensure that no material is leaking from the trailers before leaving site) to and placed in hollow.
- Pond will be reprofiled,
- Removal and disposal should be completed within 7 days.
- Disposal site will be secured over night and manned during the day to ensure no fly tipping occurs.
- Pond will need to be fenced to discourage cattle from entering for a minimum of 5?? (This will need to be discussed with NE as I know that the marsh is failing due to a lack of grazing) years after work has been carried out;
- The disposal site will need to be covered with 20cm of material scraped up from material in field which is thought originally came from on top of the hollow according to archaeological report.
- Follow up glyphosate treatment of any new growth in pond in 2015 and beyond.
- Monitor pond to establish if GCN population has returned.
- Survey pond to ascertain the amount of biodiversity that has returned post works 2015/16.

### Removal site

Estimated quantity of material to be removed:

Excavation site NGR: SU1550318160

Area to be excavated: 3700 m<sup>2</sup>

Depth to be excavated: <30cm **maximum**

Total volume of material: 1110m<sup>3</sup>

Mix of soil/vegetation weights 0.75 tons / m<sup>3</sup> : **832 tonnes of dredgings** (maximum)

### Disposal site

See **Figure 1** for map. The proposed disposal site SU1533318504 is currently in arable production but has areas suffering from poor soil quality due to lack of organic matter in the flinty loam sand over gravel. It is proposed that the dredging will be placed in a hollow in the field which is dry and therefore very low biosecurity risk. This is the closest dry area that would be suitable, is under the same land ownership and is <100m away. The disposal site will be secured at night to ensure that no fly tipping takes place during the works.

### Risk Assessment – in progress

A Risk Assessment has been produced to ensure the environment is protected whilst works are carried out.

TBC from RA - is Soil sampling required, if perceived low risk not required?

- Is a bund required to reduce runoff – are there any drains/watercourses close by which could be impacted?
- Ground water impact?

(If soil sampling proves of benefit, it is proposed that this is carried out using the U10 and T23 exemption regime in the name of the landowner, accepting the standard conditions. These exemptions include temporary storage. Applications have been complete and case references are EPR/MF0831HJ/A001 and EPR/BF0231HQ/A001 respectively.



t23 standard  
conditions.pdf



U10 standard  
terms.pdf

)

### **Waste Carriers licence?**

It is usual that if waste is taken off site, a duty of care applies to ensure this is done by a registered waste carrier and a transfer note is completed. However, if the transport is done by a registered waste carrier (check with the contractor to ensure registration), a pragmatic approach can be taken as regards to the transfer note for transport on the same estate.

### 5. Future management of marsh and disposal site

The Source to Sea project (funding allowing) will commit to the site until 2015 inclusive to manage the INNS if any remains in the pond – in the absence of the project continuing then this will be followed up by NE Officer Simon Curzon

### 6. Funding

Funding has been obtained direct from Defra (due to the priority response required for *Ludwigia*), Natural England, the Source to Sea project, and HLS special project funds – matched with in kind effort from the landowner. Natural England are funding the pre-treatment vegetation survey.

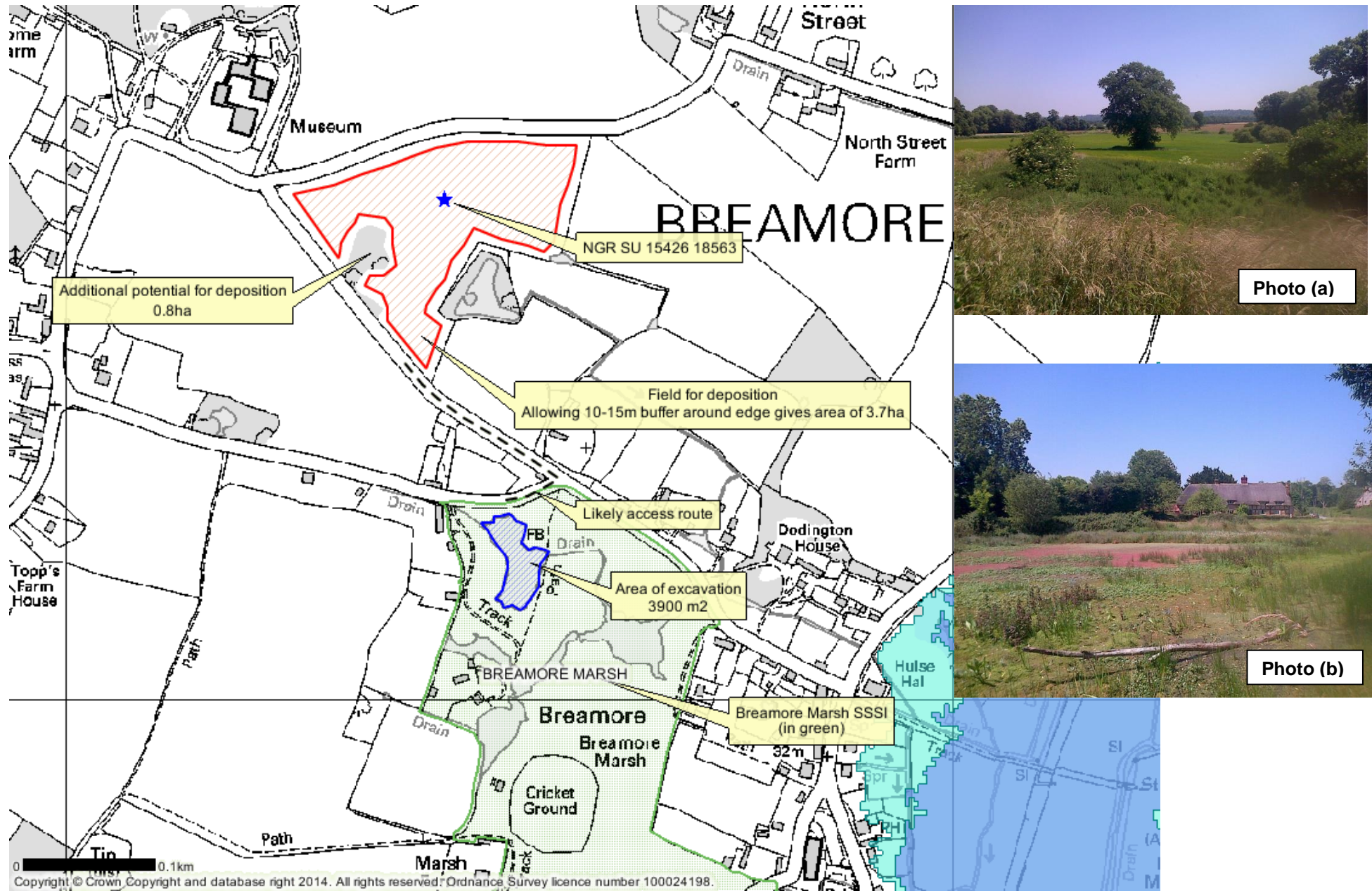


Figure 1 – map of excavation and deposition area, along with photo (a) deposition area and (b) INNS affected pond.



# Appendix 5

## Local Enforcement Decision - Breamore Marsh SSSI

### Our approach

We will not pursue an application for an environmental permit for the activity where:

- A decision making document and risk assessment is available on request showing that the material will be excavated, transported and buried in a manner that prevents further growth of the invasive species and/or spread of invasive species into the wild;
- The burial option is only considered after options to reduce the volume of material, and its reuse for composting and/or soil improvement has been eliminated on the basis of a less preferred environmental option, such as an unacceptable biosecurity risk;
- Burial is performed on ground of low habitat value in an area that is likely to be undisturbed, more than 7 metres away from an adjacent landowner's site;
- the material does not contain pollutants likely to pose a threat to groundwater quality;
- no waste is stored for more than 12 months prior to burial;
- the total volume of material to be buried does not exceed 1000 tonnes;
- the material does not contain Japanese knotweed, the burial of which is described within the Knotweed code of Practice, 2013; the large majority of the plant material for burial consists of invasive non-native plant species from aquatic, riparian and wetland habitats;
- You meet the relevant objectives of the Waste Framework Directive;
  - '... ensuring that waste management is carried out without endangering human health, without harming the environment and in particular:
    - (i) without risk to water, air, soil, plants or animals;
    - (ii) without causing a nuisance through noise or odours; and
    - (iii) without adversely affecting the countryside or places of special interest.'

### Enforcement

In not pursuing an application for a permit, we will not normally take enforcement action unless the activity has caused, or is likely to cause, pollution or harm to health. For a more detailed explanation of this enforcement position, please see our [Enforcement and Sanctions](#) statement.

This local enforcement decision is only relevant for the one-off activity outlined in the document 'Breamore Marsh SSSI favourable condition project' dated 23.7.2014 and associated risk assessment dated the 28.7.2014. This local enforcement decision has been produced after the approval of a National Position Statement by the Modern Waste Regulation Panel but the document is currently in draft and will not be available in time for this activity.

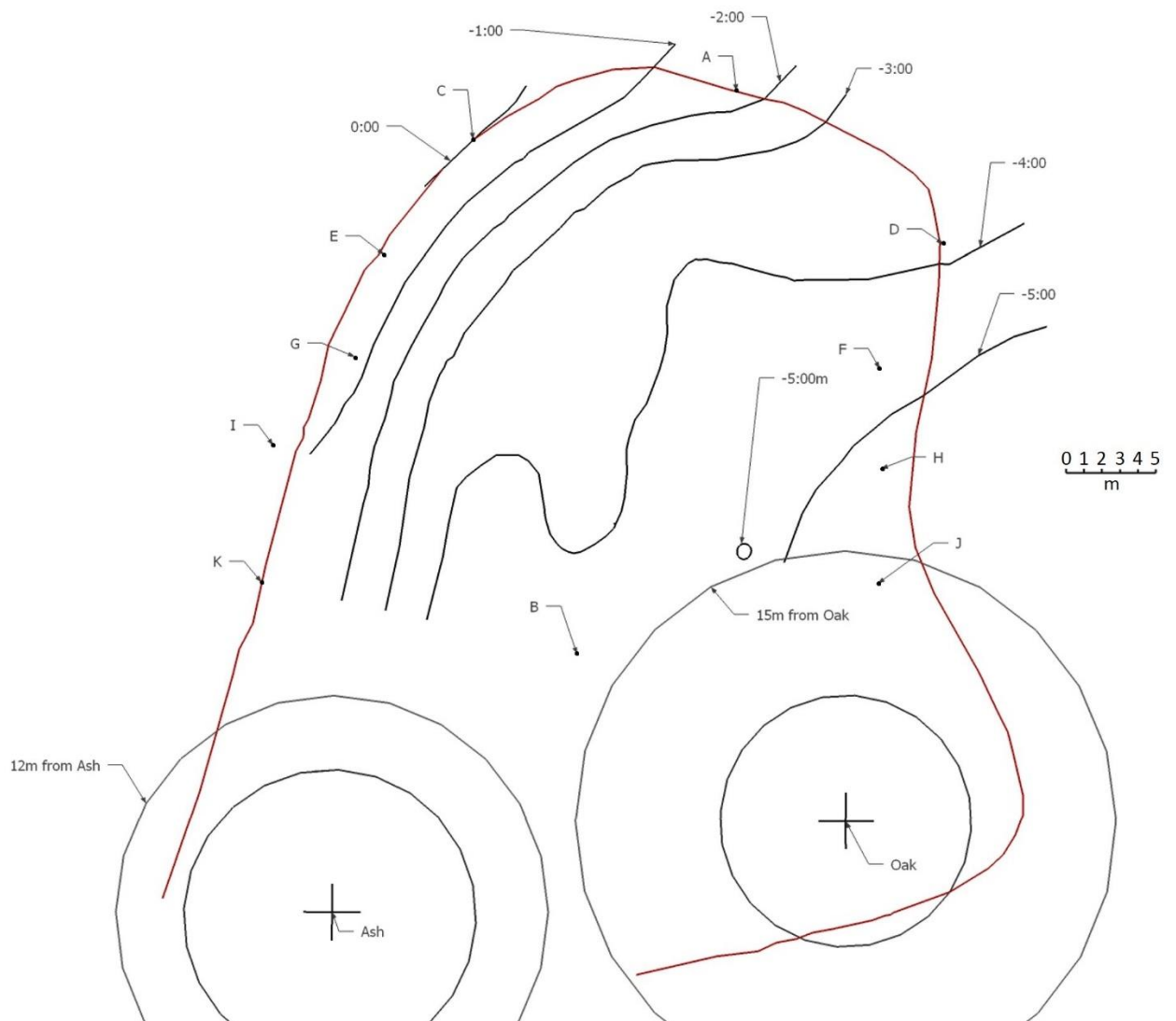
# Appendix 6

## Topographic survey of hollow at Breamore

**Figure 1.** Hollow at Breamore.



**Figure 2.** Topographic survey of hollow at Breamore.



The depth of the hollow at Breamore was measured at 1.5 metre intervals from point A to point B. Measurements were then taken at 1.5 metre intervals along lines running perpendicular to A-B, at 6 m (point C to point D), 13.5 m (point E to point F), 19.5 m (point G to point H), 25.5 m (point I to point J) and 33 m (point K to point B).

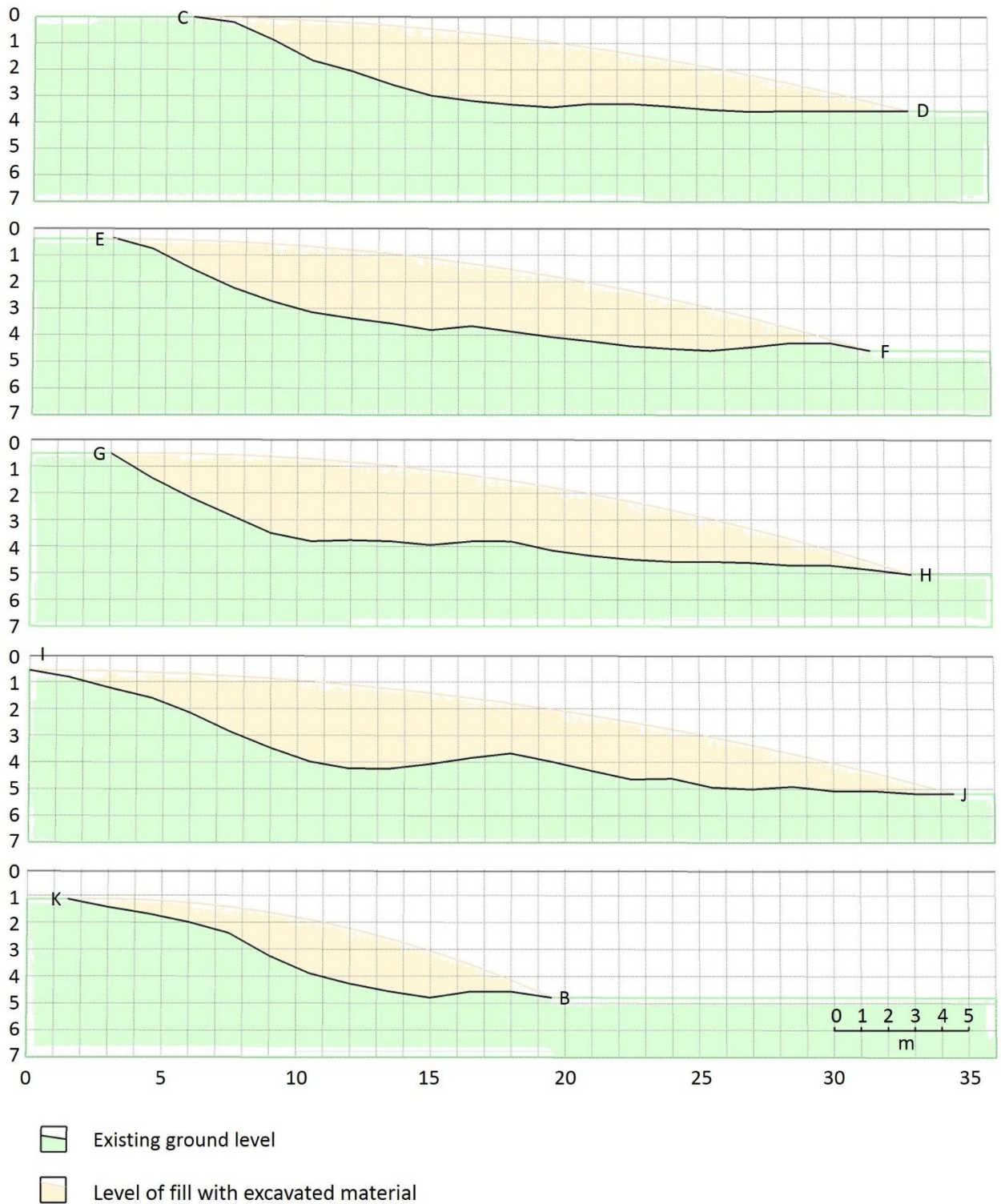
0:00 is the highest measured point around the edge of the hollow.

The red line marks the usable area of the hollow.

**Figure 3.** Topographic survey of hollow at Breamore showing aerial photograph of location.



**Figure 4.** Sections through hollow at Breamore, showing existing ground level and expected level of fill with excavated material.



# Appendix 7



Ms J Gore  
Source to Sea Field Officer  
Hampshire & Isle of Wight Wildlife Trust  
Testwood Lakes Centre,  
Brunel Road,  
Totton  
SO40 3XP

Tuesday, 12<sup>th</sup> August 2014

Dear Ms Gore,

## ARBORICULTURAL INFORMATION TO SUPPORT A PLANNING APPLICATION FOR ENGINEERING WORKS AT BREAMORE MARSH SSSI, BREAMORE, FORDINGBRIDGE SP6 2EJ

Further to your instructions and our site visit on 21<sup>st</sup> July, I am writing to confirm details of the arboricultural matters connected with the above planning application. I have carefully considered the two sites involved with the planned ecological management works, the trees growing within them, and also the practical requirements of achieving a successful outcome for this vitally important project.

As the arboricultural matters have, after some discussion and advice, proved to be relatively straightforward, it would seem it is both proportionate and appropriate for these to be dealt with by letter format rather than a detailed report. This document including appendices consists of 13 pages and is published as a contiguous PDF.

As a starting point, it has been confirmed by telephoning New Forest District Council that both work sites (A & B) are located within the Breamore Conservation Area, affording the trees growing within them a degree of formal protection; however, neither are the subject of a tree preservation order (TPO). Notwithstanding the above, trees, irrespective of any formal protection that may be in place, are material considerations in the planning process, and as such the planners will need to be satisfied that the project will not adversely affect any good quality trees worthy of retention.

### Background

You have kindly provided the following details of the two sites and the works which are necessary for the control of highly invasive aquatic weed species. *‘Breamore Marsh SSSI is a privately owned fen and wet grassland SSSI (groundwater fed), currently in unfavourable recovering condition, having been improved in part due the implementation of an HLS grazing regime. It lies within the Trust’s New Forest and Avon Valley Living landscape area. The land is part of the Breamore Estate owned by Mr Hulse’*. The works have been summarised as *‘Excavation of Round Pond, Breamore Marsh and disposal in nearby hollow’*. Plan SW1 at appendix 1 shows the general layout and proposed route between the excavation site A, and disposal site B.

### Arboricultural constraints

Only those trees growing within the vicinity of the parts of the two sites affected by the works have been considered for the purposes of this planning application. Full details of each of the eight trees are given in the survey schedule at appendix 2.



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Attached to this letter as appendix 1 is a tree constraints plan, which depicts the locations, dimensions and quality categories of the trees as surveyed. Canopy spreads have been plotted in the directions of the cardinal (and where appropriate inter-cardinal) points of the compass. The root protection areas (RPA) depicted by the red circles drawn around each tree have been calculated by applying the appropriate formula given in section 4.6 of BS5837:2012 – *Trees in relation to design, demolition & construction – Recommendations*.

As can be seen, two poor quality willows on site A, and one further tree on site B, T4, a windblown silver birch, have been placed in category U and recommended for removal aside from the requirements of the works. In addition T5, the pollard willow, is to be re-cut. Full details of these and also works to other trees are to be found in the survey schedule at appendix 2.

It is anticipated that these works may be approved by the LPA in the context of the planning application, without the need for a further formal treework application. However, you are advised that the written agreement of the LPA **must** be obtained *before* commissioning works to any of these [protected] trees.



Image 1: T7 weeping willow. This and T5 which are growing at the edge of the Round Pond, are likely to sustain significant root damage during the course of the dredging works to remove invasive aquatic plants. The damage may render these trees unviable.

The close proximity of T5 & T7 to Round Pond poses a *direct* constraint upon the necessary excavation works, and it is unlikely that it will be practicable to undertake these works to the required extent, *without* causing significant damage to their root systems.

Turning to site B, the late mature landscape trees T1 and T2, are growing close to the area designated for disposal of the excavated spoil. By virtue of their age and size, these trees and in particular T1, which is recommended for further more detailed inspection beyond the scope of this report, will be very sensitive to soil compaction and any significant above ground changes around them.



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As such and out of deference to the needs and future well-being of these important trees, the planning of this part of the works has been given careful consideration.

## Arboricultural impacts

As previously mentioned It seems unlikely given the nature and extent of the works involved at site A, that significant root damage to T5 and T7 can be reasonably avoided; furthermore, if a number of large structural roots are adversely affected, this is likely to render these trees unviable. However, their suitability for further retention can only be properly ascertained once the works have been fully completed. Due to the great importance of achieving a successful outcome, it is clear that on balance T5 and T7 are of insufficient importance and value to preclude or curtail full implementation of the works. They can if required be replaced.

With regards to the disposal of the spoil at site B shown on the tree protection plan SW2b, it can be seen that the three specimen trees growing close to the dumping area could potentially be *directly* affected by these activities. However, protective measures are practicable, and if implemented will ensure that all three of these trees can be fully accommodated and safeguarded within the context of this part of the project.

To avoid any accidents or mistakes during the course of these activities, the parts of site B within the RPAs of T1, T2 and T3 will require the installation of some standard protection measures. For the avoidance of doubt, these measures **must** be installed *prior* to the commencement of the works and retained for their *entire* duration. To ensure the appointed contractors comply, it is strongly advised that full implementation of the details contained in this report and appendices are made a condition of their contract.

## Tree protection

There are a number of activities which can cause damage to trees during the course of undertaking this type of work. However, the compaction of soil and changes in levels within tree RPAs represent the principal causes of avoidable long-term harm. To emphasise the importance of the protection of trees, a drawing showing the principal ways in which trees can be damaged on or close to work sites is attached as appendix 3.

Turning again to plan SW2b, the **LIGHT GREEN** shaded area forms a **Tree Protection Zone (TPZ)**, into which all access to vehicles, plant and machinery **must** be strictly prohibited. Protection measures to guard this are straightforward and are proportionate to the importance of the trees, and the scope and duration of this project. It is reiterated that care **must** be taken to ensure that the **correct** layout is installed *prior* to the commencement of any site operations.

The protection measures extend to the erection of the specified sections of protective fencing (thick **DARK RED** broken lines), consisting of robustly stabilised Heras mesh panels (appendix 4). In addition laminated A4 versions of the warning sign and the drawing at appendix 3 **must** be fixed to alternate panels facing *into* the construction area.

Once established the specified protective measures **must** be maintained *in-situ*, and fit for their intended purpose throughout the duration of the works. They are only to be removed as a final site task and with the *prior* written agreement of the LPA tree officer.



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A copy of this report **must** be given to the appointed contractors and made a condition of their contract.

## Supervision

In order produce an evidential test of compliance, it is a normal expectation for the inspection and certification of the specified tree protection measures *prior* to commencement, as well as monitoring of progress throughout the project to be undertaken by an arboriculturalist.

A pre-commencement site meeting **must** be held between all interested parties, including (as appropriate) the client, project manager, project arboriculturalist and/or LPA arboricultural officer and contractors.

Relevant responsibilities should be defined and established. The phasing and timing of site activities where these will have an impact on trees should be discussed in detail and agreed. Details of this meeting and all other site visits should be documented along with relevant images and submitted as an 'evidential test' of compliance to fully discharge planning conditions.

Professional supervision/advice is needed at the following points:

- Pre-commencement site meeting
- Certification of tree protection measures
- Inspection & assessment of root damage caused to T5 & T7 following completion of the works

**A copy of this report must be dedicated to the project and kept on site and be freely available as a reference to all those involved at all times.**

If the guidance and recommendations given in this report and appendices are followed and carefully implemented, the trees on site B to which it relates can be adequately protected throughout all phases of the works, and a harmonious and sustainable tree-development relationship for T1, T2 and T3 is a realistic and achievable expectation.

This information should prove sufficient for the purposes of determining the planning application; however, you are advised that the LPA are likely to condition the full implementation of the details and recommendations for tree protection and supervision contained in this report.

Yours sincerely



Marc-John Eldridge M.ArborA

## Appendices

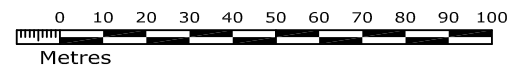
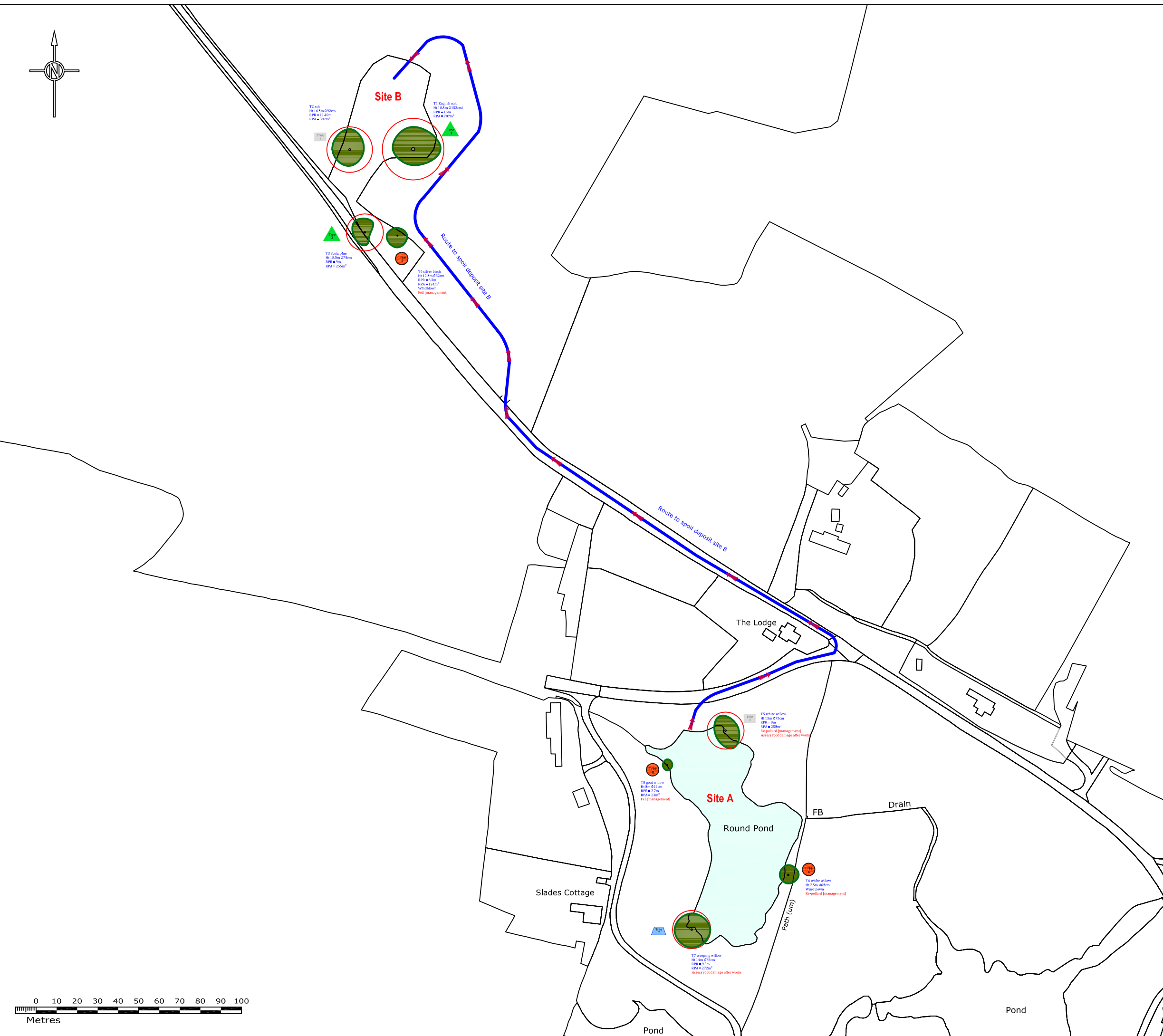
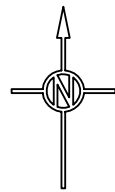
- 1a. SW1 Tree Constraints - Overview
- 1b. SW2a Tree Constraints & Protection – Site A
- 1c. SW2b Tree Constraints & Protection – Site B
2. Tree survey schedule
3. Tree damage information drawing
4. Tree protection measures



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# TREE CONSTRAINTS OVERVIEW SW1

Appendix 1a to report SW/AMS/254/14

## Breamore Marsh SSSI, Breamore SP6 2EJ

Monday 11th August 2014

It has been confirmed by telephoning the New Forest District Council that the work sites A & B are not covered by a tree preservation order (TPO); however both are located within a designated conservation area. **Tree Removals.** 3 trees; T4, wind-blown birch & T6 & T8 goat willows are recommended for removal for management reasons. In addition the two remaining willows, T5 & T7, around the pond (Site A) will suffer significant and unavoidable root damage during the course of the required excavation works to remove invasive vegetation. Full details of the works required to trees are given at appendix 2. See also SW2a & b. Canopy spreads of A & B category trees are shown by the **GREEN** lines plotted in the directions of the four cardinal (and where appropriate additional inter-cardinal) points of the compass; whilst those of C & U categories are shown in **GREY** and **DARK RED** respectively. The root protection areas (RPA) of category A, B & C trees are expressed in **RED** as a radius from the centre of each tree stem (RPR)

### BS 5837:2012 Tree Quality Categories

Category	Shape	Colour
A	Triangle	Green
B	Trapezium	Blue
C	Rectangle	Grey
U	Circle	Red & Black

**A** category trees are high quality examples or groups of significant trees of value to landscape, conservation or culture with a life expectancy of at least 40 years.

**B** category trees are of impaired condition but are still considered of good or moderate quality with a minimum life expectancy of 20 years. Trees in both higher categories are judged [after any specified remedial works] to pose little or no risk and in almost all cases should be retained.

**C** category trees are of low quality with a minimum life expectancy of 10 years. They should be considered for retention in circumstances where they do not pose any constraint to proposed development and/or until new planting is established.

**U** category trees are identified as those with a life expectancy of less than 10 years and/or which should be removed for reasons of sound arboricultural/risk management.

This A3 1:1750 plan has been adapted from an OS map and site layout drawings provided and produced in colour. All measurements must be checked with the original documents, and a monochrome copy should not be relied upon. © SoundWood Tree Consultancy 2014.

### ARBORICULTURAL CONSULTANTS

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# TREE CONSTRAINTS & PROTECTION PLAN SW2a

Appendix 1b to report SW/AMS/254/14

Site A Breamore Marsh SSSI,  
Breamore SP6 2EJ

Monday 11th August 2014

The purpose of this essential conservation project is to eradicate highly invasive non-native aquatic vegetation found growing in Round Pond and prevent it from entering the Avon river system. The works involve excavation of the pond and removal of spoil to site B where it will be deposited and any regrowth treated with herbicide (plan SW2b). The excavation process will unavoidably damage the root systems of the willows T4, T6 & T7. The adverse effects on tree stability can be lessened by re-pollarding T5 & T6. However, assessment of the damage to T5 & T7 should be undertaken after completion of the works. Although it is advised T7 will not lend itself to this treatment and in all probability will need to be felled. Removal of these two trees and the planting of several new native willows is recommended as the most sustainable option.

Canopy spreads of A & B category trees are shown by the GREEN lines plotted in the directions of the four cardinal (and where appropriate additional inter-cardinal) points of the compass, whilst those of C category trees are shown in GREY. The root protection areas (RPA) of retained trees are expressed in RED as a radius from the centre of each tree stem (RPR).

## BS 5837:2012 Tree Quality Categories

Category	Shape	Colour
A	Triangle	Green
B	Trapezium	Blue
C	Rectangle	Grey

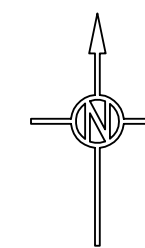
This A3 1:500 plan has been adapted from an OS map and site layout drawings provided. All measurements must be checked with the original documents © SoundWood Tree Consultancy 2014

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Route to spoil disposal site B

Tree 5  
T5 white willow  
Ht 15m Ø75cm  
RPR = 9m  
RPA = 255m<sup>2</sup>  
Re-pollard [management]  
Assess root damage after works

Site A

Pond

FB

Path (um)

Tree 7

T7 weeping willow  
Ht 14m Ø78cm  
RPR = 9.3m  
RPA = 272m<sup>2</sup>  
Assess root damage after works

es Cottage



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# TREE CONSTRAINTS & PROTECTION PLAN SW2b

Appendix 1c to report SW/AMS/254/14

## Site B Spoil Disposal Area Breamore SP6 2EJ

Monday 11th August 2014

The purpose of this essential conservation project is to eradicate highly invasive non-native aquatic vegetation found growing in Round Pond (site A plan SW2a) to prevent it from entering the Avon river system. The works involve excavation of the pond and removal of spoil to site B where it will be deposited. The presence of several important mature landscape trees close to the disposal site poses a constraint on accessing the site and also the extent of the area of ground available for the disposal, without causing soil damaging compaction or smothering tree root systems. The recommended approach is depicted on this plan and detailed below.

Canopy spreads of A & B category trees are shown by the GREEN lines plotted in the directions of the four cardinal (and where appropriate additional inter-cardinal) points of the compass, whilst those of C category trees are shown in GREY. The root protection areas (RPA) of retained trees are expressed in RED as a radius from the centre of each tree stem (RPR).

The following straightforward tree protection measures **must** be installed as a primary site task and approved by the LPA, *prior* to the commencement of any activities.

**Protective fencing.** 133m of robustly braced protective fencing (38 x 3.5m Heras mesh panels) complying with appendix 4 **must** be erected in the locations/dimensions depicted by the DARK RED broken lines. These protective measures **must** be maintained & remain fit for their intended purpose throughout the *entire* duration of these works.

The LIGHT GREEN shaded areas show the Tree Protection Zones [TPZ] including areas set aside for new planting, into which all access to vehicles and plant is strictly prohibited.

### BS 5837:2012 Tree Quality Categories

Category	Shape	Colour
A	Triangle	Green
B	Trapezium	Blue
C	Rectangle	Grey

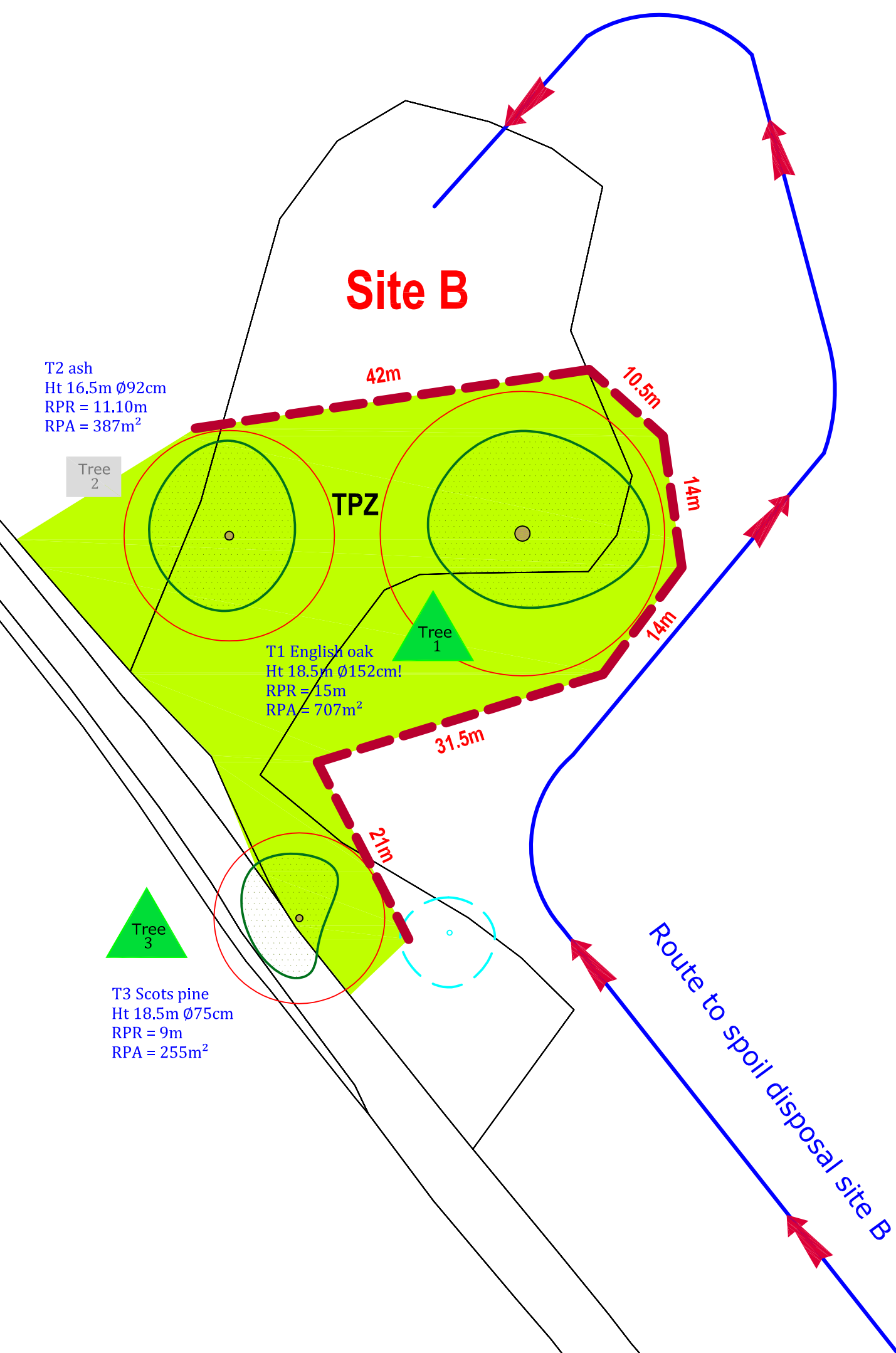
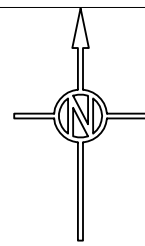
This A3 1:500 plan has been adapted from an OS map and site layout drawings provided. All measurements must be checked with the original documents © SoundWood Tree Consultancy 2014

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Tree No	Species & BS Category	Ht (m)	Dia (cm)	Crown Spread	Crown Height	Age Class	Condition		RPR RPA	ARE (years)	Defects/Comments/Recommendations
							P	S			
T1	English oak A	18.5	152!	N 10 E 12.5 S 7 W 9	4	Late mature	Fair	Poor	15m 707m <sup>2</sup>	40+	Impressive tree, likely aged, of significant ecological value & potential veteran, somewhat hidden by dense thick of elder. Base lifted on N side suggest historic windthrow. Large over-extended near horizontal lateral limbs with bias to E. Much epicormic growth suggest retrenchment. By probing with a 90cm metal rod it has been ascertained that the large cavity at 3.5m N side of stem coalesces with other wounds S & SE to form hollow stem. Horizontal lateral limb to N has significant cavity along top; whilst that to SW has large wound. Historic limb loss to W, some historic surgery. <b>Tree requires further more detailed inspection, but preliminary findings indicate tree would benefit from clearance of scrub, and targeted reduction of over-extended limbs to prevent failure &amp; breakup of canopy.</b>
T2	Ash C	16.5	92	N 9.5 E 6.5 S 7.5 W 8	3	Late mature	Poor	Fair	11.1m 387m <sup>2</sup>	10-20	Clean buttress & bole. Twin stemmed from 3m then historically lopped to produce multiple stems. In decline from south aspect, otherwise fair example of lapsed pollard. Dense epicormic growth, centre stem dead and decayed with <i>Daldinia concentrica</i> . <b>Consider re-pollarding, but tree is likely to succumb to <i>Chalara fraxinea</i>.</b>
T3	Scots pine A	18.5	75	N 6 E 3 S 5.5 W 6.9	3	Mature	Good	Good	9m 255m <sup>2</sup>	40+	Superb landscape specimen. Pendulous major branching towards road. Major deadwood.
T4	Silver birch U	12.5	52	N 3.5 E 2.2 S 5.5 W 5	2	Late mature	Fair	Very poor	6.3m 134m <sup>2</sup>	0	Historic windblown example, with lean to SE. Roots exposed and broken. Probably best removed, but this is not essential due to orientation & location.
T5	White willow C	15	75	N 7.6 E 6 S 8 W 5	2	Mature	Poor	Poor	9m 255m <sup>2</sup>	10-20	Lapsed pollard, tight forks in main stem bundle with included bark between. Vitality affected by Anthracnose. Root system will be unavoidably and likely significantly damaged by excavations to clear pond. <b>Assess viability after works, then re-pollard or fell as appropriate.</b>
T6	White willow U	7.5	<10	N 4.4 E 4.7 S 3.9 W 3.8	2	Late mature	Fair	Very poor	NA	0	Regrown remnant of collapsed tree. Fallen stem much decayed but likely offering important refuge for amphibians. <b>Re-pollard growth and if possible retain collapsed decayed stem.</b>
T7	Weeping willow B	14	78	N 7.5 E 8 S 8.4 W 8	1.8	Early mature	Fair	Good	9.3m 272m <sup>2</sup>	20-40	Much deadwood, broken stem/spilt limb to SE. Root system will be unavoidably and likely significantly damaged by excavations to clear pond. <b>Assess viability after works, then remove deadwood &amp; broken limb or fell as appropriate.</b>
T8	Goat willow U	5	22	N 2.5 E 2.2 S 2.5 W 2	1.5	Young	Good	Poor	2.7m 23m <sup>2</sup>	0	Self-set young tree with dog-leg stem. Will need to be removed as part of excavation works. <b>Fell to ground level.</b>

The sites are located within a designated conservation area, but are not covered by a TPO (New Forest District Council). Survey completed with the kind assistance of Mr N Hayden.

BS 5837:2012 Categories – A =light green; B=mid blue; C = grey; U=red. ! Indicates concerns for the *immediate* safety of defective trees in high risk areas

Condition: P = Physiological; S=Structural. Please see main key for full definitions. Ash are now listed as cat C due to *Chalara fraxinea* spreading throughout UK.





Images of T1.

Clockwise from left:

1. T1 viewed from NE
2. Large cavity on top of N limb
3. 90cm rod inserted into wound at 3.5m S face of main stem
4. Large decayed wound along top of SW limb



The sites are located within a designated conservation area, but are not covered by a TPO (New Forest District Council). Survey completed with the kind assistance of Mr N Hayden.  
BS 5837:2012 Categories – A =light green; B=mid blue; C = grey; U=red. ! Indicates concerns for the *immediate* safety of defective trees in high risk areas  
Condition: P = Physiological; S=Structural. Please see main key for full definitions. Ash are now listed as cat C due to *Chalara fraxinea* spreading throughout UK.

### Key

- **Ht** = Height measured to the nearest half-metre with a laser range finder.
- **Dia** = Diameter measured in centimetres at 1.5m above ground level using a rounded-down diameter tape.
- **o.i** = measurement taken over ivy.
- **b** = basal, **e** = estimated
- **Crown Spread** is measured with a laser range finder & expressed in metres in the direction of the four cardinal (& if appropriate inter-cardinal) points of the compass.
- **CHt** = Crown height above ground level estimated in metres
- **Structural Condition S** indicates the effect of structural defects on the health and stability of the tree; whilst **Physiological Condition P** indicates the general health & vitality.

Both are assessed as:

- Excellent High vitality, excellent condition, significant long-term amenity contribution
- Good Healthy full crown. No significant defects, long life expectancy
- Fair Generally healthy, some defects, limited life expectancy
- Poor Lacking vitality, significant defects, short life expectancy
- Dead No leaves or signs of life.

### Tree Names

Common	Scientific
Ash	<i>Fraxinus excelsior</i>
English oak	<i>Quercus robur</i>
Goat willow	<i>Salix caprea</i>
Scots pine	<i>Pinus sylvestris</i>
Silver birch	<i>Betula pendula</i>
Weeping willow	<i>Salix x Chrysocoma</i>
White willow	<i>Salix alba</i>

- **Age Class** is selected from the following categories;
  - Young Tree only recently established
  - Semi-mature Established tree, still young and relatively small
  - Early mature Tree in central third of its life cycle
  - Mature Tree in the last third of its life cycle
  - Late mature Tree nearing the end of its life cycle
- **BS Cat** refers to British Standard 5837:2012 'Trees in relation to design, demolition & construction' which categorises trees on development sites into one of four quality categories – A, B, C or U: A being very good and U meaning that management felling is appropriate regardless of any proposals. The suffix 1, 2 or 3 refers to a sub-category relating to tree, landscape or cultural values.
- **RPR** = root protection radius
- **AGL** = Above ground level.
- **ARE** = Anticipated retainable existence (in years)
- **TPO** = Tree Preservation Order
- **Con/A** = Conservation Area
- **NABD** = Not Affected by Development



The sites are located within a designated conservation area, but are not covered by a TPO (New Forest District Council). Survey completed with the kind assistance of Mr N Hayden. BS 5837:2012 Categories – A =light green; B=mid blue; C = grey; U=red. ! Indicates concerns for the *immediate* safety of defective trees in high risk areas Condition: P = Physiological; S=Structural. Please see main key for full definitions. Ash are now listed as cat C due to *Chalara fraxinea* spreading throughout UK.

# Common causes of tree damage on development sites

**Robust & properly positioned protective fencing prevents damage to trees**

The use & parking of heavy vehicles cars & plant within RPAs causes compaction and oil contamination

Fires must not be lit in the vicinity of trees. Burning by flames causes dieback and disease.

Attachment of signs, fences, cables and winches to a tree causes direct damage and promotes decay.

Protective fencing must be erected at the recommended distance & maintained throughout the construction phase

Lowering ground levels close to trees severs roots leading to crown dieback.

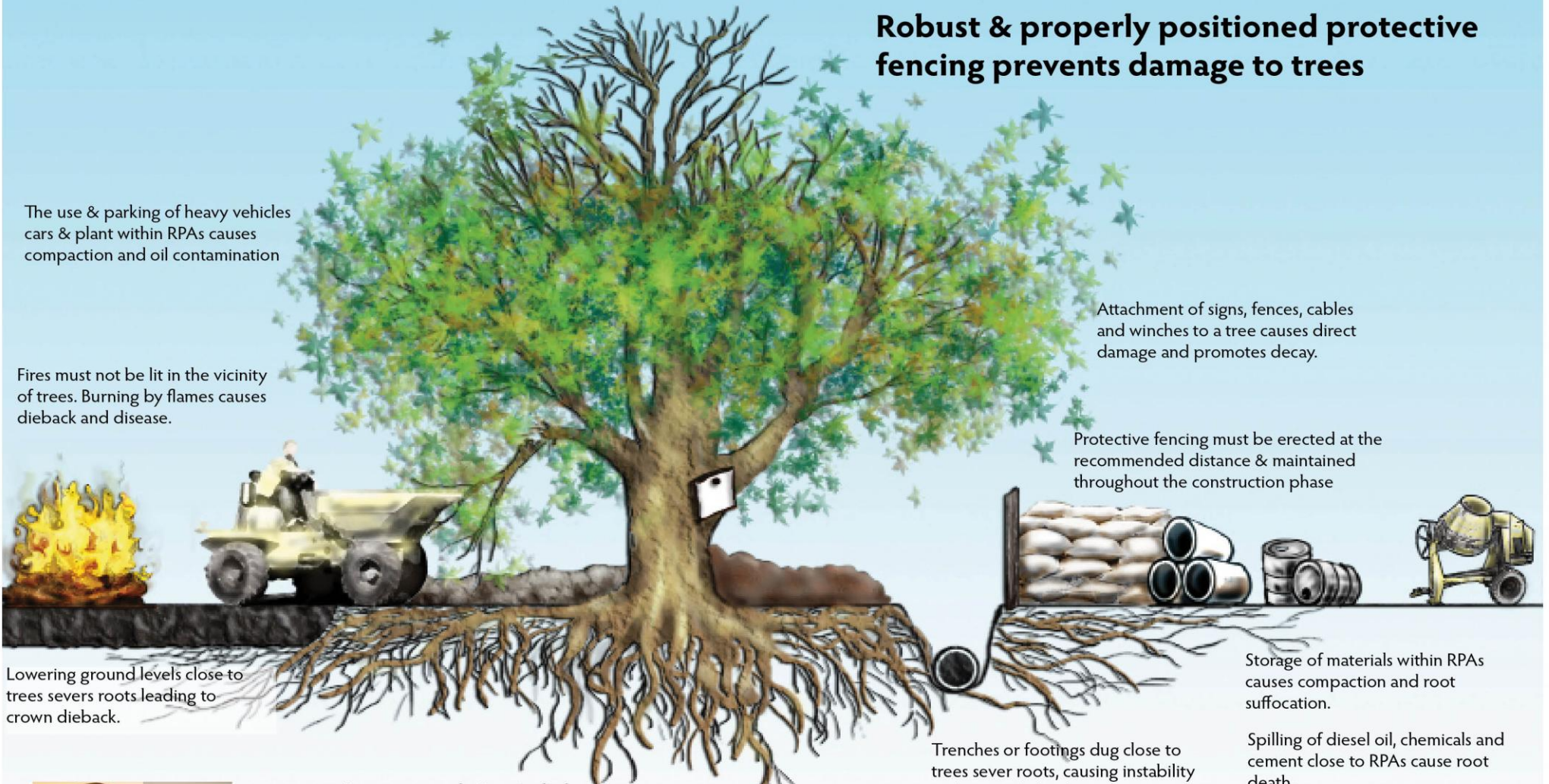
Storage of materials within RPAs causes compaction and root suffocation.

Trenches or footings dug close to trees sever roots, causing instability and crown dieback.

Spilling of diesel oil, chemicals and cement close to RPAs cause root death.

Damage to trunks & major limbs must be avoided; wounds create entry points for disease

Raising ground levels even for only a few weeks can suffocate roots, causing crown dieback.



## Appendix 4: Protective fencing & signs

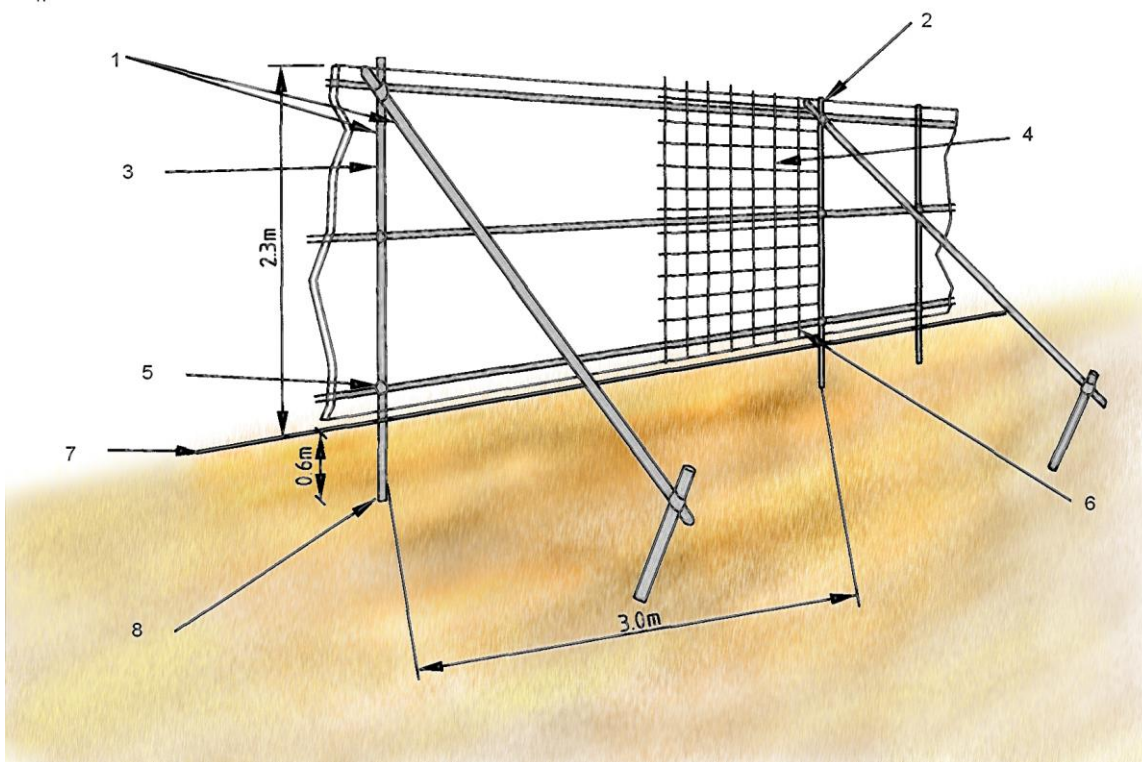
To be set out in the locations shown by the broken **DARK RED** lines at plan SW2b

Protective fencing **must** be erected and established in the locations/dimensions shown on the above plan as the primary site task, *before* any demolition or construction activities commence on the site.

Excavations should not encroach to the fence line and a minimum distance of 0.5m should be maintained between the fence and any changes in level.

The fence **must** be maintained so as to be secure and fit for purpose by preventing ingress to the RPAs throughout the construction phase and remain in place until all construction activities have been completed.

It should only be dismantled or removed with the *prior* approval of the project arboriculturalist or tree officer.



Based on an original drawing from BS 5837:2005

1. Standard scaffold poles
2. Uprights and braces driven into ground
3. Uprights driven into ground
4. 3.5m Heras weldmesh panels wired to the uprights and horizontals. On demolition or dusty sites a further covering of protective material may be required
5. Scaffold clamp
6. Wire twists and clamps to be secured on inside face of fencing to discourage dismantling
7. Ground level
8. Approx. 600mm of scaffold uprights driven into ground

Laminated A4 versions of the warning sign below and also that at appendix 3 **must** be fixed to alternate panels.



**PROTECTIVE FENCING. THIS  
FENCING MUST BE  
MAINTAINED IN ACCORDANCE  
WITH THE APPROVED PLANS  
AND DRAWINGS FOR THIS  
DEVELOPMENT.**



**TREE PROTECTION AREA  
KEEP OUT !**

**(TOWN & COUNTRY PLANNING ACT 1990)  
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY  
PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A  
TREE PRESERVATION ORDER.  
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY  
LEAD TO CRIMINAL PROSECUTION**

**ANY INCURSION INTO THE PROTECTED AREA MUST BE  
WITH THE WRITTEN PERMISSION OF THE LOCAL  
PLANNING AUTHORITY**

# Appendix 8



Envirochem Analytical Laboratories Ltd. Unit 12 The Gardens, Broadcut, Fareham. PO16 8SS. Tel: 01329 287777

SOIL ANALYSIS REPORT

Client: Hampshire & Isle Of Wight Wildlife Trust  
 Address: Testwood Lakes Centre, PO Box 268 Brunel Rd, Totton SO44 3XP  
 Site details: Breamore

Envirochem Job Number: 1400429

Date Sampled: 14th August 2014

Date Received: 14th August 2014



Sheet 1 of 3

Notes: all results expressed as mg/kg(dry weight) unless stated  
 analyses carried out on air dried samples with the exception of water content and TPH which are carried out on field moist samples

Sample						Results														Remarks				
Lab sample no.	Client Ref	Sample Point	Description	Material >2mm removed (%)	Depth (m)	% Water	Arsenic <sup>M</sup>	Cadmium <sup>M</sup>	Chromium <sup>M</sup>	Copper <sup>M</sup>	Mercury	Nickel <sup>M</sup>	Lead <sup>M</sup>	Selenium	Zinc <sup>M</sup>	pH (pH units)	Chloride <sup>M</sup>	Nitrate	Phosphate	Sulphate <sup>M</sup>	TPH			
che-1	Hollow Breamore	—	Silt loam	38	—	24	5.9	2.2	23	28	< 1	20	116	< 3	169	7.18	28	8	38	28	< 50			
che-2	Breamore marsh pond	—	Silty clay loam	2.3	—	75	8.7	2.8	29	37	< 1	29	98	< 3	222	6.98	95	8	< 5	191	162			
Method Number:						5.01	5.03, 6.08									6.03	5.06, 6.02					6.04		
SGV - Residential						—	32	10	—	2330	1	130	168	350	3750	—	—	—	—	—	—	—	—	
SGV - Allotment						—	43	1.8	—	524	26	230	—	120	618	—	—	—	—	—	—	—	—	
SGV - Commercial						—	640	230	—	71700	26	1800	5370	13000	66500	—	—	—	—	—	—	—	—	
Minimum reporting value						< 0.1	2	1	2	1	1	14	20	3	40	—	10	5	5	20	50			

Accreditation: Analytes marked **M** are analysed under the scope of our MCERTS accreditation  
 Analytes marked **U** are analysed under the scope of our UKAS accreditation

Analytes marked **m** are subcontracted and analysed under the scope of their MCERTS accreditation  
 Analytes marked **u** are subcontracted and analysed under the scope of their UKAS accreditation

Limits: **Environment Agency Soil Guideline Values:** (information taken from: Using Soil Guideline Values: Science Report: SC050021/SGV introduction & www.environment-agency.gov.uk/clea)  
 They represent "trigger values" / indicators to a risk assessor that soil concentrations above this level may pose a possibility of significant harm to human health.

Conforming samples: All results labelled with an asterisk (\*) are non-conforming due to incorrect sample storage or handling. The result may be invalid.

Comments: (all comments are beyond the scope of our accreditation)

Analyst(s): S. Bessant, E. Hoque, D.Russell, K. Muzan & K. O'Connor

Date completed: 28th August 2014

Date Issued: 29th August 2014

Authorised by:

Dr. Duncan Russell  
 (Technical Director)



Envirochem Analytical Laboratories Ltd. Unit 12 The Gardens, Broadcut, Fareham. PO16 8SS. Tel: 01329 287777

SOIL ANALYSIS REPORT FOR PAHs

Client: Hampshire & Isle Of Wight Wildlife Trust  
 Address: Testwood Lakes Centre, PO Box 268 Brunel Rd, Totton SO44 3XP  
 Site details: Breamore  
 Envirochem Job Number: 1400429

Date Sampled: 14th August 2014  
 Date Received: 14th August 2014

Notes: all results expressed as mg/kg(dry weight) unless stated  
 analyses carried out on field moist samples

Sample				Results																	Remarks		
Lab sample no.	Client Ref	Sample Point	Description	% Water	PAH (total)	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benz(a)anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Dibenz(a,h)anthracene	Benzo(g,h,i)perylene		Indeno(1,2,3-c,d)pyrene	
che-1	Hollow Breamore	—	Silt loam	24	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
che-2	Breamore marsh pond	—	Silty clay loam	75	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Method Number:				5.01	6.05																		
SGV - Residential				—	—	8.7	850	1000	780	380	9200	670	1600	5.9	9.3	7	10	1	0.9	47	4.2		
SGV - Allotment				—	—	23	160	200	160	90	2200	290	620	10	12	13	23	2.1	2.3	160	7.1		
SGV - Commercial				—	—	1100	100000	100000	71000	23000	540000	23000	54000	97	140	100	140	14	13	660	62		
Detection Limit				0.5	10	1	1	1	1	1	1	1	1	1	1	1	1	1	0.9	1	1		

Accreditation: Analytes marked **M** are analysed under the scope of our MCERTS accreditation

Analytes marked **U** are analysed under the scope of our UKAS accreditation

Limits: SGV: Soil Guideline Value: For a residential location with plant uptake. From Defra 2002.

ICRCL: Threshold concentrations above which remedial action may be needed. From ICRCL 59/83 document. Inter Departmental Committee for the Redevelopment of Contaminated Land (UK) 1987

Dutch: Intervention values above which pollutants should generally be treated. From Dutch Ministry of Housing 2000

Analytes marked **m** are subcontracted and analysed under the scope of their MCERTS accreditation

Analytes marked **u** are subcontracted and analysed under the scope of their UKAS accreditation

Analyst(s): S. Bessant  
 Date completed: 28th August 2014  
 Date Issued: 29th August 2014

Authorised by:  Dr. Duncan Russell (Technical Director)





Envirochem Analytical Laboratories Ltd. Unit 12 The Gardens, Broadcut, Fareham. PO16 8SS. Tel: 01329 287777

**SOIL ANALYSIS REPORT FOR Pesticide Screen**

Client: Hampshire & Isle Of Wight Wildlife Trust

Address: Testwood Lakes Centre, PO Box 268 Brunel Rd, Totton SO44 3XP

Site details: Breamore

Date Sampled: 14th August 2014

Envirochem Job Number: 1400429

Date Received: 14th August 2014

Sheet 3 of 3

note: all results in mg/kg unless stated

Sample			Results														Remarks	
Lab sample no.	Client Ref	Soil Type	Chlorobenzene	Aldrin	DDT	DDT	Dieldrin	Endosulfan A	Endrin	Atrazine	Diazinon	Fenthothion	Parathion-ethyl	2-Chlorophenol	Pentachlorophenol	Trichlorophenol		
che-1	Hollow Breamore	Silt loam	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
che-2	Breamore marsh pond	Silty clay loam	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Method Number:																		
Detection Limit			0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Accreditation

Analytes marked **U** are analysed under the scope of our UKAS accreditation

Analytes marked **u** are subcontracted and analysed under the scope of their UKAS accreditation

Limits:

Potable Water: Schedule 1, The Surface Waters (Abstraction for Drinking Water)(Classification) Regulations 1996. and SE water supply PCVs

Ground Water: Intervention values above which pollutants should generally be treated. From Dutch Ministry of Housing 2000

Effluent water: Guide maxima for common substances.

Analyst(s): S.Bessant

Date completed: 28th August 2014

Date Issued: 29th August 2014

Authorised by:

Dr. Duncan Russell  
(Technical Director)

# Appendix 9



**LINDSAY CARRINGTON ECOLOGICAL  
SERVICES LTD**

ECOLOGICAL APPRAISAL  
THE HOLLOW  
BREAMORE  
HAMPSHIRE

JULY 2013

ON BEHALF OF HAMPSHIRE AND ISLE OF WIGHT  
WILDLIFE TRUST





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## SUMMARY

1. Lindsay Carrington Ecological Services Limited were commissioned by Hampshire and Isle of Wight Wildlife Trust to conduct an Ecological Appraisal at The Hollow, Breamore, Hampshire (Grid ref: SU 1533318504).
2. This survey was required to support a planning application to remove a series of invasive species listed on Schedule 9 of the Wildlife and Countryside Act (as amended), 1981 including water fern (*Azolla filiculoides*), water primrose (*Ludwigia grandiflora*) and New Zealand pigmyweed (*Crassula helmsii*). Once removed these plant will be transported by vehicle to the hollow and buried. This report only discusses the ecological impacts in relation to the proposed invasive species burial site at the hollow.
3. An Ecological Appraisal is essentially a multi-disciplinary walk-over survey and was conducted with the objective of identifying any ecological constraints associated with the proposals such as the site's potential to support any legally protected species or habitats of high nature conservation value.
4. The hollow comprises ruderal habitat with a dense area of bramble at the southern side. A bank comprising a stretch of poor semi-improved grassland is situated along the western side of the hollow. Two mature trees and a number of elder shrubs are scattered within the area. The hollow is located within an arable field currently containing poppies. A native hedgerow runs along the southern boundary of the hollow.
5. A single badger entrance was identified along the north western boundary of the hollow along the bank. The hole was not considered to be active due to gravel and cobwebs present within the entrance and no evidence of recent activity including hairs, latrines, excavation material or pathways were encountered. Recommendations have been made in Section 5.1.
6. A limited area of suitable reptile foraging habitat is present within the hollow. An ecological watching brief has therefore been recommended in Section 5.2.
7. A pond has been identified within 100 metres of the site however, the site comprises limited foraging habitat for great crested newts and the pond is surrounded by unsuitable terrestrial habitat. Precautionary measures have therefore been recommended in Section 5.3.
8. Two mature trees are present within the hollow. These trees will not be affected by the proposals and will be protected by a buffer zone marked with heras fencing.

9. A number of elder shrubs are also located within the hollow. These will be required to be removed. Recommendations have been provided in Section 5.4.
  
10. Recommendations have been made in Section 5.5 to increase the biodiversity value of the site, which includes providing nesting and roosting opportunities for birds and bats.

## 1.0 INTRODUCTION

Lindsay Carrington Ecological Services Limited were commissioned by Hampshire and Isle of Wight Wildlife Trust to conduct an Ecological Appraisal at The Hollow, Breamore, Hampshire (Grid ref: SU 1533318504). This survey was undertaken in support of a planning application for the removal of invasive species listed on Schedule 9 of the Wildlife and Countryside Act (as amended), 1981.

The invasive non-native species (INNS) water fern (*Azolla filiculoides*), water primrose (*Ludwigia grandiflora*) and New Zealand pigmyweed (*Crassula helmsii*) are increasingly colonising a pond within the Breamore Marsh SSSI, and are threatening the return to favourable condition due to the impacts on the native plant brown galingale. *Ludwigia* and *Crassula* are two of the priority INNS for action considered by the Environment Agency, in a preventative and rapid response approach as supported by the Invasive Non-native Species Framework Strategy for Great Britain (Defra, 2008).

As to date chemical control has proved unsuccessful, and therefore it is proposed to mechanically excavate the pond to remove the bulk of the biomass and then to treat any re-occurrence of the non-native invasive species. This has become even more imperative since the discovery that creeping water primrose has spread to a nearby ditch. The excavated material will be buried in a nearby hollow and buried. This report covers ecological impacts in relation the burial site at The Hollow.

An Ecological Appraisal is essentially a multi-disciplinary walk-over survey and was conducted with the objective of identifying any ecological constraints associated with the proposals such as the site's potential to support any legally protected species or habitats of high nature conservation value.

Section 2 of the report provides some background information on legislative requirements and relevant policy. Section 3 details the methodologies adopted for the ecological surveys that were conducted and Section 4 provides an account of the survey results. Section 5 provides information on the relevance of the results to the proposed development and makes recommendations for measures to mitigate and compensate for the effects on a particular habitat or species.



## 2.0 LEGISLATION AND POLICY

### 2.1 Legislation

The following legislation may be of relevance to the proposed works. Full details of statutory obligations with respect to biodiversity and the planning system can be found in DEFRA Circular 01/2005.

- **The Conservation of Habitats and Species Regulations 2010:**  
This transposes the EU Habitats Directive (Council Directive 92/43/EEC) into domestic law. The Regulations provide protection for a number of species including:
  - All species of bat;
  - Dormouse;
  - Otter; and
  - Great crested newt.

This legislation makes it an offence to deliberately capture, kill or injure individuals of these species listed on Schedule 2 and damage or destroy their breeding site or place of shelter. It is also illegal to deliberately disturb these species in such a way as to be likely to significantly affect: (i) the ability of any significant group of the species to survive, breed or rear or nurture their young; or (ii) the local distribution or abundance of the species<sup>1</sup>;

This legal protection means that where development has the potential to impact on bats, or other European protected species, the results of a protected species survey must be submitted with a planning application.<sup>2</sup>

Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) are also protected under this legislation. These are a network of sites designated for supporting habitats or species of high nature conservation importance in the European context. Any activity that has a detrimental effect on these European sites is made an offence under the Regulations. Where a development is likely to have a significant impact on a European site, the Regulations require a rigorous assessment of the impacts, known as an Appropriate Assessment.

---

<sup>1</sup> Note that the amendment to the Habitats Regulations in August 2007 and January 2009 has resulted in an increase in the threshold of illegal levels of disturbance to European Protected Species (EPS). An offence is only committed if the deliberate disturbance would result in significant impacts to the EPS population. However, it should be noted that activities that cause low levels of disturbance to these species continue to constitute an offence under Section 9 of the Wildlife and Countryside Act (see below).

<sup>2</sup> DEFRA Circular 01/2005: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System.

- **The Wildlife and Countryside Act 1981 (and amendments):** Protected fauna and flora are listed under Schedules 1, 5 & 8 of the Act. Species likely to be of relevance include:
  - All species of **bat**. It is an offence to intentionally or recklessly disturb any bat whilst it is occupying a roost or to intentionally or recklessly obstruct access to a bat roost;
  - All species of **British reptile** (in particular grass snake, common lizard, adder and slow-worm). It is illegal to kill or injure these species; and
  - **Great crested newt**. It is illegal to obstruct access to any structure or place which great crested newts use for shelter or protection or to disturb any great crested newt while it is using such a place.

This Act also makes it an offence to intentionally kill, injure or take any wild bird or to take, damage or destroy their eggs and nests (whilst in use or being built). In addition, it is an offence to disturb any nesting bird listed on Schedule 1 or their young.

Schedule 9 of the Act lists those species for which it is an offence to plant or cause their spread. Species listed under Schedule 9 that are most likely to be encountered are Japanese knotweed (*Fallopia japonica*) and giant hogweed (*Heracleum mantegazzianum*).

Sites of Special Scientific Interest (SSSIs) are also protected under the Wildlife and Countryside Act 1981. These are a network of sites identified as being of national nature conservation importance and hence afforded legal protection.

- **The Countryside and Rights of Way Act 2000:** This Act strengthens nature conservation and wildlife protection through a number of mechanisms. It places a duty on Government Ministers and Departments to conserve biological diversity, provides police with stronger powers relating to wildlife crimes, and improves protection and management of SSSIs.
- **The Protection of Badgers Act 1992:** This Act makes it an offence to wilfully take, injure or kill a badger; cruelly mistreat a badger; interfere with badger setts, sell or possess a live badger; mark or ring a badger. A licence is required for work involving the use of hand tools within 10metres of a sett, light machinery within 20metres of a sett and heavy machinery within 30metres of a sett.
- **Wild Mammals (Protection) Act 1996:** This Act provides protection for all wild animals from intentional acts of cruelty.
- **Hedgerow Regulations 1997:** These Regulations establish a set of criteria for assessing the importance of hedgerows. Where a hedgerow is deemed to be 'important' its removal is prohibited without consent from the local Planning Authority.

## **2.2 Policy**

The following policy is of relevance to the proposed works:

- **National Planning Policy Framework (NPPF):** This sets out the Government's vision for biodiversity in England with the broad aim that planning, construction, development and regeneration should maintain and enhance, restore or add to biodiversity and geological conservation interests. NPPF includes sections on legally protected species and sites (see Section 2.1).
- **Local Sites (including Sites of Nature Conservation Interest (SNCIs), Local Nature Reserves (LNR), and Biological Notification Sites (BNSs)/County Wildlife Sites (CWSs):** These are a network of sites designated for their nature conservation importance in a local context. Although they are not afforded legal protection they contribute towards local and national biodiversity.
- **Biodiversity Action Plans (BAPs):** BAPs set out policy for protecting and restoring priority species and habitats as part of the UK's response as signatories to the Convention on Biological Diversity. BAPs operate at both a national and local level with priority species and habitats identified at a national level and a series of Local BAPs that identify ecological features of particular importance to a particular area of the country. The requirement to consider and contribute towards BAP targets was strengthened through the Countryside and Rights of Way Act 2000. Habitat and Species Action Plans that are likely to be of relevance include:
  - Brown long-eared bat (UK BAP).
  - Soprano pipistrelle (UK BAP).
  - Noctule (UK BAP).

## **3.0 METHODOLOGY**

### **3.1 Desk study**

The Multi-Agency Geographical Information for the Countryside (MAGIC) website and records collected from personal records made by staff of Lindsay Carrington Ecological Services (LCES) were used to provide information on protected species within 10km and designated sites within 5km of the proposed development.

### **3.2 Field study**

#### **3.2.1 Vegetation**

The standard Phase 1 habitat survey methodology (JNCC, 2010) was adopted whereby habitats are mapped using colour codes (see Appendix II). A detailed walkover survey was undertaken on the 22<sup>nd</sup> July 2014 by Hannah Stebbings, directly searching for legally protected and invasive species of plant and categorising any habitats of ecological value that were encountered. A general description of the vegetation was also noted, listing species encountered and scoring their abundance using the DAFOR scale:

- D Dominant;
- A Abundant;
- F Frequent;
- O Occasional;
- R Rare;
- L Local (used as a prefix to any of the above).

#### **3.2.2 Protected Species Assessment**

Habitats and features were assessed for their potential to support protected species (see Section 2). In many cases determining the presence, distribution and population size of protected species will require additional, specialist surveys.

##### ***Badgers***

A direct search was undertaken for signs of badger. Signs of badger may include setts, dung pits, latrines, paths or hairs on fences and vegetation. Any setts encountered were classified according to the number of entrances and the extent of their use.

##### ***Reptiles***

Reptiles are widespread in habitats that provide both cover, in the form of scrub or tall vegetation, and basking areas such as areas of hard standing or short grassland communities. Piles of debris or rubble also provide excellent cover and hibernation sites for reptiles. Reptiles are a notoriously difficult group to survey due to their secrecy. They

do, however, have an affinity for hiding under debris exposed or partially exposed to the sun.

### ***Bats***

Bats often roost in trees. Features such as old woodpecker holes, splits, cavities and rot holes, loose or flaking bark and ivy creepers will be exploited by bats to roost. Any trees present on site were therefore assessed for their potential to support roosting bats by searching for such features.

The presence of roosting bats can be spotted through signs such as accumulations of moth or butterfly wings, staining, bat droppings, or bats themselves. The absence of these cannot, however, be treated as conclusive evidence that bats are not present, and therefore an assessment was made of the potential of the trees to support bats based on the following scale:

<b>Confirmed Roost</b>	Evidence of bat occupation found
<b>High Roosting Potential</b>	With significant roosting potential, either because they contain a large number of suitable features or those features present appear optimal
<b>Medium Roosting Potential</b>	Features with moderate roosting potential, with roosting features appearing less suitable
<b>Low or Negligible Roosting Potential</b>	Trees with few, if any, features suitable for roosting

### ***Great crested newts***

Suitable breeding ponds are essential to support populations of great crested newt although they actually only spend a relatively short period of the year in the ponds during the spring for breeding. The remainder of the year is spent in suitable 'foraging' habitat such as tall grassland and woodland. During the winter the great crested newt hibernates, often amongst the roots of trees and scrub or in places such as piles of rubble, amongst foundations of buildings or under fallen trees and logs.

Great crested newts are known to forage up to at least five hundred metres from their breeding sites and suitable habitats that fall within five hundred metres must be considered even in situations where the breeding site itself will not be affected. Ponds within a five hundred metre radius were therefore identified during this survey and habitats within and immediately adjacent to the site at were assessed in terms of their suitability as foraging habitat. Further specialist surveys will be recommended where appropriate.

## 4.0 RESULTS

### 4.1 Desk study

#### *Statutory and non-statutory sites*

Table 1 below lists sites designated for nature conservation located within 5km of the site.

**Table 1: Statutory and non-statutory designated sites within a 5km radius of The Hollow, Breamore**

Site name	Conservation status	Distance from site	Size (Ha)	Habitat description
The New Forest	RAMSAR <sup>3</sup> , SAC <sup>4</sup> , SPA <sup>5</sup> , SSSI <sup>6</sup>	2.1km east	29253.96	The New Forest encompasses the largest area of unsown vegetation in lowland England. Habitats present comprise lowland heath, valley and seepage step mire, or fen, and ancient pasture woodland, including riparian and bog woodland.
The River Avon	SAC, SSSI	1.1km east	467.58	The Avon is rich and diverse supporting over 180 species of aquatic plant, fish varieties and aquatic invertebrates are wide ranging here.
Breamore Marsh	SSSI	280m south	14.77	The site is notified due to its surviving manorial green where goose and cattle grazing still prevail. The grazing history of the site is portrayed through the composition of flora within the site. Other habitats present include ponds with connecting waterways supporting rich aquatic flora.

*Breamore Marsh SSSI is situated within 280 metres of the proposed invasive species burial site, however, the works are small scale and as a result are not considered likely to impact upon the SSSI. No further recommendations have therefore been made.*

---

<sup>3</sup> RAMSAR: Wetland of International Importance

<sup>4</sup> SAC: Special Area of Conservation

<sup>5</sup> SPA: Special Protected Area

<sup>6</sup> SSSI: Site of Special Scientific Interest

***Protected species records***

Table 2 below presents the results of the search for protected species highlighted by LCES within 10km of the site.

**Table 2: Protected and notable species within a 10km radius of The Hollow, Breamore**

Common Name	Scientific name	Status	Location
<b><i>Mammals</i></b>			
Serotine	<i>Eptesicus serotinus</i>	Schedule 2 Habs Regs <sup>7</sup> , Schedule 5 WCA <sup>8</sup>	1 record within 10km of the site in Downton.
Myotis sp.	<i>Myotis sp.</i>	Schedule 2 Habs Regs, Schedule 5 WCA	1 record within 10km of the site in Downton.
Noctule	<i>Nyctalus noctula</i>	Schedule 2 Habs Regs, Schedule 5 WCA, UK BAP <sup>9</sup>	1 record within 10km of the site in Downton.
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	Schedule 2 Habs Regs, Schedule 5 WCA	1 record within 10km of the site in Downton.
Soprano pipistrelle	<i>Pipistrelluys pygmaeus</i>	Schedule 2 Habs Regs, Schedule 5 WCA, UK BAP	1 record within 10km of the site in Downton.
Brown long-eared	<i>Plecotus auritus</i>	Schedule 2 Habs Regs, Schedule 5 WCA, UK BAP	1 record within 10km of the site in Downton.
Long-eared bat	<i>Plecotus sp.</i>	Schedule 2 Habs Regs, Schedule 5 WCA	2 records within 10km of the site in Fordingbridge and Breamore.
Badger	<i>Meles meles</i>	Protection of Badgers Act 1992	1 record within 10km of the site at Downton.

*These records of protected and notable species in the vicinity of the site increase the likelihood of them being present where suitable habitat is identified in the field survey.*

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<sup>7</sup> Habs Regs: The Conservation of Habitats and Species Regulations 2010

<sup>8</sup> WCA: The Wildlife and Countryside Act 1981 (as amended)

<sup>9</sup> UK BAP: UK Biodiversity Action Plan

## 4.2 Field study

The field survey was conducted by Hannah Stebbings on the 22<sup>nd</sup> July 2014.

### 4.2.1 Vegetation

The accompanying Phase 1 habitat map provided as Appendix II depicts the habitats encountered and highlights areas of particular interest with target notes.

Descriptions of these habitats are provided below:

#### *Ruderal habitat (Target note 1)*

The predominant habitat within the site is ruderal vegetation dominated by common nettle (*Urtica dioica*). Additional species within the ruderal habitat include locally frequent / occasional cleavers (*Galium aparine*) and locally occasional creeping thistle (*Cirsium arvense*). A full species list is provided in Table 3 below.

**Table 3: Species recorded within the ruderal habitat**

Common name	Latin name	Abundance	Status
<i>Herbaceous plants</i>			
Scarlet pimpernel	<i>Anagallis arvensis</i>	LF/O	Common on dunes & open grasslands
Cow parsley	<i>Anthriscus sylvestris</i>	LO	Common & widespread
Lesser burdock	<i>Arctium minus</i>	LO	Common & widespread
Mugwort	<i>Artemisa vulgaris</i>	LO/R	Common & widespread
Lords-and-ladies	<i>Arum maculatum</i>	LO/R	Common, mostly on calcareous or richer soils
White bryony	<i>Bryonia dioica</i>	LO	Common on hedgerbanks, scrub & woodland edge, especially on calcareous soils
Creeping thistle	<i>Cirsium arvense</i>	LO	Common & widespread
Field bindweed	<i>Convolvulus arvensis</i>	LF	Common & widespread
Cabbage sp.	<i>Crucifer sp.</i>	LO/R	Common & widespread
Cleavers	<i>Galium aparine</i>	LF/O	Common & widespread
Ground-ivy	<i>Glechoma hederacea</i>	LF/R	Common & widespread except on the poorest soils
White dead-nettle	<i>Lamium album</i>	LO	Common & widespread
Hawkbit sp.	<i>Leontodon sp.</i>	LO/R	Common & widespread
Common mallow	<i>Malva sylvestris</i>	LR	Common on roadsides, wasteland & hedgerbanks
Dock sp.	<i>Rumex sp.</i>	LO/R	Common & widespread
Ragwort	<i>Senecio jacobaea</i>	LO	Common & widespread



Common name	Latin name	Abundance	Status
Groundsel	<i>Senecio vulgaris</i>	LO	Common in disturbed places
Red campion	<i>Silene dioica</i>	LO	Common in hedgebanks, woodlands & on rich base soils
Scentless mayweed	<i>Tripleurospermum inodorum</i>	LF/O	Common in arable & wasteland habitats
Common nettle	<i>Urtica dioica</i>	LD	Common & widespread
Great mullein	<i>Verbascum thapsus</i>	LO/R	Common in open woodlands, dry hedgebanks & wasteland
Field speedwell	<i>Veronica persica</i>	LF/O	Common & widespread

*Species recorded within the ruderal habitat are common and widespread and therefore of low botanical value. The ruderal vegetation provides limited foraging opportunities for reptiles and amphibians however; precautionary measures will be taken when removing this vegetation. Recommendations have been provided in Section 5.2 and 5.3.*

#### **Poor semi-improved grassland**

Poor semi-improved grassland habitat is located along the margins of the hollow predominantly along the western bank. Species present include locally abundant false oat-grass (*Arrhenatherum elatius*), locally frequent / rare wild oat (*Avena fatua*) with locally occasional / rare Yorkshire-fog (*Holcus lanatus*) and cock's-foot (*Dactylis glomerata*).

*This habitat provides potential opportunities for foraging reptiles therefore recommendations have been provided in Section 5.2 and 5.3.*

#### **Mature native trees**

Two mature native trees including a pedunculate oak (*Quercus robur*) and an ash (*Fraxinus excelsior*) are located within the ruderal habitat in the hollow.

*These trees will not be affected by the proposals, and the trees will be protected by a buffer zone surrounding them marked with fencing.*

#### **Native shrubs**

A number of locally frequent elder (*Sambucus nigra*) shrubs are scattered within the hollow surrounded by ruderal vegetation.

*These shrubs will be removed to facilitate the works therefore further recommendations have been presented in Section 5.4 to protect nesting birds.*

## **4.2.2 Protected species**

### ***Badgers***

A single mammal entrance characteristic of badgers was identified along the north western boundary along the bank of the hollow. The hole was considered to be inactive due to gravel and cobwebs in the entrance and lack of additional evidence to suggest recent activity including latrines, hairs, pathways and footprints. No recently excavated material was present. A single mammal track was identified along the south western boundary however the track was not well worn and did not lead to any other entrances. No additional evidence to suggest badger activity within the hollow was encountered. Appendix II depicts the location of the entrance and mammal track.

*Recommendations have been provided in Section 5.1.*

### ***Reptiles***

The area of semi-improved grassland along the western bank provides foraging opportunities for reptiles. A native hedgerow runs along the southern boundary of the hollow providing connectivity to the wider landscape. Tree roots within the scattered shrubs and trees also provide potential shelter and hibernation habitat. Good edge habitat providing opportunities for basking is located around the boundary of the hollow where the ruderal habitat meets the ephemeral / short perennial habitat in the arable poppy field.

*Precautionary measures have been advised where vegetation clearance is required in Section 5.2.*

### ***Great crested newts***

Five waterbodies were identified from aerial photographs and maps within five hundred metres to five hundred metres of the site boundary. One pond is located within just under 100 metres of the site. This pond is surrounded by arable field comprising poppy crops and is therefore not connected to the hollow by suitable foraging habitat.

The hollow comprises predominantly common nettles which provide minimal foraging opportunities for amphibians. The rough grassland bank along the western side of the site provides more suitable foraging opportunities however this area is restricted in size.

*Recommendations have been provided in Section 5.3*

### ***Nesting birds***

Trees, shrubs and bramble scrub are located within the hollow and provide potential foraging and nesting habitat for birds.

*The shrubs and scrub habitat are required to be removed to facilitate the proposals as a result further recommendations have been provided in Section 5.4.*

### **4.2.3 Invasive species**

No species listed under Schedule 9 of the Wildlife and Countryside Act 1981 as an invasive species were recorded within the site.

*No further recommendations have been made.*

## **5.0 CONCLUSIONS AND RECOMMENDATIONS**

The site comprises predominantly ruderal vegetation with dominant common nettle. Additional habitats within the site include poor semi-improved grassland, bramble scrub, scattered elder shrubs and two mature trees. The site measures approximately 0.1 hectares in size. The following was noted:

- A single badger entrance considered to be inactive was identified along the north western boundary. Recommendations have been provided in Section 5.1.
- The hollow contains some suitable habitat for reptiles and amphibians therefore recommendations have been provided in Section 5.2 and 5.3.
- Mature trees, shrubs and bramble scrub provide potential habitat for nesting birds. The trees are not programmed to be removed however the bramble and shrubs will be required to be removed therefore precautionary measures have been outlined below in Section 5.4.
- Suggestions for ecological enhancements have been provided in Section 5.5.

### **5.1 Badgers**

A single badger hole was identified along the north western side of the bank within the hollow. At the time of the initial site visit no evidence to indicate ‘current use’ was observed.

As a precautionary measure the entrance will be monitored over August to ensure the sett is not in ‘current use’.

If evidence to suggest badgers are utilising the sett is recorded during this time a development licence from Natural England will be required to close the sett.

### **5.2 Reptiles**

A limited area of suitable reptile foraging habitat is present within the hollow, however the site is predominantly covered in common nettle which provides restricted foraging opportunities.

An ecological watching brief will be maintained during site clearance to ensure no reptiles are harmed during the process.

### **5.3 Great crested newts**

A restricted area of suitable habitat for foraging amphibians is located within the poor semi-improved grassland along the western bank. The site is dominated by common nettle and is therefore not considered to be good quality foraging habitat.

An ecological watching brief will be maintained throughout the vegetation clearance process to ensure that no amphibians are harmed however, if a great crested newt is encountered works will stop immediately and a European protected species licence will be sought from Natural England.

#### **5.4 Nesting birds**

The vegetation within the site, includes ruderal, poor semi-improved grassland, native shrubs and mature trees which provide foraging and nesting habitat for common and widespread species of bird such as blue tit and wren as well as birds listed as amber on the BoCC (Birds of Conservation Concern) list such as dunnock, and Biodiversity Action Plan (BAP) species such as song thrush. The following precautions should negate risk of harming, injuring or contributing to the demise of these species:

- All vegetation clearance should be conducted outside of the bird nesting season which is considered to run from March to September. Where this is not possible a suitably qualified ecologist should check potential nesting habitat immediately prior to clearance. Where nesting birds are encountered clearance must be postponed until the nestlings have fledged.
- Ecological enhancement measures described in Section 5.4 will provide foraging and nesting opportunities for many species.

#### **5.5 Ecological enhancement**

Suggestions to install bat and bird boxes to enhance the area for these species have been provided below.

- Provision of bat boxes and nest boxes on the existing mature trees within the site would enhance the habitat for the local bat and bird population. Bat boxes and tubes, and bird boxes can be purchased from websites such as Wildcare <http://www.wildcare.com> and Jacobi Jayne [www.jacobijayne.co.uk](http://www.jacobijayne.co.uk).

## 6.0 REFERENCES

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## APPENDIX I: Location of The Hollow



**Map legend**

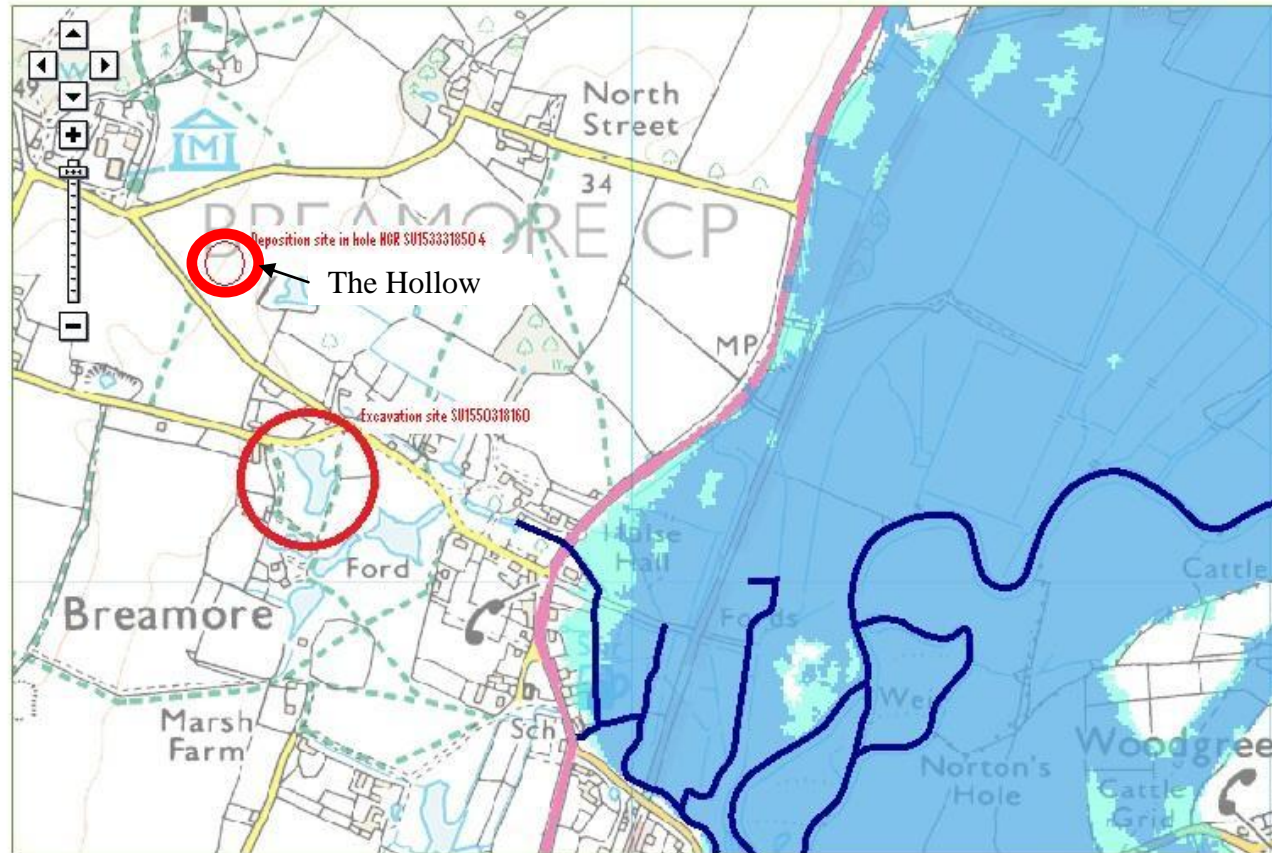
Click on the map to see what is the Risk of Flooding at a particular location.

Flood Maps

- Flooding from rivers or sea without defences
- Extent of extreme flood
- Flood defences (Not all may be shown\*)
- Areas benefiting from flood defences (Not all may be shown\*)
- Main rivers

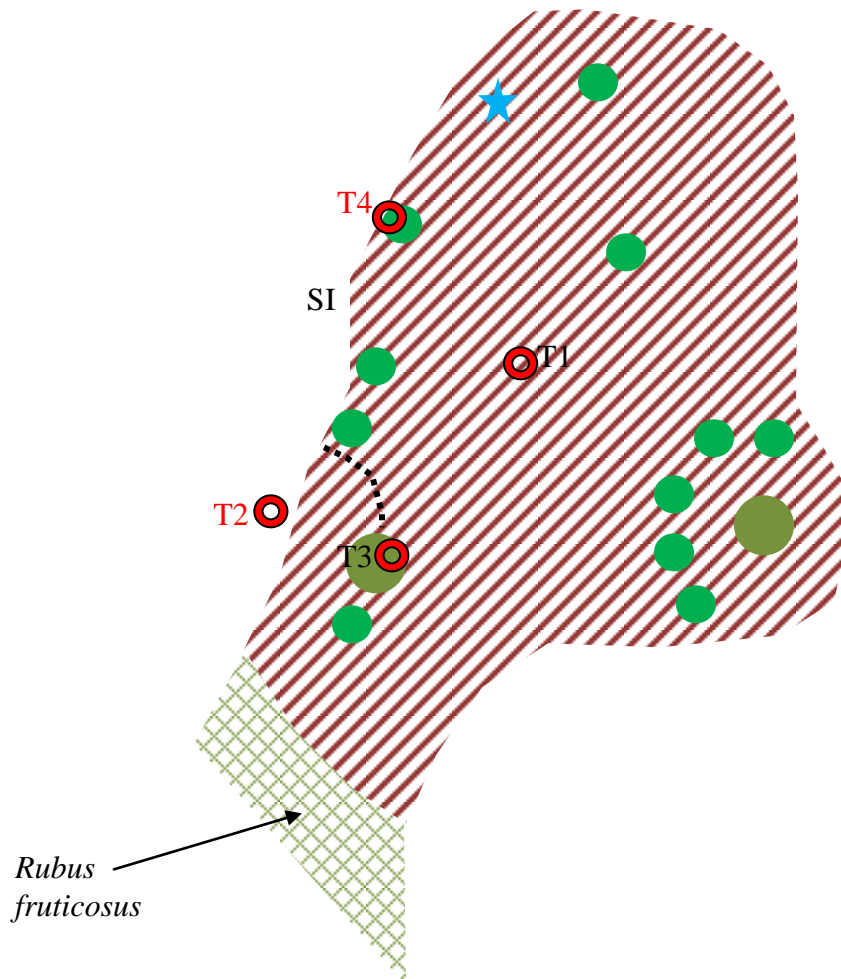
Breamore, Hampshire at scale 1:10,000

Data search Text only version











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## APPENDIX II: Phase 1 Map





**Key to Phase 1 Habitat Map**

	Poor semi-improved grassland
	Scrub - Bramble ( <i>Rubus fruticosus</i> )
	Tall ruderal - Common nettle ( <i>Urtica dioica</i> )
	Scattered shrubs (Elder ( <i>Sambucus nigra</i> ))
	Scattered trees
	Mammal track
	Badger entrance
	Target note

**Target notes to accompany Phase 1 habitat map**

Target Note	Description
T1	The predominant habitat within the site is ruderal vegetation. Species present include locally dominant common nettle ( <i>Urtica dioica</i> ), locally frequent field bindweed ( <i>Convolvulus arvensis</i> ), locally frequent / occasional scarlet pimpernel ( <i>Anagallis arvensis</i> ), cleavers ( <i>Galium aparine</i> ), scentless mayweed ( <i>Tripleurospermum inodorum</i> ), field speedwell ( <i>Veronica persica</i> ) with locally occasional cow parsley ( <i>Anthriscus sylvestris</i> ), lesser burdock ( <i>Arctium minus</i> ), white bryony ( <i>Bryonia dioica</i> ), creeping thistle ( <i>Cirsium arvense</i> ), white dead-nettle ( <i>Lamium album</i> ), ragwort ( <i>Senecio jacobaea</i> ), groundsel ( <i>Senecio vulgaris</i> ), red campion ( <i>Silene dioica</i> ), locally occasional / rare mugwort ( <i>Artemisia vulgaris</i> ), lords-and-ladies ( <i>Arum maculatum</i> ), cabbage sp. ( <i>Crucifer sp.</i> ), hawkbit sp. ( <i>Leontodon sp.</i> ), dock sp. ( <i>Rumex sp.</i> ), great mullein ( <i>Verbascum thapsus</i> ) and locally rare common mallow ( <i>Malva sylvestris</i> ).
T2	Poor semi-improved grassland habitat is located along the margins of the hollow predominantly along the western bank. Species present include locally abundant false oat-grass ( <i>Arrhenatherum elatius</i> ), locally frequent / rare wild oat ( <i>Avena fatua</i> ) with locally occasional / rare Yorkshire-fog ( <i>Holcus lanatus</i> ) and Cock's-foot ( <i>Dactylis glomerata</i> ).
T3	Two mature native trees including an Pedunculate oak ( <i>Quercus robur</i> ) and an ash ( <i>Fraxinus excelsior</i> ) are located within the ruderal habitat in the hollow.
T4	A number of locally frequent elder ( <i>Sambucus nigra</i> ) shrubs are scattered within the hollow surrounded by ruderal vegetation.

# Appendix 10

# Supporting Statement

**Disposal of all dredged pond material in existing depression in order to begin eradication of invasive non-native species from Breamore Marsh, Breamore, Fordingbridge**



**Joanne Gore  
August 2013**

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*Front cover View of Round Pond, Breamore Marsh by Catherine Chatters*

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## Introduction

Hampshire & Isle of Wight Wildlife Trust is the leading nature conservation charity in the two counties. For more than 50 years, we have protected local wildlife and inspired people to love nature, supported by our 27,000 members and 900 volunteers. We are part of a UK-wide partnership of 47 Wildlife Trusts with a collective membership of more than 800,000 people. Together, we are the nation's most active and influential nature conservation partnership, protecting wildlife in every part of the UK.

Breamore Marsh SSSI is a privately owned fen and wet grassland SSSI (groundwater fed), currently in unfavourable recovering condition, having been improved in part due the implementation of an HLS grazing regime. It lies within the Trust's New Forest and Avon Valley Living landscape area. The land is part of the Breamore Estate owned by Mr Hulse.

However, since 2009, several invasive non-native species (INNS) (*Ludwigia* creeping water primrose, *Crassula* Australian Swamp Stonecrop and *Azolla* water fern) are increasingly colonising one pond of the marsh, and are threatening the return to favourable condition due to the impacts on the native plant brown galingale (survey indicates very little of cited species remain). *Ludwigia* and *crassula* are two of the priority INNS for action considered by the Environment Agency, in a preventative and rapid response approach as supported by the *Invasive Non-native Species Framework Strategy for Great Britain* (Defra, 2008).

An economic assessment commissioned by Defra in 2010 estimated that *'the early eradication of the aquatic plant water primrose will cost £73 thousand compared to the £242 million that it might cost if the plant was to become fully established as it has on the continent in countries like France and Belgium.'*

Any treatment is usually 3+ years to ensure control and ultimate eradication.

The Trust has been involved with helping the Estate to eradicate the non native species since 2009. The Source to Sea project is a strategic INNS removal partnership between the local wildlife trusts in the Avon river catchment (in this case Hampshire & Isle of Wight) and the Environment Agency, with Natural England support. The project will advise the landowner as to the best possible solution for control and eradication of these INNS, and project officer Jo Gore will manage any contractor works in 2014/15.

Year	Treatment	Season	Treatment carried out by
2009 <i>Ludwigia</i> detected	1 x targeted glyphosate spray	Summer / autumn	Local contractor
2010	3 x targeted glyphosate spray		
2011	3 x targeted glyphosate spray		
2012 <i>Azolla</i> detected	No glyphosate spray possible due to weather conditions		
2013	2 x targeted glyphosate spray	Autumn	Local contractor

**Chemical treatment and hand removal to date has not eradicated the water primrose and has if anything exacerbated the crassula problem. As was proved in 2012, this method although not costly is very weather dependent and this is why no control work happened due to the adverse wet weather. Excavation would hopefully eradicate the non native species present or at least reduce it to a minimal level, making any future treatment work more effective.**

## Proposal

It is therefore proposed that the pond be excavated. Advice was obtained from colleagues tackling creeping water primrose in the Netherlands, where creeping water primrose occurs on a much larger scale. They advised that excavation would be a much more effective means of achieving a successful outcome and have been successful at controlling sites of a much larger magnitude in the Netherlands.

They suggested that the site be excavated to a depth of 30cm. It would be necessary to clear any surrounding scrub to ensure that any fragments of creeping water primrose growing in surrounding scrub did not lead to a further infestation.

[http://www.q-bank.eu/Plants/Controlsheets/Ludwigia\\_grandiflora\\_office\\_guide.pdf](http://www.q-bank.eu/Plants/Controlsheets/Ludwigia_grandiflora_office_guide.pdf)

Ideally a hole would have been excavated on site and the arising placed in the hole and buried but as Breamore Marsh is a SSSI this was not suitable.

Various options for disposal of the material were investigated.

Option	Advantages	Disadvantages	Cost
<b>Do nothing</b>		<ul style="list-style-type: none"> <li>• <b>SSSI flora and fauna ultimately overtaken by INNS resulting in "destroyed" condition;</b></li> <li>• <b>High risk of INNS spread and associated impacts to main River Avon SAC/SPA and beyond;</b></li> <li>• <b>Contradictory to the UK INNS Framework Strategy for GB (Defra, 2008).</b></li> </ul>	n/a
<b>1 Continue glyphosate spray as previous</b>	<ul style="list-style-type: none"> <li>• <b>Repeat treatment so administratively straightforward;</b></li> <li>• <b>Minimal risk of contractor spreading INNS to another site.</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Weather dependant;</b></li> <li>• <b>Limited success on distribution and density of INNS thus far;</b></li> <li>• <b>Effective on emergent plants only;</b></li> <li>• <b>Risk of deoxygenation.</b></li> </ul>	<£5k
<b>2 Removal by hand</b>	<ul style="list-style-type: none"> <li>• <b>Admin straightforward;</b></li> <li>• <b>Selective to preserve remaining flora and fauna.</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Labour intensive;</b></li> <li>• <b>Risk of fragmentation, increasing future distribution and density of INNS.</b></li> </ul>	<£5k
<b>3 Combination of (1) and (2)</b>	as previous	as previous	<£5k
<b>4 Mechanical excavation of INNS</b>	<ul style="list-style-type: none"> <li>• <b>Rid of both submerged and emergent;</b></li> <li>• <b>May rid of seed/fragment bank in marsh;</b></li> <li>• <b>Proven eradication technique from previous experience.</b></li> <li>• <b>Reduces bulk on INNS for follow up treatment in 2014 and beyond;</b></li> <li>• <b>Dredgings can potentially be recycled.</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>High site biosecurity required to limit any spread whilst working<sup>1</sup>;</b></li> <li>• <b>Safe disposal required to prevent regrowth<sup>2</sup>;</b></li> <li>• <b>Numerous permissions and consents required<sup>3</sup>.</b></li> </ul>	<£40k

It was decided that although the most costly option that the least risk to biosecurity was to excavate the material.

A number of options were considered on how to dispose of the material as indicated in the table below.

Option	Effective control against INNS	Disposal cost	Risk of recurrence or spread	Recycling / agricultural benefit	Permit or exemption	Other notes
<b>Burning</b>	<b>No</b>	<b>Low</b>	<b>Low</b>	<b>No</b>	<b>Exemption</b>	
<b>Burying / landfill</b>						
• regulated site	<b>Yes</b>	<b>High (transport)</b>	<b>Low</b>	<b>No</b>	-	
• private nearby	<b>Yes</b>	<b>Mid</b>	<b>Low</b>	<b>No</b>	<b>RPS applies</b>	<b>Preferred option</b>
• on site	<b>No (too wet)</b>	<b>Low</b>	<b>Mid</b>	<b>Yes</b>	<b>Permit</b>	
<b>Composting</b>						
• regulated site	<b>Yes, if capped</b>	<b>High (transport)</b>	<b>Mid</b>	<b>Possible</b>	-	
• private nearby	<b>Yes, if capped</b>	<b>Mid</b>	<b>Mid</b>	<b>Possible</b>	<b>Depends</b>	
• on site	<b>No (too wet)</b>	<b>Low</b>	<b>High</b>	<b>Yes</b>	<b>Depends</b>	
<b>Drying and incorporation into ploughing regime</b>						
• private nearby	<b>Yes</b>	<b>Mid</b>	<b>Mid</b>	<b>Yes</b>	<b>Exemption</b>	<b>Not suitable due to quantity of dreg</b>
• on site	<b>No (too wet)</b>	<b>Low</b>	<b>High (too wet)</b>	<b>Yes</b>		

It was decided that burying on a site nearby presented the most suitable option when all the facts were considered.

### Location and Site Characteristics

The location of the hollow where it is proposed to deposit the excavated material from Round Pond is located in a field close to Breamore Marsh at Grid reference SU1533318504.

The hollow comprises ruderal habitat with a dense area of bramble at the southern side. A bank comprising a stretch of poor semi-improved grassland is situated along the western side of the hollow. Two mature trees and a number of elder shrubs are scattered within the area. The hollow is located within an arable field currently containing poppies. A native hedgerow runs along the southern boundary of the hollow. A redundant field gate will be reinstated to access the field.

A single badger entrance has been identified along the north western boundary of the hollow along the bank. The hole is not considered to be active due to gravel and cobwebs present within the entrance and no evidence of recent activity including hairs, latrines, excavation material or pathways were encountered.

A limited area of suitable reptile foraging habitat is present within the hollow.

There is a pond within 100 metres of the site however, the site comprises limited foraging habitat for great crested newts and the pond is surrounded by unsuitable terrestrial habitat.

Two mature trees are present within the hollow. These trees will not be affected by the proposals and will be protected by a buffer zone marked with heras fencing.

A number of elder shrubs are also located within the hollow. These will be required to be removed.

For more details about an ecological appraisal of the site and also an appraisal of the tree within the site and recommendation please refer to report by Lindsay Carrington Ecological Services Ltd - Ecological Appraisal, The Hollow, Breamore, Hants.

Please also refer to report by Soundwood Tree Consultancy

Planning Application: Deposition of material excavated from Round Pond into hollow, Breamore, August 2014

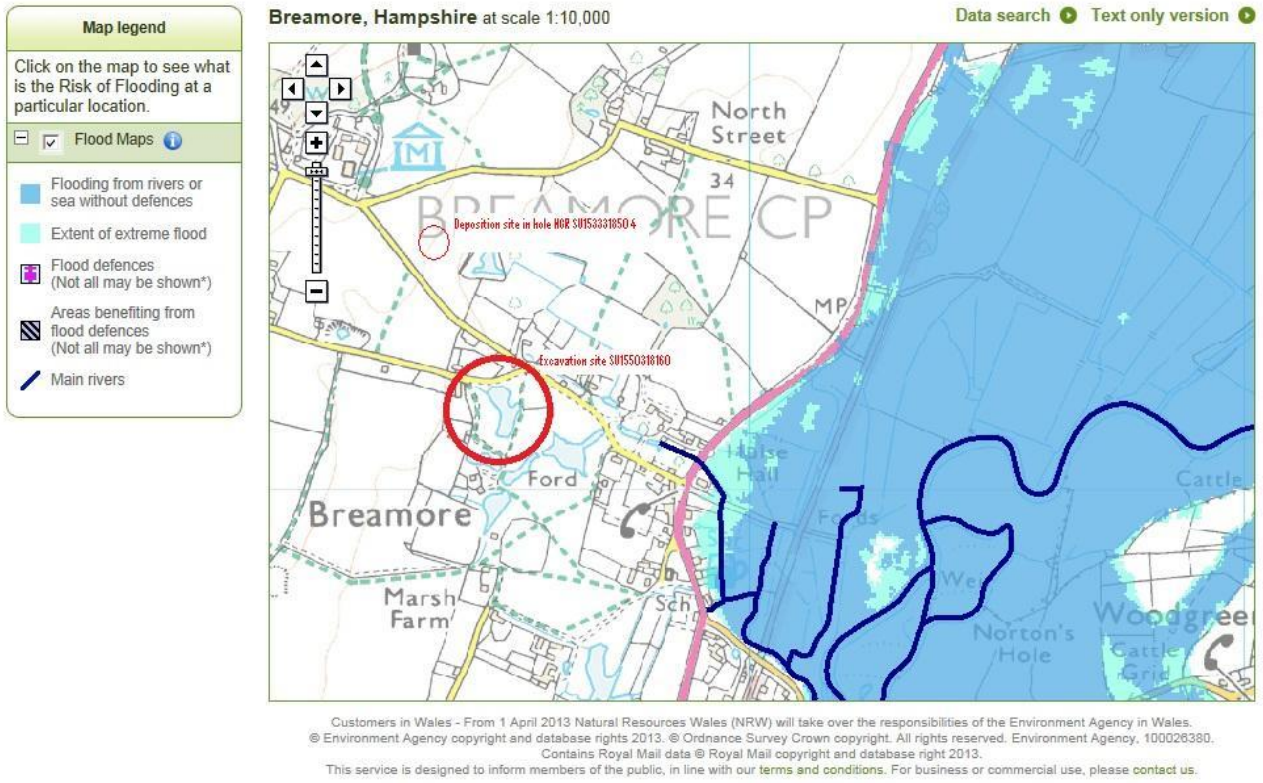


Fig 1. Excavation and deposition site shown in relation to the Avon SSSI and EA flood risk map.



Round Pond, Breamore Marsh 2013 showing creeping water primrose infestation.





Pond to be excavated



Deposition site

## Ecology

### Ecology: Existing

An ecological survey of the deposition site has been carried out by Lindsay Carrington Ecological Services and their report of the deposition site has been included. Please refer to the attached report for details of species and recommendation on impacts on ecology.

Soundwood Tree Consultancy has produced a report on the trees which are present on the edge of the proposed deposition site and also the trees by Round Pond. Please refer to the attached report.

A survey of the flora found in the ponds on Breamore Marsh was carried out in 2013 by Neil Sanderson. Please refer to the attached.

A survey of the ponds was carried out for the presence of Great Crested Newts and Signal Crayfish. No Signal crayfish were found but Great Crested Newts were identified in the pond. A report of this survey is attached. A licence for the translocation of any Great Crested Newts from Round Pond has been applied for by Sarah Jackson HIWWT Ecologist.

### Ecology: Assessment of Impact

The site comprises predominantly ruderal vegetation with dominant common nettle. Additional habitats within the site include poor semi-improved grassland, bramble scrub, scattered elder shrubs and two mature trees. The site measures approximately 0.1 hectares in size. The following was noted:

A single badger entrance considered to be inactive was identified along the north western boundary. Measures to ensure that this set remains active will be implemented as per advice from consultant

The hollow contains some suitable habitat for reptiles and amphibians. Measures to ensure that no harm comes to any reptiles or amphibians will be followed as per consultants' recommendations.

□ Mature trees, shrubs and bramble scrub provide potential habitat for nesting birds. The trees are not programmed to be removed however the bramble and shrubs will be required to be removed. Precautions to prevent possible harm to any nesting or foraging birds will be followed as per the consultant's recommendations. The timing of the proposed works will be outside of nesting season.

### **Ecology: Avoidance and Mitigation Measures**

#### ***Badgers***

A single badger hole has been identified along the north western side of the bank within the hollow. At the time of the initial site visit no evidence to indicate 'current use' was observed. As a precautionary measure the entrance will be monitored over August to ensure the sett is not in 'current use'.

If evidence to suggest badgers are utilising the sett is recorded during this time a development licence from Natural England will be required to close the sett.

#### ***Reptiles***

A limited area of suitable reptile foraging habitat is present within the hollow, however the site is predominantly covered in common nettle which provides restricted foraging opportunities. An ecological watching brief will be maintained during site clearance to ensure no reptiles are harmed during the process.

#### ***Great Crested Newts***

A restricted area of suitable habitat for foraging amphibians is located within the poor semi-improved grassland along the western bank. The site is dominated by common nettle and is therefore not considered to be good quality foraging habitat. An ecological watching brief will be maintained throughout the vegetation clearance process to ensure that no amphibians are harmed however, if a great crested newt is encountered works will stop immediately and a European protected species licence will be sought from Natural England.

#### ***Nesting birds***

The vegetation within the site, includes ruderal, poor semi-improved grassland, native shrubs and mature trees which provide foraging and nesting habitat for common and widespread species of bird such as blue tit and wren as well as birds listed as amber on the BoCC (Birds of Conservation Concern) list such as dunnoek, and Biodiversity Action Plan (BAP) species such as song thrush. The following precautions should negate risk of harming, injuring or contributing to the demise of these species:

□ All vegetation clearance should be conducted outside of the bird nesting season which is considered to run from March to September. Where this is not possible a suitably qualified ecologist should check potential nesting habitat immediately prior to clearance. Where nesting birds are encountered clearance must be postponed until the nestlings have fledged.

### **Ecology: Enhancements**

Bat boxes and bird boxes could be placed into the mature trees on site to enhance the habitat for local population of birds and bats

### **Trees**

There are three trees present in the hollow which could potentially be affected by the proposed works. The machinery could lead to compaction of the soil around the trees and could also physically damage the trees leading to long lasting damage or even killing the trees.

Please refer to the consultants report for further details of the trees, height and canopy spread.

It is intended that the site be accessed from the top of the site to avoid compacting the soil around the trees. The area that cannot be accessed or have material placed on it will be clearly indicated by the presence of the Heras fencing. It is intended to erect Heras fencing for the duration of the works in compliance with the consultant's recommendations. Warning signs will be placed on the fencing and a copy of the tree report will be given to contractors to ensure that they are aware of the issues in order to protect the trees.

The tree consultant has indicated that with the installation of standard protection measures that this would be sufficient to safe guard the trees in the vicinity of the works.

No further work should be done in future years.

## **Archaeology**

The land owner Mr Hulse has previously had an archaeology report of the field carried out. This survey revealed nothing of significance. The only thing that it commented on was the bund of soil which is below the hollow. It thought that this soil originally covered the hollow and it is intended to use this soil to cover the excavated material.

## **Flood Risk Assessment**

The pond to be dredged, the disposal route and the disposal site do not fall within any Flood Zone as identified in the Environment Agency Flood Map for Planning. Therefore, no Flood Risk Assessment is considered necessary for this planning application.

## **Community Involvement**

The community have been involved historically by being asked to help with hand pulls of the creeping water primrose in 2010 and 2011. 5 locals who live in properties surrounding the marsh plus 2 other volunteers (including the County Plant Recorder who has grave concerns over the presence of non-native species in the pond on other rare plants) were very keen to get involved with the work and realised the importance of the work.



Local resident at hand pull of creeping water primrose 2011

A meeting/ evening walk of the site is planned to take place before the works to explain why the works are necessary and the impact it will have on local people.

## Method & Timing of Works

- Work will be carried out in September/October dependant on planning permission. This will avoid bird nesting season;
- Cattle to be removed and excluded and electric fence to be erected around site to exclude members of the public fence;
- Newt translocation to take place as set out by the method statement produced by Sarah Jackson (HIWWT Ecologist) 30 days prior to works.
- Scrub to be removed from around the edge of the pond
- Scrub to be removed from the hollow ensuring that all mitigation measures suggested by consultants are followed.
- 30cm (max) depth of vegetation, silt, soil and gravel (dredging) to be removed throughout the pond.
- Machinery to work from the northern side of the pond scraping the material to one edge to reduce impact on the SSSI and to work away from the public footpath.
- Dredgings to be removed and transported in biosecure way (contractor to ensure that no material is leaking from the trailers before leaving site) to and placed in hollow.
- Pond will be re-profiled,
- Removal and disposal should be completed within 7 days.
- Disposal site will be secured over night and manned during the day to ensure no fly tipping occurs.
- Pond will need to be fenced to discourage cattle from entering in discussion with Natural England after work has been carried out;
- The disposal site will need to be covered with 20cm of material scraped up from material in field which is thought originally came from on top of the hollow according to archaeological report.
- Follow up glyphosate treatment of any new growth in pond in 2015 and beyond.
- Monitor pond to establish if GCN population has returned.
- Survey pond to ascertain the amount of biodiversity that has returned post works 2015/16.

## Future Management of Site

No management of the hollow should be necessary after the work.

Post excavation the pond will be monitored for regrowth and chemically treated if found. The pond will need to be clear of creeping water primrose for 2 years to be considered successfully eradicated.

Monitoring during 2015 and 2016 by HIWWT Ecologists will take place to monitor for signs of re-colonisation by great crested newts.

A survey of the pond vegetation will take place to monitor the establishment of plant material post excavation works.

# Appendix 11

## Annex 3: Pro forma Unconditional Consent



### Breamore Marsh Site of Special Scientific Interest Hampshire ("the SSSI")

#### CONSENT OF NATURAL ENGLAND

Section 28E(3)(a) Wildlife and Countryside Act 1981 (as amended and inserted by section 75 and Schedule 9 of the Countryside and Rights of Way Act 2000)

**To:**

Mr EMW Hulse.....

**Of:**

Breamore Estate Company Ltd, Breamore House, near Fordingbridge, Hampshire.  
SP6 2DF.....

Natural England gives you consent to carry out, cause or permit to be carried out the operations specified below, on the land specified below:-

**Specified operations:**

Dredging of Round Pond in order to eradicate Creeping Water Primrose as specified in e-mails to us from Joanne Gore of Hampshire and Isle of Wight Wildlife Trust on 5<sup>th</sup> September 2014.....

**Details of proposed operations:**

Round Pond will be dredged and the dredgings taken off the SSSI and taken to a nearby field.....

Newt fencing will be erected prior to the dredging taking place and Great-crested Newts captured and re-located to other ponds on the SSSI.....

Immediately prior to the dredging taking place scrub and some trees will be removed from the edges of the pond.....

**Timing of proposed operations:**

Anytime between 8<sup>th</sup> September and 1<sup>st</sup> December 2014.....

**Land on which operations are to be carried out:**

The area immediately around Round Pond at Breamore Marsh – see map below.



**Signed for Natural England:**

.....

**Date:**

8<sup>th</sup> September 2014

If you wish to change the proposed operations or their location or to carry out additional operations for which consent has not yet been given, or if a time period set out above, has expired, you are required to give further written notice to Natural England.

Unauthorised operations may destroy, damage or disturb features of special scientific interest.

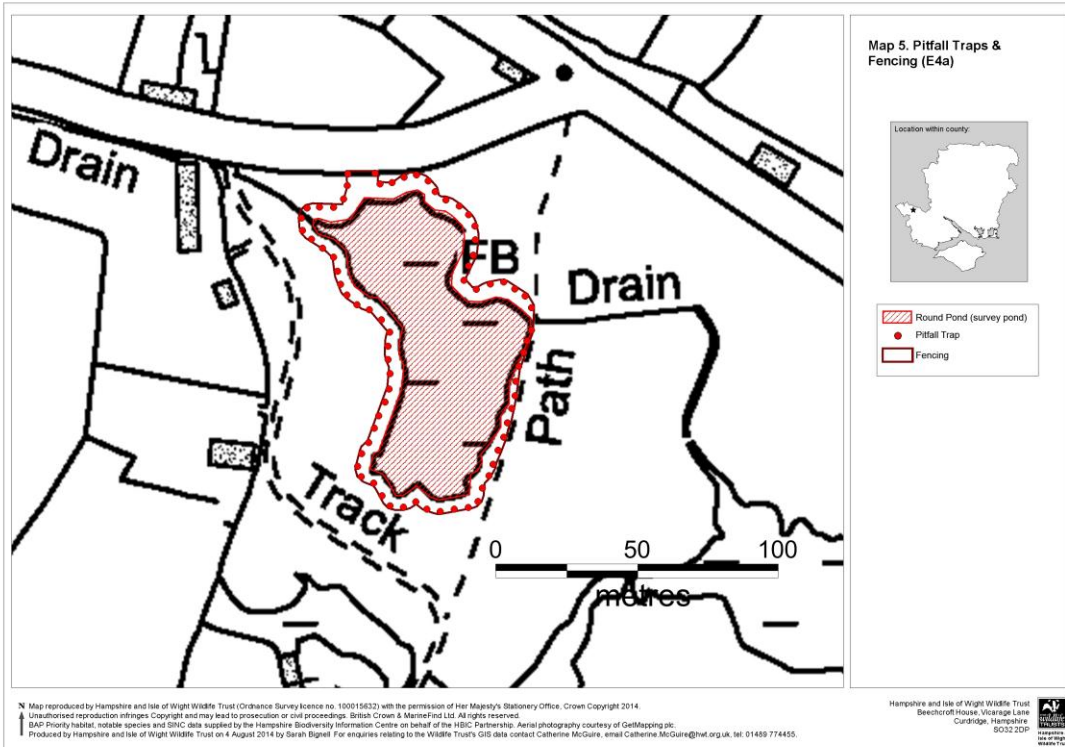
It is the responsibility of the grantee of this consent to ensure that no other consents, whether of a public or a private nature, are needed and, if needed, to secure them him/herself. The grantee is also responsible for carrying out the consented operation(s) safely and in all ways according to the law.



Natural England,  
2<sup>nd</sup> Floor  
Cromwell House  
15 Andover Road  
Winchester  
SO23 7BT  
Tel – 0300 060 4628 or 07825 753559

**If you have any queries or concerns over this consent, please contact Simon Curson at the above address.**

Reference number of operations from SSSI notification documents, for Natural England's use only: 2, 11, 23, 26.





# Appendix 12

**Conservation of Habitats and Species Regulations  
2010 (as amended) and Wildlife and Countryside Act  
1981 (as amended)**



Customer Services  
Wildlife Licensing  
First Floor  
Temple Quay House  
2 The Square  
Bristol  
BS1 6EB  
T: 0845 601 4523  
F: 0845 601 3438

**LICENCE - Science, Education & Conservation only**

This licence authorises acts that would otherwise be offences under the above legislation

Any request for information in this licence will be considered under the Environmental Information Regulations 2004 and the Freedom of Information Act 2000 as appropriate.

**Natural England Ref:**

<b>2014-3795-SCI-SCI</b>
--------------------------

Under the Conservation of Habitats and Species Regulations 2010 (as amended) and Wildlife and Countryside Act 1981 (as amended) Natural England has granted this licence for Great crested newts for the purpose of:

**Conserving wild animals, under section 53(2)(c) and section 16(3)(c)**

to:

<b>Name (in full):</b>	Mrs Joanne Gore
<b>Company Name:</b>	N/A
<b>Address:</b>	Hampshire & IOW Wildlife Trust, Beechcroft House Vicarage Lane Curdrige
<b>County:</b>	Hampshire
<b>Postcode:</b>	SO32 2DP

**Between the dates of:**

05 September 2014	and	31 October 2014	inclusive
-------------------	-----	-----------------	-----------

**At (locations):**

Site/Location Name	County	OS Grid Reference
Round Pond	Hampshire	SU155181

For the following species:

Species Common Name (Taxonomic Name)	Number	Activity	Method	Detailed Location	OS Grid Reference
Great crested newt ( <i>Triturus cristatus</i> )	50	Disturb	Aquatic funnel traps (including bottle traps)	Round Pond, Braemore Marsh	SU155181
Great crested newt ( <i>Triturus cristatus</i> )	50	Disturb	Draining down ponds	Round Pond, Braemore Marsh	SU155181
Great crested newt ( <i>Triturus cristatus</i> )	0	Disturb	Amphibian fencing	Round Pond, Braemore Marsh	SU155181
Great crested newt ( <i>Triturus cristatus</i> )	50	Transport	Hand	Round Pond, Braemore Marsh	SU155181
Great crested newt ( <i>Triturus cristatus</i> )	50	Damage	Draining down ponds	Round Pond, Braemore Marsh	SU155181
Great crested newt ( <i>Triturus cristatus</i> )	50	Damage	Pitfall traps	Round Pond, Braemore Marsh	SU155181
Great crested newt ( <i>Triturus cristatus</i> )	0	Damage	Amphibian fencing	Round Pond, Braemore Marsh	SU155181
Great crested newt ( <i>Triturus cristatus</i> )	50	Disturb	Hand	Round Pond, Braemore Marsh	SU155181

This licence is granted subject to the licensee, including servants and named agents, adhering to the conditions and notes specified below.

Signature:

Matt Stone

Date:

05 September 2014

(for and on behalf of Natural England)

## WARNING

- This licence authorises acts that would otherwise be offences under the Conservation of Habitats and Species Regulations 2010 (as amended) and Wildlife and Countryside Act 1981 (as amended). Any departure from the conditions relating to this licence may be an offence under that legislation;
- This licence conveys no authority for actions prohibited by any other legislation;
- This licence can be modified or revoked at any time by Natural England, but this will not be done unless there are good reasons for doing so. The licence is likely to be revoked immediately if it is discovered that false information had been provided which resulted in the issue of the licence.

## LICENCE CONDITIONS

1. These conditions apply to the licensee and any additional authorised person. The licensee and any additional authorised person(s) are responsible for ensuring that any licensed operations/ activities comply with all terms and conditions of the licence.
2. The licensee and any additional authorised person(s), shown on the licence, may act under the authority of this licence. The licensee or any additional authorised person(s) may also employ assistants provided they work under the direct personal supervision of the licensee or authorised person.
3. Whilst engaged in activities permitted by this licence, the licensee and/or any additional authorised person(s), must have access to a copy of this licence and produce it to any police officer or any Natural England officer on demand.
4. The Licensee and any additional authorised person(s) shall permit an officer of Natural England, accompanied by such persons as he/she considers necessary for the purpose, on production of his/her identification on demand, reasonable access to the site for monitoring purposes and to be present during any operations carried out under the authority of this licence for the purpose of ascertaining whether the conditions of this licence are being, or have been, complied with. The Licensee shall give all reasonable assistance to an officer of Natural England and any persons accompanying him/her.
5. This licence does not convey any right of entry upon land, and the landowner's/occupier's prior permission must be obtained, as necessary, before the licence is used.
6. No licensed activity shall be carried out under this licence on a National Nature Reserve or Marine Nature Reserve except with the prior written permission of Natural England.
7. A person authorised by the licensee shall provide him/her with such information as is within his/ her knowledge and is necessary for the Report, which the licensee is required to make to Natural England.
8. The 'Report by licensee of action taken under licence' must be completed, even if no licensed action is taken. It must be submitted on line or sent to the Natural England office at the address shown on this licence, to arrive no later than 14 days (two weeks) after the expiry of the licence. Failure to make a report may result in the licence being revoked and/or any future applications being refused.

Additional condition(s):

Any aquatic gcn captured from the Round Pond to be dredged must be released into the Long Pond immediately after capture.

Any fencing constructed to obstruct access by animals shall be removed on or before expiry of this licence. Amphibian-proof fencing needs to be maintained to ensure amphibian exclusion is effective, especially where fencing has been in place for extended periods.

When in use, pitfall traps used under this licence must be checked at least once in every 24 hours between 0600 and 1100 hours; preferably they should be checked more frequently.

## NOTES

1. Please read the details of your licence carefully to ensure that you comply with it paying particular attention to the number and species licensed as this may differ to what was requested in your application.
2. Under Regulation 58(1) of the Conservation of Habitats and Species Regulations 2010 (as amended), it is an offence to contravene or fail to comply with a licence condition. This includes all persons authorised to act under this licence.
3. An additional authorised person is a suitably trained and experienced person who is able to carry out work under a licence without the personal supervision of the licensee. To carry out licensed activities their name will be on the licence. To comply with the licence conditions, additional licensed persons should have a copy of the licence accessible when acting under the licence.
4. An assistant is a person assisting the licensee or the additional authorised person(s). Assistants are only authorised to act under a licence whilst they are under the direct supervision of either the licensee or the additional authorised person(s).
5. Please note the information of the 'Report by licensee of action taken under licence' may have changed from previous years. The data required in your report and the required format can be viewed on the Natural England website. Alternatively you can request a copy from the Natural England address shown on your licence.

Additional note(s):

## Additional Authorised Individuals

The additional authorised individuals listed below are also authorised to act under the terms and conditions of this licence:

<b>Title</b>	<b>First Name</b>	<b>Surname</b>	<b>Address Line 1</b>	<b>Postcode</b>
Doctor	Ben	Rushbrook	Beechcroft House	SO32 2DP
Ms	Ruth	Kernohan	Rosewood Gardens	SO40 4YX

# Appendix 13

# Great Crested Newt Surveys

Round Pond, Breamore



**Sarah Jackson**  
November 2014

## Publication Details

This document should be cited as: Jackson, S. (2014) Great crested newt surveys at Round Pond, Breamore. Hampshire & Isle of Wight Wildlife Trust.

All recommendations given by HIWWT are done so in good faith and every effort is made to ensure that they are accurate and appropriate however it is the sole responsibility of the landowner to ensure that any actions they take are both legally and contractually compliant. Therefore, HIWWT does not accept responsibility or liability for any losses incurred or arising from recommendations that we give.

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Version	Author/s name/s	Date
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## 1. INTRODUCTION

Round Pond is located within the Breamore Marsh SSSI, Breamore, Hampshire (SU15501815) as shown on Map 1 and Map 2. Three invasive non-native species were present in the pond (*Crassula*, creeping water primrose and water fern), and if not removed were at risk of entering into the River Avon and associated waterways, as the pond is linked to the river via a second pond and ditch network.

Due to the destructive nature of the works, digging out the invasive non-native species, great crested newts were at risk of being killed or injured. Therefore the newts needed to be safely moved and excluded from the pond prior to works.

This report details the assessment of Round Pond for great crested newt, presence/absence survey and the subsequent translocation.

## 2. METHOD

### 2.1 Background Data Search

A background data search for Great Crested Newts within 10km of Round Pond was undertaken using the Hampshire Biodiversity Information Centre's protected and notable species layer, and by contacting Wiltshire and Swindon Biological Records Centre and Dorset Environmental Records Centre.

### 2.2 Habitat Suitability Index

A habitat suitability index of Round Pond, was conducted by Sarah Jackson (née Bignell) of Hampshire and Isle of Wight Wildlife Trust on 5<sup>th</sup> June 2013 using the technique developed by Oldham et al. (2000) to assess ponds for their suitability for Great Crested Newts.

### 2.3 Presence/Absence Survey

One great crested newt surveys was undertaken at Round Pond on 3<sup>rd</sup> June 2014. The lead surveyor was Sarah Jackson (née Bignell), HIWWT Ecologist, who holds a GCN class licence (Ref: CLS00678) assisted by Ben Rushbrook (HIWWT Ecologist) who is an accredited agent.

Weather and pond conditions were suitable for survey:

Air temperature: 12.8°C

Water temperature: 14.9°C

General conditions: Light showers earlier in evening

Pond vegetation cover: 1 (out of 5)

Pond turbidity: 2 (out of 5)

Surveys comprised an evening torch survey, bottle trapping and egg searching. Evening torch surveys involve surveyors walking the entire circumference of the pond (if safe and possible to do so) while shining a powerful torch (1 million candle power) into the pond recording any newts seen. Incidental sightings of other species were also recorded.

Bottle traps were positioned at regular intervals around the circumference of the pond (where safe and possible to do so) in the evening and were checked early the following morning. Traps were fully submerged but with an air bubble for animal welfare purposes, and checked

within the recommended limits set out in the great crested newt mitigation guidelines (English Nature 2001). Bottle trapping is only suitable when the overnight air temperature is not below 5°C, but also not too high as oxygen levels in the water will become depleted.

An egg search was conducted to establish if the pond was being used for breeding by newts. Egg searches involve looking for folded leaves, when leaves were found they were opened and the egg inside identified as either Great crested newt or small newt species. Once positive ID was made no further leaves were opened as the number of eggs does not give an indication of the number of newts in the pond. Also once the leaves have been opened the eggs are no longer viable as exposure to UV light damages the egg, and they are also more vulnerable to predation.

Surveys are not conducted if the air temperature is below 5°C as newts are less active at colder temperatures and may go undetected (Langton *et al.* 2001).

## 2.4 Translocation

A conservation licence issued by Natural England was applied for to allow the ring fencing of Round Pond with newt proof fencing and pitfall traps. This would allow the removal of any newts from within the fenced area and exclude newts from entering the pond, ensuring compliance with UK (Wildlife & Countryside Act 1981 (as amended)) and European legislation (Conservation of Habitats and Species Regulations 2010).

Great crested newt are listed on Schedule 5 of the Wildlife & Countryside Act 1981 (as amended), and protected under Part 1 Section 9, meaning it is an offence to:

- Intentionally or recklessly kill, injure or take a great crested newts
- Intentionally or recklessly damage or destroy any structure or place used for shelter or protection
- Disturb a great crested newt while it is occupying a structure or place which it uses for shelter or protection
- Obstruct access to any structure or place used for shelter or protection
- Possess or control any live or dead great crested newt, or any part of, or anything derived from a great crested newt

In addition, great crested newt are listed under Schedule 2 of the Conservation of Habitats & Species Regulations 2010, meaning it is an offence to:

- Deliberately capture, injure or kill a great crested newt
- Deliberately disturb a great crested newt; in particular that is likely to impair their ability:
  - (i) To survive, to breed or reproduce, or to rear or nurture their young; or
  - (ii) In the case of hibernating or migratory species, to hibernate or migrate;
- To affect significantly the local distribution or abundance of the species to which they belong
- Damage or destroy a breeding site or resting place of a great crested newt
- Be in possession of, or to control a great crested newt
- Transport, sell, exchange, or offer for sale or exchange, any live or dead great crested newt, or part of.

The licence was granted on 5<sup>th</sup> September 2014 (Natural England licence ref: 2014-3795-SCI-SCI), allowing the damage and disturbance of up to 50 great crested newts by a number of methods including amphibian fencing and pitfall traps, and transportation by hand.

Fencing was installed by hand around the entire circumference of the pond (Photograph 1), at a distance of 5 metres from the pond bank (except along the footpath where it tapered in towards the pond) to allow access by machinery around the pond during works without damaging the fence. An access route for vehicles from the road was also incorporated comprising a gate which could be reinstated at the end of each working day.

Pitfall traps will be placed at approximately 5 metre intervals (64 buckets in total) along the inside of the fence (Map 3, Photographs 2 & 3). In addition 30 carpet tiles were placed in the spaces between buckets. A 30 day translocation, plus 5 zero capture days, was undertaken. Buckets were checked twice a day by a team of 2 people, at least one of whom was either the licenced agent or additional authorised individual. Checks were conducted between 7-11am and 3-5pm. Days were only counted if the overnight temperature was above 5°C, if the temperature was known to be dropping below this the buckets were closed on the evening check. All caught individuals were removed from the pitfall traps and re-located around Long Pond, approximately 80 metres to the south east of Round Pond (Map 4). All great crested newts had a photo taken of their belly pattern (Photograph 4), this is unique to each individual so will allow comparison in subsequent years to identify if individuals have returned to Round Pond.

The survey team comprised:

- Sarah Jackson (née Bignell) - GCN class licence (Ref: CLS00678) and licenced agent
- Ruth Kernohan – Additional authorised individual
- Ben Rushbrook – Additional authorised individual
- Ben Davis
- Jo Gore
- Jonathan Jackson
- Suzanne Jenkins
- Tom Selby
- Rob Skinner

On the last 2 evenings of the translocation (22<sup>nd</sup> and 23<sup>rd</sup> October), evening torch surveys were conducted of the pond and surrounding banks, following the methodology detailed for the presence/absence surveys. Unfortunately the water levels were too low to bottle trap in the pond. Surveys were conducted by Sarah Jackson (née Bignell) GCN class licence (Ref: CLS00678) and assisted by 3 other members from the team above.

### 3. RESULTS

#### 3.1 Background Data Search

No records of great crested newt were found in the immediate vicinity of Round Pond. Great crested newts are only known to be in one pond within Hampshire within 10km of the site, where it was last recorded in 2013 during Pondnet surveys. This site is 5km from the pond and across a major river (River Avon). There have been no records of GCN since 2002 within the Dorset part of the 10km search area. No response was received from Wiltshire and Swindon Biological Records Centre, but at its closest point the county boundary is approximately 2.5km away.

#### 3.2 Habitat Suitability Index

The HSI for Breamore scored 0.63, meaning the pond has average suitability for Great Crested Newts, as detailed in Table 1. However, this score is likely to have been skewed by the extent of macrophyte cover. The macrophytes that are present are non-native species that are very dense around the entire circumference of the pond providing no space for courtship displays and stopping light penetrating the pond. A large proportion of the macrophytes also have small leaf blades that would be unsuitable for egg-laying.

Table 1. HSI score for Round Pond, Breamore

Criteria	SI
SI1 - Location	1
SI2 - Pond area	0.5
SI3 - Pond drying	0.1
SI4 - Water quality	0.33
SI4 - Shade	1
SI6 - Fowl	0.67
SI7 - Fish	1
SI8 - Ponds	0.95
SI9 - Terrestrial habitat	1
SI10 - Macrophytes	1
<b>HSI Score</b>	<b>0.63</b>

#### 3.3 Presence/Absence Survey

Great crested newts were detected by all the employed survey techniques: torching, bottle trapping and egg searching. A peak count of 1 newt by any method was recorded, however a female great crested newt was identified when torching but a male great crested newt was caught in the bottle trap. In addition smooth newts, small newts that were unable to be identified during torching and a frog were also recorded. A full breakdown of species, sex and method is given in Table 2.

Table 2. Great crested newt presence/absence survey result

	Torching			Bottle Trapping			Egg Search	Larvae (Any method)
	Male	Female	Imm.	Male	Female	Imm.	Eggs found Y/N	
Great Crested Newt (Tc)		1		1			Y	

**Other Species**

Smooth Newt (Lv)	2	4		1	1			
Palmate Newt (Lh)								
Small Newt (Lv/Lh)		8						Y
Common Frog (Rt)	1							

**3.4 Translocation**

The translocation began on 12<sup>th</sup> September and was completed on 24<sup>th</sup> October due to 9 nights when the temperature was below 5°C. Full results of captures during the translocation period are given in Table 3.

Table 3. Translocation results

	Male	Female	Juvenile	Total
<b>GCN</b>	4	2	3	<b>9</b>
<b>Smooth newt</b>	0	0	0	<b>0</b>
<b>Palmate newt</b>	0	0	2	<b>2</b>
<b>Frog</b>	3	0	0	<b>3</b>
<b>Toad</b>	12	21	5	<b>38</b>

The fence was removed on completion of works and the pond has now been left to recolonise naturally.

**4. FURTHER SURVEY**

Presence/absence surveys will be conducted in the two years following works (2015 and 2016). This will identify if the pond is being re-colonised, and use the great crested newt belly patterns to establish if individuals moved during the translocation have returned to the pond.

The follow-up surveys will comprise 6 visits during the peak survey period (end of March to early June) to establish a population size class (small, medium or large), using three survey techniques including bottle trapping, to trap newts for photographing their belly patterns for comparison with those collected during the translocation.

## **5. REFERENCES**

English Nature (2001) Great crested newt mitigation guidelines. Version: August 2001. English Nature.

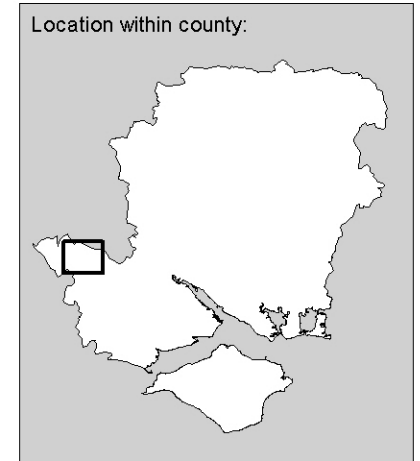
Langton, T., Beckett, C. & Foster, J (2001) *Great Crested Newt Conservation Handbook*. Froglife

Oldham, R.S., Keeble, J., Swan, M.J.S. & Jeffcote, M. (2000) Evaluating the suitability of habitat for Great Crest Newt (*Triturus cristatus*). Herpetological Journal 10(4), 143-155

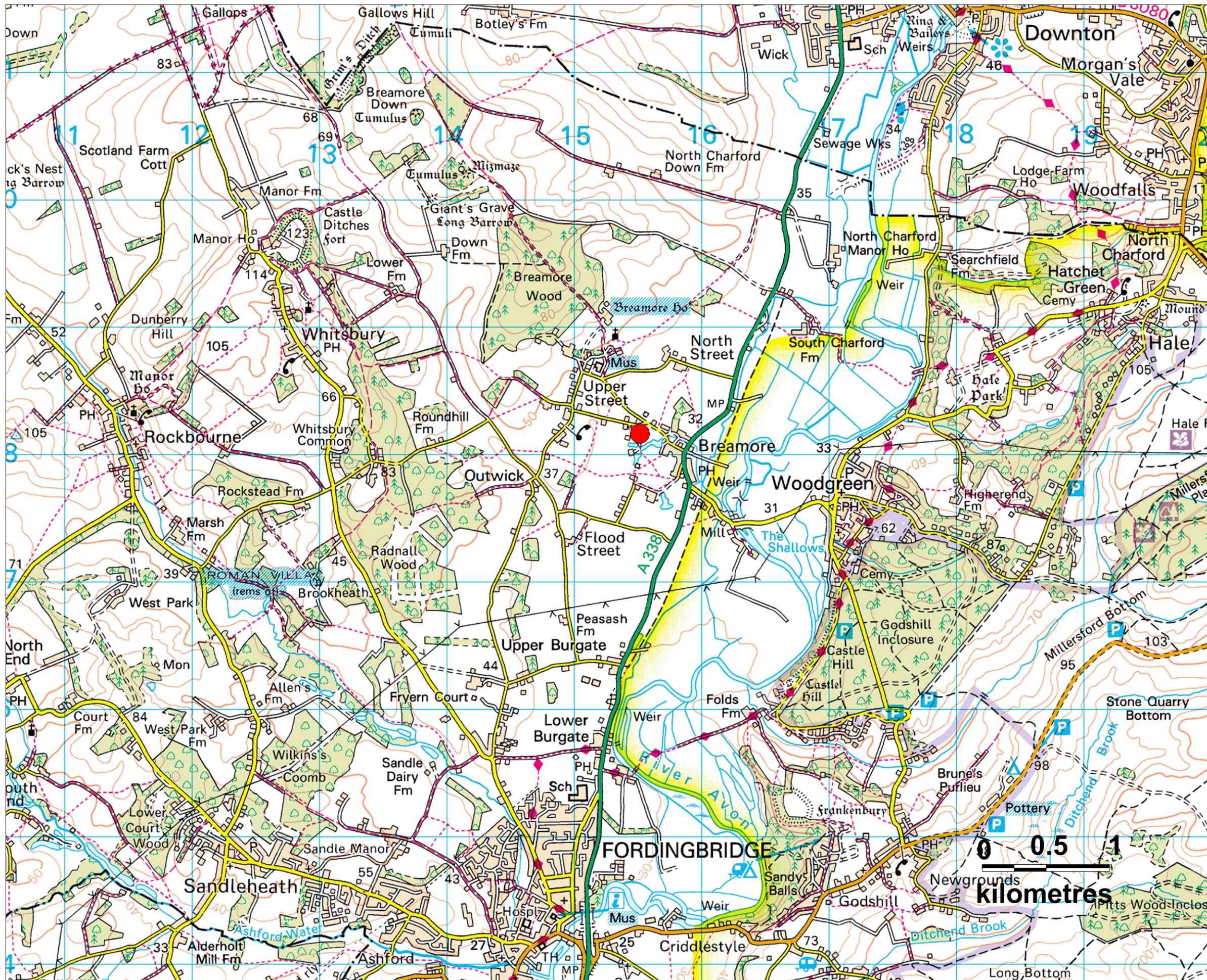
## **6. MAPS**



Map 1. Site Location



● Site Location



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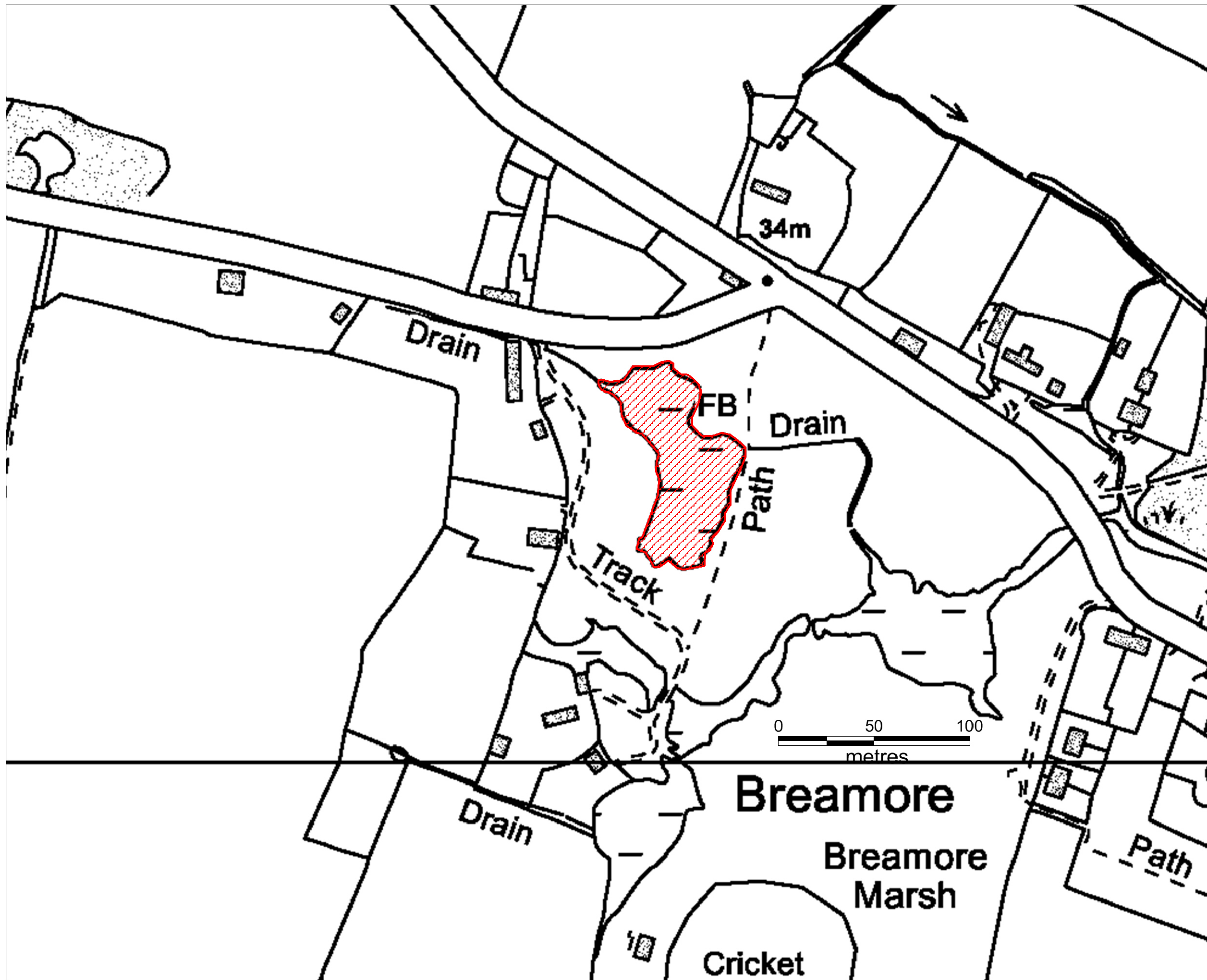
Hampshire and Isle of Wight Wildlife Trust  
Beechcroft House, Vicarage Lane  
Curdrige, Hampshire  
SO32 2DP



Map 2. Site Map



 Round Pond (survey pond)



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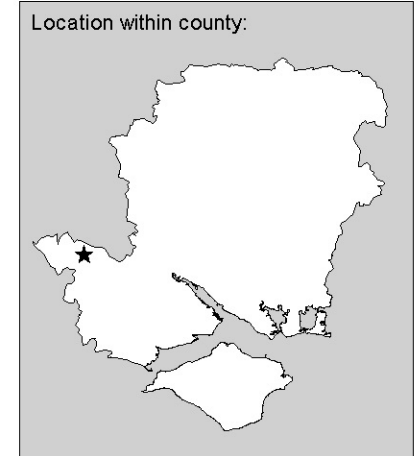
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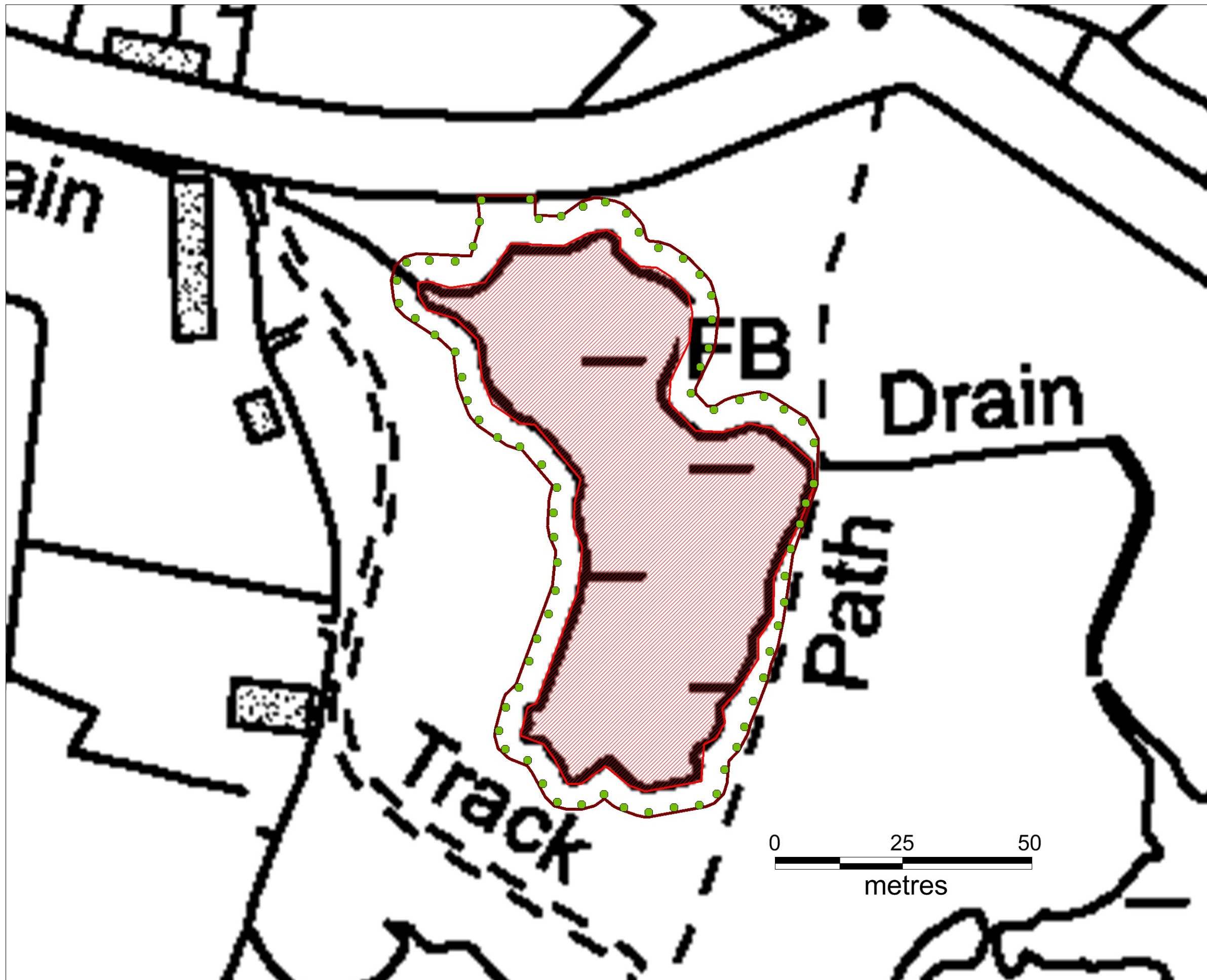
Hampshire and Isle of Wight Wildlife Trust  
Beechcroft House, Vicarage Lane  
Curridge, Hampshire  
SO32 2DP



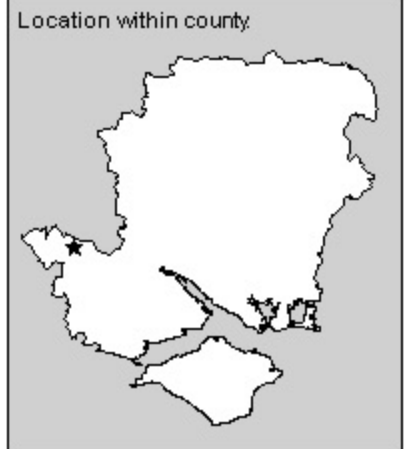
### Map 3. Fencing & Pitfall Traps



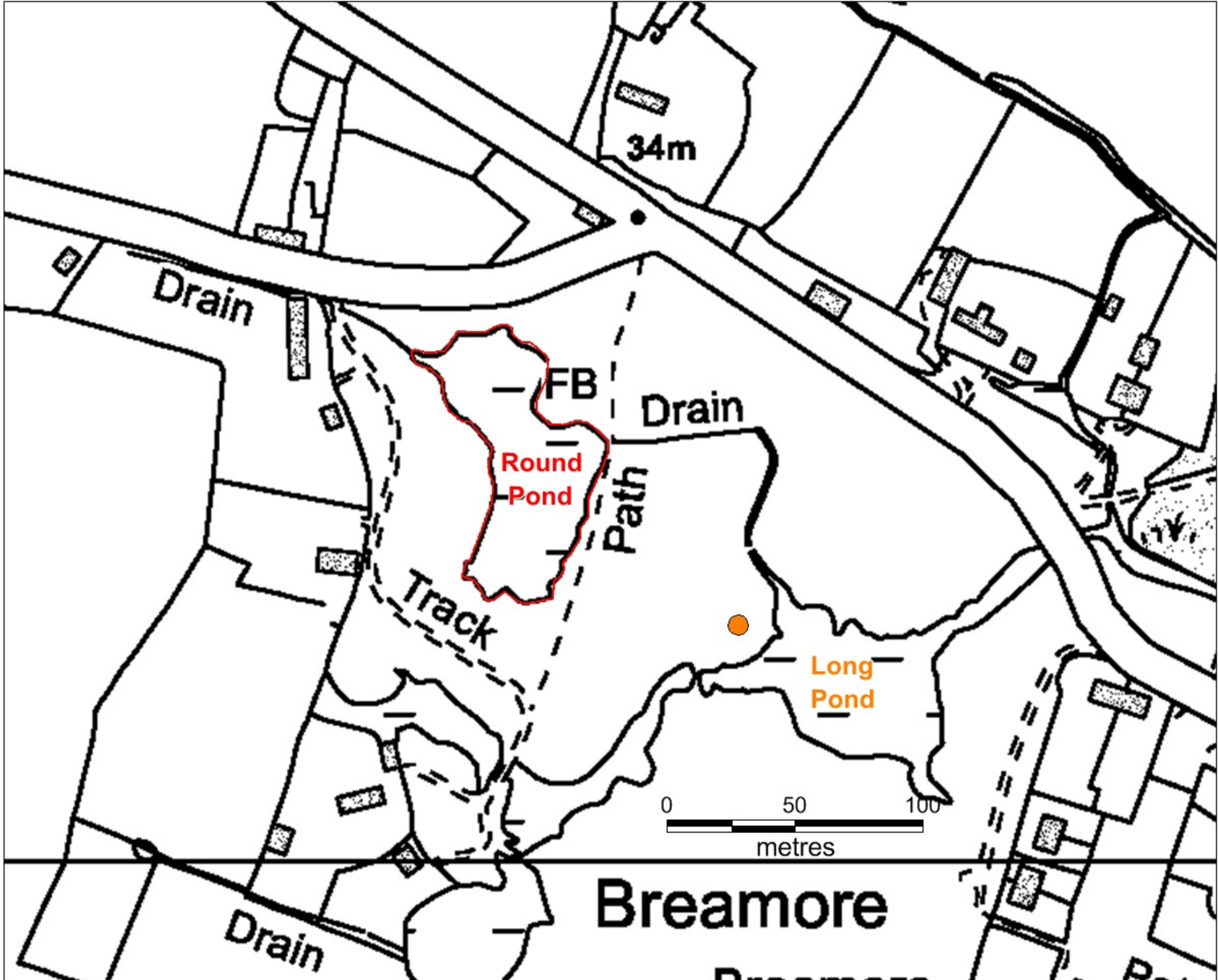
-  Round Pond
-  Pitfall Trap
-  Fencing



**Map 4. Survey Pond & Receptor Site**



- Round Pond (development site)
- Receptor Site



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 Produced by Hampshire and Isle of Wight Wildlife Trust on 25 November 2014 by Sarah Jackson. For enquiries relating to the Wildlife Trust's GIS data contact Catherine McGuire, email Catherine.McGuire@hwt.org.uk, tel: 01489 774455.

## **7. PHOTOGRAPHS**



1



2



3



4

## Photographs

1. Fence installation
2. Pitfall trap
3. Pitfall traps and carpet tiles along fence
4. Great crested newt belly pattern

# Appendix 14

