

Great Crested Newt Survey

Proposed Rabbit Ings Regeneration Scheme,
Near Royston, Barnsley

On behalf of the City of Wakefield Metropolitan
District Council and Yorkshire Forward

By WYG Environment

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Reference: A039273				
Issue		Prepared by	Checked by	Verified by
V1	06.10.2008			
V2	-			
V3	-			
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RABBIT INGS REGENERATION SCHEME: GREAT CRESTED NEWT SURVEY

1. INTRODUCTION

1.1 Background to Activity

WYG Environment (WYGE) was commissioned by Carillion on behalf of City of Wakefield Metropolitan Borough Council (WMDC) and Yorkshire Forward (YF) to undertake ecological work as part of a regeneration scheme for the Rabbit Ings site ('the Site') that covers 65.9 hectares of land near the village of Royston, Barnsley. The Site includes land formerly used as a colliery spoil heap, former drift mine and disused sports pitches/recreation ground. The Rabbit Ings Regeneration Scheme ('the Scheme') will include the importation of soil making materials, regrading of steep slopes for Health and Safety reasons, and reclamation works to provide formal and informal recreation uses including sports pitches with two team changing facilities with ancillary site access, car parks and informal open areas with landscape and ecological enhancements.

Following a Phase 1 survey undertaken by Scott Wilson at the Site in 2007, a number of specific habitat and protected/notable species surveys were recommended to accurately predict potential ecological impacts as a result of the proposals. This report provides details of ecological work undertaken at Rabbit Ings in relation to great crested newts. The aims of this assessment were:

- To determine whether the Site was used by great crested newts with consequent implications for the Scheme with respect to the *Wildlife and Countryside Act 1981* (as amended), the *Conservation (Natural Habitats &c.) Regulations 1994*, and relevant planning and policy guidelines;
- To provide proposals for mitigation measures to offset any environmental impacts caused by the proposed work and to maintain the local great crested newt population at a favourable conservation status; and
- To assist the client to operate within the law.

1.2 Site Location and General Description

The Site (centred around OS grid reference SE 381 118) is located to the north-east of the village of Royston, east of Lund Hill Lane (B6428), some 4.5km north-east of Barnsley, and covers approximately 65.9 hectares (ha). The site is within the administrative boundary of Barnsley Metropolitan Borough Council (BMBC). The majority of the site is owned by WMBC with the recreation ground owned by the Royston and Carlton Community Partnership (RCCP) and a relatively small parcel of land within the south part of the site under the ownership of BMBC.

The site effectively comprises three distinct areas, namely as follows:

- (i) the former Rabbit Ings spoil heap;
- (ii) the former Royston drift mine site located to the north-west of the spoil heap;
and
- (iii) the RCCP recreation ground located to the south-west of the spoil heap.

The Rabbit Ings spoil heap occupies the majority of the Site covering an area of approximately 50.9ha. Sandybridge Lane forms the eastern boundary of the spoil heap and Sandybridge Dyke is located to the south. A dismantled railway, part of Lund Hill Lane, along with the former Royston Drift Mine and some existing employment land is located to the west of the former spoil heap. Open agricultural fields and a former railway line forms the northern boundary of the spoil heap.

The spoil heap comprises a mound of colliery spoil rising approximately 35m to 40m above surrounding land. There are some areas of tree and shrub growth mainly on the southern slopes of the spoil heap, but other parts are sparsely vegetated. The spoil heap appears to be terraced on its northern flank, with steep embankments separating the terrace levels. Parts of the southern flank of the spoil heap are steep sided, leading to a much flatter area of land adjacent to Sandybridge Dyke that has more established areas of tree and shrub vegetation. The top of the spoil heap is generally flat with limited vegetation cover. There is evidence of surface erosion from uncontrolled surface water run-off on parts of the spoil heap. In addition, there is evidence of unauthorised use by motor bikes and 4x4 vehicles on the spoil heap and adjacent land within the Site.

A man-made pond is located in the north-east corner of the Site and a former lagoon is located in the south-west corner.

The former Royston Drift Mine site occupies an area of land approximately 6.5ha, located to the north-west of the spoil heap, east of Lund Hill Lane, and to the north of existing industrial land. It comprises a relatively flat area of land with an area of hardstanding along with the remains of former roadways and footings for former colliery buildings.

The RCCP derelict sports pitches/recreation ground is located adjacent to the south-west part of the spoil heap and covers an area of approximately 8.5ha. The sports pitches are in poor condition and are infrequently used; they have been 'ploughed' to prevent motorcycle and 4x4 access. The eastern boundary of this part of the Site is formed by a disused railway line adjacent to the spoil heap. The western boundary is formed by a public footpath, with Lund Hill Lane to the west, and the southern boundary by a hedgerow.

A public footpath runs generally along the northern site boundary, in part within the Site, providing a link between Lund Hill Lane in the west and Sandybridge Lane to the east. In addition, a public footpath runs from Lund Hill Lane in a south-east direction, to the north of the sports pitches/recreation ground, and leaves the southern boundary of the Site to connect with the wider rights of way network including the Trans Pennine Trail.

1.3 **Surrounding Area**

Land to the north and east of the Site includes open fields used for agriculture. The village of Shafton is located approximately 0.5km to the south-east of the spoil heap with intervening agricultural land. The Sandybridge Dyke is located along the southern boundary of the Site and the Trans Pennine Trail, with woodland areas and agricultural land to the south.

South-west of the spoil heap and outside the Site is a restored waste disposal tip (Cudworth Landfill Site) forming a prominent mound rising 10m above the surrounding land. West of the RCCP recreation ground is a railway line that runs north-south, passing over Lund Hill Lane, approximately 100m west of the site boundary. In addition, a former landfill site is located outside and to the north of the former drift mine part of the Site.

Between Lund Hill Lane and the former spoil heap is an area of land that is currently used for employment purposes, including a pallet yard and a number of other business activities.

The Monkton Coke and Chemical Works is located to the west of the Site and Lund Hill Lane. North of this coke works and to the west of Lund Hill Lane is a coal storage yard.

Royston Village is located to the south-west of the Site. Some residential properties and a nursery school on the east side of this village are located to the west of Lund Hill Lane approximately 100m distant from the south-west of the Site boundary. There are some residential properties along Lund Hill Lane approximately 250m north of the Site.

The Site is surrounded by arable land to the north, amenity fields and agricultural fields beyond to the south and is bordered by Lund Hill Lane and Sandybridge Lane to the west and east respectively.

1.4 **Proposed Work**

The Scheme provides for the regeneration of the Site and will primarily involve some importation of soil making materials, regrading and reclamation works to provide formal and informal recreation uses including sports pitches with two team changing facilities, ancillary site access, car parks, and informal open space areas with landscape and ecological enhancements. The Scheme will take 12-18 months to complete, subject to works being progressed within the appropriate soil handling season.

2. **DESK STUDY**

2.1 **Legislation**

The great crested newt is listed on Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended) which makes it an offence to:

- Intentionally or recklessly kill, injure or take a great crested newt;
- Possess or control any live or dead specimen or anything derived from a great crested newt;

- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a great crested newt;
- Intentionally or recklessly disturb a great crested newt while it is occupying a structure or place which it uses for that purpose.

The great crested newt is afforded additional protection under the *Conservation (Natural Habitats &c.) Regulations 1994* (as amended) which applies to all life stages.

2.2 **Baseline Data**

In a recent (2007) ecological survey, Scott Wilson Ltd made consultation with the West Yorkshire Biological Records Centre (WYBRC) and the North and East Yorkshire Ecological Data Centre (NEYEDC) to obtain up-to-date information pertaining to the occurrence of great crested newts within a 2km radius of the Site. Other organisations consulted for information regarding amphibians within the survey area included biodiversity groups, county and metropolitan councils, and Yorkshire Wildlife Trust.

In addition, a number of ecological surveys have previously been undertaken at the Site, including a presence/absence great crested newt survey in 2003 (Rob Frith & Associates Ltd.)

The following information was obtained regarding great crested newts and their habitats within 2km of Rabbit Ings:

- In 2002, a great crested newt was recorded adjacent to the B6428 road approximately 1.75km north of the Site.
- Several historical records exist on the National Biodiversity Network database north of the Site around Ryhill and Winterset.
- Rob Frith & Associates undertook a presence/absence great crested newt survey during 2003 of waterbodies within and adjacent to the Site which did not identify any great crested newts. Suitable breeding and terrestrial habitat was identified.

3. METHODOLOGY

In accordance with English Nature's *Great Crested Newt Mitigation Guidelines* (2001), ponds within 500m of Rabbit Ings were assessed for their potential to support great crested newts and any considered suitable were subject to a presence/absence survey. Where great crested newts were confirmed to be present, additional surveys were undertaken to determine a population class estimate.

3.1 Habitat Assessment

Potential breeding ponds for amphibians were identified by Scott Wilson in 2007 using Ordnance Survey (OS) maps and the maps within the Multi-Agency Geographic Information for the Countryside (MAGIC) database.

A daytime survey was undertaken by Scott Wilson as part of an extended Phase 1 survey which identified five ponds as requiring further investigation. During initial site investigations in 2008, additional water bodies were identified by WYG Environment and their suitability to support great crested newts was assessed based on guidance provided in Froglife's *Great Crested Newt Conservation Handbook* (2003) and the Herpetological Conservation Trust's *National Amphibian and Reptile Recording Scheme* (2008).

All water bodies considered to offer suitable habitat for great crested newts were subject to survey to determine presence or likely absence by WYG Environment in 2008.

3.2 Presence/Absence Survey

All suitable water bodies were visited at least four times (where access allowed) in accordance with the *Great Crested Newt Mitigation Guidelines* (English Nature, 2001). The visits required for the presence/absence survey presented in this report were undertaken between 13th March 2008 and 27th May 2008. All surveys were undertaken by suitably qualified and trained ecologists working under survey licences issued by Natural England.

Where possible, three survey methods were adopted per visit i.e. bottle-trapping, torching and egg searching. These methods are described below and were performed in accordance with guidelines given in English Nature's guidelines and

National Amphibian and Reptile Recording Scheme (The Herpetological Conservation Trust, 2008).

Limitations affecting this survey are discussed in section 3.4.

3.2.1 Bottle trapping

Traps were constructed from two-litre plastic bottles and set around the margins of water bodies approximately every 2m where access allowed shortly before dusk. The traps were checked and removed the following morning between 06:00 and 11:00. All surveys were undertaken when air temperature exceeded 5°C.

3.2.2 Torchlight survey

This technique involved a visual search for individual newts inhabiting the perimeter of accessible waterbodies after dark. Torches rated at 1,000,000 candle-power were shone into the water during the search and the perimeter of each waterbody was walked once; care was taken to count individuals once only. To maximise the reliability of this technique, all torch surveys were conducted while air temperature exceeded 5°C, i.e., when newts are generally considered to be most active.

3.2.3 Egg search

Great crested newt eggs were searched for among submerged emergent or aquatic vegetation. When laying their eggs, this species often folds leaves of aquatic and emergent plants around the egg, although dead leaves and a variety of artificial materials are also known to be used. This behaviour was exploited as evidence indicative of the presence of great crested newts in accessible waterbodies; eggs of great crested newts and smooth newts (*Triturus vulgaris*) are easily discerned. However, egg numbers cannot be used to estimate population size due to predation and high mortality rates induced by this activity. Therefore, to limit disturbance, this search method was ceased as soon as an egg had been positively identified.

3.3 **Population Size Class Assessment**

In accordance with English Nature's guidance, a further two targeted visits were made where positive results were obtained during the presence/absence survey to gather information regarding the size class of the great crested newt population.

Size classes are based on the maximum count of great crested newts achieved during any single survey visit i.e., the highest count obtained from bottle trapping or a torchlight survey in a single visit. Maximum counts were classed as 'small', 'medium' or 'large' as follows to give the population size class:

- 'small' for maximum counts of up to 10 adult great crested newts;
- 'medium' for maximum counts of between 11 and 100 adult;
- 'large' for maximum counts of over 100 adults.

Limitations affecting this survey effort are discussed in section 3.4.

3.4 Limitations

The suitability of ponds for breeding amphibians can change from year to year depending on whether rainfall patterns permit standing water to persist for long enough in the breeding season to allow courtship, egg-laying and the growth and metamorphosis of larvae to the juvenile life-stage. Ponds assessed as unsuitable due to lack of water in one season may be suitable in subsequent years.

Initial surveys were directed at the ponds highlighted by Scott Wilson and additional ponds were subject to further investigation by WYGE in 2008 as a precaution.

All three survey methods were used wherever possible; however, the consistency of their use was variable due to the specific conditions of individual waterbodies e.g. where water was too turbid or densely vegetated for a useful torch survey, or where water was too shallow for trapping with bottles to be possible.

Despite the limitations highlighted above, the survey effort applied is considered sufficient to meet the aims of the survey and this report, in accordance with the aforementioned guidelines.

4. ASSESSMENT AND SURVEY RESULTS

4.1 Habitat Assessment

The survey undertaken by Scott Wilson in 2007 identified a total of five waterbodies in the search area. Several ditches were also identified but were not considered to provide suitable habitat for breeding amphibians, including great crested newts.

During Spring 2008, WYGE identified several additional ponds and ditches which contained standing water and had potential to support breeding amphibians, including great crested newts. Features were not graded or scored in terms of suitability but all waterbodies with sufficient standing water at the time of assessment (more than 0.1m) were identified as 'suitable' and targeted for further surveys.

All waterbodies which were considered to be suitable for great crested newts and which were subjected to presence/absence surveys are listed in Table 1 below.

Table 1: Potential Great Crested Newt Breeding Ponds/Waterbodies

Feature	Location	Pond Description	Approximate Area
Pond 1	SE 376 121	Concrete based pond with limited submerged and emergent vegetation. Some submerged detritus. In early stages of succession due to concrete construction.	1500 m ²
Pond 2a	SE 378 121	Northern section of two ponds that are seasonally connected during periods of high rainfall. Largely dominated by common reed with areas of open water. Towards the western end the species diversity increases with a number of emergent species succeeding to woodland on the neighboring slope.	4000 m ²
Pond 2b	SE 378 121	Southern section of seasonally connected ponds. Diverse flora ranging from abundant rushes at the western extent to reeds along the southern boundary and submerged aquatic vegetation along the eastern extent. Largely bordered by willow causing shading of some areas particularly at the eastern extent.	1500 m ²
Pond 3	SE 378 121	Reed dominated pond with trees along the eastern end	4200 m ²
Pond 4	SE 381121	A steep sided triangular pond. Largely reed	600 m ²

Feature	Location	Pond Description	Approximate Area
		dominated with some open areas. Some small trees but little shading of the water body.	
Pond 5	SE 385 119	A brick lined artificial pond with some sedimentation in the corners allowing the growth of small trees and reeds.	1250 m ²
Pond 6	SE 377 113	A former track within the woodlands in the south western corner of the Site that has become flooded and now retains water in some areas.	20 m ²
Pond 7	SE 376 113	Flooded area of woodland behind concrete walls bordering the recreation ground to the west of the Site.	200 m ²
Pond 8	SE 376 113	An area of flooded woodland to the west of Cottam Dyke stream.	1500 m ²
Pond 9	SE 376 113	An area of flooded ditch at the base of the west slope caused by a narrow culvert.	8 m ²
Pond 10	SE 377 116	An area of stream flowing from pond 3 south flooded around a concrete wall and assumed culvert.	4 m ²

4.2 Presence/Absence Survey

Ponds 1 to 10 were subject to a presence/absence survey in accordance with the methodologies outlined in Section 3; results are provided in Table 2 below:

Table 2: Presence/Absence Great Crested Newt Survey Results – Bottle Trapping

Date	Pond	No of Traps	Bottle Trapping		Torching		Eggs
			Male	Female	Male	Female	
Survey 1							
13/03/2008	1	20					
13/03/2008	2a	20		1	1		
13/03/2008	2b	20	1				1
13/03/2008	3	20					
13/03/2008	4	15					
13/03/2008	5	16 (8 bricks)					
13/03/2008	6						
13/03/2008	7						
13/03/2008	8						
13/03/2008	9						
13/03/2008	10						
TOTALS				2		2	0
Survey 2							
16/04/2008	1	20					

Date	Pond	No of Traps	Bottle Trapping		Torching		Eggs
			Male	Female	Male	Female	
16/04/2008	2a	20					
16/04/2008	2b	20					
16/04/2008	3	20					
16/04/2008	4	15					
16/04/2008	5	16 (8 bricks)					
16/04/2008	6	10					
16/04/2008	7	10					
16/04/2008	8	20					
16/04/2008	9						
16/04/2008	10						
TOTALS			0		0		0
Survey 3							
06/05/2008	1	20					
06/05/2008	2a	20				1	
06/05/2008	2b	20					
06/05/2008	3	20					
06/05/2008	4	15					
06/05/2008	5	16 (8 bricks)					
06/05/2008	6	10					
06/05/2008	7	10					
06/05/2008	8	20					
06/05/2008	9						
06/05/2008	10						
TOTALS			0		1		0
Survey 4							
27/05/2008	1	25					
27/05/2008	2a	20	3	3	2	2	
27/05/2008	2b	20			1	1	
27/05/2008	3	17					
27/05/2008	4	15					
27/05/2008	5	16 (8 bricks)					
27/05/2008	6	10					
27/05/2008	7	Dry					
27/05/2008	8	5			1	1	
27/05/2008	9	20					
27/05/2008	10	8					
TOTALS			6		8		0

- Smooth newts were recorded in Pond 6.
- During subsequent visits to Rabbit Ings, great crested newts were discovered beneath wooden boards to the east of the Soils Stockpile Area (due south of Pond 2b) confirming that great crested newts utilise the terrestrial habitat within Rabbit Ings.

Surveys demonstrated the presence of great crested newts in Ponds 2a, 2b, 8 and

9 and throughout terrestrial areas of the Site.

4.3 Population Size Class Assessment

Two additional surveys were conducted of each waterbody to allow the population size class to be determined.

Table 3: Population Size Class Survey Results

Date	Pond	No of Traps	Bottle Trapping		Torching		Eggs
			Male	Female	Male	Female	
Survey 5							
03/06/2008	1	25					
03/06/2008	2a	20	1	3			
03/06/2008	2b	20	4		4	4	
03/06/2008	3	15					
03/06/2008	4	15					
03/06/2008	5	16 (8 bricks)					
03/06/2008	6	10					
03/06/2008	7	Dry					
03/06/2008	8	5					
03/06/2008	9	20	1	3	1	3	
03/06/2008	10	8					
TOTALS			12		12		0
Survey 6							
09/06/2008	1	24					
09/06/2008	2a	20	3	3	1	2	
09/06/2008	2b	20			2		
09/06/2008	3	20					
09/06/2008	4	15					
09/06/2008	5	16 (8 bricks)					
09/06/2008	6	10					
09/06/2008	7	Dry					
09/06/2008	8	5					
09/06/2008	9	18		1	1		
09/06/2008	10	8					
TOTALS			7		6		0

- Smooth newts were recorded in Ponds 1, 2a, 2b, 6 and 9 during the additional two surveys.
- During an invertebrate survey undertaken at the Site on 1st July 2008, one great crested newt eft was captured with a net in each of Ponds 1 and 9.

- On 3rd July 2008, one great crested newt eft was recorded during an invertebrate survey in Pond 1 and four great crested newt efts were captured in Pond 9.

Great crested newts were, therefore, confirmed to be present in Ponds 1, 2a, 2b, 8 and 9. The peak count for any one survey using any one method is 12 determining that the local population falls within the medium size class (11-100 individuals).

5. IMPACTS AND RECOMMENDATIONS

A medium population of great crested newts has been confirmed at Rabbit Ings. As great crested newts are protected under the *Wildlife and Countryside Act 1981* and the *Conservation (Natural Habitats, &c.) Regulations 1994*, no work that may impact on individuals or suitable habitat will commence until a European Protected Species licence (EPSL) is granted by Natural England for the proposed Regeneration Scheme.

5.1 European Protected Species Licence

Once planning permission is granted for the Scheme and prior to the commencement of any operations that may impact on the local great crested newt population, a Natural England EPSL will be sought.

All survey, mitigation and regeneration scheme information will be included in the licence application to be submitted to Natural England for determination. A licence can only be granted "... *for the purpose of preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment, to allow people to carry out activities which would otherwise be illegal*".

Please note, Natural England can take up to 12 weeks to determine a licence application and an application cannot be submitted until full planning permission/authorisation for the proposed work has been received.

5.2 Mitigation

Mitigation for the Scheme will include:

- (i) Avoidance of killing or injuring great crested newts. All reasonable steps will be taken to ensure the proposed work does not cause harm to individuals by capturing and removing great crested newts from the works area;
- (ii) Habitat creation, restoration and enhancement to provide suitable areas for great crested newts once work is complete and to compensate for any habitat lost as a result of the work; and
- (iii) Post-development population monitoring to assess the success of the mitigation scheme.

5.2.1 Capture, Exclusion and Translocation

Aquatic Habitat

With the exception of Pond 1 (see section 5.3), all breeding habitat will be retained. However, a number of waterbodies may become isolated during the works and it is, therefore, proposed that bottle-trapping of Pond 9 is undertaken immediately prior to the commencement of any work that will isolate it. If this is not undertaken, it is possible that individuals emerging from the pond may attempt to cross areas of cleared ground in an attempt to find suitable terrestrial habitat and may, as a consequence, be at increased risk of killing or injury by works vehicles.

Terrestrial Habitat

Due to the very high level of vandalism that currently occurs at Rabbit Ings (including the removal of palisade fencing for motorcycles and 4x4 vehicles to access the Site), it has been decided that the standard approach of installing amphibian proof fencing and pitfall traps to clear the Site of great crested newts prior to the commencement of work is likely to have a detrimental effect on the local population. In addition, the length of fencing required, and the amount of time and cost that would be involved in repairing the fence following incidences of vandalism, would affect the feasibility of the project. Therefore, following discussion with Natural England on 16th July 2008, an alternative method has been identified to minimise the risk of killing or injuring great crested newts.

An experienced ecologist will be present immediately prior to the commencement of work to supervise ground vegetation clearance and soil stripping and importation. This will include a search of any routes that vehicles/excavators use to access working areas. The proposed work will begin in the west of the Site and will progress eastwards throughout the Scheme's programme. The working area for the week ahead will be searched and cleared of great crested newts and, once it has been confirmed that no great crested newts remain in the working area, it will be made unsuitable for recolonisation and work allowed to continue. This process will be repeated throughout the work programme and efforts will be made to ensure any areas suitable for hibernation are cleared before early November 2009. The licence holder (or accredited agent) will regularly discuss the work programme to ensure any activities that will affect habitat suitable for great crested newts are supervised accordingly.

Any great crested newts (and other amphibians) found during the supervised clearance work will be translocated to an area of land outside and adjacent to the north-west boundary of Rabbit Ings which is also owned by Wakefield Council (known as the 'receptor site'). This area is considered to be within the range of the local great crested newt population and will allow individuals access to suitable terrestrial and aquatic habitat for the duration of Scheme. The carrying capacity of the receptor site will be increased through the creation of additional refugia which will be constructed from logs (as required, trees will be felled to above 30cm of ground level in January 2009 to avoid the bird breeding season) that will be cleared from the working areas. In addition, the landscape plan has been altered to retain a larger area of existing habitat immediately to the south of Ponds 2a, 2b and 3 for individuals to use while the work is taking place.

5.2.2 New Ponds

The blocked culvert that has led to the creation of Pond 9 will be cleared as part of the Scheme and the increased flow of water is considered likely to reduce its value to breeding great crested newts. Therefore, replacement pools will be created along this culvert in accordance with the *Great Crested Newt Conservation Handbook* (Froglife, 2001).

Planning permission has been granted for the storage of 95,000 cubic metres of topsoil and subsoil over an area measuring 4.12ha in the north-west of the Rabbit

Ings site (LPA reference number 2008/0244; dated 23rd July 2008). Pond 1, which has been shown to provide breeding habitat for great crested newts, will be lost as a result of the proposed work in this area and, as a result, a great crested newt licence application is currently being prepared for this area only. The new pond which will replace Pond 1 (and will be located 230m to the south-east to become more accessible to individuals moving through the Site) will mimic many of its characteristics and will be designed to ensure its suitability for great crested newts, birds and invertebrates. It will also act as one of the 'stepping stones' to allow translocated individuals to recolonise the Site more effectively. Reference will be made to the wider Scheme in the licence application for the Soils Stockpile Area.

It is generally accepted that great crested newts do not move further than 250m from a breeding pond although they are known to use utilise habitat up to 500m away. As the receptor site is greater than 500m from some of the areas where great crested newts are likely to be found e.g. within terrestrial habitat around Ponds 6, 7, 8 and 9, a number of new 'stepping stone' ponds will be created between Ponds 2a, 2b and 3 and the ponds in the south-west of the Site to allow great crested newts to recolonise larger areas of Rabbit Ings once the proposed work is complete.

In total, four new ponds will be created within the Site (Plan 2) which, with the exception on the new Pond 2, are within the size range recommended by English Nature's *Great Crested Newt Mitigation Guidelines* (2001) i.e. are above 100m². All areas indicate the maximum water level area.

Table 4: New Ponds to be created within the Site.

New Pond Number	Size (max. water level)	Slope	Purpose
1	894m ²	1 in 10	To replace Pond 1
2	35m ²	1 in 3	Stepping stone
3	103m ²	1 in 3	Stepping Stone
4	223m ²	1 in 3	To replace Pond 9

5.2.3 Post-development Habitat Management

A management plan will be implemented for at least five years after completion of the Scheme at Rabbit Ings which will include:

- Management of aquatic vegetation in ponds;
- Clearance of shading trees or scrub cover around pond margins;
- Desilting and clearance of leaf-fall within ponds;
- Mowing, cutting or grazing of grassland;
- Woodland and scrub management;
- Removal of rubbish on Site;
- Repair to perimeter fences; and
- Desilting of culverts or drainage channels.

5.2.4 Post-development Population Monitoring

A monitoring plan will be implemented to assess whether the great crested newt population has responded favourably to the mitigation and to inform ongoing habitat management. In accordance with English Nature's *Great Crested Newt Mitigation Guidelines* (2001) and to allow comparisons to be made with the pre-development surveys, a population size class assessment (6 visits per year) will be undertaken for four years post-development.

6. REFERENCES

English Nature (2001)

Great Crested Newt Mitigation Guidelines. English Nature, Peterborough.

Eric Bennett Consultancy (2002)

Rabbit Ings: Survey Notes.

Langton, T., Beckett, C. & Foster, J. (2001)

Great Crested Newt Conservation Handbook. Froglife, UK.

Mitchell-Jones, A.J. & McLeish, A.P. (2004)

Bat Workers' Manual. JNCC, UK.

Rob Frith and Associates Ltd (2003)

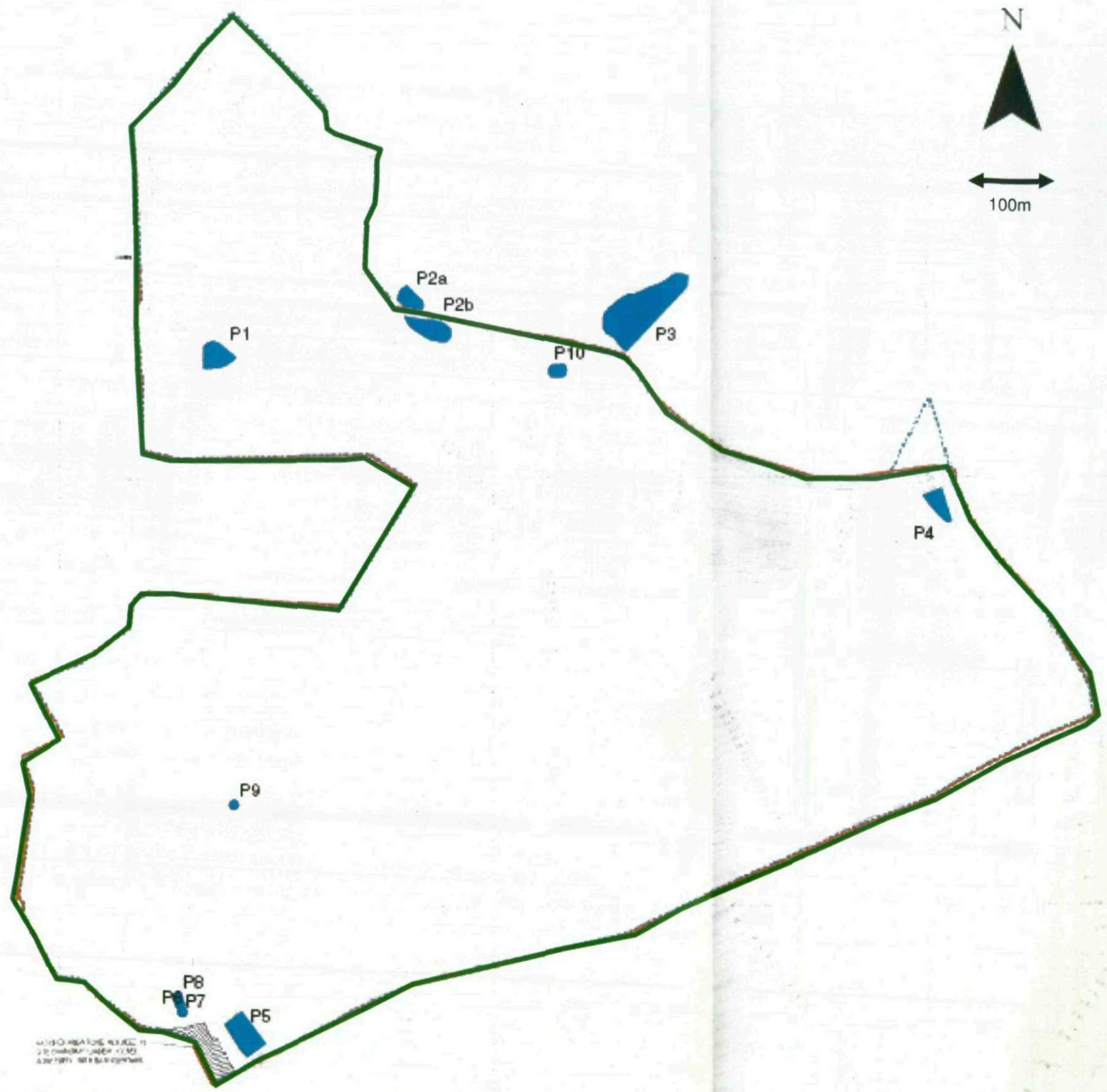
Rabbit Ings: Ecological Assessment.

Scott Wilson (2007)

Rabbit Ings: Extended Phase 1 Habitat Survey.

Scott Wilson (2004)

Rabbit Ings Coalfield Site: Phase 1 Habitat Survey and Appraisal



Legend

-  Rabbit Ings site boundary
-  Surveyed Ponds



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**RABBIT INGS: GREAT CRESTED NEWT
 SURVEY**

Plan 1
 Existing Pond Locations

Reproduction: Based on a map provided by the Client

Project Number: A039273

Drawn by: CW	Checked by: SM	Date: 03.10.08
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rabbit ings regeneration

