British Energy Group PLC
Sizewell Great Crested Newt Survey Report 2007

1. Introduction

1.1 Background to development

British Energy (BE) is at the early stages of investigating the feasibility of building new nuclear power stations at a range of sites within their UK land holding. Sizewell has been identified as one potential site for investigation and likely progression to EIA. An area of land directly north of the Sizewell 'A' and 'B' Power Stations has been identified as having potential to accommodate nuclear new build. The proposed power station footprint, a further area that has been identified as having the potential to accommodate construction compounds and the route of the indicative access road are collectively referred to in this document as the 'preliminary works area.' The preliminary works area, shown on **Figure 1.1**, covers a total of 0.67km^2/67ha.

In March 2007 an extended Phase 1 habitat survey was conducted of the preliminary works area and the surrounding land up to 750m beyond the site boundary (Entec report reference 19081cr036).

There are few discrete pools within the preliminary works area, but the extensive ditch system (and associated open linked waterbodies) associated with the Sizewell Marshes, and adjacent to the site, does have some potential to support great crested newts. The ditches were not systematically surveyed for newts as part of the EIA for the decommissioning work for Sizewell 'A' and there has been no historical survey or sampling programme commissioned by BE. The indications are that due to a combination of factors (predominantly the presence of a wide variety of fish, the year round presence of water birds, the variable rate of flow and the salinity of some of the ditches) the ditches are sub-optimal for newts. Nevertheless, great-crested newts do occur within the wider area, having been recorded in pools to the west of the British Energy Estate (at Abbey Farm and Lady Chapel) in the late 1990s. These pools are approximately 2.5km west of the proposed new build area and more than 900m from the indicative location of the proposed access road.

Alan Miller (Suffolk Wildlife Trust, pers comm.) noted that great crested newts had not been observed within the estate in more than 20 years by estate staff and opportunities within the estate were considered sub-optimal due the sandy and peaty soil conditions that prevail, thereby reducing the opportunity for discrete ponds and pools to develop.

It was considered that further work was required to determine the status of great crested newts (*Triturus cristatus*) in relation to the proposed development site and, it follows, to enable appropriate mitigation and compensation for the species to be incorporated within the scheme design should they be present.

1.2 Legislation

1.2.1 Great crested newt

The great crested newt has suffered major declines in population size across its entire range in Europe (from France in the west, to the Urals in the east) over the past 100 years due to the loss and fragmentation of suitable breeding and terrestrial habitats. Despite this, the UK still has some of the largest populations of this species in the world, although the status of some of these populations is under threat. Due to the long term decline that the European population has undergone, and the rarity of the species across much of its range, great crested newts are fully protected under UK and European legislation.

The *Wildlife and Countryside Act 1981* transposes into UK law the Convention on the Conservation of European Wildlife and Natural Habitats (commonly referred to as the 'Bern Convention'). The great crested newt is listed on Schedule 5 of the 1981 Act, and is therefore subject to all the Sections of Section 9. In 2000 the *Countryside and Rights of Way (CRoW) Act 2000* received Royal Assent and, via Schedule 12 of the Act, it extends the protection that great crested newts are afforded by Section 9 of the *Wildlife and Countryside Act 1981*. Therefore under the amended *Wildlife and Countryside Act 1981* it is an offence to:

- intentionally kill, injure or take a great crested newt [Section 9(1)];
- possess or control any live or dead specimen or anything derived from a great crested newt [Section 9(2)];
- intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a great crested newt [Section 9(4)(a)]; and
- intentionally or recklessly disturb a great crested newt while it is occupying a structure or place which it uses for that purpose [Section 9(4)(b)].

The *Conservation (Natural Habitats &c.) Regulations* 1994 (the Habitats Regulations) as amended (2007) transpose into UK law Council Directive 92/43/EEC of 21st May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (often referred to as the 'Habitats [and Species] Directive.'). Great crested newt is listed on Annex II and Annex IV of the Directive. Annex II relates to the designation of Special Areas of Conservation (SACs) for this species. Even where great crested newts occur outside SACs their inclusion on Annex II serves to underline their conservation significance.

Inclusion on Annex IV (as a 'European protected species') means that member states are required to put in place a system of strict protection as outlined in Article 12, and this is done through inclusion on Schedule 2 of the *Conservation (Natural Habitats &c.) Regulations 1994 (as amended, 2007)*. Regulation 39 makes it an offence to:

- deliberately capture or kill a great crested newt [Regulation 39(1)(a)];
- deliberately disturb a great crested newt [Regulation 39(1)(b)];
- deliberately take or destroy the eggs of a great crested newt [Regulation 39(1)(c)]; and
- damage or destroy a breeding site or resting place of a great crested newt [Regulation 39(1)(d)].

The legislation applies to all life stages of great crested newts.

Natural England can issue licences for great crested newts 'in respect of development' to permit otherwise unlawful activities (identified above) to take place. Typically a licence will be required if great crested newts are present on site or have been recorded using breeding habitat within 500m[1], and the development activity is likely to result in an offence being committed.

1.2.2 Smooth and palmate newt

Both smooth (*Triturus vulgaris*) and palmate (*Triturus helveticus*) newt are also protected under the Wildlife and Countryside Act 1981 (as amended), but they are only protected under Section 9(5) of the Act. This prohibits the sale, barter, exchange, transporting for sale and advertising to sell or buy of each of these species.

1.3 Purpose of survey work

The implication of this legislation is that proposed developments need to take account of potential effects on great crested newts. In areas where suitable habitat exists, and in the absence of contemporary baseline data existing for the species (that is directly relevant to a proposed development site), survey work is necessary to establish whether great crested newts are likely to be present and to estimate the size of the local population. This enables mitigation, translocation, habitat enhancement and creation initiatives to be planned and incorporated into the design of the development concerned, and ensures that there is no significant negative effect on the conservation status of the species at local level. Given the presence of water bodies at Sizewell, and the lack of contemporary baseline data, survey work was therefore undertaken.

[1] English Nature. 2001. Great Crested Newt Mitigation Handbook. English Nature. Peterborough.

N

Key

Proposed new build infrastructure

British Energy land holding

0 m 750 m

Scale 1:15,000 @ A3

British Energy

British Energy
Sizewell Power Station

Figure 1.1
Proposed New Build Area

April 2007
19801-R21a.dwg reynm

Entec

2. Methods

2.1 Desk study

A considerable amount of baseline ecological work has been conducted on the Sizewell Estate during the past twenty-five years. This has been carried out by a range of organisations including ecological consultants (commissioned directly or indirectly by Nuclear Electric and latterly British Energy), the Suffolk Wildlife Trust, the Environment Agency, academic institutions, individuals and special interest groups. The volume of this work is considerable. In addition there is data available from survey work commissioned by Magnox in association with the decommissioning of the existing nuclear facility and species records are held by the Suffolk Biological Records Centre (SBRC).

In addition to the data collected during the desk study, aerial photographs, and the relevant OS basemap were used to identify waterbodies within the preliminary works area and up to 750m from this boundary. For most sites, waterbodies are only considered in relation to developments within 500m of a site boundary. Due to the potential for design changes to occur, however, a wider search area was considered to ensure that if the site boundary changed slightly no areas of potentially suitable newt habitat would fall within 500m of the development footprint.

2.2 Field Surveys

2.2.1 Screening

All the water bodies identified during the desk study were visited to determine if they still existed and if they were likely to support great crested newts. Key features that were used to screen out water bodies from further surveys included:

- receiving discharge of pollutants at excessive levels or containing anoxic waters;
- insufficient aquatic vegetation or other material that could be used for egg laying;
- extreme levels of fish activity (e.g. an intensively managed fishing lake) or waterfowl activity (where the number of waterfowl present exceeds 10 per 1000m2 [Oldham *et al* 2000]);
- links to fast flowing streams, or the presence of an extreme management regime; and
- the lack of suitable connecting features e.g. mature hedgerows, ditches or woodland between the water body and the site that newts could follow, or a significant barrier to movement between the water body and the development area.

2.2.2 Presence/absence

Presence/absence surveys were carried out at any water body that was considered suitable for newts following screening. Each water body was visited four times within the optimum survey period[2], during which at least three methods of surveying where employed. These were:

[2] Between mid-March and mid-June (as per the Great Crested Newt Mitigation Guidelines [English Nature, 2001])

- bottle-trapping – bottle traps made from two-litre polyethylene type bottles were secured to the substrate using a bamboo cane attached through two holes within the plastic bottle. The traps were set at regular intervals around accessible areas of the water body margins. Upon installation, each bottle trap included an air bubble to prevent newts suffocating. The traps were set each evening between 1930 and 2130 hours and retrieved between 0600 and 0800 hours the following morning.
- torch-light surveying (using an adequately powerful torch) and
- egg search - marginal aquatic macrophytes were inspected for the presence of great crested newt eggs.

Sweep netting is an additional method that can be used to investigate the presence of newts in a water body. However, it was considered that the above survey methods would be more effective and less destructive than sweep netting given the nature of the water bodies on site and the importance of the aquatic plant communities within them.

2.3 Personnel

All surveys were carried out by Entec Ecologists Emma Toovey (Natural England Licence No. 20070675), and Dyfrig Hubble (working as an accredited agent under Emma Toovey).

2.4 Constraints

Due to the extensive system of water bodies present across the study area it was not possible to include every waterbody within the scope of the survey. A screening process, as outlined below was adopted to scope out many of the waterbodies from further survey work. Ten water bodies (one of which included two additional linked ditches (WB3)) within the Sizewell Marshes were then surveyed for great-crested newts. All are within 250m of the proposed new build area, temporary works area and/or access road. The water bodies selected for survey were those that appeared most suitable for newts, having a good ratio of aquatic vegetation to open water and a low flow in and out. Given the sub-optimal conditions for newts that occur across Sizewell Marshes this was considered an appropriate sampling strategy to investigate presence or absence.

Some of the banks of the waterbodies on site were heavily vegetated and as such, full access to the entire shoreline was not always possible.

3. Results

3.1 Desk study

Great-crested newts (*Triturus cristatus*) have been recorded in pools to the west of the British Energy Estate at Abbey Farm and Lady Chapel. SBRC holds records for two pools in this area, both from 1998. This is approximately 2.5km west of the proposed new build area and 900m from the indicative location of the proposed access road. Surveys for aquatic invertebrates conducted by Bioscan at Sizewell Belts in 1991 did not record great crested newts at any life stage. The method used would not conform to current guidelines. Cresswells conducted limited great crested newt surveys (following English Nature guidelines) as part of their decommissioning work for Sizewell A. This included the survey of a ditch at the eastern edge of the Sizewell Marshes SSSI. No great crested newts were recorded.

In addition, as part of work completed relating to the Sizewell Wents Substation located XXX, a single-visit survey for great crested newt was carried out by SWT in May-June 2005. No evidence of great crested newts was identified and most water bodies, with the exception of one pond, were considered to be sub-optimal. The pond providing suitable great crested newt habitat was located south of Sizewell Gap Road and east of Home Farm. Following this, as part of an Environment Appraisal[3] of underground cable route options for the Greater Gabbard wind farm two ponds to the south of Sizewell Gap road, and a network of drains to the north of woodland in the Sizewell Marshes SSSI, were therefore surveyed for the presence of great crested newts in April-June 2006. The surveys met with best practice guidelines, and did not detect great crested newt presence in any of the water bodies.

The mapping exercise identified 12 discrete water bodies and a very large and extensive ditch system comprising more than 50 interlinked ditches within the 750m study area.

Due to the presence of a main road (Lover's Lane and Abbey Road), cutting across the southwestern corner of the study area, 4 waterbodies and a small isolated, ditch network have been scoped out of further assessment as the road will act as a barrier for the migration of great crested newts into the affected areas.

3.2 Screening

All waterbodies within 750m of the preliminary works areas/access road were screened for their potential to support great crested newts. The desk study, as outlined above, scoped some of these water bodies. The most suitable waterbodies within 250m of the preliminary works areas/access road then underwent further screening as outlined below. The locations of these waterbodies that were screened are illustrated in **Figure 3.1** Table 3.1 below provides a brief description of each water body and outline the reasoning behind the screening decision in each case. Photographs of each water body are contained in **Appendix A**.

[3] Undertaken by Entec UK Ltd

Table 3.1 Descriptions of water bodies and results of screening

Water body Number	Description	Distance from preliminary works area boundary	Screening Decision
WB1 (Pond)	This waterbody is essentially a large area of reed bed with some patches of open water (total area ~50m x ~50m and a depth of ~3m). A number of ditches are connected to this waterbody and flow continuously. The water body margins are heavily vegetated with common reed (*Phragmites australis*). Waterfowl occur frequently within these habitats	~110m west of the site	**Screened in**: The margins of the water body area are considered to be suitable due to well vegetated banks and margins. However, waterfowl are present in abundance (as defined above), and fish were observed during the surveys thereby reducing the potential of the water body to support newts.
WB2 (Ditch)	WB2 is located on the northern boundary of the BE landholding and forms part of the extensive network of ditches that extends across the entire area. The ditch is bordered by marshy grassland to the east and deciduous woodland to the west. The ditch is approximately 3-5 wide and a depth ~75cm. The ditch is heavily shaded (>80%) by over-hanging trees resulting in a build up of leaf litter. Invertebrate species number and diversity appeared to be high during the survey visit. Aquatic vegetation is limited. A low flow was also noted during the initial survey visit.	270m north of the temporary works area.	**Screened in:** This ditch is considered to provide suitable aquatic and terrestrial habitat that could support GCNs although the likely fish populations present and the presence of a flow within the ditch limit its value for this species.
WB3 (Pond and ditches)	WB3 is an artificial water body created for the benefit of waterfowl. The water body is approximately 40m x 30m, with shallow margins of 30cm and a deeper centre (~1m). The water body is connected to WB4 by a ditch. The terrestrial habitats surrounding the water body include wet/marshy grassland. Aquatic vegetation mainly consists of emergents including a predominance of common reed. Due to the proximity of these waterbodies to the coast, there is some potential for the water to be saline to some degree.[4] [5] The presence of	~348m northwest of the site.	**Screened in:** The terrestrial and aquatic habitats are considered suitable to support GCN however, the potential for saline conditions and the frequent occurrence of waterfowl at this location reduces the value of this feature for GCNs.

[4] Similar pools and ditches ~100m inland from the sea at Walberswick, along the coast from Sizewell are known to be brackish as a result of seawater seepage through the shingle, sea spray and the breaching of shingle banks at very high tide (CEFAS (2006) *Radiological Habits Survey*: Sizewell, CEFAS, Lowestoft)

[5] The *Suffolk Coast Maritime Natural Area Profile* (English Nature (now Natural England), 1997) notes that "Dyke systems within grazing marshes, some of which are mediaeval in origin, have a range of water salinities from fresh to brackish. They support a range of plant communities, from those with submerged and floating plants to those filled with tall emergents such as reed. Scarce plants such as whorled water-

Table 3.1 (continued) Descriptions of water bodies and results of screening

Water body Number	Description	Distance from preliminary works area boundary	Screening Decision
	whorled water-milfoil (*Myriophyllum verticillatum)* in some of the ditches within the locality indicates some potential for brackish waters.[7]		
WB4 (Pond)	As with WB3, WB4 is an artificial waterbody created for its value to waterfowl. The water body is approximately 100m by 20m, with shallow margins of 30cm and reaching a central depth of more than 1m. The margins are dominated by common reed. Terrestrial habitats are the same as noted above. There is some potential for the water within this waterbody to be saline to some degree. (Refer to footnotes above with regard to salinity).	~320m north of the preliminary works area	**Screened in:** The terrestrial and aquatic habitats are considered suitable to support GCN however, the potential for saline conditions and the frequent occurrence of waterfowl at this location reduces the value of this feature for GCNs.,
WB5 (Ditch)	WB5 separates an area of wet/marshy grassland from plantation coniferous woodland habitats. The ditch is approximately 2-4m wide with a depth ~1m. The ditch is heavily shaded by trees and scrub (>90%) with limited macrophyte cover (<10%). Species diversity and numbers for invertebrates was observed to be generally high during the visit. Large numbers of fish, primarily sticklebacks, were observed during the initial survey visit. A smooth flow[8] was also observed.	250m east of the preliminary works area.	**Screened in:** The habitats were considered suitable to support this species in the more sheltered margins, however, following some initial surveys (see results below) large numbers of stickleback were captured and as such, the waterbody was screened out from further assessment. Furthermore, a strong flow was also noted at times.
WB6 (Ditch)	WB6 is approximately 2-4m wide with a depth ~1m. The sides of the ditch are steep and comprise bare earth with some patches of dense common reed	150m west of the preliminary works area	**Screened in:** The habitats were considered suitable to support GCN in the more sheltered margins, however, following two initial surveys (see results

milfoil *Myriophyllum verticillatum* and soft hornwort *Ceratophyllum submersum* can often be found, particularly where nutrient levels are low and there is a brackish influence. The invertebrate interest of dykes is often significant. Species diversity can be high, especially amongst groups such as water beetles."

[7] High levels of salinity would generally preclude the presence of GCNs although they can tolerate brackish waters to some degree.

[8] As defined by the Environment Agency's *River Habitat Survey Manual* (2003).

Table 3.1 (continued) Descriptions of water bodies and results of screening

Water body Number	Description	Distance from preliminary works area boundary	Screening Decision
	and yellow flag iris (*Iris pseudocorus*). The ditch is heavily shaded by scrub and trees resulting in limited aquatic vegetation and a build up of leaf litter. There is a smooth flow. A variety of invertebrate species were noted in high numbers as well as the presence of large numbers of fish.		below) large numbers of stickleback were captured and as such, the waterbody was screened out from further assessment. Furthermore, a strong flow was also noted at times.
WB7 (Ditch)	WB7 is approximately 2-4m wide with a depth ~1m. The ditch separates an area of reed bed (TN1) and some pasture and rank grassland. The sides of the ditch are steep and are heavily vegetated with common reed. The ditch is shaded by scrub and trees resulting in limited aquatic vegetation and a build up of leaf litter. There is smooth flow. A variety of aquatic invertebrate species during the visit.	20m west of the preliminary works area	**Screened in:** The sheltered margins of the ditch were considered to have potential to support GCNs. Following two initial surveys (see results below) during which large numbers of stickleback were captured, the waterbody was screened out from further assessment. Furthermore, a smooth flow was also noted at times.
WB8 (Ditch)	WB8 connects into WB7 and then into the wider ditch network. The ditch is approximately 2-4m wide with a varying depth (~1m). This area is very heavily shaded by trees and shrub and in areas (~95%) where this vegetation extends into the ditch there is a build up of trapped aquatic vegetation. A smooth flow occurs in the shallow and narrow sections of this ditch. There is generally limited vegetation other than patches of common reed and yellow iris.	50m west of the preliminary works area	**Screened in:** The habitats were considered suitable to support this species in the more sheltered margins, however, following two initial surveys (see results below) large numbers of stickleback were captured and as such, the waterbody was screened out from further assessment. Furthermore, a strong flow was also noted at times.
WB9 (Ditch)	WB9 comprises a network work of interconnecting ditches separated by marshy grassland habitats, seasonally grazed by cattle. The width of the ditch network varies from 2-5m with depths ~1m. The ditches are heavily vegetated with aquatic, emergent and bankside vegetation. Fish were observed during the initial survey work.	250m west of the preliminary works area	**Screened in:** The terrestrial and aquatic habitats are considered to be suitable to support GCNs although the presence of a flow within the network and an abundance of fish (sticklebacks primarily) reduces the likely value of the area to GCN.
WB10 (Ditch)	WB10 runs parallel with the sea and is located within marshy grassland habitats. The ditch is approximately 3-5m wide and has a depth ~1m. The margins of the ditch on both sides have a think covering of common reed and a number of rush species (*Juncus* spp.) with the side of the water course dropping off steeply resulting in little to no submerged aquatic vegetation. There is a smooth flow and there is some potential for the water to be saline to some degree.	200m north of the preliminary works area	**Screened in**: The habitats were considered suitable to support GCN in the more sheltered margins, however, following some initial surveys (see results below) large numbers of stickleback were captured and as such, the waterbody was screened out from further assessment. Furthermore, due to the location of the ditch close to the sea, the water here is likely to be saline to some degree.

3.2.1 Water bodies within the wider landscape

The network of ditches present within the study area extends along the coastline to the north and south. Wetland habitats are commonplace within the locality due to the high water table.

3.3 Presence/absence

The full survey findings are included within Tables B.1 to B.4, Appendix B and have been summarised below.

No great crested newts were found in any of the surveyed water bodies.

Small numbers of smooth newts were identified in waterbody 2 (a maximum count of 4 adult newts on one evening) and waterbody 8 (single male smooth newt was identified on one visit). Smooth or palmate newt eggs[9] (likely to be smooth due to their confirmed presence here) were confirmed to be present at water body 2 only.

[9] It was not possible to establish which species these were from.

Key

- BE land ownership
- Preliminary works boundary
- 750m buffer from site boundary
- Pond / ditch
- Target note

1	Pond 1
2	Ditch 1
3	Pond 2 (+2 ditches)
4	Pond 3
5	Ditch 2
6	Ditch 3
7	Ditch 4
8	Ditch 5
9	Ditch 6
10	Ditch 7

0 m — 750 m

Scale 1:15,000 @ A3

British Energy

British Energy
Sizewell Power Station

Figure 3.1
Great Crested Newt
Presence / Absence Survey

September 2007
19801-R41a.dwg pattn

Entec

4. Conclusions

No evidence of great crested newts was found within the study area or in the immediate surrounding area, although low numbers of smooth newts where found during the survey. Smooth newts are more common and widespread throughout the UK in comparison to GCNs, whose distribution is more patchy.

Whilst great crested newts have been recorded to the north (2.5km) of the preliminary works area and west of the access road (900m), conditions for GCNs (and smooth newts to a certain extent, hence the very low numbers observed) are considered to be sub-optimal across the entire study area (within 750m of the affected areas). The presence of sticklebacks in all of the water bodies surveyed and the presence of course fish including pike (predatory fish species) reduces the suitability of these habitats to support newts. The ditch network is often subject to smooth flows or greater and some of the waterbodies are likely to experience varying levels of salinity due to their proximity to the sea, thereby further reducing the value of these areas for great crested newts.

The survey results indicate the likely absence of great crested newts within 250m of the preliminary works area/temporary works area/access road. Bearing in mind the nature of the water bodies within 750m of these affected areas, anecdotal evidence from site managers, the known geology of the estate and the presence of infrastructure to the west of the study area (roads are located between historic records of GCN to the west and the build areas/access road) it is concluded that great crested newts are also likely to be absent from water bodies within 500m of the indicated affected areas and as such, need not be considered a constraint to the proposed development.

Without survey information for all water bodies within the study area it is not possible to conclude the likely absence of great crested newts and as such, it may still be necessary to assume great crested newts are present on site and to implement appropriate mitigation. This could include obtaining a great crested newt development licence from Natural England and using newt exclusion fencing along parts of or the entire site boundary to prevent newts accessing the site during development. Pitfall trapping may also be required to clear the site of newts before construction can begin. The mitigation requirements for the site (in the absence of surveys) would need to be determined in consultation with Natural England. Any mitigation or licensing recommendation will also need to take account of the amendments to the Habitat Regulations, which came into force on the 21st August 2007.

The survey results are likely to remain valid for up to two years (if conditions remain broadly similar). After this time, it is advisable that the area is resurveyed for newts.

5. References

Beebee, T.J.C & Griffiths, R.A. (2000) *Amphibians and Reptiles*. Collins London, New Naturalist Series

English Nature (2001). Great Crested Newt Mitigation Guidelines. English Nature, Peterborough.

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Oldham, R.S., Keeble, J., Swan, M.J.S., Jeffcote, M (2000) *Evaluating the Suitability of Habitat for Great Crested Newt (Triturus cristatus)*. Herpetological Journal 10(4) 143-155

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Appendix A
Water body photographs

Plate 1: WB1

Plate 2: WB2

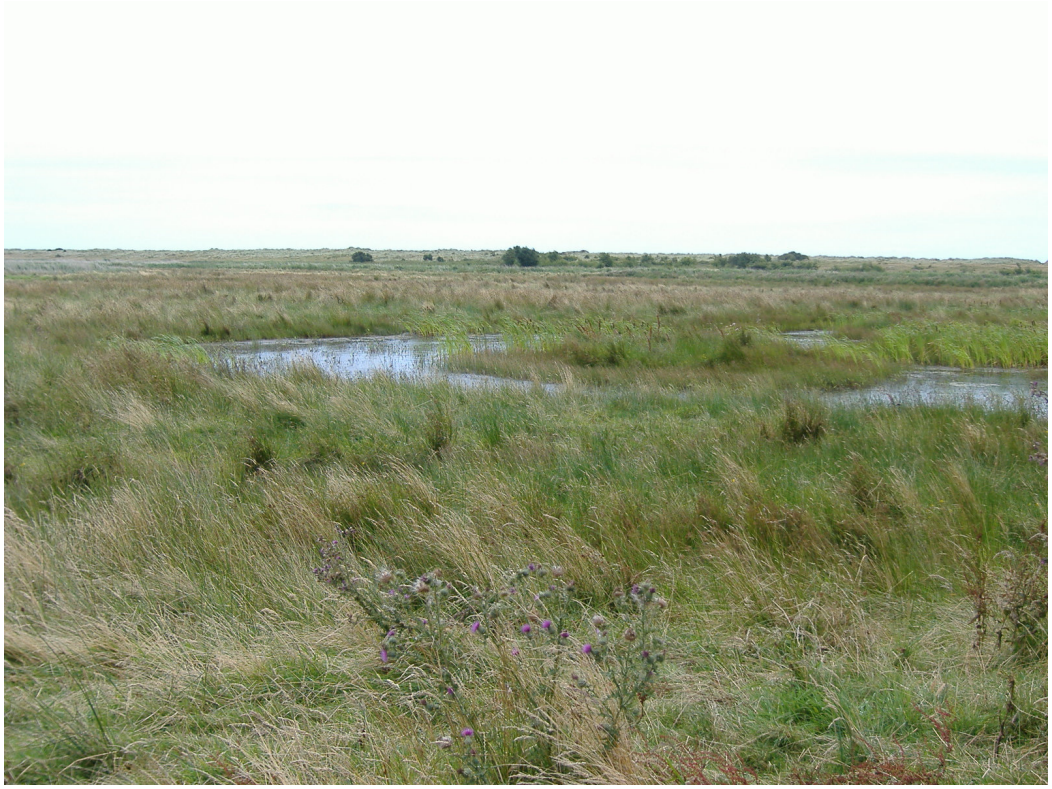

Plate 3: WB3

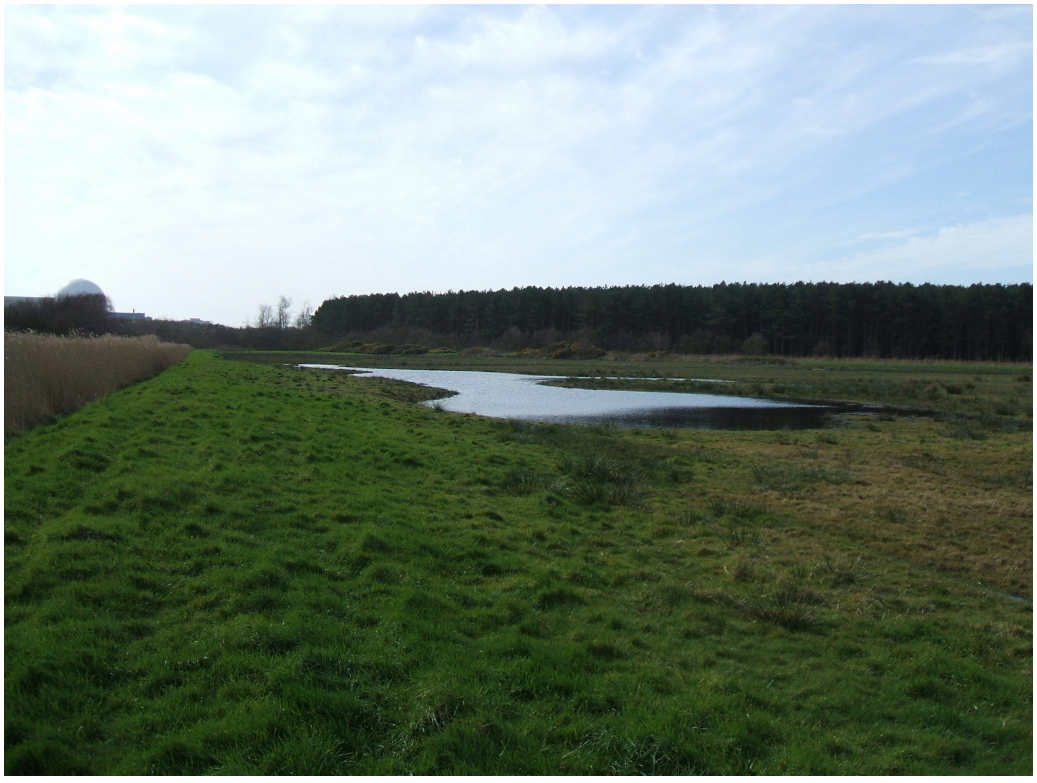

Plate 4: WB4

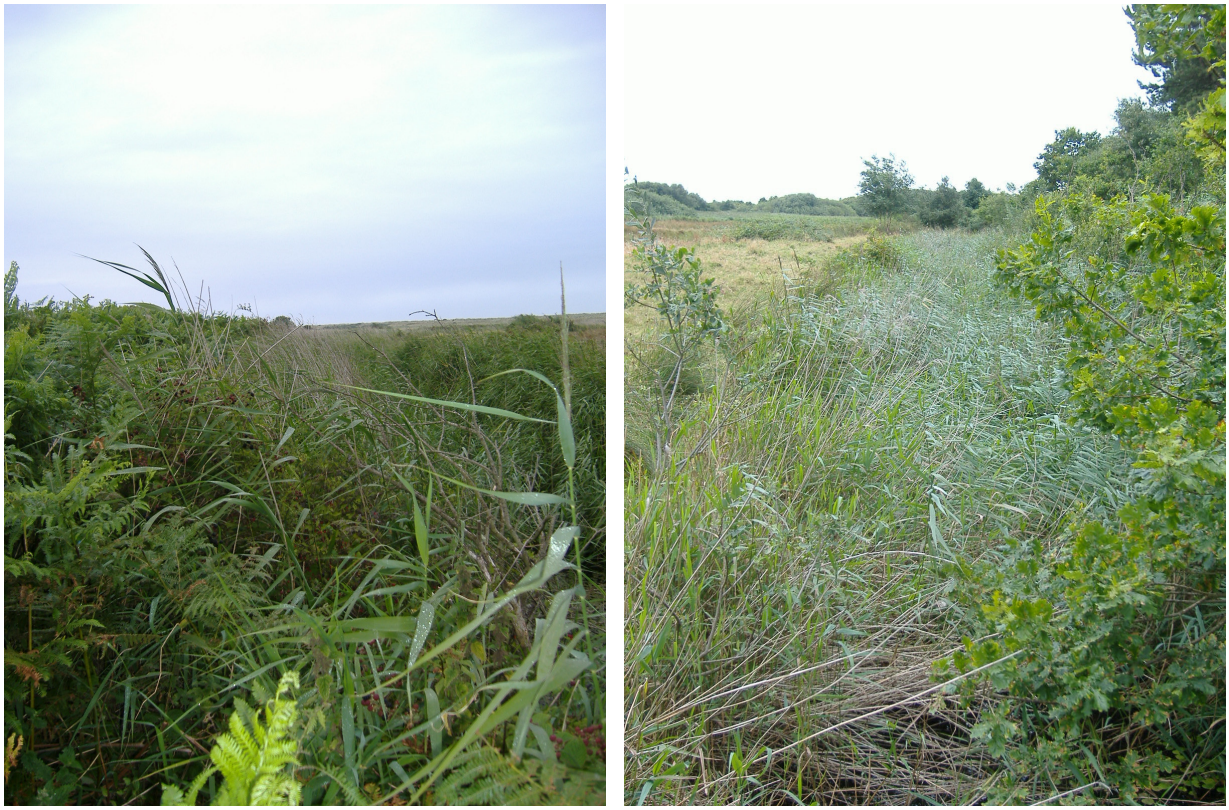

Plate 5: WB5

Plate 6: WB6

Plate 7: WB7

Plate 8: WB8

Plate 9: WB9

Plate 4: WB10

Appendix B
Amphibian Survey Results

KEY: M = Male, F = Female, SN = Smooth newt

Table B.1 Amphibian Survey Results 10/5/2007

	SURVEY CONDITIONS					SURVEY METHOD		
Water body	**Precipitation**	**Turbidity**	**Air Temp**	**Water Temp**	**pH**	**Torching**	**Trapping**	**Egg search**
WB1	None	1	14ºC	12ºC	pH 6-7	0	0	0
WB2		2			pH 6-7	0	4M &2F (SN)	5 (SN)
WB3		1			pH 6-7	0	0	0
WB4		1			pH 6-7	0	0	0
WB5		1			pH 6-7	0	0	0
WB6		1			pH 6-7	0	0	0
WB7		1			pH 6-7	0	0	0
WB8		1			pH 6-7	0	0	0
WB9		1			pH 6-7	0	0	0
WB10		1			pH 6-7	0	0	0

Table B.2 Amphibian Survey Results 16/5/2007

	SURVEY CONDITIONS					SURVEY METHOD		
Water body	**Precipitation**	**Turbidity**	**Air Temp**	**Water Temp**	**pH**	**Torching**	**Trapping**	**Egg search**
WB1	None	1	13ºC	15ºC	pH 6-7	0	0	0
WB2		3			pH 6-7	0	4M (SN)	3 (SN)
WB3		1			pH 6-7	0	0	0
WB4		1			pH 6-7	0	0	0
WB5		1			pH 6-7	0	0	0
WB6		1			pH 6-7	0	0	0
WB7		1			pH 6-7	0	0	0
WB8		1			pH 6-7	1M (SN)	0	0
WB9		1			pH 6-7	0	0	0
WB10		1			pH 6-7	0	0	0

Table B.3 Amphibian Survey Results 30/5/2007

	SURVEY CONDITIONS					SURVEY METHOD		
Water body	**Precipitation**	**Turbidity**	**Air Temp**	**Water Temp**	**pH**	**Torching**	**Trapping**	**Egg search**
WB1	Intermittent drizzle	2	15ºC	14ºC	pH 6-7	0	0	0
WB2		3			pH 6-7	0	1M (SN)	0
WB3		2			pH 6-7	0	0	0
WB4		2			pH 6-7	0	0	0
WB5		2			pH 6-7	0	0	0
WB6		no visit			no visit	no visit	no visit	no visit
WB7		no visit			no visit	no visit	no visit	no visit
WB8		2			pH 6-7	0	0	0
WB9		2			pH 6-7	0	0	0
WB10		2			pH 6-7	0	0	0

Table B.4 Amphibian Survey Results 4/6/2007

	SURVEY CONDITIONS					SURVEY METHOD		
Water body	**Precipitation**	**Turbidity**	**Air Temp**	**Water Temp**	**pH**	**Torching**	**Trapping**	**Egg search**
WB1	None	1	11ºC	14ºC	pH 6-7	0	0	0
WB2		3			pH 6-7	0	0	0
WB3		1			pH 6-7	0	0	0
WB4		1			pH 6-7	0	0	0
WB5		1			pH 6-7	0	0	0
WB6		no visit			no visit	no visit	no visit	no visit
WB7		no visit			no visit	no visit	no visit	no visit
WB8		1			pH 6-7	0	0	0
WB9		1			pH 6-7	0	0	0
WB10		1			pH 6-7	0	0	0