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Kings Caple Pennoxstone

Herpetological Research and Consultancy

Ref: 1154/RPT01A/June 06 Report No.

Limitations:

Ecological assessments can only assess a site at a particular time. This evidence can be used to draw conclusions as to the likely presence or absence of species (animals and plants), population size, use of the site by animals; it is neither definitive nor complete.

Any survey is a snapshot in time and should not be regarded as a complete study. Seasonality and weather conditions may also affect survey results.

Every effort will be taken to provide an accurate assessment of the situation pertaining to this site and subject at the time of the study, but no liability can be assumed for omissions, or changes after the survey has taken place.

No responsibility will be accepted for any use of or reliance on the contents of this report by any third party

Great Crested Newt European Protected Species

Great crested newt are protected under European regulations and the Wildlife and Countryside Act 1981.

Legal protection of European Protected Species

The species above are protected under the Conservation (Natural Habitats, &c.) Regulations 1994 which implements the EC Directive 92/43/EEC in the United Kingdom and it is an offence, with certain exceptions, to;

- deliberately capture or kill any wild animal of a European Protected Species;
- 2. deliberately disturb any such animal;
- 3. deliberately take or destroy eggs of any such wild animal;
- damage or destroy a breeding site or resting place of such a wild animal;
- deliberately pick, collect, cut, uproot or destroy a wild plant of a European protected species;
- 6. keep, transport, sell or exchange, or offer for sale or exchange, any live or dead wild animal or plant of a European protected species, or any part of, or anything derived from such a wild animal or plant.

Pennoxstone Court, King's Caple, Herefordshire Great Crested Newt Survey 2006 Surveyor N.S.Staples B.Sc., M.Sc., DIC, CBiol, MIBiol

Objective:

 To ascertain Presence/absence of Great Crested Newt, Triturus cristatus (GCN) in all still water-bodies on Pennoxstone Court Farm survey area.

Survey Site:

- The survey site was Pennoxstone Court Farm, King's Caple, Herefordshire.
 The site was situated on a south-west slope to the River Wye flood plain.
- Three still water-bodies were located at O.S. Grid Reference SO 55237 28843 (Pond 1), SO 55386 28557 (Pond 2,) and SO 55276 28100 (Pond 3) [see map 1 Annex 1, GCN Survey Ponds].

Pond 1:



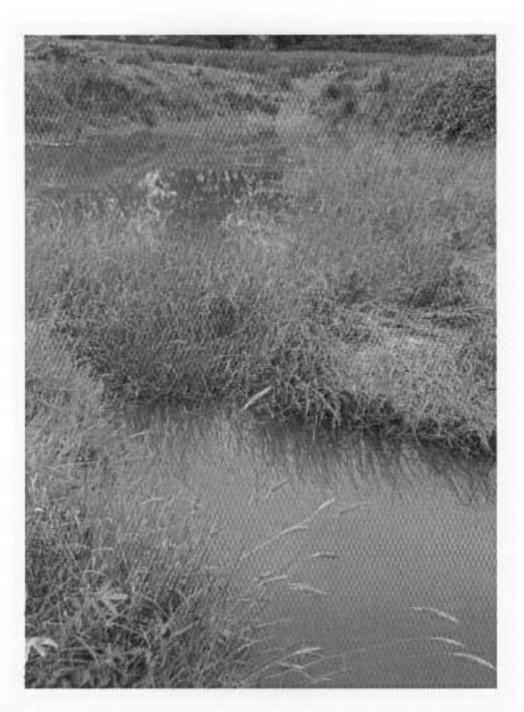
- 4. A large (approx 50mx20m), deep (1.5m +) ornamental pond surrounded by Poplar, Oak, Ash, Willow. There was an island in the middle. This pond has been stocked with trout in the recent past although no fish were observed during the survey.
- WStarwort (Callatriche spp.).
- Inflow was by a swiftly flowing shallow stream to north-east end, outfall was to a pipe at the south-west end That ran into a deep well-like structure.

Pond 2:



- 7. A medium (approx 20mx12m), shallow (150-400mm) rectangular man-made (Victorian?) pond surrounded by an earth bank with English Elm and Field Maple to the east, scrub and nettles to the north and east and a high brick wall to the south. A rough surfaced track lined by ditches and hedgerows bounded the northern edge and led to the flood plain (south-west) and adjacent woodland.
- This pond was dry until about four years ago. Cleaning of irrigation sand filters in the pond has led to water retention for most of the year.
- Substrate was a thick, soft silt over harder stony substrate. Aquatic vegetation comprised Celery-leaved Buttercup (Ranunculus sceleratus), Redshank, (Polygonum persicaria) and Brooklime (Veronica beccabunga)

Pond 3:



- 10. A medium (approx 20mx10m), medium to deep (450mm-2m) irregular shaped field pond. This pond had been recently deepened by excavation. The pond is prone to river flooding.
- 11. This pond was situated in an arable field on the River Wye flood plain.
- The substrate was clay. Aquatic vegetation comprised mainly Floating Sweet-grass (Glyceria fluitans).

Methods:

- 13. A daytime site visit was made on the 24th May 2006 to identify and map all still water-bodies on the survey area. Initial egg searches were also made at this time.
- 14. The survey methodology followed English Nature Guidance for 4 survey events including egg search, torch survey and handnet methods.
- 15. The site was visited in daylight hours for egg searches and hand netting. Once completed the survey route was re-traced after dark and torch surveys were made.

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PENNOXSTONE FARM, KINGS CAPLE

- 16. Bottle trapping, was not considered an effective means of counting newts for the following reasons:
 - Open water conditions in the ponds allowed for effective torch surveys
 - Pond P1 was steep-sided and deep. This presented a risk to the surveyor.
 - Pond P2 WAS generally too shallow for bottle trapping
 - Pond P3 was very steep-sided and in places 2m deep. This presented a risk to the surveyor.

Timing:

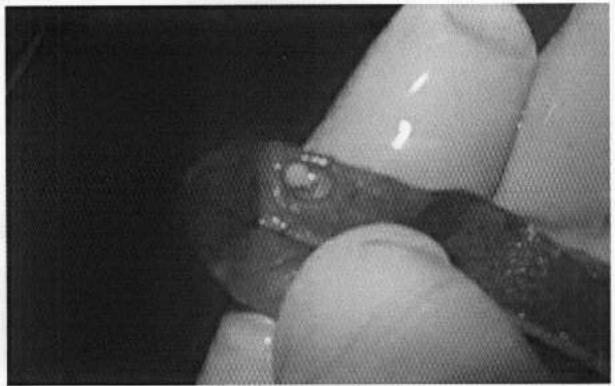
17. The torch and bottle-trapping surveys of the site pond were undertaken during May and June. Although this would normally be regarded as late for optimum surveys, the late spring frosts of 2006 delayed normal amphibian breeding considerably. This was confirmed by the results of the surveys showing peak GCN and other amphibian) numbers after the initial survey event.

Weather Conditions:

18. The surveys of the site ponds were carried under appropriate weather conditions: night-time air temperature >5°C, no/little wind and no rain.

Results:

- **19.** See Appendix 2 for detailed individual survey results and Table 1 for combined GCN results.
- **20.** Four survey visits were made to each pond these were on: 24th, 27th and 29th May 2006 and 29th June 2006.
- 21. Pond 1 produced no evidence of GCN during the four survey visits. Numerous common frog (*Rana temporaria*) tadpoles were found on the initial visits but these declined in numbers rapidly over the survey period. The high numbers of aquatic invertebrate predators such as dragonfly larvae and water-beetles and their larvae may have been responsible for this decline. It is also possible that predatory fish are still present in this pond.
- 22. Occasional Smooth newts (*Triturus vulgaris*) were observed in this pond.
- **23. Pond 2** was a breeding site for large numbers of smooth newts and an apparently small population of GCN. Peak count of GCN was 8 individuals during a torch survey event on 29th May 2006.



GCN egg on leaf

24. There was abundant suitable vegetation for egg-laying. Access to terrestrial habitat for foraging and hibernation was good in the immediate vicinity and also good along the hedgerows leading to the woodland bordering the flood plain.



Immature GCN from Pond 2

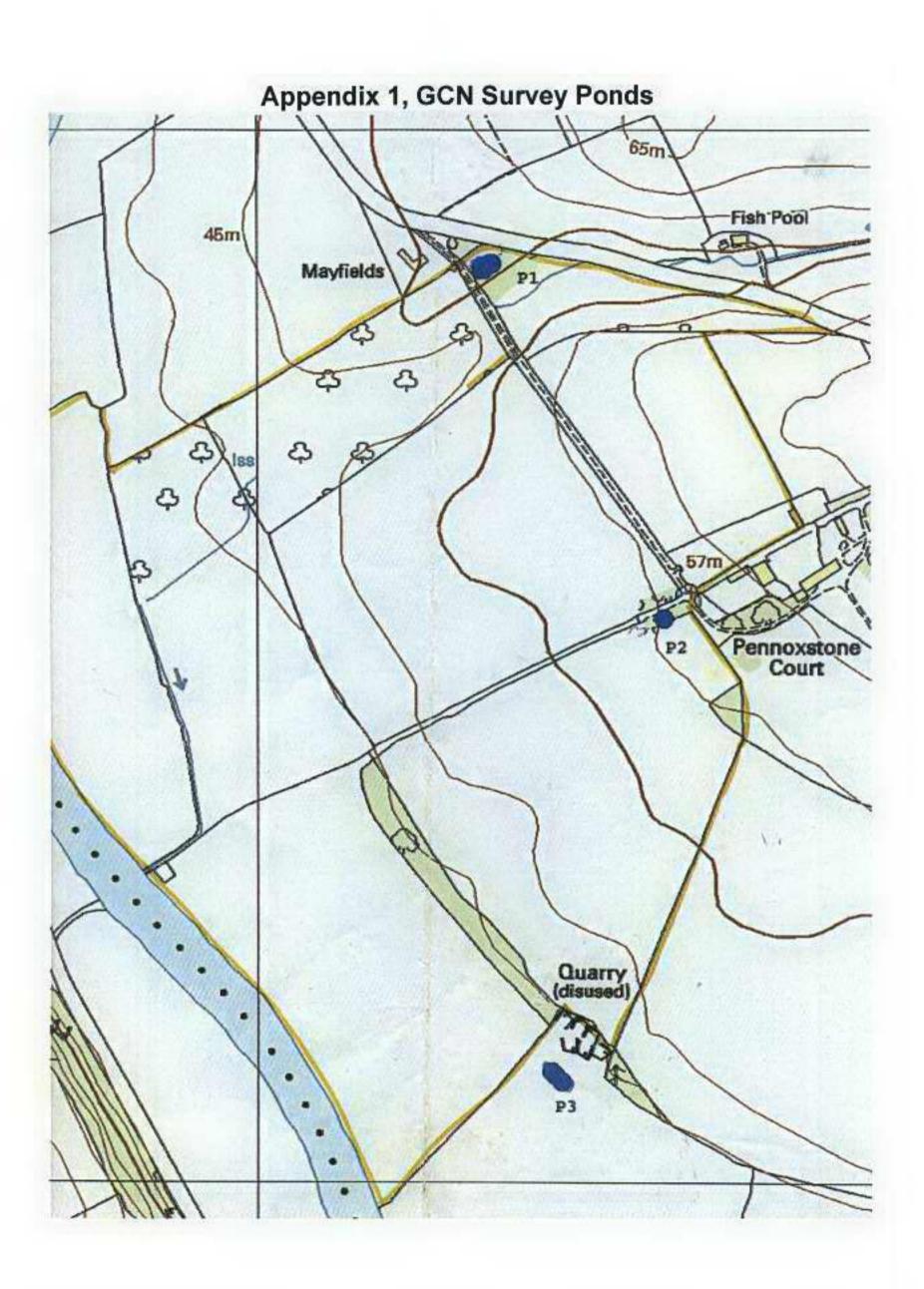
25. Pond 3 produced no records of amphibians at all. The situation of this pond on the River Wye flood plain means that even if GCN were to access the pond, any potential breeding population would be at risk from river flooding.

Table 1: Combined GCN survey results

Date		Pond1			Pond 2			Pond 3	
Method	Net	Torch	Egg	Net	Torch	Egg	Net	Torch	Egg
24/05/06	0	0	0	1	0	yes	0	0	0
27/05/06	0	0	0	3	7	yes	0	0	0
29/05/06	0	0	0	3	8	yes	0	0	0
29/06/06	0	0	0	3	2	yes	0	0	0

Discussion and conclusions:

- 26. Pond 1 produced no records of GCN during the survey period. Other amphibians (Common Frog and Smooth Newt) were present in low numbers.
- 27. The high numbers of predatory aquatic invertebrates would take a heavy toll of any amphibian larvae in this pond. Predatory fish such as trout would also prey on larval and adult amphibians.
- 28. It is possible that GCN could colonise this pond in the future as the terrestrial links with Pond 2 are good (native hedgerows) and the immediate terrestrial habitat would be suitable for foraging and hibernating GCN.
- 29. Pond 2 has a large population of Smooth Newts and a small population of GCN. The renewed source of water to this pond has secured an aquatic habitat favourable to GCN and other amphibians. All three species of amphibian found on the site (Common Frog, Smooth Newt and GCN) were breeding within this pond
- 30. On the final survey on the 29th June high numbers of Common Frog tadpole were recorded. No frog tadpoles had been observed in this pond previously. It is assumed that frogs that had been not laid spawn prior to the spring frosts had spawned early in June. This is very late for the Common Frog in the U.K.
- 31. The terrestrial links to suitable terrestrial habitat for foraging and hibernation are good. As long as this pond receives a water supply that keeps the pond wet from April to September, then this pond has the potential for a long-term viable GCN breeding population.
- **32. Pond 3** produced no records of amphibians at all. The situation of this pond on the River Wye flood plain makes this pond an unlikely habitat for long term breeding of any native amphibian species.
- 33. Overall: The use of poly tunnels on a seasonal basis, over conventional intensive arable agriculture, gives significant wildlife benefits to the area, not least through the structural landscape proposals to field boundaries and their maintenance and management.
- 34. This Assessment notes that the retained woodland areas, the untrimmed hedgerows and the field margins used for the active drainage management of the Site all contribute to greater biodiversity. The augmentation of these features under the proffered landscaping scheme and the long-term management of the whole site under the proposed Management Plan will further enhance bio-diversity



Appendix 2

GREAT CRESTED NEWT POND SURVEY								
Surveyor		<u>,, , , , , , , , , , , , , , , , , , ,</u>		. ,	Nick Staples			
Site	Pennoxsto	ne Court King'	s Caple Herefo	ordshire				
Pond Id. No.	Pond Id. P1 Grid Ref SO 55237 Visit 1							
<u>Date</u>	Date 24/05/06 Weather Warm, light breeze, 4/8 cloud cover							

General description

A large (approx 50mx20m), deep (1.5m +) ornamental pond surrounded by Poplar, Oak, Ash, Willow. Island in middle. Has been stocked with trout in recent past although no fish observed during the survey.

Substrate thick, soft silt, submerged vegetation limited to isolated plants of Curled pondweed and a water starwort.

Inflow by stream to north-east end, outfall to pipe at south-west end

High numbers of predatory aquatic invertebrates.

<u>Associated</u>	Woodland/scrub to north, south and east. Metalled track and									
habitat	orchard to west.									
Survey Resul	Survey Results									
Amphibian Species found	Great crested newt	Smooth newt	<u>Palmate</u> newt	Frog	<u>Toad</u>					
Egg Search	0		0	0	0					
Torch count					k .					
	0	1	0	Tadpoles <50	0					
Netting			•	· · · · · · · · · · · · · · · · · · ·						
Larvae	0	0	0	0	0					
Immature	0	0	0	30+	0					
Adults	0	0	0	0	0					

	GREAT CRESTED NEWT POND SURVEY								
Surveyor					Nick Staples				
Site	Pennoxsto	ne Court King	's Caple Herefo	ordshire					
Pond Id. P1 Grid Ref SO 55237 Visit 2 No. 28843 Number									
<u>Date</u>	27/05/06	Weather	Warm, light	breeze, 6/8	cloud cover				

A large (approx 50mx20m), deep (1.5m +) ornamental pond surrounded by Poplar, Oak, Ash, Willow. Island in middle. Has been stocked with trout in recent past although no fish observed during the survey.

Substrate thick, soft silt, submerged vegetation limited to isolated plants of Curled pondweed and a water starwort.

Inflow by stream to north-east end, outfall to pipe at south-west end.

High numbers of predatory aquatic invertebrates.

<u>Associated</u> habitat	Woodland/scrub to north, south and east. Metalled track and orchard to west.									
Survey Resul	Survey Results									
Amphibian Species found	Great crested newt	Smooth newt	<u>Palmate</u> newt	Frog	<u>Toad</u>					
Egg Search	0	•)	0	0					
Torch count				<u> </u>	<u> </u>					
	0	1	0	Tadpoles <30	0					
Netting					·					
Larvae	0	0	0	0	0					
Immature	0	0	0	5	0					
Adults	0	0	0	0	0					

	GREAT CRESTED NEWT POND SURVEY								
Surveyor					Nick Staples				
Site									
Pond Id. No.	Pond Id. P1 Grid Ref SO 55237 Visit 3								
<u>Date</u>	29/05/06	Weather	Warm, light	breeze, 1/8	cloud cover				

A large (approx 50mx20m), deep (1.5m +) ornamental pond surrounded by Poplar, Oak, Ash, Willow. Island in middle. Has been stocked with trout in recent past although no fish observed during the survey.

Substrate thick, soft silt, submerged vegetation limited to isolated plants of Curled pondweed and a water starwort.

Inflow by stream to north-east end, outfall to pipe at south-west end

High numbers of predatory aquatic invertebrates.

<u>Associated</u> habitat	Woodland/scrub to north, south and east. Metalled track and orchard to west.						
Survey Resul	ts						
Amphibian Species found	Great crested newt	Smooth newt	<u>Palmate</u> newt	Frog	<u>Toad</u>		
Egg Search	0		0	0	0		
Torch count							
	0	2	0	Tadpoles <30	0		
Netting		•		-			
Larvae	0	0	0	0	0		
Immature	0	0	0	2	0		
Adults	0	0	0	0	0		

	GREAT CRESTED NEWT POND SURVEY								
Surveyor					Nick Staples				
Site	Pennoxsto	ne Court King'	's Caple Herefo	ordshire					
Pond Id. No.	Pond Id. P1 Grid Ref SO 55237 Visit 4								
<u>Date</u>	29/06/06	Weather	Warm, still,	0/8 cloud co	over				

A large (approx 50mx20m), deep (1.5m +) ornamental pond surrounded by Poplar, Oak, Ash, Willow. Island in middle. Has been stocked with trout in recent past although no fish observed during the survey.

Substrate thick, soft silt, submerged vegetation limited to isolated plants of Curled pondweed and a water starwort.

Inflow by stream to north-east end, outfall to pipe at south-west end.

High numbers of predatory aquatic invertebrates.

<u>Associated</u> habitat	Woodland/scrub to north, south and east. Metalled track and orchard to west.									
Survey Resul	Survey Results									
Amphibian Species found	Great crested newt	Smooth newt	<u>Palmate</u> newt	Frog	Toad					
Egg Search	0		0	0	0					
Torch count				- "	<u> </u>					
	0	2	0	Tadpoles 4	0					
Netting		•		······································	•					
Larvae	0	0	0	0	0					
Immature	0	0	0	0	0					
Adults	0	0	0	0	0					

"	GREAT CRESTED NEWT POND SURVEY								
Surveyor					Nick Staples				
Site									
Pond Id. No.	Pond Id. P2 Grid Ref SO 55386 Visit 1								
<u>Date</u>	Date 24/05/06 Weather Warm, light breeze, 4/8 cloud cover								

A medium (approx 20mx12m), shallow (150-400mm) rectangular man-made (Victorian?) pond surrounded by earth bank, English Elm and Field Maple to east, scrub and nettles to north and east and brick wall to south.

Pond dry until recent years. Cleaning of irrigation sand filters in pond has led to water retention for most of the year.

Substrate thick, soft silt over harder stony substrate, aquatic vegetation, Celery-leaved Buttercup, *Polygonum spp.* and Brooklime

Survey methods: Hand net, Torch, Egg.

<u>Associated</u>	Semi-improved grassland (polytunnels) also dense hedgerows									
habitat	and ditches connected to woodland habitat.									
Survey Results										
Amphibian Species found	Great crested newt	Smooth newt	<u>Palmate</u> newt	<u>Frog</u>	<u>Toad</u>					
Egg Search	Yes		0	0	0					
Torch count			 "							
	0	50+	0		0					
Netting	:	<u> </u>								
Larvae	0	0	0	0	0					
Immature	1	0	0	0	0					
Adults	0	14	0	0	0					

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	GREAT CRESTED NEWT POND SURVEY								
Surveyor			· · · · · · · · · · · · · · · · · · ·		Nick Staples				
<u>Site</u>	Pennoxsto	ne Court King'	s Caple Herefo	ordshire					
Pond Id. P2 Grid Ref SO 55386 Visit 2 No. 28557 Number									
<u>Date</u>	27/05/06	Weather	Warm, light	breeze, 6/8	cloud cover				

A medium (approx 20mx12m), shallow (150-400mm) rectangular man-made (Victorian?) pond surrounded by earth bank, English Elm and Field Maple to east, scrub and nettles to north and east and brick wall to south.

Pond dry until recent years. Cleaning of irrigation sand filters in pond has led to water retention for most of the year.

Substrate thick, soft silt over harder stony substrate, aquatic vegetation, Celery-leaved Buttercup, *Polygonum spp.* and Brooklime

<u>Associated</u>	Semi-improved grassland (polytunnels) also dense hedgerows								
habitat	and ditche	and ditches connected to woodland habitat.							
Survey Resul	ts	•							
Amphibian Species found	Great crested newt	Smooth newt	<u>Palmate</u> newt	Frog	<u>Toad</u>				
Egg Search	Yes	Ó		0	0				
Torch count					i				
	7	100+	0	0	0				
Netting		ı							
Larvae	0	0	0	0	0				
Immature		0	0	0	0				
Adults	3	17	0	0	0				

GREAT CRESTED NEWT POND SURVEY									
Surveyor					Nick Staples				
Site									
Pond Id. No.	P2	Grid Ref	SO 55386 28557	Visit Number	3				
<u>Date</u>	29/05/06	Weather	Warm, light breeze, 1/8 cloud cover						

A medium (approx 20mx12m), shallow (150-400mm) rectangular man-made (Victorian?) pond surrounded by earth bank, English Elm and Field Maple to east, scrub and nettles to north and east and brick wall to south.

Pond dry until recent years. Cleaning of irrigation sand filters in pond has led to water retention for most of the year.

Substrate thick, soft silt over harder stony substrate, aquatic vegetation, Celery-leaved Buttercup, *Polygonum spp.* and Brooklime

<u>Associated</u>	Semi-improved grassland (polytunnels) also dense hedgerows								
habitat	and ditche	and ditches connected to woodland habitat.							
Survey Resul	<u>ts</u>								
Amphibian Species found	Great crested newt	Smooth newt	<u>Palmate</u> newt	Frog	<u>Toad</u>				
Egg Search	Yes	0		0	0				
Torch count		_1							
	8	100+	0	0	0				
Netting				I					
Larvae	0	0	0	0	0				
Immature	1	0	0	0	0				
Adults	2	23	0	0	0				

GREAT CRESTED NEWT POND SURVEY								
Surveyor					Nick Staples			
Site	Pennoxstone Court King's Caple Herefordshire							
Pond Id. No.	P2	Grid Ref	SO 55386 28557	Visit Number	4			
<u>Date</u>	29/06/06	Weather	Warm, still, 0/8 cloud cover					

A medium (approx 20mx12m), shallow (150-400mm) rectangular man-made (Victorian?) pond surrounded by earth bank, English Elm and Field Maple to east, scrub and nettles to north and east and brick wall to south.

Pond dry until recent years. Cleaning of irrigation sand filters in pond has led to water retention for most of the year.

Substrate thick, soft silt over harder stony substrate, aquatic vegetation, Celery-leaved Buttercup, *Polygonum spp.* and Brooklime

<u>Associated</u> habitat	Semi-improved grassland (polytunnels) also dense hedgerows and ditches connected to woodland habitat.							
Survey Resul	<u>ts</u>				- " " "			
Amphibian Species found	Great crested newt	Smooth newt	<u>Palmate</u> newt	Frog	<u>Toad</u>			
Egg Search	Yes	Yes		0	0			
Torch count		<u> </u>						
	2	100+	0	Tadpoles 1000+	0			
Netting					•			
Larvae	1	2	0	250+	0			
Immature	1	0	0	0	0			
Adults	1	18	0	0	0			

GREAT CRESTED NEWT POND SURVEY									
Surveyor					Nick Staples				
<u>Site</u>	Pennoxsto	Pennoxstone Court King's Caple Herefordshire							
Pond Id.	P3	Grid Ref	SO 55276	Visit	1				
No.			28100	Number					
<u>Date</u>	24/05/06	Weather	Warm, light	breeze, 4/8	cloud cover				
Conoral do									

A medium (approx 20mx10m), medium to deep (450mm-2m) irregular shaped field pond. Recently deepened and exposed to river flooding.

Situated in arable field

Substrate clay, aquatic vegetation, mainly Floating Sweet-grass.

Abundant small coarse fish (unidentified). Pair of Mallard duck present during all survey visits.

<u>Associated</u> habitat	Arable fields on river (Wye) floodplain, adjacent woodland and hedgerows.								
Survey Results									
Amphibian Species found	Great crested newt	Smooth newt	<u>Palmate</u> newt	<u>Frog</u>	<u>Toad</u>				
Egg Search	0	0		0	0				
Torch count									
	0	0	0	0	0				
Netting									
Larvae	0	0	0	0	0				
lmmature	0	0	0	0	0				
Adults	0	0	0	0	0				

GREAT CRESTED NEWT POND SURVEY								
Surveyor					Nick Staples			
Site	Pennoxstone Court King's Caple Herefordshire							
Pond Id. No.	P3	Grid Ref	SO 55276 28100	Visit Number	2			
Date	27/05/06	Weather	Warm, light breeze, 6/8 cloud cover					

A medium (approx 20mx10m), medium to deep (450mm-2m) irregular shaped field pond. Recently deepened and exposed to river flooding.

Situated in arable field

Substrate clay, aquatic vegetation, mainly Floating Sweet-grass.

Abundant small coarse fish (unidentified). Pair of Mallard duck present during all survey visits.

<u>Associated</u> habitat	!	Arable fields on river (Wye) floodplain, adjacent woodland and hedgerows.							
Survey Results									
Amphibian Species found	Great crested newt	Smooth newt	<u>Palmate</u> newt	Frog	<u>Toad</u>				
<u>Egg Search</u>	0	0		0	0				
Torch count				· •					
	0	0	0	0	0				
Netting	7	<u> </u>			<u> </u>				
Larvae	0	0	0	0	0				
Immature	0	0	0	0	0				
Adults	0	0	0	0	0				

GREAT CRESTED NEWT POND SURVEY									
Surveyor					Nick Staples				
<u>Site</u>	Pennoxsto	Pennoxstone Court King's Caple Herefordshire							
Pond Id. No.	P3	Grid Ref	SO 55276 28100	Visit Number	3				
<u>Date</u>	29/05/06	Weather	Warm, light	breeze, 1/8	cloud cover				
Canaral da									

A medium (approx 20mx10m), medium to deep (450mm-2m) irregular shaped field pond. Recently deepened and exposed to river flooding.

Situated in arable field

Substrate clay, aquatic vegetation, mainly Floating Sweet-grass.

Abundant small coarse fish (unidentified). Pair of Mallard duck present during all survey visits.

<u>Associated</u> habitat	Arable fields on river (Wye) floodplain, adjacent woodland and hedgerows.										
Survey Resul	Survey Results										
Amphibian Species found	Great crested newt	Smooth newt	<u>Palmate</u> newt	Frog	Toad						
Egg Search	0	0		0	0						
Torch count											
	0	0	0	0	0						
Netting	<u> </u>				<u> </u>						
Larvae	0	0	0	0	0						
Immature	0	0	0	0	0						
Adults	0	0	0	0	0						

GREAT CRESTED NEWT POND SURVEY								
Surveyor				· · · · · · · · · · · · · · · · · · ·	Nick Staples			
<u>Site</u>	Pennoxstone Court King's Caple Herefordshire							
Pond Id. No.	P3	Grid Ref	SO 55276 28100	Visit Number	4			
Date 29/06/06 Weather Warm, still, 0/8 cloud cover								

A medium (approx 20mx10m), medium to deep (450mm-2m) irregular shaped field pond. Recently deepened and exposed to river flooding.

Situated in arable field

Substrate clay, aquatic vegetation, mainly Floating Sweet-grass.

Abundant small coarse fish (unidentified). Pair of Mallard duck present during all survey visits.

<u>Associated</u> habitat	Arable fields on river (Wye) floodplain, adjacent woodland and hedgerows.				
Survey Results					
Amphibian Species found	Great crested newt	Smooth newt	<u>Palmate</u> newt	Frog	<u>Toad</u>
Egg Search	0	0		0	0
Torch count				•	
	0	0	0	0	0
Netting					
Larvae	0	0	0	0	0
Immature	0	0	0	0	0
Adults	0	0	0	0	0