Taken From

The Knepp Castle Estate Baseline Ecological Survey

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2005

3.12 Amphibian survey

3.12.1 Survey brief

David Buckingham carried out an extensive survey of the condition of the ponds on the Estate in 1992 (Buckingham, 1992), recording details of all amphibians. It was decided to repeat this as part of the baseline survey. Ponds are an important component of habitat diversity and have high biodiversity potential. As well as other amphibians, the great crested newt *Triturus cristatus* was recorded by Buckingham, and one of the reasons for assessing the condition of the ponds was to identify those that might currently support this species, protected under Schedule 5 of the Wildlife & Countryside Act 1981.

Additionally, ponds are likely to be used by herbivores, and the state of these ponds in 2005 was considered a useful baseline against which to monitor and evaluate changes caused by near-natural grazing.

3.12.2 Methodology

The position of all ponds on the Pond Inventory of Sussex (Sussex Biodiversity Record Centre 2002) and those surveyed by David Buckingham in 1992 were digitised on ArcView GIS, retaining Buckingham's numbering system for ease of comparability (Map 8). On 4th May 2005 Mark Elliott (Sussex Wildlife Trust) and Theresa Greenaway (Record Centre Survey Unit) visited as many of these ponds as possible. The condition of each was assessed using Sussex Great Crested Newt Site Inventory survey forms, which included full site details plus Grid Reference. These hand-written pond condition assessment cards are kept in the Record Centre Survey Unit, Woods Mill. Digital photographs of each pond were taken by T.Greenaway. These photographs are available from the Record Centre Survey Unit. Ponds likely to support amphibians were identified for subsequent search by means of torchlight.

3.12.3. Constraints

Time was a limiting factor within the period that ponds can be surveyed for great crested newts. Out of a total of 54 ponds recorded by Buckingham in 1992, only a total of 21 were revisited on 4th May.

3.12.4. Results

Entries on the Pond Condition forms are summarised on Table 3.12.a. The ponds were very variable in character.

Table 3.12.a. Pond Condition Assessment summary May 2005

Pond No.	Grid Ref (TQ)	Size (m)	Max depth (m)	Tree shading (%)	Species
1	15312 21754	20 x 15	1 +	20	10 + smooth newt male & female

					10 + palmate newt male & female
2	15309 22002	15 x 15	0.5	70	2 female smooth or palmate newts
3	15305 22113	60+ x 30	?	10	Abundant marsh frogs
4	Non-existent				
5		20 x 20	deepish	70 +	2 female smooth or palmate newts
6	15507 22086	10 x 5	unknown	100	smooth newts
A*	15118 22274	5 x 5	0.3	100	None
7	15291 22630	10 x 10	1?	5	None
8	15113 22877	5 x 3	0.3	100	None
15	14515 23205	25 x 15	unknown	80	None
16	14607 23219	15 x 10	less than 1	90	None
17	14859 23181	30 x 10	unknown	80	Abundant female smooth newts
					great crested newt 2 male, 6 female
27	14603 22916	10 x 10	unknown	5	1 female smooth newt
29	14424 22733	10 x 5	unknown	100	None
30	14425 22733	30 x 20	deep	100	None
48	15554 20408	10 x 10	unknown	10	None
50a	15797 20374	30 x 10	1 +	20	None
50b	bnth power line	25 x 25	1 +	10	Unsuitable
54	15818 22248	8 x 8	less than 1	one huge oak	None

** Pond not recorded by Buckingham*

3.12.5. Discussion

Out of the 21 ponds visited, only 7 were confirmed as supporting amphibians. The presence of great crested newts in pond 17 was very satisfactory, especially as this was the only pond in which this species was recorded by D. Buckingham in 1992. The most distinctive aspect of the pond condition survey was the high degree of variability seen in all the ponds visited. This is a valuable feature of the Estate as a whole, making a significant contribution to habitat diversity.

3.13. Reptile survey

3.13.1. Survey brief

Slow worm *Anguis fragilis,* common lizard *Lacerta vivipara,* grass snake *Natrix natrix* and adder *Vipera berus* have all been recorded from Knepp Castle Estate (Greenway, 2005). These are all protected under Schedule 9 of the Wildlife and Countryside Act 1981. A case could be made for a complete reptile survey. As funds were limited, it was felt that the presumption should be made that these reptiles would be present at varying numbers across the Estate and their habitat needs, although not a prime objective of this stage of the project, could be taken into consideration in any future development. However, Charlie Burrell offered to record all those reptiles found underneath corrugate iron roof sections already in place.

3.13.2. Methodology

Corrugated iron roof sections in Coates Furzefield, Knepp Mill Pond Pleasure Grounds, near Springwood Pond and near Swallows Pond were inspected weekly.

3.13.2. Results

Coates Furzefield Pond – Most weeks 4 or 5 grass snakes were seen. On 27th July, one slow worm and one common lizard were seen.

Knepp Mill Pond Pleasure Ground – Both grass snakes and slow worms have been present under all three iron sheets. Common lizards have also been seen under these sheets this summer by Bob Lack (Knepp Estate employee).

Springwood Pond – Nothing seen.

Swallows Pond – No reptiles seen, but one vole observed.

3.13.3. Discussion

Reptiles are likely to occur across the Estate, and, although the intention is not to manage for particular groups, it would be beneficial to ensure that there are plenty of sites suitable for them to hibernate. In general, this means not being too tidy, leaving heaps of cut rushes for grass snakes and stacks of wood, bricks or broken concrete etc for this purpose.