

Comparison of the results of two vegetation surveys for Catfield Fen.

Introduction

Catfield Fen covers two ownerships, the British Butterfly Conservation Society (BBCS) land and that of Mr and Mrs Harris. Both areas experience the same hydrological regime although the land levels are different with the BBCS land lying lower. The two ownerships were surveyed as part of the Fen Resource Survey of the early 1990s. 37 quadrats were collected during this survey. The location of the quadrats are not exactly known but were situated within the relevant vegetation unit. The survey also produced a National Vegetation Classification (NVC) map for both ownerships. More recently Natural England's condition assessment programme collected a further 64 quadrats across the Fen during 2007 and 2009. These data were used to examine change in the following ways.

Assessment of change at the NVC community level between the two surveys, using data from the BBCS land.

The NVC classification of the quadrats collected during 2007 was compared against the NVC map produced as part of the Fen Resource Survey of the early 1990s. It is important to recognise the differences in the data sets due to different surveyors, time of year etc. Also that the range of vegetation (species present and constancy) within an NVC community is itself reasonably broad. Hence this analysis would only be able to identify a major deterioration in the vegetation quality of the site, through an observable trend across the site. Such a deterioration is likely to manifest itself as a general degradation from a S24 tall herb fen community to those indicative of drier more nutrient rich conditions such as S26. It is important to note if such a shift is evident, then serious, probably irreversible damage would have occurred. If however such a shift in the quality of the vegetation were not detected, then it would not be possible to ascertain if change was or was not occurring. This is on account of the lag time between adverse environmental conditions and its influence over NVC community present on site and the degree of change that may have occurred not being detectable at the NVC level. Again we would stress that this analysis is at the NVC community level and not the species level.

The results showed the vast majority of quadrat sites exhibited very little change. Most changes were minor with vegetation changing from one NVC sub-community of S24 to another, probably indicating a change in herbaceous dominant species. There were however two locations where real change did appear to have occurred, these being:

- The extreme south west of the site, which in the early 1990s was dense scrub on solid peat surrounded by recent willow scrub (W2b). By 2007 the scrub had been cleared and a turf pond dug over part of the area. The fen reclaimed from the scrub is now best described as S26a, S25c and S26d. Clearly in this location change is an artefact of the historical management of the area.
- The other area where change was evident is the east side of the 'Island' (rectangular compartment on the southern boundary of the site). Again it is clear from old aerial photographs that this was a scrub invaded piece of fen that has more recently been reclaimed to an open condition. This is producing areas of vegetation of the S25c and S26d types, however other areas were fully restored to S24 types. Again this change is directly related to management history.

Using the above assessment Natural England sees no evidence of major shifts in NVC community within Catfield Fen. This is welcomed as it confirms at this time serious, probably irreversible damage has not occurred on site. At the same time, on the data we hold, we cannot conclude that damaging shifts in the vegetation quality are not occurring on account of the lag time between adverse environmental conditions and its manifestation in NVC community present on site. Further, the degree of change that may have occurred to date may not yet be detectable at the NVC level.

Changes in woody species on the part of Catfield Fen owned by Mr & Mrs Harris and evidence for a recent increase.

It is clear from looking at a sample of historic aerial photographs, that where river Ant fens are not regularly cut or cleared, woody species establish. This statement holds true for Catfield Fen. The part of Catfield Fen in the ownership of Mr & Mrs Harris has a continuous history of cutting and clearing management hence it provides a valuable opportunity to examine evidence in changes of woody species establishment. The table below shows the % of quadrats that contained woody species (seedlings or saplings) during two surveys of the open fen communities of Catfield Fen.

Survey location and date	Number of quadrats	Number of quadrats with woody species	Percentage of quadrats with woody species
Mr & Mrs Harris land early 1990s	20	2	10%
Mr & Mrs Harris land 2009	16	6	37.5%

The data does appear to show an increase in woody species within the open herbaceous fen communities of Mr & Mrs Harris's land. The increase in woody species could be due to a number of individual or several factors in combination, these include drying conditions increasing opportunities for germination or changes in the management of the open fen.

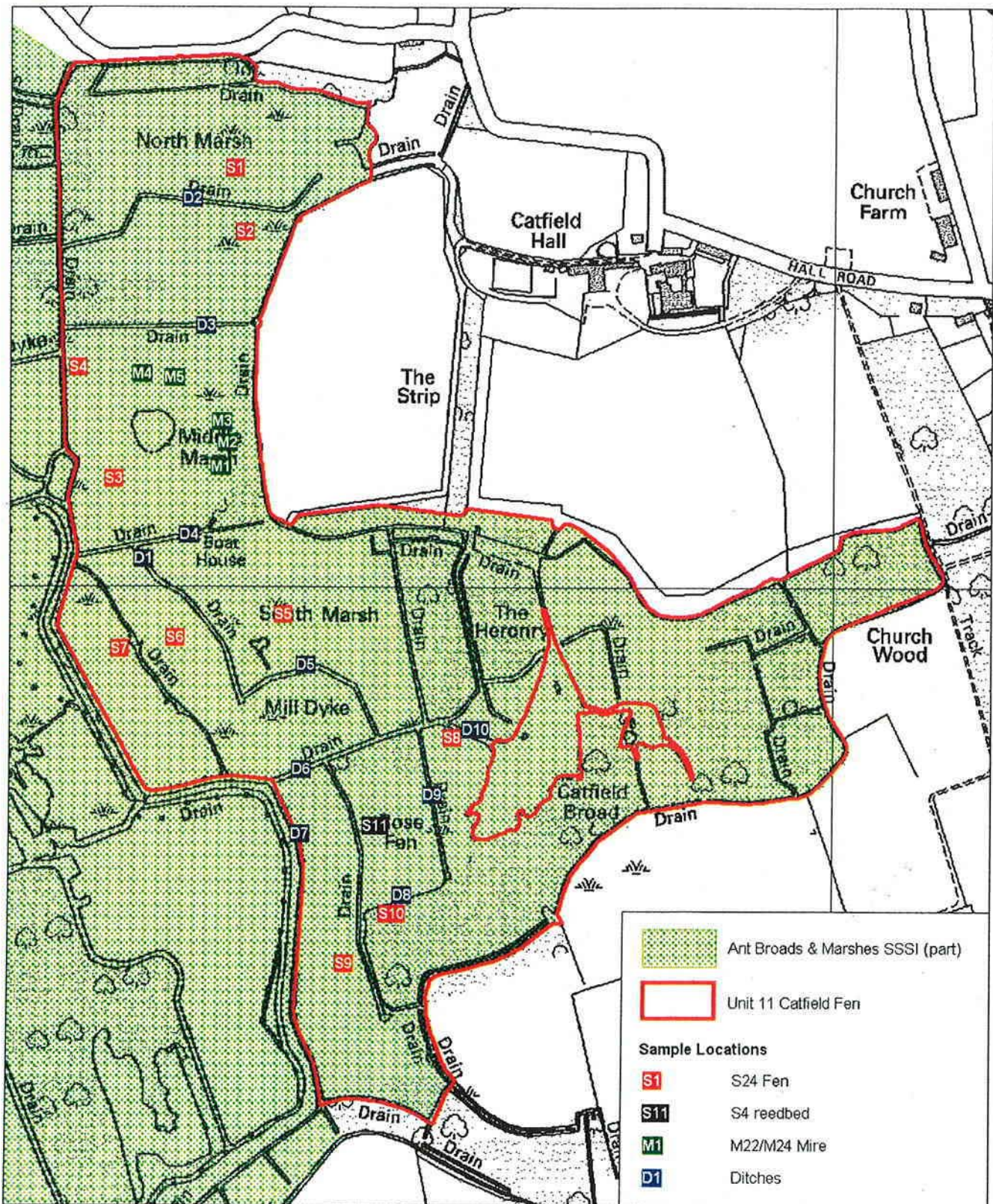
Summary

- Natural England sees no evidence of major shifts in NVC community within Catfield Fen, hence at this time serious, probably irreversible damage has not occurred on site.
- We cannot however conclude that damaging shifts in the vegetation quality are not occurring on account the lag time between adverse environmental conditions and its manifestation in NVC community present on site.
- There is evidence to show an increase in woody species within the open herbaceous fen communities that have remained in continuous cutting and clearing management.
- The increase in woody species could be due to a number of individual or several factors in combination, these include drying conditions increasing opportunities for germination or changes in the management of the open fen.

Ant Broads & Marshes SSSI

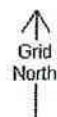
Unit 11 Catfield Fen

Condition Assessment 11-12 July 2009



Scale 1:5000 Map 1 of 1
0 100 200 300m
0 250 500 750ft

Drawn by: Rick Southwood
Date: 18/9/2009
Ref: tg37582100
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Natural England
19 The Green
Woodbastwick
Norwich
Norfolk
NR13 6HH

Ant Broads & Marshes
Catfield Fen (T Harris)

Feature: S24 FEN

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	1	2	3	4	5	6
Agrostis stolonifera						
Ainus glutinosa						
Angelica sylvestris		R				
Anthoxanthum odoratum						
Berula erecta	O					
Betula sp.						
Calamagrostis canescens	F	O	A	F	R	O
Calystegia sepium						
Cardamine pratensis						
Carex acutiformis						
Carex appropinquata						
Carex elata					O	
Carex paniculata						
Carex pseudocyperus	O					
Carex riparia						
Carex sp.						
Cicuta virosa	R					
Cirsium palustre		R				
Cladium mariscus						
Dryopteris carthusiana						
Dryopteris cristata			F	O	F	R
Epilobium sp.						
Equisetum palustre						
Eupatorium cannabinum		R				
Filipendula ulmaria						
Frangula alnus	R					
Gallium aparine						
Gallium palustre						
Glechoma hederacea						
Holcus lanatus	O	O				
Hydrocharis morsus-ranae						
Hydrocotyle vulgaris	O	O	O			
Hypericum maculatum						
Impatiens capensis						
Iris pseudacorus	O	O	O			
Juncus effusus						
Juncus subnodulosus						
Lathyrus palustris						
Lemna minor	A	A	O	O	F	F
Lotus uliginosus						
Lycchnis fls-cuculi						
Lycopus europaeus	R	O			R	
Lysimachia vulgaris	O	F	F	F		
Lythrum salicaria		O				
Mentha aquatica	F					
Molinia caerulea						
Myosotis scorpiodes						
Creeping bent						
Alder	O					
Angelica		R				
Sweet vernal-grass						
Lesser water parsnip	O					
Birch						
Purple small-reed	F	O	A	F	R	O
Hedge bindweed						
Cuckoo-flower						
Lesser pond sedge						
Fibrous tussock sedge						
Tufted sedge					O	
Greater tussock sedge						
Cyperus sedge						
Greater pond sedge	O					
(fine-leaved sedge)						
Cowbane						
Marsh thistle	R					
Saw sedge		R				
Narrow buckler-fern						
Crested buckler-fern			F	O	F	R
Willowherb						
Marsh horsetail						
Hemp agrimony		R				
Meadowsweet						
Alder buckthorn						
Cleavers						
Marsh bedstraw						
Ground ivy	O	O				
Yorkshire fog						
Frogbit						
Marsh pennywort	O	O	O			
Imperforate St. John's-wort						
Orange balsam						
Yellow iris	O	O	O			
Soft rush						
Blunt-flowered rush						
Marsh pea	A	A	O	O	F	F
Common duckweed						
Greater bird's-foot trefoil						
Ragged-robin						
Gypsywort	R	O			R	
Yellow loosestrife	O	F	F	F		
Purple loosestrife		O				
Water mint	F					
Purple moor-grass						
Water forget-me-not						

Sample S11 (lowered reedbed within Rose Fen) corresponds to a species-poor S4 reedbed community, and is included for interest; it does not form part of the assessed habitat.

511
37538
20756
✓
✓
40%
✓
2
1
✓
✓
✓
✓
✓
Dense red
✓





Site Name:

Ant Broads & Marshes
Catfield Fen (T Harris)

Feature: M22 FEN (but affinities with M24?)

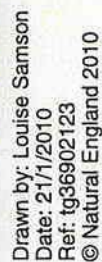
Sample number:		1	2	3	4	5
Date:	12-Jul-09					
Unit:	11					
Grid ref. of sample:	TG					
Surveyors:	R Southwood					
Area attribute						
No reduction in total extent in relation to baseline		✓	✓	✓	✓	✓
Overall assessment						
Habitat structure						
Height > 2cm (excluding <i>Juncus</i> sp.), but no more than 25% over 40cm (including <i>Juncus</i> sp.)		✓	✓	✓	✓	✓
Total extent of litter <25%		✓	✓	✓	✓	✓
Bare ground no more than 10% cover		✓	✓	✓	✓	✓
		Cut 2008	Cut 2008	Cut 2008	Uncut	Uncut
Overall assessment						
Vegetation composition						
At least 2 positive indicators of M22 frequent and 4 occasional throughout or locally > 10% of the sward		3F, 1O	2A, 1F, 3O	1A, 3O, 1R	1A, 2O, 1R	2F, 4O, 1R
Negative indicator species - no species more than occasional, or more than 5% cover		✓	✓	✓	✓	1F
Negative indicator species - scrub/ trees no more than 5% cover		✓	✓	✓	✓	✓
Jointed rushes (<i>J. acutiflorus</i> , <i>J. articulatus</i> , <i>J. subnodulosus</i>) at least occasional throughout sward		✓	✓	✓	✓	✓
All <i>Juncus</i> sp. No more than 80% cover with no more than 50% <i>J. conglomeratus</i> , <i>J. effusus</i> and <i>J. inflexus</i>		✓	✓	✓	✓	✓
Waterlogging - large <i>Carex</i> sp. < 20% cover		✓	✓	✓	✓	✓
Waterlogging - <i>Deschampsia cespitosa</i> , large grasses (i.e. <i>Glyceria</i> , <i>Phalaris</i> , <i>Phragmites</i>) < 10% cover		✓	✓	✓	✓	✓
<i>Senecio aquaticus</i> no more than occasional or more than 5% cover		✓	✓	✓	✓	✓
Overall assessment						
Species composition						
<i>Alnus glutinosa</i>	Alder					
<i>Angelica sylvestris</i>	Angelica					
<i>Anthoxanthum odoratum</i>	Sweet vernal-grass	F	O	O	O	O
<i>Agrostis stolonifera</i>	Creeping bent					
<i>Berula erecta</i>	Lesser water parsnip					
<i>Betula</i> sp.	Birch					
<i>Calamagrostis canadensis</i>	Purple small-reed				O	O
<i>Calystegia sepium</i>	Hedge bindweed					

<i>Cardamine pratensis</i>	Cuckoo-flower						
<i>Carex acutiformis</i>	Lesser pond sedge						
<i>Carex appropinquata</i>	Fibrous tussock sedge						
<i>Carex elata</i>	Tufted sedge						
<i>Carex nigra</i>	Common sedge	R					
<i>Carex paniculata</i>	Greater tussock sedge						
<i>Carex riparia</i>	Greater pond sedge						
<i>Carex sp.</i>	(fine-leaved sedge)						
<i>Centaurea nigra</i>	Common knapweed						
<i>Cicuta virosa</i>	Cowbane						
<i>Cirsium dissectum</i>	Meadow thistle	F	A	A	R		
<i>Cirsium palustre</i>	Marsh thistle						
<i>Cladium mariscus</i>	Saw sedge						
<i>Dactylorhiza sp. (heath spotted)</i>	Marsh orchid sp. (heath spotted)	O					
<i>Dryopteris carthusiana</i>	Narrow buckler-fern						
<i>Epilobium sp.</i>	Willowherb						
<i>Equisetum palustre</i>	Marsh horsetail	R		O	R	R	
<i>Enophorum angustifolium</i>	Common cottongrass			O		O	
<i>Eupatorium cannabinum</i>	Hemp agrimony						
<i>Filipendula ulmaria</i>	Meadowsweet						
<i>Frangula alnus</i>	Alder buckthorn						
<i>Galium aparine</i>	Cleavers						
<i>Galium palustre</i>	Marsh bedstraw				O	O	
<i>Galium uliginosum</i>	Fen bedstraw						
<i>Glechoma hederacea</i>	Ground ivy						
<i>Holcus lanatus</i>	Yorkshire fog						R
<i>Hydrocotyle vulgaris</i>	Marsh pennywort		O	R		O	
<i>Hypericum maculatum</i>	Imperforate St. John's-wort						
<i>Impatiens capensis</i>	Orange balsam						
<i>Iris pseudacorus</i>	Yellow iris			R	R	O	O
<i>Juncus effusus</i>	Soft rush	R		R	O	F	F
<i>Juncus subnodulosus</i>	Blunt-flowered rush	F	F	O	A		
<i>Lathyrus palustris</i>	Marsh pea						
<i>Lemna minor</i>	Common duckweed						
<i>Lotus uliginosus</i>	Greater bird's-foot trefoil		O	O		F	
<i>Luzula campestris</i>	Field wood-rush	R					
<i>Lycchnis flos-cuculi</i>	Ragged-robin					O	
<i>Lycopus europaeus</i>	Gypsywort						
<i>Lysimachia vulgaris</i>	Yellow loosestrife		O	O	O	O	
<i>Lythrum salicaria</i>	Purple loosestrife						
<i>Mentha aquatica</i>	Water mint						
<i>Menyanthes trifoliata</i>	Bogbean					A	
<i>Molinia caerulea</i>	Purple moor-grass	F	A	O		R	
<i>Myosotis scorpiodes</i>	Water forget-me-not						
<i>Myrica gale</i>	Bog myrtle						
<i>Osmunda regalis</i>	Royal fern						
<i>Peucedanum palustre</i>	Milk parsley				O	O	O

Plant species	Common read				
<i>Phragmites australis</i>	Common reed				O
<i>Plantago lanceolata</i>	Ribwort plantain				
<i>Potentilla erecta</i>	Tormentil	F	O		
<i>Potentilla palustris</i>	Marsh cinquefoil				O
<i>Potentilla reptans</i>	Creeping cinquefoil				
<i>Quercus</i> sp.	Oak				
<i>Ranunculus flammula</i>	Lesser spearwort		O		O
<i>Ranunculus repens</i>	Creeping buttercup				
<i>Rhynchospora alba</i>	Buckthorn				
<i>Rhinanthus minor</i>	Yellow-rattle				
<i>Rosa canina</i>	Dog rose				
<i>Rubus fruticosus</i>	Bramble				
<i>Rumex hydrolapathum</i>	Water dock				
<i>Rumex obtusifolius</i>	Broad-leaved dock				
<i>Salix cinerea</i>	Grey willow				
<i>Salix repens</i>	Dwarf willow				
<i>Scirpus lacustris</i>	Club rush				
<i>Scrophularia nodosa</i>	Common figwort				
<i>Scutellaria galericula</i>	Skullcap				
<i>Solanum dulcamara</i>	Bittersweet				
<i>Sparganium erectum</i>	Branched bur-reed				
<i>Sphagnum</i> spp.	Sphagnum moss layer	F	A	A	A
<i>Stachys palustris</i>	Marsh woundwort				
<i>Stellaria palustris</i>	Marsh stitchwort				R
<i>Succisa pratensis</i>	Devil's-bit scabious	F	O		
<i>Thalictrum flavum</i>	Common meadow-rue				F
<i>Thelypteris palustris</i>	Marsh fern				R
<i>Typha angustifolia</i>	Lesser bulrush				
<i>Typha latifolia</i>	Bulrush				R
<i>Urtica dioica</i>	Nettle				
<i>Valeriana dioica</i>	Marsh valerian				
<i>Valeriana officinalis</i>	Common valerian				
<i>Viburnum opulus</i>	Guelder rose				
<i>Vicia cracca</i>	Tufted vetch				
Total sample assessment					
NOTES					
Samples are 4 x 4m quadrats, located as much as possible within homogenous communities					
Plant cover estimated by:					
Dominant 70 - 100%					
Abundant 30 - 70%					

Frequent 10 - 30%
Occasional 3 - 10%
Rare <3%

NATURAL
ENGLAND



Natural England
Dragonfly House
2 Gilders Way
Norwich
NR3 1UB

Grid North

Scale 1:5000 Map 1 of 1

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Species	Unique ref no.	827	A0706-1	828	A0706-2	829	A0706-3	830	A0706-4	831	A0706-5	832	A0706-6	833	A0706-7	834	A0706-8	835	A0706-9	836	A0706-10	837	A0706-11	838	A0706-12	839	A0706-13	840	A0706-14	841	A0706-15	842	A0706-16	843	A0706-17	844	A0706-18	845	A0706-19	846	A0706-20	847	A0706-21	848	A0706-22	849	A0706-23	850	A0707-24	851	A0707-25	852	A0707-26	853	A0707-27	854	A0707-28	855	A0707-29	856	A0707-30	857	A0707-31	858	A0707-32	859	A0707-33																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
Valeriana officinalis	NVC C	S24d	821245	636804	S24f	821263	636792	S02b	821292	636780	S24e	821324	636776	S24e	821323	636779	S24e	821307	636794	S02	821331	636785	S24f	821305	636755	S24g	821218	636737	S24g	821182	636718	S24f	821183	636695	S24f	821148	636675	S24e	821093	636674	S26a	821046	636656	S25c	821047	636669	S02	821012	636703	S26d	820954	636718	S24g	820969	636736	S24g	821165	636719	S24	821223	636738	S24g	821231	636747	S25c	821282	636721	S24g	821269	636697	S24g	821222	636795	S24	821217	636777	S25c	821196	636790	S26d	821187	636819	S25c	821123	636816	S24a	821053	636836	S24g	821033	636815	S02	821025	636780	S24a	821015	636773	S21359	636777																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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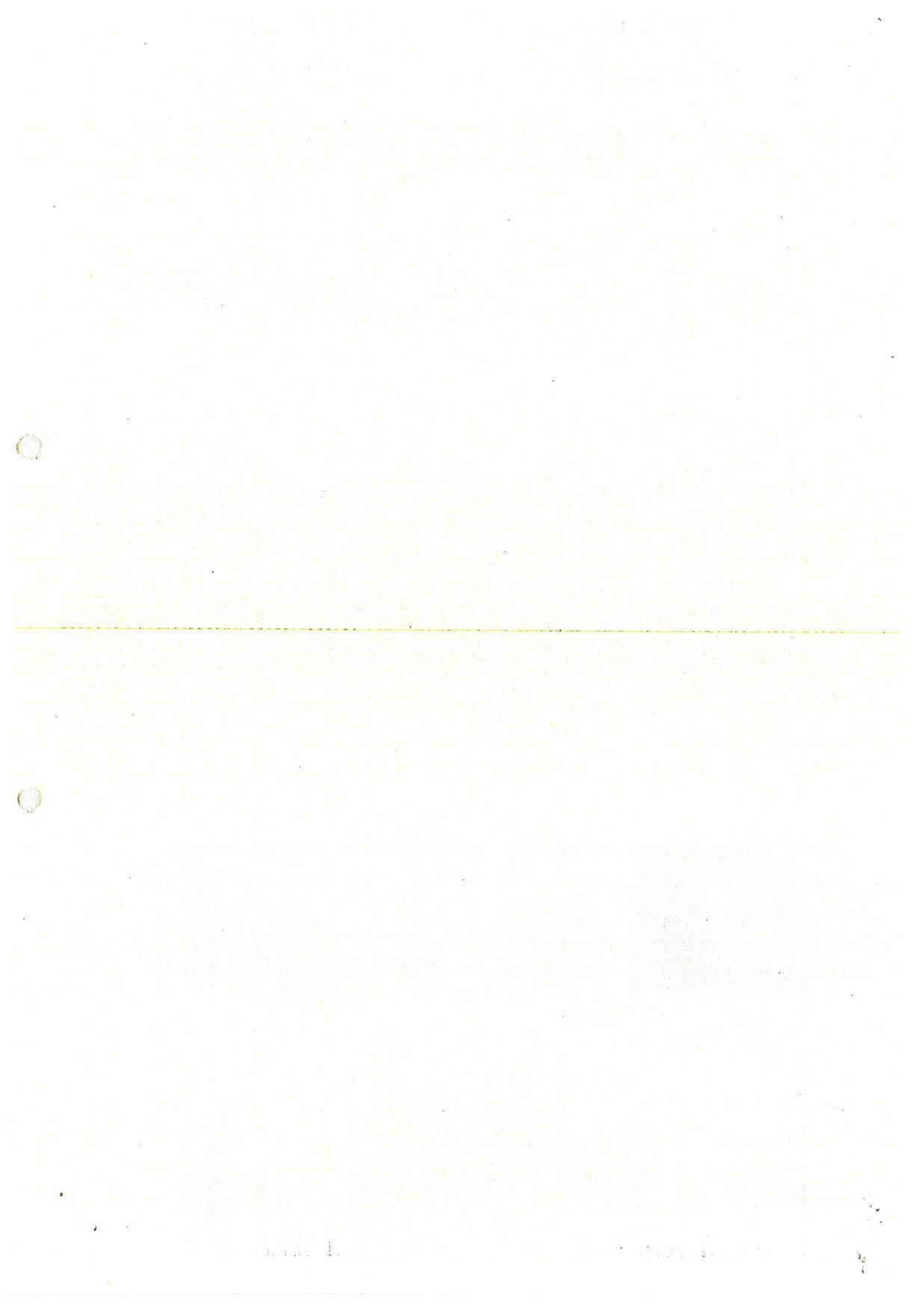
Species	Unique ref no.	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	892	893	894	895	896	897	877	878	879	880	881	882	883	884	885	886	
Lemna minor	765	S24g	S24g	S24g	S24g	S24g	S02	S24g	S24g	S25c	S24g	S24g	S24g	S04a	S02	S02	S24g	S02	S24g	W02b	S24f	S24g	S24g	S24g	S24e	S24d	S24d	S24d	S24e	S24d	S24g	S24d	S24d	S24d	
Lemna trisulca	767																																		
Liparis loeselii	3074																																		
Lonicera periclymenum	798																																		
Lophocolea bidentata	2167																																		
Lotus pedunculatus	802																																		
Lychnis flos-cuculi	813																																		
Lycopus europaeus	823		1	1	1																														
Lysimachia vulgaris	830	2	3	3		2			3	2	3						2		1	2	3	2	3	3	2	2	2	3	2	2	3	3	1		
Lythrum salicaria	831			2	1	2		1		1	1						1		2		2	2	1												
Marchantia polymorpha	2183																																		
Mentha aquatica	855																																		
Menyanthes trifoliata	862																																		
Molinia caerulea	876																																		
Myosotis laxa	886																																		
Myrica gale	893	7	4	3	4	3	5												7									2							
Oenanthe fistulosa	910																																		
Ophioglossum vulgatum	917																			2															
Osmunda regalis	931						3	2	2																										
Pellia endiviifolia	2222																																		
Pellia epiphylla	2223								1																										
Persicaria amphibia	998																																		
Peucedenum palustre	3198		3	2		1		1	3								2																		
Phalaris arundinacea	955																																		
Phragmites australis	961	3	6	4	5	7	5	5	5	7	7	9	7	10	3	4	10	8	7	5	4	8	7	4	7	8	9	7	6	9	4	9	5	4	
Plagiomnium rostratum	1795											4																							
Poa trivialis	990																																		
Polytrichum commune	1891																																		
Potamogeton coloratus	1025																			4															
Potentilla palustris	1049	2	3	3	3												1																		
Pteridium aquilinum	1066																																		
Quercus robur	1078																																		
Ranunculus flammula	1089																																		

Species	Unique ref no.	A0710-61	A0711-62	A0711-63	A0711-64	A0711-65
	Eastings	887	888	889	890	891
	Northings	637206	637141	637147	637073	637004
	NVC C	524g	524e	524e	524g	524g
		321205	321193	321165	321185	321178
Acer pseudoplatanus	103					
Agrostis stolonifera	122					
Alnus glutinosa	153					2
Aneura pinguis	2256					
Aulacomnium palustre	1482					
Berula erecta	232					
Betula pendula	237					
Betula pubescens	236					
Betula sp.	2802					
Brachythecium rutabulum	1519					
Bryum pseudotriquetrum	1546					
Calamagrostis canescens	269	3			2	3
Calliergon cordifolium	1444					
Calliergon giganteum	1446	4				3
Calliergonella cuspidata	1445	4	4	4		
Caltha palustris	279					
Calypogeia muelleriana	2080			2		
Campylium stellatum	1571					
Cardamine pratensis	295		2	2		
Carex acutiformis	302		3			
Carex appropinquata	2669					
Carex disticha	317					
Carex elata	320		3	4		2
Carex nigra	333					
Carex nigra x elata						
Carex panicea	339					
Carex pseudocyperus	346			2		
Carex rostrata	352					
Carex vesicaria	361					
Carex viridula ssp. brachyrhyncha	329					
Chara virgata	2730					
Cicuta virosa	411					
Cirsium dissectum	2714					

Species	Unique ref no.	887 A0710-61	888 A0711-62	889 A0711-63	890 A0711-64	891 A0711-65
	Eastings					
	Northings					
	NVC					
Cirsium palustre	418	5248 321205 637206	5248 321193 637141	5248 321165 637147	5248 321185 637073	5248 321178 637004
Cirsium vulgare	419					
Cladium mariscus	420	1		2	7	4
Crataegus monogyna	445					
Drepanocladus aduncus	1654					
Drosera rotundifolia	494					
Dryopteris carthusiana	501					
Dryopteris cristata	3518					
Dryopteris dilatata	499					
Epilobium hirsutum	521					
Epilobium palustre	525					1
Epilobium parviflorum	526					
Equisetum fluviatile	533					
Eriophorum angustifolium	546					
Eupatorium cannabinum	558					
Eurhynchium praelongum	1677					
Filipendula ulmaria	583					
Frangula alnus	588					
Fraxinus excelsior seedling	589					
Galium aparine	605					
Galium palustre	609		2			1
Galium uliginosum	612					
Glyceria maxima	640					
Holcus lanatus	680					
Hydrocharis morsus-ranae	689					
Hydrocotyle vulgaris	690		1			
Hyphnum cupressiforme	1766					
Impatiens capensis	2857					
Impatiens glandulifera	708					
Iris pseudacorus	715		3	2	2	
Juncus articulatus	722					
Juncus effusus	730					
Juncus subnodulosus	2732	8			4	4

Species	Unique ref no.	887 A0710-61	888 A0711-62	889 A0711-63	890 A0711-64	891 A0711-65
	Eastings	821205 637206	821193 637141	821165 637147	821185 637073	821178 637004
	Northings	5248	5248	5248	5248	5248
	NVC					
Lemna minor	765					
Lemna trisulca	767					
Liparis loeselii	3074					
Lonicera periclymenum	798					
Lophocolea bidentata	2167					
Lotus pedunculatus	802					
Lychnis flos-cuculi	813					
Lycopus europaeus	823		2	2	2	
Lysimachia vulgaris	830	3	3	3	1	3
Lythrum salicaria	831	1			3	
Marchantia polymorpha	2183					
Mentha aquatica	855			1		
Menyanthes trifoliata	862					
Molinia caerulea	876					
Myosotis laxa	886					
Myrica gale	893	5	4			2
Oenanthe fistulosa	910					
Ophioglossum vulgatum	917					
Osmunda regalis	931					
Pellia endiviifolia	2222					
Pellia epiphylla	2223					
Persicaria amphibia	998					
Peucedenum palustre	3198	1	1		1	1
Phalaris arundinacea	955					
Phragmites australis	961	5	10	10	6	8
Plagiomnium rostratum	1795		3			
Poa trivialis	990					
Polytrichum commune	1891					
Potamogeton coloratus	1025					
Potentilla palustris	1049	2	2	2		
Pteridium aquilinum	1066					
Quercus robur	1078					
Ranunculus flammula	1089					

Species	Unique ref no.	887	888	889	890	891	A0710-61	A0711-62	A0711-63	A0711-64	A0711-65
		637206	637141	637147	637073	637004					
		321205	321193	321165	321185	321178					
		S24g	S24e	S24e	S24g	S24g					
Valeriana officinalis	1381										
Veronica scutellata	1405										
Total no. of species:		15	20	16	12	16					
S24 5 key species (green & orange)		6	3	3	6	6					
S24 5 key sp. combined 80% cover		17	6	6	18	16					
S24/S2 U. dioica, R. fruticosus no more than 1		0	0	0	0	0					
S24/S2 U. dioica, R. fruticosus no more <5% cover (4 = 4 - 10% ~ <4)		0	0	0	0	0					
S24/S2 Scrub - no more than scattered, <10% (4 = 4 - 10% ~ <4)		2	2	3	4	5					
Alien species		0	0	0	0	0					
S2/S2a Cladium mariscus: constant in dense stands (5-10) S2b Cladium present											
Herb height (cm)		100	170	210	120	140					
Open water (%)		20	25	70	70	25					
Bare ground (%)		0	0	0	0	0					
Litter cover (%)		70	90	90	100	100					
Bryophyte cover (%)		5	5	5	0	3					
Herb cover (%)		100	100	100	100	100					



S24 *Phragmites australis*-*Peucedanum palustris* tall-herb fen
SSSI Condition Assessment

Site Name:	Ant Broads and Marshes	Unit	3
Date	2007	Surveyor	ELP – Ecology, Land & People (consultancy)

Condition: Favourable maintained Favourable recovered Unfavourable recovering
 Unfavourable no change Unfavourable declining Partially destroyed/Destroyed

Comments	17/53 samples had < 5 positive indicator species – this is because samples have been included from the transitional communities around the periphery of the core S24 areas
----------	--

Attribute (* = mandatory attribute. One failure among mandatory attributes = unfavourable condition)	Target	Estimate for attribute	
*Extent of community (recoverable reduction = unfavourable; non-recoverable reduction = partially destroyed)	No loss without prior consent	Appears to be no change in extent between aerials taken in 1999 & 2006	✓
*Habitat composition: No loss of the component types (balance between open fen & scrub/woodland also considered)	No loss without prior consent	Appears to be no change in extent between aerials taken in 1999 & 2006	✓
Habitat structure: total extent of litter cover across the areas assessed	< 25%	10/53 <25%	×
*Habitat structure total extent of bare ground	<5%	11/53 >5%	×
*Vegetation composition: frequency of positive indicator species <i>Calamagrostis canescens</i> , <i>Cladium mariscus</i> , <i>Eupatorium cannabinum</i> , <i>Filipendula ulmaria</i> , <i>Galium palustre</i> , <i>Juncus subnodulosus</i> , <i>Lysimachia vulgaris</i> , <i>Mentha aquatica</i> , <i>Lythrum salicaria</i> , <i>Peucedanum palustre</i> , <i>Phragmites australis</i> :	At least 5 species constant, one of which must be <i>Phragmites</i> , combined cover >80%.	17/53 < 5 species <i>Phragmites</i> in every sample 7/53 <80%	×
*Vegetation composition: frequency of negative indicator species <i>Urtica dioica</i> and <i>Rubus fruticosus</i>	Not more than 1	53/53 have not more than 1	✓
*Vegetation composition: frequency of negative indicator species <i>Urtica dioica</i> and <i>Rubus fruticosus</i>	<5% cover	2/53 >5%	✓
*Vegetation composition: frequency of negative indicator species Woody species (<i>Alnus</i> , <i>Betula</i> , <i>Salix</i> , <i>Rhododendron</i> , <i>Pinus</i> etc)	No more than scattered <10%	5/53 >10%	✓

Desmoulin's whorl snail: dense unbroken stands of listed tall fen	No loss of extent	Appears to be no change in extent between aerials taken in 1999 & 2006	✓
Desmoulin's: water table close to the surface such that it is squelchy all year		-	-
Desmoulin's: replacement of preferred dominant species by dense tall reed or by plants of drier condition, e.g. <i>Urtica dioica</i> , <i>Epilobium hirsutum</i> , & low grasses invading the litter layer, within pre-selected stands	<10%	<i>U. dioica</i> & <i>E. hirsutum</i> not recorded	✓
Desmoulin's: average height of stands	>50cm	41/41 > 50cm	✓

Entered on Ensis ✓

S2 *Cladium mariscus* Swamp & Sedge beds
SSSI Condition Assessment

Site Name:	Ant Broads and Marshes	Unit	3
Date	2007	Surveyor	ELP – Ecology, Land & People (consultancy)

Condition: Favourable maintained Favourable recovered Unfavourable improving
 Unfavourable no change Unfavourable declining Partially destroyed/Destroyed

Attribute (* = mandatory attribute. One failure among mandatory attributes = unfavourable condition)	Target	Estimate for attribute	✓ X
*Extent of community (recoverable reduction = unfavourable; non-recoverable reduction = partially destroyed)	No loss without prior consent	Appears to be no change in extent between aerials taken in 1999 & 2006	✓
*Habitat composition: No loss of the component types (balance between open fen & scrub/woodland also considered)	No loss without prior consent	Appears to be no change in extent between aerials taken in 1999 & 2006	✓
Habitat structure: total extent of litter cover across the areas assessed	< 25%	8/8 > 25%	X
*Habitat structure total extent of bare ground	<5%	4/4 > 5%	X
*S2/S2a <i>Cladium</i> sub-community: <i>Cladium mariscus</i> :	Constant stands (5 – 10 DOMIN)	5/6 constant stands	✓
*S2b <i>Menyanthes trifoliata</i> sub-community:	<i>Cladium mariscus</i> open stands, less than 1m tall, with pools of open water	1 sample of S2b 51 – 75% <i>Cladium</i> 100% open water 130cm tall	✓
*S2b Vegetation composition: frequency of positive indicator species <i>Menyanthes trifoliata</i> , <i>Potentilla palustris</i> , <i>Carex lasiocarpa</i> , <i>Scorpidium scorpioides</i> , <i>Urticularia vulgaris</i> , <i>Phragmites australis</i> , <i>Juncus subnodulosus</i>	At least 3 species present, combined cover <50% with <i>Phragmites</i> <20%	1/1 3 species	✓
*Vegetation composition: frequency of negative indicator species Woody species (<i>Alnus</i> , <i>Betula</i> , <i>Salix</i> , <i>Rhododendron</i> , <i>Pinus</i> etc)	<10% cover	None recorded	✓
*Vegetation composition: invasive non-native species	Absent	None recorded	✓

Sites of Special Scientific Interest

Ant Broads And Marshes

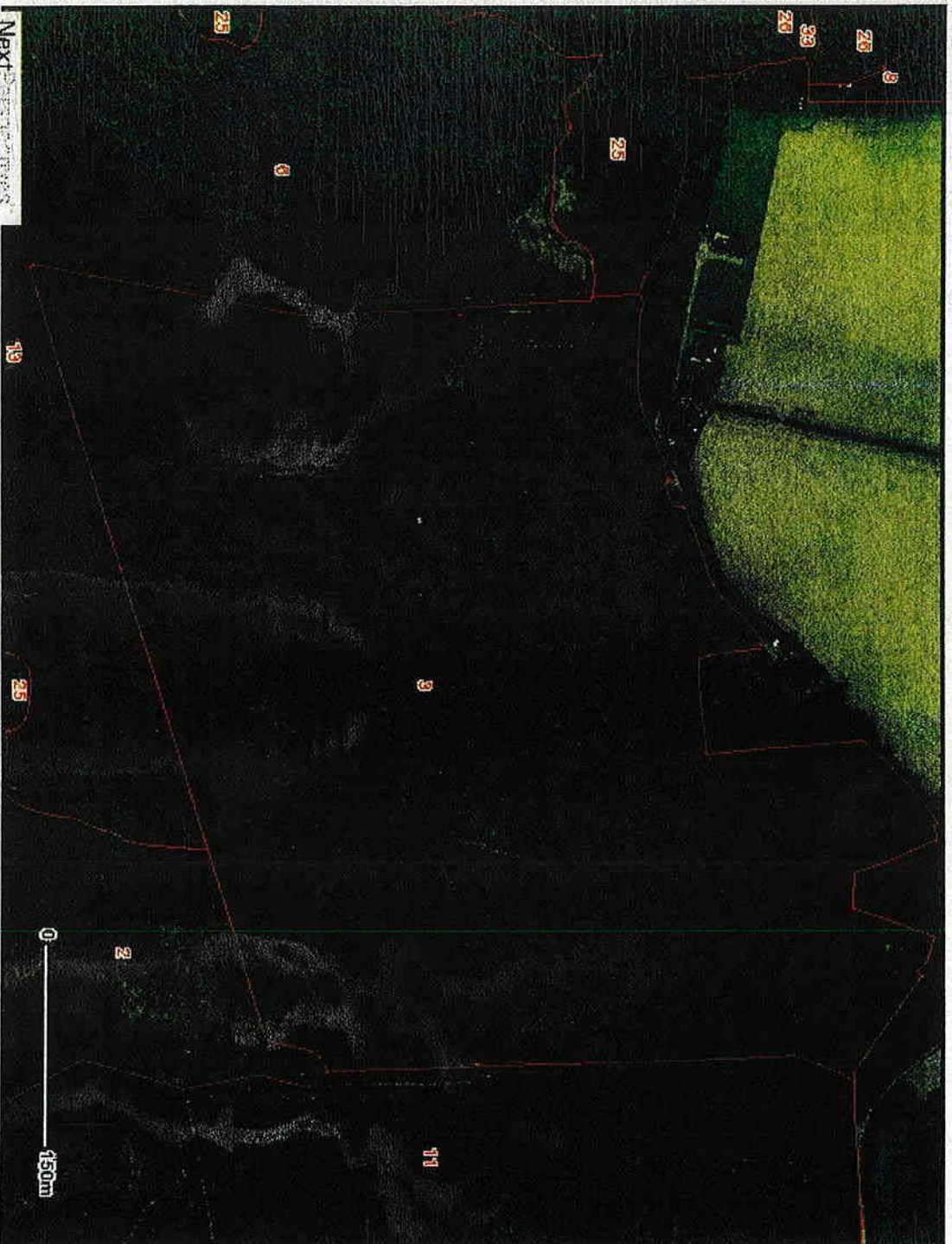
Unit 3

[Unit 3 - Bbcs](#)[Condition Assessments](#)[Unit Managements](#)[Ant Broads And Marshes](#)[View Map](#)[Images](#)[Citation](#)[OLDs](#)[VAMs](#)[Conservation Objectives](#)[Unit details](#)[Tenure Holders](#)[Financial agreements](#)[Level 1 features](#)[Main habitats](#)[Notified Features](#)[GIS Unit details](#)[Introduction](#)[SSSIs by SSSI](#)[SSSIs by Habitat](#)[SSSIs by Customer](#)[SSSIs by Unit](#)[National view](#)[Government Region view](#)[NE Region view](#)[County view](#)[District view](#)[Area Team view](#)[Teamlet view](#)[CO view](#)[Remedies view](#)

Unit name	Bbcs		
CO Responsible	Adrian Gardiner		
Unit area (ha)	25.25		
District, county	North Norfolk, Norfolk		
Unit Grid Ref	TG369212		
NNR	<input checked="" type="checkbox"/>		
SAC	<input checked="" type="checkbox"/>		
Ramsar	<input checked="" type="checkbox"/>		
SPA	<input checked="" type="checkbox"/>		
Target Visit	24 Months		
Site unit ID	1015926		
Site unit status	Live		
Unit Management	Live 0 (Planned 0) (Archived 3)		
Condition details (Last 5)			
16 June 2004	Favourable		
26 October 1998	Unfavourable Recovering		
At Risk - Air Pollution	Yes		
L1 Feature details			
Level 1 feature details	E33B - Fen: Flood Plain, Basic		
Level 1 key	251110		
Operational feature name	Woodland/Fen And Open Water		
Main habitat category	Fen, Marsh And Swamp - Lowland		
Created by	(NK2CX) on 13/08/1997		
Last modified by	Clive Doarks (NK2CD) on 07/04/2009		
Level 2 Features			
H3150 - natural eutrophic lakes with magnopotamion or hydrocharition	No comments	FAVOURABLE	SAC
H7210 - calcareous fens with c. mariscus + species of c. davallianae	No comments	FAVOURABLE	SAC
H91E0 - alluvial woods with a. glutinosa; f. excelsior	No comments	FAVOURABLE	SAC
S1016 - vertigo moulinsiana, snail	No comments	FAVOURABLE	SAC
S1355 - otter, lutra lutra	No comments	FAVOURABLE	SAC

ENGLAND

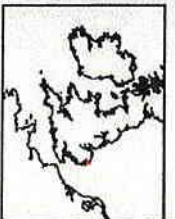
Ant Unit 3 1999



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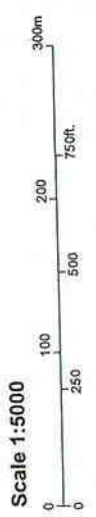
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		11	11							2	3



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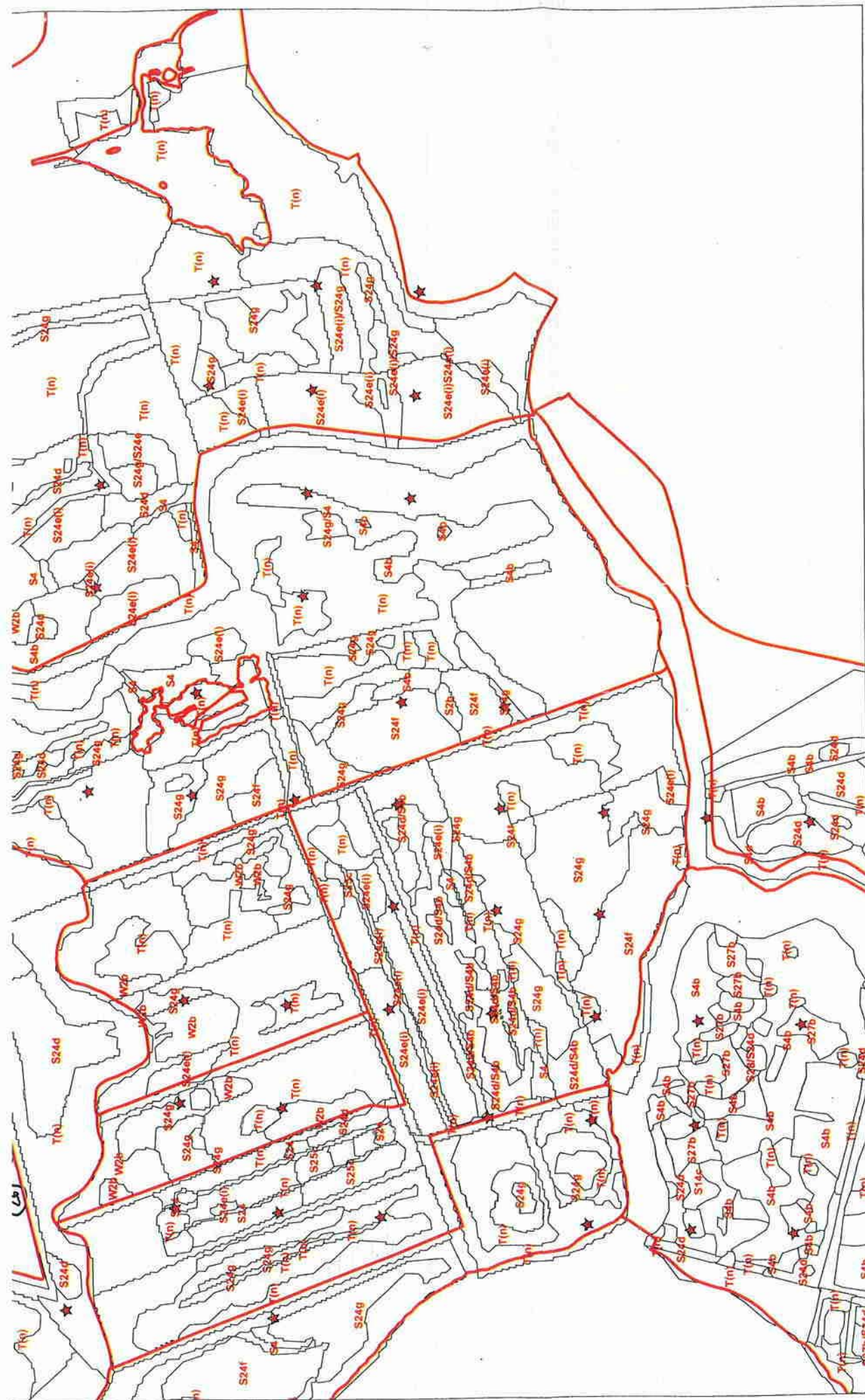
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0 100 200 300m
0 250 500 750ft

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