



# Himalayan Balsam, Wensum Catchment

## Survey Report

### Report for Norfolk Non-native Species Initiative

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# CONTENTS

<b>CONTENTS</b>	<b>3</b>
<b>Executive Summary</b>	<b>1</b>
<b>1 Introduction</b>	<b>2</b>
<b>2 Methods</b>	<b>3</b>
<b>3 Results</b>	<b>5</b>
<b>4 Discussion and Recommendations</b>	<b>8</b>
<b>References</b>	<b>10</b>
<b>Appendix 1: Standardised Recording Form</b>	<b>11</b>
<b>Appendix 2: Survey Results</b>	<b>13</b>

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# Executive Summary

- The Ecology Consultancy was commissioned by the Norfolk Non-native Species Initiative to undertake a Himalayan balsam *Impatiens glandulifera* survey and assessment of the Wensum catchment. This is to inform proposed plans to manage this invasive species.
- A combination of roadside checkpoints and walked surveys of the watercourses were carried out. A 1: 25 000 map was produced containing all positive and negative records in addition to the production of a spreadsheet of the data.
- A total of 196 stations were covered by the roadside checkpoints, with 16% providing positive records. One hundred and one stations were surveyed on foot, including in excess of 50 kilometre (km) of bank-side habitat.
- The most widespread and dense concentrations of Himalayan balsam are found in the Lyng and Lenwade areas along the River Wensum and also along Swannington Beck near Upgate Common.
- A colony was identified immediately south-east of Fakenham as having the potential to seriously affect an extensive downstream reach of the River Wensum that is otherwise uncolonised.
- The density of this species is most likely to occur in the Wensum area in wet undisturbed habitats such as along ungrazed riparian habitat and wet woodland although it was also found on dry ground.
- It is suggested that control of this species will require corresponding timing and effort from landowners and volunteers. In addition a final check later in the year could be added to management plans to check for late flowering.

# 1 Introduction

## BACKGROUND

- 1.1 The Ecology Consultancy was commissioned by the Norfolk Non-native species Initiative to undertake a survey of Himalayan balsam *Impatiens glandulifera* (hereafter HB) in the River Wensum catchment area upstream of Norwich.
- 1.2 HB is listed on Part II of Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) in respect to Section 14(2), and as such it is an offence to plant or otherwise cause these species to grow in the wild.
- 1.3 HB is a native of the western Himalayas, introduced to Britain in 1839 as a garden ornamental and escaping to become an invasive weed particularly in waterside and wet woodland habitat. It is the tallest annual plant in Britain, growing up to 3 metres (m) high, and characterised by purplish-pink slipper-shaped flowers from June until autumn. The mature seed pods are explosive, scattering the seed up to 7m away and additionally dispersing very effectively with flowing water, remaining viable for up to two years (Environment Agency 2010).
- 1.4 Historically, the first Norfolk record was in 1916, becoming “locally abundant” and “well established in Broadland” by the late 1960s (Petch and Swann 1968). By the late 1990s HB was fairly widespread across the county, associated particularly with the main river systems although “never as dominant in Norfolk rivers as elsewhere, perhaps because of fringing reed beds” (Beckett and Bull 1999).
- 1.5 The objectives of the surveys are: first, to identify the gross distribution of the species within the catchment; and, second, to identify in detail its distribution within areas where its occurrence is of strategic or wider significance for its management. Such sites, for example, include those that may act as a source of propagules that may enter otherwise uninfested areas or where it is close to sites of particular nature conservation significance.
- 1.6 This report summarises the results and findings of the surveys, and highlights any potential implications for the proposals to manage this species.

## 2 Methods

### PERSONNEL

- 2.1 The HB survey was undertaken by Dr.Graham Hopkins (Senior Ecologist), Alex Prendergast BSc (Hons) MSc (Ecologist), Catherine Greenhough BSc (Hons) MSc (Ecologist), Michelle Fielden BSc (Hons) (Assistant Ecologist) and Rachel Hobbs and Jonathon Kier (Field Assistants).
- 2.2 Dr. Jen Small (Natural England) obtained the access permissions for the surveying carried out on private land with individual surveyors confirming these arrangements or directly liaising with landowners as required.

### DESK TOP STUDY

- 2.3 Information regarding the present and historical extent of HB within the catchment was provided by the Norfolk Biodiversity Information Service.
- 2.4 Water courses that appeared to be visible from the road were identified for survey by using a 1:25,000 scale Ordnance survey map.

### HIMALAYAN BALSAM SURVEY

- 2.5 The survey of the Wensum catchment area was conducted between the dates of 19<sup>th</sup> July 2010 and 21<sup>st</sup> October 2010.
- 2.6 A standard recording form was produced for recording key site data, and this is shown in Appendix 1. The density was assessed using the DAFOR scale and an estimation of the area observed to contain HB. Binoculars were used where the topography and vegetation allowed a clear distance view.
- 2.7 The gross survey of the catchment was undertaken from publically accessible points where a river or stream could be viewed, principally crossing-points such as footpaths and bridges. This is referred to as the 'road survey'.
- 2.8 Watercourses or land identified as containing HB during the road survey were then subject to a more detailed survey carried out on foot.
- 2.9 Following an assessment of the survey results in mid-August it was decided that the surveying effort would be best concentrated along a particular section of the River

Wensum and its tributaries: between Waterfall Farm, Swanton Morley to the west and The Old Rectory south-east of Taverham to the east.

- 2.10 The survey data was transferred to a spreadsheet (Appendix 2) and a 1:25 000 scale paper map. This map shows the distribution and abundance of HB in the areas surveyed.

### **OTHER NON-NATIVE SPECIES**

- 2.11 In conjunction with the Himalayan balsam survey incidental records of non-native species such as Japanese knotweed were recorded.

### **CONSTRAINTS**

- 2.12 It was not possible to assess the entire survey area of the River Wensum and its tributaries due to access issues.
- 2.13 In areas, especially on the road surveys, visibility was obscured by trees or shrubs. The dense shading of scrub and trees, particularly around bridges in woodland, may have inhibited the growth of HB in the immediate vicinity although it may be present locally in more open areas and not recorded.

## 3 Results

### DESK TOP STUDY

- 3.1 The desk top data indicated that the main concentrations appear to be around Lyng, Lenwade, Ringland and Norwich areas with additional outlying records in Fakenham, Uppgate Common and Potthorpe.

### OVERVIEW OF SURVEY RESULTS

- 3.2 A total of 196 sites were visited during the road survey. A more detailed foot survey covered 101 sites and approximately 50km of bank-side habitat.
- 3.3 The raw data are presented in Appendix 2 and provided as an electronic version. Additional records are also provided for the following invasive weeds: Bamboo, subf. Bambusoideae, cherry laurel, *Prunus laurocerasus*, Japanese knotweed, water fern *Azolla filiculoides* and New Zealand pigmy weed *Crassula helmsii*.

### HIMALAYAN BALSAM SURVEY

#### *River Wensum*

- 3.4 HB was not found along the River Wensum from its source downstream until Elsing Mill, where it was rare (Record No.169).
- 3.5 The main concentration of HB on the Wensum begins north of Three Bridges Farm in the Lyng area (No.260) and extends through Lenwade to north of Slade Plantation (No.241).
- 3.6 Downstream from Slade Plantation the frequency of HB generally reduces to occasional patches, with some areas such as Taverham Mill (No.291) and The Carrs, Ringland (No.286) where stands become fairly dense in comparison.
- 3.7 Downstream of Costessey towards the city, HB becomes abundant and is present at least as occasional individuals and frequently as dense stands in many areas of potentially suitable habitat.

#### *Swannington Beck*

- 3.8 Swannington Beck – The HB extends to the north-east of Uppgate Common (No.237). The Common, surrounding farmland and downstream contain some extensive stands of HB even though evidence of HB control in the form of pulling and strimming was evident.



3.9 A careful search of this watercourse upstream from this location at Felthorpe Hall Estate (Nos. 238, 263) and Haveringland (No.261) revealed no further HB. It is therefore likely that the original source of HB at Upgate Common is likely to have occurred as a garden escape at the Common itself.

#### *Wendling Beck*

3.10 Wendling Beck – The tributary of Wendling Beck that runs north of Scarning Fen, Dereham contains HB. It has a patchy distribution (Nos.62-66) but appears to be most frequent in private woodland around the A47 and also to the north (Nos.88, 89). Wendling Beck itself is clear of HB until this tributary joins it.

#### *River Tudd*

3.11 The road survey of the River Tudd did not reveal any HB upstream of Blois Bridge (No.17) However, local reports have suggested that this species may occur further to the west.

#### *Booton Common*

3.12 In the Booton Common area, HB was not observed in the Site of Special Scientific Interest (SSSI) at the time of survey, although it was not possible to ascertain whether this was due to due to management or not, thus the presence of seeds cannot be discounted.

3.13 HB does occur immediately to the south-west of Booton Common in the Reepham area (No.218). This is on land containing earth moving equipment. The land itself and the surrounding ditches contain abundant HB with occasional clumps in the gardens across the track to the south-east (No.217).

#### *Fakenham*

3.14 A large area of approximately 5.5 hectares (ha) to the south-west of Fakenham is dominated by HB (No. 229). This wide section appears to originate directly behind a row of houses and extends southwards towards the River Wensum through a poplar and pine plantation to a reed-bed. It has a drain running the through the central section.

3.15 The HB has not yet reached Great Ryburgh Common that lies to the south, adjacent the River Wensum. However a small stand was observed in the woodland (No.235) along a woodland ride 100m to the north.

#### *Isolated areas*

- 3.16 At Potthorpe, south of Fakenham (No.132) this area of approximately 0.5ha consists of seemingly unmanaged land in an otherwise arable area. It contains a small pond not connected to any watercourses and here the HB is abundant throughout.
- 3.17 At Toftrees, HB appears to be spreading from the garden of the farmhouse (No.132). Plants are growing along the surrounding ditches at the perimeter of the dwelling and into the nearby broadleaved woodland surrounded by arable fields and not seemingly connected to a watercourse.
- 3.18 The Pudding Norton record (No.130) is a small overgrown depression <5m<sup>2</sup> on common land. It contains HB and also Canadian golden rod *Solidago Canadensis* thus suggesting garden rubbish fly-tipping.
- 3.19 The HB at Bawdeswell Heath (No.160) runs in a dense continuous line through woodland, appearing to be growing along a wet ditch from a small cluster of wooden buildings. It was not recorded at the local nature reserve area to the west.

## 4 Discussion and Recommendations

### HABITAT DISTRIBUTION

- 4.1 HB appears to be spreading in the Wensum valley catchment along the water courses and from gardens. The extent to which this occurs appears to depend mostly on the local land management and use. The tendency of this plant to favour wet habitat allows it to spread easily along water courses. This is evident in the River Wensum and both Swannington and Wendling Beck.
- 4.2 It tends to be sparse on land that is subject to frequent disturbance or grazing such as arable, mown grassland or pasture but can become dominant in undisturbed areas of woodland or wetland. For example, the first major concentration of HB found upstream of the River Wensum was observed in an area of riverbank with woodland and bank-side path used for fishing (No.260). Here the only management appears to be mowing of a bank-side footpath.
- 4.3 However, where it has already colonised an area HB it is not confined to wet habitats. This can be seen in the dominance of this species in areas such as Marriot's Way (No.245) and Walsis' Hill (No.273). At Walsis' Hill the plant is abundant in the surrounding area, spreading along the River Wensum to a poplar plantation through local wet ditches and up a dry steep slope.
- 4.4 HB was found to have colonised or dominated a wide range of habitats, including deciduous woodland containing native species, poplar plantations, reed-beds and scrub, so it was not possible to link the invasiveness of this species with particular vegetation types. Where it has colonised it appears to dominate all ground flora including the previously dominant species such as common reed *Phragmites australis* and nettles *Urtica dioica*. HB only appears to struggle to colonise heavily shaded established areas such as beneath dense banks of willow *Salix* sp. but even so will still thrive in more open areas nearby.

### KEY SITES

- 4.5 It is considered that key sites for the strategic management of HB are those that represent isolated patches upstream of otherwise uninfested areas as downstream areas can be readily colonised by seeds.
- The area of land to the south-west of Fakenham that has the potential to infest a large stretch of the River Wensum currently free of HB if left unmanaged.
  - The Wendling Beck that contains HB from a tributary north of Dereham that flows into an otherwise unaffected section of the Wensum.

4.6 However, the area around Lyng and Lenwade is so heavily infested that the population of HB is self-supporting. The potential of inflow of HB is likely from upstream but probably does not impact on the area as much as the current population does.

#### **COMMENTS ON MANAGEMENT**

4.7 Some volunteers or landowners have been attempting the management of HB by strimming or pulling at a variety of sites including fishing clubs. Many of the people have reported feeling overwhelmed by the problem and do not feel that much can be gained by continuing. This is especially the case if seeds continue to be washed onto their land along watercourses or adjacent land that is not managed. It would be necessary to satisfy the volunteers that everyone in the area is 'pulling their weight' for a successful eradication/ management programme.

4.8 It is also recommended that a check is undertaken for late flowering plants in affected areas. This year flowering occurred late into September not only on new plants but also on the previously strimmed stems of older plants.

4.9 The current management of land may be masking the presence of HB in certain areas. On riverbank pasture, cattle will graze the HB and reduce the effects of the inflow of seeds from upstream. Where cattle cannot access the river banks due to fencing (electric fencing at Attlebridge Hall Farm No.276 or riverbank protection fencing at Morton Hall Estate No.251) then reservoirs of HB are likely to build up. Thus a reduction in cattle grazing is likely to represent an increase in HB.

# References

Beckett, G. & Bull, A. (1999) *A Flora of Norfolk*. Gillian Beckett, West Norfolk.

Environment Agency (2010) *Managing Invasive Non-native Plants*. Available at: <http://publications.environment-agency.gov.uk/pdf/GEHO0410BSBR-e-e.pdf> accessed 28<sup>th</sup> November 2010. Petch, C.P. & Swann, E.L. (1968) *Flora of Norfolk*. Jarrold and Sons Limited, Norwich.

Petch, CP. & Swann, EL. (1968) *Flora of Norfolk*. Jarrold & Sons Ltd, Norwich.

## Appendix 1: Standardised Recording Form

<b>Wensum Catchment Himalayan Balsam Survey 2010</b>												
<b>Record No.</b>			<input type="text"/>	<input type="text"/>								
<b>River/tributary name:</b>												
<b>Surveyor(s):</b>												
<b>Location:</b>		<b>Date:</b>										
<b>Grid Ref.:</b>		<b>Bank:</b> (L or R)										
<b>Access constraints:</b>												
<b>Himalayan balsam presence/absence (yes/no)</b>												
<b>Approx. spread:</b>												
<5m <sup>2</sup> 5-49m <sup>2</sup> 50-99m <sup>2</sup> >100m <sup>2</sup> Continuous    Discontinuous <b>Density: D A F O R</b> ( <input type="checkbox"/> For large <input type="checkbox"/> stands gi <input type="checkbox"/> id ref. at start <input type="checkbox"/> end of s <input type="checkbox"/> <input type="checkbox"/>												
<b>Habitat (description):</b>												
<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;"><b>Other invasive species present:</b></td> <td style="width: 50%;">Japanese knotweed <input type="checkbox"/></td> </tr> <tr> <td>Giant hogweed <input type="checkbox"/></td> <td>New Zealand pigmyweed <input type="checkbox"/></td> </tr> <tr> <td>Floating pennywort <input type="checkbox"/></td> <td>Water fern <input type="checkbox"/></td> </tr> <tr> <td>Other -</td> <td></td> </tr> </table>					<b>Other invasive species present:</b>	Japanese knotweed <input type="checkbox"/>	Giant hogweed <input type="checkbox"/>	New Zealand pigmyweed <input type="checkbox"/>	Floating pennywort <input type="checkbox"/>	Water fern <input type="checkbox"/>	Other -	
<b>Other invasive species present:</b>	Japanese knotweed <input type="checkbox"/>											
Giant hogweed <input type="checkbox"/>	New Zealand pigmyweed <input type="checkbox"/>											
Floating pennywort <input type="checkbox"/>	Water fern <input type="checkbox"/>											
Other -												
<b>Possible management options:</b>												
<b>Constraints to management:</b>												
<b>Other comments:</b>												

## Appendix 2: Survey Results



**Table 1.** Himalayan balsam survey results

Record No.	Watercourse / Tributary/	Location	Date	Grid reference	Presence (Yes)/ Absence (No)	Extent	DAFOR	Description Surrounding Land
1	Tud	Lower Easton	19.07.10	TG249 123	No			Woodland
2	Wensum	Ringland	19.07.10	TG133144	No			Floodplain grassland
3	Wensum Trib.	Ringland	19.07.10	TG141137	No			Wetland pasture
4	Wensum	nr. The Old Rectory, Taverham	19.07.10	TG159 137	Yes	5-49m <sup>2</sup>	F	Riverbank
5	Stream	Taverham Lane	19.07.10	TG161 132	No			Dry woodland stream
6	Ditch	Costessey	19.07.10	TG162 124	No			Arable
7	Stream	Costessey	19.07.10	TG163 122	No			Wooded gardens and floodplain
8	Tud	Costessey	19.07.10	TG169 112	No			Pasture, gardens, grass, woodland
9	Tud	Costessey	19.07.10	TG167113-TG169112	No			Woodland, improved grassland
10	Tud	Honingham Parish	19.07.10	TG118 112	No			Mixed woodland, farmland
11	Drain of Tud	Honingham Parish	19.07.10	TG109 113	No			Woodland, floodplain, arable
12	Tud	Honingham Parish	19.07.10	TG103 117	No			Gardens
13	Tud	Honingham Village	19.07.10	TG103 116	Yes	5-49m <sup>2</sup>	F	Gardens
14	Tud	Berry's Bridge Sluice	19.07.10	TG097 118	No			Riparian
15	Drainage Ditch	Norwich Road, Honingham	19.07.10	TG094 112	No			Fishing lakes, rough pasture
16	Drainage Ditch	East Tuddenham	19.07.10	TG085113-TG090119	No			Woodland. Arable
17	Tud	Blois Bridge	19.07.10	TG087122	Yes	5-49m <sup>2</sup>	O	Garden, ruderal grassland

Record No.	Watercourse / Tributary/	Location	Date	Grid reference	Presence (Yes)/ Absence (No)	Extent	DAFOR	Description Surrounding Land
18	Drainage Ditch	Hockering	19.07.10	TG078 129	No			Roadside, arable
19	Drainage Ditch	Hockering	19.07.10	TG076131-TG074135	No			Gardens, farmland
20	Drainage Ditch	Stone Road Bridge	26.07.10	TG026 121	No			Garden, arable, pasture
21	Drainage Ditch	Cut Throat Lane, Yaxham	26.07.10	TG020 116	No			Arable
22	Drainage Ditch	Cut Throat Lane, Yaxham	26.07.10	TG016114	No			Arable, RNR
23	Drainage Ditch	Cut Throat Lane, Yaxham	26.07.10	TG011 113	No			Arable
24	Drainage Ditch	Cut Throat Lane, Yaxham	26.07.10	TG007 112	No			Arable
25	Drainage Ditch	Spring Lane, Yaxham	26.07.10	TG018 113	No			Arable
26	Drainage Ditch	Yaxham	26.07.10	TG016 106	No			Arable
27	Tud	Yaxham Bridge	26.07.10	TG001 109	No			Pasture
28	Drainage Ditch	Mattishall	26.07.10	TG047 112	No			Gardens

Record No.	Watercourse / Tributary/	Location	Date	Grid reference	Presence (Yes)/ Absence (No)	Extent	DAFOR	Description Surrounding Land
29	Drainage Ditch	Walnut Tree Farm, West End	26.07.10	TG042 125	No			Pasture, arable
30	Tud	Ballard's Bridge, Nr. Westend	26.07.10	TG053 126	No			Woodland, arable
31	Tud Tributary	Mattishall Lane	26.07.10	TG053 126	No			Meadow
32	Drainage Ditch	Low Road, Mattishall	26.07.10	TG058132	No			Arable
33	Tud Tributary	Nr. Whitford Bridge	26.07.10	TG063 129	No			Arable, ditch
34	Tud	Whitford Bridge	26.07.10	TG066127	No			Woodland, pasture
35	Drainage Ditch	Pound Lane, N. Tuddenham	26.07.10	TG033 152	No			Woodland, arable, roadside
36	Watercourse	Elsing Hall Road	26.07.10	TG040 159	No			Gardens, woodland
37	Watercourse	Elsing Road	26.07.10	TG043 157	No			Pasture, gardens, arable
38	Drainage Ditch	Nr. Springfield Farm	26.07.10	TG053 147	No			Arable
39	Drainage Ditch	Hockering Wood	26.07.10	TG067 148	No			Arable, woodland
40	Drainage Ditch	Nr. Collen's Pit, Lyng Cp	26.07.10	TG071 166	No			Arable
41	Drainage	Nr. Collin Green Farm	26.07.10	TG086 163	No			Arable

Record No.	Watercourse / Tributary/	Location	Date	Grid reference	Presence (Yes)/ Absence (No)	Extent	DAFOR	Description Surrounding Land
	Ditch							
42	Stream	The Clump, Lyng	26.07.10	TG097 172	No			Gardens, woodland, arable
43	Woodland	South of Wrong's Covert	26.07.10	TG098172-TG101173	Yes	>100m <sup>2</sup>	F	Poplar plantation
44	Roadside Ditch	Weston Hall Road	26.07.10	TG101174-TG103177	Yes	>100m <sup>2</sup>	A	Hedge, grass verge, road
45	Roadside Ditch	Weston Hall Road	26.07.10	TG100 171	No			Hedge, grass verge, road
46	Wensum	Lenwade Mill	04.08.10	TG101179-TG098177	Yes	>100m <sup>2</sup>	F	Grassland, woodland, gardens
47	IDB Drain	Lenwade Mill	04.08.10	TG101 181	Yes	>100m <sup>2</sup>	A	Grassland, woodland, hedges
48	Wet Woodland	Lenwade Pike Anglers	04.08.10	TG101 179	Yes	>100m <sup>2</sup>	A	Woodland, scrub, cut pathways
49	Wensum	Lyng	04.08.10	TG075175-TG072177	Yes	>100m <sup>2</sup>	F/ A	Riverbanks, woodland, pasture
50	Wensum	South of Sparham Pools	04.08.10	TG075175-TG080179	Yes	>100m <sup>2</sup>	F	Pasture left, riverside and woodland
51	Pond	Lyng	04.08.10	TG072178	Yes	>100m <sup>2</sup>	D	Riverside , woodland
52	Lake	North of Square Meadow Lake	04.08.10	TG081179-TG079178	Yes	>100m <sup>2</sup>	A	Lakeside woodland scrub, footpath
53	Drain	Lyng, South of Sparham Pools	04.08.10	TG075176	Yes	5-49m <sup>2</sup>	A	Woodland
54	Wensum	Lyng Mill/ Weir	04.08.10	TG071178	Yes	>100m <sup>2</sup>	A	Woodland, mill pools, river and drains
55	Wensum	Lyng Mill	04.08.10	TG071179	Yes	>100m <sup>2</sup>	A	Woodland, mill pools, river and drains
56	Wensum	Lyng	04.08.10	TG069183-TG072180	Yes	>100m <sup>2</sup>	R	Grazed pasture riparian
57	Wensum	Lyng	04.08.10	TG069183	Yes	>100m <sup>2</sup>	A	River bank
58	IDB Drain	Sparham Hall	04.08.10	TG069183-TG073182	Yes	>100m <sup>2</sup>	F	In pasture

Record No.	Watercourse / Tributary/	Location	Date	Grid reference	Presence (Yes)/ Absence (No)	Extent	DAFOR	Description Surrounding Land
59	Drain	Lyng	04.08.10	TG073181	Yes	<5m <sup>2</sup>	R	Gardens and pasture
60	Tud	Toftwood	05.08.10	TF993108	No			Arable/ arable
61	Tud	Hillside Nursery	05.08.10	TF986105	No			Garden, hedgerow
62	Wensum Trib.	West of Scarning Fen	05.08.10	TF982121-TF982122	Yes		R	Woodland, scrub, pathways
63	Woodland	West of Scarning Fen	05.08.10	TF981612	Yes	>100m <sup>2</sup>	F	Woodland adjacent a47
64	Wensum Trib.	West of Scarning Fen	05.08.10	TF982123	Yes		O	Amenity grassland, woodland
65	Wensum Trib.	West of Scarning Fen	05.08.10	TF982121- TF987117	Yes	<5m <sup>2</sup>	R	Wooded riverbank and gardens
66	Ditch	West of Scarning Fen	05.08.10	TF982121-TF981119	No			Footpath, woodland, fens
67	Drain	Spurn Farm, Broadway	05.08.10	TF974112	No			Arable roadside ditch
68	Ditch	Olroy Cottage	05.08.10	TF963105	No			Roadside ditch arable
69	Drain	Coach Lane	05.08.10	TF960119	No			Woodland, arable
70	Drain	Oak Grove, Scarning	05.08.10	TF949122	No			Scrub and ash trees
71	Drain	Bradenham Lane	05.08.10	TF938114	No			Arable
72	Drain	Hulver Street	05.08.10	TF928115	No			Arable
73	Drain	High Cottage	05.08.10	TF931117	No			Arable
74	Tud Tributary	Mistletoe Farm Junction	05.08.10	TF936123	No			Arable, garden
75	Wending	Wending	05.08.10	TF932126	No			Pasture

Record No.	Watercourse / Tributary/	Location	Date	Grid reference	Presence (Yes)/ Absence (No)	Extent	DAFOR	Description Surrounding Land
	Beck							
76	Ditch	Lyon's Green	05.08.10	TF919116	No			Arable
77	Drain	Little Fransham	05.08.10	TF900127	No			Pasture, arable, sewerage works
78	Watercourse	Great Fransham	05.08.10	TF890132-TF896134	No			Pasture, gardens
79	Watercourse	Fransham Forge	05.08.10	TF915133	No			Garden, arable
80	Ditch	Home Farm	05.08.10	TF914143-TF917136	No			Arable
81	Watercourse	Rose Cottages	05.08.10	TF916131	No			Woodland, arable
82	Wending Beck	Bushey Common, Ford	05.08.10	TF948132	No			Meadows
83	Watercourse	Hillcrest Farm	05.08.10	TF952136	No			Arable , pond
84	Wending Beck	The Woodlands, Bridge	05.08.10	TF957131	No			Meadows
85	Wending Beck	Podmore Lane, Ford	05.08.10	TF963133	No			Meadows
86	Wending Beck	North West of Dereham	05.08.10	TF970132	No			Water meadow
87	Wending Beck	East Bilney	05.08.10	TF973133	No			Water meadow
88	Watercourse	Dereham	05.08.10	TF984134-TF981135	Yes		R	Semi-urban, meadow
89	Watercourse	Dereham	05.08.10	TF985133	Yes		O	New housing and trees
90	Wastegroun	Dereham	05.08.10	TF984134	No			Derelict ground up for development

Record No.	Watercourse / Tributary/	Location	Date	Grid reference	Presence (Yes)/ Absence (No)	Extent	DAFOR	Description Surrounding Land
	d							
91	Wendling Beck	Gressenhall	05.08.10	TF966151	Yes	<5m <sup>2</sup>	F	Meadows, trees
92	Wensum Trib.	Rectory Farm, Gressenhall	05.08.10	TF964161	No			Meadow
93	Wendling Beck	Beetley	05.08.10	TF977169	Yes		O	Woodland footpath, road
94	Ditch	New Road, Longham	11.08.10	TF938159	No			Arable
95	Drain	High House Farm	11.08.10	TF946152	No			Arable, woodland
96	Stream	Dunfer Hole	11.08.10	TF956164	No			Woodland near Lake
97	Drain	E. Bilney Garage	11.08.10	TF953191	No			Residential, meadows
98	Stream	High Field Farm, Bilney	11.08.10	TF955193	No			Woodland
99	Drain	Highfield Farm	11.08.10	TF957192	No			Woodland
100	Drain	Willow Grange	11.08.10	TF937198	No			Poplar plantation
101	Ditch	Reed Lane	11.08.10	TF931197	No			Meadows and poplar trees
102	Drain	Stanfield	11.08.10	TF929201	No			Arable
103	Ditch	Dandy Farm, Stanfield	11.08.10	TF930214	No			Wooded, arable
104	Ditch	Chapel Farm, Stanfield	11.08.10	TF938207	No			Arable
105	Ditch	B1146 near Juntion B1145	11.08.10	TF944211	No			Arable
106	Ditch	Malthouse Farm	11.08.10	TF940226	No			Arable
107	Drain	The Lodge, Whissonsett	11.08.10	TF906228	No			Arable

Record No.	Watercourse / Tributary/	Location	Date	Grid reference	Presence (Yes)/ Absence (No)	Extent	DAFOR	Description Surrounding Land
108	Drain	Pear Tree Corner	11.08.10	TF898237	No			Arable
109	Watercourse	Lower Farm	11.08.10	TF918238	No			Arable, meadow
110	Watercourse	Jocelyn Lodge	11.08.10	TF928240	No			Arable
111	Watercourse	Whissonsett	11.08.10	TF928235	No			Arable
112	Rough Ground And Pond	Potthorpe, Brisley	11.08.10	TF943221	Yes	>100m <sup>2</sup>	F	Residential
113	Panford Beck	Panford Bridge	11.08.10	TF961215	No			Pasture, garden
114	Watercourse	Near Maltings Farm, Brisley	11.08.10	TF954220	No			Arable
115	Stream	Near Maltings Farm, Brisley	11.08.10	TF957227	No			Arable
116	Watercourse	Gateley Green	11.08.10	TF962237	No			Woodland, pasture
117	Drain	Gately	11.08.10	TF961249	No			Meadow
118	Watercourse	Near Sennowe Park	11.08.10	TF970253	No			Arable
119	Drain	Winter's Farm	11.08.10	TF972245	No			Arable
120	Wensum	Guist Bridge	11.08.10	TF989250-TF995250	No			Marshland with trees
121	Wensum	Bintree Sluice	11.08.10	TF996250-TF998242	No			Riparian
122	Wending Beck	Worthing Bridge	11.08.10	TF998200	No			
123	Wending Beck	Hoe Road	11.08.10	TF993195-TF991180	No			Marshes, lakes and river



Record No.	Watercourse / Tributary/	Location	Date	Grid reference	Presence (Yes)/ Absence (No)	Extent	DAFOR	Description Surrounding Land
124	Wendling Beck	Holt Road, Beetley	11.08.10	TF983172	Yes	<5m <sup>2</sup>	R	Poplar plantation
125	Penny Spot Beck	Gooch's Cottage, Tuddenham Rd.	11.08.10	TF018150	No			Woodland
126	Wensum Trib.	Meadowcote, Stibbard	13.08.10	TF984289	No			Tall ruderal, woodland, arable
127	Stream	Langor Bridge	13.08.10	TF961292	No			Tall ruderal, woodland
128	Wensum And Drain	Bridge Farm	13.08.10	TF963273	No			Riparian corridor. Arable
129	Drainage Ditch	North of Gravel Pit Plantation	13.08.10	TF932271	No			Arable
130	Roadside Hollow	Pudding Norton, nr. Hempton Green	13.08.10	TF915287	Yes	<5m <sup>2</sup>	R	Roadside grass and scrub
131	Mill Stream, Drainage Ditch	Manor House	13.08.10	TF892303	No			Riparian, arable
132	Roadside Ditch	Toftrees	13.08.10	TF898274-TF901277	Yes	>100m <sup>2</sup>	A	Arable, garden, edge woodland
133	Stream	Southmill Farm	13.08.10	TF881282	No			Pasture
134	Wensum	Near Doughton	13.08.10	TF882290	No			Wet grassland
135	Tat	Tatterford Common	13.08.10	TF867279	No			Arable, woodland edge

Record No.	Watercourse / Tributary/	Location	Date	Grid reference	Presence (Yes)/ Absence (No)	Extent	DAFOR	Description Surrounding Land
136	Tat	Broomsthorpe	13.08.10	TF851284	No			Woodland
137	Tat	Coxford	13.08.10	TF847294	No			Pasture, woodland
138	Tat Tributary	Augustinian Priory	13.08.10	TF846289	No			Wet pasture, arable
139	Tat Tributary	Whin Carr	13.08.10	TF845287	No			Arable, woodland
140	Drain	Home Farm	13.08.10	TF865264	No			Arable, village
141	Drain	Valley Farm	13.08.10	TF869268	No			Arable
142	Tat	Near Helhoughton	13.08.10	TF872267	No			Wet grassland, garden
143	Wensum	Stable Yard Farms	13.08.10	TF878254	No			Wet grassland
144	Wensum	Bridge Pit Plantation	13.08.10	TF884241	No			Woodland
145	Stream	South Raynham	13.08.10	TF878240	No			Pasture
145a	Ditch	Hagg Lane	18.08.10	TG022239	No			Arable, woodland
146	Stream	Station Road, Foulsham	18.08.10	TG028242	Yes	<5m <sup>2</sup>	R	Gardens, woodland
147	Stream	Clay Road	18.08.10	TG032243	No			Village
148	Stream	Dukehouse Bridge	18.08.10	TG036271	No			Woodland, arable
149	Drain	Fulmodesten Road	18.08.10	TG023296	No			Arable, hedgerow
150	Stream	Twyford Road	18.08.10	TG009275	No			Arable, woodland
151	Drainage Ditch	Woodnorton Road	18.08.10	TG021267	No			Arable, woodland
152	Stream	Guist Road	18.08.11	TG018251	No			Pasture, woodland
153	Ditch	Norwich Road	18.08.10	TG015246	No			Woodland
154	Stream	Norwich Road	18.08.10	TG016245	Yes	<5m <sup>2</sup>	R	Woodland

Record No.	Watercourse / Tributary/	Location	Date	Grid reference	Presence (Yes)/ Absence (No)	Extent	DAFOR	Description Surrounding Land
155	Ditch	Foulsham Road	18.08.10	TG025241	No			Arable, woodland
156	Garden	Field View House, Foulsham	18.08.10	TG028242	Yes	5-49m <sup>2</sup>	O	Garden
157	Stream	High House Farm	18.08.10	TG037240	No			Arable, woodland
158	Ditch	Guestwick Road	18.08.10	TG041254	No			Arable
158a	Ditch	Near Old Hall Farm, Foulsham	18.08.10	TG036248	No			Arable
159	Ditch	Themelthorpe Road	18.08.10	TG045224	No			Arable
160	Ditch	Near Bawdeswell Heath	18.08.10	TG034198-TG038199	Yes	5-49m <sup>2</sup>	A	Woodland
161	Ditch	Bawdeswell Heath	18.08.10	TG033198	No			Woodland mixed
162	Ditch	Beck Farm	18.08.10	TG022204	No			Pasture
163	Wensum	Mill House, Billingford Road	18.08.10	TG004201	No			Woodland, meadow
164	Ditch	Holl Lane, Billingford	18.08.10	TG015201	No			Garden
165	Wensum	Swanton Lodge	18.08.10	TG022186-TG020184	No			Woodland, pasture
166	Wensum	Riverside Farm	18.08.10	TG007195-TG014193	No			Meadow, fishing lakes, pasture
168	Stream	Penny Spot Plantation	18.08.10	TG035169	No			Woodland
169	Drain	Mill Street	18.08.10	TG050178	Yes	<5m <sup>2</sup>	R	Pasture
170	Wensum	Lenwade Bridge	27.08.10	TG103183	Yes	>100m <sup>2</sup>		Floodplain, woodland
171	Woodland	Porter's Lane, Layfield Fishing	27.08.10	TG104185	Yes	>100m <sup>2</sup>	A	Woodland fishing lakes
172	Wensum	Porter's Lane	27.08.10	TG107187	Yes			Pasture, woodland
173	Blackwater	Foxford Bridge	27.08.10	TG097189	Yes	5-49m <sup>2</sup>	F	Woodland, arable, lakes
174	Stream	Nowhere	27.08.10	TG082202	No			Woodland, pasture, rough grassland

Record No.	Watercourse / Tributary/	Location	Date	Grid reference	Presence (Yes)/ Absence (No)	Extent	DAFOR	Description Surrounding Land
175	Ditch	Jordan Green	27.08.10	TG082202	No			Arable
176	Stream	Brick Kiln Farm	27.08.10	TG077234	No			Pasture
177	Drain	Reepham Road	27.08.10	TG060232	No			Arable
178	Drain	Kerdiston Road	27.08.10	TG065238	No			Arable, woodland
179	Stream	Forwater Road	27.08.10	TG075239	No			Arable, woodland
180	Drain	Palgrave Farmhouse	27.08.10	TG067262	No			Arable
181	Drain	Near Page Farm	27.08.10	TG076277	No			Arable, woodland, pasture
182	Drain	Near Thurning Hall	27.08.10	TG080287	No			Pasture
183	Drain	Bray's Lane	27.08.10	TG063285	No			Arable
184	Stream	Near Grove Farm	27.08.10	TG103287	No			Arable, woodland, pasture
185	Drain	Near Grove Farm	27.08.10	TG106285	No			Arable, woodland, pasture
186	Drain	Near Watery Lane	27.08.10	TG113264	No			Arable
187	Stream	Brake Hill Plantation	27.08.10	TG122265	No			Pasture, woodland edge
188	Stream	Cherry Tree Farm	27.08.10	TG128254	No			Arable
189	Stream	Cherry Tree Farm	27.08.10	TG125254	No			Woodland, pasture, meadow
190	Drain	Stinton Hall Farm	27.08.10	TG117256	No			Meadow
191	Stream	Sall Bridge	27.08.10	TG126241	No			Woodland
192	Stream	Stony Lane	27.08.10	TG096236	No			Grassland
193	Stream	Hackford Vale	27.08.10	TG091228	No			Meadow, arable
195	Watercourse	Malthouse Farm	27.08.10	TG089211	No			Woodland
196	Ditch	Whitwell Hall Farm	27.08.10	TG090216	No			Meadow

Record No.	Watercourse / Tributary/	Location	Date	Grid reference	Presence (Yes)/ Absence (No)	Extent	DAFOR	Description Surrounding Land
197	Mill Pool	Eade's Mill House	27.08.10	TG095212	Yes	<5m <sup>2</sup>	R	Meadow, pasture
198	Watercourse	Manor Farm	27.08.10	TG103214	No			Pasture
199	Watercourse	Fiddler's Hill	27.08.10	TG101203	No			Grass, pasture
200	Watercourse	Gt. Witchingham	27.08.10	TG096199	No			Grazed pasture
201	Watercourse	Blackwater Farm	27.08.10	TG087200	No			Meadow, pasture
202	Swannington	Hengrave	27.08.10	TG131194	Yes	<5m <sup>2</sup>	R	Woodland
203	Ditch	Swannington Hall	27.08.10	TG140193	No			Grazed
204	Woodland	Swannington Hall	27.08.10	TG138189	Yes	>100m <sup>2</sup>	A	Woodland, pasture
205	Stream	Swannington	27.08.10	TG134189	Yes	5-49m <sup>2</sup>	F	Grass, pasture
206	Stream	Alderford Common	27.08.10	TG126185	No			Grassland, woodland edge
207	Drain	Horsford	03.09.10	TG194157	No			Meadow, trees
208	Stream	Houghen	03.09.10	TG179173	No			Wet pasture
209	Stream And Ditch	Mill Lane	03.09.10	TG158184	No			Poplars, arable
210	Stream	Haveringland	03.09.10	TG164192	No			Poplar plantation, scrub
211	Watercourse	Quaker Farm, Haveringland	03.09.10	TG165202	No			Grazed meadows, poplars
212	Ditch	Brandiston	03.09.10	TG134216	No			Arable wet pasture
213	Stream	Booton, Reepham	03.09.10	TG108228	Yes	>100m <sup>2</sup>	F	Wooded, gardens
214	Watercourse	Whitwell Street	03.09.10	TG101218	Yes	5-49m <sup>2</sup>	F	Water meadows and woodland
215	Watercourse	Near Whitwell Street	03.09.10	TG103217	Yes	5-49m <sup>2</sup>	R	Scrub, woodland
216	Watercourse	Booton Common SSSI	03.09.10	TG110229-115231	No			Woodland, heath, scrub, wetland

Record No.	Watercourse / Tributary/	Location	Date	Grid reference	Presence (Yes)/ Absence (No)	Extent	DAFOR	Description Surrounding Land
217	Watercourse	Near Booton Common	03.09.10	TG110227	Yes	5-49m <sup>2</sup>	O	Garden
218	Watercourse	Near Booton Common	03.09.10	TG110228	Yes	50-99m <sup>2</sup>	O	Grassland, scrub, hedgerows
219	Woodland	Uppgate Common	03.09.10	TG144181	Yes	>100m <sup>2</sup>	F	Woodland, scrub
220	Woodland	Uppgate Common	03.09.10	TG146180	Yes	>100m <sup>2</sup>	F	Woodland, heathland, wetland
221	Swannington	Uppgate Common	14.09.10	TG143186-TG143182	Yes	>100m <sup>2</sup>	F	Arable, pasture, garden
222	Drainage Ditch	Uppgate Common	14.09.10	TG143187-TG143184	No			Pasture
223	Drainage Ditch	Uppgate	14.09.10	TG142182	Yes	<5m <sup>2</sup>	O	Garden, pasture
224	Swannington	Uppgate	14.09.10	TG144182	Yes	5-49m <sup>2</sup>	R	Woodland, pasture
225	Swannington	Uppgate	14.09.10	TG144182-147182	Yes	>100m <sup>2</sup>	O	Pasture, woodland
226	Ditch	Uppgate	14.09.10	TG145185-146183	No			Arable, woodland
227	Drainage Ditch	Uppgate	14.09.10	TG139180-TG143188	No			Pasture
228	Swannington	Uppgate	14.09.10	TG139189-TG142186	Yes	>100m <sup>2</sup>	F	Pasture, woodland, arable
229	Woodland	Fakenham, Norwich Road	17.09.10	TF940229-TF939296	Yes	>100m <sup>2</sup>	D	Garden, woodland, reedbed
230	Drainage Ditch	Fakenham Common	17.09.10	TF936292	No			Wet woodland, reed bed
231	River Wensum	South of Fakenham Common	17.09.10	TF927292-TF936292	No			Riparian
232	Drainage	North of Fakenham Common	17.09.10	TF930294	Yes	<5m <sup>2</sup>	R	Wet woodland

Record No.	Watercourse / Tributary/	Location	Date	Grid reference	Presence (Yes)/ Absence (No)	Extent	DAFOR	Description Surrounding Land
	Ditch							
234	River Wensum	Gt. Ryburgh Common	17.09.10	TF938292	No			Flood plain, fen, woodland
235	Woodland	Near Gt. Ryburgh Common	17.09.10	TF937234	Yes	<5m <sup>2</sup>	R	Woodland ride
236	Ditch	Upgate	17.09.10	TG148182	Yes	<5m <sup>2</sup>	R	Arable, pasture, hedgerow
237	Swannington	Adjacent Upgate	20.09.10	TG149182-TG152181	Yes	>100m <sup>2</sup>	A	Arable, pasture, hedgerow
238	Swannington	East of Upgate Common	20.09.10	TG152181-TG162188	No			Arable
239	Drainage Ditch	Near Abbey Lane	20.09.10	TG161188-TG158190	No			Arable, woodland edge
240	Swannington	Swannington Beck	20.09.10	TG147181-TG149181	Yes	>100m <sup>2</sup>	O	Wood
241	Wensum	The Warren	21.09.10	TG113181-TG121177	Yes	>100m <sup>2</sup>	F	Woodland, grass banks
242	Marriot's Way	Adjacent Scrapyard	21.09.10	TG121177	Yes	>100m <sup>2</sup>	F	Rough grassland, scrub
243	Wensum	The Warren	21.09.10	TG107186-TG113181	Yes	>100m <sup>2</sup>	O	Grassland, riparian, woodland,
244	Wensum	Porter's Lane	21.09.10	TG107187-TG103186	Yes	>100m <sup>2</sup>	F	Woodland
245	Marriot's Way	Lewade Area	21.09.10	TG104184-TG109181	Yes	>100m <sup>2</sup>	A	Open grassland, scrub
246	Ditch	Marriot's Way	21.09.10	TG104185	Yes	>100m <sup>2</sup>	O	Wetland, arable, woodland
247	Stream	Foxford	21.09.10	TG101186-TG101184	Yes	>100m <sup>2</sup>	R	Pasture, woodland
248	Drainage Ditch	Bridge along Marriot's Way	21.09.10	TG103185	Yes	>100m <sup>2</sup>	F	Wetland

Record No.	Watercourse / Tributary/	Location	Date	Grid reference	Presence (Yes)/ Absence (No)	Extent	DAFOR	Description Surrounding Land
249	Stream	Morton Bridge	23.09.10	TG129167	No			Grassland, pasture, gardens
250	Wensum	Morton Hall Estate	23.09.10	TG128167	Yes	<5m <sup>2</sup>	R	Riverbank, pasture
251	Wensum	Morton Hall Estate	23.09.10	TG128167-TG135156	Yes	>100m <sup>2</sup>	O	Riverbank, pasture
252	Stream	Morton Hall Estate	23.09.10	TG129161	Yes	<5m <sup>2</sup>	R	Pasture, arable
253	Ditch Flowing	Morton Hall Estate	23.09.10	TG129160-TG134155	No			Pasture
254	Stream	Morton Hall Estate	27.09.10	TG127167-TG127163	Yes	>100m <sup>2</sup>	F	Grassland
255	Wensum	Near Slade Plantation	27.09.10	TG122177	Yes	>100m <sup>2</sup>	O	Pasture
256	Wensum	North of Attlebridge	27.09.10	TG122177-TG127168	No			Pasture
257	Wensum & Penny Spot	Castle Farm	28.09.10	TG020183-TG135169	No			Pasture, occasional woodland
258	Wensum	Elsing Mill Upstream	30.09.10	TG042175-TG050177	No			Pasture
259	Wensum	Fustyweed	30.09.10	TG051178-TG060185	No			Pasture
260	Wensum	Fustyweed Downstream	30.09.10	TG060185-TG069183	Yes	>100m <sup>2</sup>	A	Pasture left, fishing right
261	Stream	Haveringland	01.10.10	TG165202-TG165193	No			Pasture
262	Stream	North of Felthorpe Hall	01.10.10	TG165190-TG167188	No			Pasture, woodland
263	Adj. Wensum	Northwest of Felthorpe Hall	01.10.10	TG164189-TG160185	No			Pasture, woodland
264	Wensum	Weston Hall	06.10.10	TG103181-TG100174	Yes	>100m <sup>2</sup>	O	Gardens, lake, streams, river, trees
265	Wensum	Adjacent Weston Hall	06.10.10	TG100177	Yes	>100m <sup>2</sup>	F	Riverbank, woodland
266	Fish Ponds	Weston Hall Grounds	06.10.10	TG098173-TG101173	Yes	>100m <sup>2</sup>	F	Wet woodland, polar plantation



Record No.	Watercourse / Tributary/	Location	Date	Grid reference	Presence (Yes)/ Absence (No)	Extent	DAFOR	Description Surrounding Land
267	Woodland Adj. River Wensum	Wrong's Covert	06.10.10	TG097176-TG099175	Yes	>100m <sup>2</sup>	A	Woodland
268	Wensum	Catch 22 Fishing Lakes	07.10.10	TG088182-TG094174	Yes	>100m <sup>2</sup>	A	Woodland, fen and garden
269	Ditch And Lake	Catch 22 Fishing Lakes	07.10.10	TG091178-TG093175	Yes	>100m <sup>2</sup>	A	Woodland, lakeside
270	Wensum	Walsis' Farm	07.10.10	TG087183-TG088182	Yes	>100m <sup>2</sup>	A	Meadow, woodland, scrub
271	Wensum	Walsis' Farm	07.10.10	TG086182-TG086181	Yes	>100m <sup>2</sup>	F	Meadow, woodland, scrub
272	Wensum	Walsis' Farm	07.10.10	TG082180-TG085181	Yes	>100m <sup>2</sup>	O	Pasture, willow trees
273	Ditches	Walsis' Hill	07.10.10	TG083182-TG086183	Yes	>100m <sup>2</sup>	A	Poplar plantation, scrub, pasture
274	Wensum	Attlebridge Hall Farm	08.10.10	TG135156-TG139155	Yes	<5m <sup>2</sup>	R	Pasture
275	Wensum	Attlebridge Hall Farm	08.10.10	TG134158-TG136157	No			Woodland ditches, pasture
276	Wensum	Attlebridge Hall Farm	08.10.10	TG139155-TG144152	Yes		O	Pasture
277	Ditch	Attlebridge Hall	08.10.10	TG138155-TG138151	No			Pasture, hedgerow
278	Ditches	North of Glebe Farm, Ringland	13.10.10	TG138151-TG144145	No			Pasture, woodland
279	Wensum	Ringland Common	13.10.10	TG145143-TG142137	No			Pasture, golf course, hedges roadside
280	Wensum	South of The Swan PH	13.10.10	TG140136	Yes	50-99m <sup>2</sup>	F	Woodland
281	Wensum	Golf Club	13.10.10	TG144147	Yes			Golf course, scrub, trees
282	Wensum	Ringland	19.10.10	TG140136	Yes	>100m <sup>2</sup>	O	Pasture, scrub
283	Wensum	Ringland	19.10.10	TG140135-TG140125	Yes	>100m <sup>2</sup>	O	Riverbank poplars, Pasture, Meadow

Record No.	Watercourse / Tributary/	Location	Date	Grid reference	Presence (Yes)/ Absence (No)	Extent	DAFOR	Description Surrounding Land
284	Wensum	Ringland	19.10.10	TG142124	No			Woodland, reedbeds
285	Wensum	Ringland	19.10.10	TG150127-TG155136	Yes	>100m <sup>2</sup>	O	Riverbank, pasture, gardens
286	Wensum	Ringland, The Carrs	19.10.10	TG148126-TG150127	Yes	>100m <sup>2</sup>	F	Wet woodland
287	Drain	Ringland, The Carrs	19.10.10	TG147127-TG142125	No			Wet woodland, reedbed
288	Drain	Ringland	19.10.10	TG142125	Yes	>100m <sup>2</sup>	O	Wet woodland
289	Drainage Ditch	Ringland	19.10.10	TG139131-TG141126	No			Pasture, woodland
290	Fishing Lakes	Ringland	19.10.10	TG142127-TG147128	No			Woodland, lakes, scrub
291	Wensum And Drain	Taverham Mill	21.10.10	TG155136-TG158137	Yes	>100m <sup>2</sup>	F	Riverbank, poplar trees, scrub
292	Wensum And Drain	Taverham Mill	21.10.10	TG154134-TG155136	Yes	>100m <sup>2</sup>	F	Riverbank, woodland
293	Wensum	Hellesdon Bridge	29.08.10	TG199099	Yes	>100m <sup>2</sup>	A	Riverbank
294	Wensum	Drayton	29.08.10	TG197106	Yes	>100m <sup>2</sup>	F	Riverbank
295	Marshland	Sweetbriar Marsh	29.08.10	TG203096	Yes	>100m <sup>2</sup>	F	Species rich marshland
296	Wensum	Mile Cross Bridge	29.08.10	TG217098	Yes	>100m <sup>2</sup>	F	Riverbank
297	Roadside	Dereham Road	11.08.10	TG158106	Yes	<5m <sup>2</sup>	R	Urban
298	Roadside	Hellesdon	11.08.10	TG191100	Yes	5-49m <sup>2</sup>	F	Urban
299	Marshland	Adj. Sweetbriar	29.08.10	TG209099	No			Marshland

**Table 2.** Other Non-native invasive species records

Record No.	Species	Date	Location	Grid reference	Approx. Area
19	Bamboo, subf. Bambusoideae	19.07.10	Hockering	TG076131	5-49m <sup>2</sup>
28	Cherry laurel, <i>Prunus laurocerasus</i>	26.07.10	Mattishall	TG047112	5-49m <sup>2</sup>
47	Japanese knotweed	04.08.10	Lenwade mill	TG101181	5-49m <sup>2</sup>
90	Japanese knotweed	05.08.10	Dereham	TF984134	5-49m <sup>2</sup>
112	Japanese knotweed	11.08.10	Potthorpe, Brisley	TF943221	5-49m <sup>2</sup>
210	Japanese knotweed	03.09.10	Haveringland	TG164192	>50m <sup>2</sup>
229	Japanese knotweed	17.09.10	Fakenham, Norwich Road	TF939297	>50m <sup>2</sup>
296	Japanese knotweed	29.08.10	Marriot's Way	TG217098	5-49m <sup>2</sup>
299	<i>Crassula helmsii</i>	29.08.10	Adj. Sweetbriar Marsh SSSI	TG209099	5-49m <sup>2</sup>



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