

**Suffolk  
Coast &  
Heaths**



Area of Outstanding Natural Beauty

**Deben Estuary Partnership**

**The Deben Estuary and its hinterland:  
Evaluation of key areas for birds,  
recreational disturbance issues and  
opportunities for mitigation  
and enhancement**

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## Disclaimer

Every effort has been made to date to provide an accurate assessment of the current situation but no liability can be assumed for omissions or changes after this assessment has taken place. The results of this study are considered valid for a period of two years from the date of this report. However, should additional surveys be undertaken or other information be obtained, this report should be reviewed.



The River Deben at Dusk, from Ramsholt: Andrew Excell

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# **1 Introduction**

## **1.1 Rationale**

SWT Trading Ltd (the wholly owned consultancy of Suffolk Wildlife Trust) was requested by the Deben estuary Partnership (DEP) to provide a detailed report describing the ornithological assets of the River Deben SPA and its hinterland (within one kilometre of the river). This work builds upon the work undertaken by Andrew Excell and Kieran O'Mahony in 2013 in their report 'Deben Estuary Waterbirds of importance' and has been funded by Suffolk Coast & Heaths AONB Sustainable Development Fund.

Key elements of this report include:

- Using GIS, aerial photographs and existing data to map and evaluate key areas within the estuary and its hinterland
- Identify important loafing, pre-roosting, roosting and winter refuge sites for waterbirds
- Consider key breeding sites for waders and BAP species
- Highlight areas where there may be an adverse impact if recreational pressure is increased and the potential to reduce these issues
- Suggest practical, deliverable solutions to help reduce and mitigate recreational pressure
- Consider opportunities to restore, reconnect and recreate habitats integral to the estuary

## **1.2 Characteristics of the Deben estuary**

The Deben Estuary stretches 16 km from the railway bridge north of Wilford Bridge near Woodbridge to the mouth between Felixstowe Ferry and Bawdsey Quay.

The river valley was flooded 7000 years ago during post-glacial sea rises, forming the estuary. Sedimentation occurred with material being brought in from the sea on the tides and some material being deposited from upriver. This sedimentation forms an extensive area of mudflats fringed with salt-tolerant plants on the saltmarshes. The nutrients brought in with the tides, and to a lesser extent down river, make these mudflats one of the most productive habitats in the world. The salinity of the river increases downstream but will be lower where fresh water enters the estuary, such as from the Mill and Fynn Rivers.

At 16km, stretching from Wilford Bridge down river to Bawdsey and Felixstowe Ferry, the Deben is quite a short estuary (compared with The Orwell and Stour) and is also relatively shallow. There are only a few areas where the river exceeds five metres in depth and nowhere upriver from Shottisham Creek. The deepest stretch (8m) is the main channel just off Bawdsey Quay. Unlike the Stour and Orwell there is no dredging of the river bed in order to keep large boats from grounding.

The estuary is narrow when compared to the Orwell and Stour and is never more than one kilometre wide. As it passes through Woodbridge and Martlesham Creek it is particularly narrow, being less than 200m wide. The widest part of the estuary is just north of Waldringfield with the mud in front of The Tips and The Hams being extensive at low tide. There is an island, covered

on the highest tides opposite Waldringfield with a channel passable by sailing boats behind it at high tide.

Originally the saltmarshes, interspersed with muddy creeks would have stretched inland until that land was above the high tide level. The building of the river walls, however, meant that significantly large areas were dried out and claimed for grazing marshes and eventually arable farming. Most of these areas are included in this study area: Felixstowe, Falkenham, Corporation and Kirton Marshes on the west of the river and Bawdsey, Alderton, Ramsholt Marshes Lodge Marsh and Shottisham Creek and the area inland of Stonner Point on the eastern side. There are few extensive areas of saltmarsh remaining, most being up to 100m wide. However, the saltmarsh at The King's Fleet, Falkenham Creek, The Main Roost around Early Creek and the developing area centred on TM275460 on the west of the river are of note, as are the saltmarshes opposite Kyson Point, just south of Stonner Point, off lodge Marsh and south of Ramsholt on the eastern side.

Originally there would have been a transition zone where the saltmarsh ended and higher ground began. Plants such as Sea Campion, Sea Wormwood and Lime Grass would have existed here. This habitat only now exists at the foot of the river walls but is very narrow.

### **1.3 Wintering birds**

The Deben Estuary, like a number of other British estuaries, is important for its large numbers of wintering waders and wildfowl. The estuary as far as this report is concerned is the river from Wilford Bridge, Melton south to the mouth at Bawdsey and Felixstowe Ferry.

The birds using the estuary in winter are regularly monitored. **High tide counts** (WeBS counts), mainly of roosts, are undertaken each month from September through to April. Occasional **Low Water counts** are undertaken to ascertain where exactly the birds are feeding.

Many of the species leave the estuary in spring and travel north to countries above the Arctic Circle which contain their breeding grounds. Birds return to the estuary in autumn – some in September while the majority return by the end of October. They leave again in spring, normally by April but in 2013, due to the harsh weather experienced in March, many birds were still present in April.

Common bird names have been used in this report. Wherever possible these have been covered in the order of the British Ornithologist's Union; this order has changed recently and will not coincide with earlier papers, reports or books. For full and scientific names see Appendix 1.

### **1.4 Background to waterbird importance**

Any site recognised as being of international ornithological importance is considered for classification as a SPA under the EC Directives on the Conservation of Wild Birds (EC/79/409), whilst a site recognised as an internationally important wetland qualifies for designation as a Ramsar site under the Convention on Wetlands of International Importance especially as waterfowl habitat.

Under criterion 6, a wetland is considered **internationally important** if it regularly holds at least 1% of the individuals in a population of one species or subspecies of waterbird, while criterion 5 states that any site regularly supporting 20,000 or more waterbirds also qualifies.

A wetland in Britain is considered **nationally important** if it regularly holds 1% or more of the estimated British population of one species or subspecies of waterbird. Swans, geese, ducks, grebes, rails, herons and waders are all waterbirds.

## 1.5 Designations for the River Deben

Figure 1 shows the location of the statutory designations described below. The distribution of County Wildlife Sites (a non-statutory designation) is also shown for completeness.

The River Deben is designated as a **Special Protection Area (SPA)** for its wintering **Avocet** numbers (for having 95 wintering individuals representing at least 7.5% of the national wintering population at the time - the 5 year mean peak between 1991/2 and 1995/6). From September 2012 this designation has been revised to also include **Dark-bellied Brent Goose**. The estuary was also designated as **Site of Special Scientific Interest (SSSI)** in February 1991 under Section 29 of the Wildlife and Countryside Act 1981. The reason for notification is as follows: ‘*The Deben Estuary is important for its populations of overwintering waders and wildfowl and also for its extensive and diverse saltmarsh communities. Several estuarine plants and invertebrates with a nationally restricted distribution are also present*’. The latter include Marsh Mallow *Althaea officinalis*, Shrubby Seablite *Suaeda fruticosa* and Small Cord-grass *Spartina maritima*. The nationally rare mollusc Narrow-mouthed Whorl Snail *Vertigo angustior* and nationally scarce *V. pusilla* have also been recorded. Specific details regarding birds of national importance are given in Table 1.

Figure 2 shows the location of the SSSI Units, which are used and referred to in the SSSI Site condition monitoring (Integrated Site Assessment).

The estuary also has **Ramsar site** status since 1996, qualifying under Criterion 3c by “*regularly supporting internationally important wintering numbers of **Dark-bellied Brent Geese**. Notable also are nationally important numbers of the following migratory waterfowl, **Shelduck, Avocet, Grey Plover, Black-tailed Godwit, and Redshank**”.*

The national and international thresholds for bird importance given in the Table 1 below are developed from the Ramsar Convention on Wetlands of International Importance (Ramsar Convention Bureau 1988) and are used and referred to in the Wetland Bird Survey (WeBS) annual reports. The thresholds change as national and international numbers fluctuate, with nationally important numbers representing 1% or greater of the UK wintering population regularly being present and international important numbers representing 1% of the European wintering population. Any site also regularly supporting 20,000 or more waterbirds also qualifies as internationally important.

Although the Deben Estuary is small compared with many others, it contains significant numbers of birds of international and national importance, as well as notable numbers of some other bird species (Table 1).

Figure 1: Map of Designated Sites

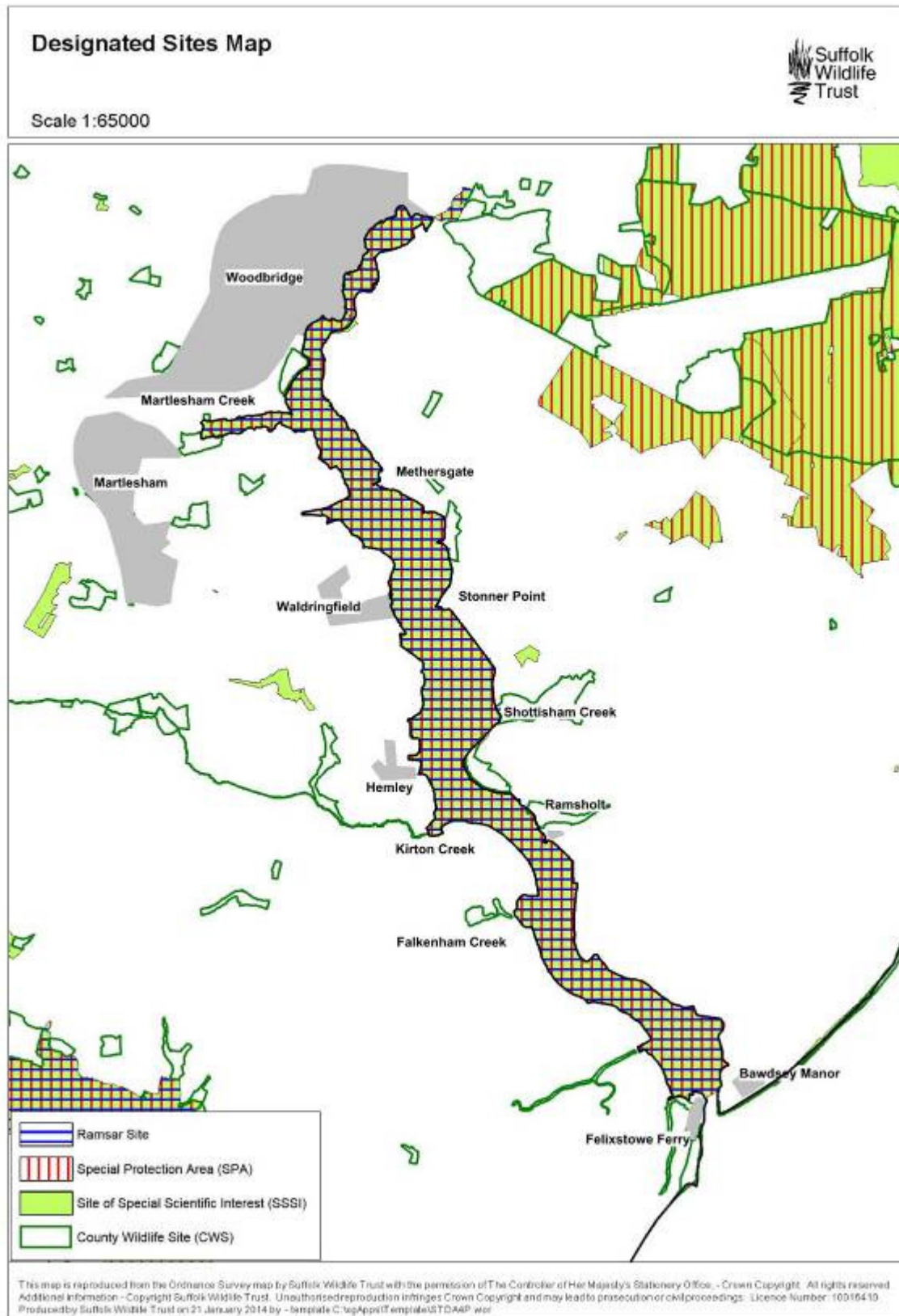
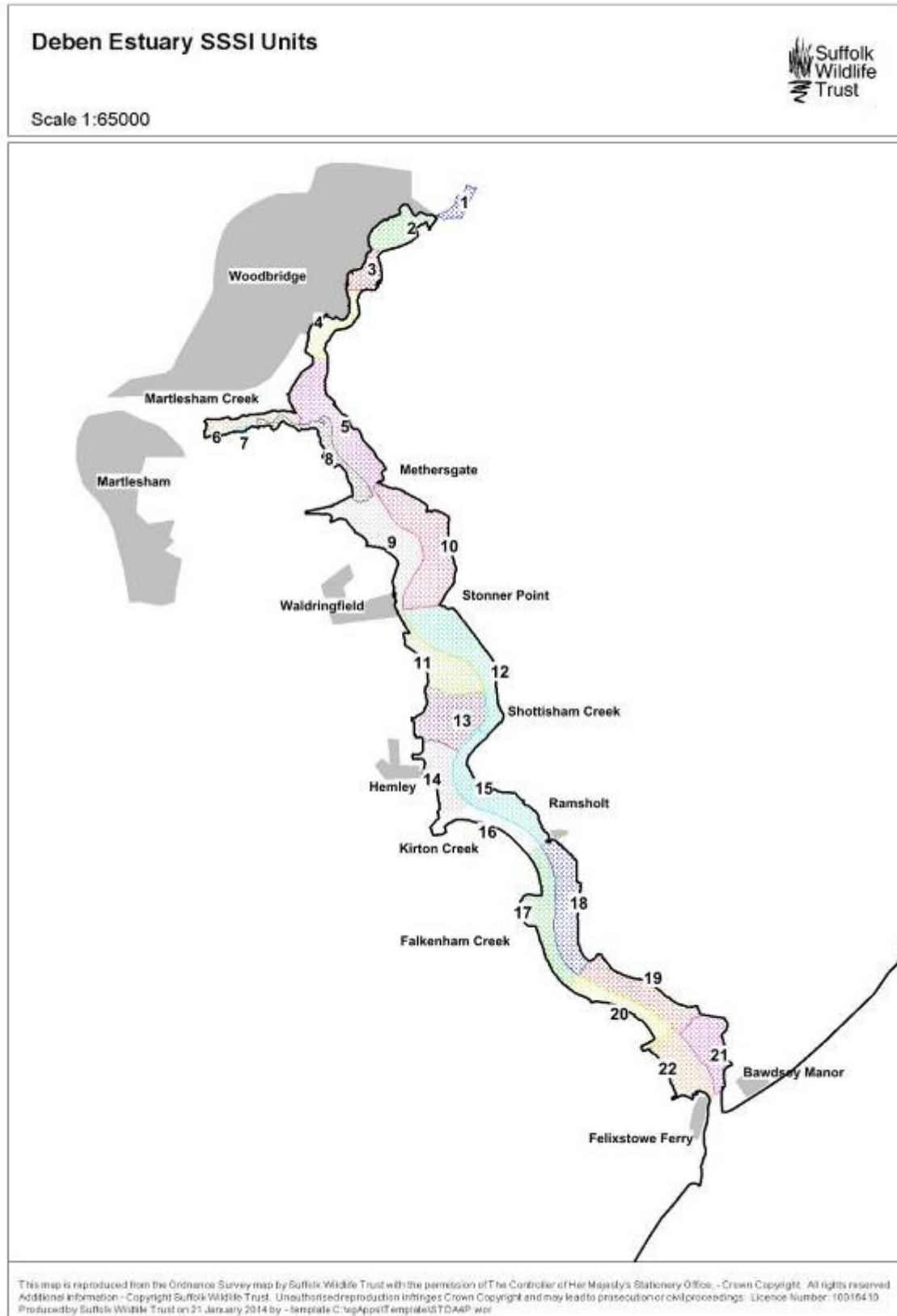


Figure 2: Deben Estuary SSSI Units



**Table 1 Current status and importance of birds using the Deben Estuary****International Importance**

Species	BoCC Status	Mean nos of birds on estuary between 2000/1 and 2004/5	Mean nos of birds on estuary between 2006/7 and 2010/11	Qualifying international threshold
Black-tailed Godwit	Red	248	680	610

**National Importance**

Species	BoCC Status	Mean nos of birds on estuary between 2000/1 and 2004/5	Mean nos of birds on estuary between 2006/7 and 2010/11	Qualifying UK threshold
Dark-bellied Brent Goose	Amber	1915	1463	910
Shelduck	Amber	799	649	610
Little Egret	Amber	n/a	49	45
Avocet	Amber	241	299	75
Grey Plover	Amber	537	485	430
Redshank	Amber	2095	2140	1200

**Other Species Noted in Significant Numbers:**

Species	BoCC Status	Mean nos of birds on estuary between Jan 2010 and Dec 2012	Max nos of birds on estuary between Jan 2010 and Dec 2012	Qualifying UK threshold
Bar-tailed Godwit	Amber	41	102 (Feb 2012)	380
Curlew	Amber	768	1032 (Oct 2011)	1400
Dunlin	Red	2919	3670 (Dec 2011)	3500
Golden Plover	Amber	n/a	3813 (6449 in 2010/11)	4000
Knot	Amber	130	223 (Jan 2012)	3200
Lapwing	Red	2681	4478 (Jan 2011)	6200
Little Grebe	Amber	68	102 (Feb 2012)	160
Pintail	Amber	102	176 (Jan 2011)	290

## 2 Species accounts for wintering birds

**These include birds of international & national importance and other notable species listed in Table 1.**

**Dark-bellied Brent Goose.** Brent Geese are seen flying south down the Suffolk coast throughout October. Many of these birds first arrive in the Thames Estuary before they then move in to other estuaries. The Deben birds are usually present by December. Traditionally they feed on Common Eelgrass *Zoostera marina*, which grows on the river bed, when they first arrive. There is, however, considerably less Eelgrass now than there was about 20 years ago. When this food source dries up they move on to arable areas where they may find residual crops or autumn-sown crops. Brent Geese use the arable fields between Bawdsey and Ramsholt, on the west side of the river at Felixstowe, Falkenham and Kirton Marshes, the fields just north of Hemley and just north of Waldringfield. Less often they can be found in the fields around Methersgate. The sub-species Pale-bellied Brent Goose occasionally winters with the flock as in the winter 2012 – 2013. In this period the sub-species Black Brant was also present. Over the years the occasional **Red-breasted Goose** has wintered with the Brent Goose flock, the 2011 – 2012 bird being present on the river until they migrated north back to their breeding grounds in Siberia.

**Shelduck.** Shelduck are more tied to the salt and brackish waters of the river itself. They feed by surface-digging on exposed mud or saltmarsh looking for molluscs and crustaceans as well as dabbling in shallow water. They tend to spend high tide roosting on the water or saltmarsh but may also utilise grazing marshes or fields. At the end of the summer adults birds leave their juvenile young in a creche and fly to the Heligoland Bight to moult. These adult birds return in November.

**Little Grebe.** Until the winter of 2006/07 Little Grebes were of national importance on the Deben. This status was lost as the numbers fell and then the limit was raised. It is possible that some birds remained further north for the winter. They still winter in good numbers especially in Martlesham Creek. They are found in many of the dykes inland of the seawall. They dive for invertebrates and small fish.

**Little Egret.** Now a familiar part of our avifauna this species was something of a rarity 20 years ago. Little Egrets feed on invertebrates, small fish and amphibians in dykes and channels on saltmarshes and on grazing marshes.

**Avocet.** The build-up of Avocets on the river started in the 1980s. In January 1987 there were 5, in 1989 there were 40 and by January 1993 there were 141. These birds originated from the continent, especially The Netherlands. The breeding Suffolk population wintered on estuaries in the south-east of England. The wintering population is now in excess of 300 (In January 2011 and 2012 there were 308 and 306 respectively and the highest-ever total was of 385 in February 2012). All but a handful of these birds have left by the middle of March. The combination of long legs and upcurved bill allow this wader to scythe through the wet mud or water to obtain invertebrates. They also pick invertebrates from the surface of the mud.

**Grey Plover.** This species does not quite reach a population of national importance but considering the size of the estuary, it winters in very good numbers. On the estuary it feeds as a typical plover by running and picking polychaete worms, molluscs and crustaceans that are near the surface. Grey Plovers do not tend to flock while feeding but roost together at high tide.

**Black-tailed Godwit.** The number of Black-tailed Godwits using the Deben Estuary has risen over the last 15 years so that they are now of international importance, the threshold being 470. The mean for the years 2005/06 – 2009/10 was 671. They have longer legs and beaks than Redshank and will feed in deeper water than many waders. They feed on invertebrates in the mud but will take insects from the surface on fields and grazing marshes. Black-tailed Godwits either roost on saltmarshes or, more usually, on arable fields inland with other species such as Curlew.

**Redshank.** Redshank are, perhaps, the most important wader species on the Deben Estuary and are of national importance. The long legs and feet of a typical wader allow them to probe for polychaete worms and molluscs in the mud. They will not always feed on or close to the tide line, sometimes feeding on drier exposed mud or saltmarsh. On grazing marshes they feed on earthworms and the larvae of insects such as crane fly. Some of the birds remain to breed.

**Dunlin** and **Lapwing** are both red listed birds in serious decline. The Deben estuary supports occasional peak numbers of Dunlin in excess of the UK qualifying threshold, and this species feeds and roosts along the entire estuary length. Lapwing numbers, although below UK threshold levels, are clearly significant, and would have the potential to be much higher with additional appropriate agricultural hinterland management.

**Golden Plover** numbers have recently exceeded the UK qualifying threshold, with a highest-ever total of 6449 in January 2011, and this species may well be listed as nationally important in years to come.

Species such as **Pintail** and **Knot** have been listed in the Table above as they each tend to be concentrated in one section of the estuary only, and could be easily displaced from the estuary by increased recreational pressure. **Bar-tailed Godwits** were hardly recorded in WeBS counts before 2007 but since then numbers have risen and there were 73 present in January 2013.

As the Deben is not a deep river, not being dredged for river traffic like the Orwell and Stour, diving duck are not common. **Goldeneye** used to occur however, with figures in the 30s. Those present nowadays tend to be at the entrance to Martlesham Creek where it meets the main river. **Great Northern Diver** is the most common diver and occasionally overwinters in the Ramsholt area and can be seen surfacing with crabs in its beak. **Great-crested Grebes** build up through the winter especially in harsh weather. **Slavonian Grebes** are annual in the area around Waldringfield and **Black-necked Grebes** are also regular often where Martlesham Creek meets the main river.

The BTO have been aware that **Water Rails** have been under-recorded on estuaries because they are shy and easily overlooked in the winter. It has been proposed that using sound

recordings to obtain a response from the birds might be a method for ascertaining their population. Water Rails have been recorded but never on a regular basis. During the November 2012 count for Section 2, sound recordings were used to establish that there were 11 wintering Water Rails in this section alone. The total population for the river could therefore be approaching 100. This species is found in reeds and wet scrub along the dykes inland of the river wall.

**Twite** are a scarce wintering finch that have recently wintered on the Deben. Flocks of between 11 and 25 have been recorded feeding on the seeds of plants such as Sea Aster on saltmarshes at Waldringfield, Stonner Point and The King's Fleet. They tend to stay separate from the similar Linnets.

### **3 Wetland Bird Survey (WeBS) counts**

Starting in the 1960s as The Birds of Estuaries Enquiry, The Wetland Bird Survey (WeBS) has been carried out every year since (except early 2003 due to the Foot and Mouth disease outbreak). The scheme monitors non-breeding waterbirds in the UK. The principal aims of WeBS are to identify population sizes, determine trends in numbers and distribution and to identify important sites for waterbirds.

The Deben Estuary is separated into 9 sections (Figure 3) which are counted in each month from September through to April. All the counts are completed around high tide, on the same day, when waders and wildfowl are on roosts.



Typical high tide roost: Andrew Excell

Figure 3: Map of Wetland Bird Survey Sections



## **Wetland Bird Survey High Tide Counts:**

### **Section 1**

TM331370 – 306414: Bawdsey Quay north to Ramsholt, including The Knolls at the mouth of the river.

There is a varying amount of saltmarsh with wide and narrow creeks. Inland of the wall is a thin grassy strip of 30m before the borrow dyke. The dyke is 10 to 15m wide. Bawdsey, Alderton and Ramsholt Marshes are arable with a network of drainage dykes. The low-lying fields stretch for up to 2km. Most waders roost on the saltmarsh just before TM310410. Mallard roost and feed here with 59 present in January 2013.

This is the normal Avocet roost, these birds either roosting on the saltmarsh edge or on the water, especially if the tide is very high. They never move inland of the seawall. During a short study on Avocet and Brent Goose in 2012, Avocet roosted on the water all the time (Mason N, for BTO 2012). All of the Avocets on the river have roosted here since they reached more than single figures in the mid-1980s. Occasional birds now remain upriver in Woodbridge to roost.

Several species roost inland of the seawall on the areas known as Alderton and Ramsholt Marshes. They are, in fact, arable fields and the birds may move according to which crop is currently being grown. Included here are good numbers of Lapwing, Curlew and more recently Golden Plover. Mute Swans may roost on either side of the river with 89 present here in January 2013. Brent Geese also use these fields with both Pale-bellied Brent Geese and a Black Brant being present in the winter of 2012 – 2013.

The seawall occasionally has Short-eared Owl roosting and it is more commonly here than other stretches of the river because it is undisturbed.

### **Section 2**

TM306414 – 292445: Ramsholt north to Stonner Point.

There is a stretch of saltmarsh just upriver from Ramsholt. Behind this there is an area of grazing marsh in front of Ramsholt Church, a sandstone hill and wood and then a further grazing marsh – Lodge Marsh. The river is fairly deep in front of 'The Rocks' (part of Lodge Plantation) a wooded sandstone cliff area with arable fields inland. London Clay surfaces here with some Serpentine. At Shottisham Creek there is an area of grazing marsh which stretches 2.5km eastward to Shottisham. The saltmarsh is thin until the point by Rockall Wood. It gradually widens out all the way north to Stonner Point. Inland of the wall is a grassy area until the 15m wide borrow dyke. There is 0.5km of grazing marsh beyond this feature.

Areas with good numbers of Shelduck are found on the saltmarshes at TM300420 and 295445. There were 89 present in January 2013. Lodge Marsh at TM 300423 has good numbers of wildfowl including Teal, Canada and Greylag Geese and occasional Pintail and Brent Geese. Some waders will spend high tide here.

The saltmarsh just south of Stonner Point acts as a sub-roost for Grey Plover, Curlew, Redshank, Dunlin and some Black-tailed Godwits. If there is a spring tide many of these birds will move over to the Main Roost south of Waldringfield. Wigeon and Teal also use this area.

Curlew use the arable fields inland of the seawall at TM 297445 and the arable fields and grazing Marshes of Shottisham Creek TM305305. Black-tailed Godwits will also roost at TM297445 on occasions.

Bearded Tits often irrupt from major reedbeds in the county and are found wintering in the reedbeds at Lodge Marsh. Cetti's Warblers are found in these reedbeds as well as around Shottisham Creek.

### **Section 3**

TM280470 – 292445: Methersgate south to Stonner Point.

At Methersgate going north there is a substantial saltmarsh for 1km. South of Methersgate there is little saltmarsh and inland the ground rises to arable fields. The Tips and The Hams are sandstone peninsulas that jut out into the river.

There are a few scattered waders just north of Methersgate. Lapwing and Curlew roost on the fields just south of Methersgate and Curlew, Lapwing, Grey Plover and Turnstone use the fields just north of Stonner Point at TM446448.

The majority of the ducks (Shelduck, Wigeon, Teal and sometimes Pintail) are found on the saltmarsh between The Tips and The Hams at TM292458.

Black-headed Gulls loaf on the water between The Tips and The Hams and when the wind is not too strong will come in here to roost late in the day. There were 222 there in January 2013.

### **Section 4**

TM293503 – 272473: Wilford Bridge south to Kyson Point.

This section includes both sides of the river in Melton and Woodbridge. The majority of birds are counted on the eastern side (Sutton). There are grazing marshes at TM270480 which are surrounded by footpaths and tend to not hold many birds at high tide because of human disturbance. There is an area of saltmarsh opposite Kyson Point.

Due to the high density of people there are few roosts in Woodbridge itself. However, the fields and saltmarsh opposite (to the east of) Kyson Point have variable numbers of waders especially Dunlin, Black-tailed Godwit and Redshank. The area of saltmarsh and mud at TM285497 where the bund is broken has a good number of waders, especially Dunlin (991 in December 2012), Black-tailed Godwits (224 in January 2012), Redshank (254 in January 2013) and Turnstone (35 in December 2012), and a greater variety than many other roost sites on the river. In recent winters a Purple Sandpiper and Common Sandpiper have roosted here using this narrow section of river for feeding. Greenshank and Bar-tailed Godwits may also be found here.

## **Section 5**

TM 255474 – 278466: Martlesham Creek and river south to break in the river wall. The seawall becomes impassable at TM 277466.

Martlesham Creek has a well-used area of grazing marsh to the north and trees and arable land to the south. Where the creek enters the main river there are grazing marshes for 0.5km. There is a thin strip of saltmarsh at TM275467.

Martlesham Creek holds good numbers of duck, especially Teal of which there were 79 in January 2013. There are also good numbers of Little Grebe (20 in January 2013).

The saltmarsh along the main river section is too narrow to hold many roosting birds but some Dunlin and Ringed Plovers may remain at high tide unless disturbed.

The grazing marshes centred on TM 275465 have Lapwing, Curlew and Redshank. At times there may be up to 200 Black-tailed Godwits using this area to roost. Several Black-headed Gulls may use this area at high tide.

## **Section 6**

TM 285446 – 280456: Waldringfield north to the break in the seawall.

This section has developed in importance since the river wall was breached and the area at TM 277460 has become flooded. There is always water present even when the tide is out. It has developed so much that it must remain free from human disturbance. There are 300m of saltmarshes to the north and south of the break in the wall.

The area is very good for Redshank with 309 in January and 334 in March 2013. Other waders include Grey Plover, Dunlin, Black-tailed Godwit and Turnstone. The surrounding fields contain Shelduck, Wigeon, Oystercatcher and Curlew. The saltmarsh may have loafing Brent Geese. Wigeon, Teal, Gadwall and Pintail will use both sides of the breached seawall. There were 563 Teal in this section in December 2012.

On very high tides the Redshank may move to other areas of saltmarsh on the river and the Black-tailed Godwits will move onto the fields.

## **Section 7**

TM 285446 – 295430: Waldringfield south to the Main Roost.

This is a very important section of the river with significant numbers of birds recorded. There is a well-established farm reservoir and thin areas of saltmarsh south to the main roost area. The seawall was breached about 50 years ago and has been impassable since. The river has inundated the area behind so that there is now a large area of saltmarsh and mud centred on Early Creek at TM 293433.

The area has long been the main roosting site on the river for waders. In January 2013 there were 209 Grey Plover (over 250 have been recorded), 777 Dunlin (over 1000 have been recorded), 73 Bar-tailed Godwit, 103 Curlew and 173 Redshank. Oystercatcher on the saltmarsh edge,

Turnstone and recently Knot will use this roost site. On very high tides this forms the main area for Redshank which have been forced off sub-roosts and other roosting areas elsewhere. Shelduck, Wigeon and Teal also use the area. Brent Geese will loaf and wash in the area as well as feed on the fields behind.

### **Section 8.**

TM 290422 – 305405, Hemley south to Falkenham Creek.

The 2km grazing marshes of the Mill River end at the sluice. At this point it becomes the 0.5km tidal Kirton Creek, holding mud until just before high tide. There are saltmarshes especially to the north. From Kirton Creek south there is a thin saltmarsh, the river wall, a borrow dyke and inland of that the arable area of Kirton Marshes. At the southern end of this section is Falkenham creek an area of saltmarsh.

The southern end of Spinney Marsh at TM 291424 has a sub-roost of Oystercatcher, Avocet, Black-tailed Godwit and Redshank. Usually these birds have moved elsewhere by high tide.

The saltmarsh alongside the river south to Falkenham Creek is very narrow with most waders leaving and only Shelduck remaining at high tide.

Falkenham Creek holds Shelduck, Wigeon, Lapwing, Dunlin, Black-tailed Godwit and Redshank. The Avocet will move over to this side of the river to roost if the weather is severe on the eastern side of the river.

The arable fields of Kirton Marshes inland usually hold Lapwing, Golden Plover and Curlew. Mute Swans may also use this area.

The grazing marshes of the Mill River (TM 280415) contain Canada and Greylag Geese, some duck and Coot in the winter as well as the occasional Redshank. A new farm reservoir at TM 286414 has Wigeon, Teal, Gadwall, Mallard and Tufted Duck in the winter.

### **Section 9**

TM 329377 – 305405: Felixstowe Ferry north to Falkenham Creek.

From Falkenham Creek southwards there is a thin saltmarsh, the river wall, a borrow dyke and inland of that the arable areas of Falkenham and Felixstowe Marshes. The King's Fleet is a 3km stretch of reedbed and grassland which divides those two marshes. The saltmarsh south of The King's Fleet is 1km long and 200m wide. At the mouth of the Deben there are areas of shingle comprising The Bar and this moves regularly. There is a prominent section of shingle called The Knolls off Felixstowe Ferry.

The area of saltmarsh at TM 324380 is a roost for Ringed Plover, Dunlin, Black-tailed Godwit and Redshank. It is also used by Brent Geese, Shelduck, Teal, Mallard and Little Egrets. When the tide is high the roost goes inland on to the fields.

The arable fields of Felixstowe and Falkenham Marshes hold wintering populations of Mute Swans (61 in January 2013), Golden Plover (370 in January 2013), Grey Plover (136 in January

2013) and Lapwing. The Brent Geese will also feed here (475 in January 2013). The King's Fleet has Mute Swans, Gadwall and Tufted Duck throughout the winter. Bearded Tits often turn up in the winter. Cetti's Warblers have survived the recent cold winters and winter in these reedbeds. In recent winters a Bittern has wintered in this area and was a long-stayer in 2013.

The saltmarsh alongside this stretch of river is narrow most of the way. However, on the river side of the seawall at TM 312392 there is a shingle bank and a small amount of saltmarsh which is used by Oystercatcher and Turnstone. Just south of Falkenham Creek the saltmarsh widens out at TM 305402. This area can hold Shelduck, Teal, Little Egret, Grey Plover, Dunlin, Bar-tailed Godwit, Black-tailed Godwit, and Redshank.

A Short-eared Owl is regularly known to roost on the seawall along this section.

#### 4 Low tide counts in winter

In the winters of 1998/1999 and 2006/2007 low tide counts were carried out on the Deben Estuary mostly by WeBS counters (N Mason *et al.*, BTO 1999, 2007). These consist of counts in November, December, January and February – the peak months for winter geese, ducks and waders. Another count is to take place in the winter of 2013/2014.

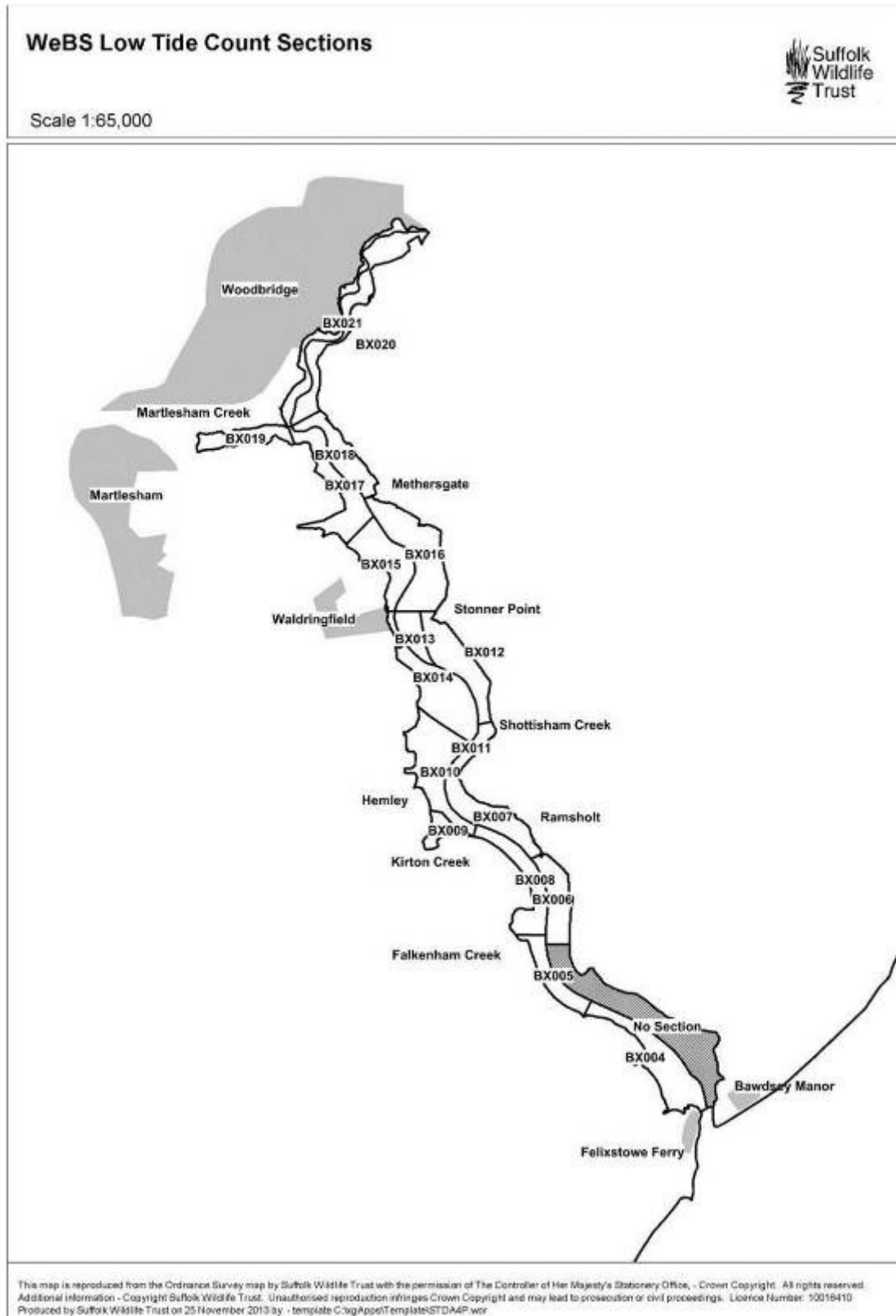
The 21 sections counted (Figure 4), do not correspond with those of high tide WeBS counts. From these counts maps were produced that showed where each species was feeding on the river. The section just north of Bawdsey, as far as Green Point, was not counted in 2006/07.

Unlike the WeBS counts surveyors recorded waders and wildfowl as they fed on the mud and on the saltmarsh. The maps show which parts of the estuary each species was using. The areas are very similar to those used in 2013. Avocets, because they are now more numerous, are found feeding all the way up the river.



Typical low tide scene with feeding Wigeon, Shelduck and Avocet

Figure 4: Wetland Bird Survey Low tide Count Sections



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### **Individual Species Accounts for Winter Low Tide Counts:**

**Dark-bellied Brent Geese.** 2073 were found feeding or loafing on the mud or saltmarsh in December 2006. They are found on the east side of the river around The Tips and The Hams and south to Stonner Point centred on TM290457. They are also found around Ramsholt especially south in the area centred on TM310410. This area was used regularly in 2012 during a short survey on this species (N Mason, BTO 2012). Much of the time there was spent bathing. They were also found, though more dispersed, all the way down river to Bawdsey Quay. Traditionally Brent Geese spend the early weeks after their arrival in October feeding on Common Eelgrass which is only exposed at low tide. Much of the time Brent Geese feed on the arable fields inland of the seawall.

**Shelduck** feed along the whole length of the River Deben Estuary on both the mud and the saltmarsh. A total of 616 were recorded in December 2006. The only areas where they were only found in ones and twos were the island opposite Waldringfield and The Rocks, which is where London Clay comes to the surface and there is, therefore, little mud.

**Wigeon** are more common in the upper reaches of the estuary. They feed mostly near the tide line as well as on the saltmarsh. There were 1524 on the river in December 2006.

**Teal** feed mostly on grazing marshes inland of the seawall. Many birds, however, feed in Martlesham Creek and the main river south to the break in the wall.

**Pintail**, although not a common bird on the Deben Estuary, they can build up in numbers in some winters. There were 296 present in December 2006. They mostly feed in the area of The Tips and The Hams. At high tide they can be found on grazing marshes in the upper reaches of the river as far south as Lodge Marsh at TM300423.

**Little Grebe.** Although mostly concentrated in the upper reaches of the river in Martlesham Creek and Woodbridge Little Grebes are found in small numbers feeding in the river and in dykes further south. There were 103 present on the river in December 2006.

**Oystercatcher** . The 1999 map is out of date as Oystercatchers are spread more along the length of the river. There were 319 feeding birds in February 2007. The concentration of this species in the higher reaches of the river probably reflects a mud with larger shellfish. In 2006/07 this species was abundant in the area of The Tips and The Hams and just to the south. Many of these birds fly down river to the main roost at high tide.

**Avocet.** In the 1999 study Avocets were concentrated on the foreshore just south of Ramsholt. In 2007 they were found further upriver. With the increase in the wintering population they are now spread throughout the whole length of the estuary.

**Ringed Plover** feed on the river at Woodbridge and Melton with scattered ones or twos on other areas with firmer mud where they can find invertebrates on the surface.

**Grey Plover** also tend not to probe for food. Typically while Avocet, Dunlin, Black-tailed Godwit and, to a lesser extent, Redshank will feed in quite tight flocks Grey Plover are found well spread out over the mud. They are found along the whole river when the tide is out. There were 223 recorded in December 2006.

**Dunlin** occur in large numbers probing for invertebrates in the mud along the length of the river. They feed in flocks and are quick to move when disturbed. There were 3500 recorded in January 2007.

**Black-tailed Godwit** – The population of this species has increased over the past 20 years so that it is now of international importance. They were concentrated in Martlesham Creek and the Woodbridge / Melton stretch of the river but are now also likely to be found in small groups in all areas to the north of Ramsholt. Black-tailed Godwits also feed on grazing marshes, especially when the estuarine mud is covered at high tide.

**Redshank** are found, sometimes in loose flocks, along the whole length of the river feeding on the mud. They are not confined to the water's edge and may be found on the drier uncovered mud and saltmarshes. Some birds also use grazing marshes at high tide. There were 1431 recorded in January 2007.

## **5 Breeding birds**

Over the years there have been various bird studies that have included the Deben Estuary. The present information is mainly based on recent studies and observations by local ornithologists. Bird Atlas information comes from Phil Whittaker, Graeme Riley and Lynne Allen (BTO, 2007 – 2011) and Breeding Bird Survey data have been accessed (P Whittaker, BTO Breeding Bird Survey – TM2846), see Appendix 3 for full details. Will Brame and Michael Marsh have provided information on the Felixstowe Ferry / King's Fleet / Falkenham Creek area. WeBS counters have provided data on their sections and those adjacent.

**Mute Swan** nest along the river especially in the dykes just inside the river wall. They are shown to be present in each of the Bird Atlas (BTO Bird Atlas, 2007 – 2011) sections. There are regularly 4 or 5 pairs on the section from Felixstowe Ferry north to Falkenham Creek.

**Canada Goose and Greylag Goose:** these two species breed regularly on grazing marshes and quiet areas of the seawall.

**Shelduck** nest in holes, often of rabbits or other mammals and will nest in haystacks or old bales. There is evidence of them breeding in many areas of the river when young appear. Some of the birds breed well away from river itself and have been known to use the rabbit holes on the heaths of Sutton and Hollesley. When ready the young are taken down to the river by the parents. Nowadays this can be a very difficult journey with modern hazards such as rabbit fencing and fast roads. A known route is down Bromeswell Hill on the B1083 towards Wilford Bridge. Phil Whittaker in his BBS square TM2846 (Methersgate area) has had up to 20 pairs in the 1-kilometre square covered. Graeme Riley had evidence of breeding Shelduck on Shottisham Creek.

Other Ducks: Most of the wintering ducks do not stay to breed. **Teal** do occasionally and **Mallard** are found through the catchment. **Tufted Ducks** breed in the edges of some dykes, especially in the King's Fleet area.

**Little Grebes** breed in the reedbeds of grazing marshes and dykes alongside the river wall.

**Grey Heron.** There are 2 heronries on the river and these have been monitored for over 25 years. The one at The Rocks (TM 296425) has held 4 to 6 pairs (currently 5 in 2013) in every year. There have been up to 11 pairs at the heronry behind The Tips (TM 294458). Herons start breeding in March and are easily monitored from droppings below or noisy young.

**Little Egret** do now breed in Suffolk and a single bird has been recorded in the Rocks heronry.

**Marsh Harrier** have nested beside the Deben for over 20 years. There are three favoured sites, although the exact location will vary from year to year. Adults regularly cross the river from the east to hunt over Felixstowe, Falkenham and Kirton Marshes when they have young. Three pairs is the norm.

Other raptors: **Sparrowhawk** and **Kestrel** are recorded all year round and were found in suitable habitat during the Atlas work. **Buzzards** now nest in woods close to the river near Shottisham. Hobbies are regularly seen in the BBS square at TM 2846.

**Water Rail.** This species is notoriously difficult to monitor in traditional ways, being mainly nocturnal. It is likely that they breed in many of the dykes. They have been heard 'squealing' on Shottisham Creek during a Dunlin survey and at Bawdsey in early September.

**Oystercatcher** breed along the length of the river on saltmarshes and on the adjoining arable fields. Like most waders they simply use a scrape in the ground. There could be 50 pairs on the river. There are regularly 5 pairs on the BBS square at TM 2846. They have been known to nest on the river wall but would rarely succeed there.

**Avocet.** For more than 12 years Avocet have bred, or attempted to breed, in three areas of flat-topped saltmarsh at the lower end of the river. This follows the impressive build-up of wintering birds. The site at the King's Fleet TM 324382 has been well-monitored. There may be 3, 4 or 5 pairs in any year. There is, however, much predation by crows and large gulls and nests have also been lost to high spring tides. In one year a single nest was lost whilst the other survived being on a slightly higher mound. As at RSPB Boyton there is a benefit to the Avocets if Black-headed Gulls nest alongside, helping in the mobbing of larger predators. Avocet chicks have been ringed here by the Landguard Ringing Group and generally this section of saltmarsh is relatively undisturbed. Straw bales have recently been placed over the creek to aid access for saltmarsh monitoring and for re-establishing salt marsh in this section. Young birds at the Falkenham Creek site have also been ringed over the years. The other site is opposite on the Bawdsey side of the river. There is no access there and so breeding success or otherwise is unknown.

**Lapwing** breed along the length of the river mainly on the arable fields and the grazing marshes. As with other waders they suffer a good deal of predation from foxes, larger gulls and crows.

**Redshank.** The Deben is important for wintering and breeding Redshank. The Redshank survey 1988/89 (Holzer *et al* 1993 – see Suffolk Bird Report 41: 19-28) showed that they were nesting on most saltmarshes and on grazing marshes inland of the seawall. In 2013 they still nest in several areas of the river but not, it appears, so commonly. Redshank are difficult to monitor because of their secretive nature with nests and young being hidden in grassy tussocks until the young are large enough to emerge. There were 6 pairs in 2013 on the King's Fleet area of

saltmarsh used by the Avocets. They also breed at Falkenham Creek. Breeding behaviour has also been noted in 2013 on the saltmarshes just south of Ramsholt, on the main roost south of Waldringfield (4 pairs at least) and just south of Stonner Point and on grazing marshes at Shottisham Creek and Lodge Marsh (N Mason). Hatched eggs were found beside the seawall at Galleon's Hard, Shottisham Creek during an Atlas visit.

**Black-headed Gull.** This species is an erratic breeder with several pairs in most years. Occasionally a gullery may form with many pairs breeding colonially. This occurred on the saltmarsh south of Ramsholt in 1988/89. As with many species of ground-nesting birds numbers can give security and cut down on predation. There are regular breeding birds at King's Fleet, Falkenham Creek and the main roost south of Waldringfield.

**Common Tern.** On occasions one or two pairs of Common Tern have attempted to breed on the two areas of saltmarsh where the Avocet breed. They have not been successful. There are two reasons for this, water levels swamping nests and predation. Foxes, larger gulls and crows will all take eggs and young birds and unless there are sufficient numbers of birds to repel predators they will usually succumb.

**Little Tern** are notorious for moving nesting grounds. In 2013 the colony on The Knolls, at TM 332373, reached 120 birds. This shingle island at the mouth of the river was the only successful breeding site in Suffolk in 2013. Of the eventual 11 nests only 3 or 4 young fledged.

**Cuckoo** are recorded every year and are known to parasitize the nests of Meadow Pipits, which nest on the seawalls.

**Barn Owl** are regularly recorded in the summer, as well as the winter, along the Deben. There are two nest boxes in the area around Red House Farm, one of which is used each year (W. Brame). The male has been seen to take some of the young to the other box when they have recently fledged. The Barn Owl box near Manor House and Cross farm north of Waldringfield is also used.

**Skylark** breed in the arable fields along the Deben.

**Meadow Pipit** nest in thick grass and that of the seawalls is perfect. They are seen displaying from April onwards on most stretches of seawall even where there is some disturbance. Anecdotally they survive quite well and the numbers remain constant from one year to another. There are far more Meadow Pipits on the Deben compared with the Orwell.

**Stonechat.** Pairs of Stonechat have been breeding along the river in recent years. However, the numbers have crashed along the coast and on the nearby heathlands due to recent severe winter weather.

**Nightingale.** Not really associated with the river, Nightingales are regular breeders in scrub along the river inside the seawall. There were four pairs just north of Ramsholt alone and seven in the Ramsholt area in 2013.

**Cetti's Warbler** are now firmly established as part of Suffolk's avifauna. For several years they have been recorded in the reeds north of Ramsholt and around Shottisham Creek and Kirton

Creek and the King's Fleet on the west of the river. The recent severe winters have not affected this species as they did some others. There could be up to 20 pairs alongside the river.

**Grasshopper Warbler.** A bird was holding territory in the reedbed at Lodge Marsh in June 2013. There are several areas of reedbed and bramble scrub, on both sides of the river, where this species could breed unknown. It has historically been recorded in Martlesham Creek.

**Sedge and Reed Warblers.** Both these species are common breeders in the dykes and around grazing marshes inland of the seawall.

**Yellow Wagtail** is a declining species on the Red list in Britain. They breed in arable fields inland of the seawall. In 2013 they have been recorded showing breeding behaviour on Felixstowe, Kirton and Falkenham Marshes.

**Linnet** winter and breed along the river. Bramble bushes had been a favourite nesting site until the recent sea wall clearance works undertaken by the Environment Agency.

**Yellowhammer.** Not associated with the river, this declining species has been found breeding in all surveys.

**Reed Bunting** breed in reeds, bramble and other small bushes along most dykes just inside the seawall.

**Corn Bunting.** There is a small population of Corn Buntings just north of Bawdsey between East Lane and Shingle Street. In recent years they have been recorded in the King's Fleet area of the river in the summer. This spring a bird was singing at Falkenham Creek. A breeding population along the Deben would be very positive for this Red-listed species.

## **6 Passage birds**

As well as birds wintering or spending the summer on the Deben there are several species that will visit on passage. The Suffolk estuaries are perfect for feeding up before the birds continue on to their breeding grounds.

In spring ducks such as **Teal** and **Shoveler** and more rarely **Garganey** will spend a few days feeding before moving on, usually to breeding grounds a lot further north. **Goosander** are seen in some years in the King's Fleet in March.

Waders also pass through in spring and sometimes some of these may appear in the April WeBS data. **Whimbrel**, **Greenshank** and **Common Sandpiper** are common spring passage waders. The regular wader species may also have their numbers boosted by passage birds.

Some wader species breed early in northern regions. The females of both **Spotted Redshank** and **Green Sandpiper** are known to leave the breeding grounds ahead of the males and young. On June 18th 2013 there were five Green Sandpipers on the pools at Lodge Marshes, most likely all returning females.

In autumn these species make the return journey and may spend weeks building up their body strength before they move on south.

## **7 Disturbance**

### **7.1 General observations on disturbance**

Bird numbers on the Deben estuary currently exist at levels of national and international importance and this is testament to limited levels of disturbance. However, this situation could rapidly change if increased disturbance were to occur through a rise in recreational activities in and around the estuary.

The current situation is quite seasonal with several WeBS sections having little disturbance for most of the winter. Most of the breeding occurs in spring although some birds will be having second broods or relaying after loss of the first attempt in June with young still around into July. The time soon after hatching is crucial for young birds and disturbance has to be at a minimum. Human disturbance may appear to be benign but any breeding bird that leaves its nest leaves that nest open to predation by Crows, Gulls, Foxes, mustelids (Stoat and Weasel).

Boats, canoes, jet skis, planes, dogs and walkers are the main disturbance factors on the estuary, along with shooting.

- Boating is mainly restricted to spring, summer and early autumn. The main roost, WeBS section 7, has been affected by racing (Waldringfield Sailing Club) in April and September when rescue boats tend to wait next to the saltmarsh. In summer birds can be disturbed when small sailing craft or dinghies make their way up the wider creeks – often to see if seals are present. This may also disturb the seals.
- Canoes and kayaks have increased on the Deben in recent times. It appears that most of them enter the water in Woodbridge. However, with light, easy-to-load canoes available they can enter the water wherever there is vehicular access. Canoes often follow the saltmarsh edge, especially if going against the tide, thus causing disturbance to roosting birds.
- There is an area set aside for water skiing and jet skiing just south of Falkenham Creek. There is a ramp present on the west side of the river. This activity does not normally occur in the winter. Counters in sections 1, 8 and 9 have noticed this activity causing disturbance to birds in September. In September 2013 water skiers were observed up above Falkenham Creek.
- In years when the shingle and local fishing conditions are suitable for breeding, kite surfing at the river mouth can cause considerable disturbance to the Little Tern colony on The Knolls, when the surfers go too close.
- Planes and helicopters can cause all the birds to fly when they are low and some seem to follow the river directly. On some occasions the same plane has been seen to return in the opposite direction minutes later. An application to regularise flights from Bentwaters has the potential to increase this disturbance and any licences should, therefore, have sensible restrictions included. Microlights have been observed in the Methersgate region.

- Dogs that are off leads and hunting are always a major concern especially where birds breed on the ground. All the waders and ducks that breed on the Deben are ground nesters, whether on saltmarsh, grazing marsh or on arable fields.
- Shooting occurs during the season and by its nature causes disturbance. The duck-shooting season is September 1st to January 31st or, below high water mark, to February 20th. Pheasant shooting takes place on the adjacent fields and grazing marshes. When shooting takes place birds can be displaced over long distances. Shooting regularly takes place on the main roost area, section 7.

Figures 5 and 6 illustrate recreational features likely to attract increased visitor numbers. These are based upon information provided by the Deben Estuary Partnership.



**Woodbridge from Troublesome Reach: Andrew Excell**

Figure 5: Recreational Features Map (North)

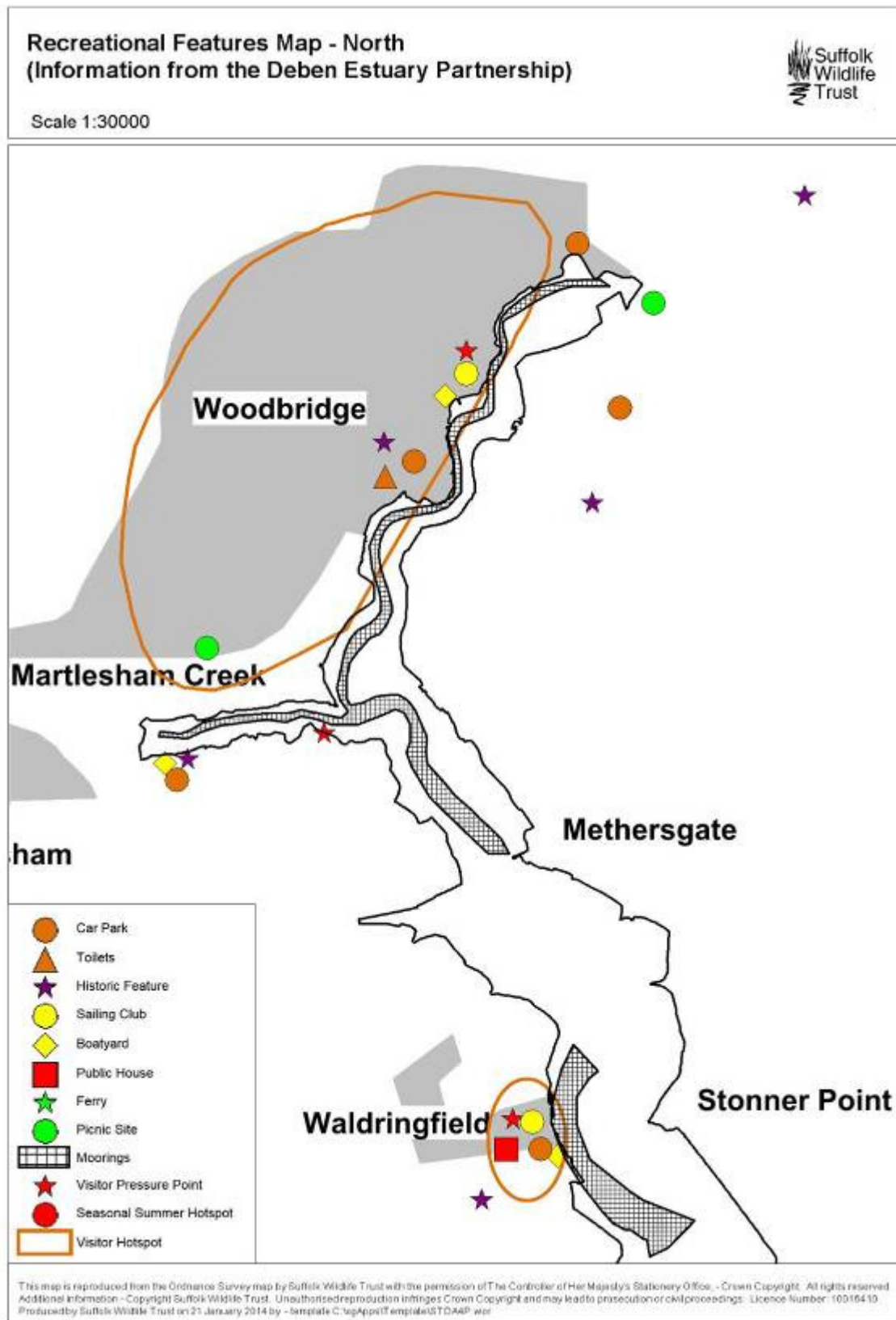
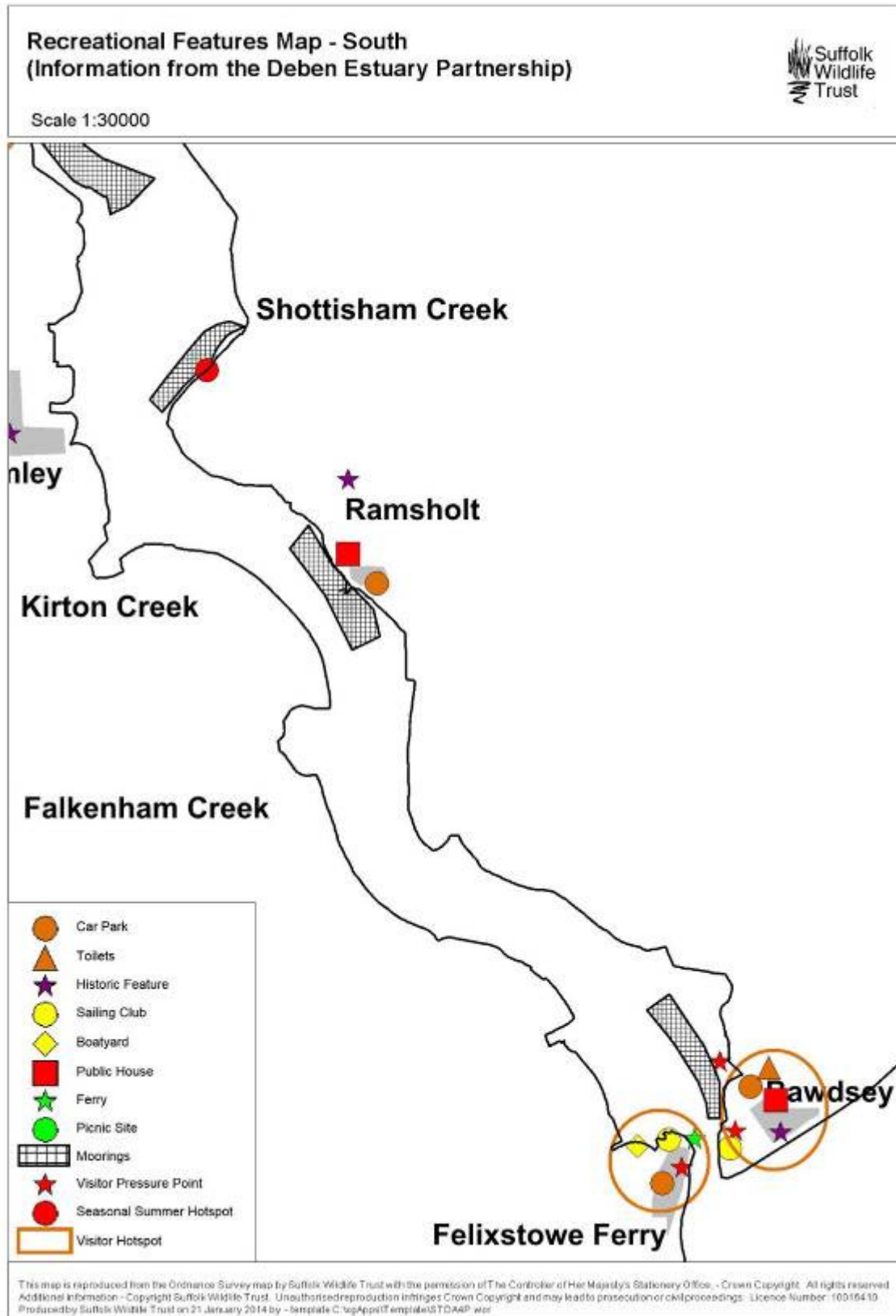


Figure 6: Recreational Features Map (South)



## **7.2 Disturbance levels in Wetland Bird Survey (WeBS) Sections**

These observations particularly relate to the period September to April. A map of the sensitive areas is displayed over the page (Figure 7). These areas have been highlighted for their particular value to waterbirds, with increasing levels of sensitivity through to 'exceptionally sensitive'. This has been interpreted from the documented material and the experience and observations of the authors.

Levels of disturbance are documented below:

**Section 1** – Disturbance is rare apart from routine farming operations, as there is no official public access to this section. In September there may be sailors and jet skis on the water which move the birds about. However, the small area of saltmarsh north of Bawdsey Quay has seen a recent increase in usage and there is now a definite walk that has been trodden. The track is heavily used by dog walkers and there are no breeding waders here anymore. The International School at Bawdsey Manor has a RIB support vessel which, when training, has been seen moving at up to 20 knots just upriver from the Felixstowe Ferry anchorage.

**Section 2** – On WeBS counts it is rare to meet many people. If walkers have dogs then they tend to be on the move as part of a walk, rather than specifically exhibiting hunting behaviour. Blackberries are picked at Stonner Point in September. There may be people drawn to the Ramsholt area if the weather is fine.

**Section 3** – As late as September there are often boats on the river and picnics and barbeques are taken at The Tips moving all the birds off (in the summer The Tips and The Hams can be very busy). Disturbance declines after September through to the following April. There is no access from Wilford Bridge along this side of the river. Only few walkers get to Methersgate due to remoteness.

**Section 4** – This section through Woodbridge and Melton is the busiest of them all, winter and summer. There are always walkers, dog walkers, sightseers along most of this section. The water meadows beside the main river path (on the Kyson side) rarely have many waders because of the number of people and the cows that are often present. The Black-tailed Godwits are often moved off the roost opposite Kyson Point by people and may fly to the bunds just south of Wilford Bridge or on to the meadows of Martlesham Creek. The curlews appear to be less-easily disturbed. At the Wilford Bridge end there has been work to reconstruct the bunds and a yacht access has been created up to the house at TM 290500.

**Section 5** – Disturbance at the western end of Martlesham Creek comes from the boat yard but in winter is rarely very great. There can be many walkers at the head of the creek in fine weather. There are footpaths on the northern and southern sides of the creek. The footpath along the northern edge of Martlesham Creek is open and birds are moved to the other side by the presence of people. The footpath on the southern side is reasonable but very slippery in parts. This footpath moves away from the river's edge and there is a reed fringe, therefore, birds tend to remain during busy times. The footpath then meets the river again at TM267472 where the seawall forms. At TM270473 the footpath splits and the most used track goes inland to Martlesham Church or to Lumber Wood and the Waldringfield road. The seawall becomes more

difficult to negotiate and so tends to be fairly quiet. It becomes impassable at the break in the seawall; however people still walk this section as a short linear route, returning the way they came.

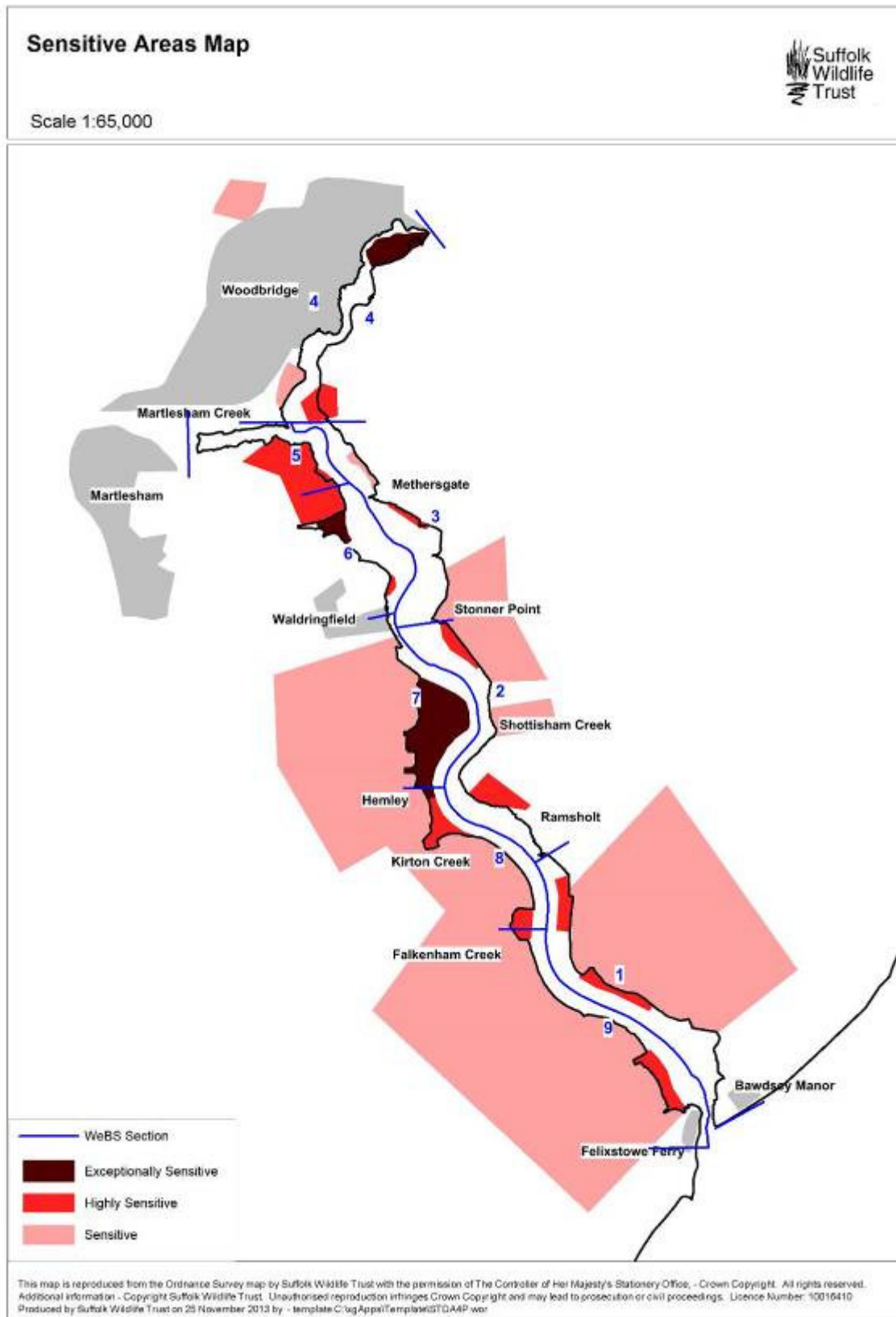
**Section 6** – Due to the fact that the seawall is broken and the area behind has become flooded, this section is relatively quiet. The flooding has meant that this area has developed as a major area for waterbirds. The WeBS counter reported that there was little disturbance north of TM284455 where a footpath heads west to Manor Farm and back to the lanes of Waldringfield. Each September when the WeBS counts start again it is necessary to undertake a fair amount of nettle clearance to be able to get through, suggesting that not many people access this part in summer. When the occasional dog does turn up it can cause a major disturbance and will have a major impact on roosting birds.

**Section 7** – In this section also, which comprises the main roost, the seawall is breached and there is no circular walk. The wall is becoming more and more difficult to walk along. Once or twice a year there may be a dog loose but they rarely get near the birds. Comments were made about sailing boats, however. In April and September races take place, starting and finishing in the open channel, and sometimes the safety boats wait around near to the saltmarsh disturbing the area around TM 295436 and moving the birds south. Canoeists also use the river here and often pass close to the edge of the saltmarsh. Shooting takes place on this area of saltmarsh (although there is a voluntary halt on count days). Up to six Common Seals can be found in and around Early Creek and sometimes boats make their way up to have a look. This would be especially true in the summer months, particularly with increasing knowledge of their whereabouts.

**Section 8** – With restricted parking in Hemley, this section can also remain undisturbed. Those walkers that make their way between Felixstowe Ferry and Waldringfield tend to keep on the move and any dogs likewise. In summer there is an area used by jet skis and water skiers with a ramp. This activity can still be occurring when the wintering birds reappear. There can be loud music. Speeding outside of the designated zone occurs regularly late in summer and early autumn (late July – September). Jet skis were upriver of Falkenham Creek in 2013, well outside of their agreed boundary.

**Section 9** – As with section 8, although this stretch is walked there is currently not too much disturbance because walkers tend to keep moving. The exception is just north of Felixstowe Ferry. Here the footpath along the seawall is well-used as far as the King's Fleet at TM 320385 where the Stour and Orwell Walk branches off to the west. Most walkers are after a circular walk and this route takes them back into Felixstowe. The roosts in this section are secure because they are some distance from the footpath and there is a wide, muddy creek between the footpath and the important area of saltmarsh. However, there has been a notable increase in usage in recent years. Flattening of the grass on the seawall has been noticed, presumably as a result of people sitting.

Figure 7: Map Indicating Sensitive Areas for Bird Disturbance



### 7.3 East Anglia ONE Offshore Wind Farm

East Anglia ONE Offshore Wind Farm (EAONE) is the first phase of the development of the East Anglia Round 3 wind farm zone. The cable route for this project is proposed to make landfall at Bawdsey, cross the River Deben at Ramsholt Marshes and continue north and west to join the National Grid at the Bramford. The proposal is being examined as a major infrastructure project and will be determined by the Secretary of State for Energy and Climate Change, the examination process is underway and a decision is due in 2014.

As part of the development consent order process a number of ecological impacts have been identified. These primarily relate to the installation of the electricity transmission cables and, in relation to the River Deben and its hinterland, include damage and destruction of habitat and temporary disturbance of birds. A draft Ecological Management Plan (EMP) had been prepared as part of the application process, this sets out the relevant ecological constraints and describes the mitigation measures to be employed to avoid significant adverse impacts on the receptors identified. The suitability and effectiveness of the proposed measures will be investigated as part of the examination process. Assuming the development consent order is granted, the final EMP will be submitted to the relevant local planning authorities for sign off prior to construction commencing.

### 7.4 Eastern Ipswich Plan Area Housing Development

As part of its Core Strategy Development Plan Document (DPD) Suffolk Coastal District Council (SCDC) has allocated 2,320 new dwellings to the Eastern Ipswich Plan Area (Policies SP2 and SP20), to be built by 2027. This area includes parishes within the Ipswich Policy Area along with the parishes of Martlesham; Newbourne and Waldringfield. Policy SP20 recognises that new development in this area has the potential to have a significant adverse impact on the Deben Estuary Special Protection Area (SPA), along with other sites of European nature conservation importance. Of particular concern is the potential for new development to significantly increase the levels of recreational disturbance that these sites experience, with a resultant adverse impact on the features for which they are designated. To further quantify the likely impacts of individual new developments and to identify and deliver the necessary mitigation, policy SP20 requires that new developments in this area are supported by Habitats Regulations Assessments and that the necessary mitigation measures are secured by the development. Policy SP20 also includes specific criteria for the proposed residential development at Adastral Park, Martlesham which includes the requirement for the delivery of “*a country park or similar high quality provision to mitigate the impact of development at this site and the wider cumulative impact of residential development on the relevant designated European nature conservation sites*”.

## **8 Proposed measures to avoid/reduce levels of disturbance**

### **8.1 Site specific recommendations:**

The following recommendations are made to help limit the impacts of disturbance upon the bird species using the estuary. For ease of interpretation, these have been presented below in a sequential order from the northernmost section of the study area close to Woodbridge towards the southernmost associated with Felixstowe Ferry (as shown on Figures 8-13).

**A** Encourage the development of a scrub belt on the western bank, north of Wilford Bridge at TM 29485050.

**B** Ensure the continued protection from erosion and degradation of the area of bunds, saltmarsh and mud at TM 28504970 on the east bank opposite Melton Dock.

**C** Continue with saltmarsh projects to protect sensitive habitat in and around TM 28174899 and TM 27564841 on the east bank (Dairy Farm and Ferry Cliff).

**D** Retain scrub at TM 27374809 on the west bank north of Martlesham Creek.

**E** Encourage further saltmarsh regeneration in the area, including at TM 273478 (saltmarsh either side of the Environment Agency's Kingston Marsh Sluice outlet). This would help provide a better winter sub-roost in this locality.

**F** South of Martlesham Creek to North of Waldringfield, encourage area to be totally undisturbed (centred on TM 27374809).

**G** Ensure that disturbance remains low at TM 28214587. Encourage use of footpath inland of the broken wall north of Waldringfield at TM 27004720 and TM 28304550 and signpost accordingly. Consider the planting/development of mixed native thorny scrub (bramble, blackthorn, hawthorn, dog rose) to reduce desire lines on closed off paths (soft fences).

**H** South of Waldringfield on both banks, retain scrub close to the river walls and borrow dykes at TM 29724429 and TM 28814402 and TM3046 4183 north of Ramsholt for breeding species such as Linnet and Reed Bunting. This is particularly important in the light of losses of scrub habitat elsewhere on the sea walls, due to Environment Agency flood defence work.

**I** Consider wetland habitat creation in these two locations (covered in detail under 9: other potential improvements).

**J** Protect roost areas from increased river boat disturbance (covered in more detail in 8.3).

**K** South of Waldringfield, investigate the possibility of main roost at TM 293433 having further protection from any additional disturbance in the future. This is to maintain the estuary dynamics and prevent incremental fragmentation of the whole suite of essential habitat units required. Encourage the use of the footpath behind the main roost (WeBS Section 7) south of

Waldringfield. Erect signposts and/or interpretation signs at points TM 287443 where the landward path starts and at TM 290422 near the mouth of Kirton Creek. Ensure any footpath diversions and new routes to be in operation prior to any influx of the public, particularly associated with future increases in visitor numbers in the area.

**L** Increasing reed-fringes on Kirton Creek will benefit breeding species such as Reed Bunting and various warblers TM 2866 4166.

**M** Ensure access from the car park at Ramsholt is restricted to prevent creation of desire lines onto saltmarsh and the river wall at TM 30874143.

**N** Install signs near the straw bales saltmarsh restoration project at TM 32113851 (King's Fleet) to help limit public access across the creeks into a previously undisturbed area. Additional interpretive sign at Felixstowe Ferry recommended (see 8.3).

**O** Reduce the levels of disturbance at Bawdsey (Section 1) on the unofficial path by constructing a post and rail fence for 30m at TM 3314 3814. This would protect five hectares of saltmarsh.

**P** Felixstowe Ferry: Increase the levels of public relations work and signage, aimed primarily at Kite Surfers and Jet Skiers, at Felixstowe foreshore when summering Little Terns are using The Knolls. Liaise with the Volunteer Coastal Patrol Service with regards to speed limits in Deben and keeping The Knolls clear of unnecessary disturbance when Little Terns are nesting.

## **8.2 Eastern Ipswich Plan Area**

The creation of a dog walking area close to the proposed development at Adastral Park must be a key focus, incorporating amenity woodland and/or recreational grassland. The pressure of additional, daily visits from people, especially those with dogs will change the present dynamics of the area around Waldringfield and Martlesham Creek. The area associated with the two major roost sites will soon become more regularly visited and the situation of dogs running freely will increase. It is imperative that the development should have a recreational area that will prevent this increase. This should be an integral part of the design at the earliest stage of the planning process. A circular trail walking route guide for the Waldringfield area should be created, avoiding sensitive routes associated with the main roost, in advance of future development at Adastral Park. These measures are in accordance with the mitigation measures identified within the Appropriate Assessment November 2011 (updated June 2013) for Suffolk Coastal Core Strategy and Development Management Policies.

## **8.3 Public engagement**

- Develop an awareness campaign at Waldringfield Sailing Club regarding saltmarsh breeders (and wintering waterbirds).
- Develop an awareness campaign directed at canoeists and kayakers.

- Develop an awareness campaign at Felixstowe Ferry / King's Fleet with an interpretation sign at northern end of Felixstowe Ferry.
- Encourage planes and helicopters not to follow the river, if flying at low altitudes. Limit flights in the winter period in particular. Use SPA status to enforce if necessary.
- Devise a code of conduct leaflet for all river users. This could be either a paper leaflet or a download and should emphasise the estuary's importance and statutory protection as well as factors that result in disturbance.
- Increase levels of public relations regarding speed limits on river and restricted use areas.

## **9 Other potential improvements**

During the winter 2012/13 there was a wet area on Felixstowe Marshes. This attracted both geese and ducks. A similar wet area (c. 1 hectare) at Ramsholt Marshes just inside the dyke in the 1980s saw Redshank and other waders showing breeding behaviour. Unfortunately it was drained and ploughed soon after. Habitat creation at Trimley Marshes on the Orwell Estuary has far exceeded the original expectations for supporting overwintering waterfowl and waders, but also for breeding waders such as Redshank, Lapwing and Avocet. This demonstrates that these shallow wet scrapes can have a considerable year round habitat benefit to waders and wildfowl. Additional opportunities should therefore be sought for the creation of a more permanent complex of shallow scrapes and lagoons in an undisturbed area on the River Deben.

Approximate locations suitable for habitat creation have been shown on the following maps: The area behind the Main Roost (Corporation and Falkenham Marshes TM 3004 4035) and Ramsholt Marshes (TM 3162 4004).

There is a small-scale wetland (less than 200m long) proposed behind the river wall at TM 285453 at Dairy Farm Old Marsh, north of Waldringfield. This will involve the creation of a marsh and reedbed-fringed shallow scrape with three small islands. Sluices will control water levels to ensure there is open water between March and June in the scrape, to provide suitable habitat for breeding waders such as lapwing. This will deliver some local benefit on the estuary but more schemes such as this should be brought forwards.

Where possible, the creation of additional areas in winter with temporary shallow floods behind river wall should be encouraged to attract species such as Golden Plover. There are suitable areas behind the river wall on both sides of the river - south of Stonner Point on the east and south of Kirton Creek on the west side.

The recent cutting back of scrub on the river walls by The Environment Agency to check on their flood-defence properties has resulted in loss of habitat for breeding birds such as Linnet and Reed Bunting. The Environment Agency is to pledge management procedures to a new standard as agreed at DEP meetings, such as planning future scrub removal on rotation. Grass cutting of the river walls has also been agreed to be carried out on a rotational basis.

These measures are illustrated in Figures 8-13.

Figure 8: Proposed Measures to Limit Disturbance: North Section 1a

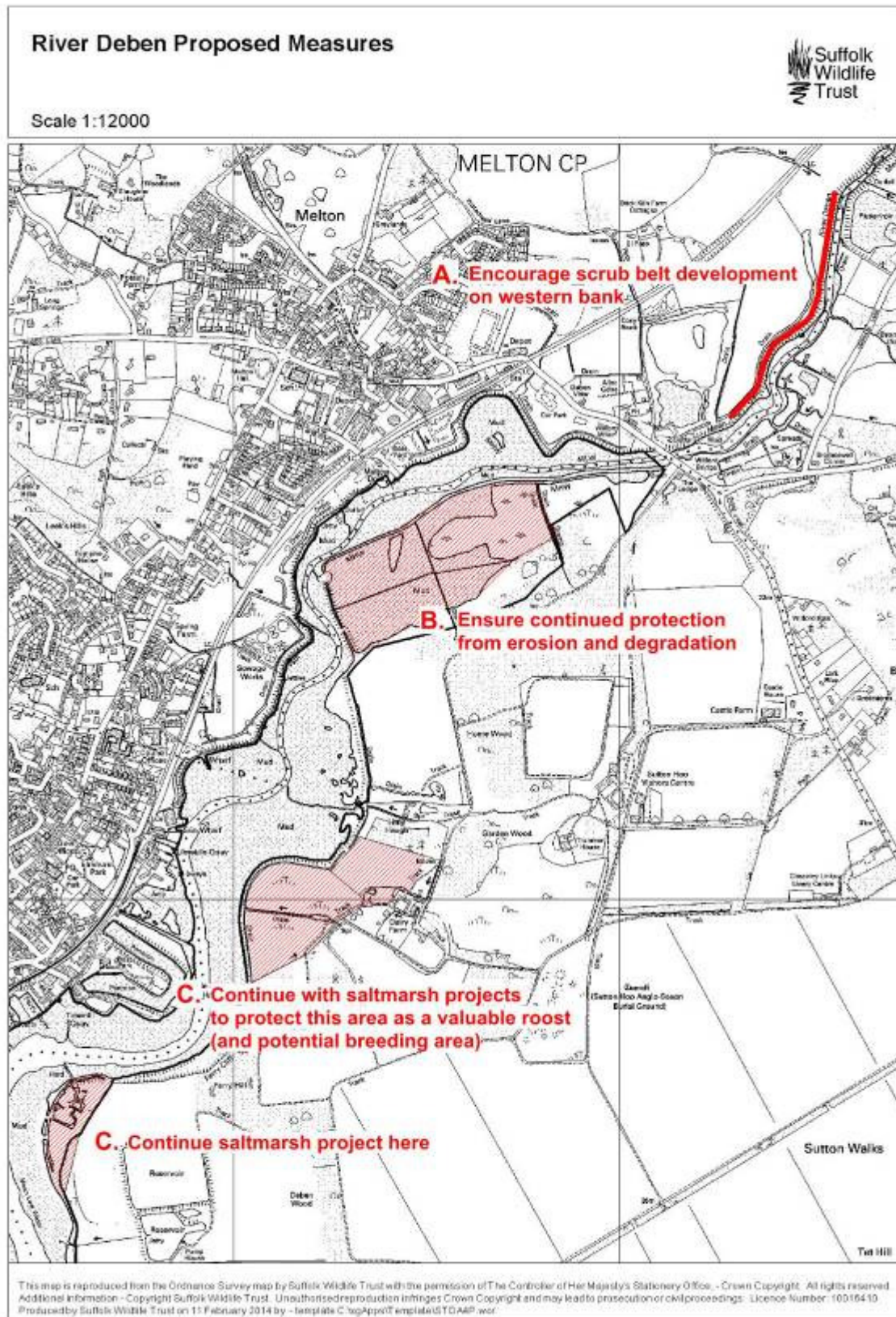


Figure 9: Proposed Measures to Limit Disturbance: North Section 1b

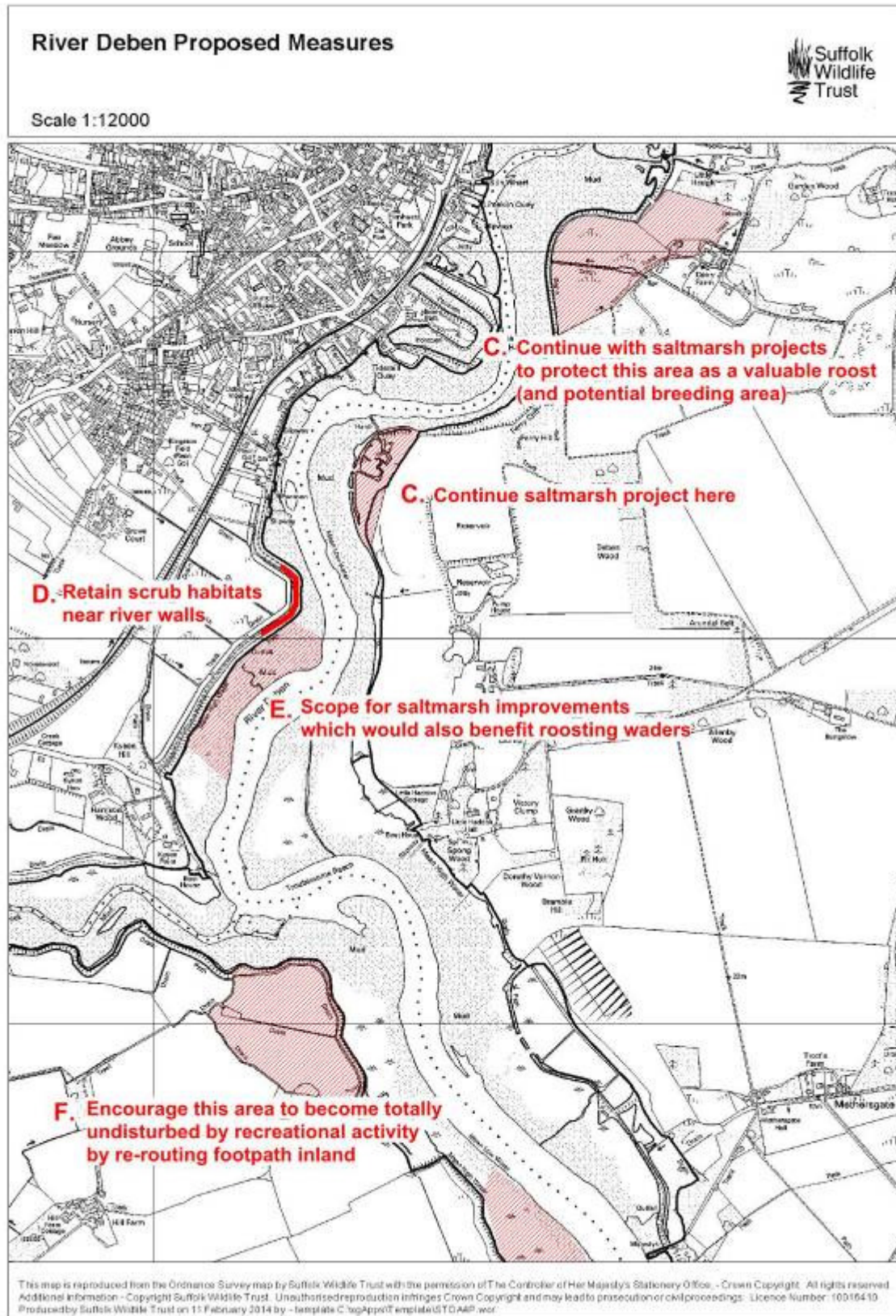


Figure 10: Proposed Measures to Limit Disturbance: Central Section 2a

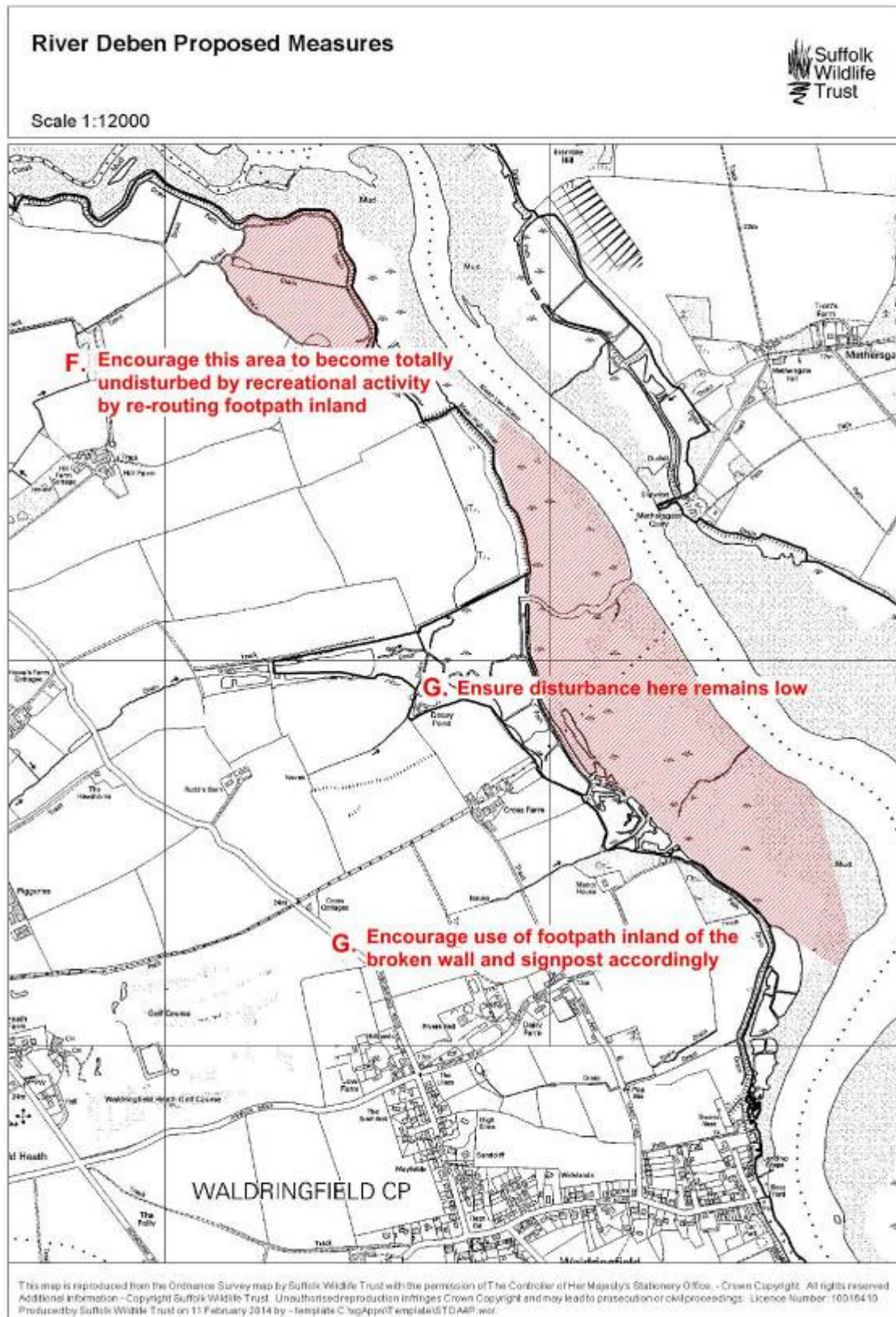


Figure 11: Proposed Measures to Limit Disturbance: Central Section 2b

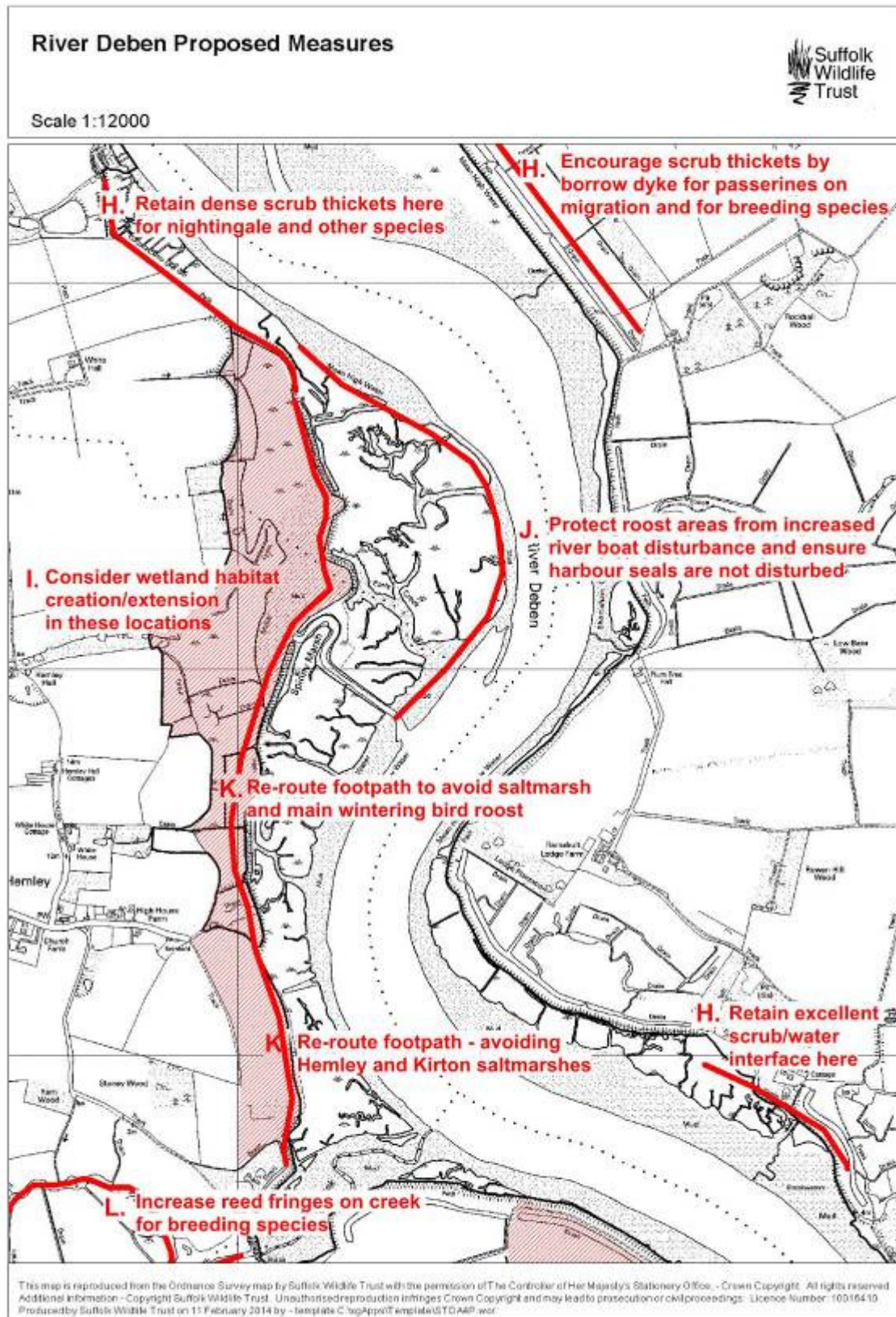


Figure 12: Proposed Measures to Limit Disturbance: South Section 3a

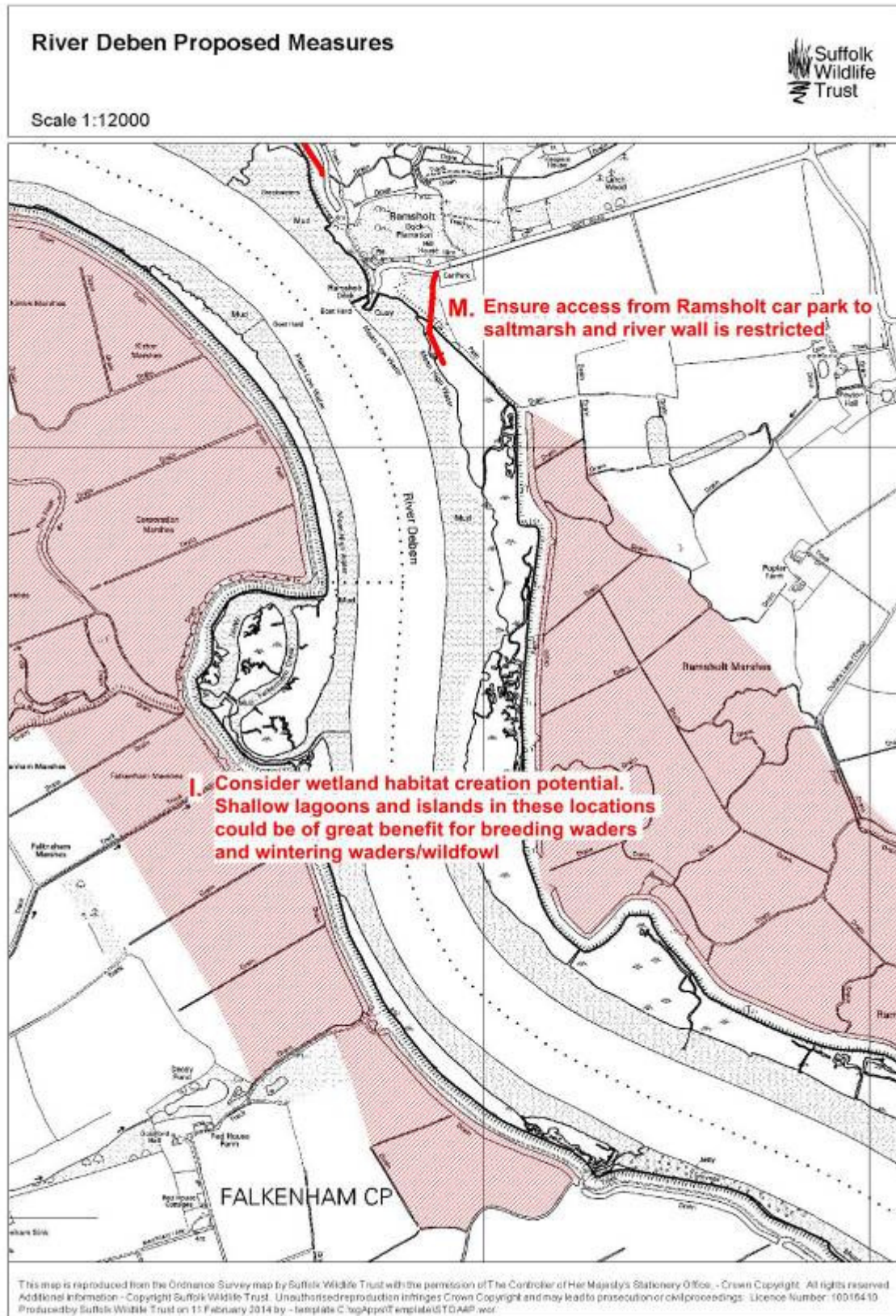
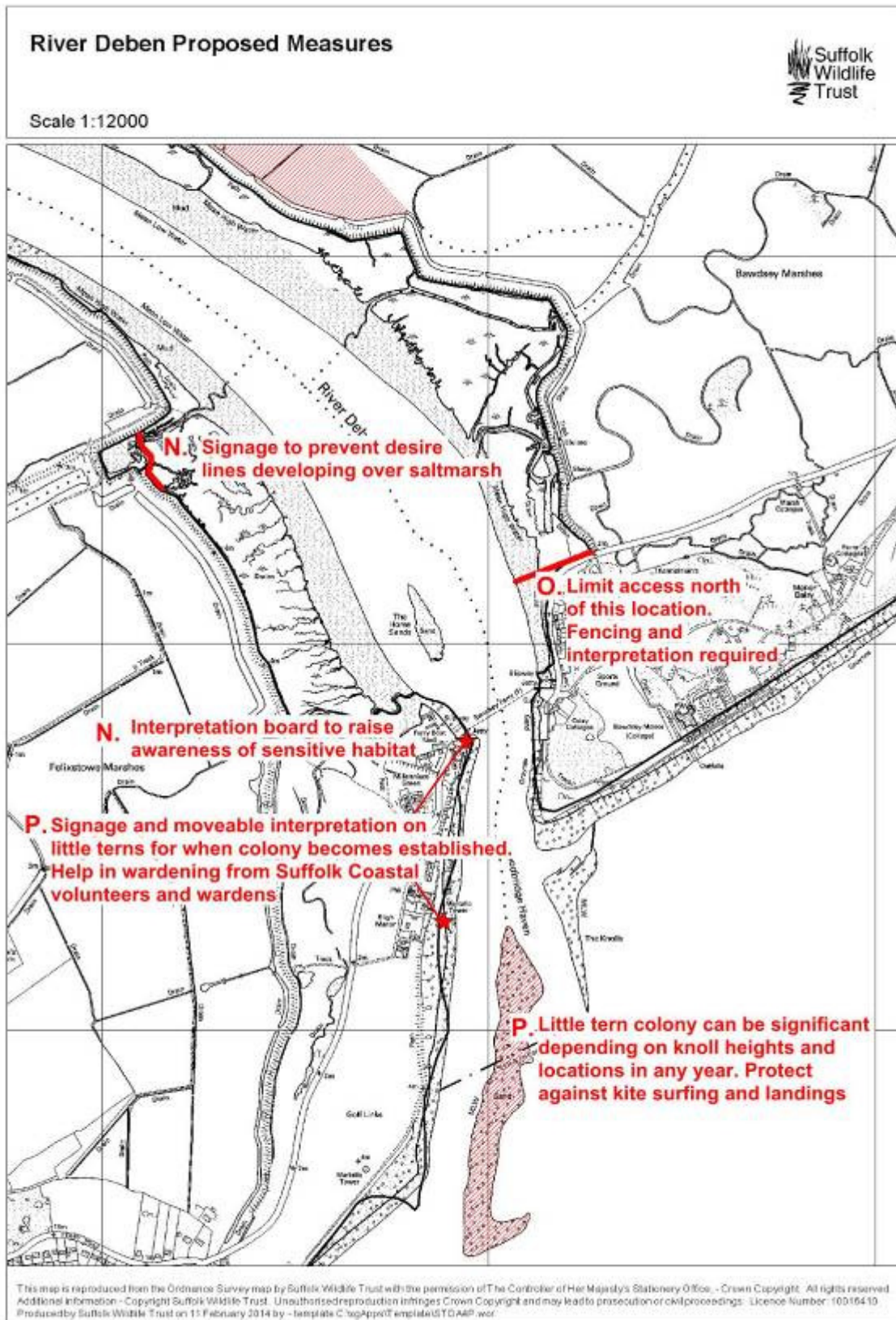


Figure 13: Proposed Measures to Limit Disturbance: South Section 3b



## **10 References**

Excell A. & O' Mahony K. (2013) The River Deben Estuary – Ornithological Importance and Status for Waterbirds. Summary Report to the Deben Estuary Partnership – Environment, Landscape and Archaeology Group.

Appropriate Assessment for Suffolk Coastal Core Strategy and Development Management Policies. November 2011 (Updated June 2013). The Landscape Partnership.

Local Development Framework. Pre-submission Core Strategy & Development Management Policies. Development Plan Document. July 2013. Suffolk Coastal District Council.

**Appendix 1: Birds mentioned in this report with their Latin names.**

The proper names and the order they are in are from the latest British Ornithologists' Union list as of June 2013. Previous papers, WeBS lists, Books and Field Guides (prior to 2011) will not have the same order.

Mute Swan *Cygnus olor*  
Bewick's Swan *Cygnus columbianus bewickii*  
Whooper Swan *Cygnus cygnus*  
(Tundra) Bean Goose *Anser fabalis rossicus*  
Greylag Goose *Anser anser*  
Greater Canada Goose *Branta canadensis*  
(Dark-bellied) Brent Goose *Branta bernicla bernicla*  
(Pale-bellied) Brent Goose *Branta bernicla brota*  
Black Brant *Branta bernicla nigricans*  
Common Shelduck *Tadorna tadorna*  
Eurasian Wigeon *Anas penelope*  
Gadwall *Anas strepera*  
Eurasian Teal *Anas crecca*  
Mallard *Anas platyrhynchos*  
Northern Pintail *Anas acuta*  
Northern Shoveler *Anas chrypeata*  
Tufted Duck *Aythya fuligula*  
Common Goldeneye *Bucephala clangula*  
Great Northern Diver *Gavia immer*  
Great Cormorant *Phalacrocorax carbo*  
Great Bittern *Botaurus stellaris*  
Little Egret *Egretta garzetta*  
Grey Heron *Ardea cinerea*  
Little Grebe *Tachybaptus ruficollis*  
Great Crested Grebe *Podiceps cristatus*  
Slavonian Grebe *Podiceps auritus*  
Black-necked Grebe *Podiceps nigricollis*  
Western Marsh Harrier *Circus aeruginosus*  
Hen Harrier *Circus cyaneus*  
Common Buzzard *Buteo buteo*  
Rough-legged Buzzard *Buteo lagopus*  
Osprey *Pandion haliaetus*  
Common Kestrel *Falco tinnunculus*  
Peregrine Falcon *Falco peregrinus*  
Water Rail *Rallus aquaticus*  
Common Moorhen *Gallinula chloropus*  
Common Coot *Fulica atra*  
Eurasian Oystercatcher *Haematopus ostralegus*  
Pied Avocet *Recurvirostra avosetta*  
Ringed Plover *Charadrius hiaticula*

European Golden Plover *Pluvialis apricaria*  
Grey Plover *Pluvialis squatarola*  
Northern Lapwing *Vanellus vanellus*  
Red Knot *Calidris canutus*  
Purple Sandpiper *Calidris maritima*  
Dunlin *Calidris alpina*  
Ruff *Philomachus pugnax*  
Jack Snipe *Lymnocyptes minimus*  
Common Snipe *Gallinago gallinago*  
Black-tailed Godwit *Limosa limosa*  
Bar-tailed Godwit *Limosa lapponica*  
Whimbrel *Numenius phaeopus*  
Eurasian Curlew *Numenius arquata*  
Common Sandpiper *Actitis hypoleucos*  
Green Sandpiper *Tringa ochropus*  
Spotted Redshank *Tringa erythropus*  
Common Greenshank *Tringa nebularia*  
Common Redshank *Tringa totanus*  
Ruddy Turnstone *Arenaria interpres*  
Black-headed Gull *Chroicocephalus ridibundus*  
Common Gull *Larus canus*  
Lesser Black-backed Gull *Larus fuscus*  
Herring Gull *Larus argentatus*  
Great Black-backed Gull *Larus marinus*  
Little Tern *Sternula albifrons*  
Sandwich Tern *Sterna sandvicensis*  
Common Tern *Sterna hirundo*  
Barn Owl *Tyto alba*  
Short-eared Owl *Asio flammeus*  
Common Kingfisher *Alcedo atthis*  
Carrion Crow *Corvus corone*  
Bearded Tit *Panurus biarmicus*  
Skylark *Alauda arvensis*  
Cetti's Warbler *Cettia cetti*  
Common Grasshopper Warbler *Locustella naevia*  
Sedge Warbler *Acrocephalus schoenobaenus*  
Eurasian Reed Warbler *Acrocephalus scirpaceus*  
Common Nightingale *Luscinia megarhynchos*  
European Stonechat *Saxicola torquatus*  
Meadow Pipit *Anthus pratensis*  
Rock Pipit *Anthus petrosus*  
Common Linnet *Carduelis cannabina*  
Twite *Carduelis flavirostris*  
Reed Bunting *Emberiza schoeniclus*

**Appendix 2: Deben WeBS sections and counters.**

**Section 1.**

TM331370 – 306414, Bawdsey Quay north to Ramsholt, including The Knolls at the mouth of the river. This section has been counted for many years by Robert Johnson and Laurence Potter.

**Section 2.**

TM306414 – 292445, Ramsholt north to Stonner Point. This section has been counted for many years by Nick Mason.

**Section 3.**

TM280470 – 292445, Methersgate south to Stonner Point. Gary Whatley has counted this section for many years.

**Section 4.**

TM293503 – 272473, Wilford Bridge south to Kyson Point. This section has been counted for many years by Karl Randall.

**Section 5.**

The counter in this section has changed recently.

**Section 6.**

TM 285446 – 280456, Waldringfield north to the break in the seawall. This section has been counted for many years by Ernie Lucking.

**Section 7.**

TM 285446 – 295430, Waldringfield south to the Main Roost. This section has been counted for many years by Richard Mayhew.

**Section 8.**

TM 290422 – 305405, Hemley south to Falkenham Creek. This section has been counted for many years by Bruce Harrington.

**Section 9.**

TM 329377 – 305405, Felixstowe Ferry north to Falkenham Creek. This section has been counted for many years by Philip Whittaker.

**Appendix 3: Deben Estuary Low Tide sections 1998 – 1999.**

These sections do not directly correlate with those of the WeBS counts.

Section 1 – TM 332380 Bawdsey Quay north to Ramsholt Quay at TM 306414

Section 2 – TM 306414 Ramsholt Quay north to Shottisham Creek at TM 300433

Section 3 – TM 300433 Shottisham Creek north to Methersgate at TM 276475

Section 4 – TM 275474 Kyson Point / Troublesome Reach north through Woodbridge to Wilford Bridge at TM 282500

Section 5 – TM 258470 Martlesham Creek and Deben south to TM 280460

Section 6 – TM 280460 break in the wall south to Waldringfield Quay at TM 285446

Section 7 – TM 295446 Waldringfield Quay south to Kirton Creek at TM 294417

Section 8 – TM 294417 Kirton Creek south to Falkenham Creek at TM 305403

Section 0 – TM 305403 south edge of Falkenham Creek south to Felixstowe Ferry at TM 328370

## Appendix 4

Breeding Bird Survey summary for Grid Square: TM2846  
(Phil Whittaker)

Species	Max number of individuals per year							
	2006	2007	2008	2009	2010	2011	2012	2013
Mute Swan			5		5	3	13	5
Greylag Goose	4			12			1	
Canada Goose				2	1			
Shelduck	20	23	45	45	34	20	11	20
Mallard	5		4		4			
Red-legged Partridge	2	2	2	2	2	2	2	
Pheasant	2	2	3	4	3	1	3	4
Cormorant	1	5	2	1		1		
Little Egret		1	2		1	2		
Grey Heron	5	7	4	4	2	2	1	1
Great Crested Grebe	1	2		1	4			
Sparrowhawk					1			
Buzzard		1				1	1	1
Kestrel		1		1	1	1	2	
Hobby		2		1	1			
Peregrine			1					
Moorhen							2	
Oystercatcher	20	11	10	12	7	11	11	11
Grey Plover	1	3			6	1		
Lapwing	6	6	3	5	2	14	4	2
Dunlin		24						
Black-tailed Godwit	2		16					
Bar-tailed Godwit						1		
Curlew	9	9	12	3	10	9	6	3
Common Sandpiper					1			
Redshank						1		
Turnstone			1	2				
Black-headed Gull	5	36	10	21	29	33	23	21
Common Gull				1				
Lesser Black-backed Gull				2		1	1	1
Herring Gull	3	6	3	4	4	5	12	8
Common Tern						1		
Stock Dove		1	2		8	13	12	3
Woodpigeon	63	64	45	87	44	70	23	50
Collared Dove								2
Turtle Dove		1	2			1		3
Cuckoo	2	2	2	2	1	1	2	1
Barn Owl		1	1				1	
Little Owl		1		1	1	1		1
Swift				4				
Green Woodpecker	4	1	3	2		3	3	2
Great Spotted Woodpecker	5	3	1	1	2	1	1	2
Magpie		1		3	5	2	4	2

Jay		2	1		1		1	4
Jackdaw	43	47	29	27	11	72	13	19
Rook	30		18	2	9	250	12	1
Carrion Crow	10	24	17	5	15	9	12	10
Goldcrest						1		
Blue Tit	9	2	7	11	23	17	9	8
Great Tit	12	6	5	8	9	5	6	13
Coal Tit					1			
Skylark	6	8	13	9	4	9	8	2
Swallow	2	1	2	8	2	2	5	2
House Martin	2	2		2				
Long-tailed Tit	10	6	6		11		8	4
Chiffchaff	1	2	2	2	2	1	2	3
Willow Warbler					1			
Blackcap	3	4	2	3	4	5	2	5
Garden Warbler				1			1	1
Lesser Whitethroat							1	
Whitethroat	16	4	7	6	9	11	9	6
Sedge Warbler	2	1			2	2		
Reed Warbler	1		1		3			
Nuthatch	1							
Treecreeper	1		2	1		1		
Wren	9	6	12	6	8	4	6	9
Starling	1							
Blackbird	2	5	6	5	4	3	3	4
Song Thrush		2	5	1	2	2	1	
Mistle Thrush	2				10	2	1	2
Robin	2	2	2	1	2	6		4
Nightingale	3	1	3		1	4	1	2
Duncock	1	1	1	2	2	4	3	1
Yellow Wagtail					2			2
Pied/White Wagtail				2		3	1	2
Chaffinch	8	7	7	9	11	12	12	14
Greenfinch	5	2		3		1		
Goldfinch	4			5	9		1	
Linnet		1		8	2	3		2
Bullfinch					1	1		
Yellowhammer	1		1	1	1		1	
Reed Bunting			1	2		2		
Number of species (total: 82)	46	48	46	50	54	53	46	43

## **Appendix 5: Wetland Bird Survey (WeBS)**

Figures 14-19 illustrate the key roosting areas as identified by WeBS High Water Counts, for the following species of International and National importance:

**Avocet (Figure 14)**

**Black-tailed Godwit (Figure 15)**

**Dark-bellied Brent Goose (Figure 16)**

**Grey Plover (Figure 17)**

**Redshank (Figure 18)**

**Shelduck (Figure 19)**

The roosting areas are shown as blue hatching on each map

Figure 14: Key Roosting Areas: Avocet

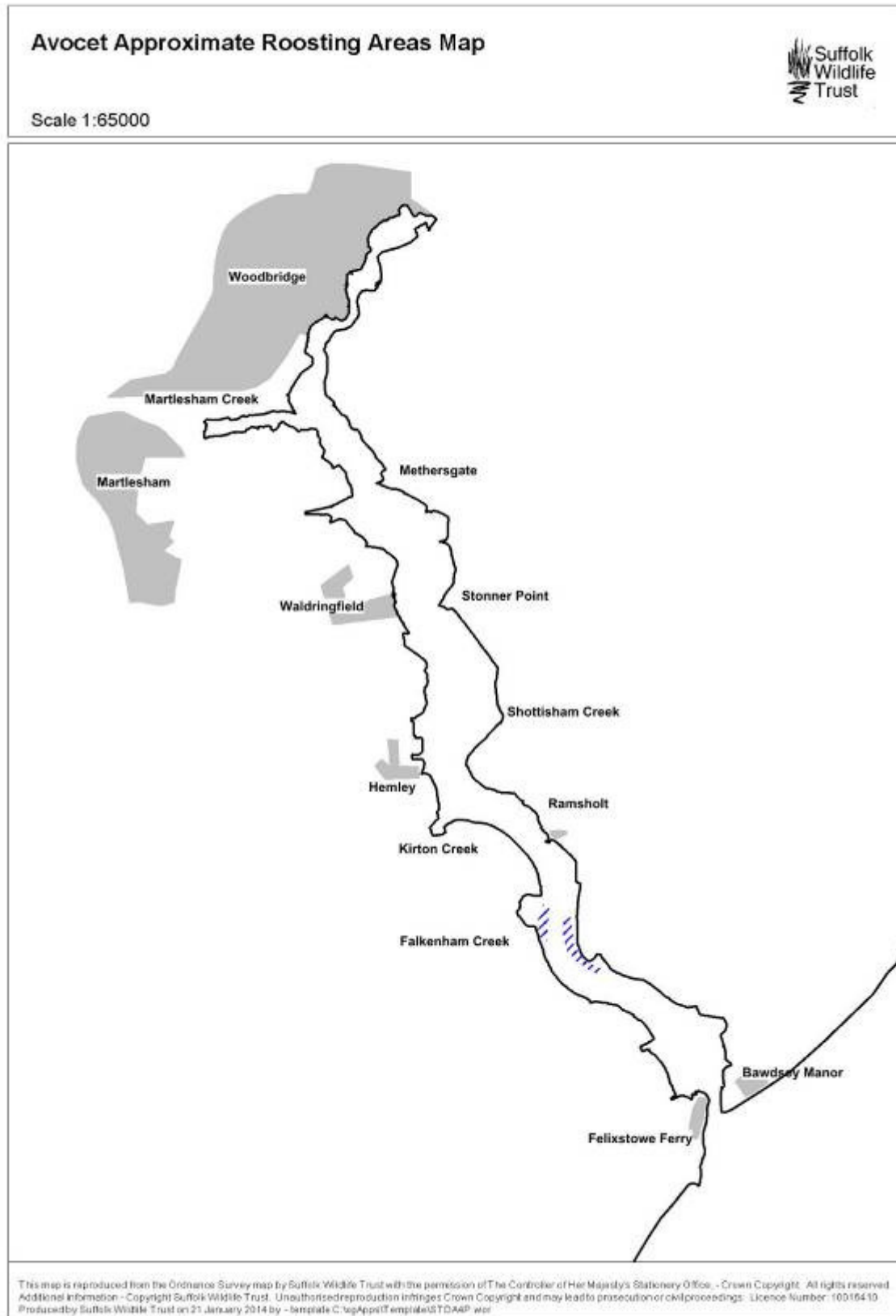


Figure 15: Key Roosting Areas: Black-Tailed Godwit

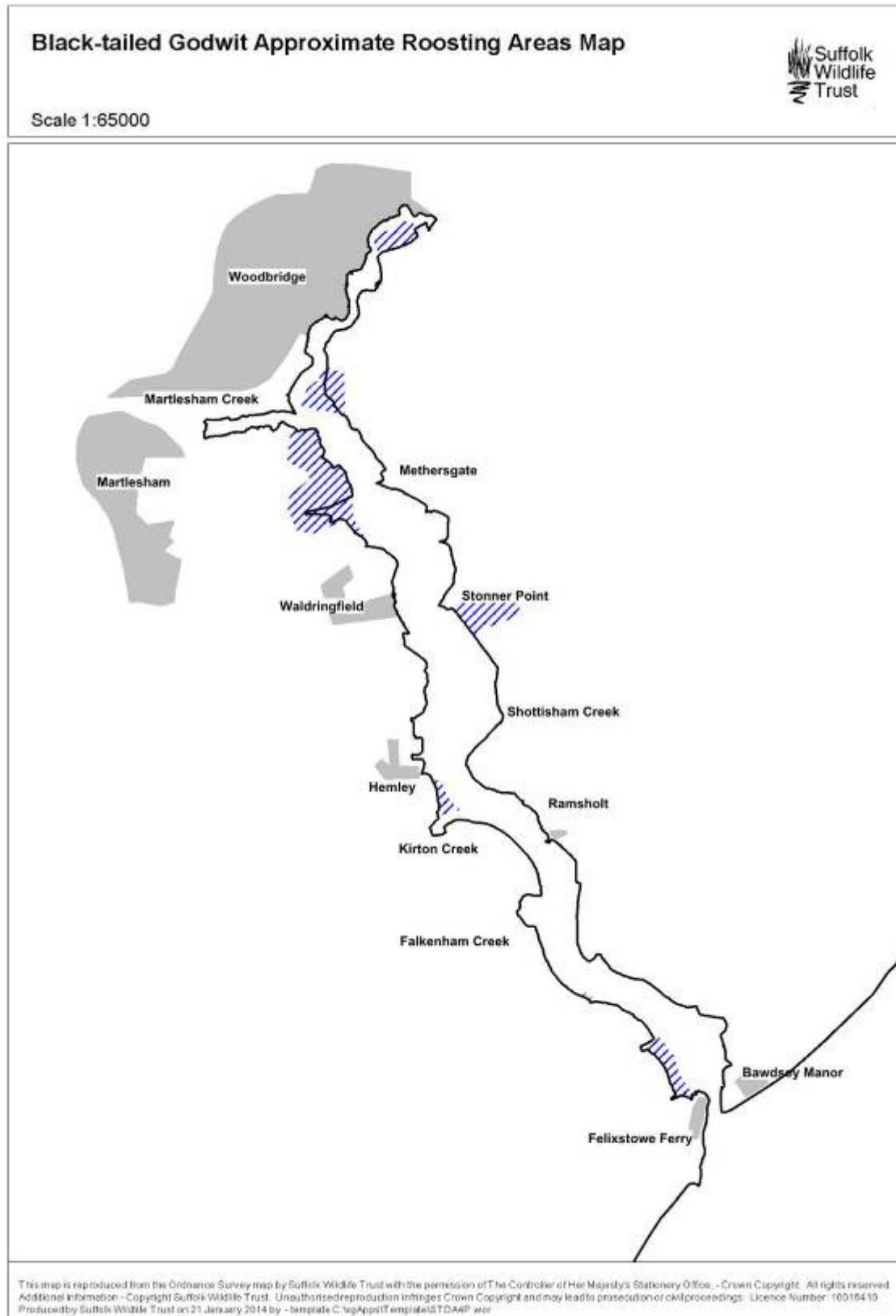


Figure 16: Key Roosting Areas: Dark-Bellied Brent Goose

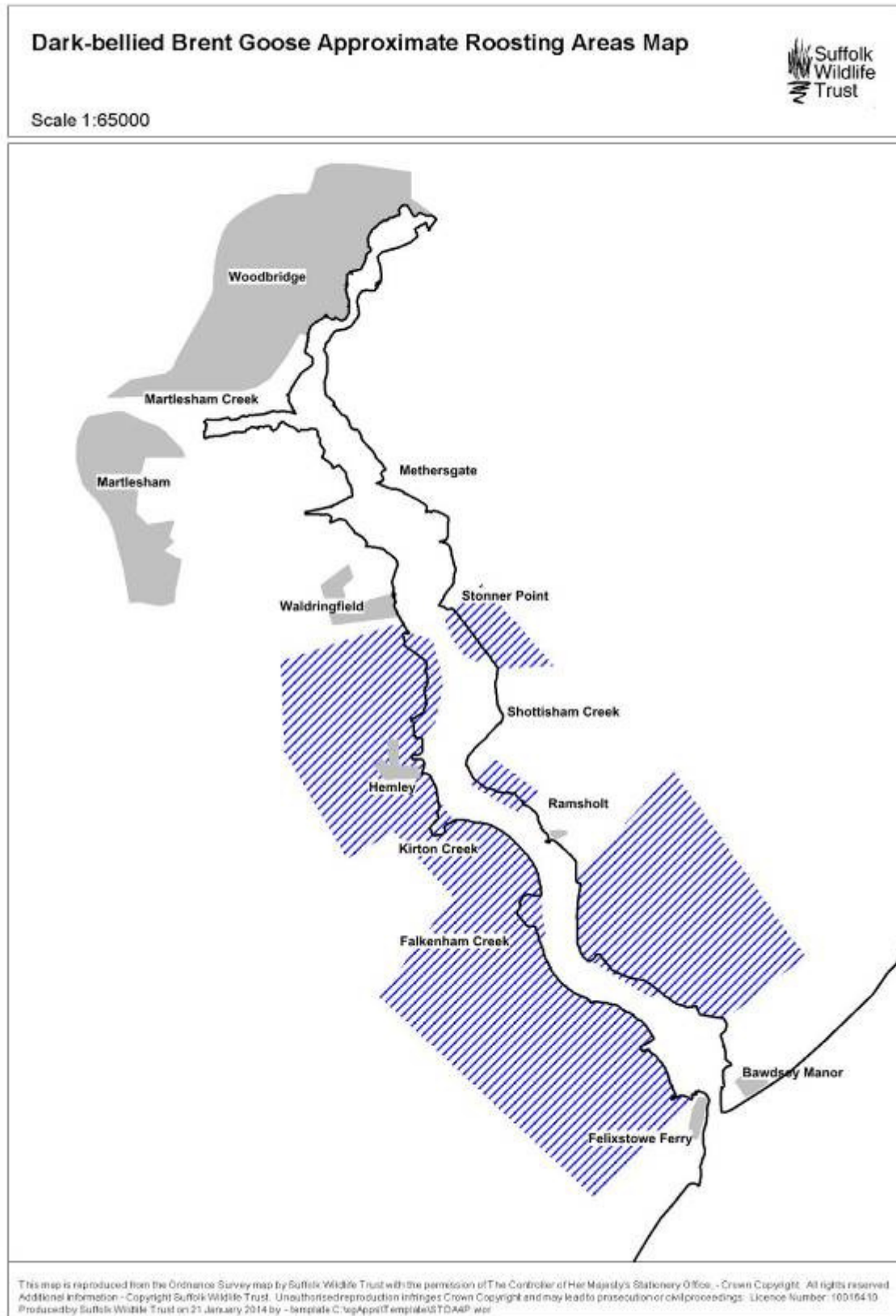


Figure 17: Key Roosting Areas: Grey Plover

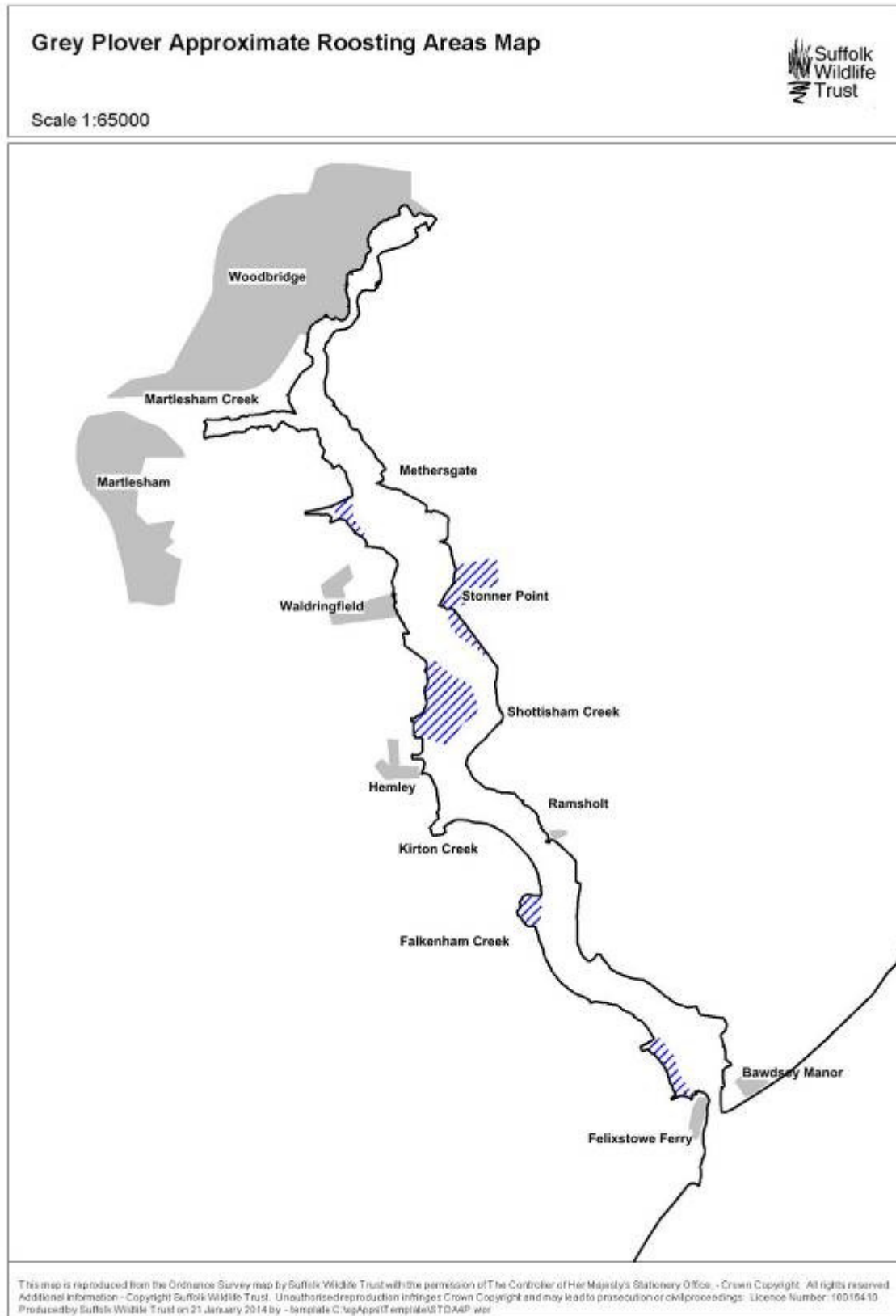


Figure 18: Key Roosting Areas: Redshank

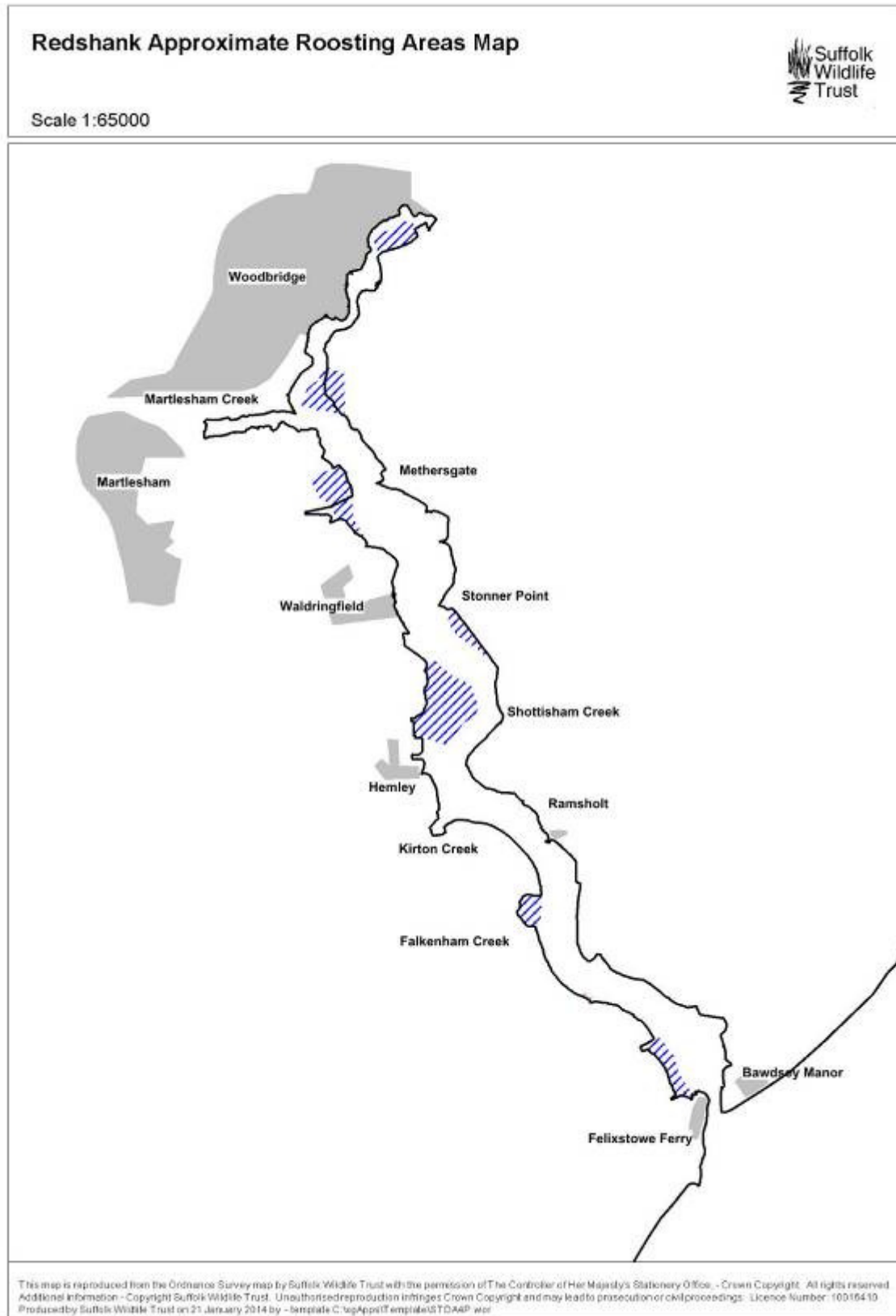
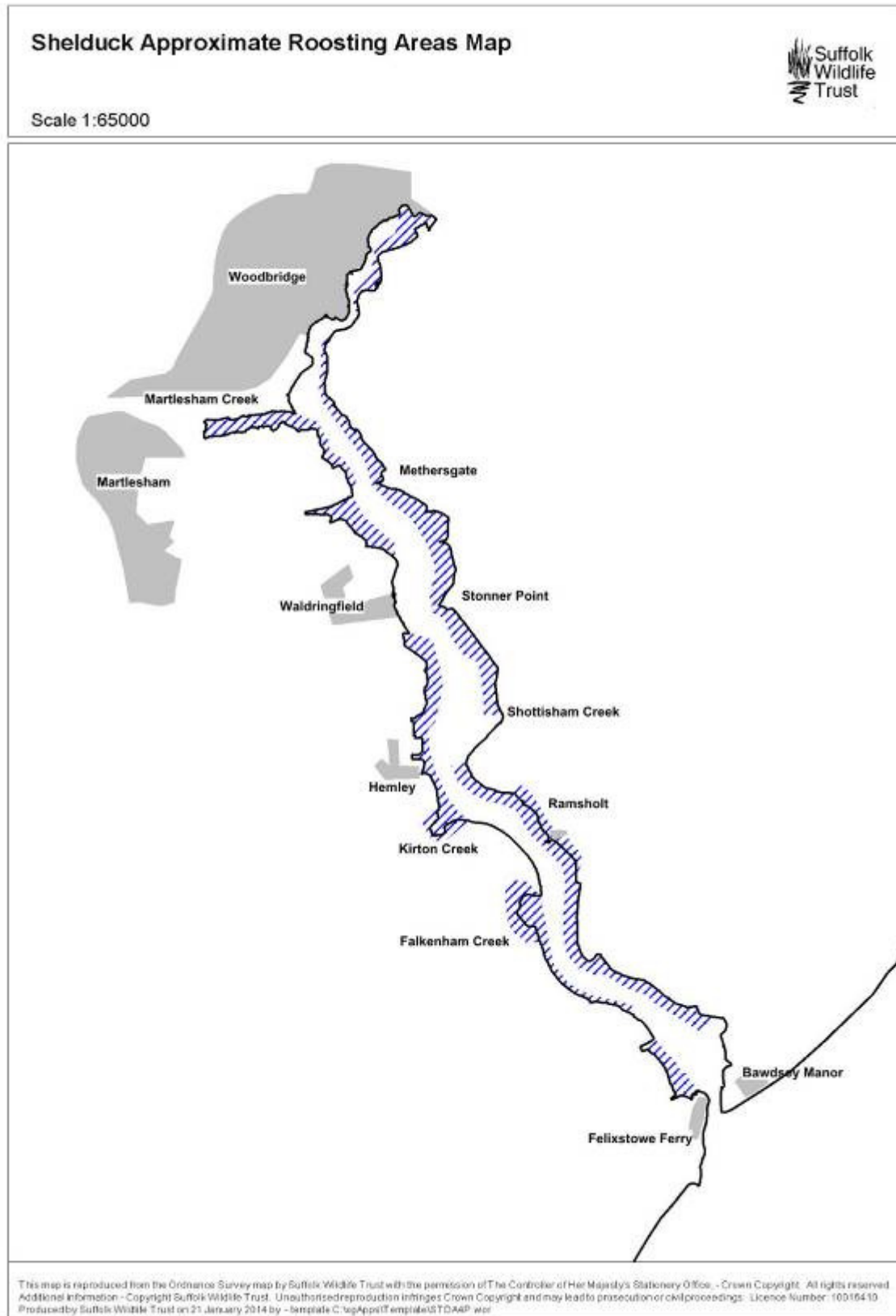


Figure 19: Key Roosting Areas: Shelduck



## **Appendix 6: WeBS Low Tide Counts**

Figures 20-25 illustrate the key feeding areas as identified by Low Water Counts (2006/2007), for the following species of International and National importance:

**Avocet (Figure 20)**

**Black-tailed Godwit (Figure 21)**

**Dark-bellied Brent goose (Figure 22)**

**Grey Plover (Figure 23)**

**Redshank (Figure 24)**

**Shelduck (Figure 25)**

The maps show density displayed as mean number of birds per section.

Figure 20: Key Feeding Areas: Avocet

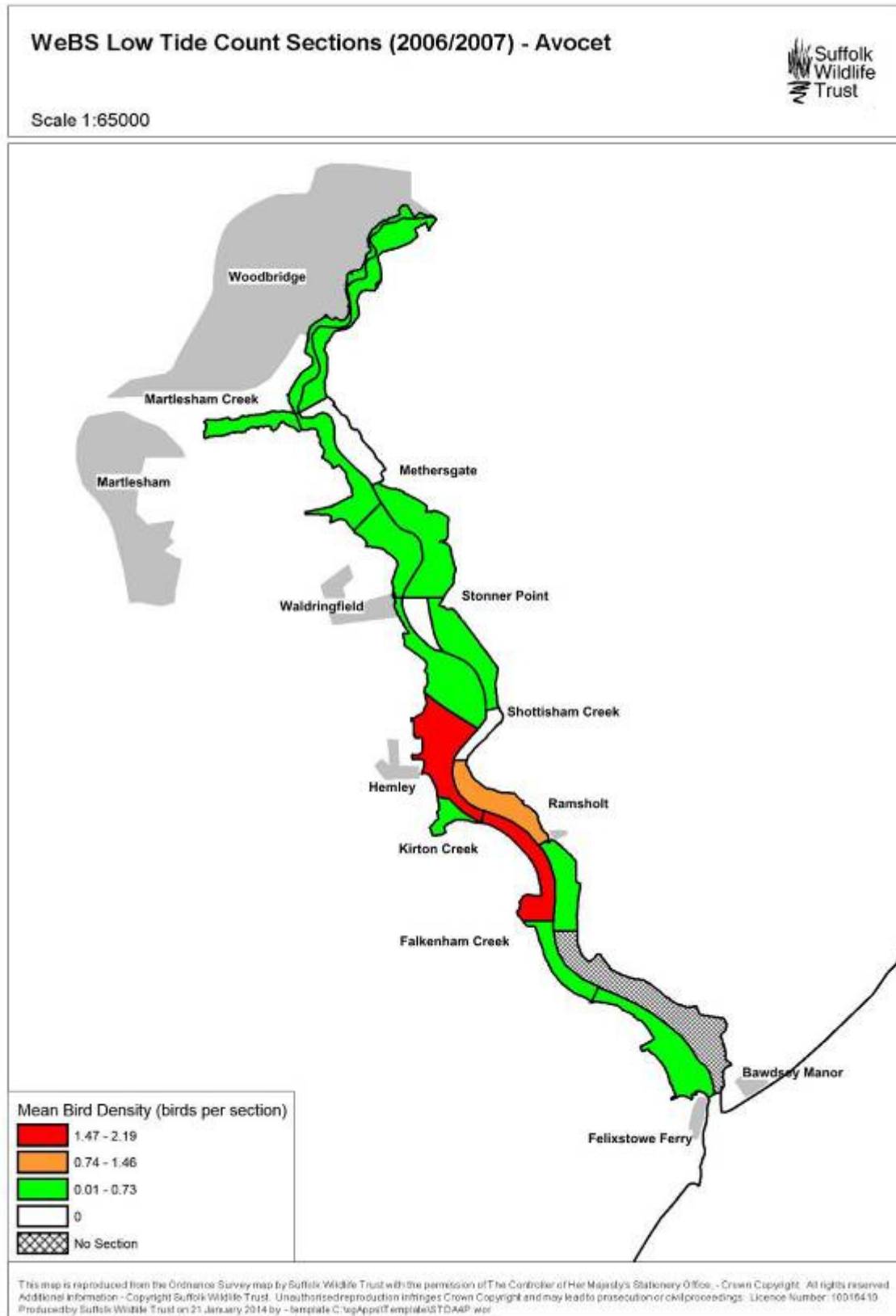


Figure 21: Key Feeding Areas: Black Tailed Godwit

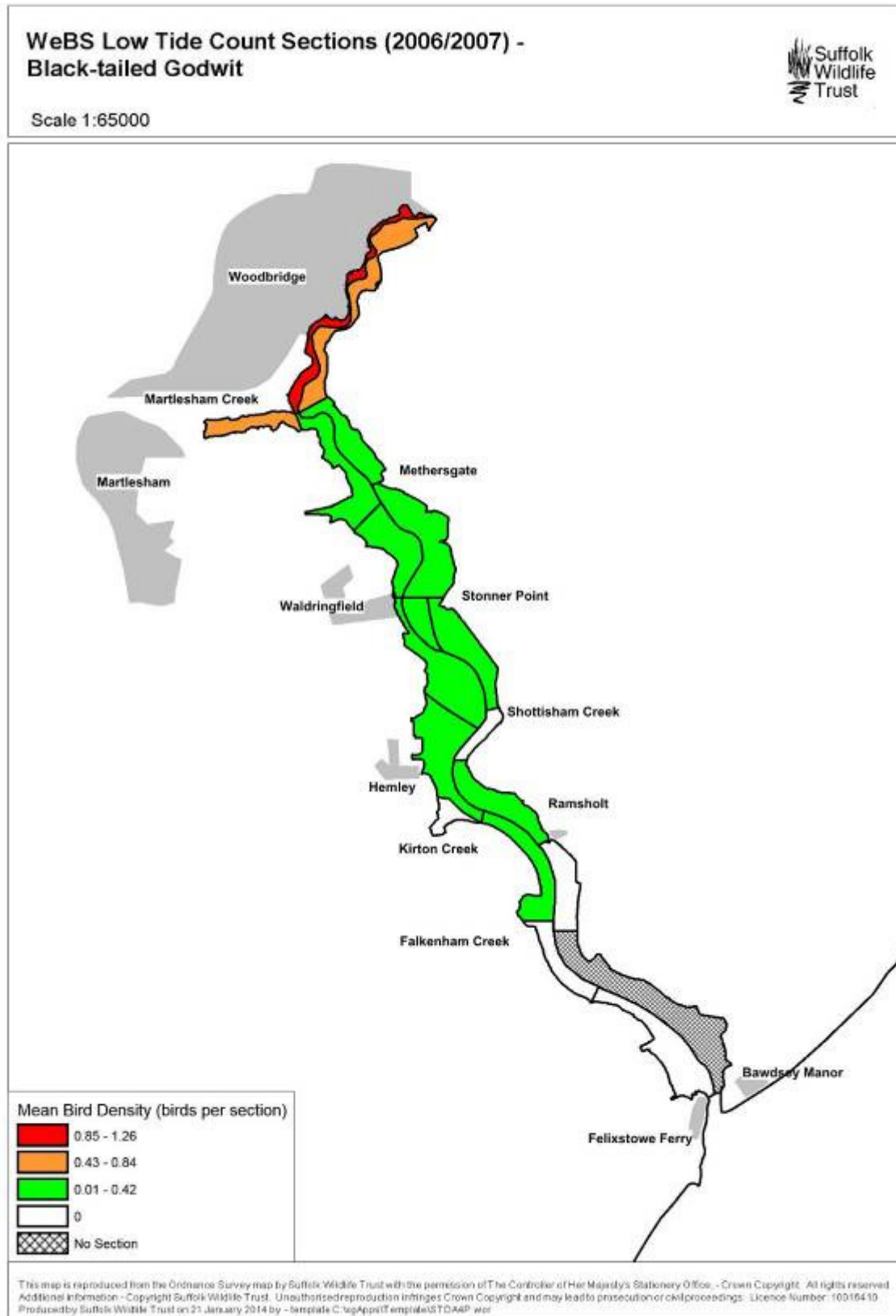


Figure 22: Key Feeding Areas: Dark Bellied Brent Goose

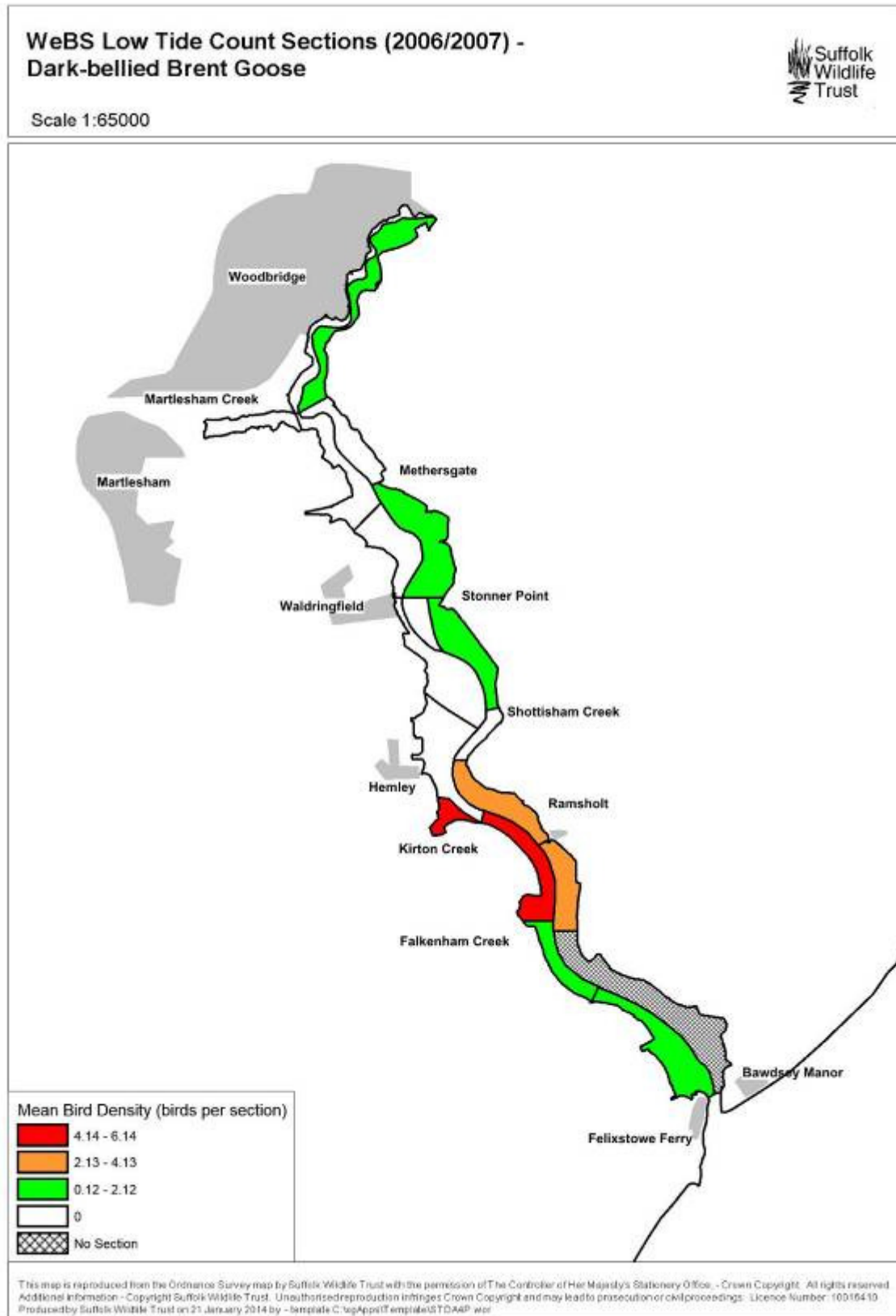


Figure 23: Key Feeding Areas: Grey Plover

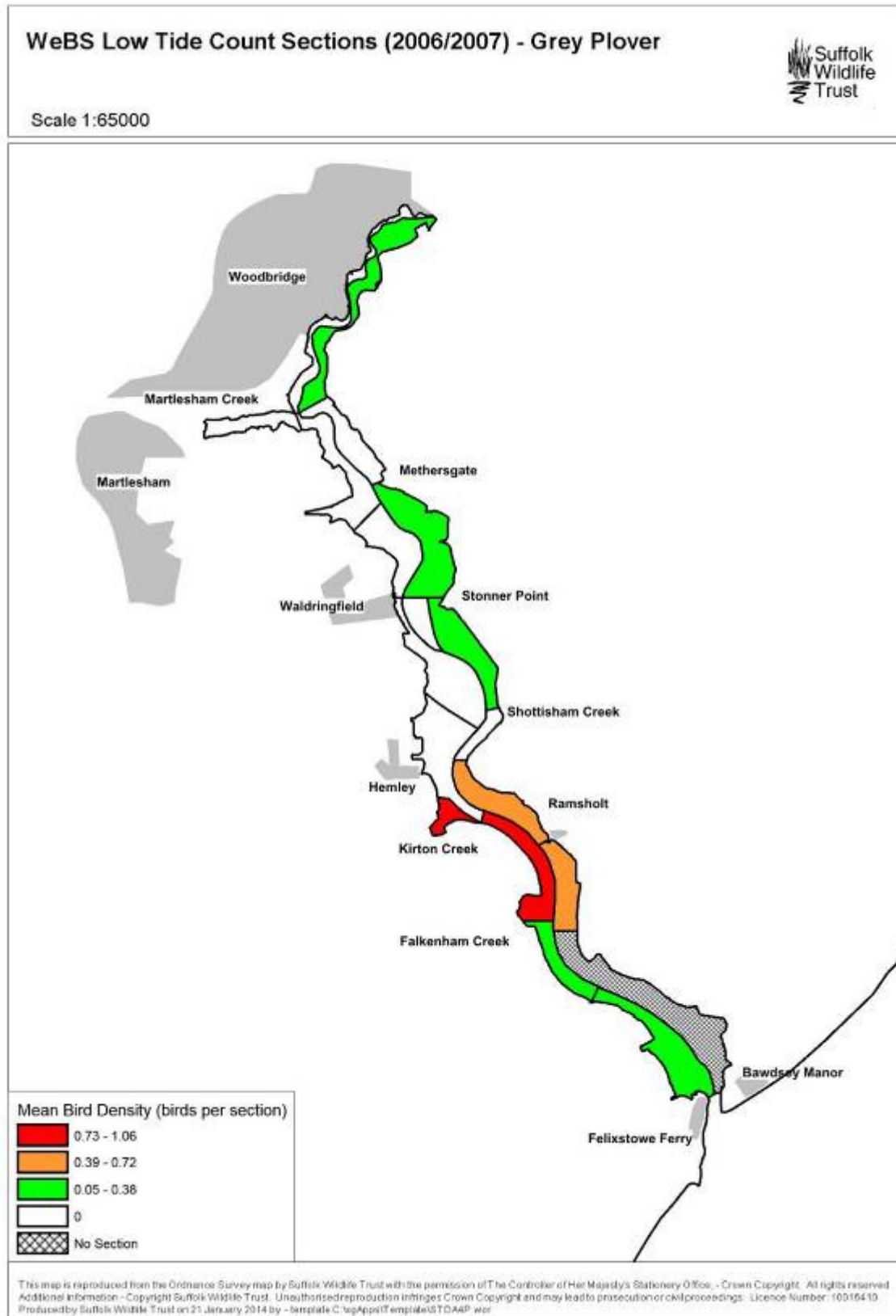


Figure 24: Key Feeding Areas: Redshank

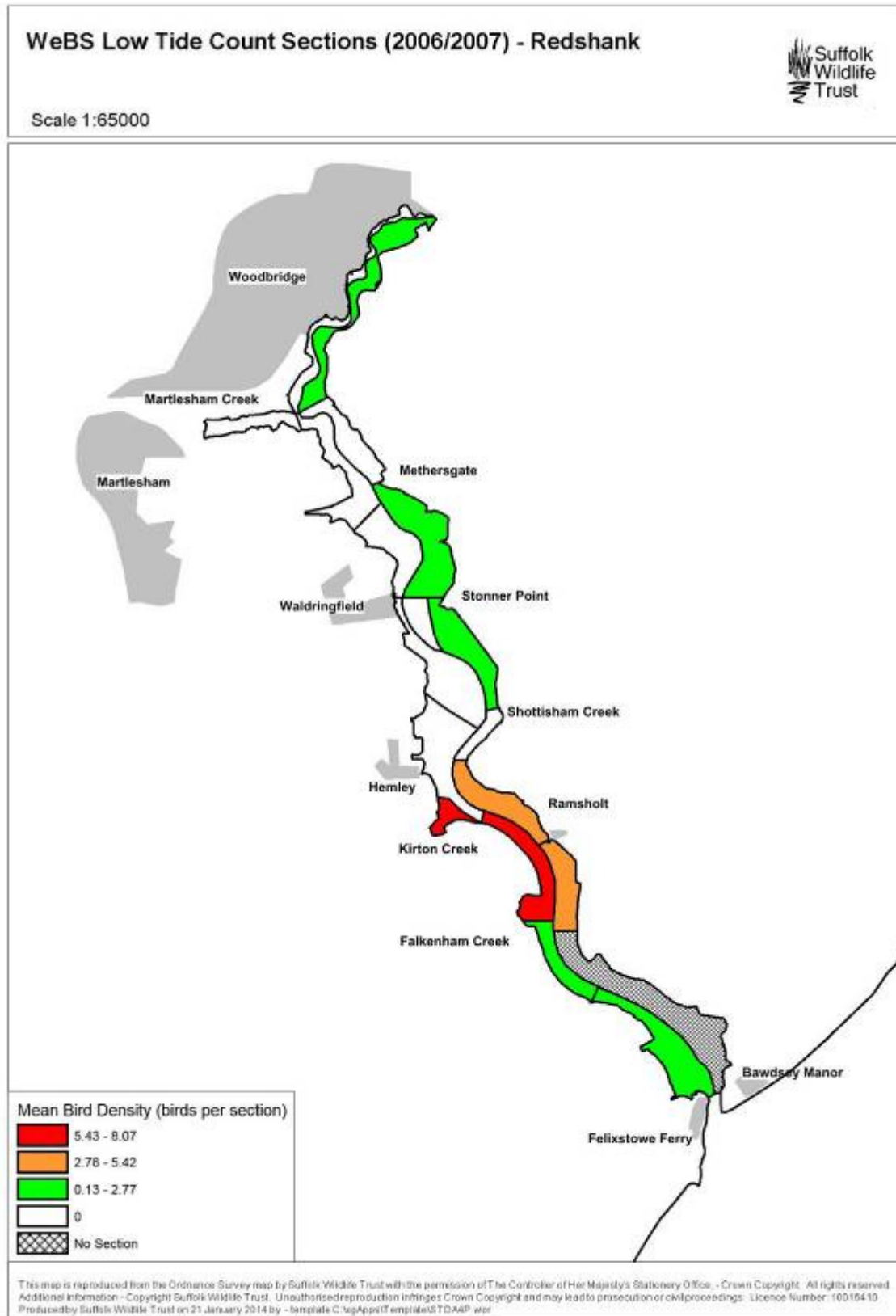


Figure 25: Key Feeding Areas: Shelduck

