4.25 SWALE ESTUARY

LTC site code:	DS
Centre grid:	TR0066
JNCC estuarine review site:	120
Habitat zonation:	2431 ha intertidal, 1420 ha subtidal, 340 ha nontidal
Statutory status:	The Swale SPA (UK9012011), Medway Estuary and Marshes SPA (UK9012031), The Swale Ramsar(7UK021), Medway Estuary and Marshes Ramsar (7UK068)
Winter waterbird interest:	Little Grebe, Cormorant, White-fronted Goose, Dark-bellied Brent Goose, Shelduck, Wigeon, Gadwall, Teal, Pintail, Shoveler, Oystercatcher, Avocet, Ringed Plover, Golden Plover, Grey Plover, Lapwing, Knot, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Waterbird assemblage

SITE DESCRIPTION

The Swale Estuary separates the Isle of Sheppey from the mainland of Kent and adjoins the Medway Estuary to the west. At low tide, there is a relatively narrow water channel and extensive intertidal flats, muddy in the inner parts of the site and becoming sandier towards the mouth, with an associated area of intertidal shore stretching north-west along the north shore of the Isle of Sheppey from Shell Ness to Warden Point. Much of the site is surrounded by saltmarsh and then by extensive areas of grazing marshes. The estuary is used for leisure activities such as sailing and other watersports, but there is only a limited amount of industrial activity in the area. A large proportion of the estuary is shot over by wildfowlers.

COVERAGE AND INTERPRETATION

The Swale Estuary was counted for the scheme during the 1992–93 winter, with counts made in all four months. Figure 4.25.1 shows the positions of the 60 sections counted for the survey.

Figure 4.25.2 shows that there are large differences in the extents of the LTC site and the SPAs. This is mostly due to the incorporation within the SPA of large areas of nontidal grazing marshes aroundthe estuary, notably at Elmley, Capel Fleet and Graveney Marshes, and between Faversham and Milton Creeks. Additionally, the westernmost part of the area counted as the Swale for the LTCs was subsequently included within the Medway Estuary and Marshes SPA, but most of the latter was covered by the Medway Estuary LTCs. The main area counted for the LTCs but not covered by SPA designation is the north shore of Sheppey between Leysdown and Warden Point. The Ramsar site boundaries around the Swale are entirely coincident with those of their respective SPAs.

Given that the Swale is contiguous with the

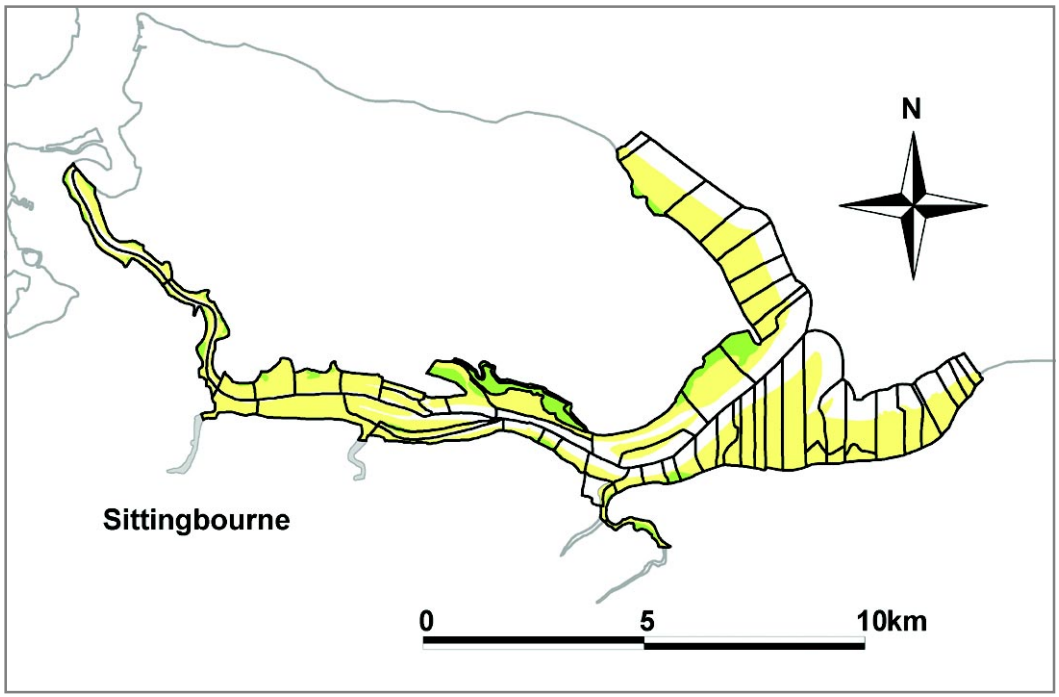


Figure 4.25.1: **LTC sections at the Swale Estuary, winter 1992–93**

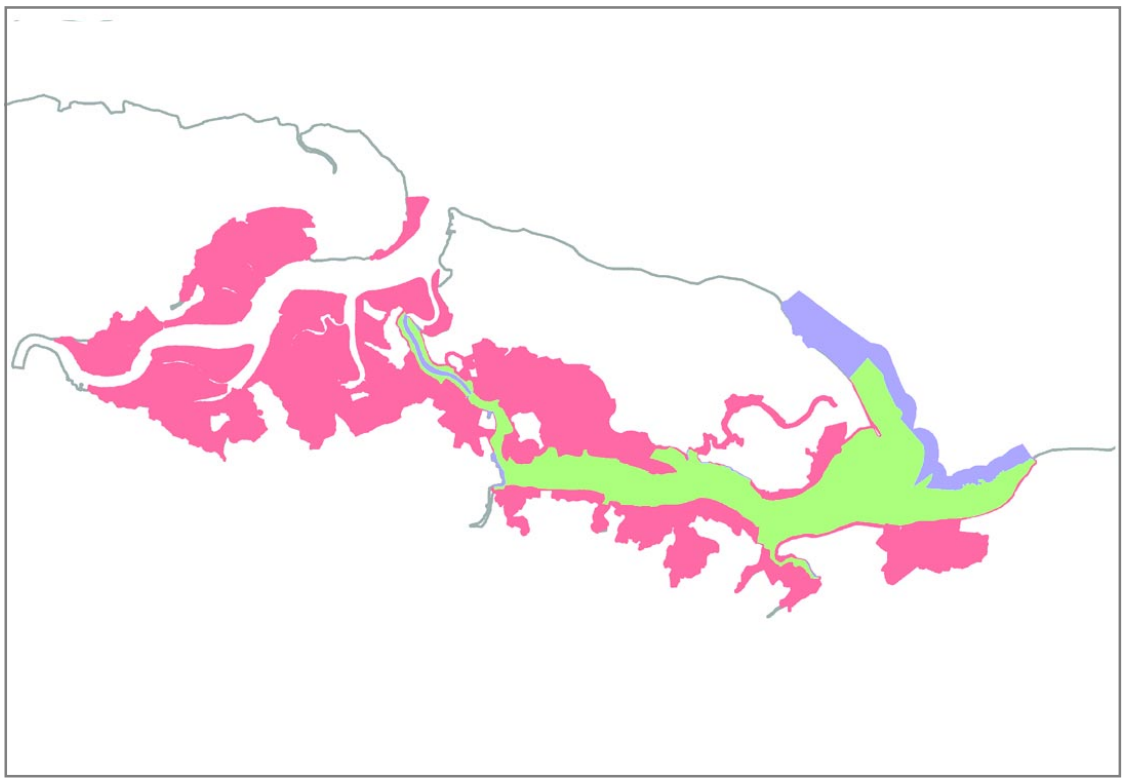


Figure 4.25.2: LTC and SPA boundaries, with overlap, at the Swale Estuary

Medway Estuary, a certain amount of interchange is inevitable although the degree to which this occurs is not known. Some dispersal east to the Thanet Coast is also feasible, as well as to the non-estuarine shore on the north side of the Isle of Sheppey, west of Warden Point. However, the major movements of birds on the estuary will be to the adjacent nontidal wetland habitats contained within the SPA.

WATERBIRD DISTRIBUTION

Low tide distribution maps from the winter of 1992–93 are presented for 19 of the 22 species of principal interest listed above. For clarity, smaller dots are used to display the distributions of Shelduck, Oystercatcher, Lapwing and Dunlin. Additional maps of total birds and total birds weighted by 1% threshold value are also presented (Figure 4.25.3). The remaining three species (White-fronted Goose, Gadwall and Shoveler) were all recorded but in only very small numbers, the birds mostly using the adjacent nontidal habitats.

The total birds map shows the highest overall bird densities occurring on the inner estuary, with the weighted total map highlighting the flats south of Elmley Hills and from the mouth of Conyer Creek westwards. The inner estuary was the key area for Teal, Pintail, Avocet and Black-tailed Godwit. Additionally, a number of other more widespread species occurred in this part of the estuary in their highest densities, namely Shelduck, Ringed Plover, Grey Plover, Dunlin, Curlew and Redshank. Knot and Lapwings were also common in this area, with further concentrations of Knot north of Graveney Marshes and of Lapwings from Windmill Creek east around the Isle of Harty. The latter area was also the principal area for both Golden Plovers and Brent Geese. Wigeon were few in number, mostly along the north side of the main channel; most occur on nearby nontidal habitats. Two species which, whilst widespread, were in higher densities on the outer parts of the site were Oystercatcher and Bar-tailed Godwit. Cormorants were widespread throughout the site but the small numbers of Little Grebes were mostly restricted to the inner estuary.

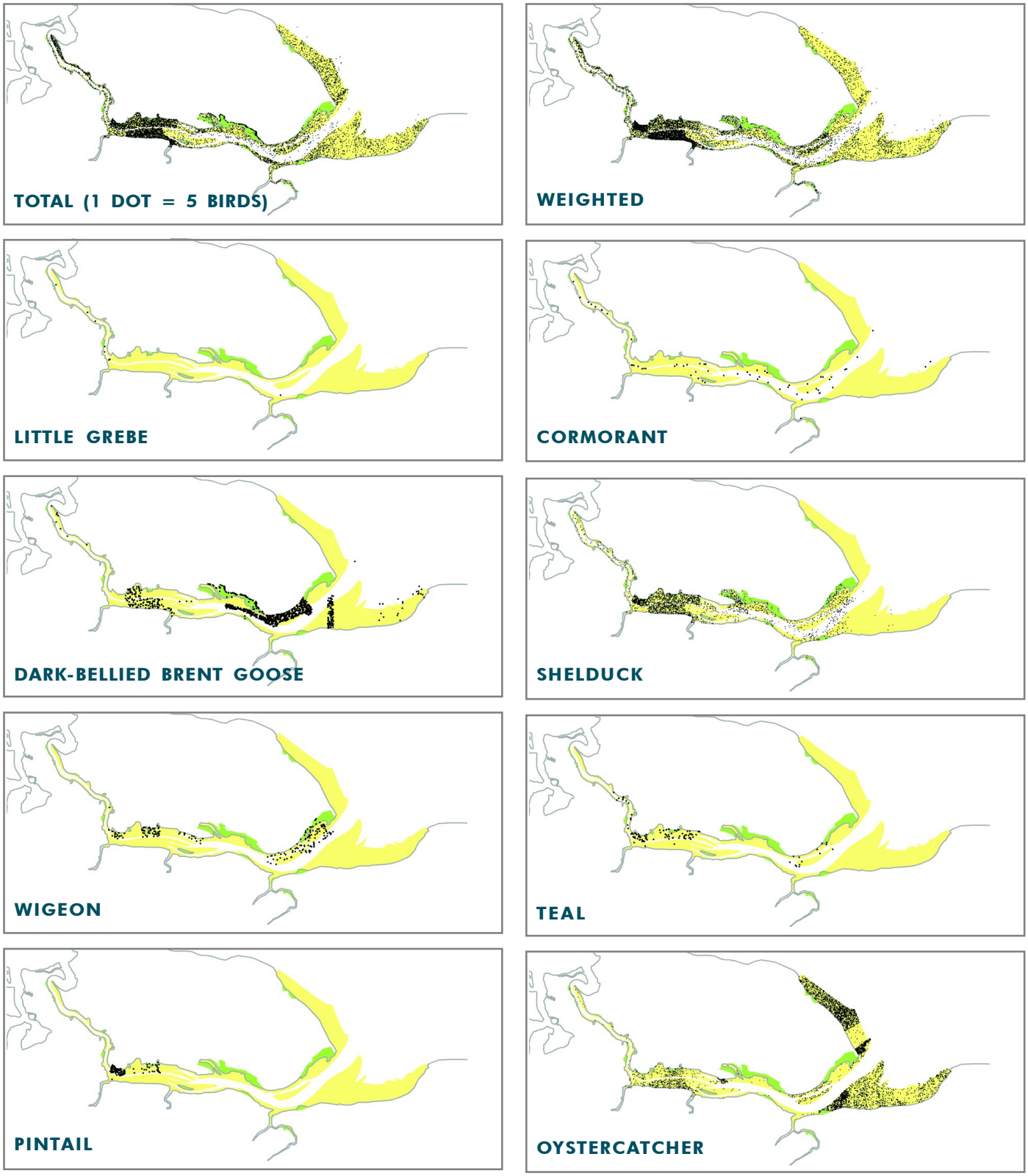
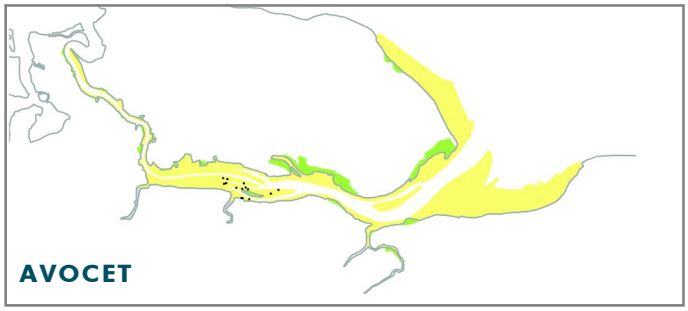
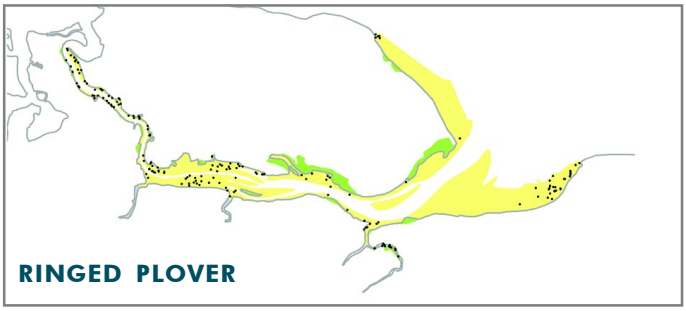
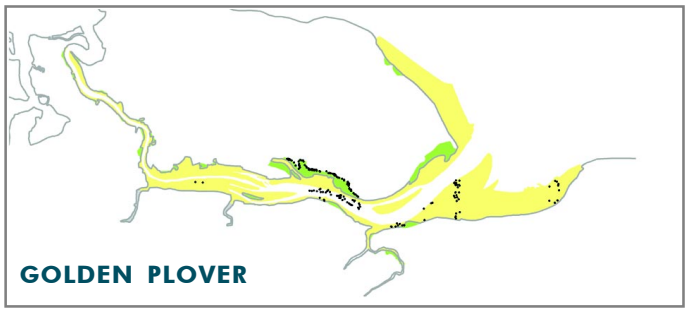
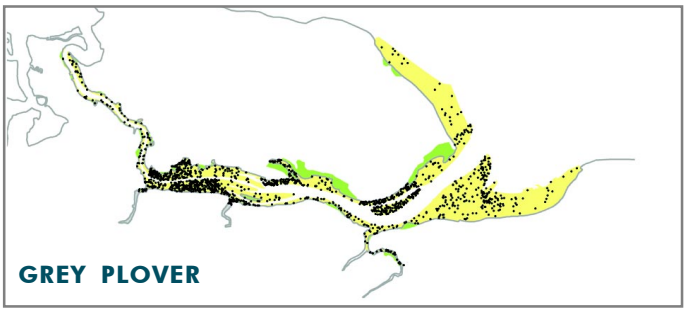


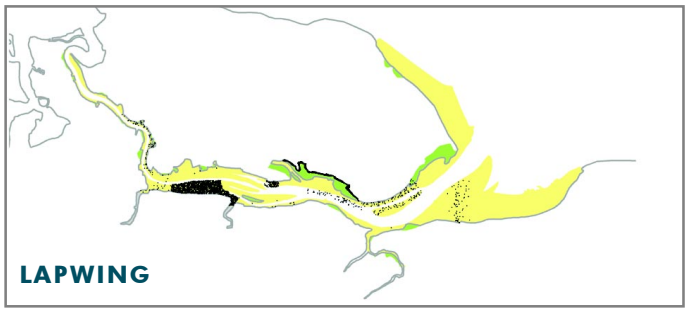
Figure 4.25.3 (i): **Low tide waterbird distributions recorded at the Swale Estuary, winter 1992–93**

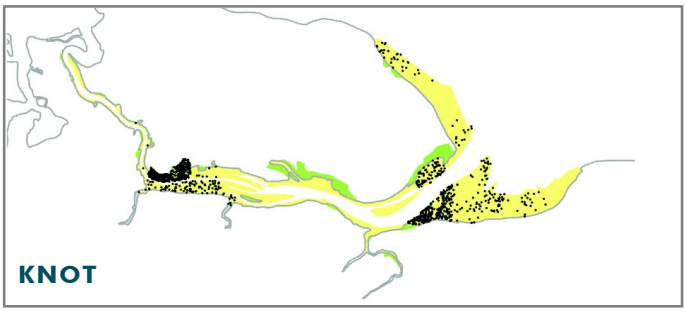


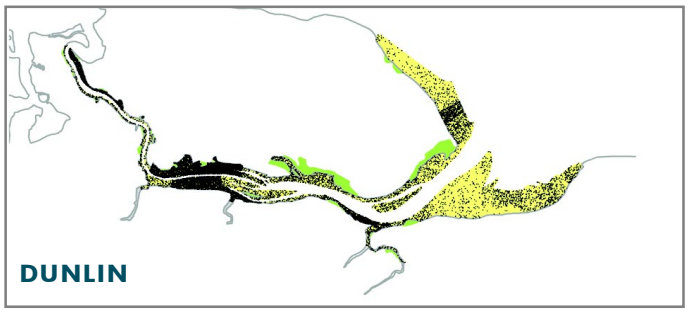


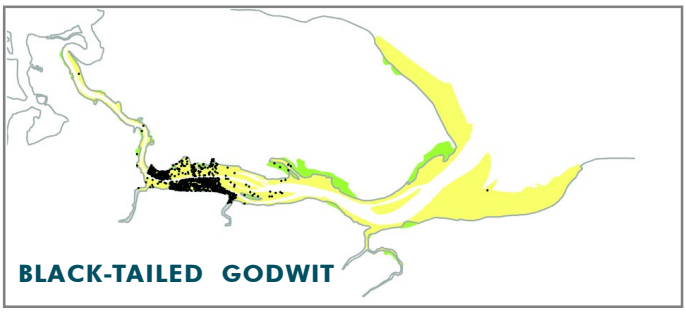


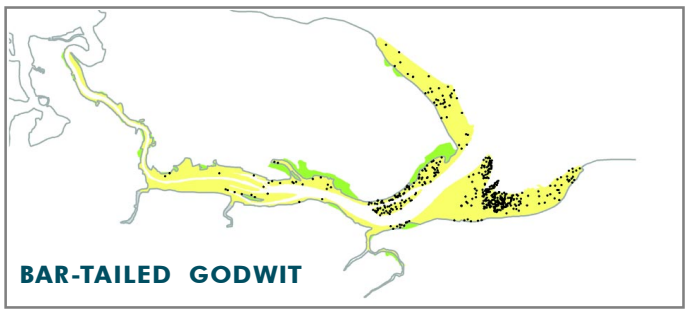


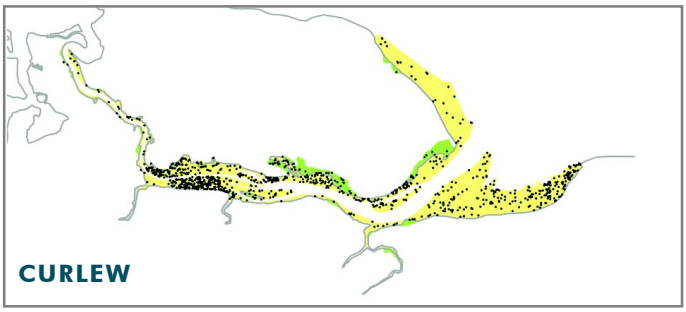












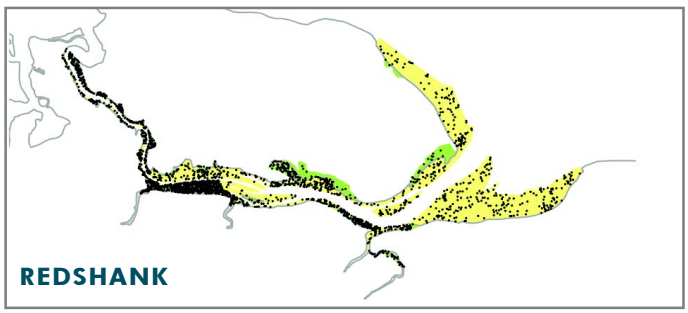


Figure 4.25.3 (ii): **Low tide waterbird distributions recorded at the Swale Estuary, winter 1992–93**

4.26 PEGWELL BAY

LTC site code:	BG
Centre grid:	TR3563
JNCC estuarine review site:	121
Habitat zonation:	562 ha intertidal, 380 ha subtidal, 0 ha nontidal
Statutory status:	Thanet Coast and Sandwich Bay SPA (UK9012071), Thanet Coast and Sandwich Bay Ramsar (7UK078)
Winter waterbird interest:	Turnstone

SITE DESCRIPTION

Pegwell Bay is the small estuary of the River Stour in east Kent. The inner estuary is muddy and fringed with saltmarsh, although most of that on the western bank has been lost to land-claim. The estuary then broadens into sandflats that reach south along the shores of Sandwich Bay. West Cliff, in the north-east of the site, is the last extension of the rocky outcrops found around the rest of the Isle of Thanet. Sailing and other watersports, as well as beach recreation, occur around the site and wildfowling occurs on the grazing marshes. There is also a power station and pharmaceutical works a short way upstream and a harbour at Ramsgate.

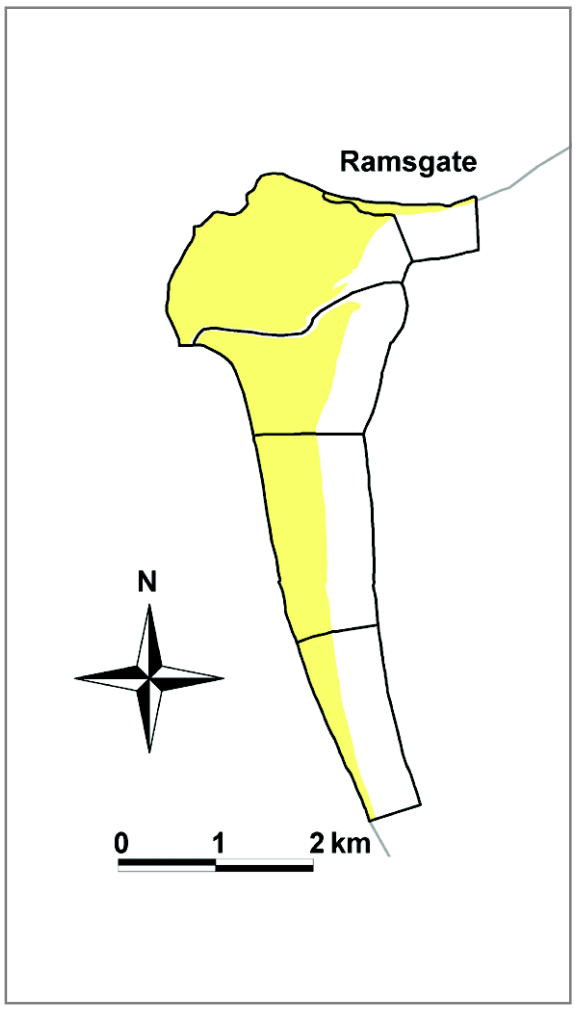


Figure 4.26.1: LTC sections at Pegwell Bay, winter 1994–95

COVERAGE AND INTERPRETATION

Pegwell Bay was covered for the scheme during the winter of 1994–95, although no November count was made. Figure 4.26.1 shows the positions of the five sections counted for the survey.

Figure 4.26.2. shows how the area counted for the LTCs is only a small part of the wider Thanet Coast and Sandwich Bay SPA, which also includes the inner Stour Estuary, rocky shores around the north and east of the Isle of Thanet and grassland habitats to the south on Hacklinge Marshes. The Ramsar site boundaries surround a larger area than those of the SPA, the difference being the inclusion of larger areas of non-tidal marshes than the former.

The site is isolated from other estuaries and interchange of most species is unlikely to occur on a daily basis. However, dispersal from the estuary to adjacent non-estuarine coasts, especially around the Isle of Thanet, seems likely.

WATERBIRD DISTRIBUTION

The low tide distribution map from the winter of 1994–95 is presented for Turnstone, the species of principal interest listed above. Additional maps of total birds and total birds weighted by 1% threshold value are also presented (Figure 4.26.3).

The maps show that within the site covered, Turnstones were confined entirely to the northernmost section, the rocky outcrop of West Cliff. Amongst other species, Ringed Plovers, Sanderlings and Oystercatchers also occurred in relatively high densities at West Cliff but were more widespread on the intertidal flats also. Grey Plovers were very evenly spread across the site but Golden Plovers were confined to the area by the outflow of the river Stour. The overall totals map shows increasing overall bird density towards the north of the site, with West Cliff particularly highlighted by the weighted total map.

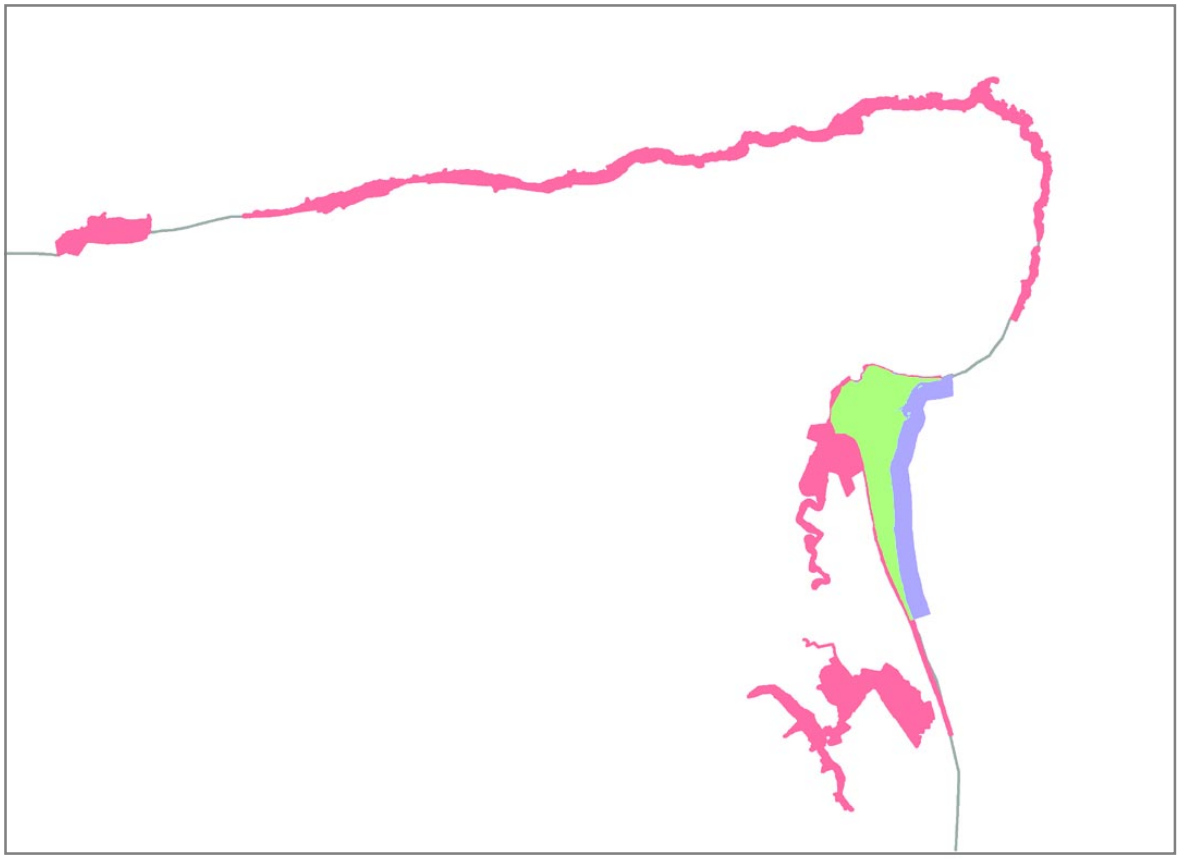


Figure 4.26.2: **LTC and SPA boundaries, with overlap, at Pegwell Bay**

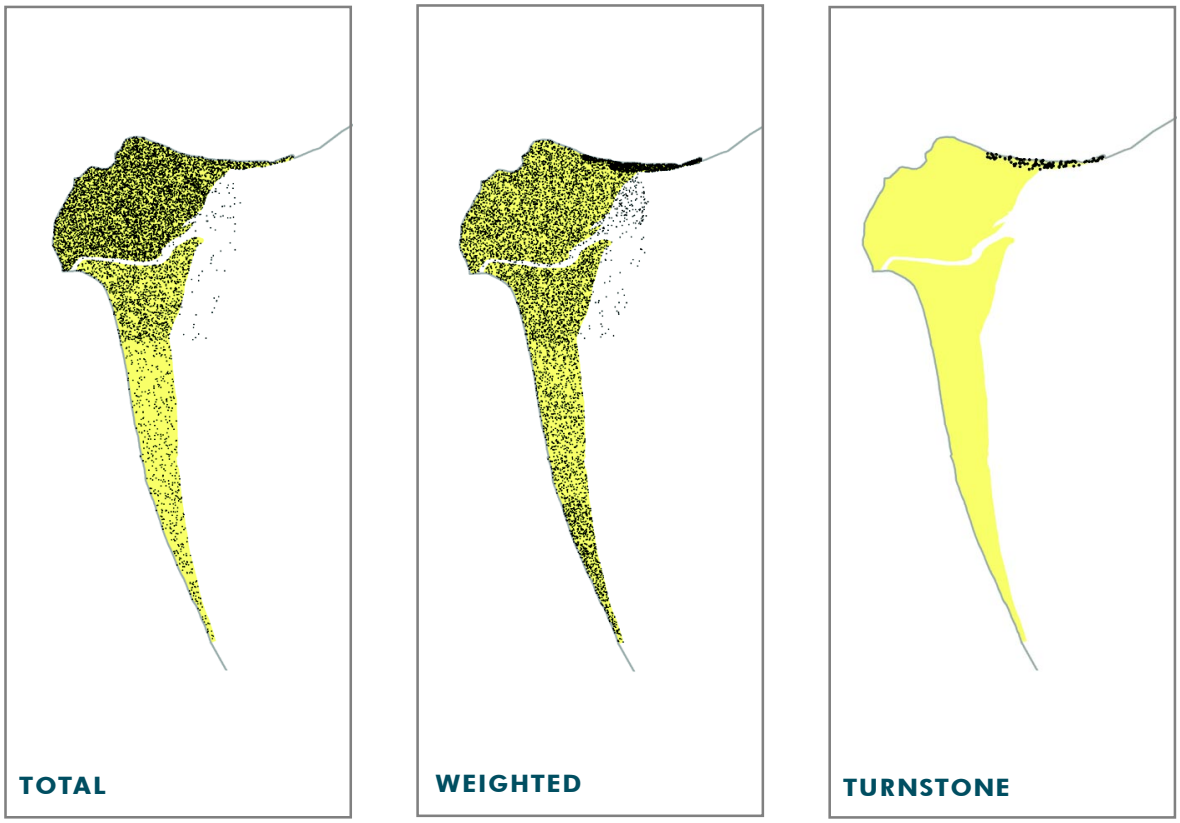


Figure 4.26.3: **Low tide waterbird distributions recorded at Pegwell Bay, winter 1994–95**

4.27 ADUR ESTUARY

LTC site code: EA
Centre grid: TQ2105
JNCC estuarine review site: 125
Habitat zonation: 16 ha intertidal, 3 ha subtidal, 3 ha nontidal
Statutory status: Adur Estuary SSSI
Winter waterbird interest: N/A

SITE DESCRIPTION

The Adur is a small estuary which forms a narrow, winding channel before being diverted by a shingle spit and discharging into the sea at Shoreham-by-Sea. The shape of the site is heavily influenced by man-made features such as sea-walls and barrier beaches. Narrow mudflats along much of its length become sandier towards the mouth. Small areas of saltmarsh are found along the edges of the estuary, with recent colonisation by *Spartina* having significantly reduced the feeding area for waders. Industrial activity is prominent around the lower estuary, including a port and onshore oil-holding tanks. Recreational activities are intensive around the lower reaches, with high levels of disturbance for both feeding and roosting birds. Feeding birds are also apparently displaced by bait diggers; although they used to move onto the short grassland of the adjacent airfield, more intensive use of the latter for flights has reduced its availability to estuarine birds. Boats are also a problem, driving birds off muflats prematurely on rising tides. It is also possible that an increasing roost of gulls on the mudflats may reduce the area available for feeding (J. Glover, J. Badley pers. comm.).

COVERAGE AND INTERPRETATION

As a small site, the Adur Estuary was not originally targeted for coverage by the LTCs. However, local RSPB staff carried out counts of a part of the site during all four months of the winter of 1998–99, which were then incorporated into the LTC database. Figure 4.27.1 shows the positions of the two sections counted for the survey.

The estuary has not been classified an SPA but the surveyed area is part of the Adur Estuary SSSI. The latter covers a more extensive area upstream of the LTC sections, but includes only a relatively small amount of additional intertidal habitat (Figure 4.27.2). Some intertidal habitat is present downstream towards the mouth which was included in neither the SSSI nor the area surveyed by the LTCs. Further LTCs of the Adur should aim to cover the rest of the SSSI as well as the intertidal habitat towards the estuary mouth.

The site is relatively isolated and interchange of birds between the Adur and other estuaries on a regular basis is unlikely on a daily basis. However, many of the waders that feed on the estuary at low tide (particularly Ringed Plovers and

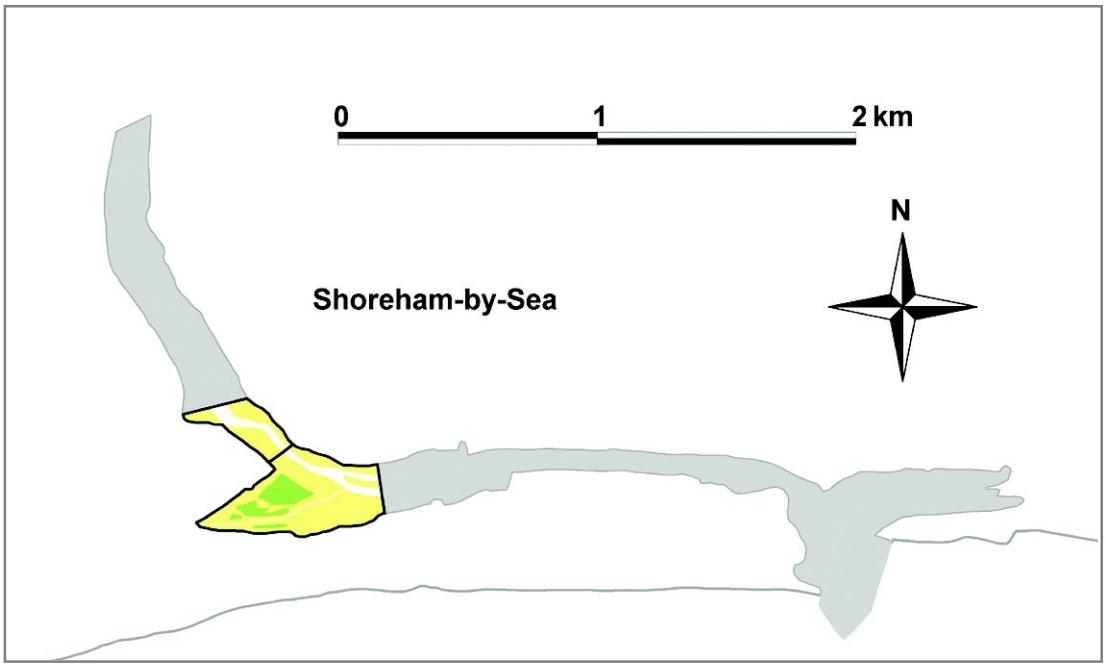


Figure 4.27.1: **LTC sections at the Adur Estuary, winter 1998–99**

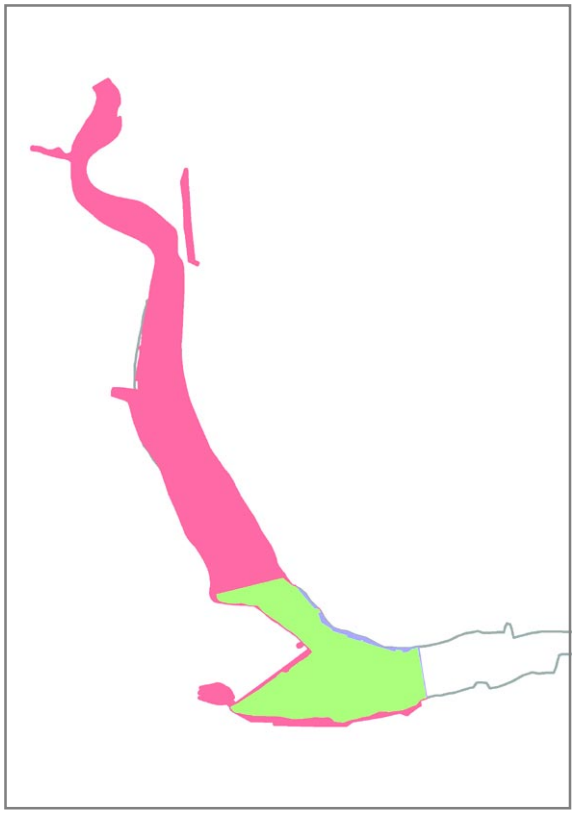


Figure 4.27.2: **LTC and SSSI boundaries, with overlap, at the Adur Estuary**

Turnstones) also feed and/or roost on the larger tides on the shingle beach at Shoreham seafront, usually within a few hundred metres of the harbour entrance (J. Glover pers. comm.).

WATERBIRD DISTRIBUTION

Low tide distribution maps from the winter of 1998–99 are presented for total birds and total birds weighted by 1% threshold value (Figure 4.27.3).

Since the counts took place within only a limited area of the estuary, care must be taken with the interpretation of count results from the site. From the results obtained, the easternmost of the two sections supported higher densities of feeding birds. This pattern was also observed for most of the individual species, although Turnstones were the exception, being more numerous in the western section.

Figure 4.27.3: **Low tide waterbird distributions recorded at the Adur Estuary, winter 1998–99**

4.28 PAGHAM HARBOUR

LTC site code:	BP
Centre grid:	SZ8796
JNCC estuarine review site:	127
Habitat zonation:	294 ha intertidal, 41 ha subtidal, 102 ha nontidal
Statutory status:	Pagham Harbour SPA (UK9012041), Pagham Harbour Ramsar (7UK035)
Winter waterbird interest:	Cormorant, Dark-bellied Brent Goose, Teal, Pintail, Grey Plover, Ruff, Black-tailed Godwit

SITE DESCRIPTION

Pagham Harbour is a relatively small estuary located just east of Selsey Bill in Sussex. A central area of mudflats and saltmarsh is flanked by brackish marsh, reedbed and damp pastures. The sedimentation processes within the harbour are resulting in a net gain in saltmarsh cover, with further plans to encourage saltmarsh expansion through managed retreat over grazing land to the north-west of the site. The outlet to the sea is a narrow channel flowing through a shingle beach. There are brackish lagoons at Pagham and Sidlesham. The area was once claimed as agricultural land but was flooded again early in the 20th century. Only a very limited amount of sailing takes place in the harbour, and fishing and bait-digging are strictly regulated. Other conservation concerns include the influence of nutrients on the harbour and changes in coastal defences around the harbour (R. Carver pers. comm.).

COVERAGE AND INTERPRETATION

Pagham Harbour has been covered for the scheme each winter between 1995–96 and 1998–99 (as well as subsequently); counts were made during all months apart from November 1995 and January 1996. Figure 4.28.1 shows the positions of the 23 sections counted during the 1998–99 winter; the same overall area was counted throughout, although the two eastern sections containing Pagham Lagoon and the adjacent beach were counted as a single section prior to this winter.

Figure 4.28.2 shows how Pagham Harbour SPA includes almost the entire site as counted for the LTCs (apart from a small area of the fields north of Pagham Wall) but additionally a sizeable area of nontidal fields north along Bremere Rife, smaller areas south of Sidlesham and at Church Norton, and extensions along the coastal intertidal strip to north and south of the mouth of the estuary. An assessment at the SPA level

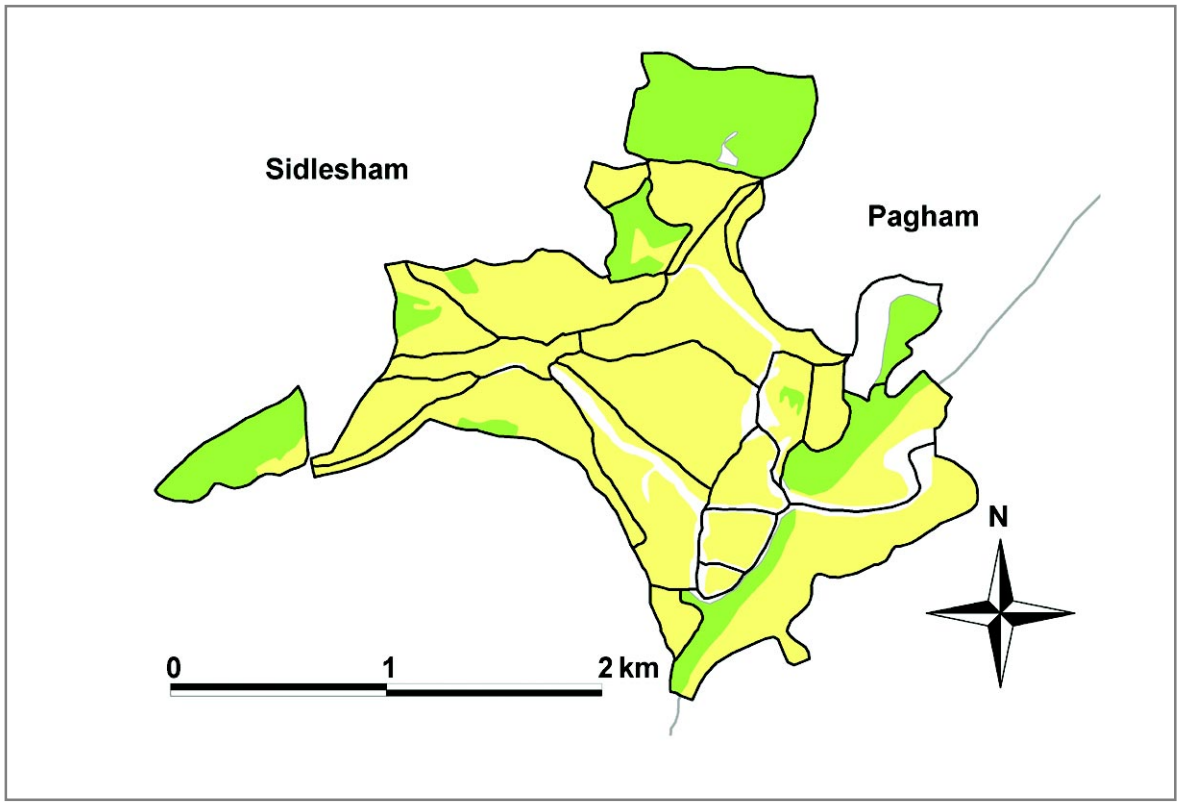


Figure 4.28.1: **LTC sections at Pagham Harbour, winter 1998–99**

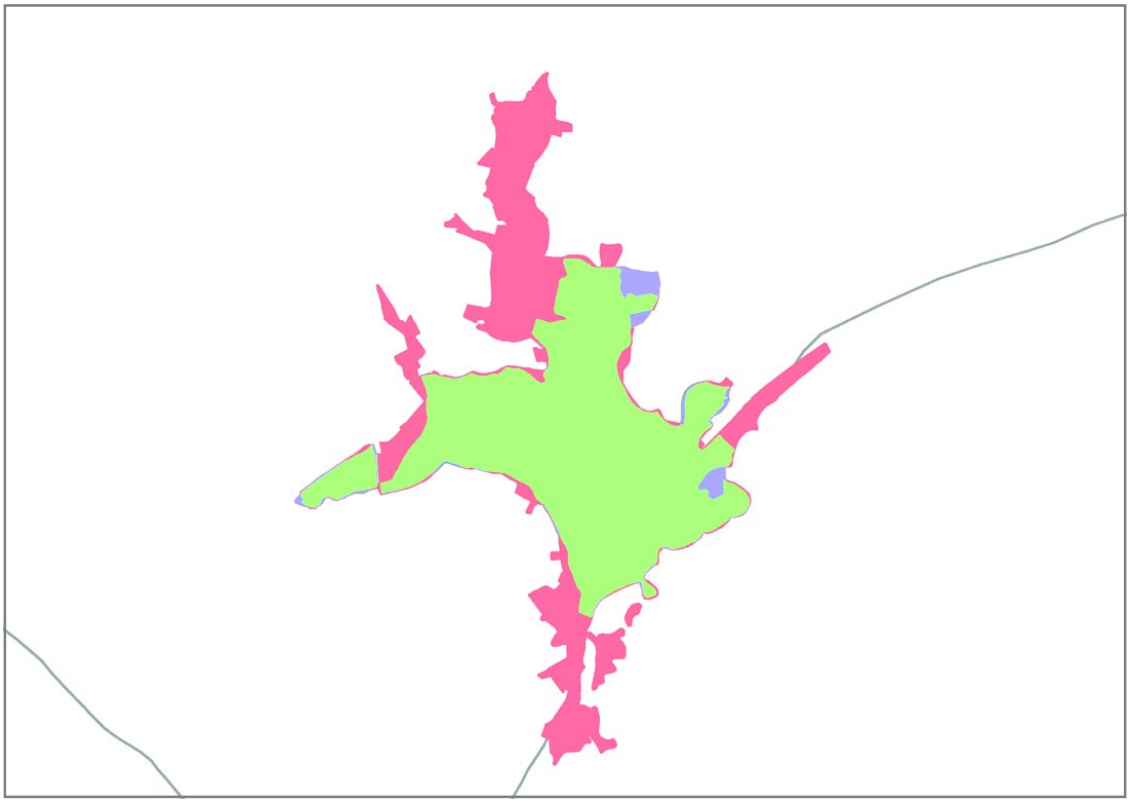


Figure 4.28.2: LTC and SPA boundaries, with overlap, at Pagham Harbour

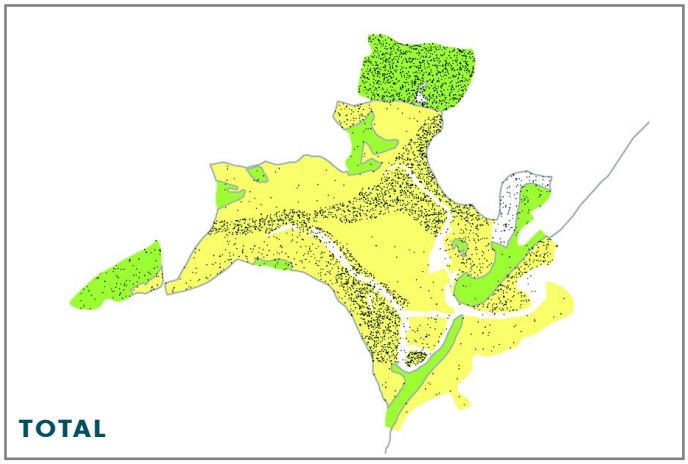
must take into account these differences. The boundaries of the Ramsar site are entirely coincident with those of the SPA.

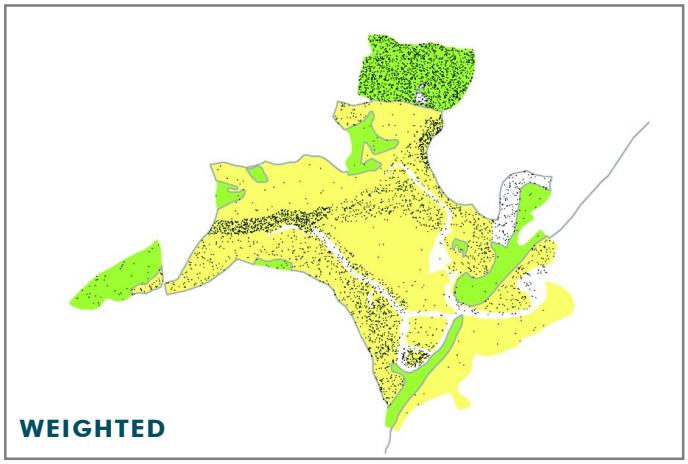
Although birds may move between the harbour and adjacent nontidal habitats, there is not thought to be appreciable daily movement between Pagham and other estuaries, notably Chichester Harbour to the north-west. Estuarine birds may, however, move in and out of the harbour onto adjacent non-estuarine coastal habitats at different states of the tide (R. Carver, A. de Potier pers. comm.).

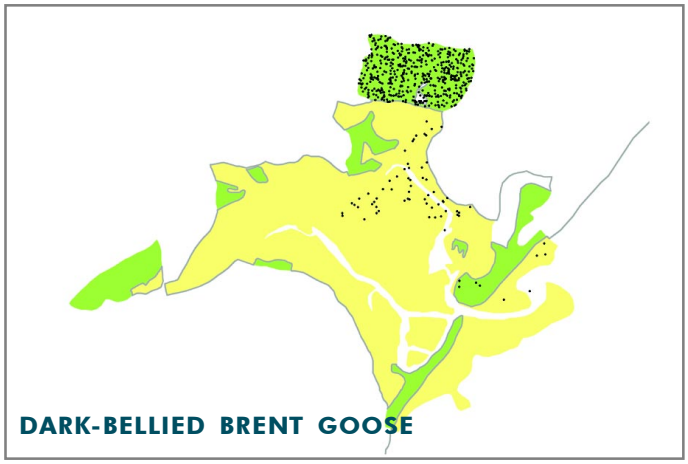
WATERBIRD DISTRIBUTION

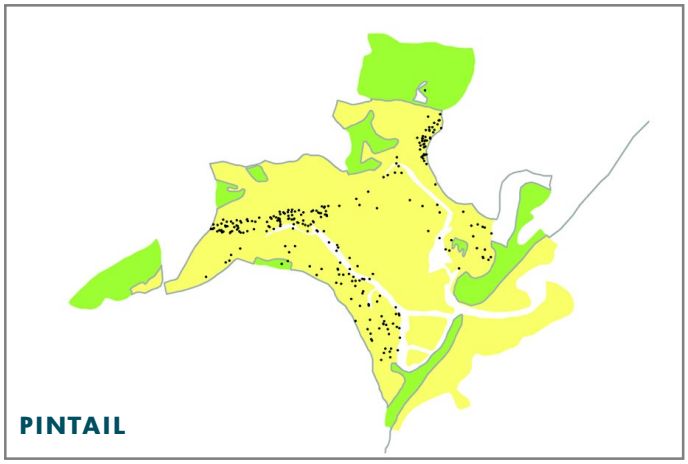
Low tide distribution maps from the winter of 1998–99 are presented for five of the seven species of principal interest listed above. Additional maps of total birds and total birds weighted by 1% threshold value are also presented (Figure 4.28.3). Of the other species, very few Ruff were recorded by the scheme during any winter under review, this species making use of nontidal grassland areas nearby. Cormorants were very scarce at low tide (but not according to Core Counts) during the 1998–99 winter. However, they were numerous (up to 97 per month) during the previous three winters when most were found in the outer half of the harbour.

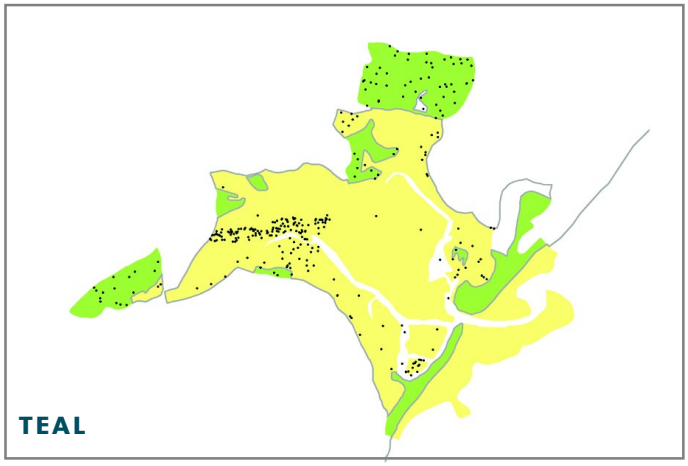
The totals map, coupled with the weighted totals map, picks out the higher overall bird density along the main creeks and on the fields north of Pagham Wall. The latter area was clearly the principal area for Brent Geese and Black-tailed Godwits and was also used by Teal and Wigeon. However, the latter two species along with Pintail clearly occurred along the main creeks through the harbour. Grey Plovers occurred widely throughout the intertidal parts of the site.

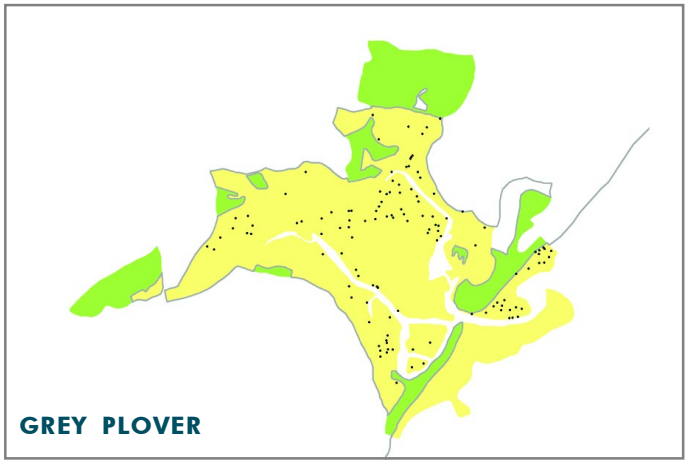












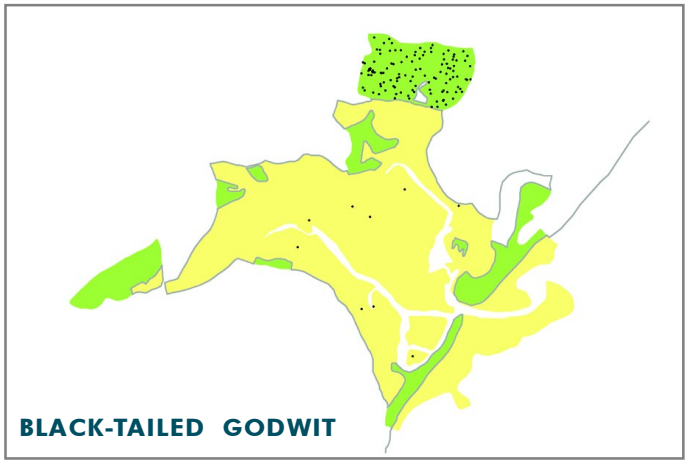


Figure 4.28.3: **Low tide waterbird distributions recorded at Pagham Harbour, winter 1998–99**