4.29 CHICHESTER HARBOUR

LTC site code:	BC
Centre grid:	SU7600
JNCC estuarine review site:	128
Habitat zonation:	2601 ha intertidal, 635 ha subtidal, 142 ha nontidal
Statutory status:	Chichester and Langstone Harbours SPA (UK9011011), Chichester and Langstone Harbours Ramsar (7UK032)
Winter waterbird interest:	Little Grebe, Cormorant, Little Egret, Dark-bellied Brent Goose, Shelduck, Wigeon, Teal, Pintail, Shoveler, Red-breasted Merganser, Oystercatcher, Ringed Plover, Grey Plover, Lapwing, Knot, Sanderling, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Waterbird assemblage

SITE DESCRIPTION

Chichester Harbour is situated between Chichester and Havant and is linked to Langstone Harbour to the west by a channel along the north side of Hayling Island. There are four major arms of the estuary, originally formed by land sinking along four small river valleys. These run into a wider area near the mouth of the estuary and there is a fairly wide opening to the eastern Solent. The former river channels are muddy whereas the intertidal areas south of Thorney Island are much sandier, and also support extensive areas of eelgrass and algae.

There is public access by footpath around almost the entire site and so disturbance to birds by walkers and dogs can be an issue. The estuary is also extremely popular with watersports enthusiasts, and whilst this is more of an issue in the summer months, new technology has more recently enabled an increase in winter watersports. Wildfowling also occurs, as does commercial dredging for oysters, hand-gathering of cockles and winkles and bait digging. In the longer term, more serious issues of habitat loss are likely to be those concerned with climate change such as storm-related erosion, sea-level rise and demand for sea defences. Other concerns relate to land use planning, which will have an impact on existing problems such as eutrophication and disturbance (A. de Potier pers. comm.).

COVERAGE AND INTERPRETATION

Chichester Harbour was one of the most frequently covered sites for the scheme during the period under review. Counts were made in the winters 1992–93 (no December or January counts), 1993–94 (no December count), 1996–97, 1997–98 and 1998–99. Figure 4.29.1 depicts the 61 count sections used during the 1998–99 winter. There have been a few changes in section boundaries over the course of this period. If further detail is required, the National Organiser should be consulted.

Figure 4.29.2 shows the LTC and SPA boundaries

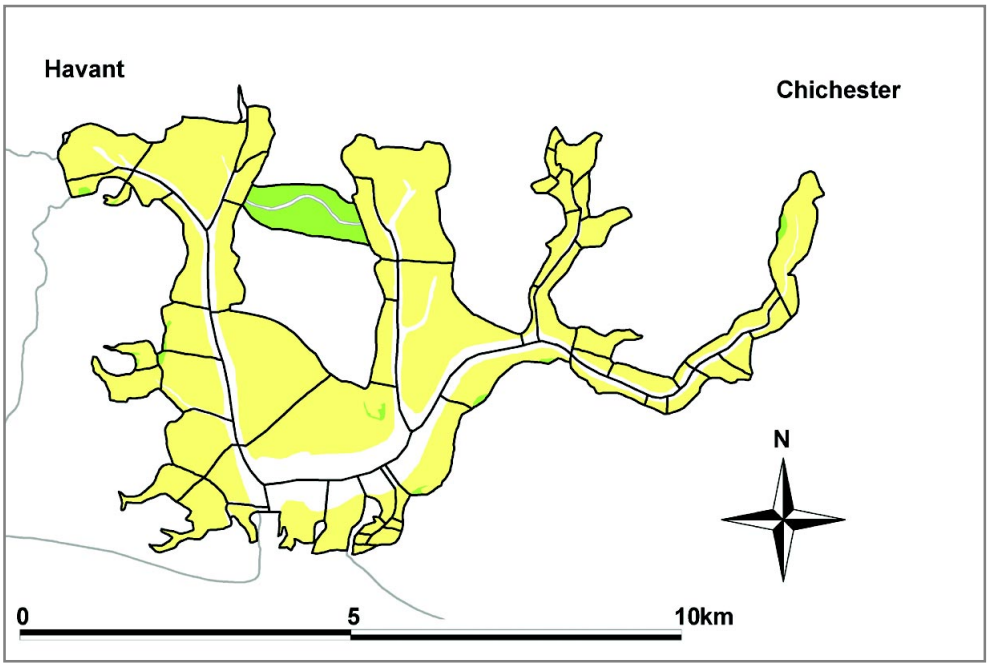


Figure 4.29.1: **LTC sections at Chichester Harbour, winter 1998–99**

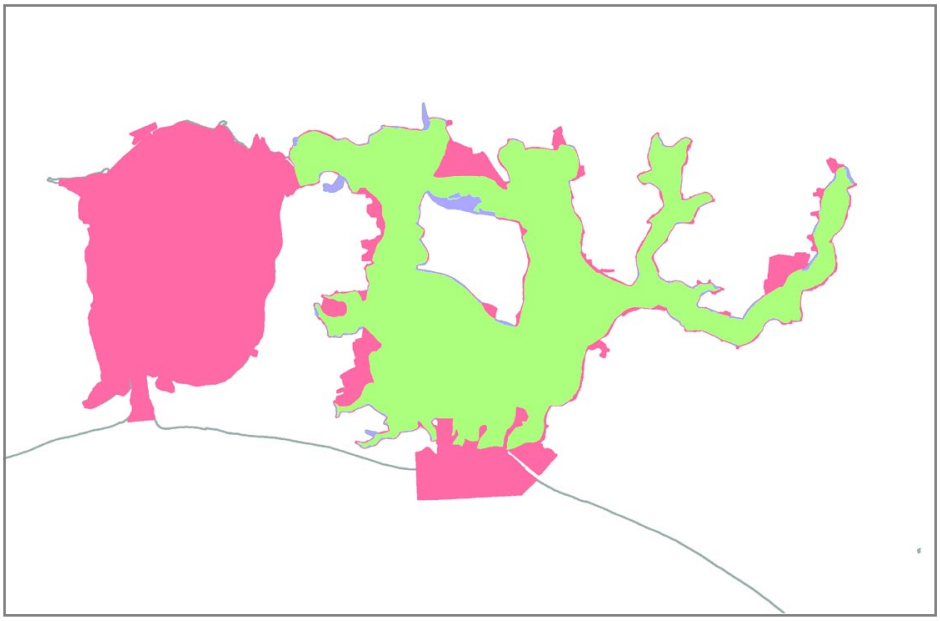


Figure 4.29.2: LTC and SPA boundaries, with overlap, at Chichester Harbour

at the site. The main difference is clearly that the SPA also includes Langstone Harbour to the west, which has been treated as a separate site by WeBS; other differences are fairly marginal. A few non-estuarine areas around the harbour have been included within the SPA but the LTCs concentrated on tidal areas. The boundaries of the Ramsar site are entirely coincident with those of the SPA.

Movements of birds clearly occur on a tide-to-tide basis between Chichester and Langstone Harbours, although this is not as yet fully understood. Birds apparently move in both directions as the tide rises and falls and further work is planned to investigate movements in the area more closely. It is also thought that some interchange with Portsmouth Harbour takes place. East of Chichester, Pagham Harbour is only a short distance away and some regular movements may take place, although these are not confirmed as yet. Some species, notably Brent Geese, Lapwings and Golden Plovers, make use of both the harbour and surrounding nontidal habitats (A. de Potier pers. comm.).

WATERBIRD DISTRIBUTION

Low tide distribution maps from the winter of 1998–99 are presented for 20 of the 21 species of principal interest listed above. For clarity, smaller dots are used to display the distribution of Dunlin. Additional maps of total birds and total birds weighted by 1% threshold value are also presented (Figure 4.29.3). Of the remaining species, only small numbers of Shovelers were noted on the site at low tide, this species occurring on nontidal areas within the SPA, notably Farlington Marshes in Langstone Harbour.

The totals and weighted totals maps illustrate that whilst overall bird density varies around the harbour, most parts held substantial numbers of birds; some key areas appear to be at Snow Hill Creek, the north end of Bosham Channel, much of Chichester Channel and the flats east of Langstone Bridge. The overall picture was strongly influenced by Dunlin and Brent Geese, both of which were widespread in large numbers around the site. Wigeon, Teal and Pintail were all found in higher densities along the inner parts of the channels, with Wigeon particularly concentrated at the tops of Bosham and Chichester channels. Ringed Plovers were scarce in the north-west of the harbour but widespread elsewhere. Lapwings occurred widely but major concentrations were highly localised. Sanderlings were almost entirely confined to the sandflats south of Thorney Island and Knot preferred the more open areas, shunning the narrower sections of channels. Black-tailed Godwits and Bar-tailed Godwits were clearly differentiated in their habitat preferences, with the former at the inner end of channels and the latter towards the mouth of the site. Little Grebes were most numerous in Chichester and Bosham Channels. Other species were more widespread although often with local concentrations.

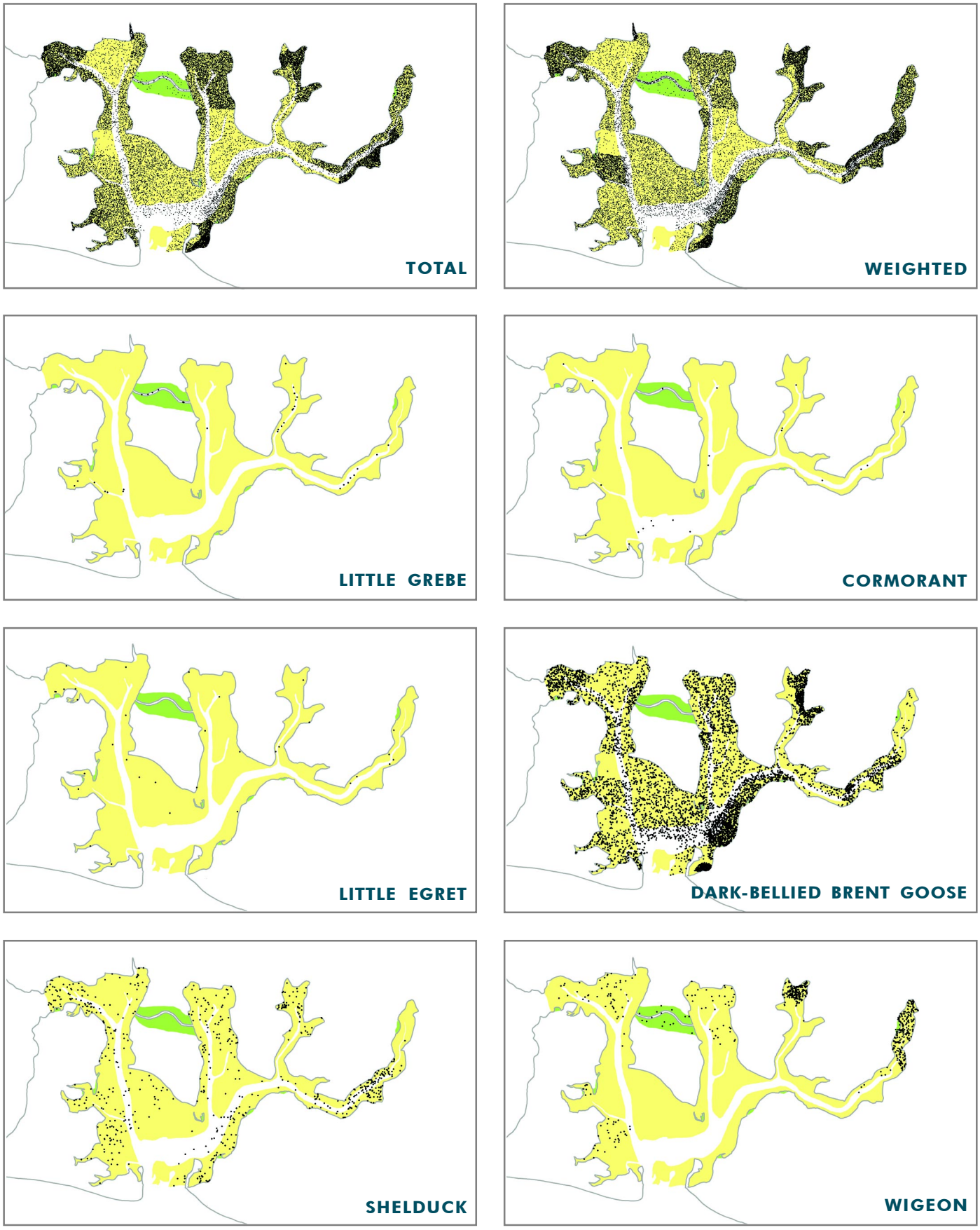


Figure 4.29.3 (i): **Low tide waterbird distributions recorded at Chichester Harbour, winter 1998–99**

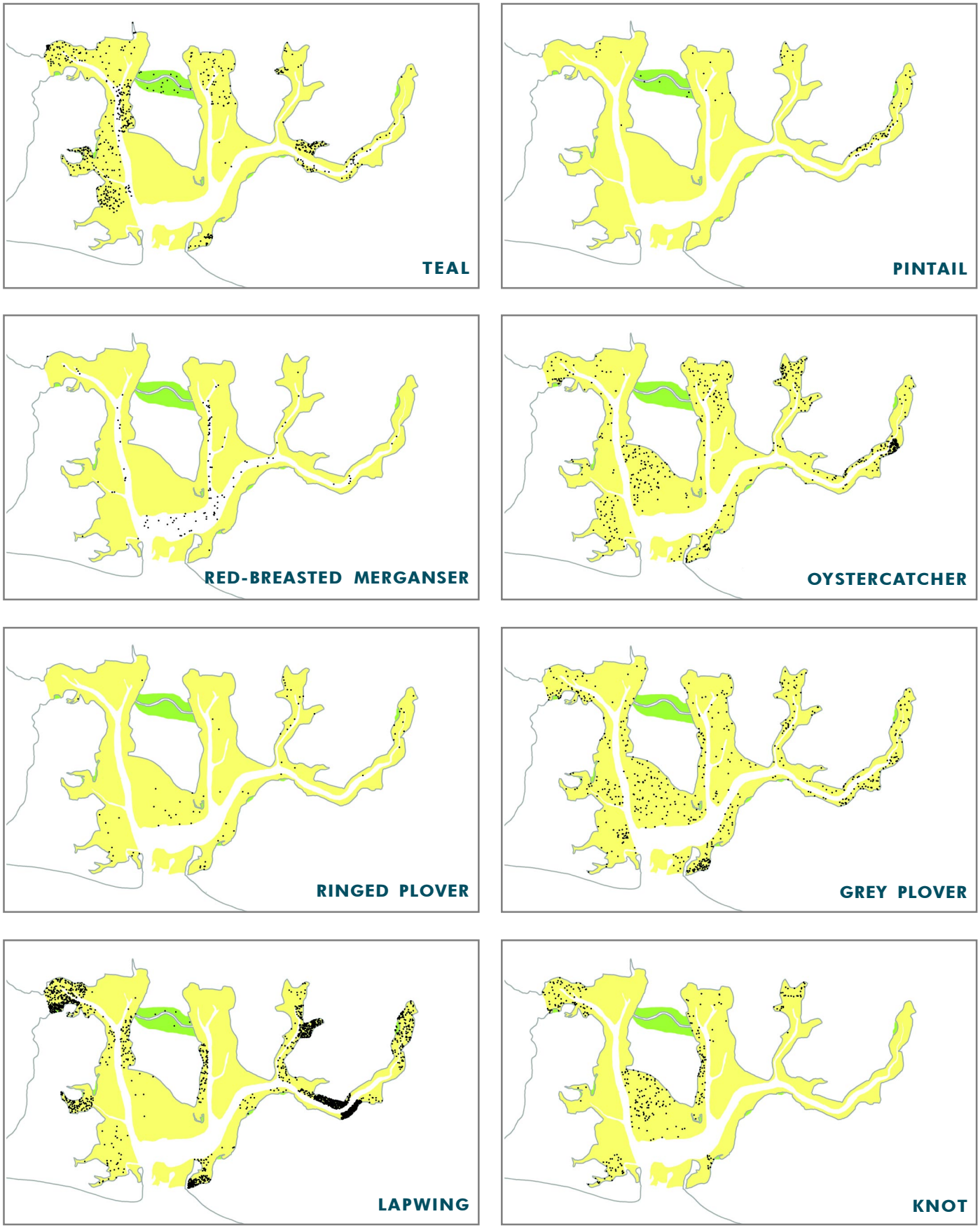


Figure 4.29.3 (ii): **Low tide waterbird distributions recorded at Chichester Harbour, winter 1998–99**

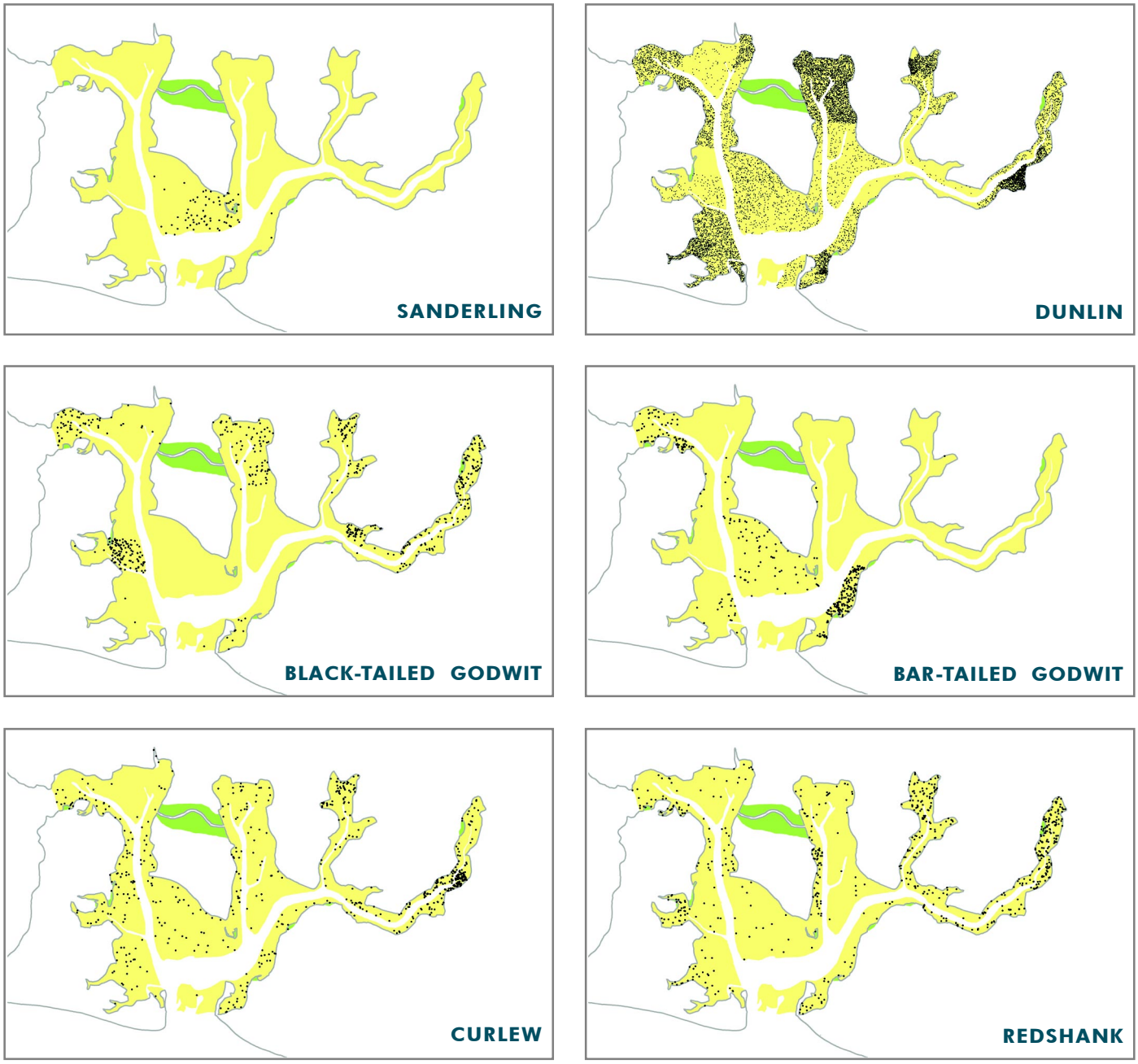


Figure 4.29.3 (iii): **Low tide waterbird distributions recorded at Chichester Harbour, winter 1998–99**

4.30 LANGSTONE HARBOUR

LTC site code:	BL
Centre grid:	SU7002
JNCC estuarine review site:	129
Habitat zonation:	1521 ha intertidal, 348 ha subtidal, 66 ha nontidal
Statutory status:	Chichester and Langstone Harbours SPA (UK9011011), Chichester and Langstone Harbours Ramsar (7UK032)
Winter waterbird interest:	Little Grebe, Cormorant, Little Egret, Dark-bellied Brent Goose, Shelduck, Wigeon, Teal, Pintail, Shoveler, Red-breasted Merganser, Oystercatcher, Ringed Plover, Grey Plover, Lapwing, Knot, Sanderling, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Waterbird assemblage

SITE DESCRIPTION

Langstone Harbour is surrounded by urban development, although most of the land immediately adjacent to the shore is relatively open. The site is joined to both Chichester Harbour to the east and Portsmouth Harbour to the west (although only by a narrow creek in the latter case). The sediments exposed at low tide are mainly fine silts and organic matter, with a small area of sand near the harbour mouth. The main conservation issues around the site are developments of land near the shore and disturbance by recreational activities such as boating. Bait digging and shellfish gathering also occur. In the longer term, the decommissioning of the sewage effluent outfall from Budd's farm sewage works into the north-east of the harbour may lead to a reduction in the intertidal invertebrate population and hence to a reduction in the waterbird carrying capacity of the site. Also in the long term, predicted sea-level rise and climate change is likely to become a key issue, due initially to the expected loss of the low saltmarsh/shingle islands in the harbour which act as important undisturbed roost sites (C. Cockburn pers. comm.).

COVERAGE AND INTERPRETATION

Langstone Harbour was covered for the scheme during the two winters 1993–94 and 1998–99, no monthly counts being missed. The site was also counted in January 1997 as part of a co-ordinated 'Greater Solent' count, although this is not considered part of the WeBS dataset. Figure 4.30.1 shows the positions of the 35 sections counted for the survey during the 1998–99 winter. There were a few minor differences during the 1993–94 winter; three sections were not counted and a further two were lumped together; details can be obtained from the National Organiser if required.

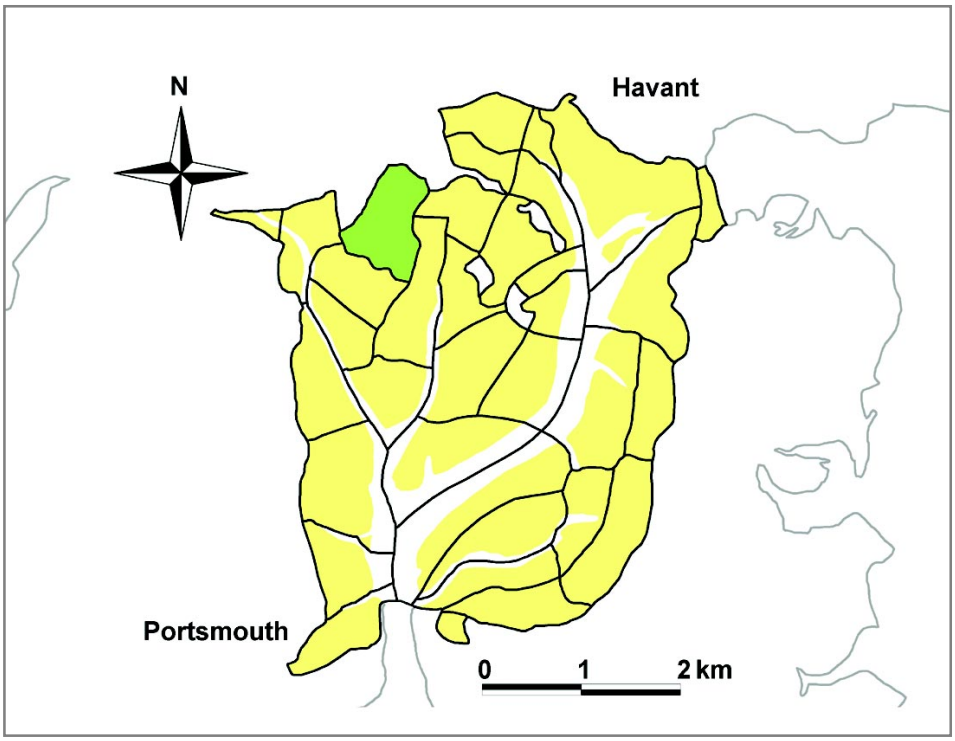


Figure 4.30.1: **LTC sections at Langstone Harbour, winter 1998–99**

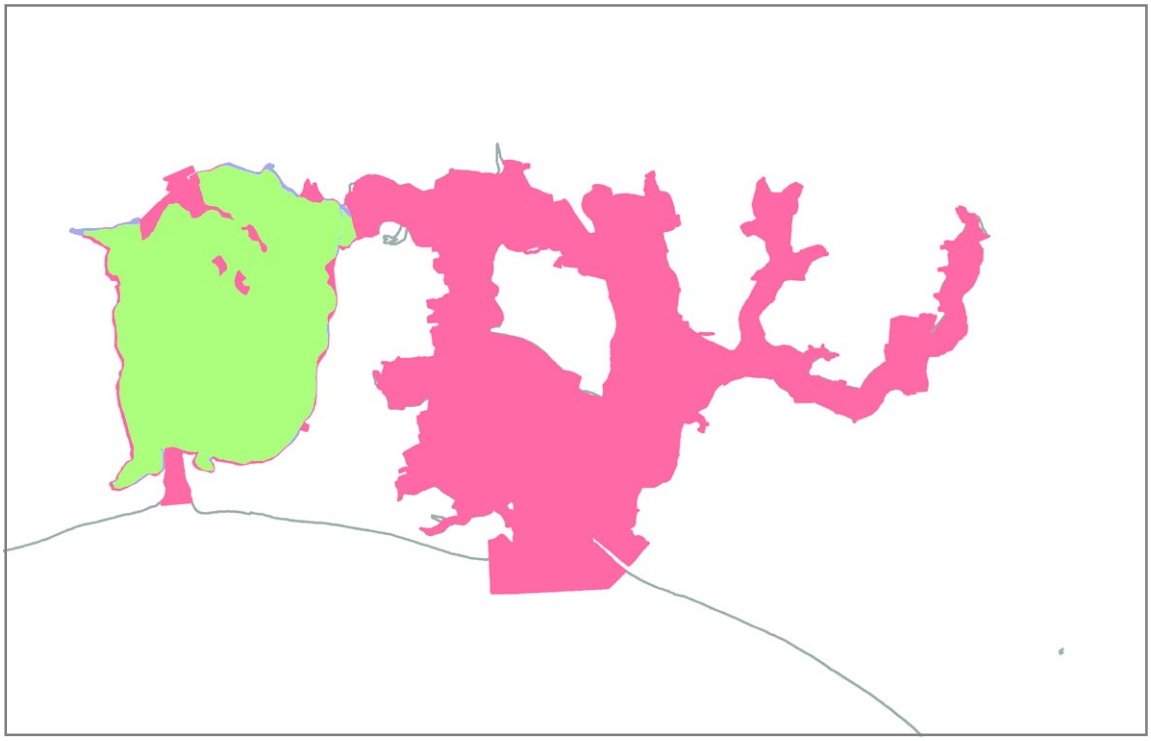


Figure 4.30.2: LTC and SPA boundaries, with overlap, at Langstone Harbour

Figure 4.30.2 shows the overlap between the LTC and SPA boundaries. Clearly, Chichester Harbour is the main difference, being part of the same SPA as Langstone. Around Langstone, the SPA covers additional areas at the mouth of the harbour and on the north side of the site north of Farlington Marshes and behind Budd's Wall. The boundaries of the Ramsar site are entirely coincident with those of the SPA.

A well-defined tidal movement occurs with many birds (including at least Grey Plovers, Knot, Dunlin, Black-tailed Godwits and Curlews) feeding in Portsmouth Harbour but roosting in Langstone Harbour. Tidal movements also occur between Langstone and Chichester Harbours but are less clearly defined, involving birds moving in both directions (C. Cockburn, A. de Potier pers. comm.). Other birds may disperse from the harbour onto the Solent shore of Hayling Island and the Southsea shore. Additionally, Brent Geese feed widely around the area on nontidal habitats.

WATERBIRD DISTRIBUTION

Low tide distribution maps from the winter of 1998-99 are presented for all of the 21 species of principal interest listed above. Additional maps of total birds and total birds weighted by 1% threshold value are also presented (Figure 4.30.3). The totals map shows that high bird densities occurred throughout, but with the highest concentrations at Chalkdock Lake, Farlington Marshes, the west shore and the Kench; the weighted totals map further emphasises Farlington Marshes, due mostly to the Brent Geese here. Despite the very high concentration at Farlington, Brent Geese were common across the whole site. Other species at Farlington in high densities were Wigeon, Teal, Pintail and Shoveler, with these species largely restricted otherwise to the northern end of the site; Chalkdock Lake held the highest Wigeon density and was also a key area for Black-tailed Godwit. Little Grebes occurred only at the northern end but the small numbers of Black-necked Grebes were along Langstone Channel. Shelducks, Red-breasted Mergansers, Cormorants and Little Egrets were more widespread. Chalkdock Lake held the highest density of Oystercatchers. Lapwings were found at the northern end, Ringed Plovers were absent from the centre and Sanderlings occurred towards the mouth. Most other waders were very widespread, Knot occurring in higher densities in the south-east and Dunlin common everywhere but particularly abundant off Budd's Wall, along the western shore, and at the Kench.

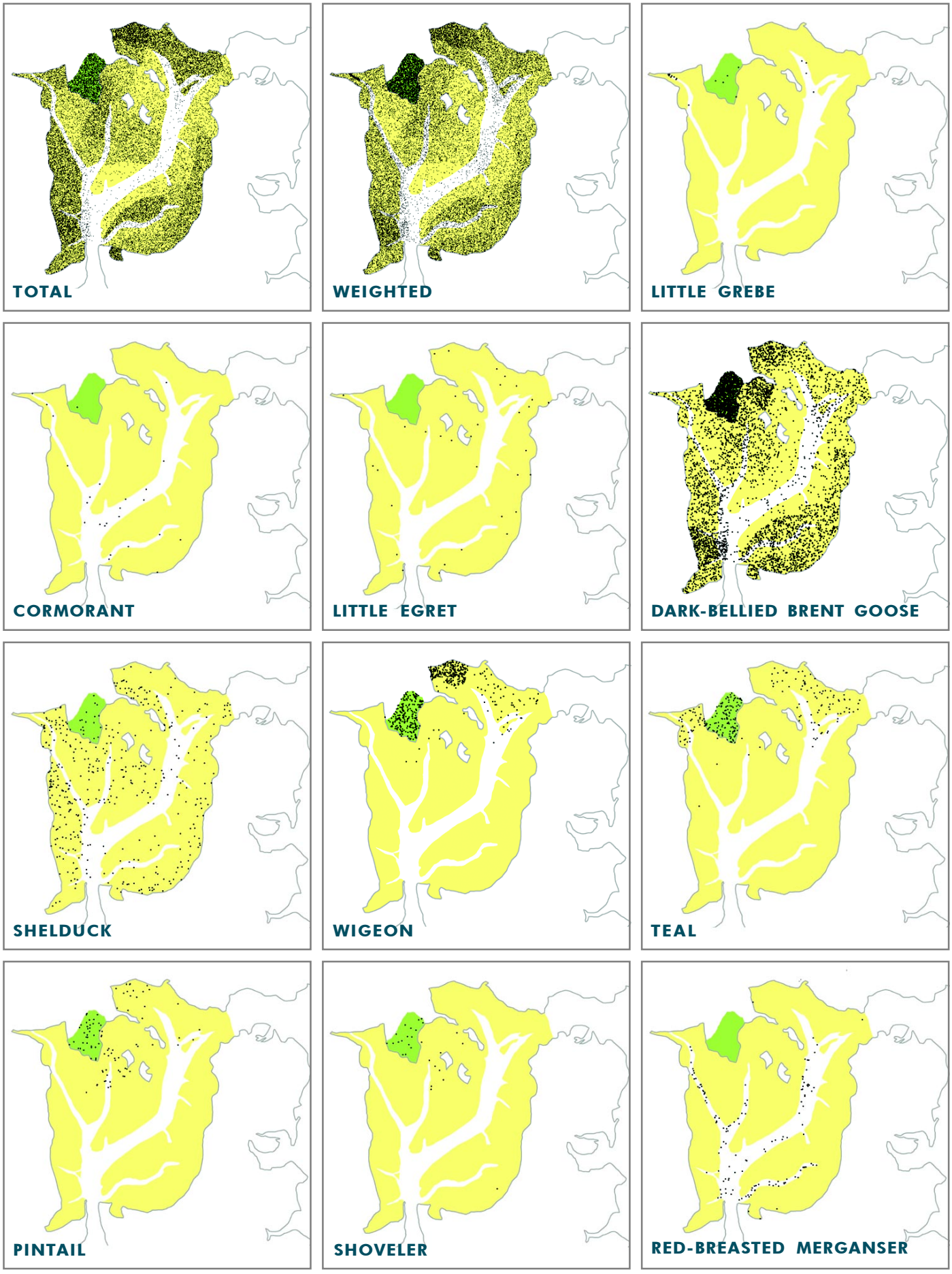


Figure 4.30.3 (i): **Low tide waterbird distributions recorded at Langstone Harbour, winter 1998–99**

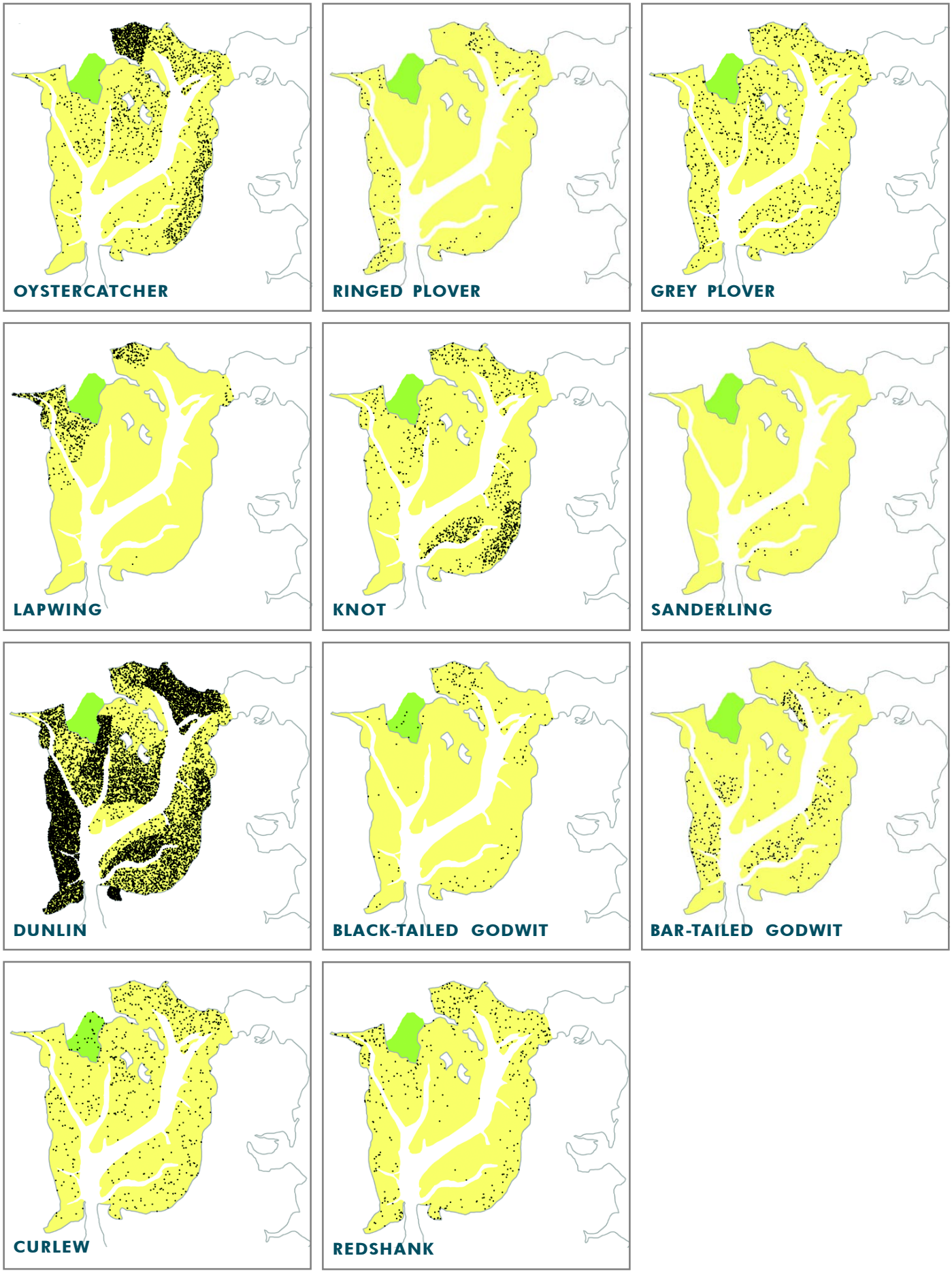


Figure 4.30.3 (ii): **Low tide waterbird distributions recorded at Langstone Harbour, winter 1998–99**

4.31 PORTSMOUTH HARBOUR

LTC site code:	CP
Centre grid:	SU6203
JNCC estuarine review site:	130
Habitat zonation:	963 ha intertidal, 612 ha subtidal, 4 ha nontidal
Statutory status:	Portsmouth Harbour SPA (UK9011051), Portsmouth Harbour Ramsar (7UK074)
Winter waterbird interest:	Dark-bellied Brent Goose, Black-tailed Godwit

SITE DESCRIPTION

This large harbour on the Solent lies between Portsmouth to the east and Gosport and Fareham to the west. The harbour receives relatively little freshwater input, principally from the fairly small Wallington River in the north-west of the site. The connection to the sea, via the Solent, is only 200 metres wide at its narrowest point. There is relatively little in the way of saltmarsh but there are extensive areas of eelgrass and algae on the mudflats. The shores of the harbour are highly industrialised with extensive port and housing developments and major naval docks and installations. There have also been issues concerned with land-claim for refuse disposal.

COVERAGE AND INTERPRETATION

Portsmouth Harbour was covered for the scheme during 1992–93 and 1997–98, counts being made during all months. Figure 4.31.1 shows the positions of the 24 sections counted during the 1997–98 counts. The only differences in 1992–93 were that the two sections making up the west of Paulsgrove Lake were lumped as one; a small section was counted at Stamshaw that no longer existed by 1997–98; and the area between Gosport Marina and the jetty to the north was not counted in the earlier survey. The harbour was also counted as part of the non-WeBS Greater Solent counts in January 1997 and January 1999, using the same count sections; these latter counts are not considered part of the LTCs.

Figure 4.31.2 shows the degree of overlap of LTC and SPA boundaries. The two are almost identical, apart from the open water towards the mouth of the estuary. The main area of intertidal habitat not included in the SPA is around Gosport Marina. A few small creek ends are included within the SPA but were not covered for the LTCs, mostly for access reasons. The boundaries of the Ramsar site are entirely coincident with those of the SPA.

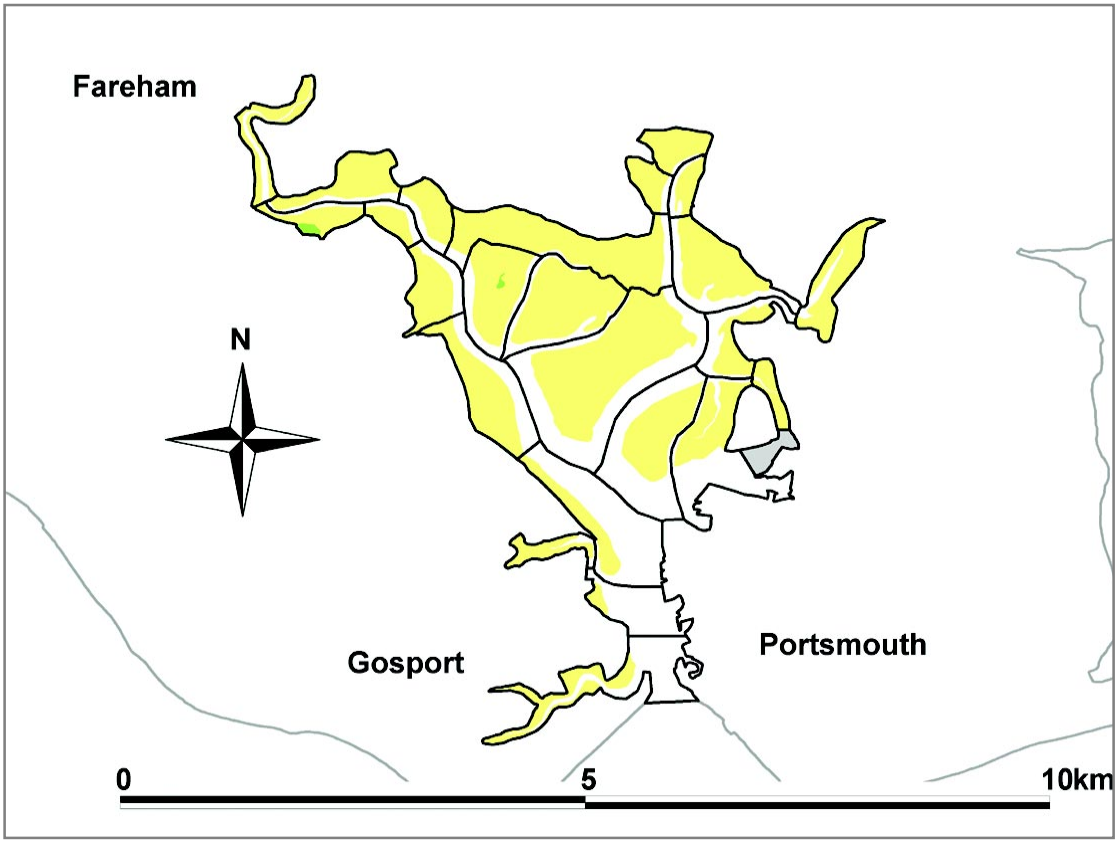


Figure 4.31.1: **LTC sections at Portsmouth Harbour, winter 1997–98**

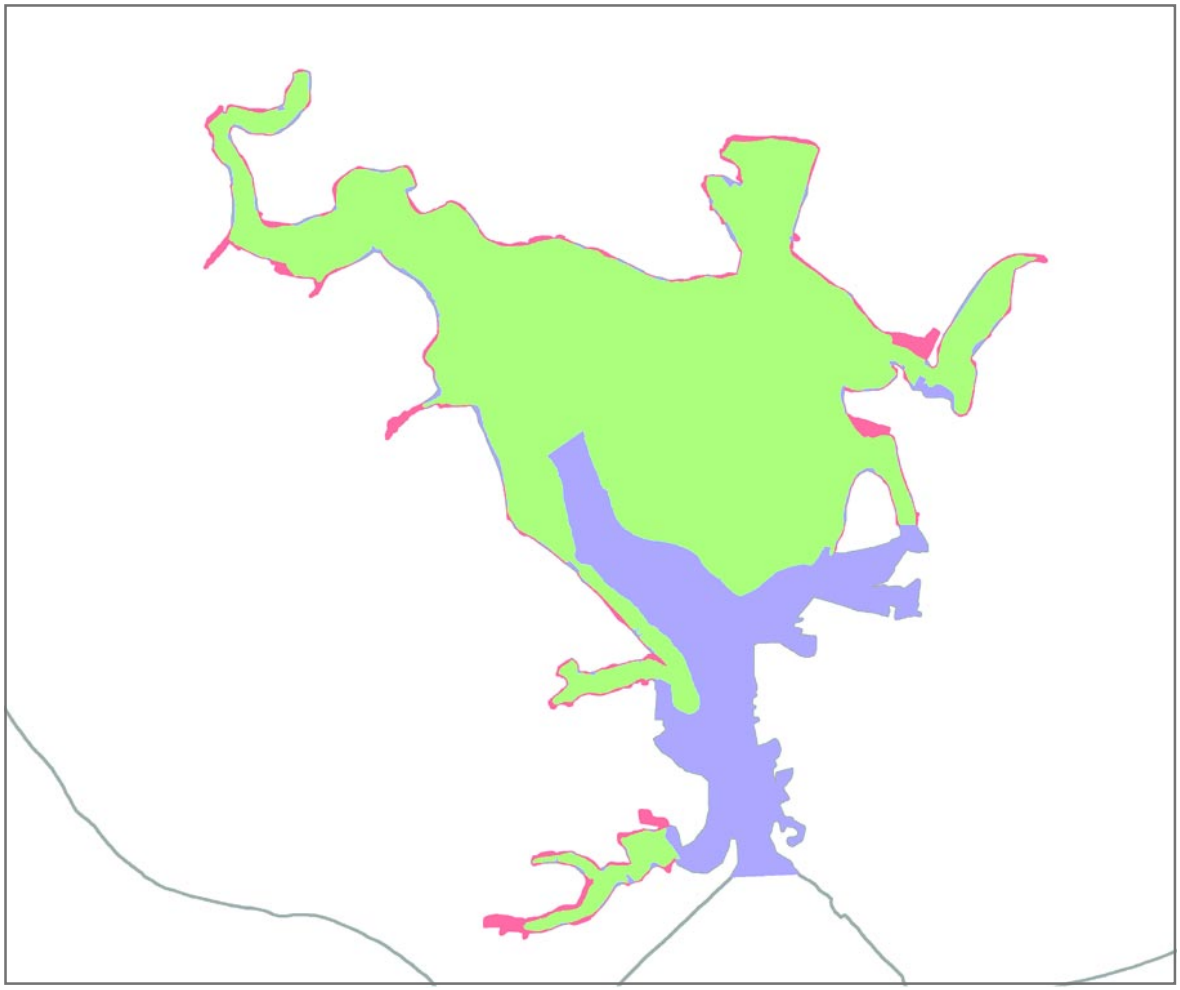


Figure 4.31.2: LTC and SPA boundaries, with overlap, at Portsmouth Harbour

Waterbirds using Portsmouth Harbour make daily movements to and from other sites, especially Langstone Harbour to the east but also further east to Chichester Harbour (C. Cockburn pers. comm.). It is a relatively short distance west from Portsmouth Harbour to Titchfield Haven at the south-eastern end of Southampton Water and movements are thus also possible here, although not yet well-defined. It is thought that inter-site movements, which particularly involve Oystercatchers, Grey Plovers, Dunlin and Black-tailed Godwit, increased following the loss of the main wader roost site to development at Port Solent in the late 1980s (Unsworth 1994). Additionally, Brent Geese in particular make much use of nearby nontidal habitats to feed.

WATERBIRD DISTRIBUTION

Low tide distribution maps from the winter of 1997–98 are presented for the two species of principal interest listed above. Additional maps of total birds and total birds weighted by 1% threshold value are also presented (Figure 4.31.3).

The totals map reveals a pattern of fairly uniform bird density over much of the site, except for an extreme concentration of birds west of Whale Island. This was due mostly to large numbers of Dunlin feeding there. The weighted totals map, however, also picks out Paulsgrove Lake and, to a lesser extent, Fareham Lake as a result of the concentration of Black-tailed Godwits in these parts of the harbour. Brent Geese were clearly very widespread with just slightly higher concentrations at Paulsgrove Lake and in the small creek south of Priddy's Hard.

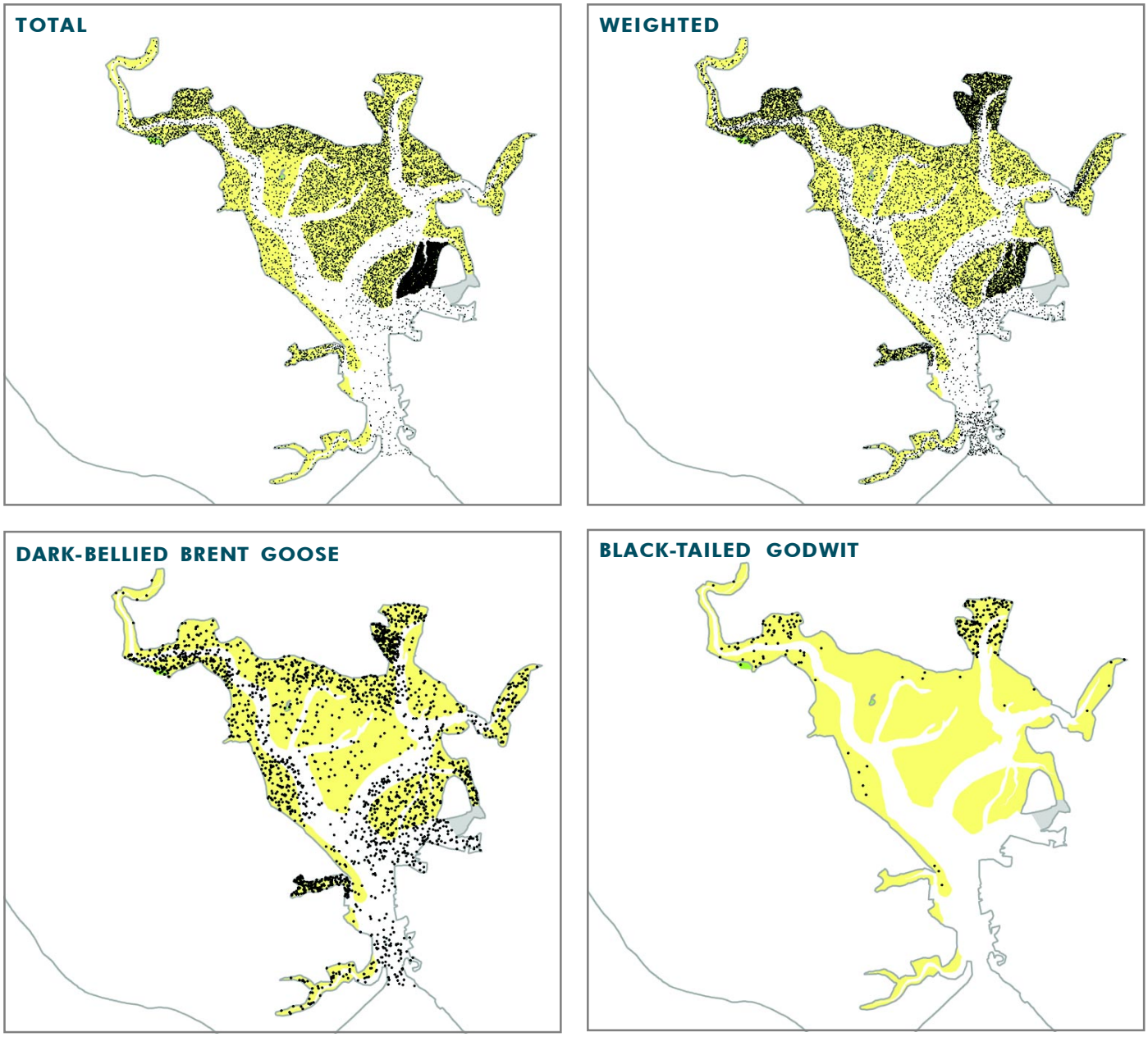


Figure 4.31.3: **Low tide waterbird distributions recorded at Portsmouth Harbour, winter 1997–98**

4.32 SOUTHAMPTON WATER

LTC site code:	CS
Centre grid:	SU4506
JNCC estuarine review site:	131
Habitat zonation:	1001 ha intertidal, 1523 ha subtidal, 285 ha nontidal
Statutory status:	Solent and Southampton Water SPA (UK9011061), Solent and Southampton Water Ramsar (7UK125)
Winter waterbird interest:	Little Grebe, Great Crested Grebe, Cormorant, Dark-bellied Brent Goose, Shelduck, Wigeon, Gadwall, Teal, Pintail, Shoveler, Red-breasted Merganser, Ringed Plover, Grey Plover, Lapwing, Dunlin, Black-tailed Godwit, Curlew, Redshank, Waterbird assemblage

SITE DESCRIPTION

Southampton Water is part of the Solent complex and lies between the city of Southampton and the New Forest. The three principal rivers entering Southampton Water are the Test, Itchen and Hamble. There are extensive areas of mud on both shores of the estuary, with a large area of *Spartina* saltmarsh along the western shore. Southampton Water is one of the most heavily developed estuaries in Britain and, as well as being adjacent to a large city, also has important docks, an oil refinery and a power station along its shores. The area is also extremely heavily used by sailing enthusiasts and for other recreational uses. One of the most significant current development issues has been at Dibden Bay. Development plans would result in the loss of an extensive area of coastal wet grassland and a considerable area of the remaining intertidal mud. At the time of writing, the outcome of a public enquiry regarding this issue is awaited.

COVERAGE AND INTERPRETATION

One of the most intensively surveyed LTC sites, Southampton Water has been covered by the scheme during the winters 1994–95 to 1998–99 (and beyond). Data were returned for all months during this period. Figure 4.32.1 shows the positions of the 35 sections counted for the survey during 1998–99. A few minor changes in count sections took place between winters, details of which can be obtained from the National Organiser. One point of note is that the western shore from Calshot Spit to Cadland Creek has been counted both from the land and from a boat, with the resulting counts treated by taking the highest species count from either.

Comparing the LTC and SPA boundaries, Figure 4.32.2 shows that the major difference is that the SPA also covers a number of other areas traditionally considered as sites in their own right by WeBS, *i.e.* Beaulieu Estuary, North-west Solent and the Isle of Wight estuaries. Of more relevance to Southampton Water itself, however, are two key areas within the SPA which have not been included in the LTCs to date, namely Titchfield Haven and the Lower Test Marshes. Further slight differences between boundaries exist along the Itchen and Hamble rivers, at Hook Park and at Cracknore Hard. A consideration of bird usage of the estuary should take these differences into account. Similarly, it would be ideal if surveys in

Figure 4.32.1: **LTC sections at Southampton Water, winter 1998–99**

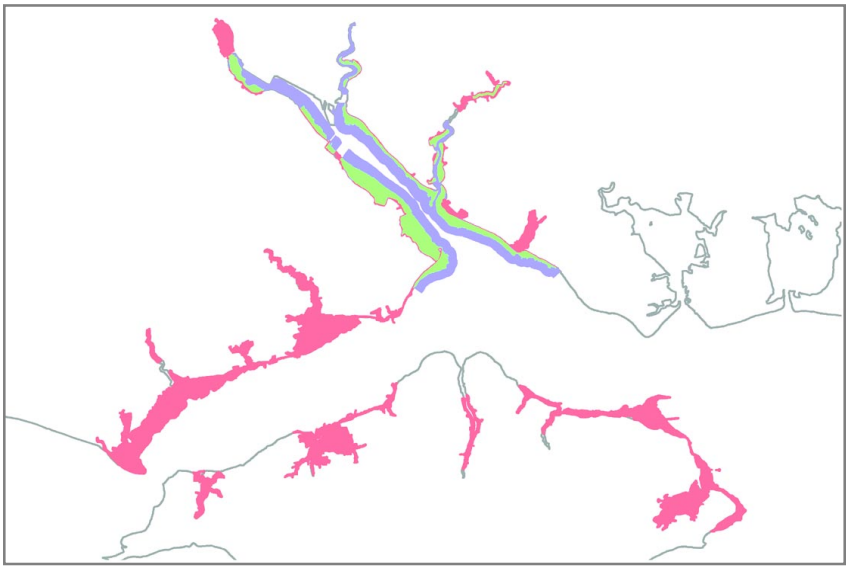


Figure 4.32.2: LTC and SPA boundaries, with overlap, at Southampton Water

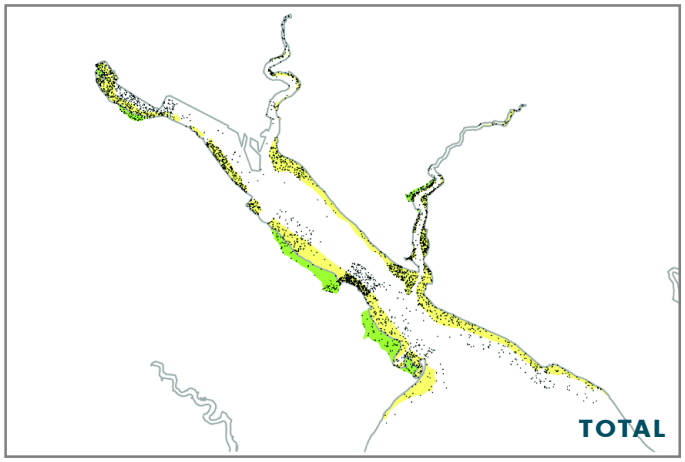
the future could attempt some coverage of Titchfield and Lower Test, at least. The boundaries of the Ramsar site are very similar to those of the SPA, the only difference around Southampton Water itself being a small area of nontidal habitat at Hook Lake within the Ramsar site but not the SPA.

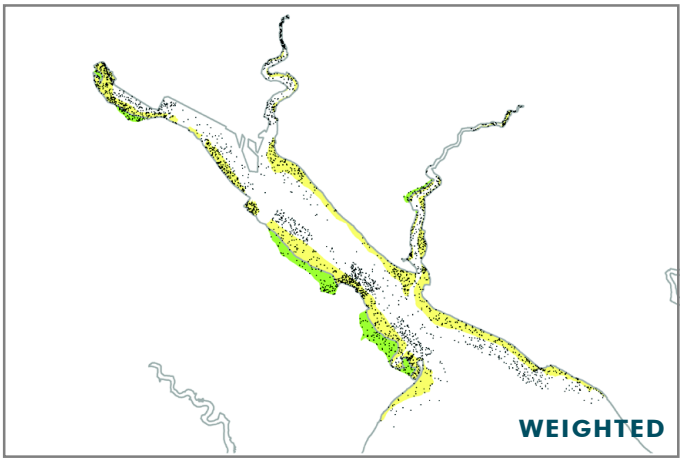
There is an increasing appreciation of the level of waterbird movements between Southampton Water and adjacent wetland sites. In particular, many waders are thought to roost at Needs Ore Point, at the mouth of the Beaulieu Estuary, but to feed on Southampton Water (J. Pain, D. Unsworth pers. comm.). The omission of Titchfield Haven from the LTCs to date means that recorded numbers of Black-tailed Godwits in particular were much lower at low tide than on Core Counts. Other species, especially ducks, will have been similarly affected by the lack of LTCs from the Lower Test Marshes. The extent of regular movements between Southampton and Portsmouth to the east, if any, is not yet quantified.

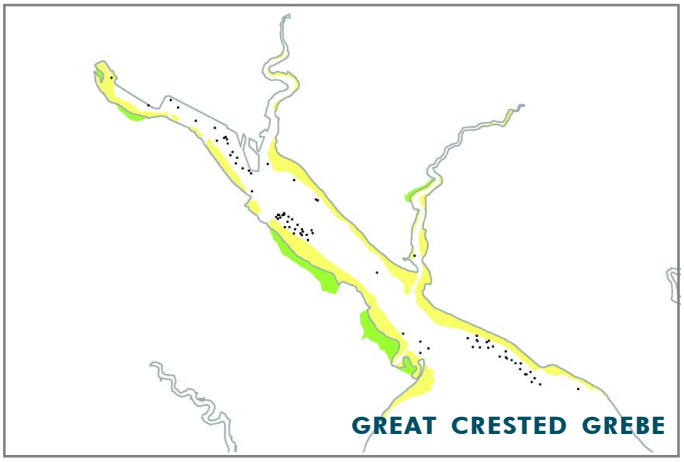
WATERBIRD DISTRIBUTION

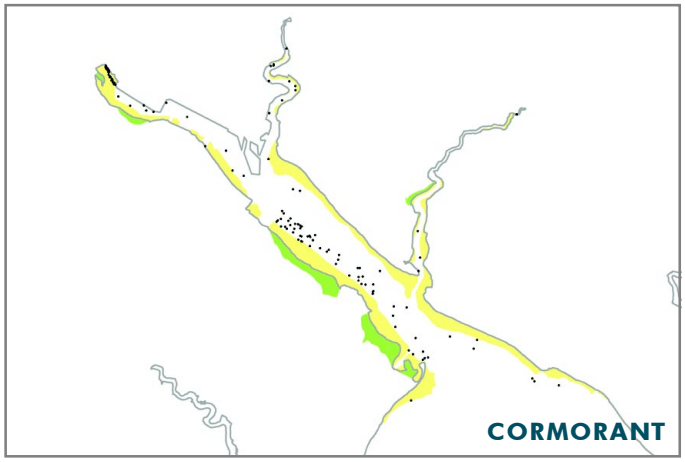
Low tide distribution maps from the winter of 1998–99 are presented for 17 of the 18 species of principal interest listed above. For clarity, smaller dots are used to display the distributions of Wigeon, Teal, Lapwing and Dunlin. Additional maps of total birds and total birds weighted by 1% threshold value are also presented (Figure 4.32.3). The remaining species, Shoveler, was noted in only low numbers by the scheme. Shovelers mostly frequent nontidal habitats around both Southampton Water and the other estuaries included within the SPA boundary.

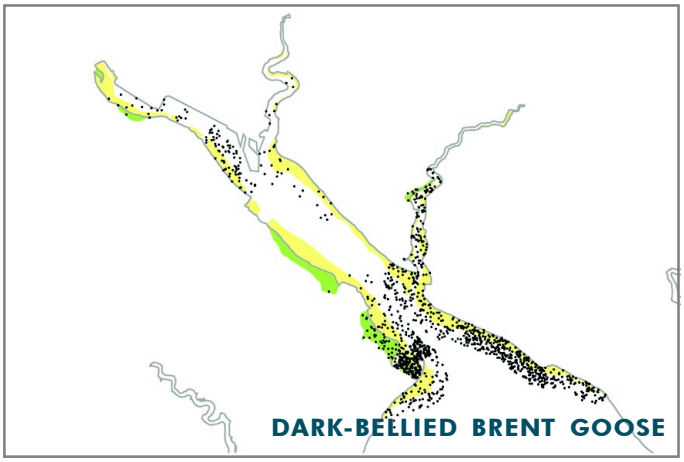
The totals and weighted totals maps suggest that highest density areas were at Cadland Creek, Hythe/Dibden, Bury/Eling, and the Hamble river. Cadland Creek held the highest concentrations of Pintail, Teal and Gadwall as well as being one of the principal areas for Wigeon. The latter species was a little more widespread, with the densest flocks at Bury and Eling Marshes. Recent observations have shown, however, that many of the Wigeon spending the day at Eling and Bury actually feed on grassland adjacent to Dibden Bay at night (J. Pain pers. comm.). Shelducks were mostly found along the outer south shore plus Eling Marsh, whilst Brent Geese were found more widely throughout the site but with the densest concentrations towards the mouth. Most Little Grebes were along the Itchen and at Fawley but Great Crested Grebes and Cormorants were more widespread. Red-breasted Mergansers were mostly found from the Itchen to the Hamble inclusive. Most of the waders were widespread, although with higher densities in places. Grey Plovers were found in their highest densities at Dibden Bay and Weston Shore, with Dibden also clearly the key feeding area for Curlews at the site. Redshanks reached higher densities in the Cadland to Fawley area. Dunlin density was at its highest at Cadland Creek and on some small sections of the Itchen. Black-tailed Godwits were mostly at Bury/Eling with smaller numbers downstream (although as mentioned, most will have been at Titchfield Haven). Lapwings were typically clumped, with flocks roosting at Eling, Hamble and Hythe. Ringed Plovers were widespread, mostly in the outer estuary but also at Dibden.











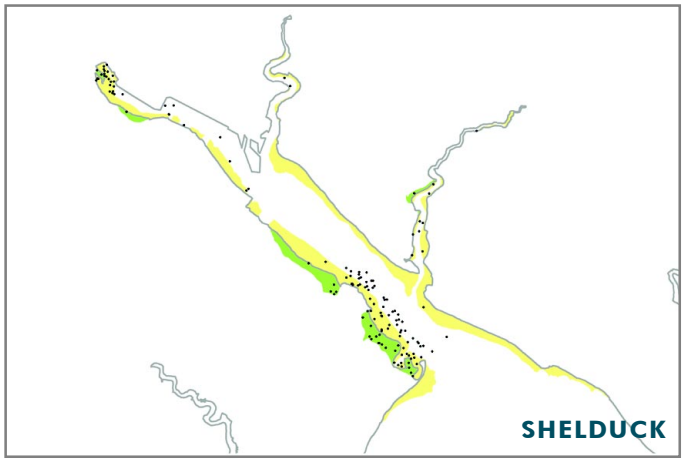


Figure 4.32.3 (i): **Low tide waterbird distributions recorded at Southampton Water, winter 1998–99**

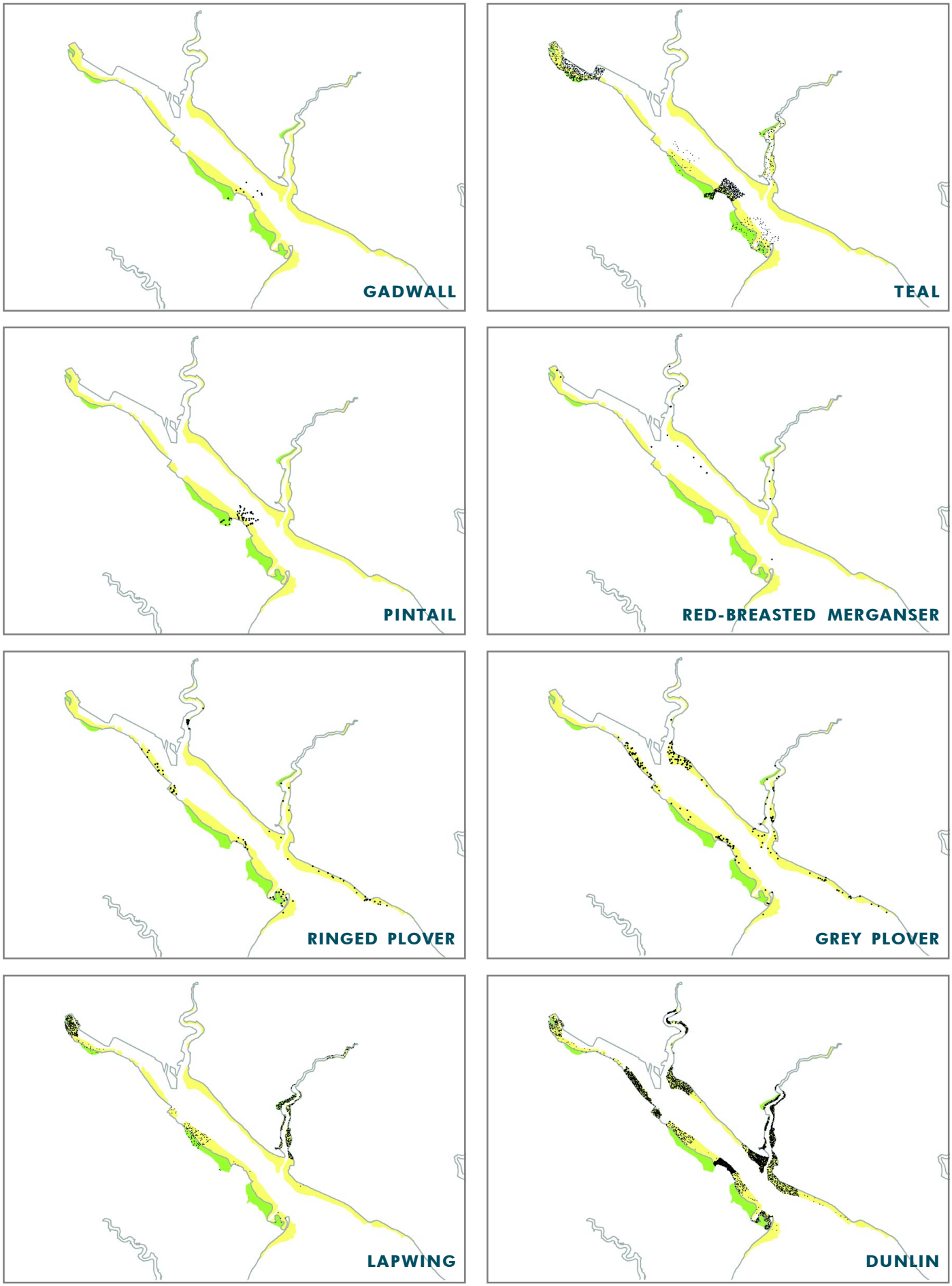
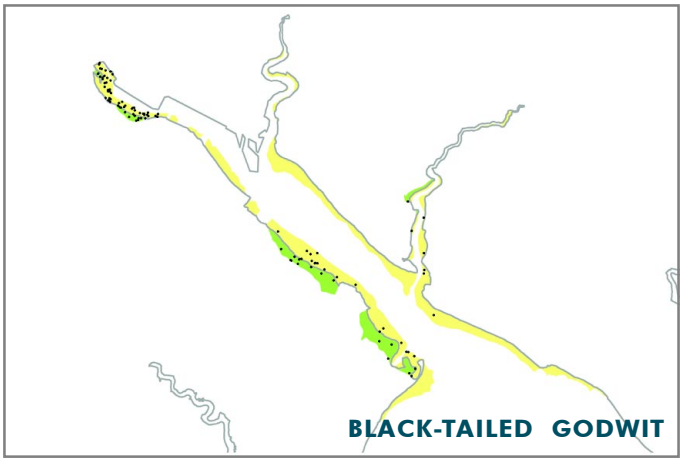
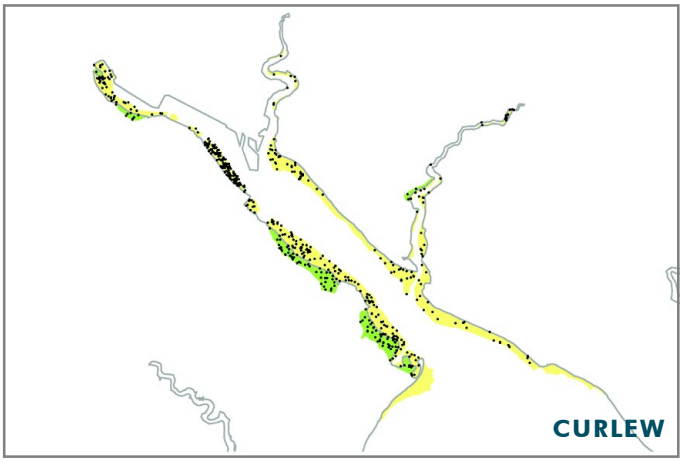


Figure 4.32.3 (ii): **Low tide waterbird distributions recorded at Southampton Water, winter 1998–99**





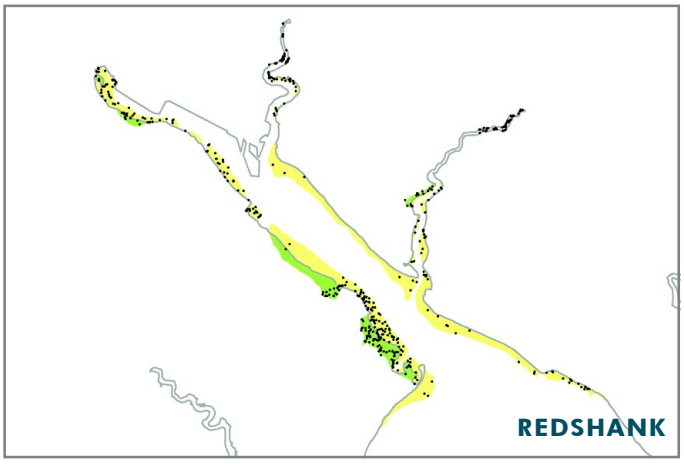


Figure 4.32.3 (iii): **Low tide waterbird distributions recorded at Southampton Water, winter 1998–99**

4.33 BEAULIEU ESTUARY

LTC site code:	BU
Centre grid:	SU4100
JNCC estuarine review site:	132
Habitat zonation:	212 ha intertidal, 350 ha subtidal, 367 ha nontidal
Statutory status:	Solent and Southampton Water SPA (UK9011061), Solent and Southampton Water Ramsar (7UK125)
Winter waterbird interest:	Little Grebe, Great Crested Grebe, Cormorant, Dark-bellied Brent Goose, Shelduck, Wigeon, Gadwall, Teal, Pintail, Shoveler, Red-breasted Merganser, Ringed Plover, Grey Plover, Lapwing, Dunlin, Black-tailed Godwit, Curlew, Redshank, Waterbird assemblage

SITE DESCRIPTION

The Beaulieu River rises in the New Forest and enters the western Solent at Needs Ore Point. From the village of Beaulieu down as far as Bucklers Hard the river has narrow muddy banks. Further down, saltmarsh begins to develop and becomes extensive at the mouth of the estuary. There is relatively little recreational disturbance to birds using the Beaulieu Estuary, with boating occurring but not intensively. There is also very little industrial activity. Wildfowling occurs but is confined to the ponds adjacent to the estuary.

COVERAGE AND INTERPRETATION

The Beaulieu Estuary was counted for the scheme in 1996–97, although counts were only made in November and January. The same count sections were also counted for the Greater Solent count in January 1999, although these counts are not considered as part of the LTCs. For the purposes of the LTCs, the shore of the Solent for about 3 km west from Needs Ore Point was also counted, as were the associated inland fields backing this area. Figure 4.33.1 shows the positions of the 12 sections counted for the survey.

The Beaulieu Estuary, as considered by the LTCs, clearly comprises only a small part of the wider Solent and Southampton Water SPA, a fact that should be taken into account when discussing the birds using the site and/or the SPA. Additionally, some of the LTC site is outwith the SPA, notably around Park Farm (Figure 4.33.2). The Ramsar site boundaries are the same as those of the SPA around the mouth of the Beaulieu but along the upper reaches of the estuary there are a few areas within the Ramsar boundaries that lie outwith the SPA (and the LTC site).

There is thought to be daily interchange by some

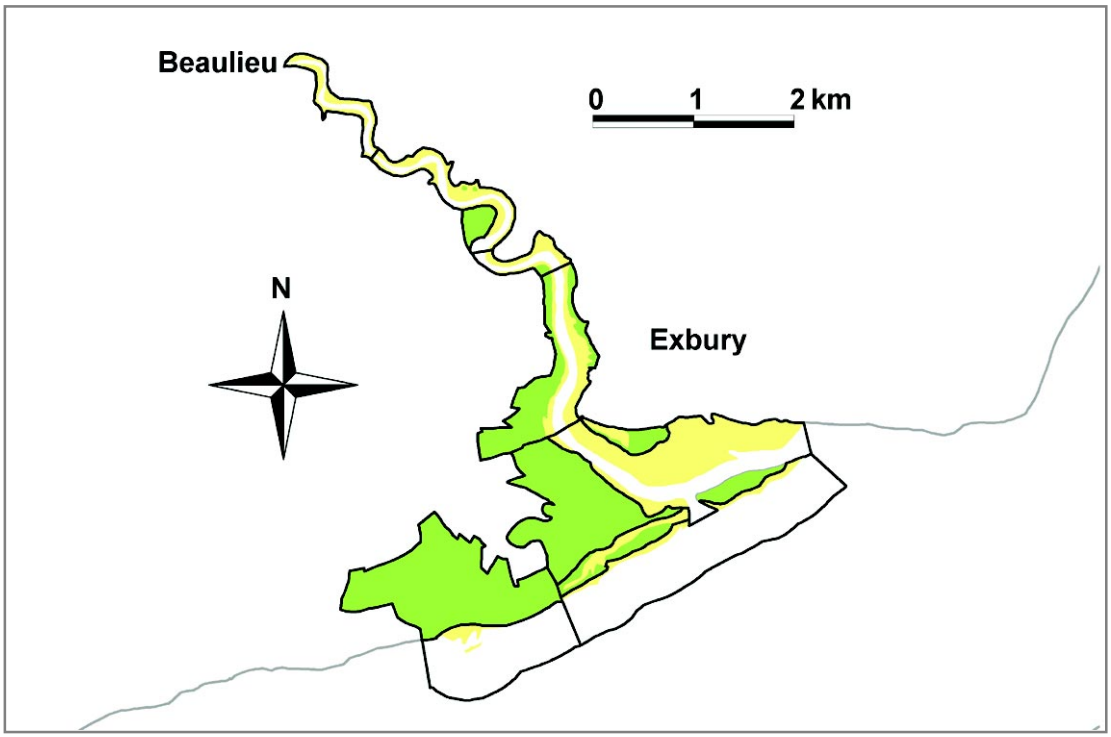


Figure 4.33.1: **LTC sections at the Beaulieu Estuary, winter 1996–97**

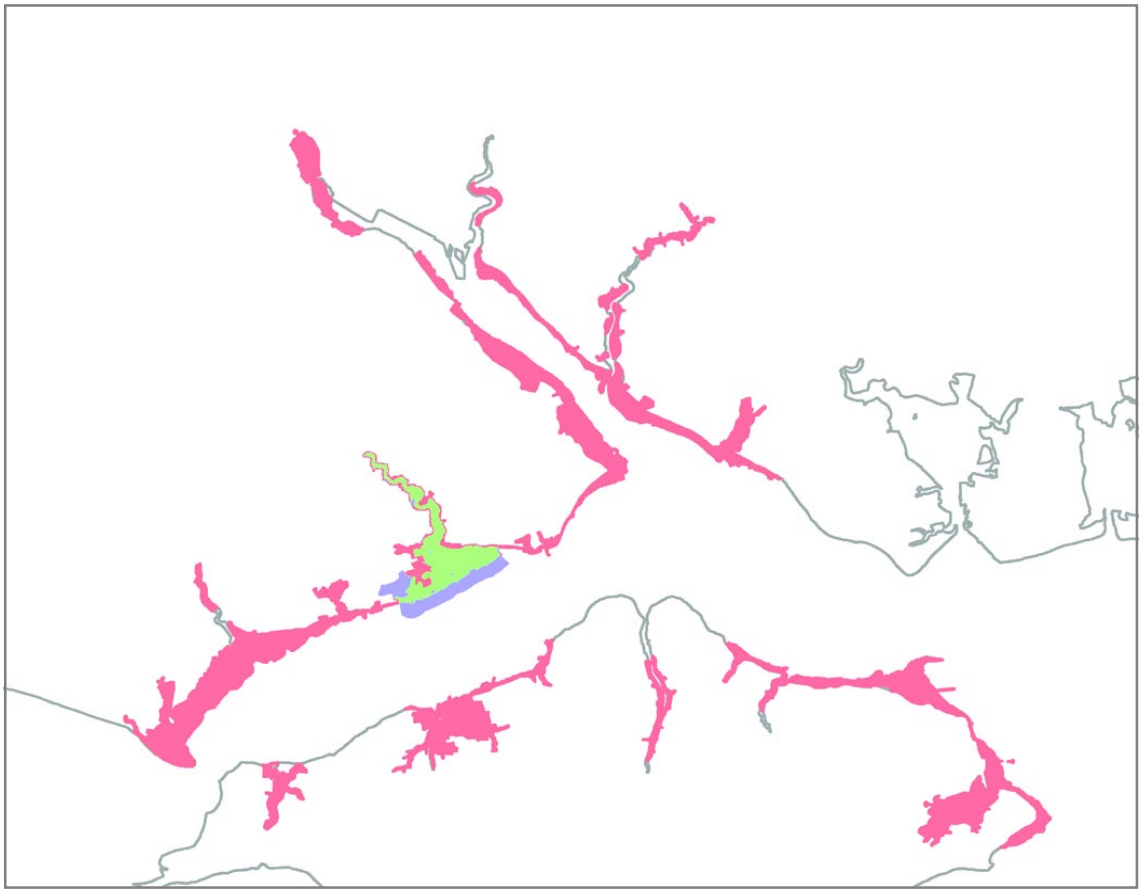


Figure 4.33.2: LTC and SPA boundaries, with overlap, at the Beaulieu Estuary

waterbirds between the Beaulieu Estuary and other areas, especially Southampton Water. Higher numbers of some species (such as Dunlin) at Southampton Water at low tide compared to high tide are thought to be due to some birds roosting at Needs Ore Point. Additionally, other species may move regularly between the Beaulieu and the almost adjacent North-west Solent (D. Unsworth pers. comm.).

WATERBIRD DISTRIBUTION

Low tide distribution maps from the winter of 1996–97 are presented for 14 of the 18 species of principal interest listed above. For clarity, smaller dots are used to display the distribution of Wigeon. Additional maps of total birds and total birds weighted by 1% threshold value are also presented (Figure 4.33.3). The remaining four species (Great Crested Grebe, Red-breasted Merganser, Ringed Plover and Black-tailed Godwit) were all recorded during the counts but only in small numbers, with more present at other sites elsewhere within the SPA boundary.

The totals map, supported by the weighted totals map, shows the highest overall bird density on the most upstream section of the estuary near Beaulieu village, with most of the birds present here being Wigeon. Downstream, Keeping Marsh was also a notable section, with Teal the dominant species here. Little Grebes were widespread along the riverine stretches of the site in small numbers but Cormorants were scarce. The intertidal zone on the north shore of the mouth of the estuary was the principal area for Shelducks, Grey Plovers, Dunlin and Redshanks. The counts also covered the nontidal fields adjacent to the west of the estuary, which were clearly the principal area for Brent Geese at low tide, as well as holding large numbers of Wigeon, Teal and Curlew and the majority of the Gadwall, Pintail and Shoveler. The Park Shore area along the edge of the Solent was also frequented by Brent Geese. Lapwings were widespread but there was a particular concentration in the Bucklers Hard/Gilbury Hard area.

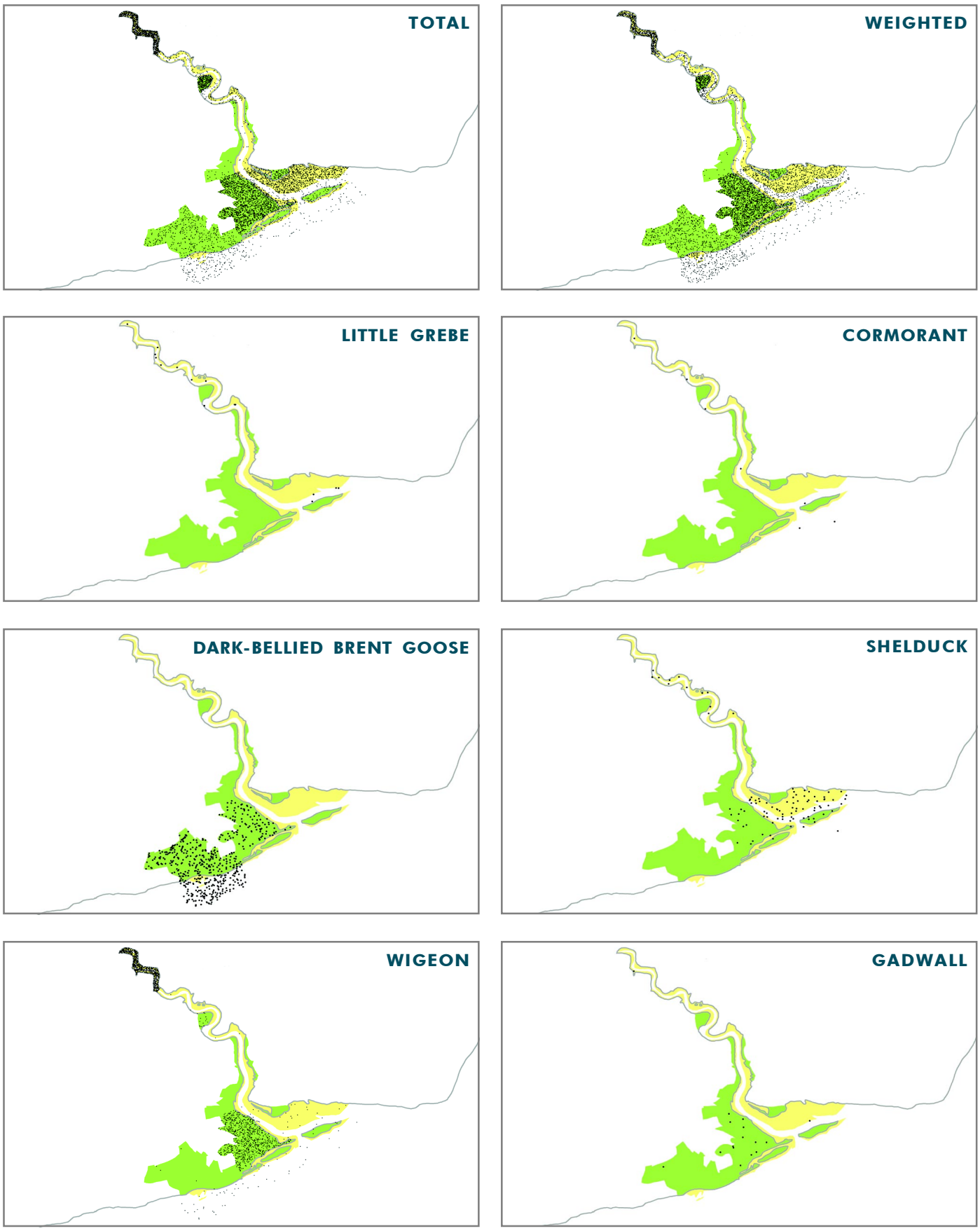


Figure 4.33.3 (i): **Low tide waterbird distributions recorded at the Beaulieu Estuary, winter 1996–97**

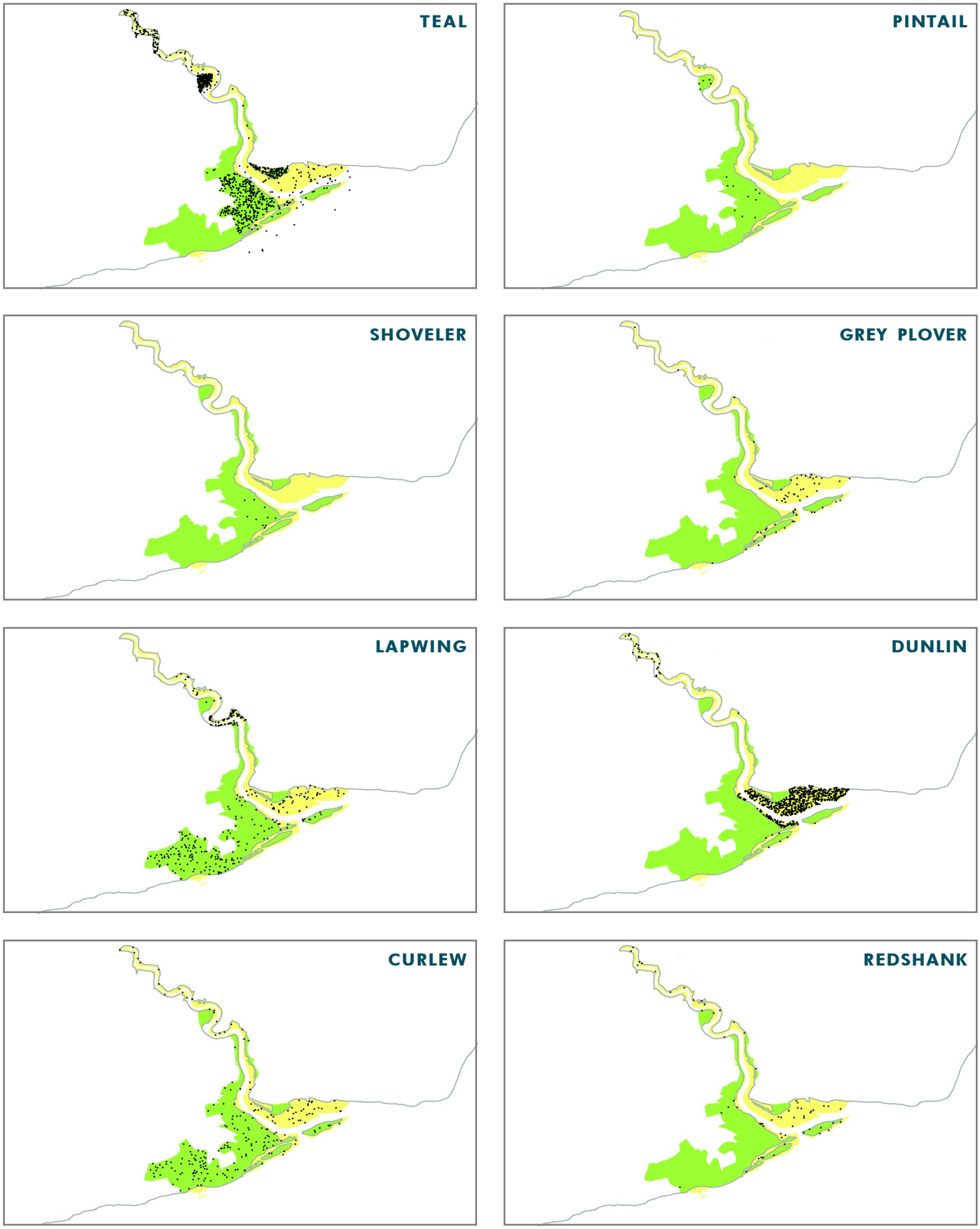


Figure 4.33.3 (ii): **Low tide waterbird distributions recorded at the Beaulieu Estuary, winter 1996–97**