

The area involved – 14th annual report

THE CROWN
ESTATE



MARINE AGGREGATE DREDGING 2011



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An industry committed to responsible management through continual development

In March 1999, The Crown Estate and the British Marine Aggregate Producers Association (BMAPA) issued a statement of intent committing to reviewing all dredging licences over a rolling five-year period. Included was a commitment to surrender areas no longer containing useful resources of sand and gravel and to publish an annual report detailing the extent of dredging within the licensed areas.

This year's report is the fourteenth in an ongoing series. Its content reflects the continued commitment to this initiative by both The Crown Estate and the members of BMAPA.

This report contains summary information relating to The Crown Estate area of seabed licensed, dredged and surrendered during 2011 based on GIS data and from analysis of dredger Electronic Monitoring System records. Information on dredged area and intensity has been derived from variable grid analysis.

A set of regional charts has been prepared to show the extent and intensity of dredging operations. Additional facts and figures on marine aggregate dredging activity by region are also presented.

The figures for the active dredge area – the area actually available to be dredged at any one time – have been updated for 2011. While the limits of these areas are not presented on the charts associated with this report, detailed regional zoning plans (updated on a bi-annual basis) are available from either The Crown Estate or BMAPA websites, or by contacting the addresses on the reverse of this report.



Summary information

- A total of 19.12 million tonnes of sand and gravel were dredged from Crown Estate licences in England and Wales during 2011 (15.95 million tonnes in 2010)
- The total area of seabed licensed in 2011 decreased to 1,274km² (1,291km² in 2010)
- Dredging took place within 113.84km², 8.9 per cent of the licensed area, compared with 105.4km² (8.2 per cent) in 2010
- The area of seabed dredged for more than 1 hr 15 minutes per year (high intensity – red on charts) increased to 8.52km² (6.83km² in 2010)
- 90 per cent of dredging from Crown Estate licences took place from an area of 43.26km² (37.63km² in 2010).





Summary statistics for 2011

Region	Total area licensed during 2011 (km ²)	Total active dredge area for 2011 (km ²) ^{*1}	Total area dredged during 2011 (km ²)
Humber	469.89	166.94	22.02
East Coast	264.92	175.30	42.80
Thames	42.29	46.26	3.97
East English Channel	105.96	27.22	11.15
South Coast	148.40	86.18	26.02
South West	123.57	38.08	7.50
North West	119.08	27.06	0.38
Total (km²)^{*2}	1274.11	567.04	113.84

Area of seabed licensed decreased by 17km² during 2011

Area of seabed licensed (km²), 2007-2011

Year ^{*3}	2007	2008	2009	2010	2011
0-6nm ^{*4}	431	384	376	363	346
6-12nm ^{*4}	492	458	462	447	447
>12nm ^{*4}	421	436	448	481	481
Total area licensed (km²)	1,344	1,278	1,286	1,291	1,274
Total active dredge area (km²)	556	570	536	552	567

Area of seabed dredged increased by 9km² during 2011

Area of seabed dredged (km²), 2007-2011

Year	2007	2008	2009	2010	2011
0-6nm ^{*4}	67	71	61	44	53
6-12nm ^{*4}	43	41	37	38	36
>12nm ^{*4}	25	26	26	23	25
Total (km²)	135	138	124	105	114
Area dredged >1 hr 15 mins (km²)	10.16	9.28	6.83	6.83	8.52
90 per cent of dredging (area in km²)	49.95	48.22	43.45	37.63	43.26

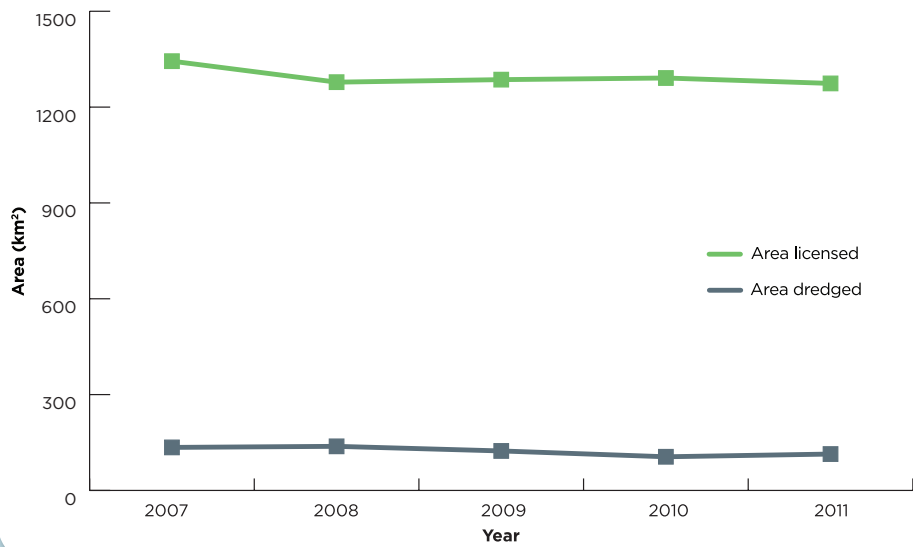
*1 Total area actually available to be dredged during 2011, calculated on a cumulative basis

*2 Totals are rounded from the correct total rather than a summation of the regional figures

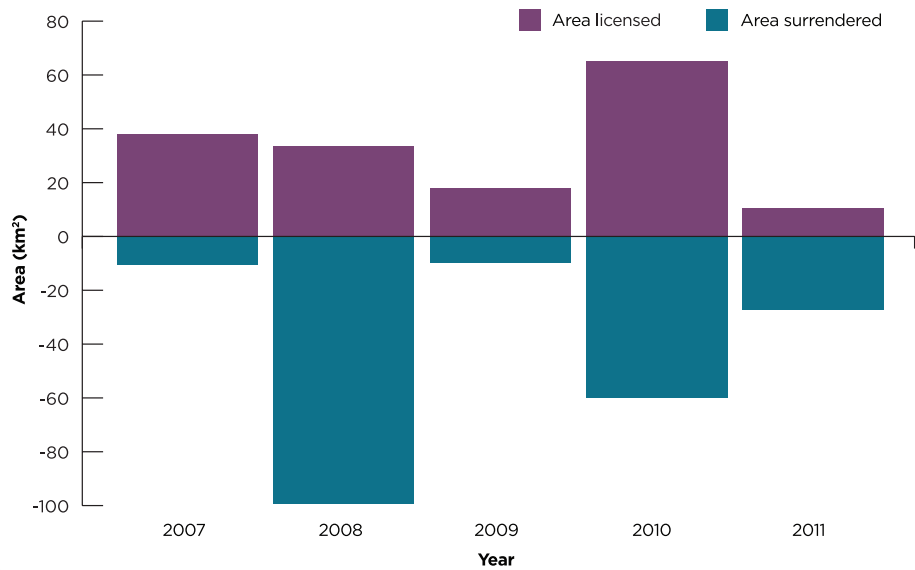
*3 Annual figures are calculated as of end of the 31st December, and therefore incorporate any changes that may have occurred through the year

*4 Based on a standardised 6 and 12 nm (UKHO 01/01/05) to allow for accurate comparison between years

Area of seabed licensed and dredged 2007-2011



New area licensed versus existing area surrendered 2007-2011



Humber region

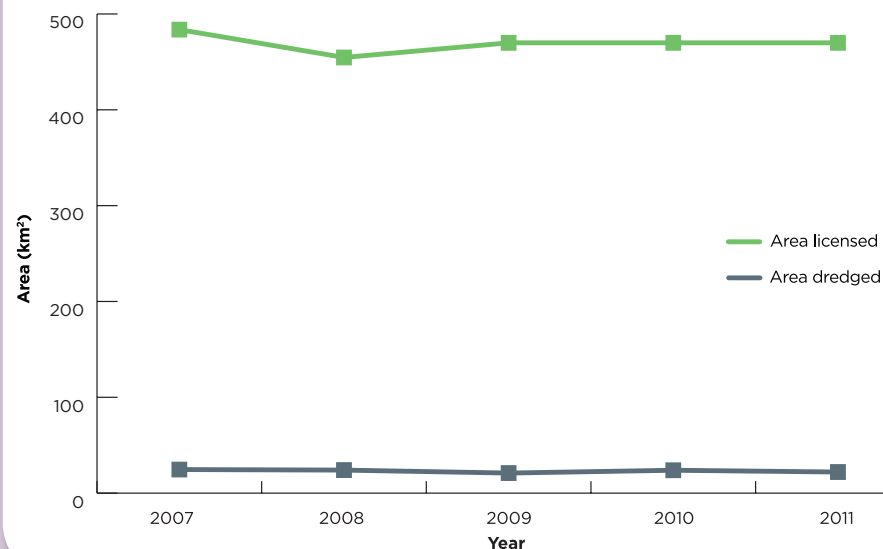
Background

- The Humber region has 10 production licences, operated by British Dredging Ltd, Hanson Aggregates Marine Ltd, Tarmac Marine Dredging Ltd, Van Oord UK Ltd and Westminster Gravels Ltd for both sand and gravel, principally for use in the construction industry
- During 2011, 2.18 million tonnes of construction aggregate were dredged from a permitted licensed tonnage of 5.05 million. In addition 0.73 million tonnes were specifically dredged for beach nourishment
- Of the total marine aggregate dredged for construction from the Humber region:
 - 65.4 per cent of the tonnage dredged was delivered to the Continent (1.42m)
 - 24.4 per cent of the tonnage dredged was delivered to the Humber (0.53m)
 - 8.6 per cent of the tonnage dredged was delivered to the Thames Estuary (0.19m)
 - 1.5 per cent of the tonnage dredged was delivered to the East Coast (0.03m)
 - 0.1 per cent of the tonnage dredged was delivered to the East English Channel (0.01m)

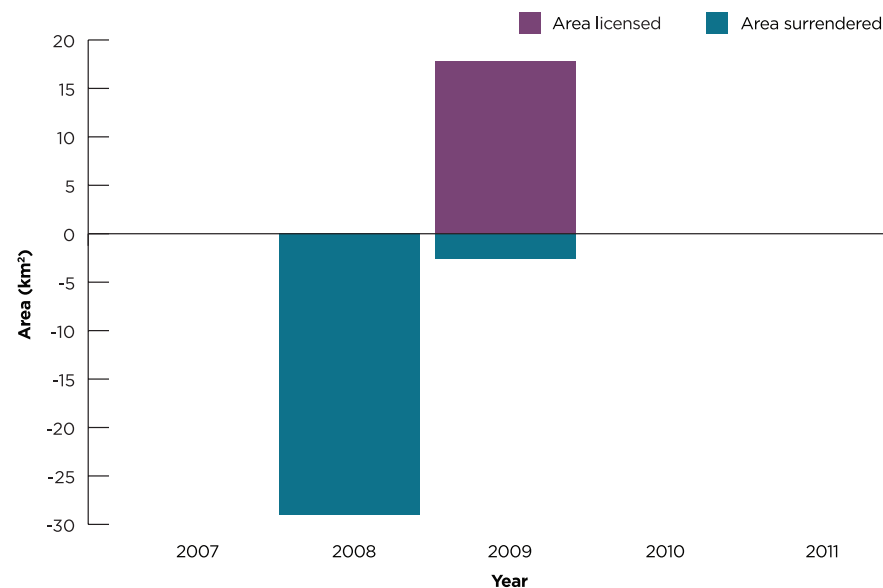
Regional statistics

- The licensed area in the region was 469.89 km²
- The total area actually available to be dredged within the region was 166.94 km²
- Dredging took place within 22.02 km², 4.69 per cent of the licensed area
- High intensity dredging (greater than 1 hour 15 minutes) is equal to 0.63 km², representing 22.87 per cent of regional dredging activity
- 90 per cent of regional dredging effort took place within 10.79 km²
- During 2011, the area licensed for marine aggregate extraction remained unchanged.

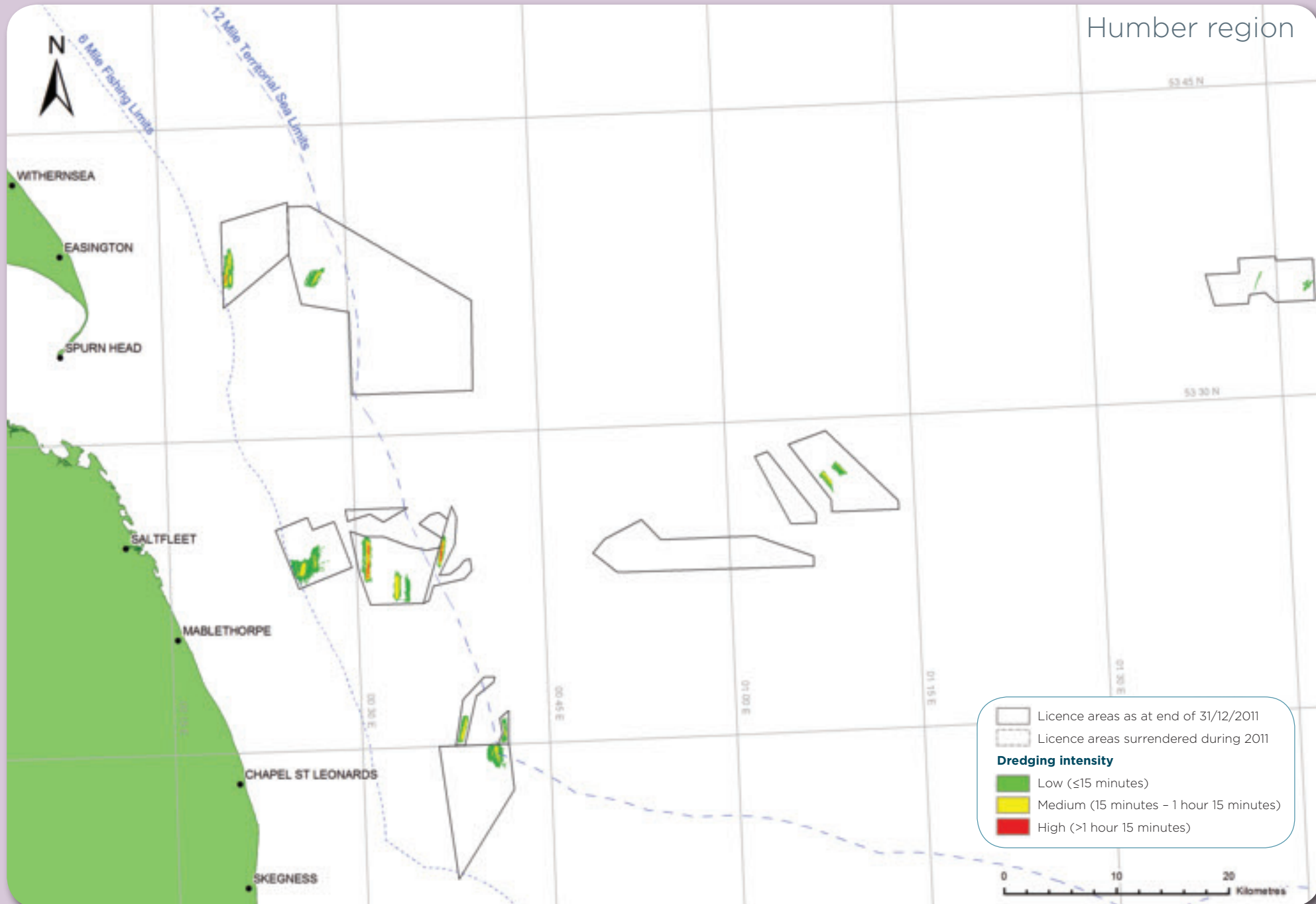
Area of seabed licensed and dredged



Area of seabed licensed and surrendered



Humber region



East Coast region

Background

The East Coast region has 13 production licences, operated by British Dredging Ltd, CEMEX UK Marine Ltd, Hanson Aggregates Marine Ltd, Tarmac Marine Dredging Ltd and Volker Dredging Ltd for both sand and gravel, principally for use in the construction industry

During 2011, 5.28 million tonnes of construction aggregate were dredged from a permitted licensed tonnage of 10.95 million

Of the total marine aggregate dredged for construction from the East Coast region:

55.5 per cent of the tonnage dredged was delivered to the Thames Estuary (2.93m)

43.3 per cent of the tonnage dredged was delivered to the Continent (2.29m)

0.8 per cent of the tonnage dredged was delivered to the East English Channel (0.04m)

0.2 per cent of the tonnage dredged was delivered to the South Coast (0.01m)

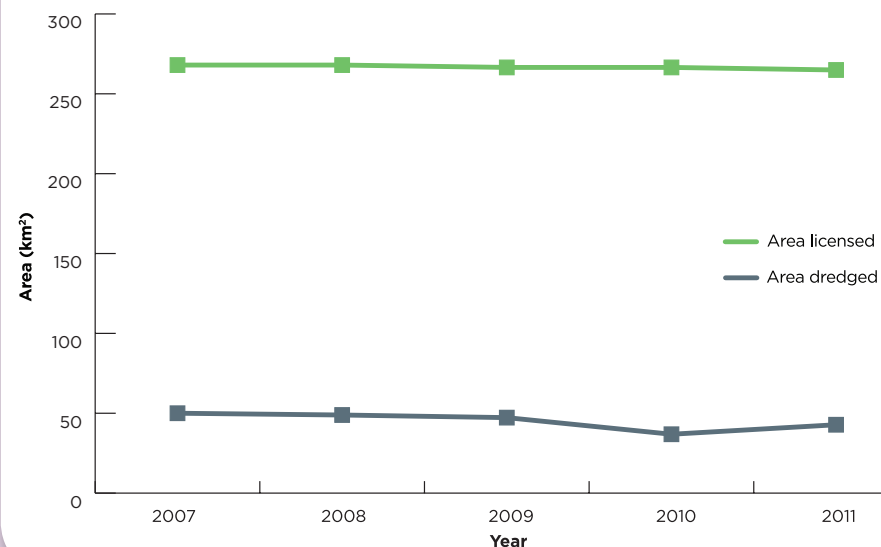
0.1 per cent of the tonnage dredged was delivered to the Humber (0.01m)

<0.1 per cent of the tonnage dredged was delivered to the East Coast (<0.01m)

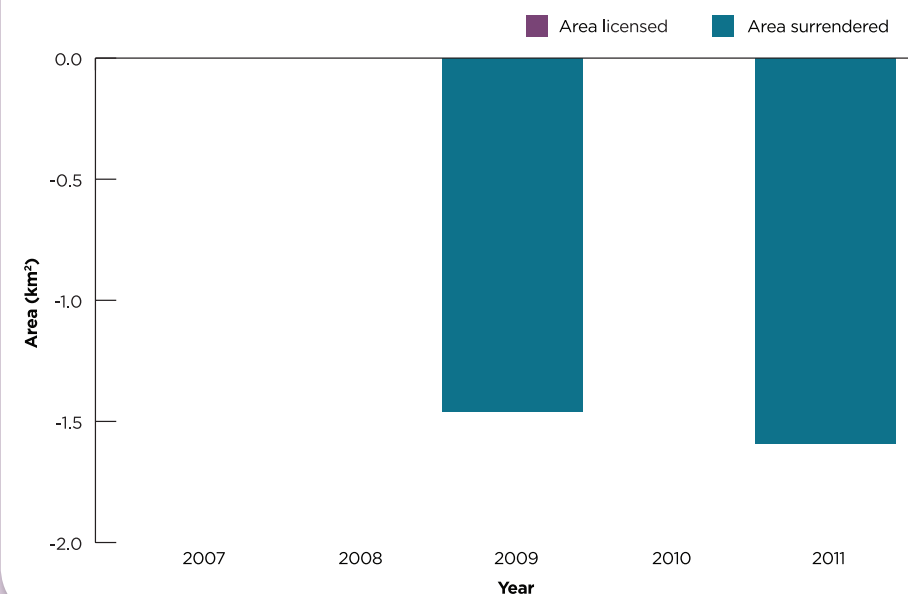
Regional statistics

- The licensed area in the region was 264.92 km²
- The total area actually available to be dredged within the region was 175.30 km²
- Dredging took place within 42.80 km², 16.16 per cent of the licensed area
- High intensity dredging (greater than 1 hour 15 minutes) is equal to 2.43 km², representing 48.34 per cent of regional dredging activity
- 90 per cent of regional dredging effort took place within 16.40 km²
- During 2011, the area licensed for marine aggregate extraction decreased by 1.59 km².

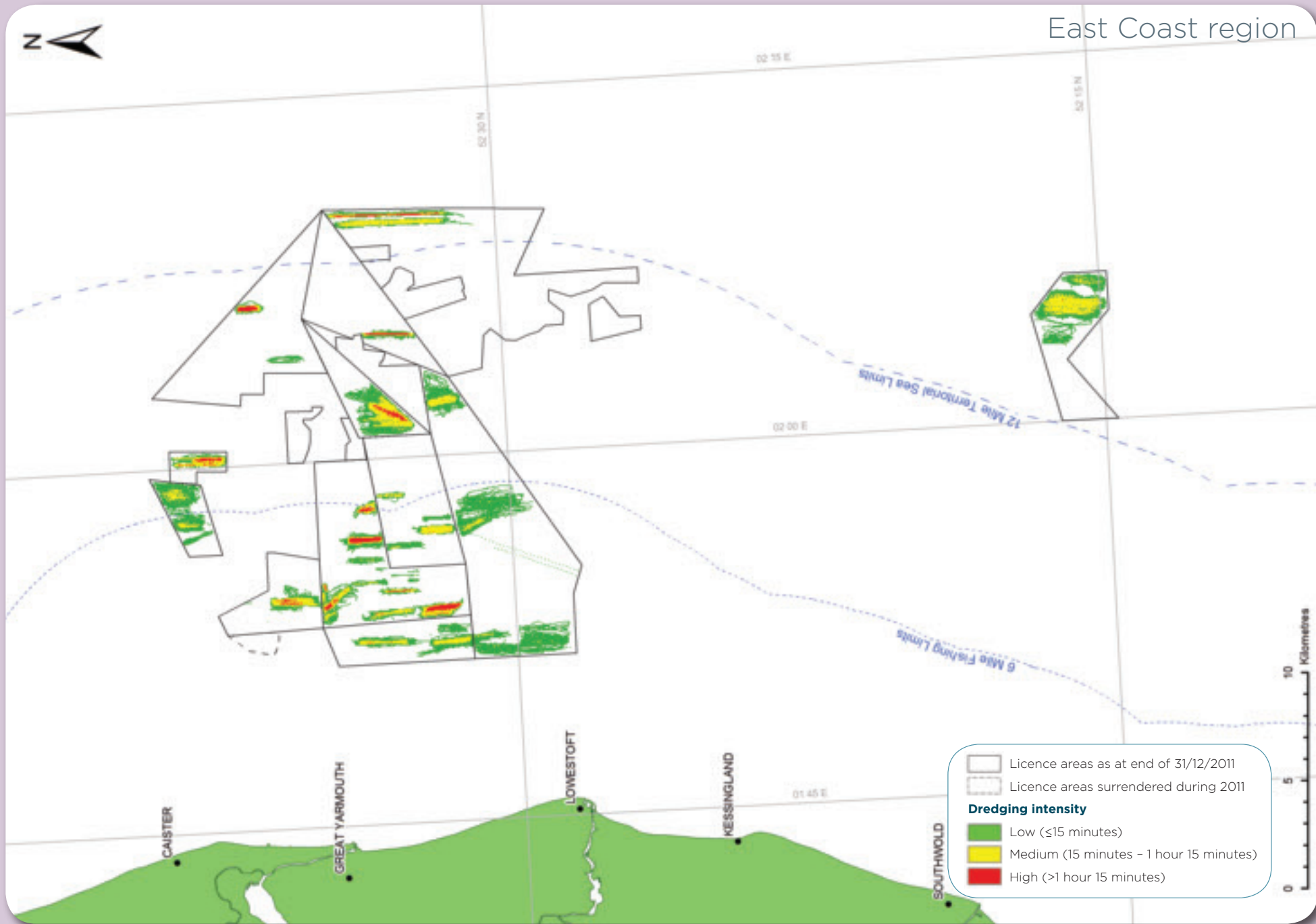
Area of seabed licensed and dredged



Area of seabed licensed and surrendered



East Coast region



Thames Estuary region

Background

The Thames region has 4 production licences, operated by Britannia Aggregates Ltd, CEMEX UK Marine Ltd, Hanson Aggregates Marine Ltd and Tarmac Marine Dredging Ltd for both sand and gravel, principally for use in the construction industry

During 2011, 0.66 million tonnes of construction aggregate were dredged from a permitted licensed tonnage of 1.75 million. In addition 0.14 million tonnes were specifically dredged for beach nourishment

Of the total marine aggregate dredged for construction from the Thames Estuary region:

87.6 per cent of the tonnage dredged was delivered to the Thames Estuary (0.58m)

7.4 per cent of the tonnage dredged was delivered to the East Coast (0.05m)

2.6 per cent of the tonnage dredged was delivered to the South Coast (0.02m)

1.8 per cent of the tonnage dredged was delivered to the Continent (0.01m)

0.6 per cent of the tonnage dredged was delivered to the Humber (<0.01m)

Regional statistics

The licensed area in the region was 42.29 km²

The total area actually available to be dredged within the region was 46.26 km² (measured as a total maximum extent, and therefore greater than the area licenced figure due to the surrender of a licence during the course of the year)

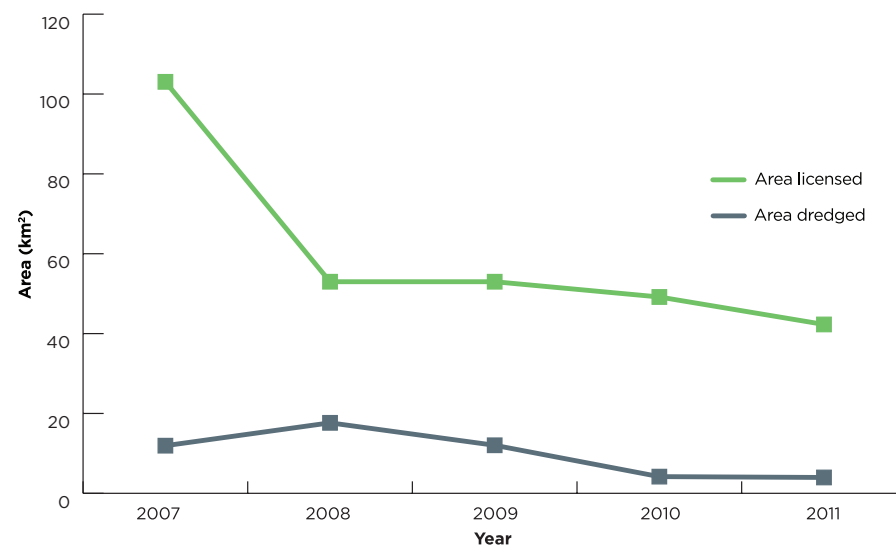
Dredging took place within 3.97 km², 9.39 per cent of the licensed area

High intensity dredging (greater than 1 hour 15 minutes) is equal to 0.30 km², representing 51.69 per cent of regional dredging activity

90 per cent of regional dredging effort took place within 1.24 km²

During 2011, the area licensed for marine aggregate extraction decreased by 6.87 km².

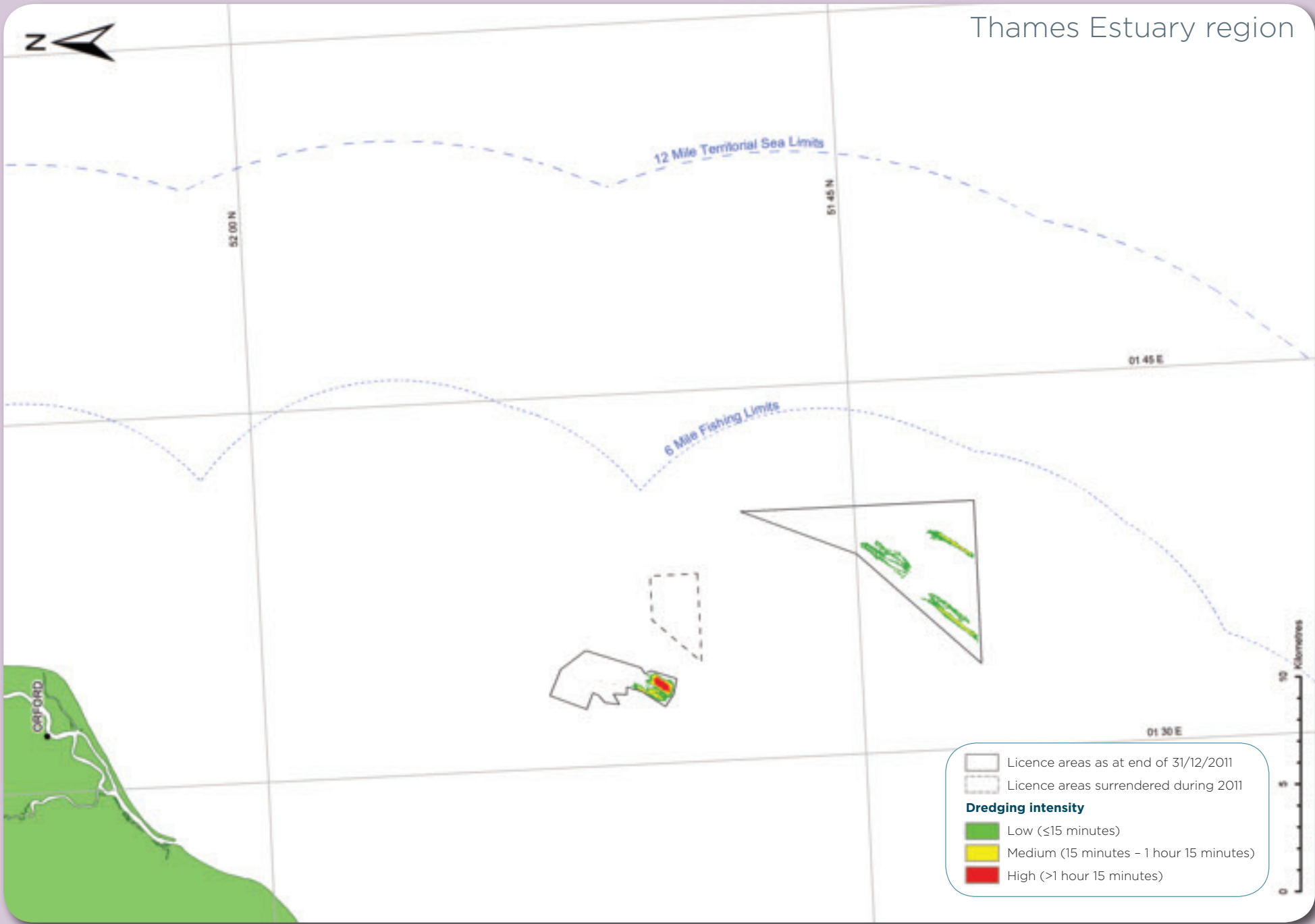
Area of seabed licensed and dredged



Area of seabed licensed and surrendered



Thames Estuary region



East English Channel region

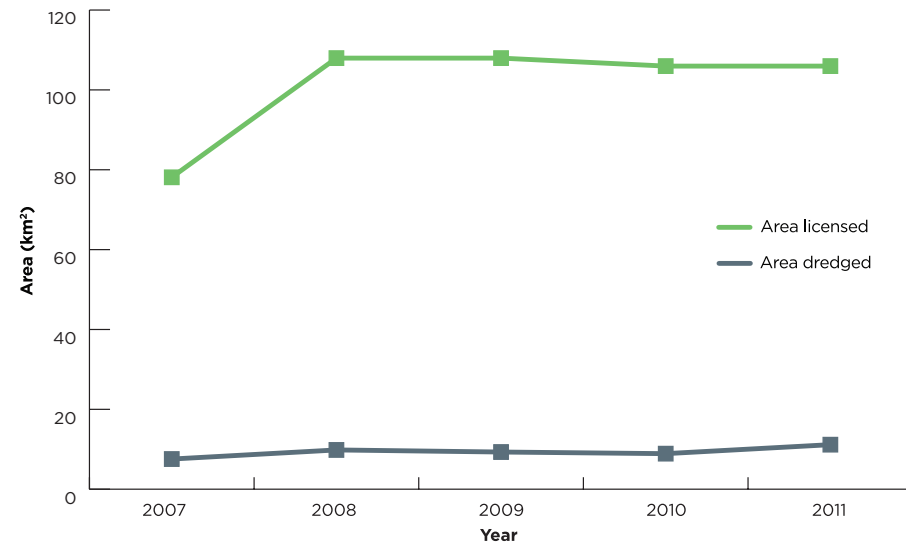
Background

- The East English Channel region has 6 production licences, operated by CEMEX UK Marine Ltd, DEMA Building Materials Ltd, Hanson Aggregates Marine Ltd, Tarmac Marine Dredging Ltd and Volker Dredging Ltd for sand and gravel, principally for use in the construction industry
- During 2011, 4.32 million tonnes of construction aggregate were dredged from a permitted licensed tonnage of 9.80 million. In addition 0.03 million tonnes were specifically dredged for beach nourishment
- Of the total marine aggregate dredged for construction from the East English Channel region:
 - 58.1 per cent of the tonnage dredged was delivered to the Thames Estuary (2.51m)
 - 40.8 per cent of the tonnage dredged was delivered to the Continent (1.76m)
 - 0.8 per cent of the tonnage dredged was delivered to the East Coast (0.03m)
 - 0.2 per cent of the tonnage dredged was delivered to the East English Channel (0.01m)
 - 0.1 per cent of the tonnage dredged was delivered to the South Coast (<0.01m)

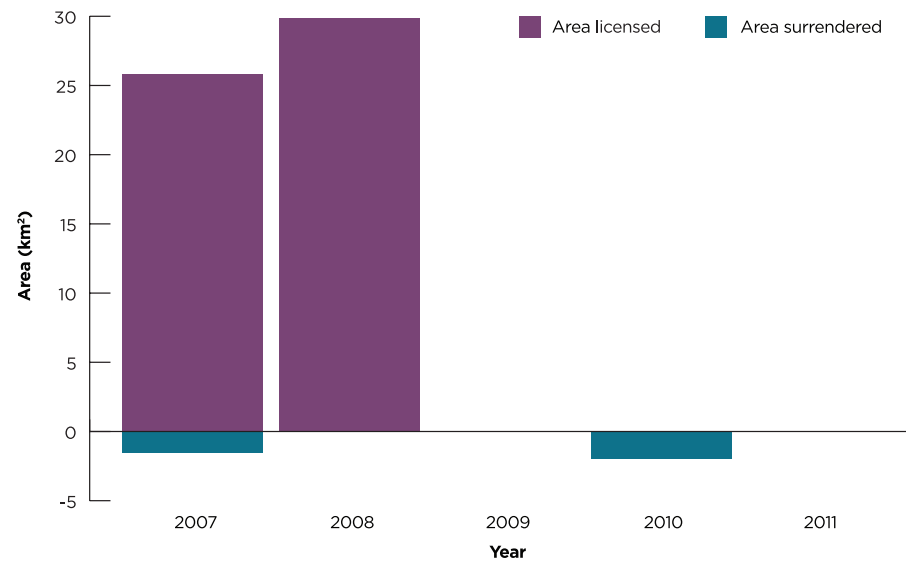
Regional statistics

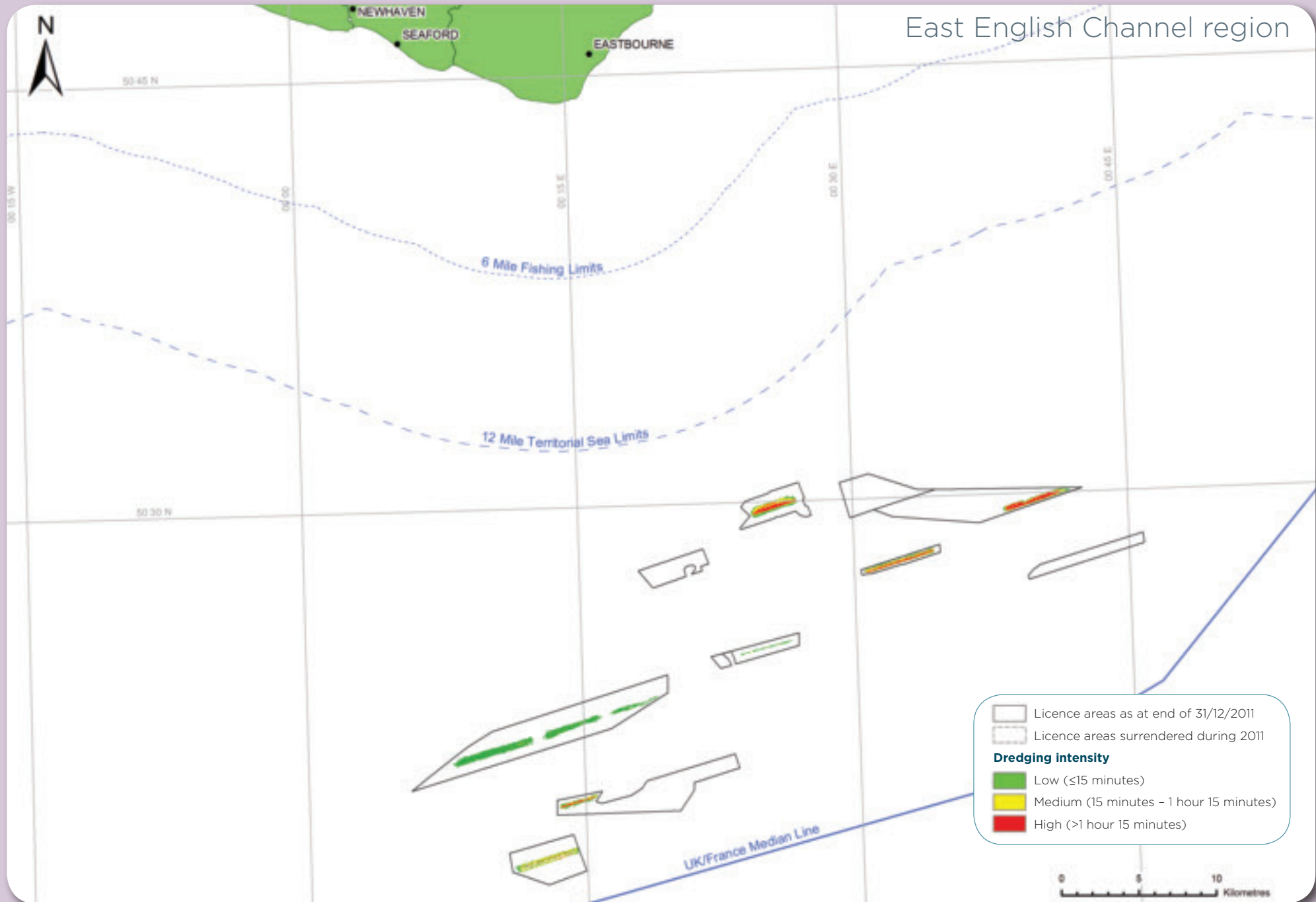
- The licensed area in the region was 105.96 km²
- The total area actually available to be dredged within the region was 27.22 km²
- Dredging took place within 11.15 km², 10.52 per cent of the licensed area
- High intensity dredging (greater than 1 hour 15 minutes) is equal to 2.21 km², representing 77.06 per cent of regional dredging activity
- 90 per cent of regional dredging effort took place within 3.53 km²
- During 2011, the area licensed for marine aggregate extraction remained unchanged.

Area of seabed licensed and dredged



Area of seabed licensed and surrendered





South Coast region

Background

The South Coast region has 16 production licences, operated by CEMEX UK Marine Ltd, Hanson Aggregates Marine Ltd, Kendall Bros (Portsmouth) Ltd, Northwood (Fareham) Ltd, Tarmac Marine Dredging Ltd, Volker Dredging Ltd and Westminster Gravels Ltd for sand and gravel, principally for use in the construction industry

During 2011, 3.92 million tonnes of construction aggregate were dredged from a permitted licensed tonnage of 8.75 million. In addition 0.28 million tonnes were specifically dredged for beach nourishment and 0.04 million tonnes were dredged as reclamation fill

Of the total marine aggregate dredged for construction from the South Coast region:

63.7 per cent of the tonnage dredged was delivered to the South Coast (2.50m)

17.8 per cent of the tonnage dredged was delivered to the Thames Estuary (0.70m)

15.8 per cent of the tonnage dredged was delivered to the Continent (0.62m)

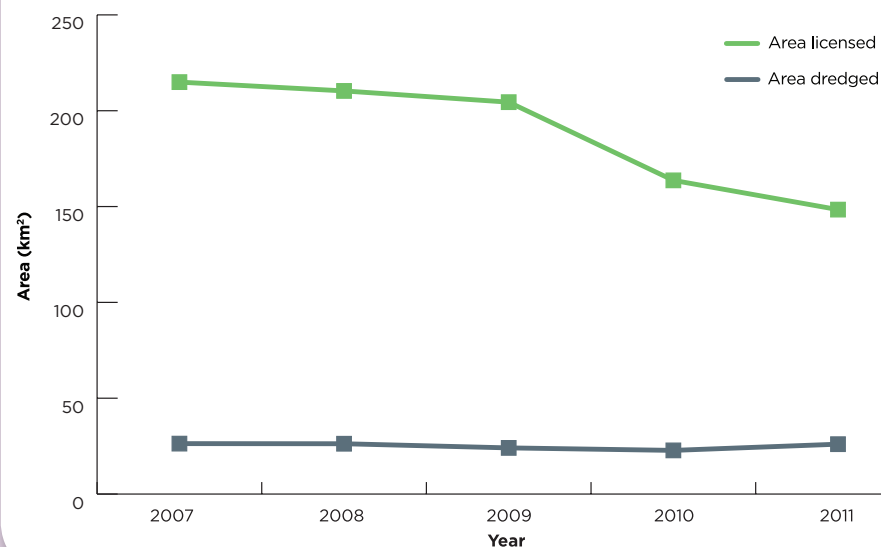
1.9 per cent of the tonnage dredged was delivered to the East English Channel (0.07m)

0.8 per cent of the tonnage dredged was delivered to the East Coast (0.03m)

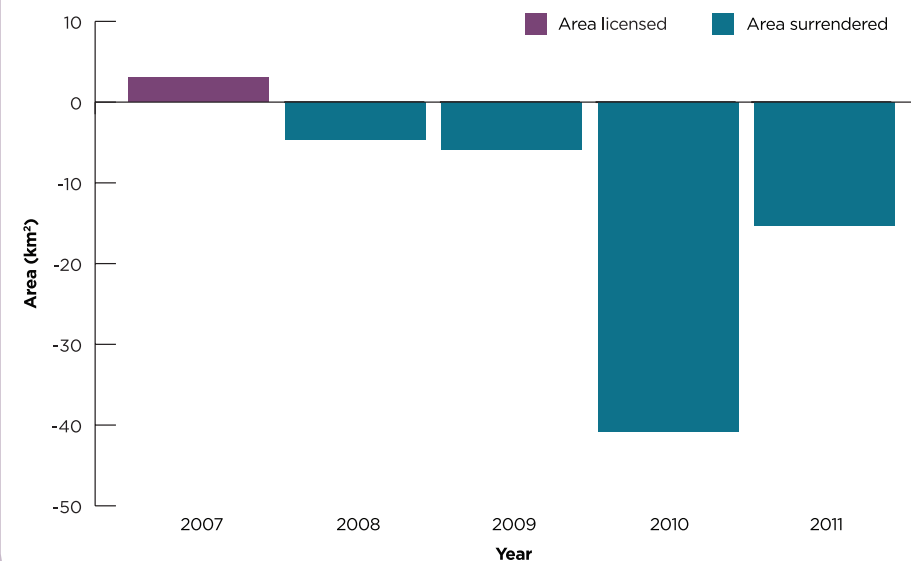
Regional statistics

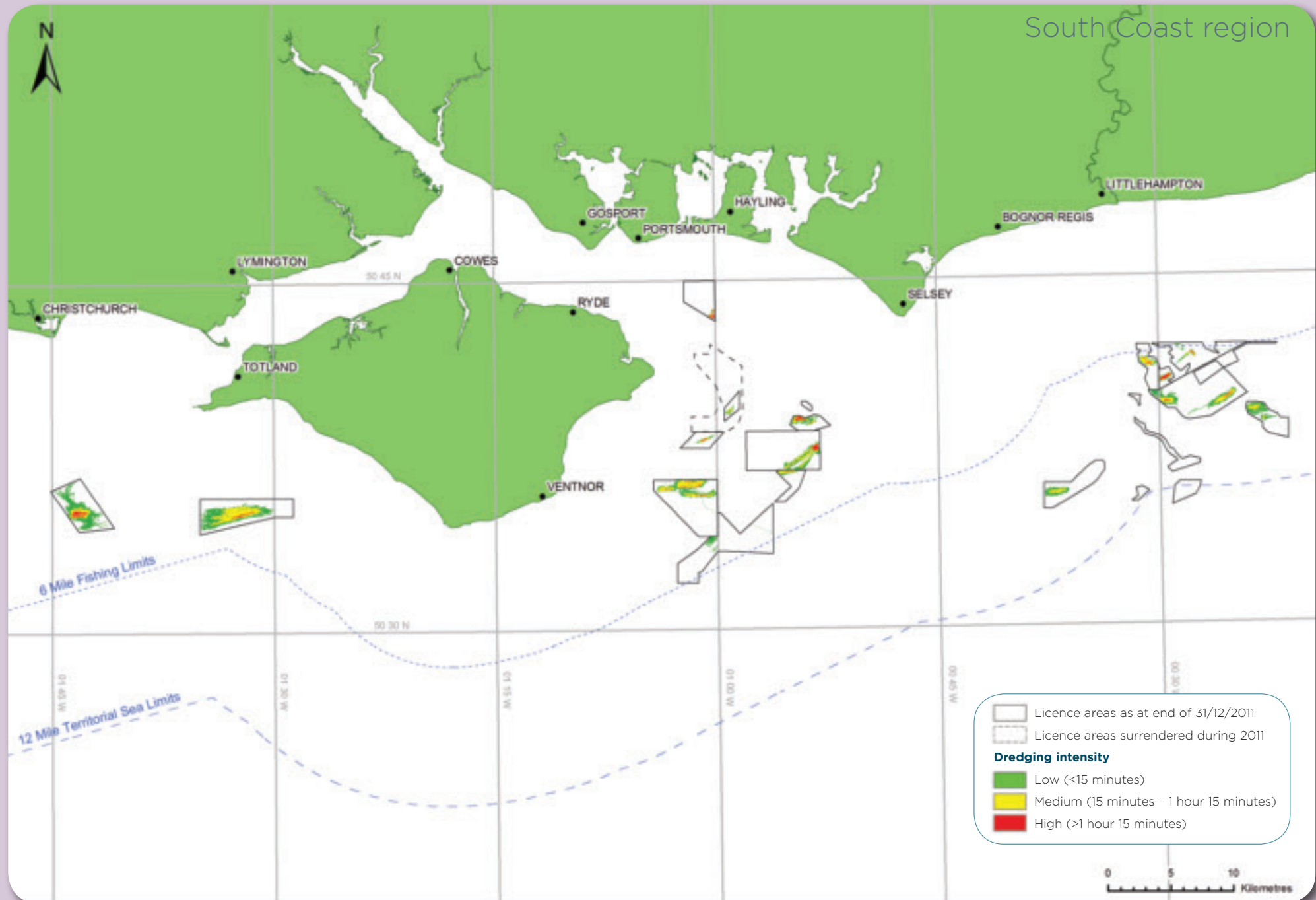
- The licensed area in the region was 148.40 km²
- The total area actually available to be dredged within the region was 86.18 km²
- Dredging took place within 26.02 km², 17.53 per cent of the licensed area
- High intensity dredging (greater than 1 hour 15 minutes) is equal to 1.85 km², representing 44.98 per cent of regional dredging activity
- 90 per cent of regional dredging effort took place within 10.57 km²
- During 2011, the area licensed for marine aggregate extraction decreased by 15.26 km².

Area of seabed licensed and dredged



Area of seabed licensed and surrendered





South West region

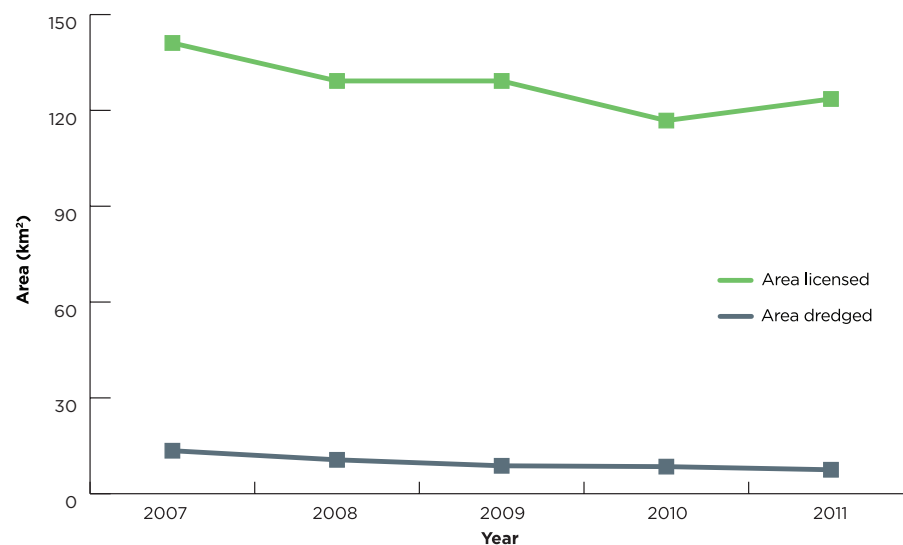
Background

- The South West region has 12 production licences, operated by British Dredging Ltd, CEMEX UK Marine Ltd, Hanson Aggregates Marine Ltd, Llanelli Sand Dredging Ltd, Severn Sands Ltd and Tarmac Marine Dredging Ltd for sand, principally for use in the construction industry
- During 2011, 0.96 million tonnes of material were dredged from a permitted licensed tonnage of 3.25 million. A further 0.28 million tonnes were dredged as reclamation fill
- Of the total material dredged in the South West region:
100% of the tonnage dredged was delivered to the South West (0.96m).
57.1% of this went to Welsh wharves (0.55m). 42.9% of this went to English wharves (0.41m)

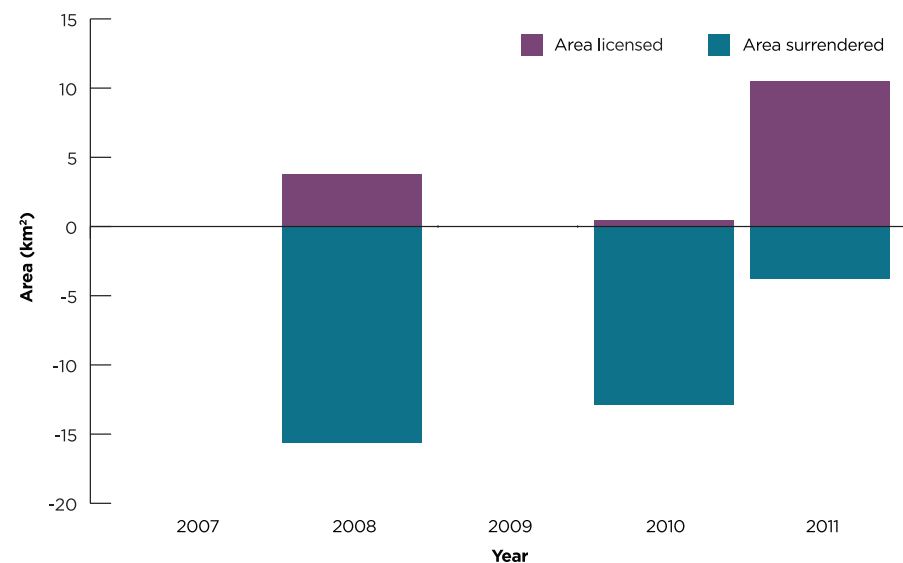
Regional statistics

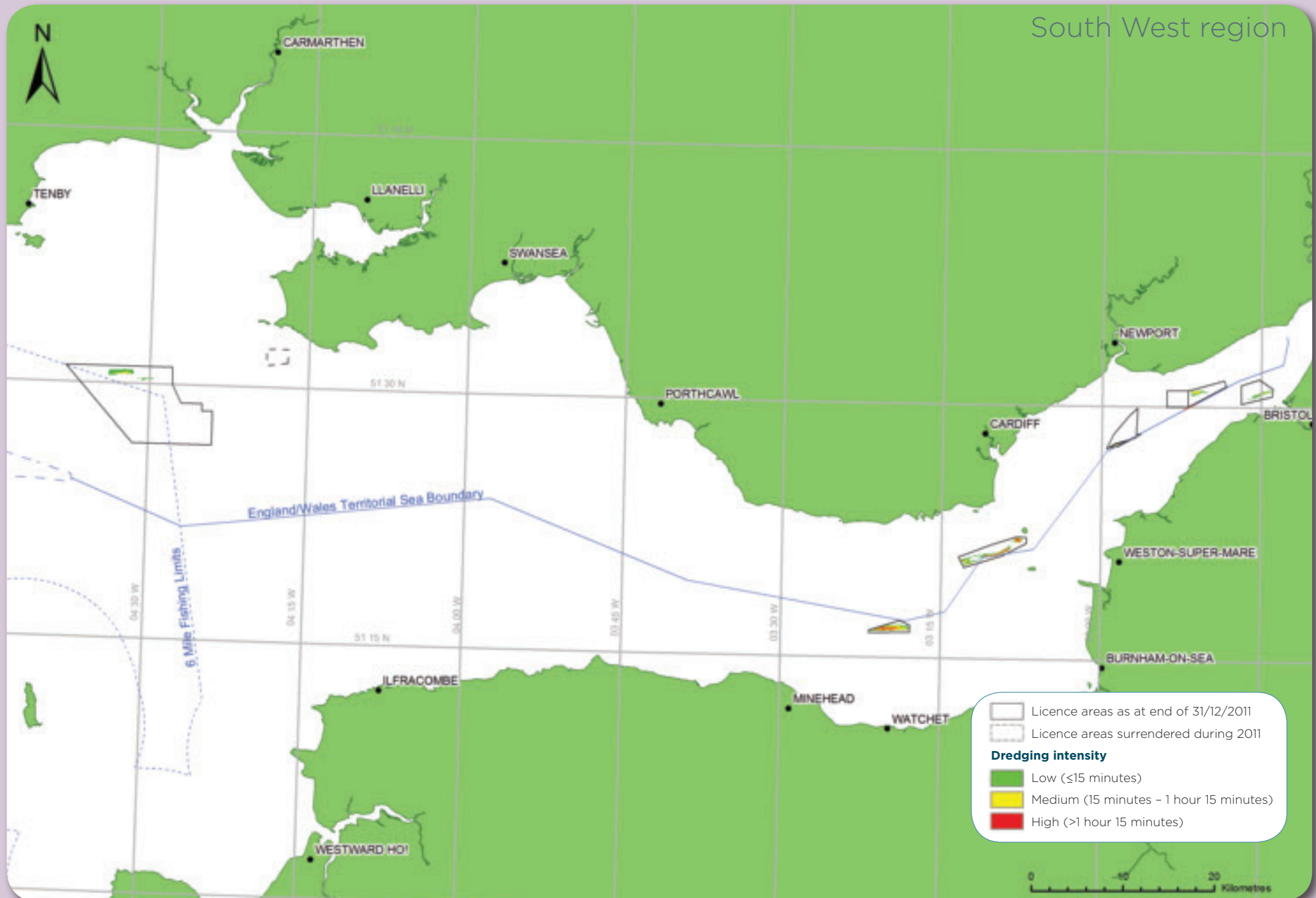
- The licensed area in the region was 123.57 km²
- The total area actually available to be dredged within the region was 38.08 km²
- Dredging took place within 7.50 km², 6.07 per cent of the licensed area
- High intensity dredging (greater than 1 hour 15 minutes) is equal to 0.94 km², representing 59.75 per cent of regional dredging activity
- 90 per cent of regional dredging effort took place within 3.11 km²
- During 2011, the area licensed for marine aggregate extraction increased by 6.77 km².

Area of seabed licensed and dredged



Area of seabed licensed and surrendered





North West region

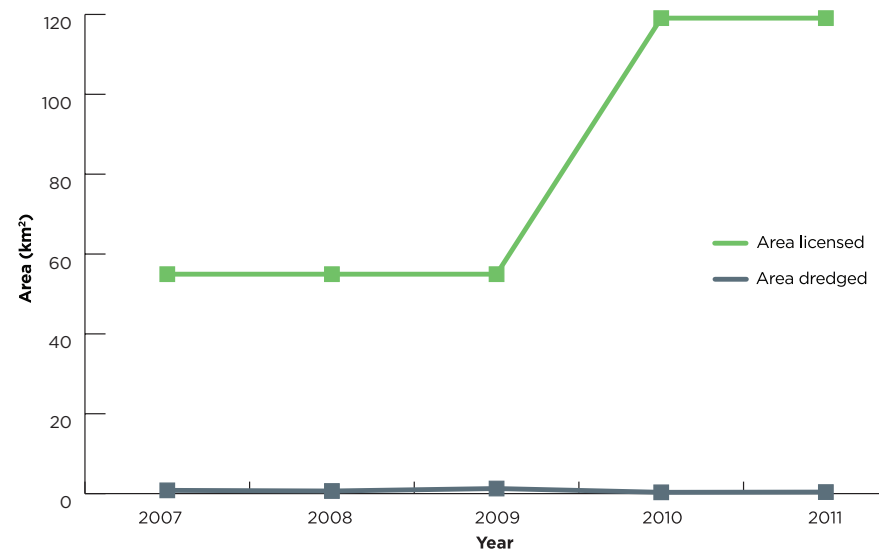
Background

- The North West region has 4 production licences, operated by Norwest Sand and Ballast Co, Tarmac Marine Dredging Ltd and Westminster Gravels Ltd. for sand, principally for use in the construction industry
- During 2011, 0.31 million tonnes of material were dredged from a permitted licensed tonnage of 1.33 million
- Of the total material dredged in the North West region:
 - 97 per cent of the tonnage dredged was delivered to the North West (0.30m)
 - 3 per cent of the tonnage dredged was delivered to the South West (0.01m)

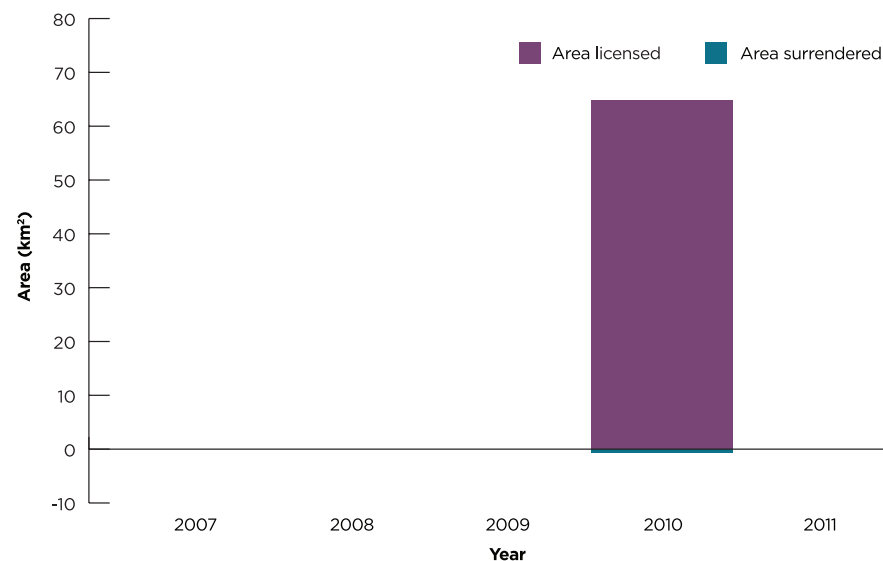
Regional statistics

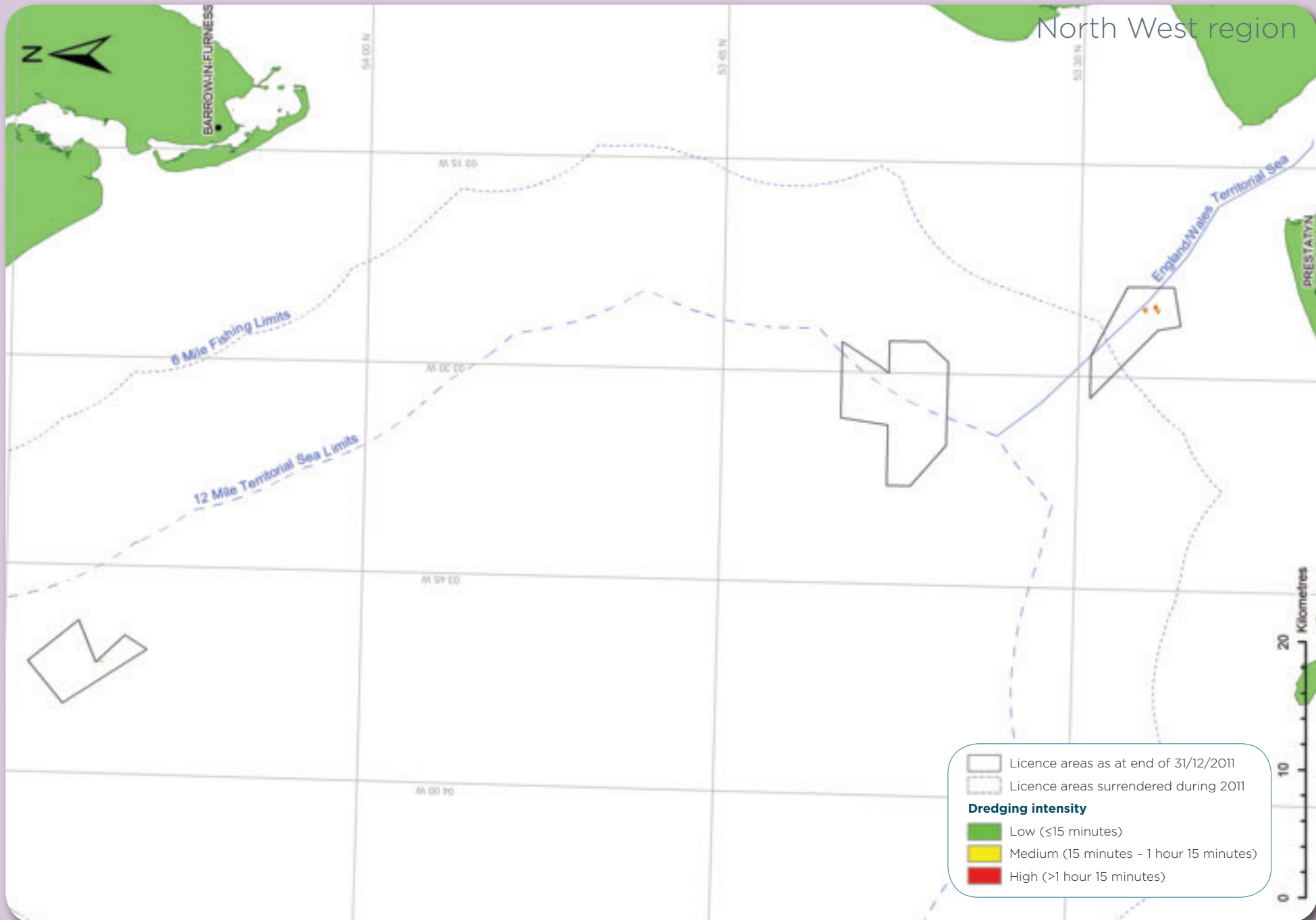
- The licensed area in the region was 119.08 km²
- The total area actually available to be dredged within the region was 27.06 km²
- Dredging took place within 0.38 km², 0.32 per cent of the licensed area
- High intensity dredging (greater than 1 hour 15 minutes) is equal to 0.17 km², representing 88.40 per cent of regional dredging activity
- 90 per cent of regional dredging effort took place within 0.18 km²
- During 2011, the area licensed for marine aggregate extraction remained unchanged.

Area of seabed licensed and dredged



Area of seabed licensed and surrendered





THE CROWN ESTATE manages a hugely diverse £7 billion property portfolio across the UK. The Crown Estate's marine properties include around half the UK's foreshore (17,000km) and almost the entire seabed out to the 12 nautical mile (nm) territorial limit around the UK. It also includes the rights to the natural resources in the UK Continental Shelf, with the exception of oil, coal and gas.

Guided by our core values of commercialism, integrity and stewardship, our role is to manage and enhance the value of our assets and to return any surplus to the Treasury for the benefit of the nation.

THE BRITISH MARINE AGGREGATE PRODUCERS ASSOCIATION (BMAPA) was formed in 1992 and comprises members of the Mineral Products Association with a marine interest. Marine sand and gravel is supplied to home markets, as well as contributing to the balance of payments through exports to Continental Europe. In addition, marine aggregates are fulfilling an increasingly important role by supporting beach replenishment schemes. The marine aggregates industry operated 28 vessels on 65 production licences around the UK during 2011.

BMAPA membership is comprised of: Brett Group Ltd, Britannia Aggregates Ltd, CEMEX UK Marine Ltd, DEME Building Materials Ltd, Hanson Aggregates Marine Ltd, Kendall Bros. (Portsmouth) Ltd, Lafarge Aggregates Ltd, Northwood (Fareham) Ltd, Sea Aggregates Ltd, Tarmac Marine Dredging Ltd and Volker Dredging Ltd.



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