

The area involved – **17th** annual report

THE CROWN
ESTATE



MARINE AGGREGATE EXTRACTION 2014



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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 seventeenth 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 2014 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 extraction 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 2014. 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.

During the second half of 2012 dredging operators were required to be fully compliant with the new Marine Licensing regime. For those areas which were licensed prior to the mid 1990s this required the delivery of Short Term Marine Licence Applications supported by Environmental Impact Assessments to ensure the continuation of dredging operations. Among the conditions of these licences was the limitation of operations to no greater than the maximum historic dredge footprint (since 1993), resulting in a temporary reduction of the permitted extent. The large reduction in the area of seabed licensed described in this report between 2011 and 2012 was largely the result of this condition being imposed on older dredging areas, and is likely to be mostly reversed following successful applications for 15 year full term renewals during 2015.

Summary information

- A total of 16.94 million tonnes of sand and gravel were dredged from Crown Estate licences in England and Wales during 2014 (16.03 million tonnes in 2013)
- The total area of seabed licensed in 2014 decreased to 726km² (739km² in 2013)
- Dredging took place within 85.66km², 11.80 per cent of the licensed area, compared with 98.67km² (13.35 per cent) in 2013
- The area of seabed dredged for more than 1 hour 15 minutes per year (high intensity – red on charts) decreased to 6.39km² (6.75km² in 2013)
- 90 per cent of dredging from Crown Estate licences took place from an area of 37.26km² (39.20km² in 2013).





Summary statistics for 2014

Region	Total area licensed during 2014 (km ²)	Total active dredge area for 2014 (km ²) ^{*1}	Total area dredged during 2014 (km ²)
Humber	159.10	78.60	13.47
East Coast	152.89	112.40	28.44
Thames	35.26	22.87	6.07
East English Channel	113.50	33.64	14.80
South Coast	97.06	42.36	15.80
South West	101.50	29.16	5.47
North West	66.56	12.72	1.61
Total (km²)^{*2}	725.87	331.75	85.66

Area of seabed licensed decreased by 13km² during 2014

Area of seabed licensed (km²) 2010-2014

Year ^{*4}	2010	2011	2012	2013	2014
0-6nm ^{*5}	363	346	192	203	202
6-12nm ^{*5}	447	447	191	233	225
>12nm	481	481	328	303	299
Total area licensed (km²)	1291	1274	711^{*3}	739^{*3}	726^{*3}
Total active dredge area (km²)	552	567	391	332	332

Area of seabed dredged decreased by 13km² during 2014

Area of seabed dredged (km²) 2010-2014

Year	2010	2011	2012	2013	2014
0-6nm ^{*5}	44	53	42	42	39
6-12nm ^{*5}	38	36	32	31	21
>12nm ^{*5}	23	25	23	26	26
Total (km²)	105	114	97	99	86
Area dredged >1 hr 15 mins (km²)	6.83	8.52	8.41	6.75	6.39
90 per cent of dredging effort (area in km²)	37.63	43.26	36.42	39.20	37.26

^{*1} Total area actually available to be dredged during 2014, calculated on a cumulative basis

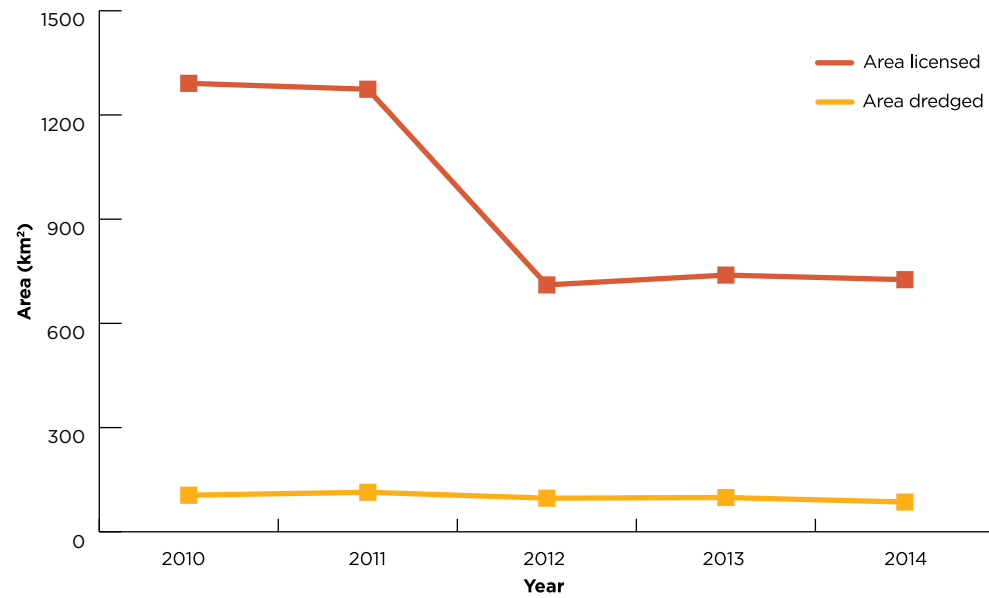
^{*2} Totals are rounded from the correct total rather than a summation of the regional figures

^{*3} This large decrease from the 2011 figure in the area licensed is primarily a result of the Short Term Marine Licensing process during 2012, the effect of which is expected to be largely reversed during 2015

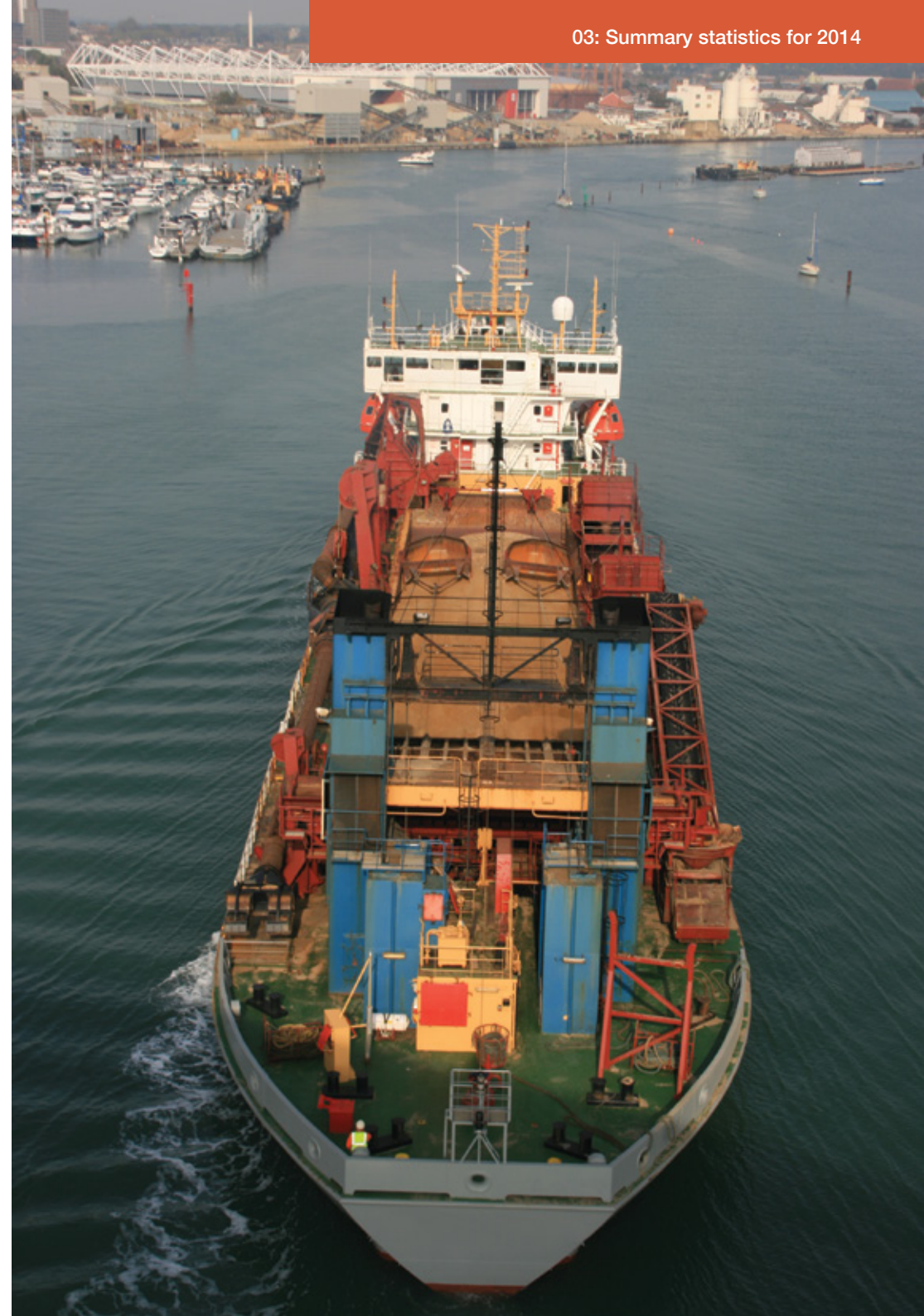
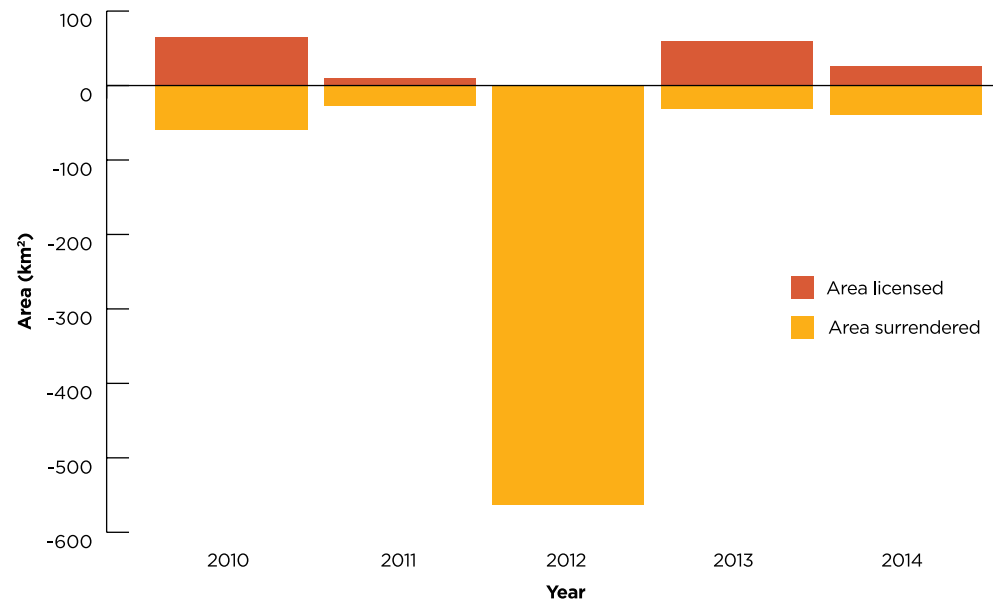
^{*4} Annual figures are calculated as of end of the 31st December, and therefore incorporate any changes that may have occurred through the year

^{*5} 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 2010-2014



New area licensed versus existing area surrendered 2010-2014



Humber region

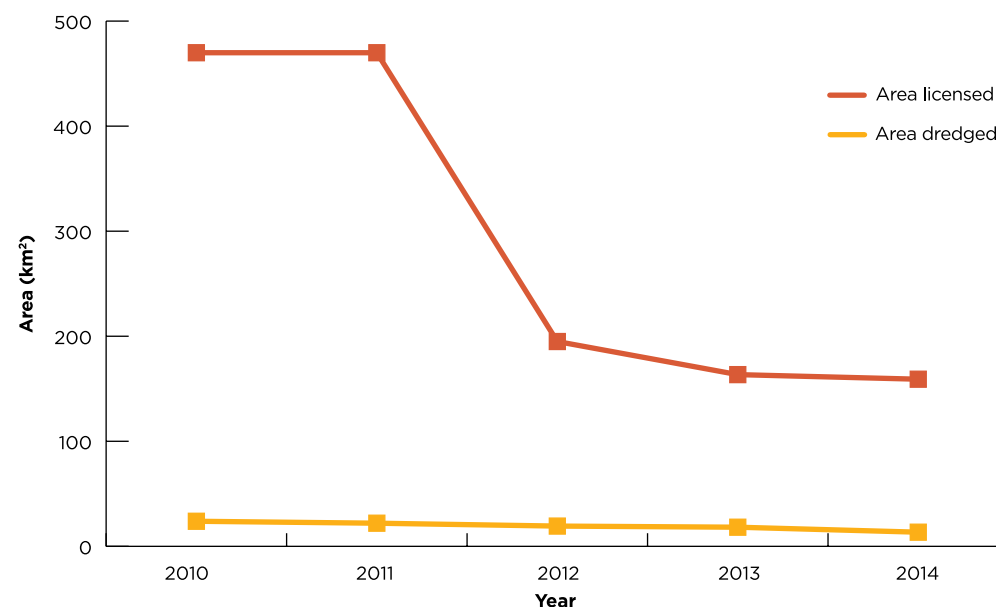
Background

- The region has 8 production licences, operated by CEMEX UK Marine Ltd, Hanson Aggregates Marine Ltd, Lafarge Tarmac Marine Ltd (Tarmac Marine Ltd as of August 2015), Van Oord UK Ltd and Westminster Gravels Ltd for both sand and gravel, principally for use in the construction industry
- During 2014, 1.57 million tonnes of construction aggregate were dredged from a permitted licensed tonnage of 4.56 million. In addition 0.62 million tonnes were specifically dredged for beach nourishment
- Of the total marine aggregate dredged for construction from the region:
 - 66.5 per cent of the tonnage dredged was delivered to mainland Europe (1.04m)
 - 27.3 per cent of the tonnage dredged was delivered to the North East (0.43m)
 - 6.1 per cent of the tonnage dredged was delivered to the Thames Estuary (0.10m)
 - 0.1 per cent of the tonnage dredged was delivered to the South Coast (<0.01m)

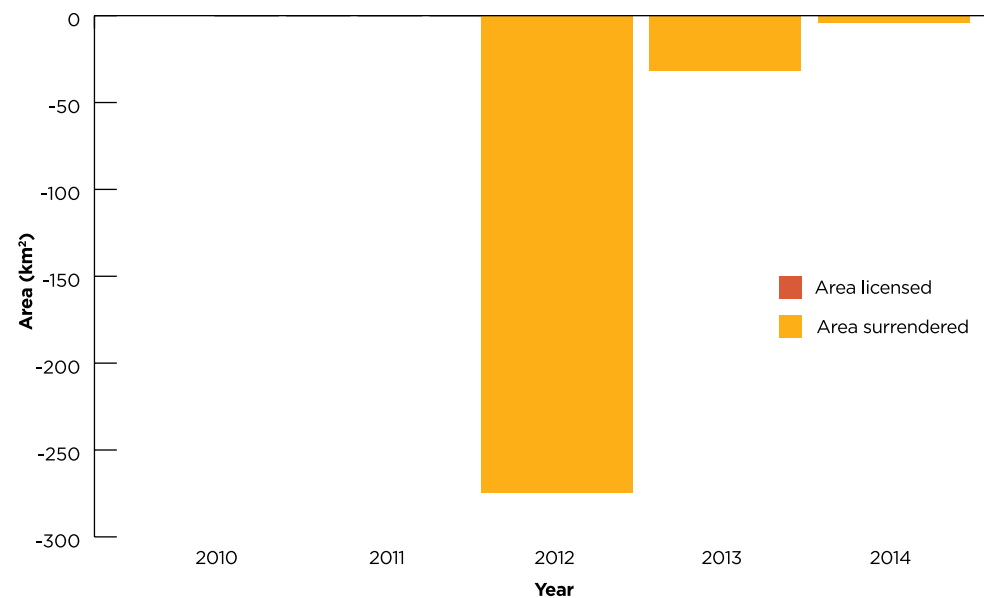
Regional statistics

- The licensed area in the region was 159.10km²
- The total area actually available to be dredged within the region (due to zoning) was 78.60km²
- Dredging took place within 13.47km², 8.47 per cent of the licensed area
- High intensity dredging (greater than 1 hour 15 minutes) is equal to 0.49km², representing 30.20 per cent of regional dredging activity
- 90 per cent of regional dredging effort took place within 5.43km²
- During 2014, the area licensed for marine aggregate extraction decreased by 4.36km²

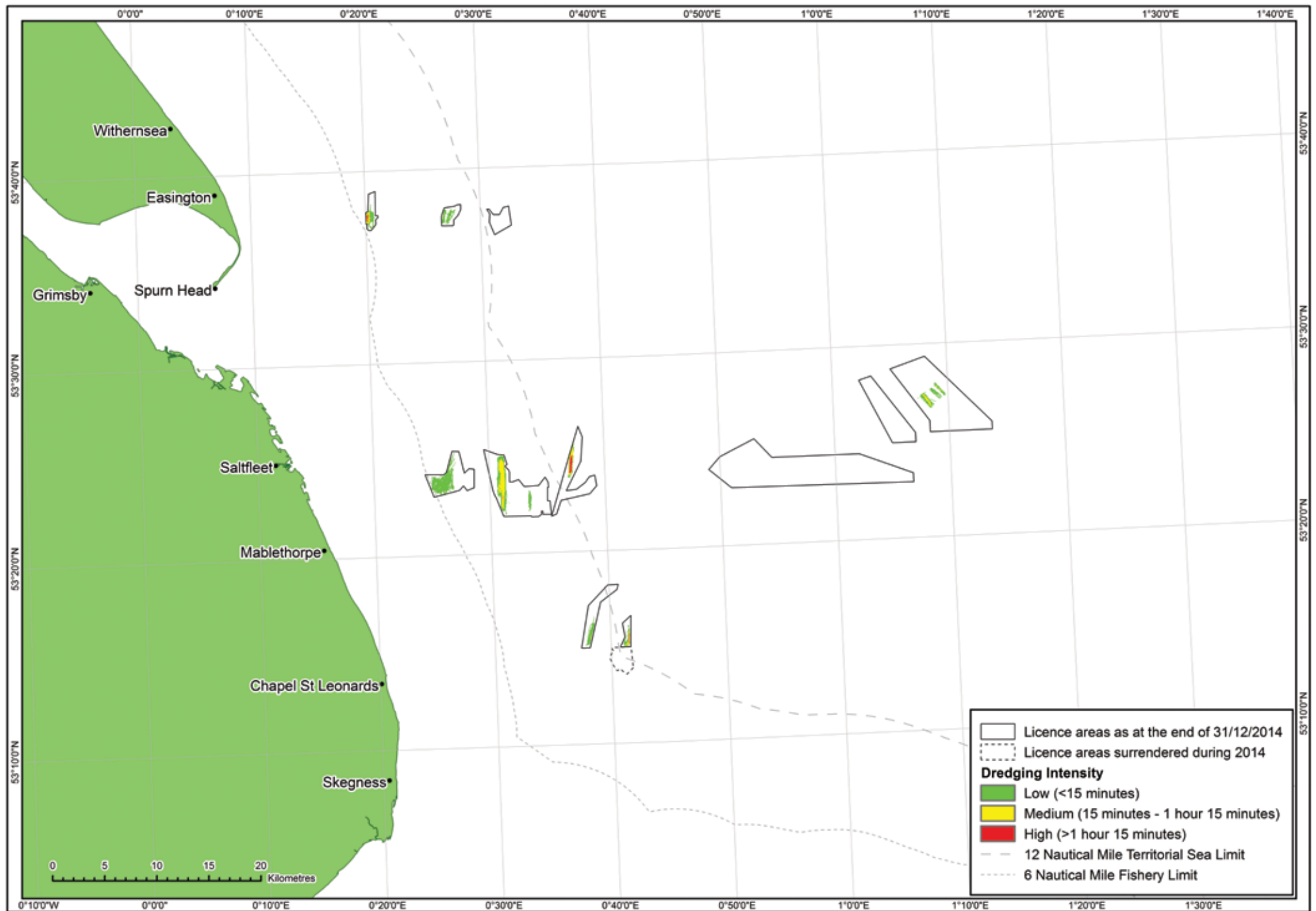
Area of seabed licensed* and dredged 2010-2014



Area of seabed licensed and surrendered 2010-2014*



* Includes areas temporarily reduced as part of the Short Term Marine Licence process



East Coast region

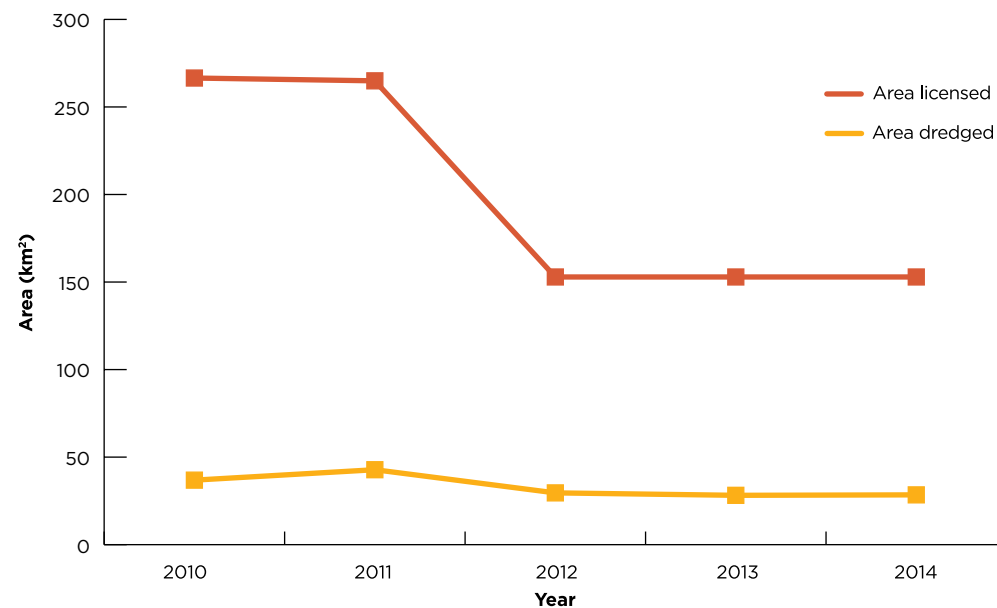
Background

- The East Coast region has 13 production licences, operated by CEMEX UK Marine Ltd, Hanson Aggregates Marine Ltd, Lafarge Tarmac Marine Ltd (Tarmac Marine Ltd as of August 2015) and Volker Dredging Ltd for both sand and gravel, principally for use in the construction industry
- During 2014, 4.72 million tonnes of construction aggregate were dredged from a permitted licensed tonnage of 8.47 million
- Of the total marine aggregate dredged for construction from the region:
 - 86.8 per cent of the tonnage dredged was delivered to the Thames Estuary (4.10m)
 - 11.8 per cent of the tonnage dredged was delivered to mainland Europe (0.56m)
 - 1.4 per cent of the tonnage dredged was delivered to the North East (0.07m)
 - <0.1 per cent of the tonnage dredged was delivered to the South Coast (<0.01m)

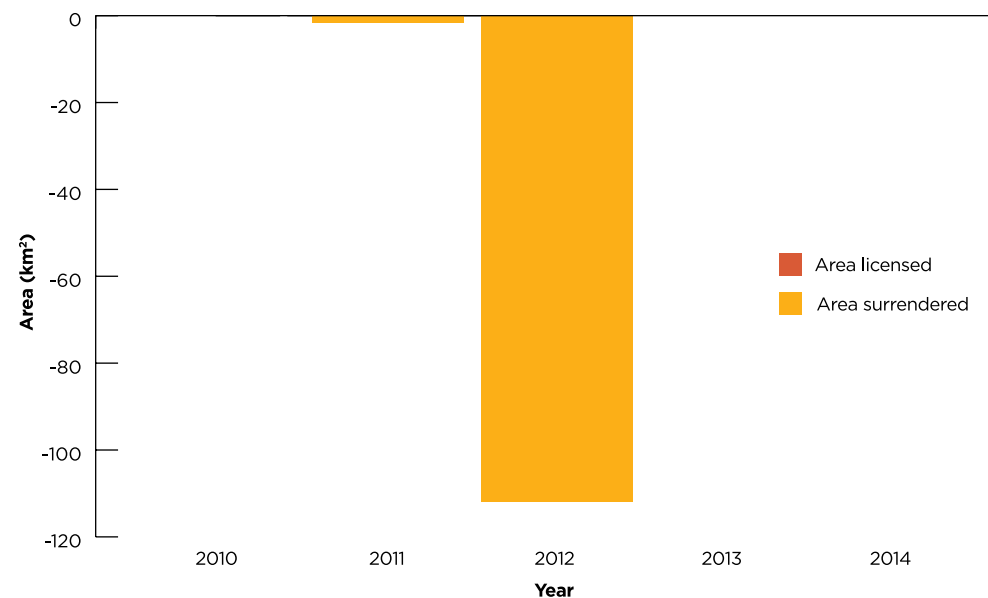
Regional statistics

- The licensed area in the region was 152.89km²
- The total area actually available to be dredged within the region (due to zoning) was 112.40km²
- Dredging took place within 28.44km², 18.60 per cent of the licensed area
- High intensity dredging (greater than 1 hour 15 minutes) is equal to 1.60km², representing 38.93 per cent of regional dredging activity
- 90 per cent of regional dredging effort took place within 11.49km²
- During 2014, the area licensed for marine aggregate extraction remained unchanged

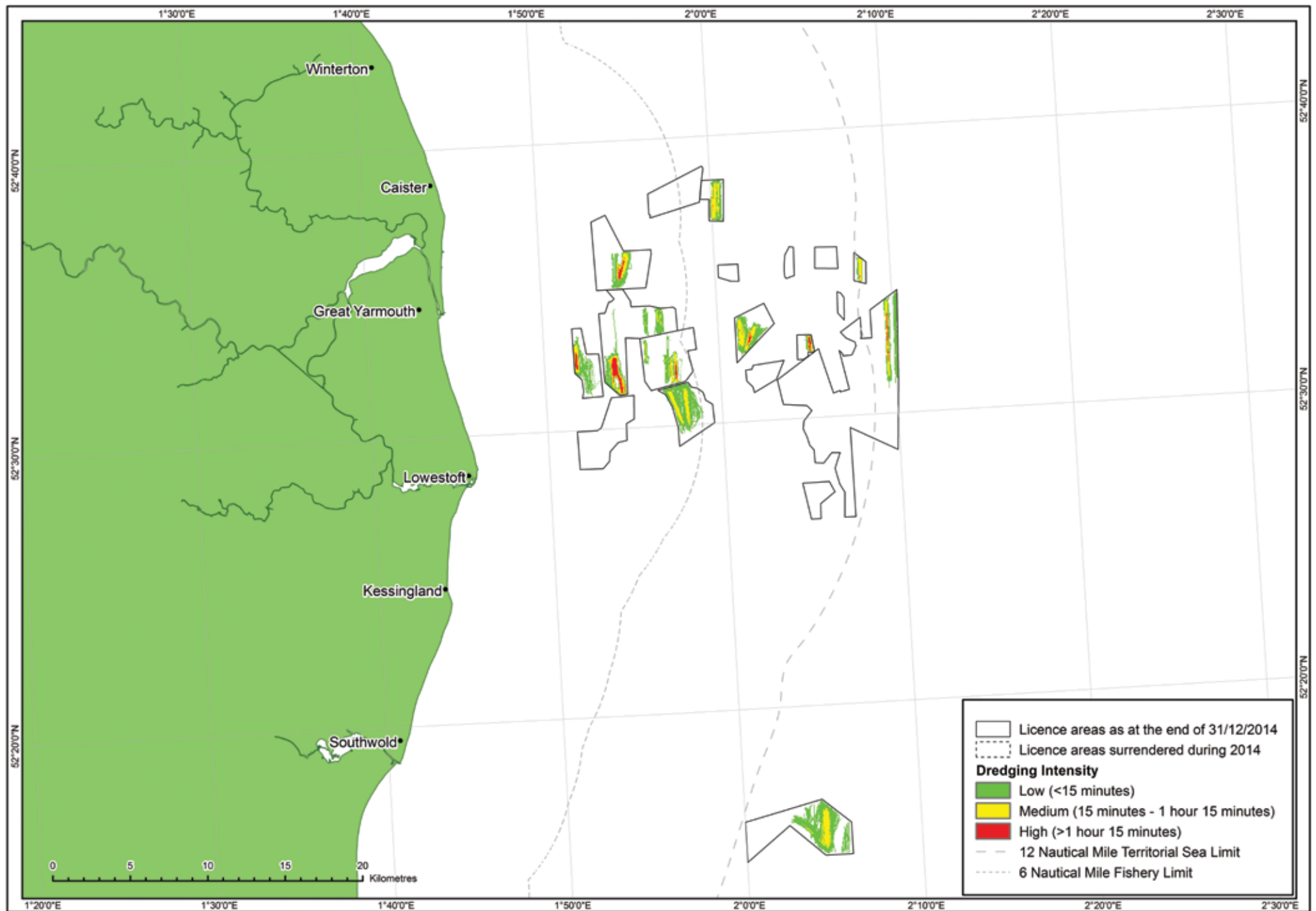
Area of seabed licensed* and dredged 2010-2014



Area of seabed licensed and surrendered 2010-2014*



* Includes areas temporarily reduced as part of the Short Term Marine Licence process



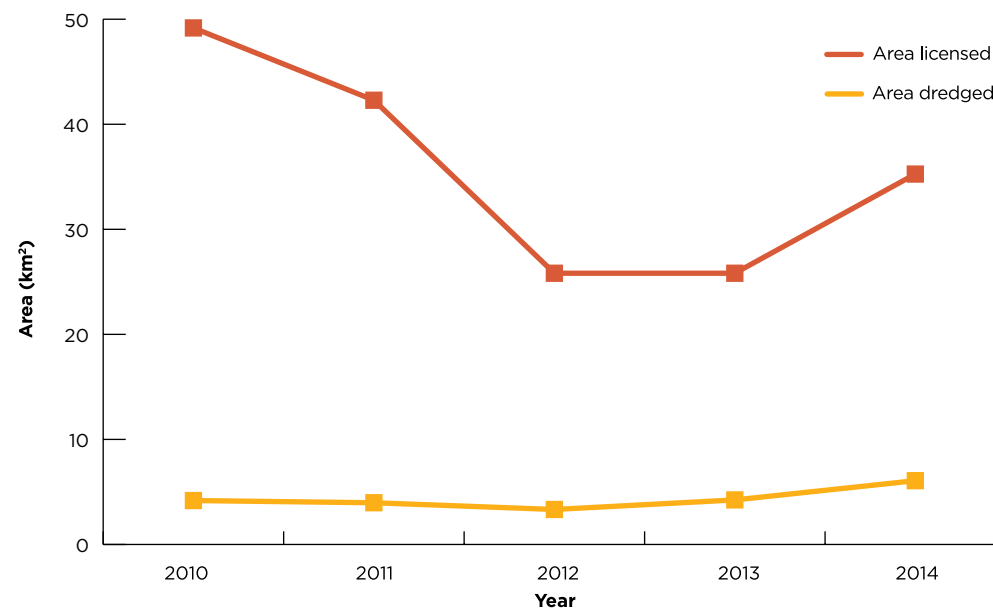
Thames Estuary region

- The Thames region has 4 production licences, operated by Britannia Aggregates Ltd, CEMEX UK Marine Ltd, Hanson Aggregates Marine Ltd and Lafarge Tarmac Marine Ltd (Tarmac Marine Ltd as of August 2015) for both sand and gravel, principally for use in the construction industry
- During 2014, 0.59 million tonnes of construction aggregate were dredged from a permitted licensed tonnage of 1.76 million. In addition 0.37 million tonnes were dredged for reclamation fill and 0.48 million tonnes were dredged for beach nourishment
- Of the total marine aggregate dredged for construction from the region:
 - 90.3 per cent of the tonnage dredged was delivered to the Thames Estuary (0.53m)
 - 3.9 per cent of the tonnage dredged was delivered to mainland Europe (0.02m)
 - 3.2 per cent of the tonnage dredged was delivered to the North East (0.02m)
 - 2.6 per cent of the tonnage dredged was delivered to the South Coast (0.02m)

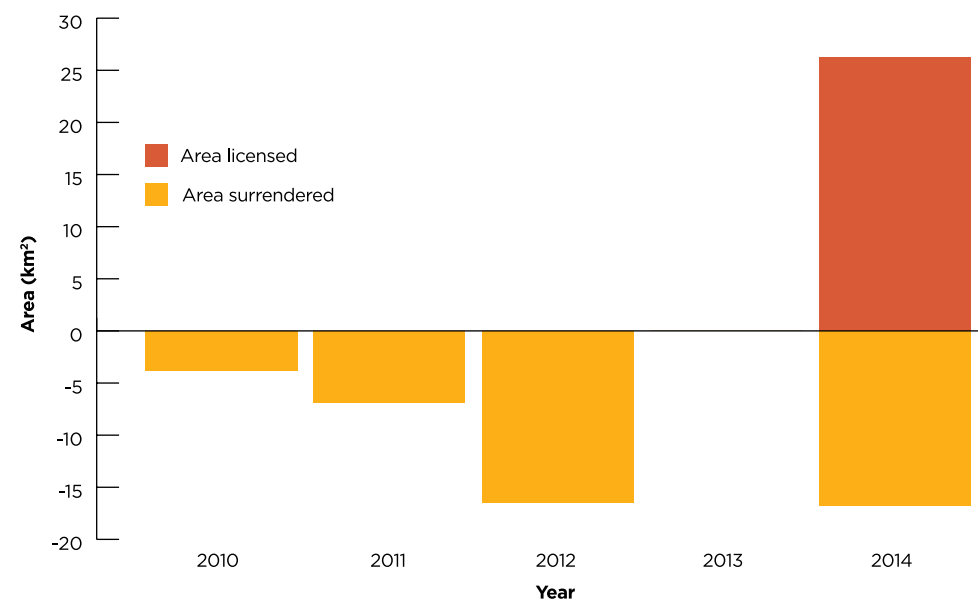
Regional statistics

- The licensed area in the region was 35.26km²
- The total area actually available to be dredged within the region (due to zoning) was 22.87km²
- Dredging took place within 6.07km², 17.21 per cent of the licensed area
- High intensity dredging (greater than 1 hour 15 minutes) is equal to 0.42km², representing 38.22 per cent of regional dredging activity
- 90 per cent of regional dredging effort took place within 2.60km²
- During 2014, the area licensed for marine aggregate extraction increased by 9.44km²

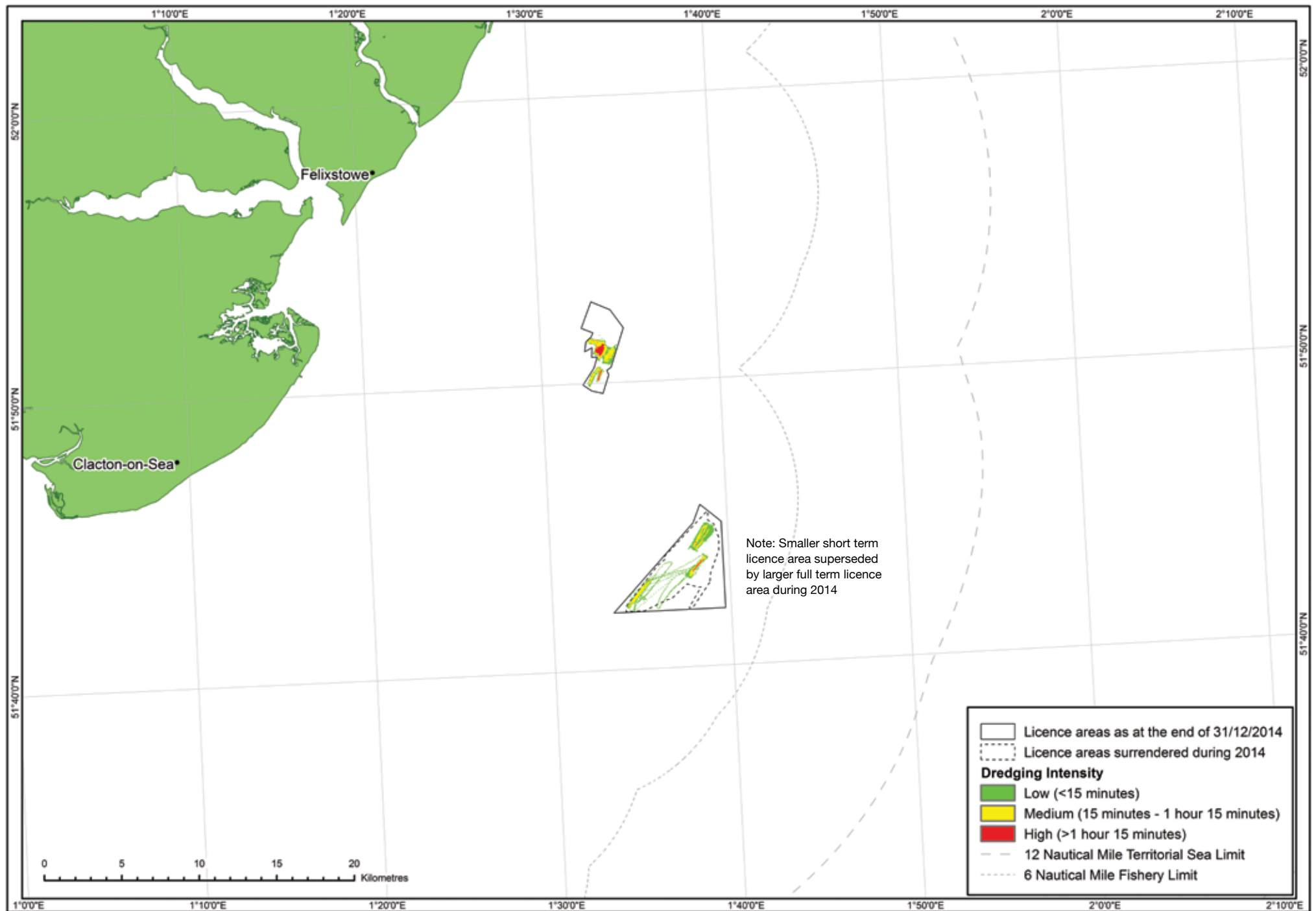
Area of seabed licensed* and dredged 2010-2014



Area of seabed licensed and surrendered 2010-2014*



* Includes areas temporarily reduced as part of the Short Term Marine Licence process



East English Channel region

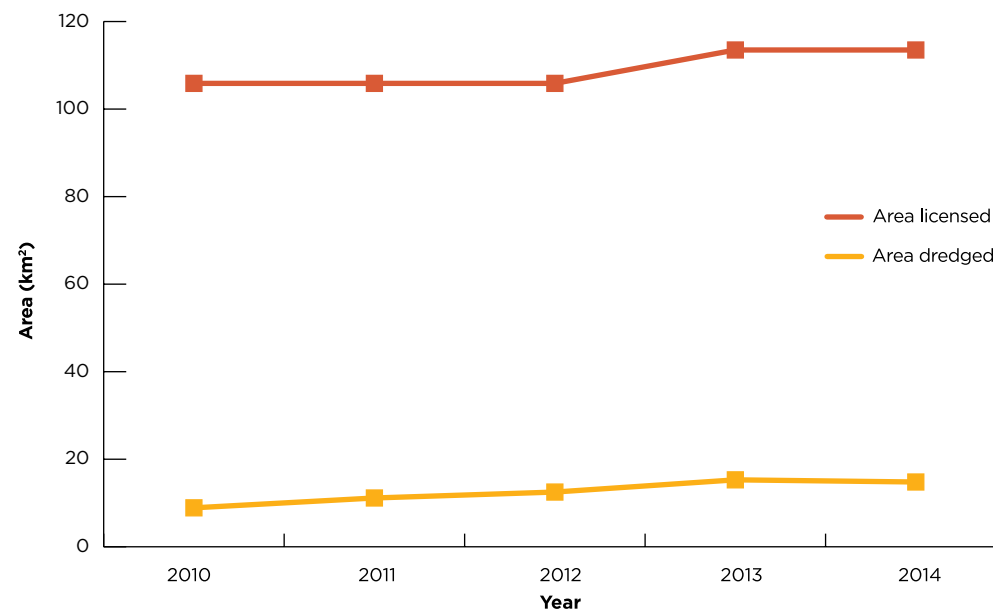
Background

- The East English Channel region has 11 production licences, operated by CEMEX UK Marine Ltd, DEME Building Materials Ltd, Hanson Aggregates Marine Ltd, Lafarge Tarmac Marine Ltd (Tarmac Marine Ltd as of August 2015) and Volker Dredging Ltd for sand and gravel, principally for use in the construction industry
- During 2014, 3.62 million tonnes of construction aggregate were dredged from a permitted licensed tonnage of 9.90 million. In addition 0.24 million tonnes were specifically dredged for reclamation fill
- Of the total marine aggregate dredged for construction from the region:
 - 63.6 per cent of the tonnage dredged was delivered to the Thames Estuary (2.30m)
 - 33.9 per cent of the tonnage dredged was delivered to mainland Europe (1.23m)
 - 1.3 per cent of the tonnage dredged was delivered to the East Coast (0.05m)
 - 1.2 per cent of the tonnage dredged was delivered to the South Coast (0.04m)

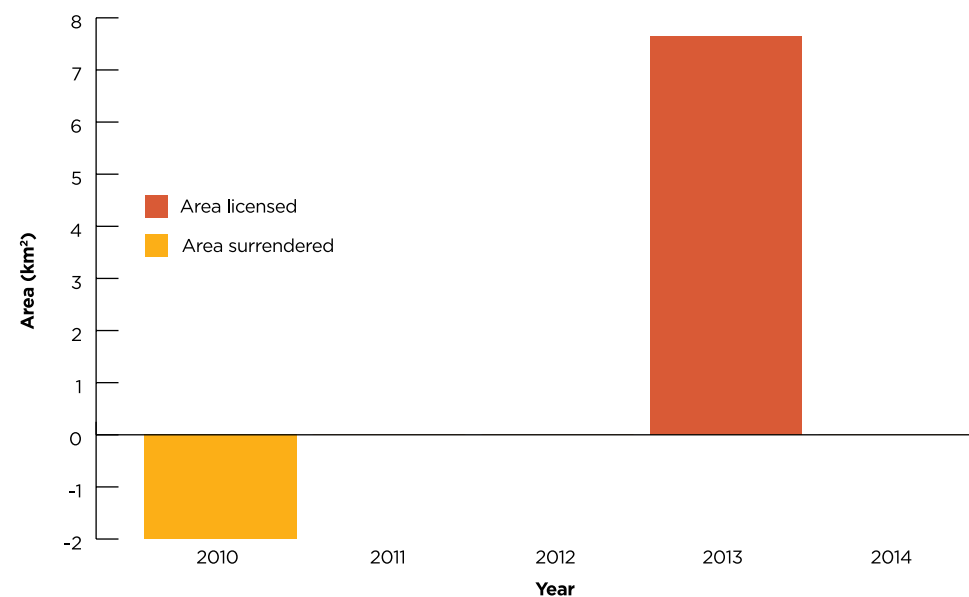
Regional statistics

- The licensed area in the region was 113.50km²
- The total area actually available to be dredged within the region (due to zoning) was 33.64km²
- Dredging took place within 14.80km², 13.04 per cent of the licensed area
- High intensity dredging (greater than 1 hour 15 minutes) is equal to 1.14km², representing 45.93 per cent of regional dredging activity
- 90 per cent of regional dredging effort took place within 6.80km²
- During 2014, the area licensed for marine aggregate extraction remained unchanged

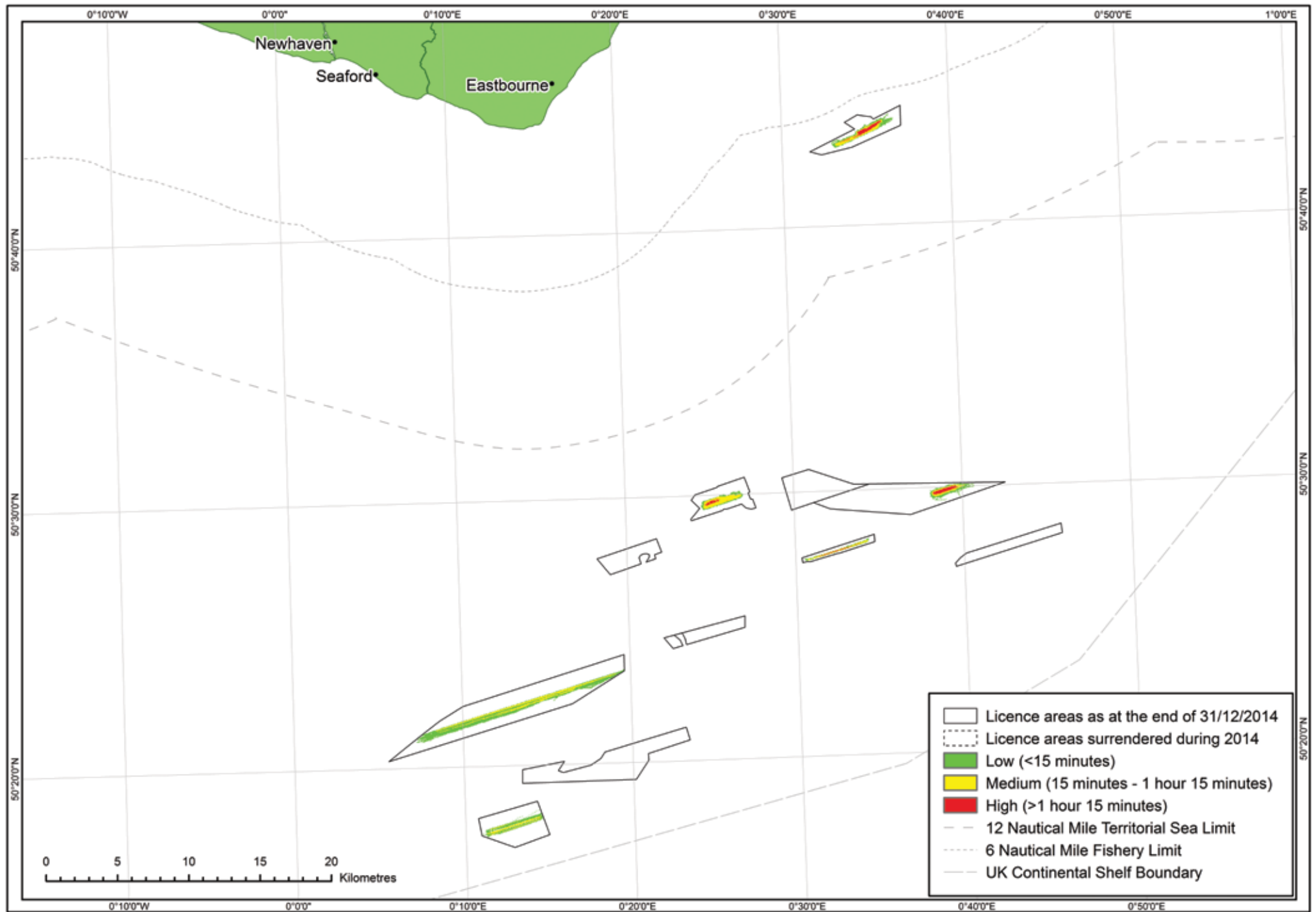
Area of seabed licensed* and dredged 2010-2014



Area of seabed licensed and surrendered 2010-2014*



* Includes areas temporarily reduced as part of the Short Term Marine Licence process



South Coast region

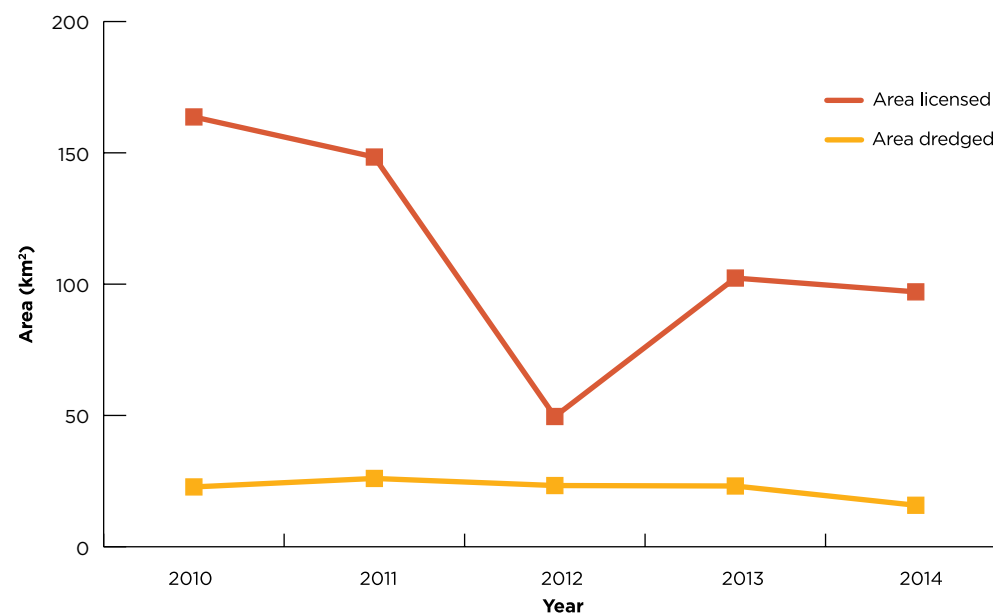
Background

- The South Coast region has 14 production licences, operated by CEMEX UK Marine Ltd, Hanson Aggregates Marine Ltd, Kendall Bros (Portsmouth) Ltd, Lafarge Tarmac Marine Ltd (Tarmac Marine Ltd as of August 2015), Northwood (Fareham) Ltd, Volker Dredging Ltd and Westminster Gravels Ltd for sand and gravel, principally for use in the construction industry
- During 2014, 2.97 million tonnes of construction aggregate were dredged from a permitted licensed tonnage of 8.95 million. In addition 0.1 million tonnes were specifically dredged for beach nourishment
- Of the total marine aggregate dredged for construction from the region:
 - 84.7 per cent of the tonnage dredged was delivered to the South Coast (2.51m)
 - 10.0 per cent of the tonnage dredged was delivered to the Thames Estuary (0.30m)
 - 5.0 per cent of the tonnage dredged was delivered to mainland Europe (0.15m)
 - 0.3 per cent of the tonnage dredged was delivered to the East Coast (0.01m)

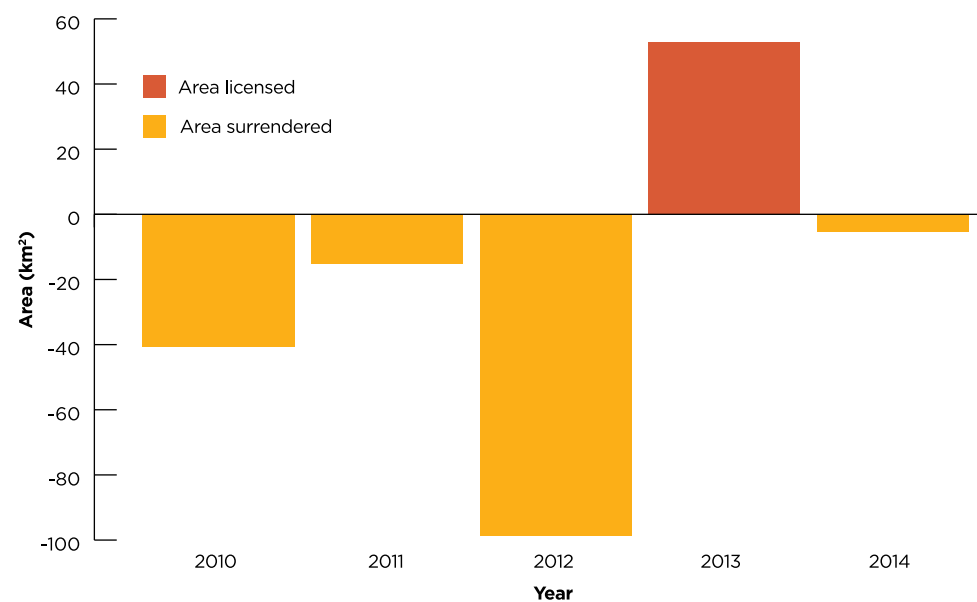
Regional statistics

- The licensed area in the region was 97.06km²
- The total area actually available to be dredged within the region (due to zoning) was 42.36km²
- Dredging took place within 15.80km², 16.28 per cent of the licensed area
- High intensity dredging (greater than 1 hour 15 minutes) is equal to 1.45km², representing 55.52 per cent of regional dredging activity
- 90 per cent of regional dredging effort took place within 6.24km²
- During 2014, the area licensed for marine aggregate extraction decreased by 5.26km²

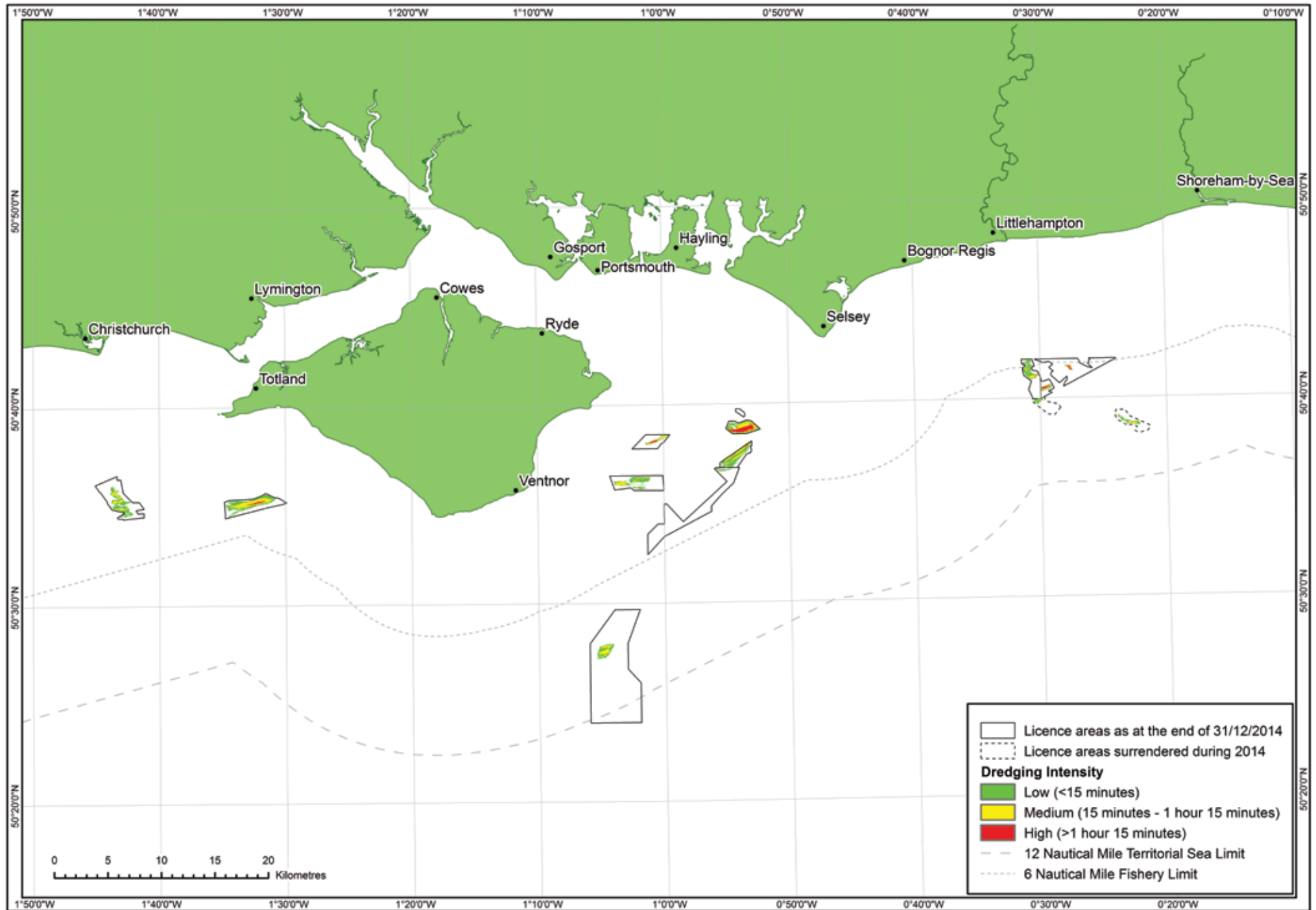
Area of seabed licensed* and dredged 2010-2014



Area of seabed licensed and surrendered 2010-2014*



* Includes areas temporarily reduced as part of the Short Term Marine Licence process



South West region

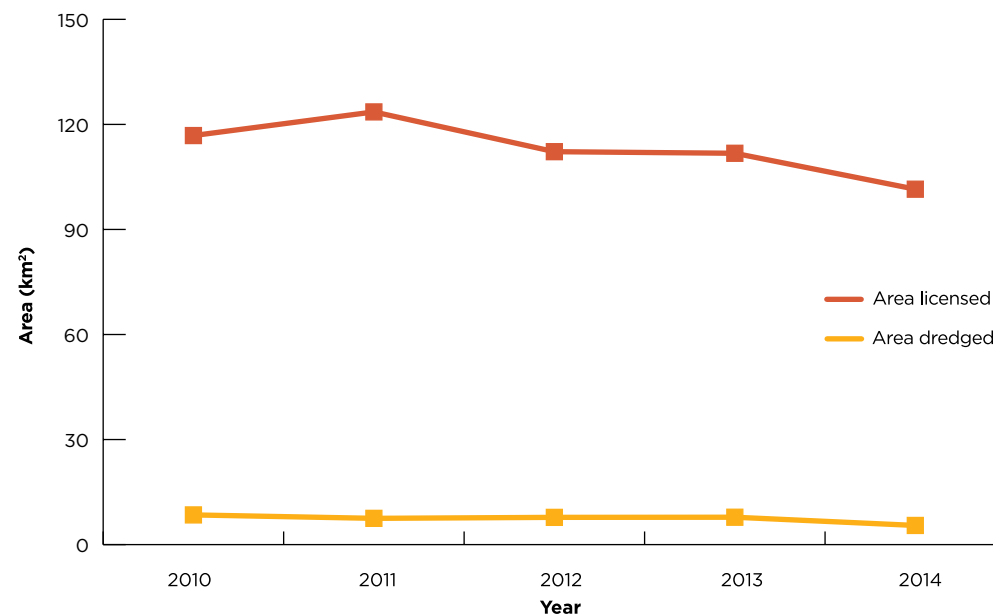
Background

- The South West region has 7 production licences, operated by CEMEX UK Marine Ltd, Hanson Aggregates Marine Ltd, Lafarge Tarmac Marine Ltd (Tarmac Marine Ltd as of August 2015), Llanelli Sand Dredging Ltd and Severn Sands Ltd for sand, principally for use in the construction industry
- During 2014, 1.09 million tonnes of construction aggregate were dredged from a permitted licensed tonnage of 2.21 million.
- Of the total marine aggregate dredged for construction from the region:
 - 99.8 per cent of the tonnage dredged was delivered to the South West (1.09m)
 - 57.2 per cent of this went to Welsh wharves (0.62m)
 - 42.8 per cent of this went to English wharves (0.47m)
 - 0.2 per cent of the tonnage dredged was delivered to the North West (<0.01 m)
 - 100.0 per cent of this went to English wharves

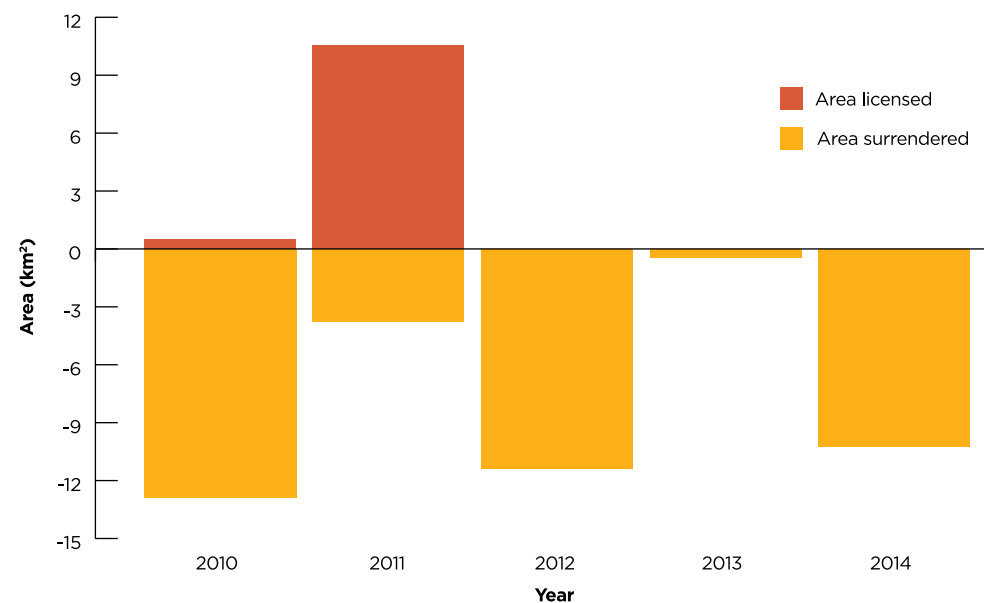
Regional statistics

- The licensed area in the region was 101.50km²
- The total area actually available to be dredged within the region (due to zoning) was 29.16km²
- Dredging took place within 5.47km², 5.39 per cent of the licensed area
- High intensity dredging (greater than 1 hour 15 minutes) is equal to 1.09km², representing 71.49 per cent of regional dredging activity
- 90 per cent of regional dredging effort took place within 2.18km²
- During 2014, the area licensed for marine aggregate extraction decreased by 10.25km²

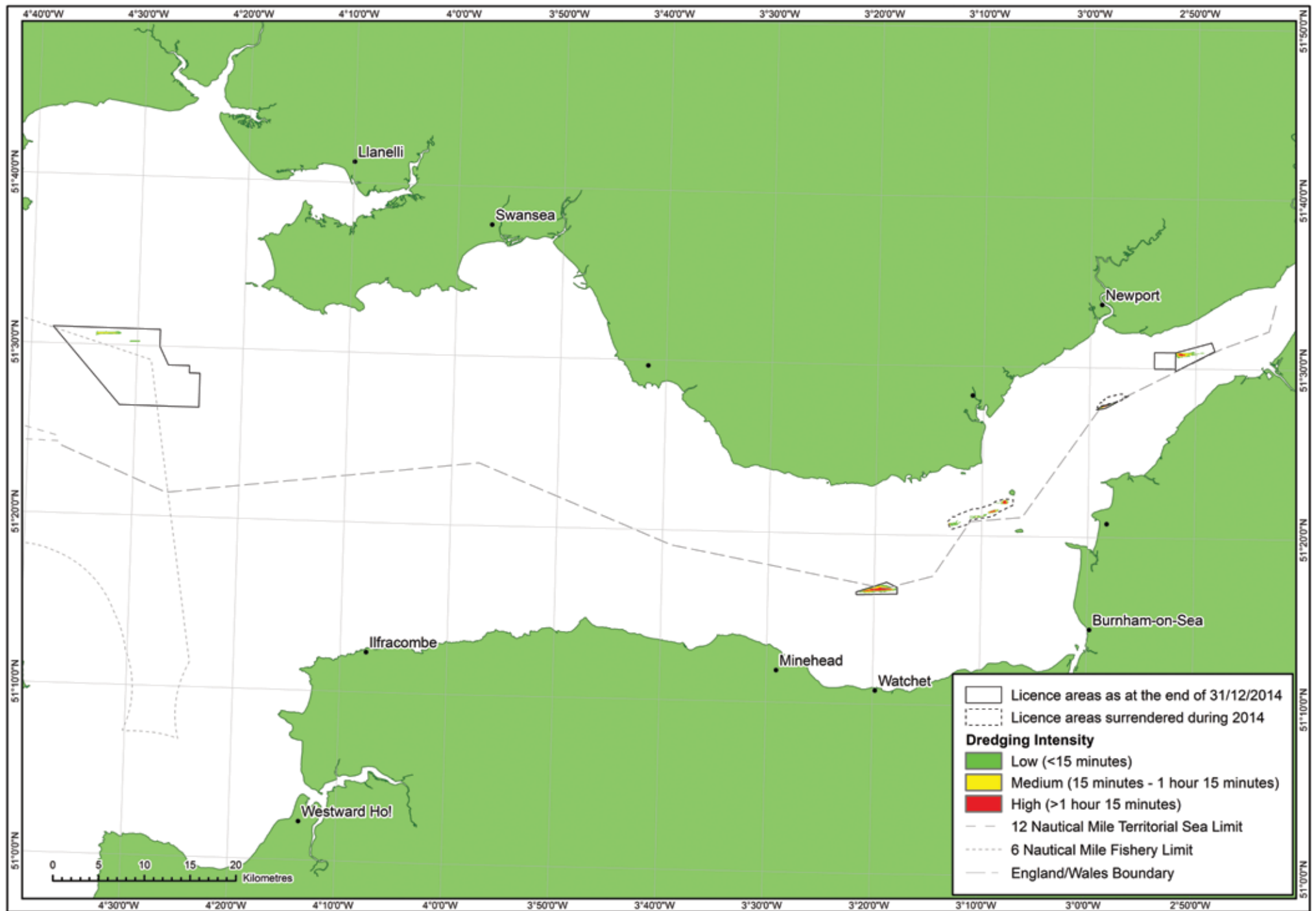
Area of seabed licensed* and dredged 2010-2014



Area of seabed licensed and surrendered 2010-2014*



* Includes areas temporarily reduced as part of the Short Term Marine Licence process



North West region

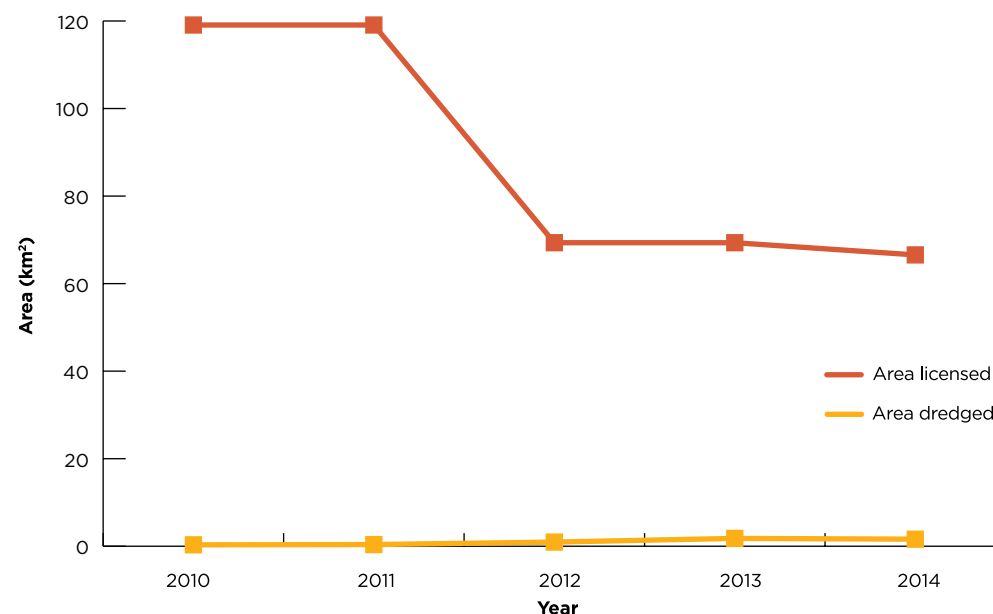
Background

- The North West region has 3 production licences, operated by Lafarge Tarmac Marine Ltd (Tarmac Marine Ltd as of August 2015), Norwest Sand and Ballast Co and Westminster Gravels Ltd for sand, principally for use in the construction industry
- During 2014, 0.25 million tonnes of construction aggregate were dredged from a permitted licensed tonnage of 1.31 million. In addition 0.27 million tonnes were specifically dredged for beach nourishment
- Of the total marine aggregate dredged for construction from the region:
 - 95.3 per cent of the tonnage dredged was delivered to the North West (0.24m)
 - 85.4 per cent of this went to English wharves (0.20m)
 - 14.6 per cent of this went to Welsh wharves (0.04m)
 - 4.7 per cent of the tonnage dredged was delivered to the South West (0.01m)
 - 100.0 per cent of this went to Welsh wharves

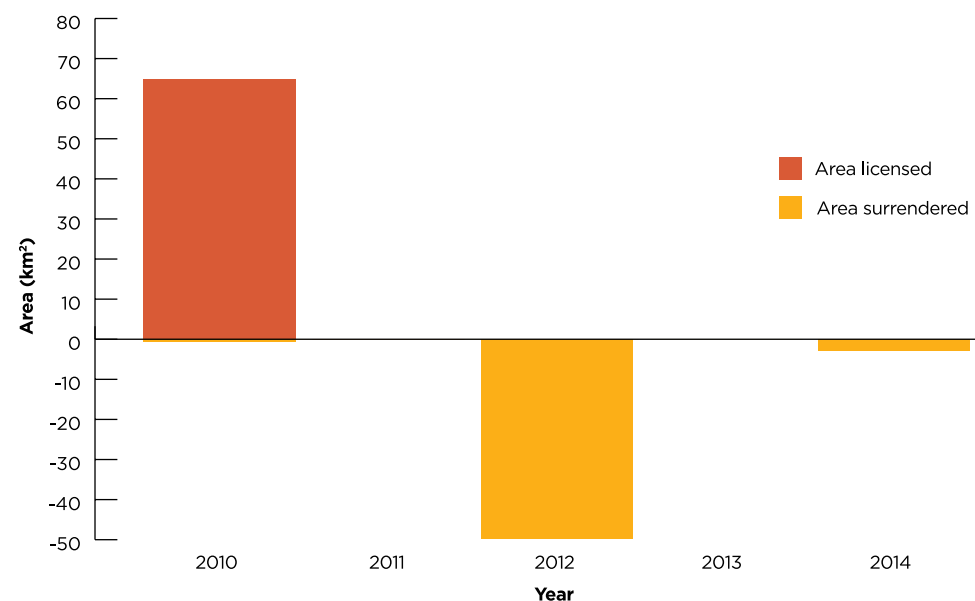
Regional statistics

- The licensed area in the region was 66.56km²
- The total area actually available to be dredged within the region (due to zoning) was 12.72km²
- Dredging took place within 1.61km², 2.42 per cent of the licensed area
- High intensity dredging (greater than 1 hour 15 minutes) is equal to 0.20km², representing 63.69 per cent of regional dredging activity
- 90 per cent of regional dredging effort took place within 0.58km²
- During 2014, the area licensed for marine aggregate extraction decreased by 2.78km²

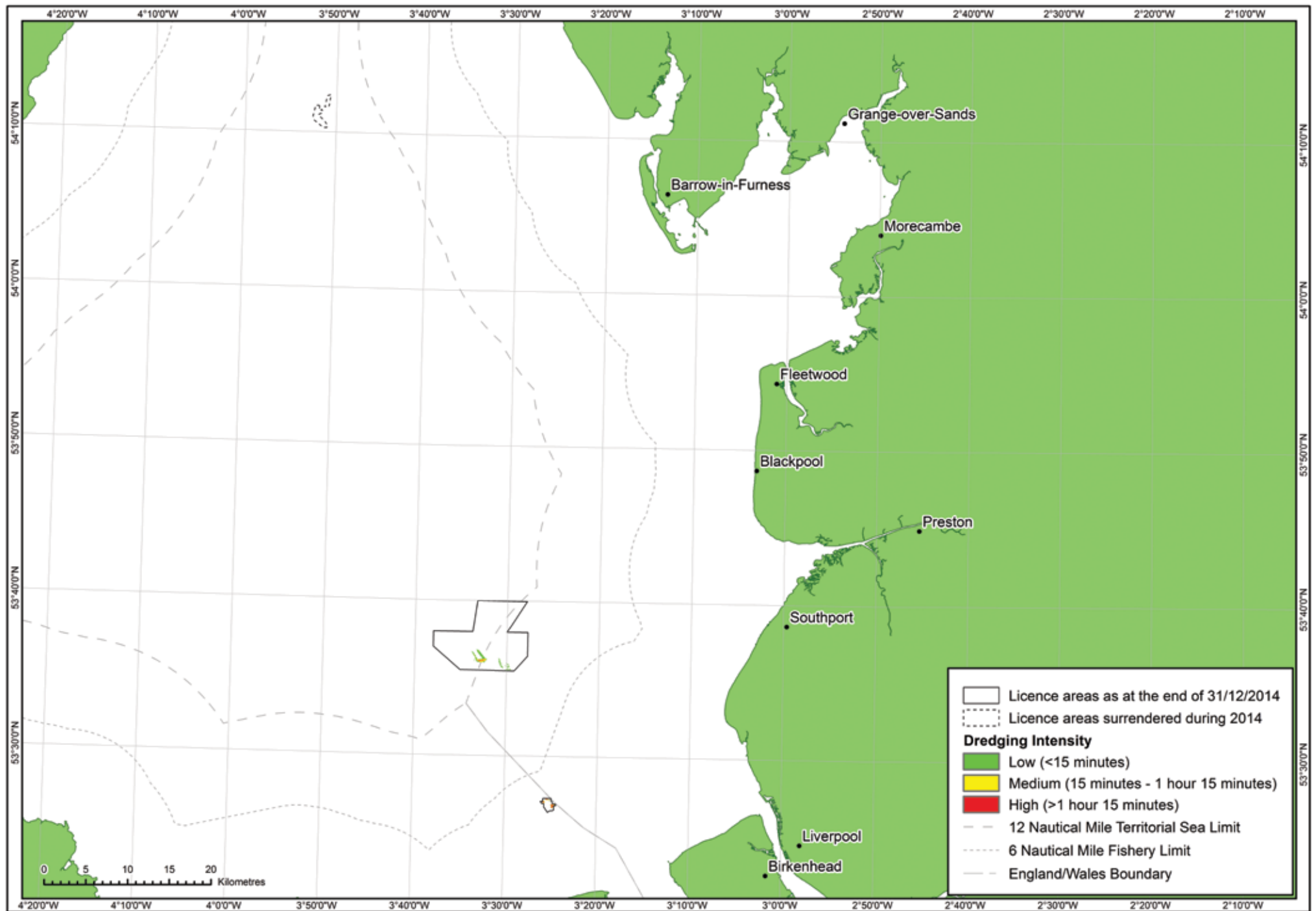
Area of seabed licensed* and dredged 2010-2014



Area of seabed licensed and surrendered 2010-2014*



* Includes areas temporarily reduced as part of the Short Term Marine Licence process



England and Wales have one of the largest and most efficient dredging industries in the world, extracting 15 to 20 million tonnes of sand and gravel from the seabed each year for a range of uses, from building homes, to major projects such as construction of the “Shard” and the London Aquatics centre, port developments and coastal adaptation.

The Crown Estate owns almost all of the sand and gravel resources lying off the coast of the UK. We take an active approach to managing this natural asset effectively and sustainably to deliver value over the long term, including awarding and managing commercial agreements for extraction. We also award and manage leases for the extraction of other minerals such as potash from undersea deposits that extend several kilometres offshore.

Marine aggregates have been playing an increasingly important role in the building industry since the 1960s and today meet about 20 per cent of sand and gravel demand in England and Wales.

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 aggregate industry operates an average of 23 vessels on 63 production licences around the UK as of July 2015.

BMAPA membership (as of July 2015) 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, Tarmac Marine Ltd (formerly Lafarge Tarmac Marine Ltd), Northwood (Fareham) Ltd, Sea Aggregates Ltd and Volker Dredging.



The Crown Estate

16 New Burlington Place
London
W1S 2HX

T 020 7851 5000

W www.thecrownestate.co.uk

E marineminerals@thecrownestate.co.uk

@thecrownestate



British Marine Aggregate Producers Association

Gillingham House
38-44 Gillingham Street
London
SW1V 1HU

T 020 7963 8000

E bmapa@mineralproducts.org

W www.bmapa.org

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