

The area involved – **20th** annual report



MARINE AGGREGATE EXTRACTION 2017



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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 20th 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 2017 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.

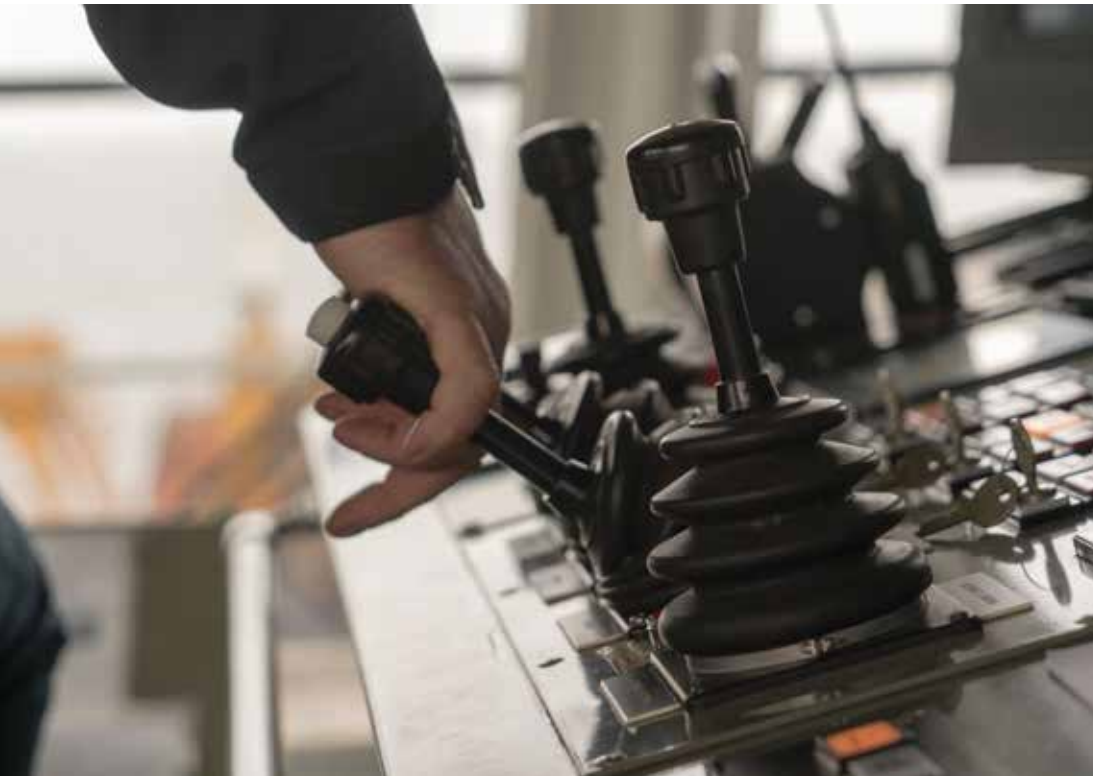
The figures for the active dredge area – the area actually available to be dredged at any one time – have been updated for 2017. While the limits of these areas are not presented on the charts associated with this report, detailed regional zoning plans (updated on a bi-annual basis) are available from The Crown Estate Marine Aggregates and 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 artificially small area of seabed licensed observable in this report between 2013 and 2014 was largely the result of this condition being imposed on older dredging areas, and was mostly reversed following successful applications for 15 year full term renewals by 2015.

Summary information

- A total of 19.00 million tonnes of sand and gravel were dredged from Crown Estate licences in England and Wales during 2017 (17.94 million tonnes in 2016)
- The total area of seabed licensed in 2017 increased to 1057km² (934km² in 2016)
- Dredging took place within 90.94km² – 8.60 per cent of the licensed area, compared with 87.53km² (9.37 per cent) in 2016
- The area of seabed dredged for more than 1 hour 15 minutes per year (high intensity – red on charts) decreased to 7.42km² (7.52km² in 2016)
- 90 per cent of dredging from Crown Estate licences took place from an area of 38.30km² (33.92km² in 2016).





Summary statistics for 2017

Region	Total area licensed during 2017 (km ²)	Total active dredge area for 2017 (km ²) ^{*1}	Total area dredged during 2017 (km ²)
Humber	283.91	159.45	17.79
East Coast	219.03	123.22	25.32
Thames	130.49	97.59	11.73
East English Channel	97.46	33.79	13.20
South Coast	138.33	57.52	14.85
South West	101.50	18.87	6.68
North West	86.65	31.81	1.37
Total (km²)	1057.37	522.25	90.94

Area of seabed licensed increased by 123km² during 2017

Area of seabed licensed (km²) 2013-2017

Year ^{*3}	2013	2014	2015	2016	2017
0-6nm ^{*4}	203	202	295	298	318
6-12nm ^{*4}	233	225	354	336	360
>12nm ^{*4}	303	299	283	300	379
Total area licensed (km²)	739^{*2}	726^{*2}	932	934	1057
Total active dredge area (km²)	332	332	337	452	522

Area of seabed dredged increased by 3km² during 2017

Area of seabed dredged (km²) 2013-2017

Year	2013	2014	2015	2016	2017
0-6nm ^{*4}	42	39	39	45	45
6-12nm ^{*4}	31	21	18	22	23
>12nm ^{*4}	26	26	26	21	23
Total (km²)	99	86	83	88	91
Area dredged >1 hr 15 mins (km²)	6.75	6.39	7.37	7.52	8.03
90 per cent of dredging effort (area in km²)	39.2	37.3	31.6	33.92	38.30

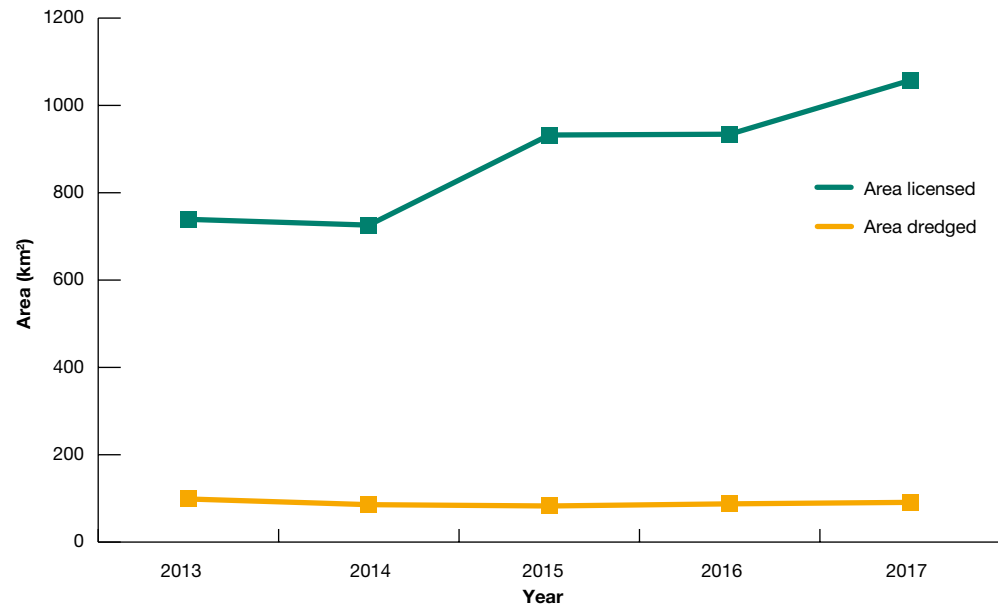
^{*1} Total area actually available to be dredged due to zoning during 2017, calculated on a cumulative basis

^{*2} The areas shown for 2013 - 2014 are artificially low primarily as a result of the Short Term Marine Licensing process during 2012, the effects of which were largely reversed during 2015

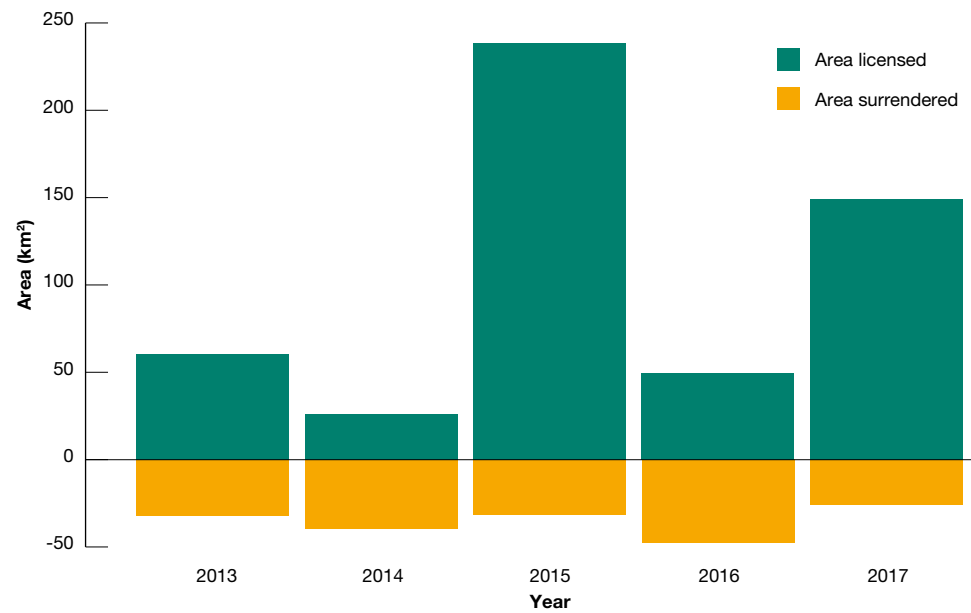
^{*3} Annual figures are calculated as of end of the 31st December, and therefore incorporate any changes that may have occurred through the year

^{*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 2013-2017



New area licensed versus existing area surrendered 2013-2017



Humber region

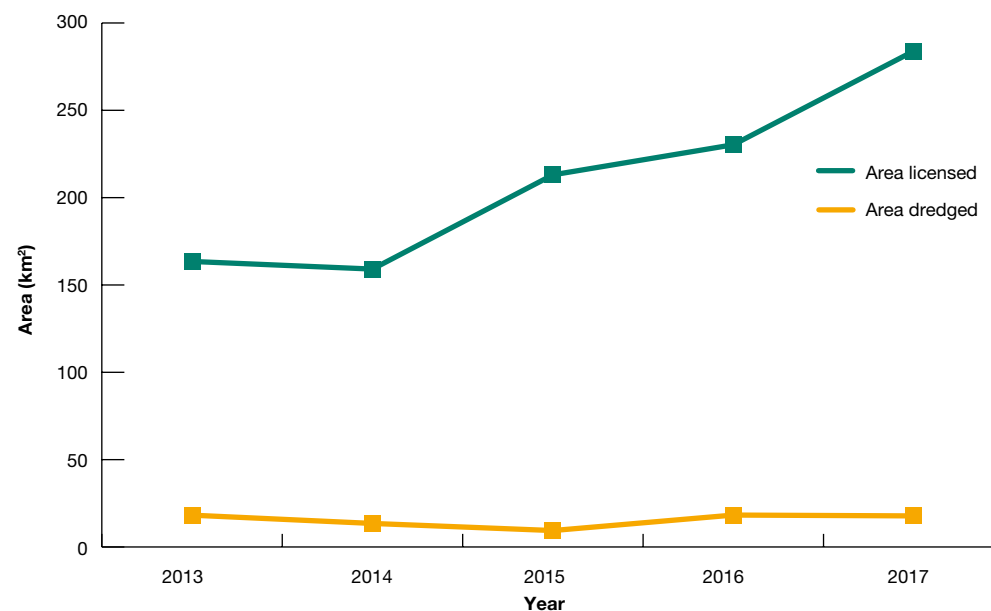
Background

- The region has nine production licences, operated by CEMEX UK Marine Ltd, DEME Building Materials Ltd, Hanson Aggregates Marine Ltd, Tarmac Marine Ltd, Van Oord UK Ltd and Westminster Gravels Ltd for both sand and gravel, principally for use in the construction industry
- During 2017, 1.88 million tonnes of construction aggregate were dredged from a permitted licensed tonnage of 4.4 million. In addition, 0.5 million tonnes were dredged for beach nourishment and < 0.01 million tonnes were dredged for a wind farm project
- Of the total marine aggregate dredged for construction from the region:
 - 68.5 per cent of the tonnage dredged was delivered to mainland Europe (1.29m)
 - 24.9 per cent of the tonnage dredged was delivered to the Humber and North East (0.47m)
 - 6.4 per cent of the tonnage dredged was delivered to the Thames Estuary (0.12m)
 - 0.2 per cent of the tonnage dredged was delivered to the East Coast (<0.01m)

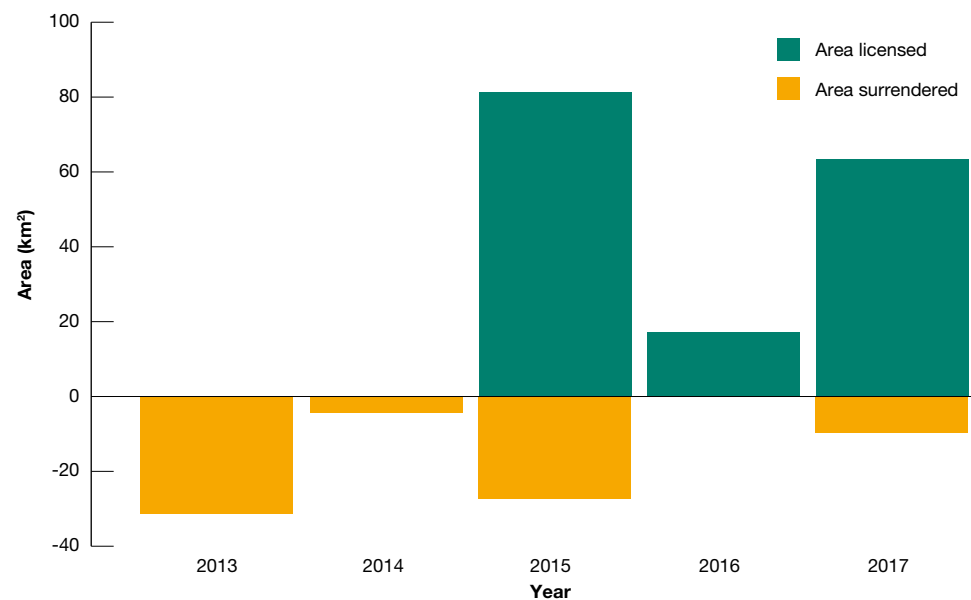
Regional statistics

- The licensed area in the region was 283.91km²
- The total area actually available to be dredged within the region (due to zoning) was 159.45km²
- Dredging took place within 17.79km² – 6.27 per cent of the licensed area
- High intensity dredging (greater than 1 hour 15 minutes) is equal to 0.33km² – 53.46 per cent of regional dredging activity
- 90 per cent of regional dredging effort took place within 7.99km²
- During 2017, the area licensed for marine aggregate extraction increased by 54km²

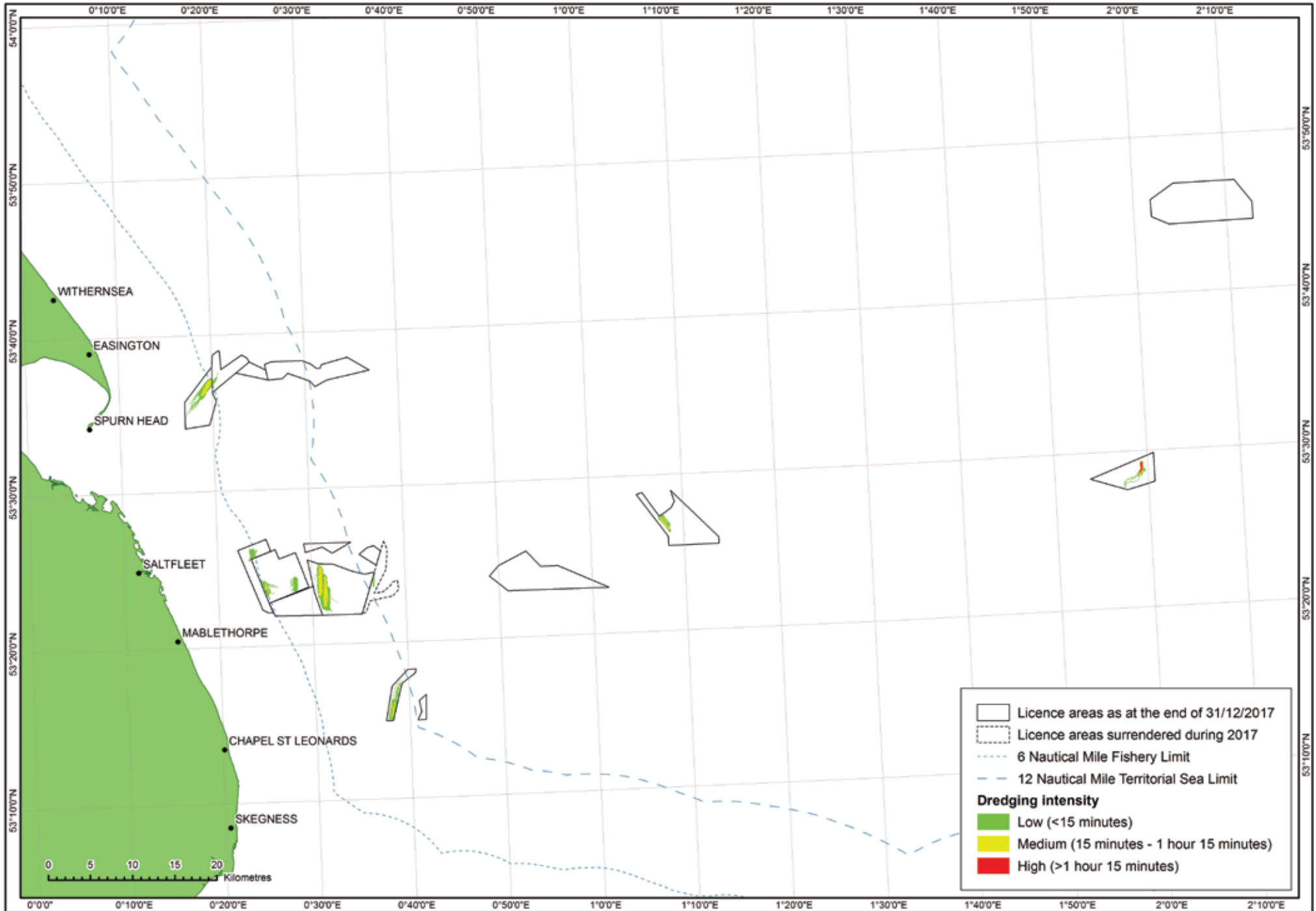
Area of seabed licensed* and dredged 2013-2017



Area of seabed licensed and surrendered 2013-2017*



* includes areas temporarily reduced as part of the Short Term Marine Licence process and subsequently relicensed



East Coast region

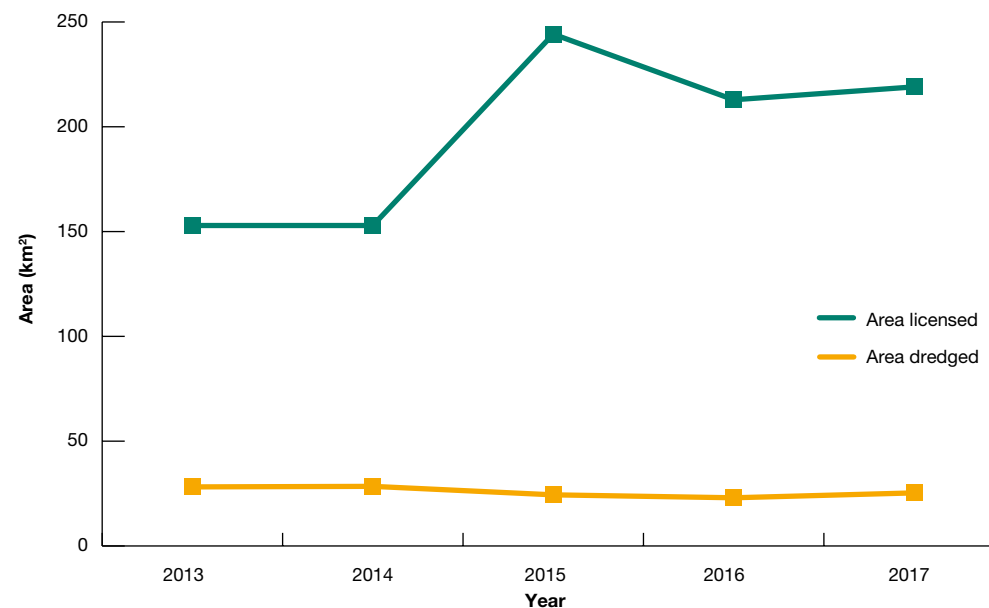
Background

- The East Coast region has 12 production licences, operated by CEMEX UK Marine Ltd, Hanson Aggregates Marine Ltd, Tarmac Marine Ltd and Volker Dredging Ltd for both sand and gravel, principally for use in the construction industry
- During 2017, 4.26 million tonnes of construction aggregate were dredged from a permitted licensed tonnage of 7.93 million
- Of the total marine aggregate dredged for construction from the region:
 - 83.4 per cent of the tonnage dredged was delivered to the Thames Estuary (3.55m)
 - 10.0 per cent of the tonnage dredged was delivered to mainland Europe (0.43m)
 - 6.6 per cent of the tonnage dredged was delivered to the Humber and North East (0.28m)

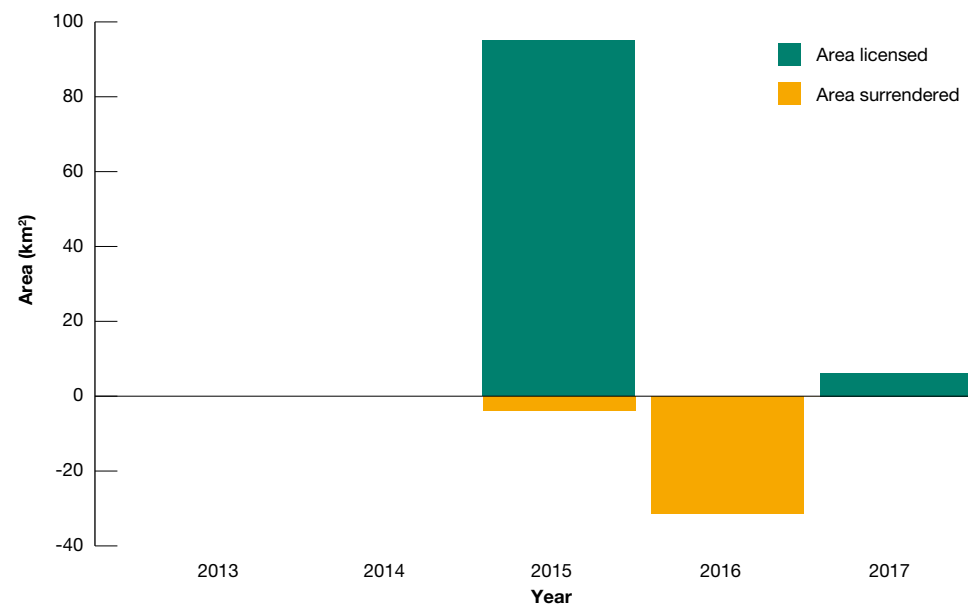
Regional statistics

- The licensed area in the region was 219.03km²
- The total area actually available to be dredged within the region (due to zoning) was 123.22km²
- Dredging took place within 25.32km² – 11.56 per cent of the licensed area
- High intensity dredging (greater than 1 hour 15 minutes) is equal to 1.17km² – 43.89 per cent of regional dredging activity
- 90 per cent of regional dredging effort took place within 11.61km²
- During 2017, the area licensed for marine aggregate extraction increased by 6km²

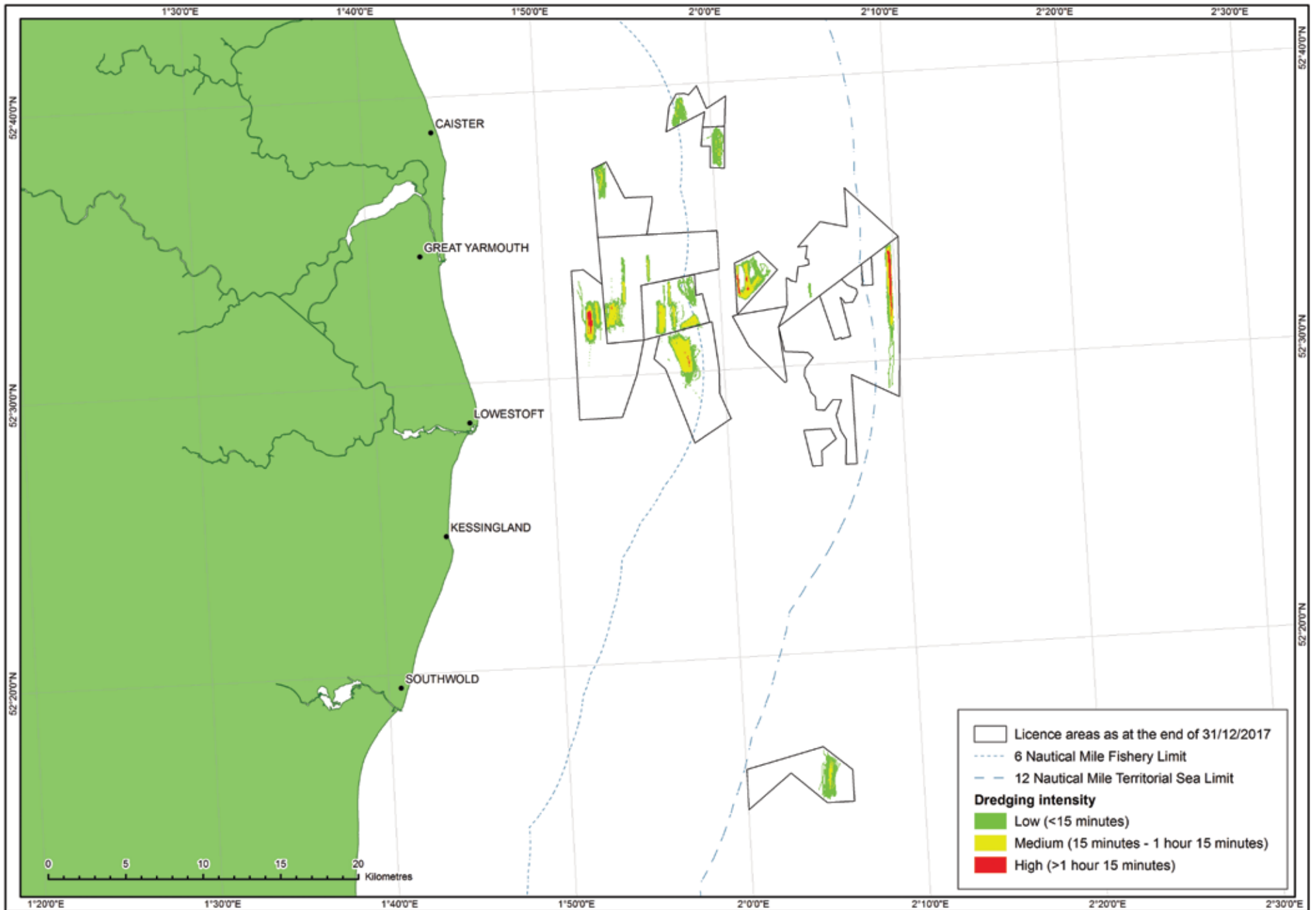
Area of seabed licensed* and dredged 2013-2017



Area of seabed licensed and surrendered 2013-2017*



* includes areas temporarily reduced as part of the Short Term Marine Licence process and subsequently relicensed



Thames Estuary region

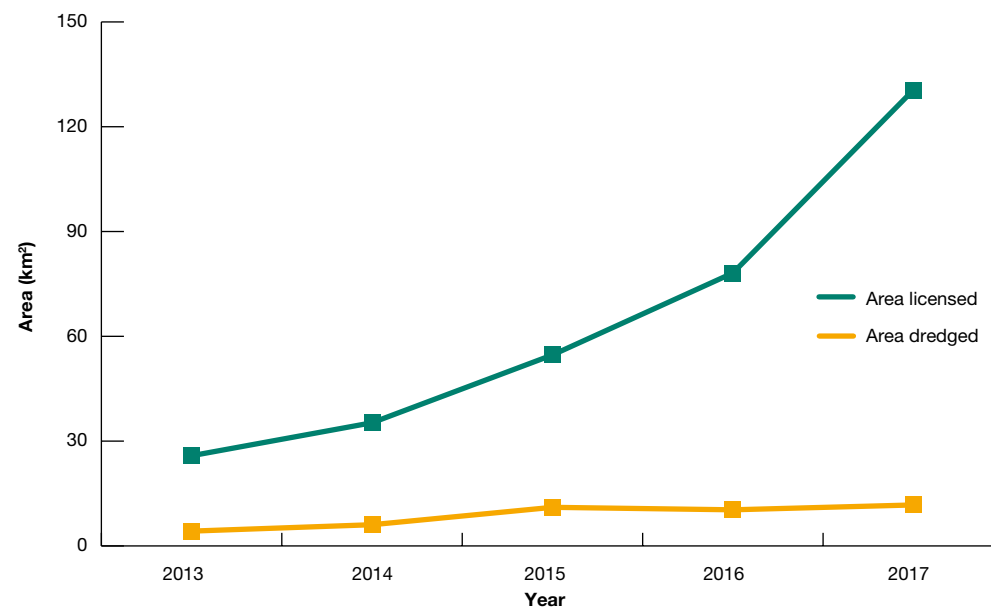
Background

- The Thames region has seven production licences, operated by Britannia Aggregates Ltd, CEMEX UK Marine Ltd, Tarmac Marine Ltd, Volker Dredging Ltd and Westminster Gravels Ltd for both sand and gravel, principally for use in the construction industry
- During 2017, 1.85 million tonnes of construction aggregate were dredged from a permitted licensed tonnage of 3.0 million. In addition, 0.55 million tonnes were dredged for reclamation fill
- Of the total marine aggregate dredged for construction from the region:
 - 82.4 per cent of the tonnage dredged was delivered to the Thames Estuary (1.52m)
 - 6.2 per cent of the tonnage dredged was delivered to mainland Europe (0.11m)
 - 5.5 per cent of the tonnage dredged was delivered to the East Coast (0.1m)
 - 3.5 per cent of the tonnage dredged was delivered to the South Coast (0.06m)
 - 2.0 per cent of the tonnage dredged was delivered to the North East (0.04m)
 - 0.4 per cent of the tonnage dredged was delivered to the East English Channel (<0.01m)

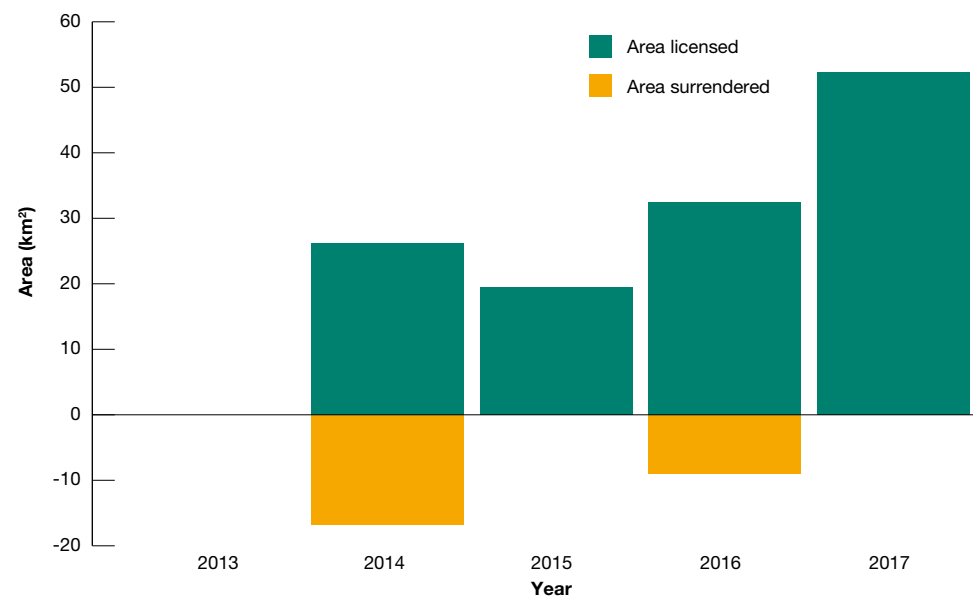
Regional statistics

- The licensed area in the region was 130.49km²
- The total area actually available to be dredged within the region (due to zoning) was 97.59km²
- Dredging took place within 11.73km² – 8.99 per cent of the licensed area
- High intensity dredging (greater than 1 hour 15 minutes) is equal to 0.45km² – 78.77 per cent of regional dredging activity
- 90 per cent of regional dredging effort took place within 5.23km²
- During 2017, the area licensed for marine aggregate extraction increased by 52km²

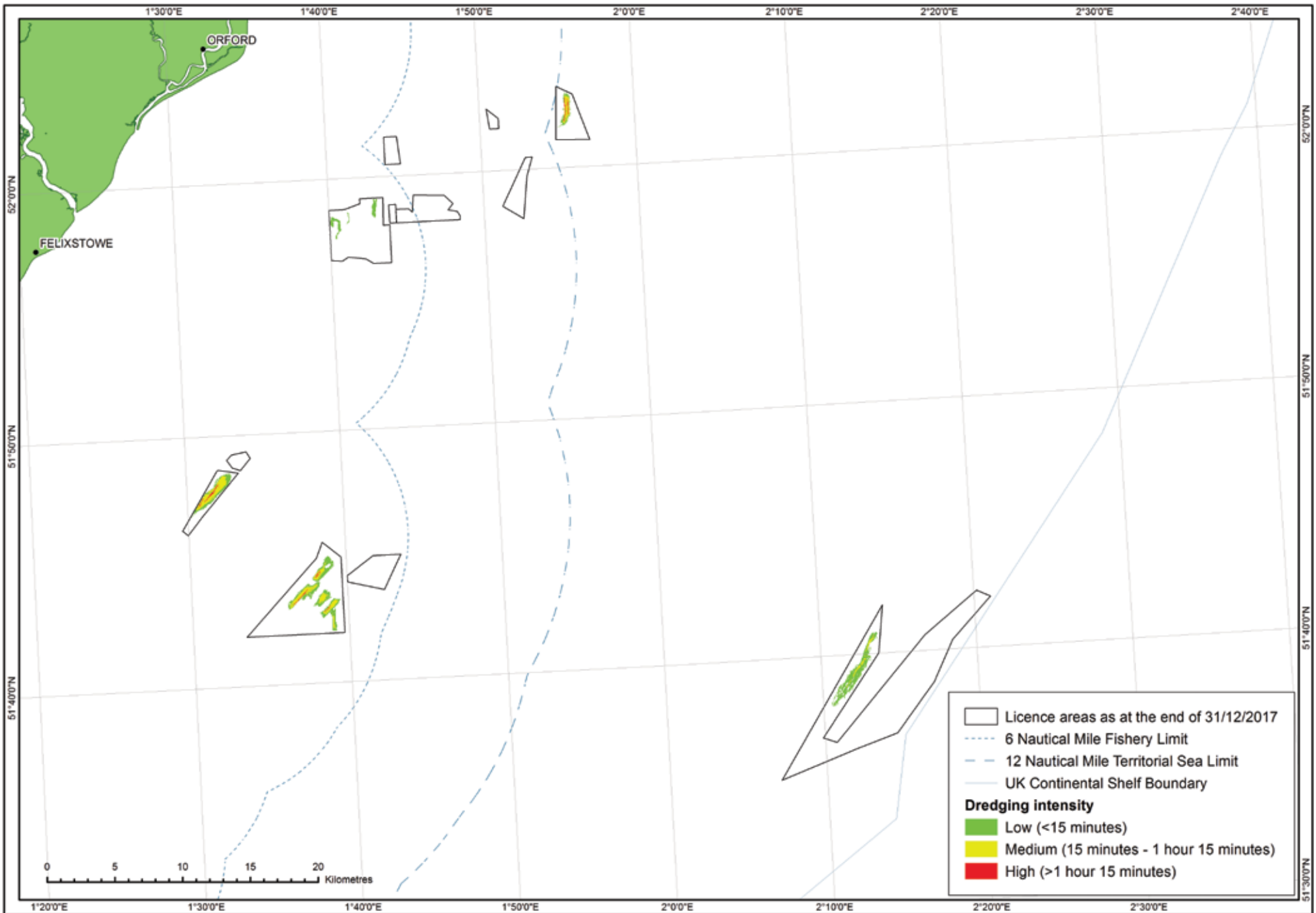
Area of seabed licensed* and dredged 2013-2017



Area of seabed licensed and surrendered 2013-2017*



* includes areas temporarily reduced as part of the Short Term Marine Licence process and subsequently relicensed



East English Channel region

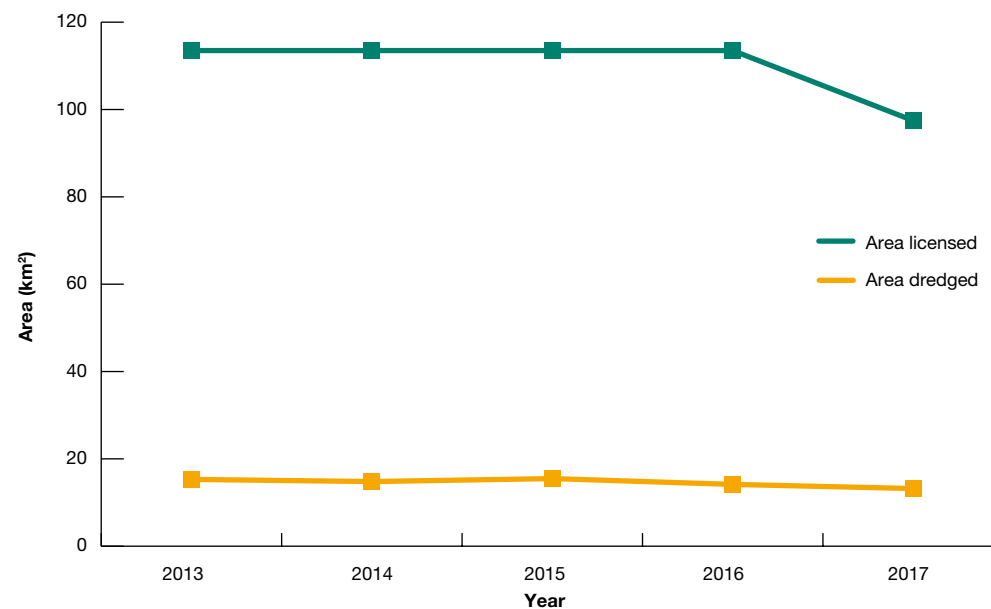
Background

- The East English Channel region has ten production licences, operated by CEMEX UK Marine Ltd, DEME Building Materials Ltd, Hanson Aggregates Marine Ltd, Tarmac Marine Ltd and Volker Dredging Ltd for sand and gravel, principally for use in the construction industry
- During 2017, 3.97 million tonnes of construction aggregate were dredged from a permitted licensed tonnage of 9.53 million
- Of the total marine aggregate dredged for construction from the region:
 - 68.9 per cent of the tonnage dredged was delivered to the Thames Estuary (2.73m)
 - 28.6 per cent of the tonnage dredged was delivered to mainland Europe (1.13m)
 - 2.3 per cent of the tonnage dredged was delivered to the East Coast (0.09m)
 - 0.2 per cent of the tonnage dredged was delivered to the South Coast (<0.01m)

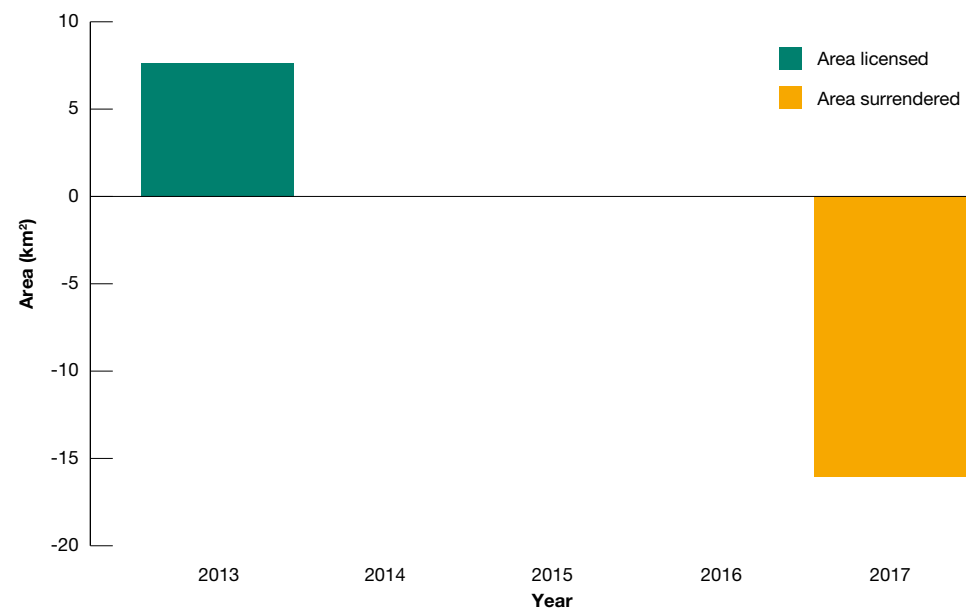
Regional statistics

- The licensed area in the region was 97.46km²
- The total area actually available to be dredged within the region (due to zoning) was 33.79km²
- Dredging took place within 13.20km² – 13.54 per cent of the licensed area
- High intensity dredging (greater than 1 hour 15 minutes) is equal to 1.84km² – 76.19 per cent of regional dredging activity
- 90 per cent of regional dredging effort took place within 6.13km²
- During 2017, the area licensed for marine aggregate extraction decreased by 16km²

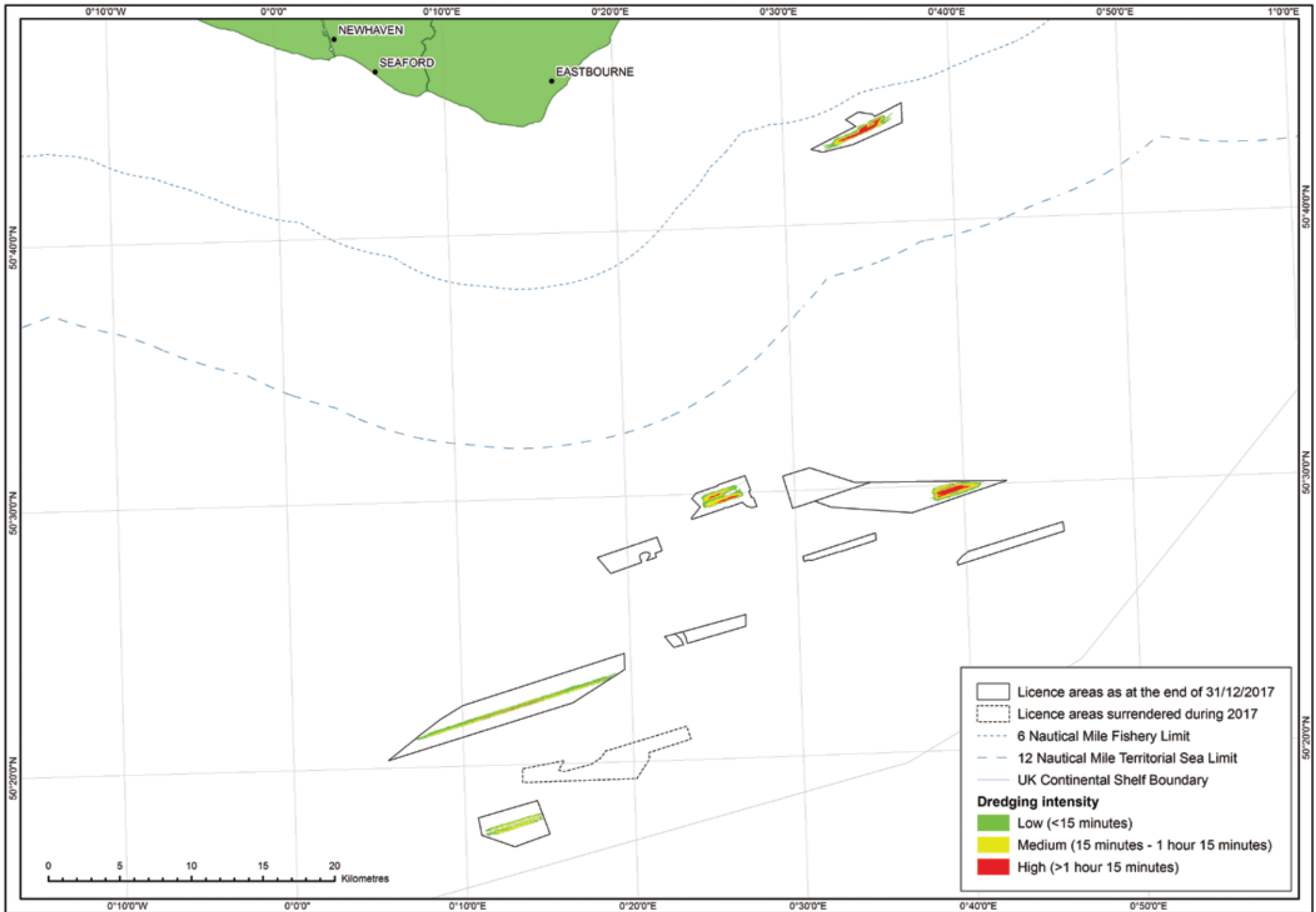
Area of seabed licensed* and dredged 2013-2017



Area of seabed licensed and surrendered 2013-2017*



* includes areas temporarily reduced as part of the Short Term Marine Licence process and subsequently relicensed



South Coast region

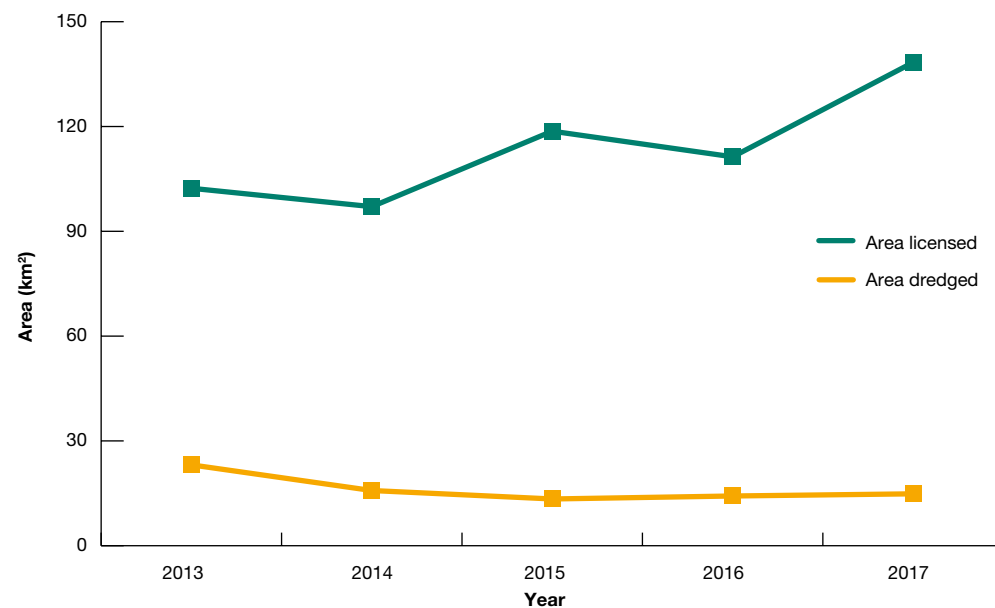
Background

- The South Coast region has 16 production licences, operated by CEMEX UK Marine Ltd, the Environment Agency, Hanson Aggregates Marine Ltd, Kendall Bros (Portsmouth) Ltd, Tarmac Marine Ltd, Volker Dredging Ltd and Westminster Gravels Ltd for sand and gravel, principally for use in the construction industry
- During 2017, 3.77 million tonnes of construction aggregate were dredged from a permitted licensed tonnage of 7.17 million. In addition, 0.51 million tonnes were dredged for beach nourishment
- Of the total marine aggregate dredged for construction from the region:
 - 78.3 per cent of the tonnage dredged was delivered to the South Coast (2.96m)
 - 17.2 per cent of the tonnage dredged was delivered to the Thames Estuary (0.65m)
 - 4.3 per cent of the tonnage dredged was delivered to mainland Europe (0.16m)
 - 0.2 per cent of the tonnage dredged was delivered to the East Coast (<0.01m)

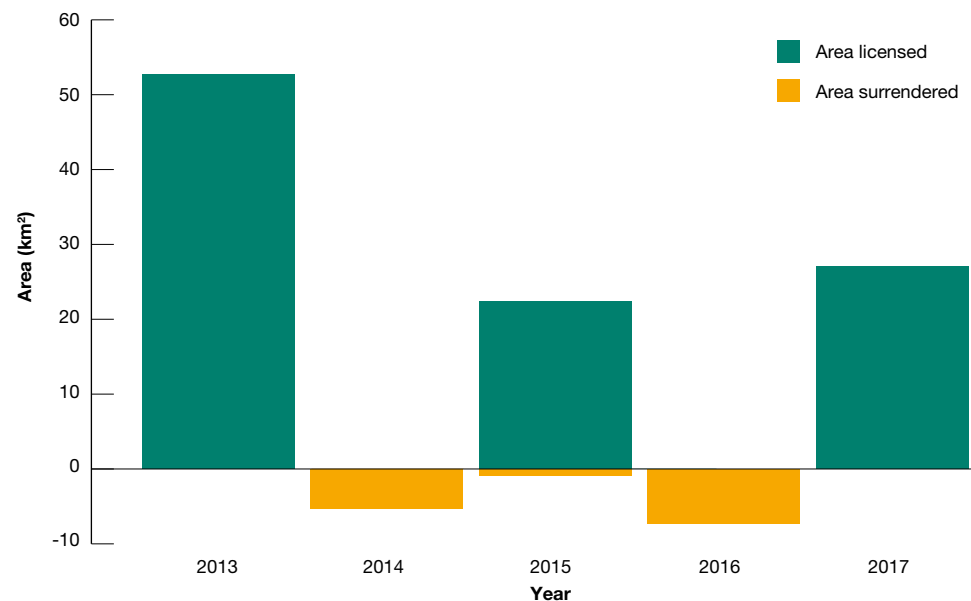
Regional statistics

- The licensed area in the region was 138.33km²
- The total area actually available to be dredged within the region (due to zoning) was 57.52km²
- Dredging took place within 14.85km² – 10.74 per cent of the licensed area
- High intensity dredging (greater than 1 hour 15 minutes) is equal to 2.5km² – 23.67 per cent of regional dredging activity
- 90 per cent of regional dredging effort took place within 6.07km²
- During 2017, the area licensed for marine aggregate extraction increased by 27km²

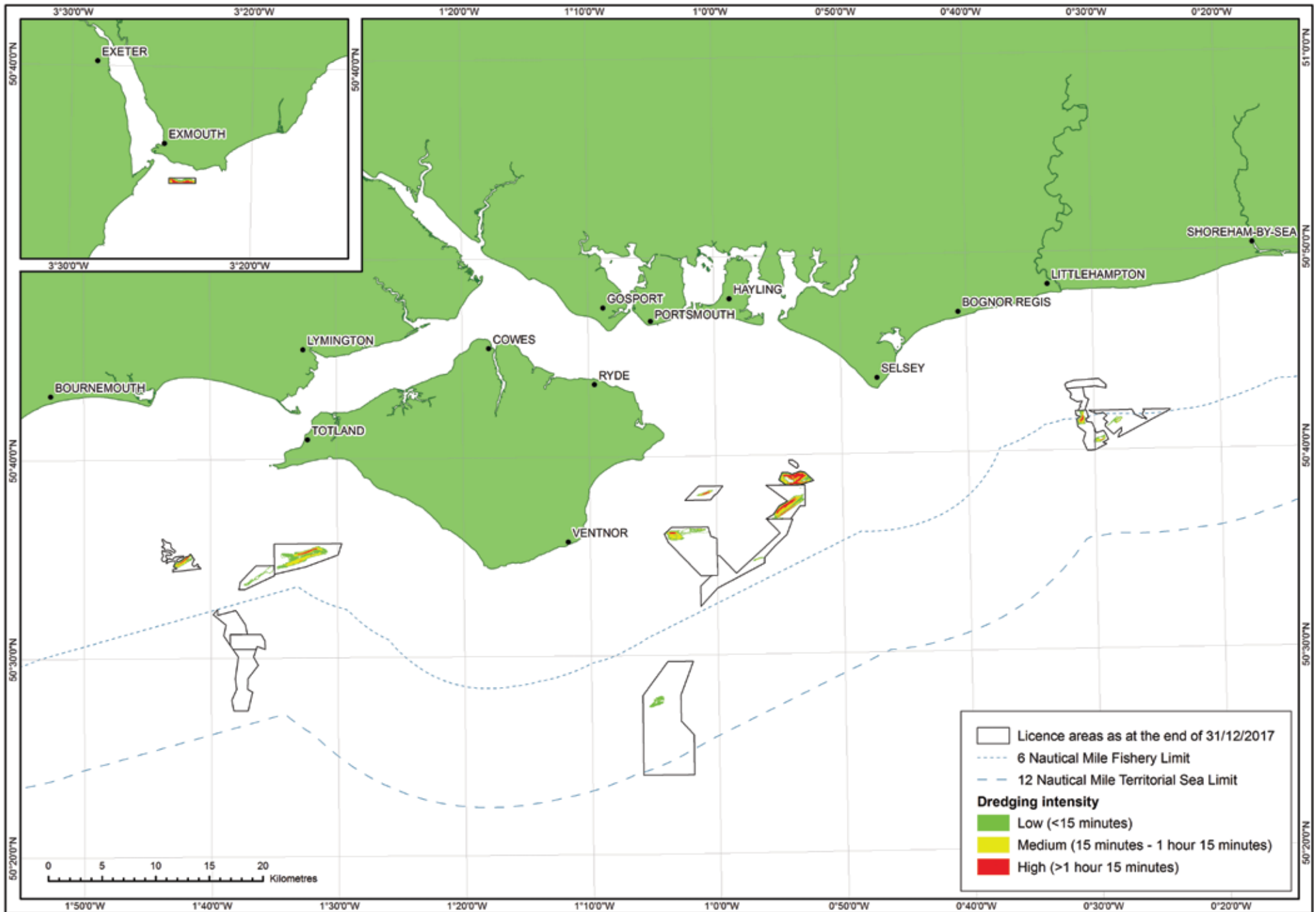
Area of seabed licensed* and dredged 2013-2017



Area of seabed licensed and surrendered 2013-2017*



* includes areas temporarily reduced as part of the Short Term Marine Licence process and subsequently relicensed



South West region

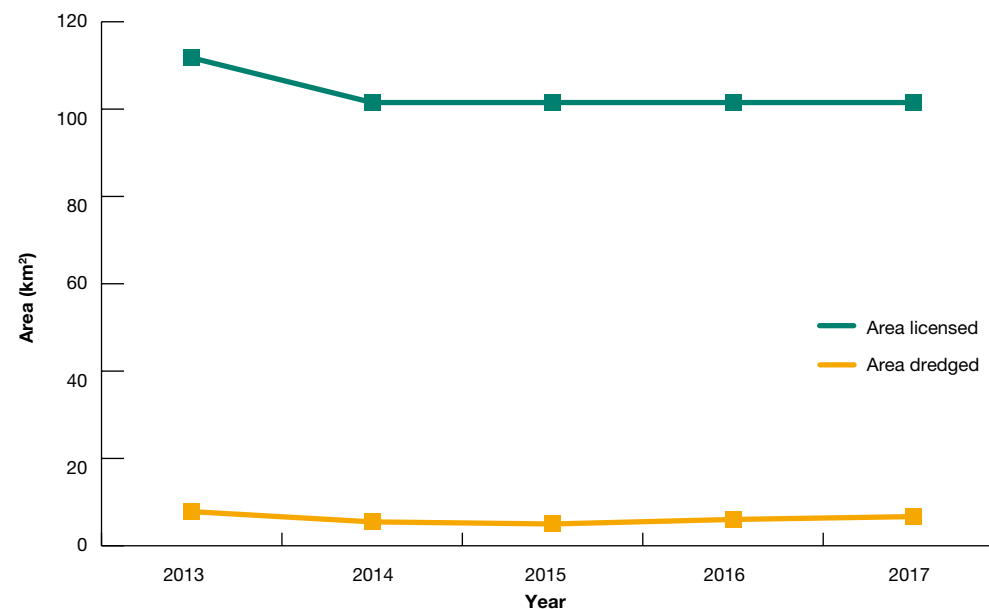
Background

- The South West region has seven production licences, operated by CEMEX UK Marine Ltd, Hanson Aggregates Marine Ltd, Llanelli Sand Dredging Ltd, Severn Sands Ltd and Tarmac Marine Ltd for sand, principally for use in the construction industry
- During 2017, 1.34 million tonnes of construction aggregate were dredged from a permitted licensed tonnage of 1.75 million. In addition, < 0.01 million tonnes were dredged for non construction purposes
- Of the total marine aggregate dredged for construction from the region:
 - 99.7 per cent of the tonnage dredged was delivered to the South West (1.34m)
 - 50.6 per cent of this went to English wharves (0.68m)
 - 49.4 per cent of this went to Welsh wharves (0.66m)
 - 0.2 per cent of the tonnage dredged was delivered to the North West (<0.01m)
 - 100 per cent of this went to Welsh wharves (<0.01m)
 - 0.1 per cent of the tonnage dredged was delivered to the South Coast (<0.01m)
 - 100 per cent of this went to English wharves (<0.01m)

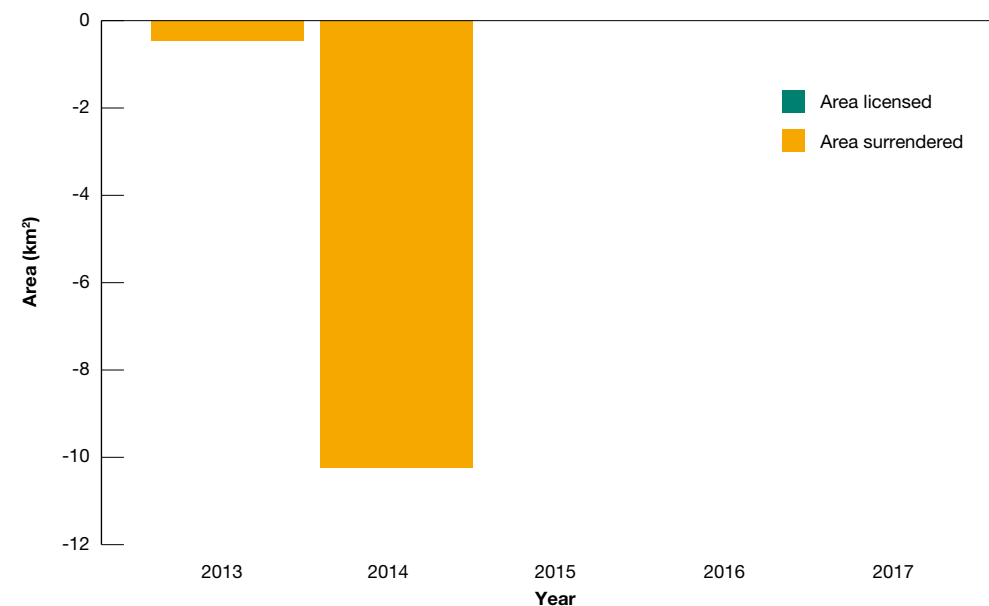
Regional statistics

- The licensed area in the region was 101.50km²
- The total area actually available to be dredged within the region (due to zoning) was 18.87km²
- Dredging took place within 6.68km² – 6.58 per cent of the licensed area
- High intensity dredging (greater than 1 hour 15 minutes) is equal to 1.48km² – 19.75 per cent of regional dredging activity
- 90 per cent of regional dredging effort took place within 2.07km²
- During 2017, the area licensed for marine aggregate extraction remained unchanged

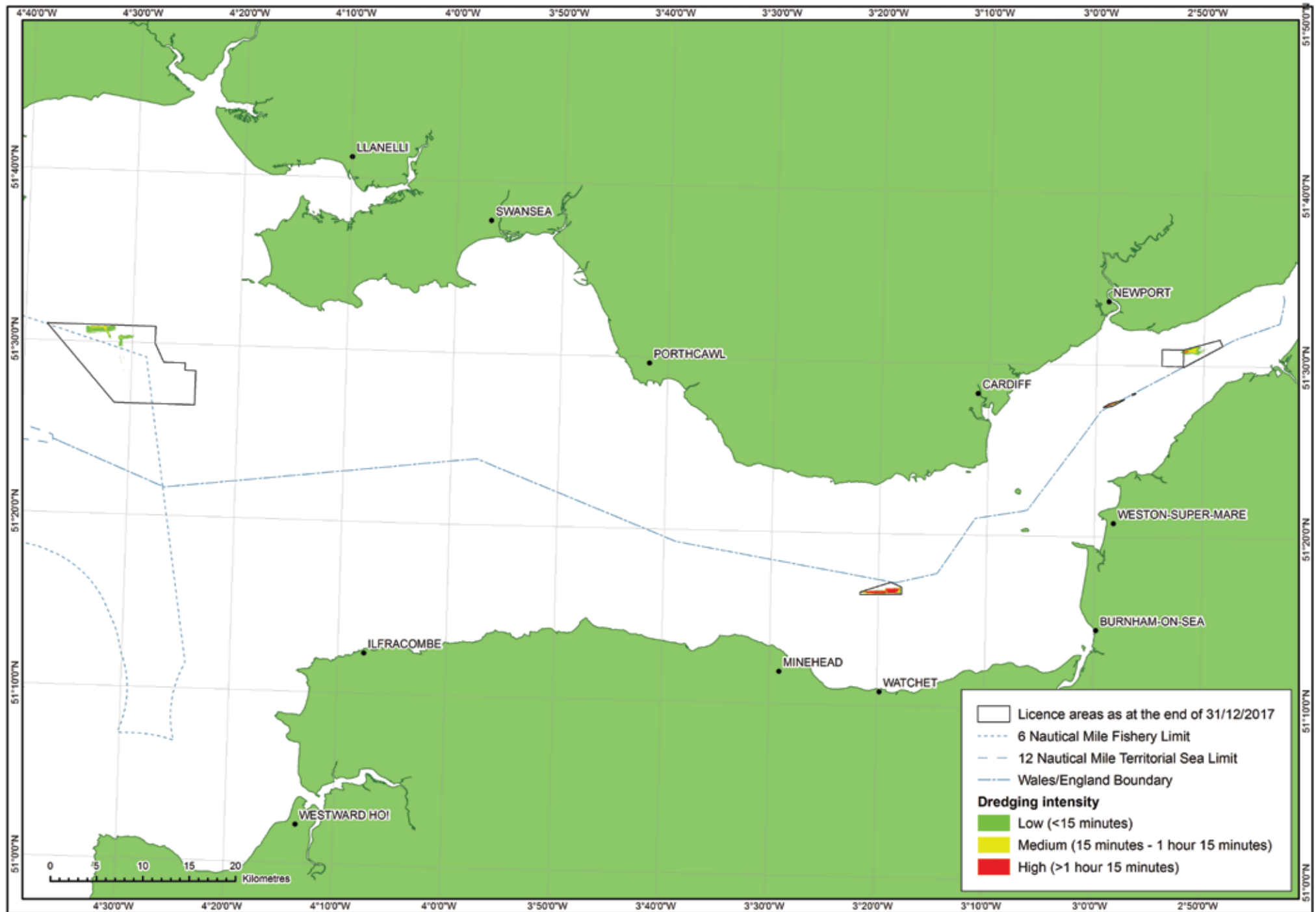
Area of seabed licensed* and dredged 2013-2017



Area of seabed licensed and surrendered 2013-2017*



* includes areas temporarily reduced as part of the Short Term Marine Licence process and subsequently relicensed



North West region

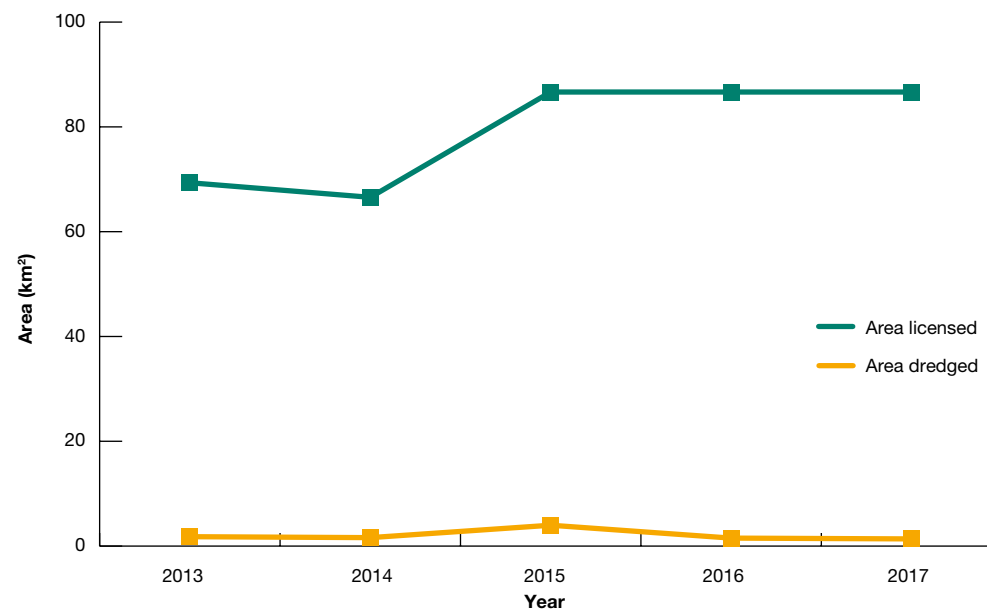
Background

- The North West region has three production licences, operated by Norwest Sand and Ballast Co, Tarmac Marine Ltd and Westminster Gravels Ltd for sand, principally for use in the construction industry
- During 2017, 0.32 million tonnes of construction aggregate were dredged from a permitted licensed tonnage of 1.3 million
- Of the total marine aggregate dredged for construction from the region:
 - 96.8 per cent of the tonnage dredged was delivered to the North West (0.31m)
 - 92.3 per cent of this went to English wharves (0.29m)
 - 7.7 per cent of this went to Welsh wharves (<0.02m)
 - 3.2 per cent of the tonnage dredged was delivered to the South West (0.01m)
 - 80.5 per cent of this went to Welsh wharves (<0.01m)
 - 19.5 per cent of this went to English wharves (<0.01m)

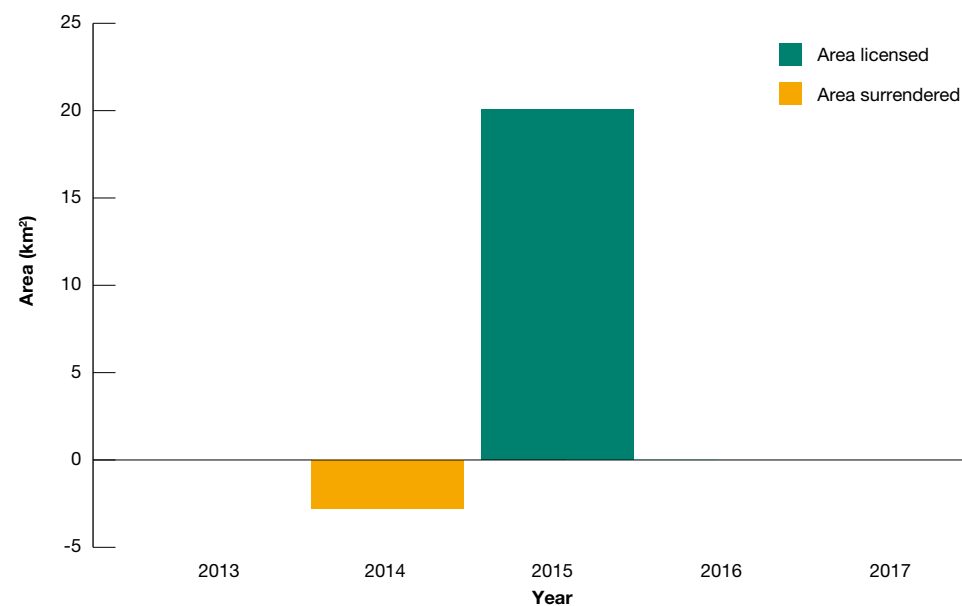
Regional statistics

- The licensed area in the region was 86.65km²
- The total area actually available to be dredged within the region (due to zoning) was 31.81km²
- Dredging took place within 1.37km² – 1.58 per cent of the licensed area
- High intensity dredging (greater than 1 hour 15 minutes) is equal to 0.27km² – 13.39 per cent of regional dredging activity
- 90 per cent of regional dredging effort took place within 0.55km²
- During 2017, the area licensed for marine aggregate extraction remained unchanged

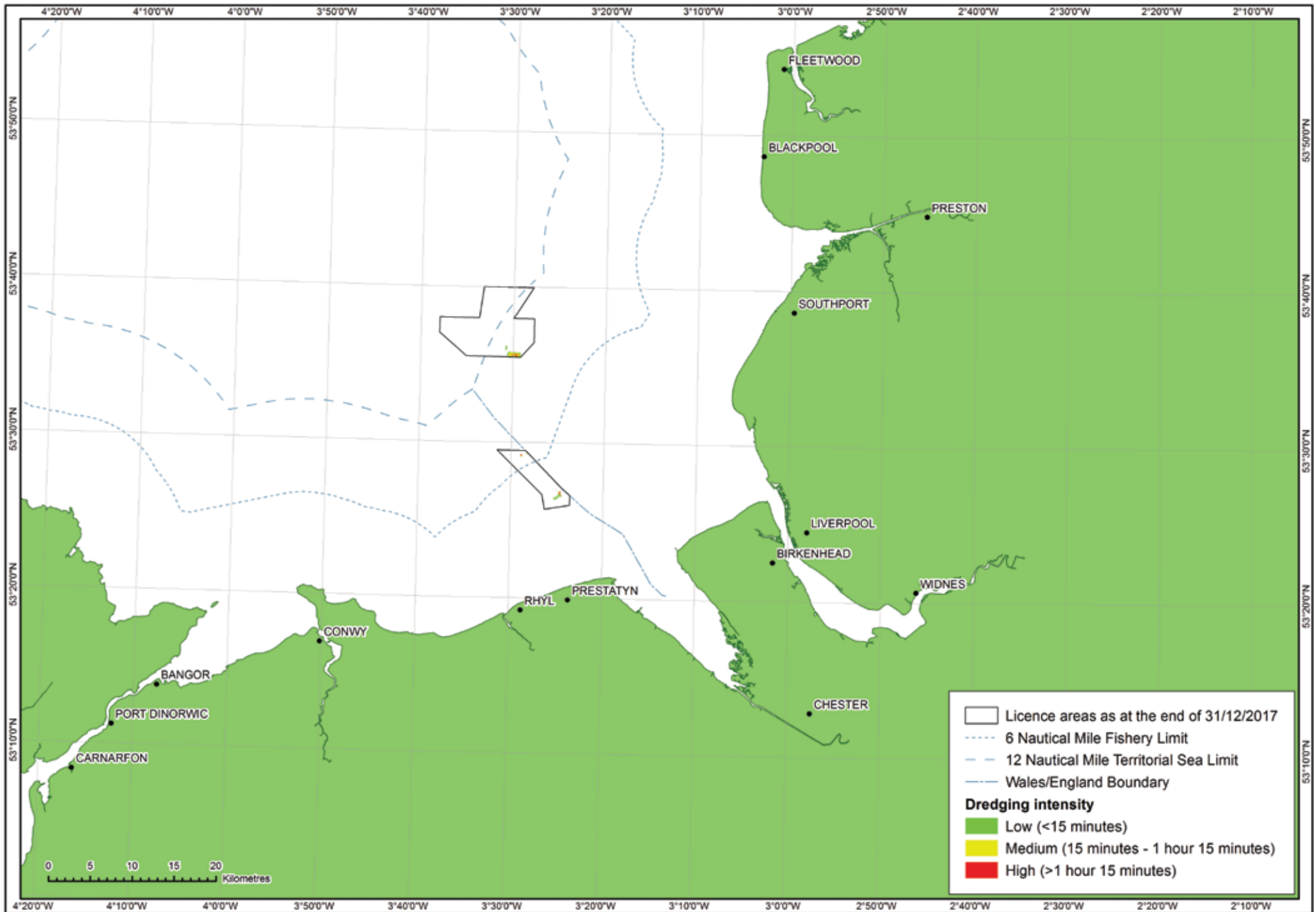
Area of seabed licensed* and dredged 2013-2017



Area of seabed licensed and surrendered 2013-2017*



* includes areas temporarily reduced as part of the Short Term Marine Licence process and subsequently relicensed



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 manages almost all of the seabed around England and Wales, and the sand and gravel resources in these waters. 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 25 vessels on 65 production licences around the UK as of June 2018.

BMAPA membership (as of June 2018) is comprised of: Aggregate Industries, Britannia Aggregates, Brett Group, CEMEX UK Marine, DEME Building Materials, Hanson Aggregates Marine, Norwest Sand & Ballast Co, Sea Aggregates, Tarmac Marine and Volker Dredging.



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