

The area involved – 26th annual report



MARINE AGGREGATE EXTRACTION 2023



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Marine aggregate extraction 2023

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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 marine aggregate extraction 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, for the period 1st January 2023 to 31st December 2023, is the 26th 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 2023 based on GIS data and from analysis of dredger Electronic Monitoring System records. Information on dredged area and intensity (reported as time dredged per 50 m x 50 m grid cell) has been calculated using 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 total area actually available to be dredged during the year through zoning restrictions - have been updated for 2023. While the limits of these working areas are not presented on the charts associated with this report, detailed regional charts showing the current working areas (updated on a bi-annual basis) are available from The Crown Estate Marine Aggregates and BMAPA websites, or by contacting the addresses on the last page of this report.

2023 summary

The figures below relate to marine aggregate extraction on Crown Estate Production Agreement areas in England and Wales

The **total amount** of sand and gravel dredged

19 m tonnes
(20 m tonnes in 2022)

The **area of seabed licensed** decreased to

1103 km²
(1105 km² in 2022)

The **area of seabed dredged** increased to

113 km²
(107 km² in 2022)

The **area of seabed dredged for more than 1 hr 15 mins** per year decreased to

6 km²
(7 km² in 2022)

The **percentage of licenced area dredged** remained at

10 %
(10 % in 2022)

90% of dredging effort on Crown Estate licences took place from

42 km²
(44 km² in 2022)

Region	Total area licensed during 2023 (km ²)	Total active dredge area for 2023 (km ²) *1	Total area dredged during 2023 (km ²)
Humber	312.21	190.12	35.10
East Coast	180.55	154.86	25.20
Thames	167.82	138.37	7.71
East English Channel	85.59	37.73	16.90
South Coast	139.54	57.24	16.33
South West	130.21	31.05	7.34
North West	86.65	19.46	4.23
Total (km²)	1102.57	628.83	112.81

Area of seabed licensed decreased by 2 km² during 2023

Area of seabed licensed (km²) 2019-2023

Year *2	2019	2020	2021	2022	2023
0 – 6 nm*3	341	341	358	357	355
6 – 12nm*3	343	325	323	323	323
>12 nm*3	395	389	387	425	425
Total area licensed (km²)	1079	1055	1068	1105	1103
Total active dredge area (km²)	579	578	550	581	629

Area of seabed dredged increased by 6 km² during 2023

Area of seabed dredged (km²) 2019-2023

Year	2019	2020	2021	2022	2023
0 – 6 nm*3	50	41	40	42	50
6 – 12nm*3	28	30	31	29	31
>12nm*3	27	30	35	36	32
Total (km²)	105	101	106	107	113
Area dredged >1 hr 15 mins (km²)	6.29	5.12	6.43	6.94	5.80
90% of dredging effort (km²)	42.24	41.98	43.00	43.60	42.07

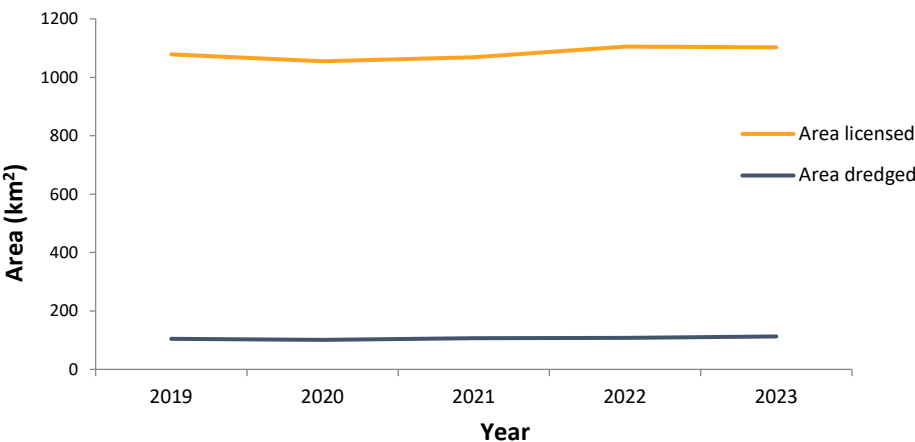
*1 Total area actually available to be dredged due to zoning during 2023, calculated on a cumulative basis

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

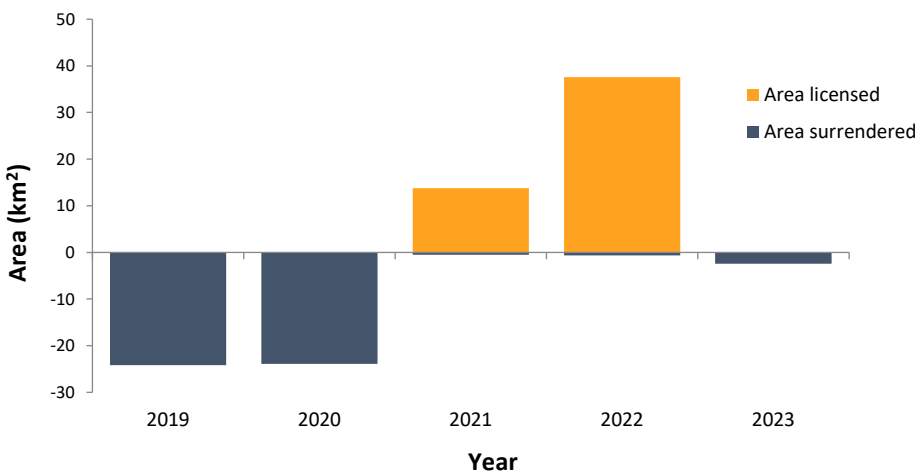
*3 Based on a standardised 6 and 12 nm (UKHO 01/01/05) to allow for accurate comparison between years



Area of seabed licensed and dredged 2019 - 2023



New area licensed versus existing area surrendered 2019 - 2023



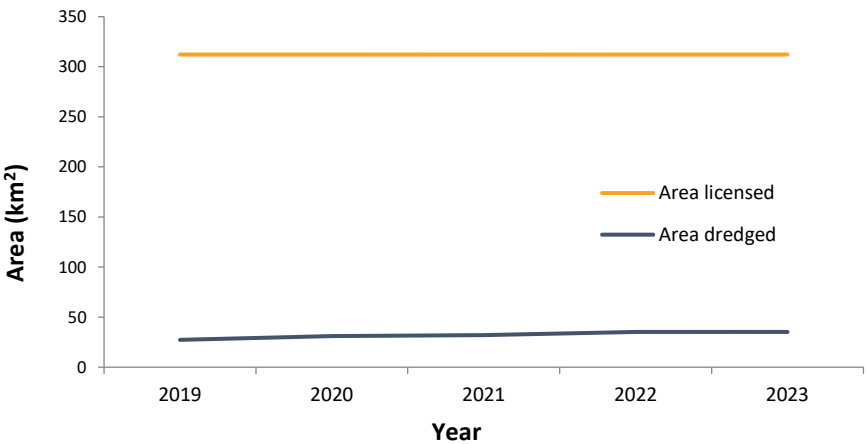
Background

- The Humber region has 10 production licences, operated by CEMEX UK Marine Ltd, DEME Building Materials Ltd, Heidelberg Materials 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 2023, 3.47 million tonnes (mt) of construction aggregate were dredged from a permitted licensed tonnage of 6.88 mt. In addition, 0.64 mt were dredged for beach nourishment
- Of the total marine aggregate dredged for construction from the region:
 - 71.1 % was delivered to mainland Europe (2.46 mt)
 - 22.0 % was delivered to the Humber and North East (0.76 mt)
 - 5.9 % was delivered to the Thames Estuary (0.21 mt)
 - 0.6 % was delivered to the East English Channel (0.02 mt)
 - 0.5% was delivered to the East Coast (0.02 mt)

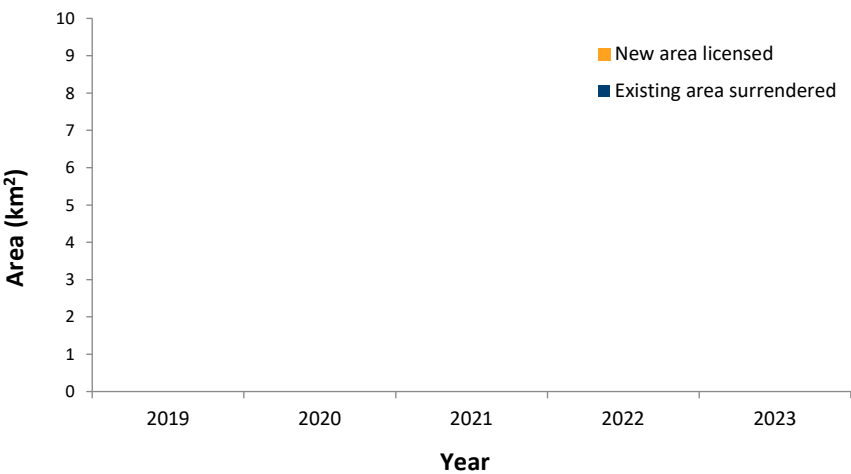
Regional statistics

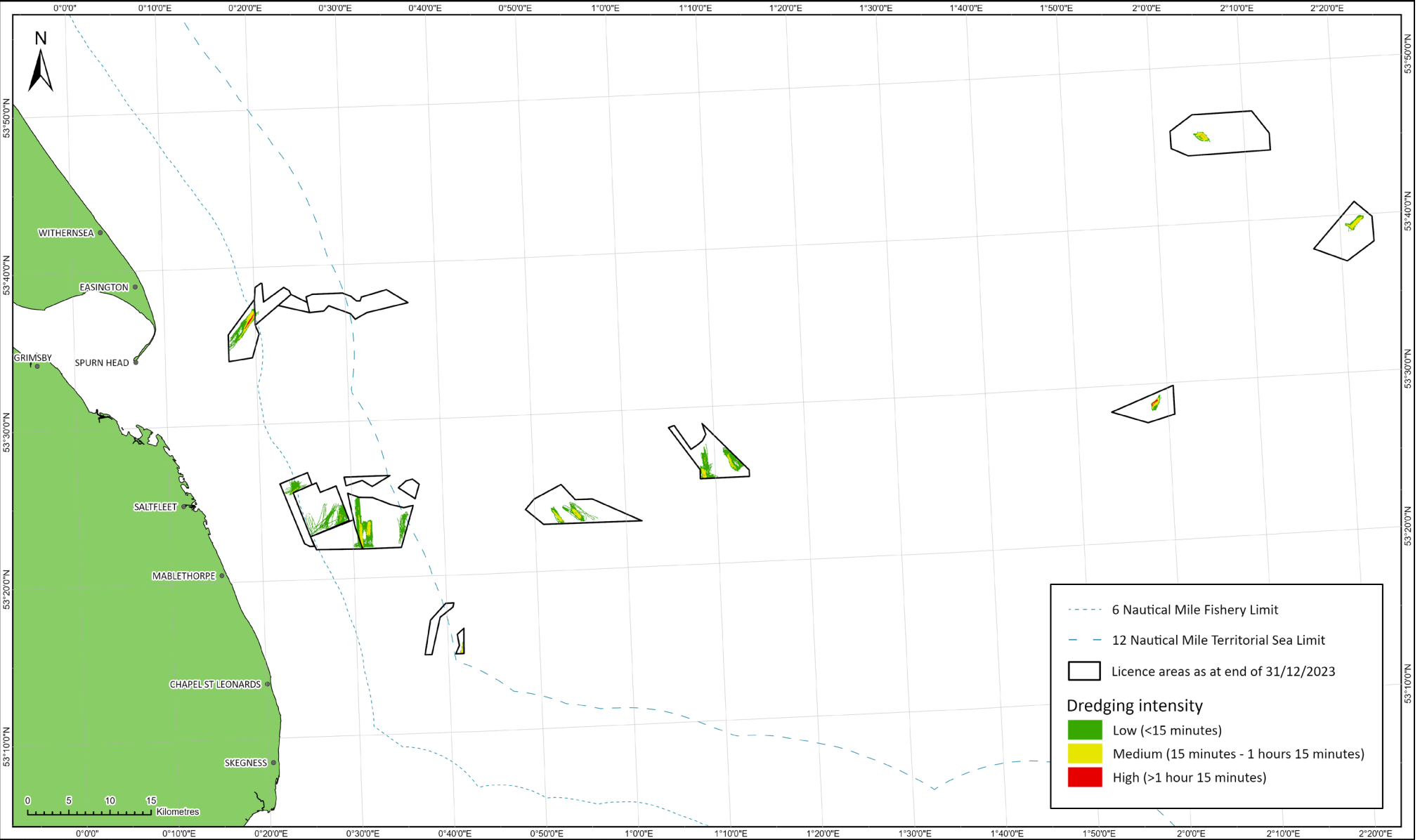
- The licensed area in the region was 312.21 km²
- The total area actually available to be dredged within the region (due to zoning) was 190.12 km²
- Dredging took place within 35.10 km² – 11.24 % of the licensed area
- The area dredged with high intensity (for more than 1 hour 15 minutes in the year) was 0.52 km²
- 90 % of regional dredging effort took place within 13.86 km²
- During 2023, the area licensed for marine aggregate extraction remained unchanged

Area of seabed licensed and dredged 2019-2023



New area licensed versus existing area surrendered 2019-2023





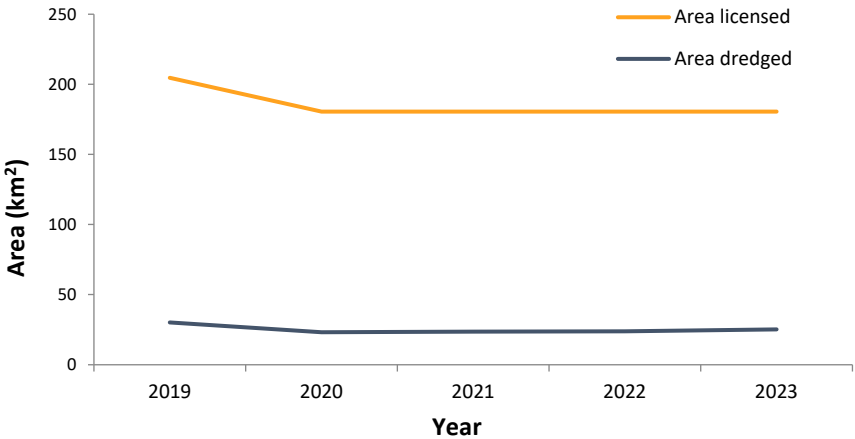
Background

- The East Coast region has 11 production licences, operated by CEMEX UK Marine Ltd, Heidelberg Materials Marine Ltd, Tarmac Marine Ltd and Volker Dredging Ltd for both sand and gravel, principally for use in the construction industry
- During 2023, 3.41 million tonnes (mt) of construction aggregate were dredged from a permitted licensed tonnage of 7.13 mt.
- Of the total marine aggregate dredged for construction from the region:
 - 84.1 % was delivered to the Thames Estuary (2.87 mt)
 - 10.2 % was delivered to the Humber and North East (0.35 mt)
 - 5.5 % was delivered to mainland Europe (0.19 mt)
 - 0.1 % was delivered to the South Coast (<0.01 mt)
 - 0.1 % was delivered to the East Coast (<0.01 mt)

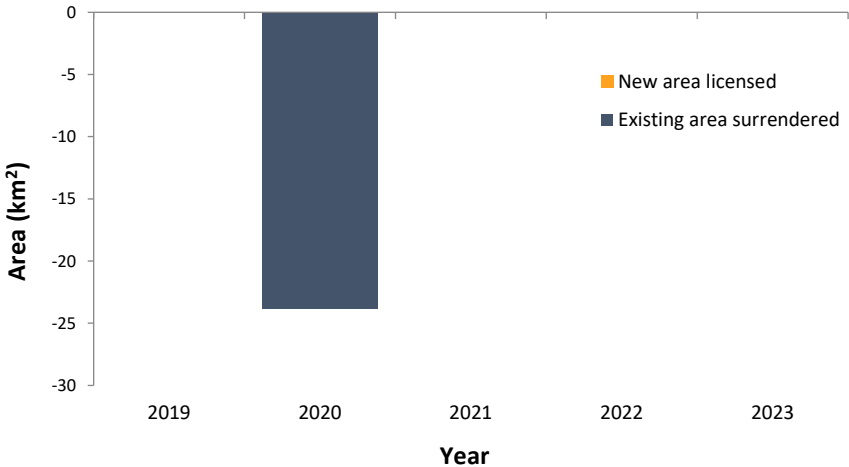
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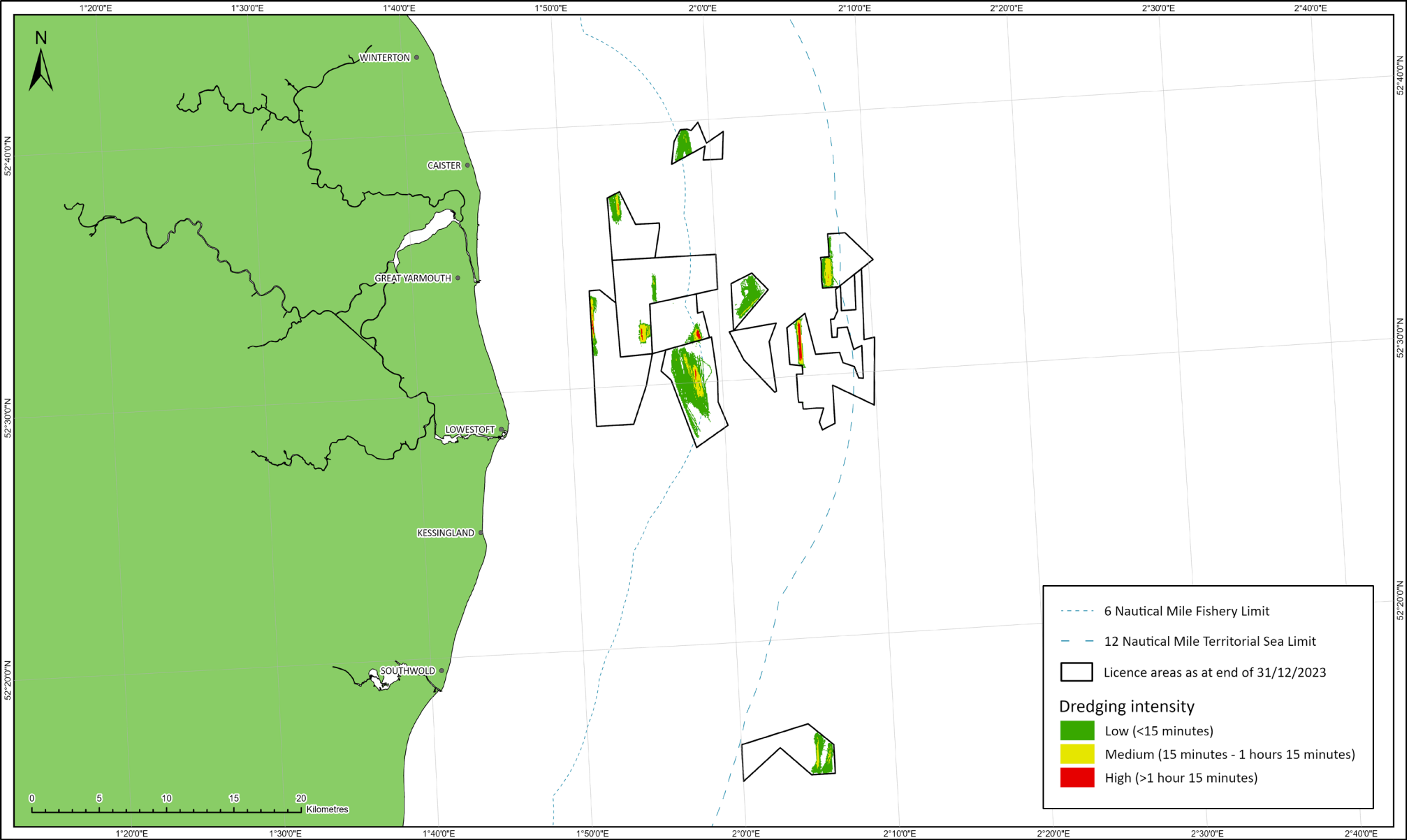
- The licensed area in the region was 180.55 km²
- The total area actually available to be dredged within the region (due to zoning) was 154.86 km²
- Dredging took place within 25.20 km² – 13.96 % of the licensed area
- The area dredged with high intensity (for more than 1 hour 15 minutes in the year) was 0.86 km²
- 90% of regional dredging effort took place within 10.98 km²
- During 2023, the area licensed for marine aggregate extraction remained unchanged

Area of seabed licensed and dredged 2019-2023



New area licensed versus existing area surrendered 2019-2023





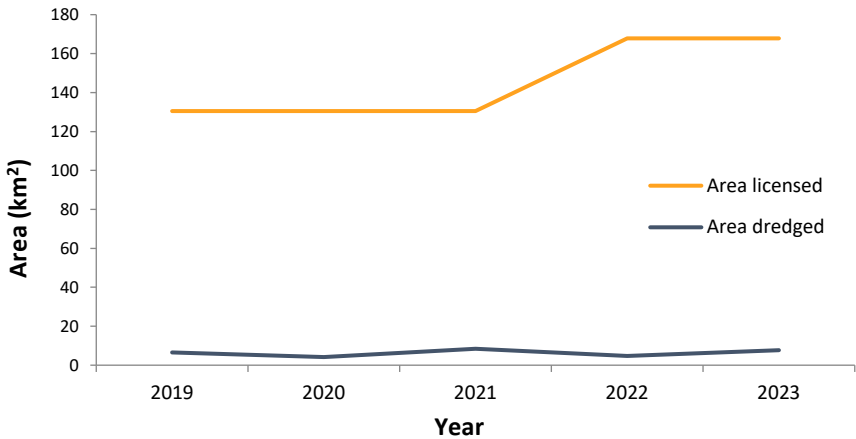
Background

- The Thames Estuary region has 8 production licences, operated by Britannia Aggregates Ltd, CEMEX UK Marine Ltd, Deme Building Materials Ltd, Tarmac Marine Ltd , Volker Dredging Ltd and Westminster Gravels Ltd for both sand and gravel, principally for use in the construction industry
- During 2023, 1.53 million tonnes (mt) of construction aggregate were dredged from a permitted licensed tonnage of 4.35 mt
- Of the total marine aggregate dredged for construction from the region:
 - 79.6 % was delivered to the Thames Estuary (1.22 mt)
 - 10.0 % was delivered to mainland Europe (0.15 mt)
 - 4.2 % was delivered to Humber & North East (0.06 mt)
 - 3.4 % was delivered to East English Channel (0.05 mt)
 - 2.4 % was delivered to the East Coast (0.04 mt)
 - 0.4 % was delivered to the South (0.01 mt)

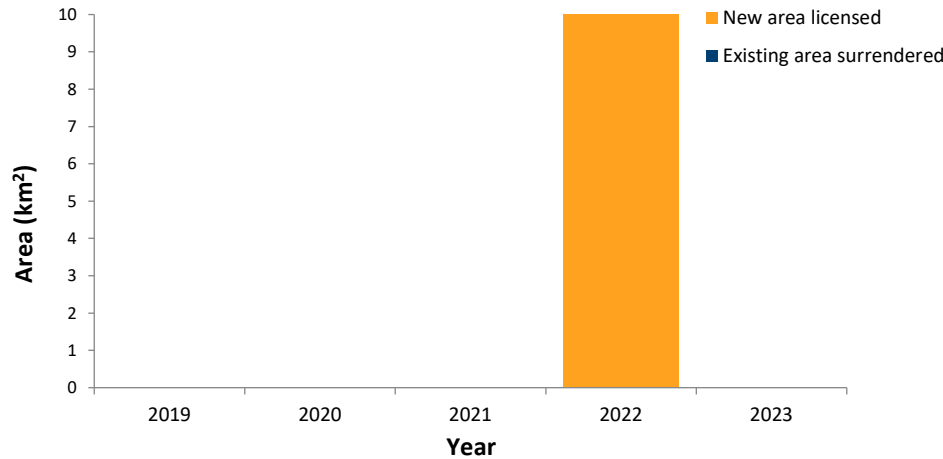
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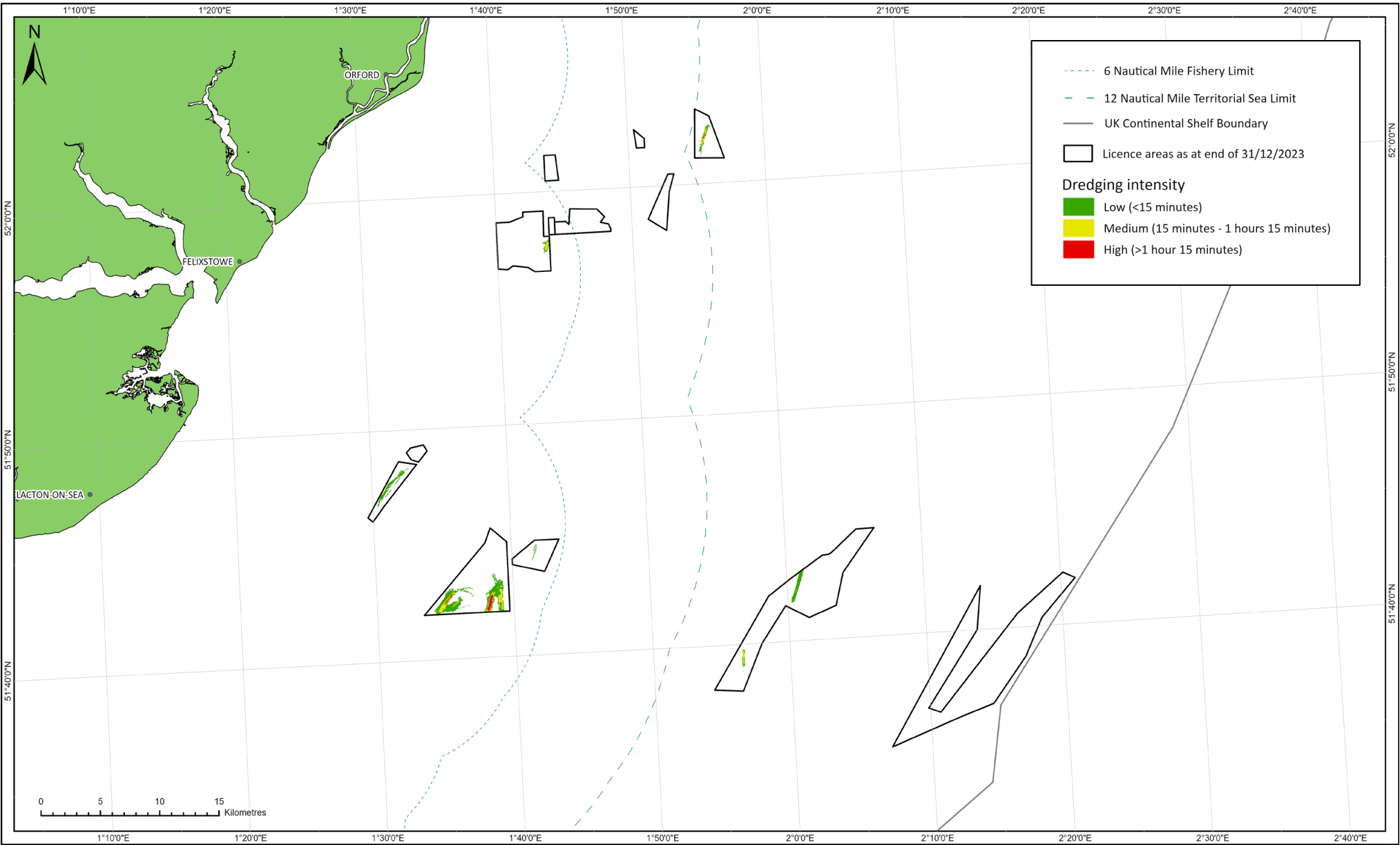
- The licensed area in the region was 167.82 km²
- The total area actually available to be dredged within the region (due to zoning) was 138.37 km²
- Dredging took place within 7.71 km² – 4.59 % of the licensed area
- The area dredged with high intensity (for more than 1 hour 15 minutes in the year) was 0.41 km²
- 90 % of regional dredging effort took place within 2.75 km²
- During 2023, the area licensed for marine aggregate extraction remained unchanged

Area of seabed licensed and dredged 2019-2023



New area licensed versus existing area surrendered 2019-2023





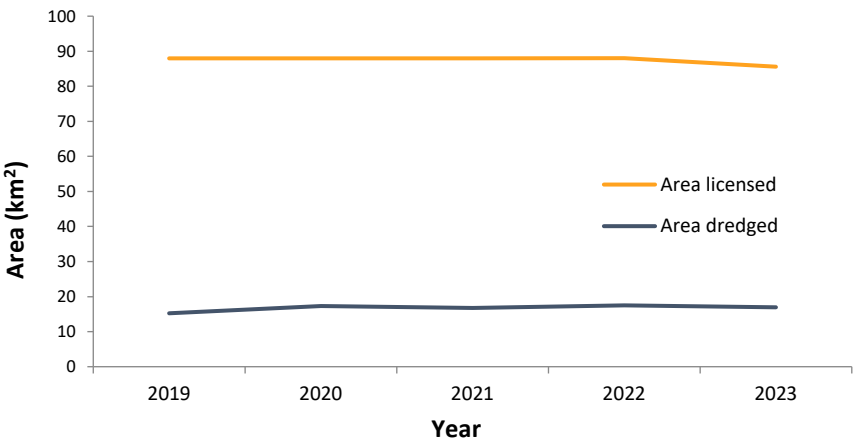
Background

- The East English Channel region has 9 production licences operated by CEMEX UK Marine Ltd, DEME Building Materials Ltd, Heidelberg Materials Marine Ltd, Tarmac Marine Ltd and Volker Dredging Ltd for sand and gravel, principally for use in the construction industry.
- During 2023, 3.56 million tonnes (mt) of construction aggregate were dredged from a permitted licensed tonnage of 9.17 mt. In addition 0.45 mt were dredged for beach nourishment.
- Of the total marine aggregate dredged for construction from the region:
 - 58.3 % was delivered to the Thames Estuary (2.07 mt)
 - 34.1 % was delivered to mainland Europe (1.21 mt)
 - 4.4 % was delivered to the East Coast (0.16 mt)
 - 2.7 % was delivered to East English Channel (0.10 mt)
 - 0.6 % was delivered to the South Coast (0.02 mt)

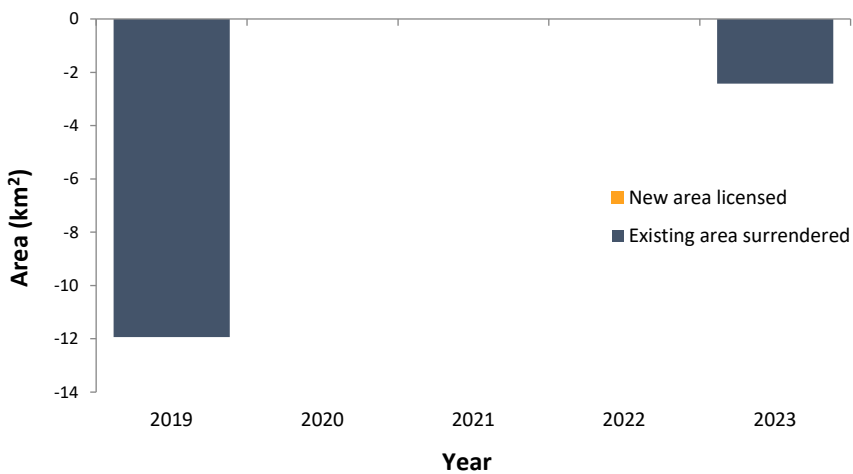
Regional statistics

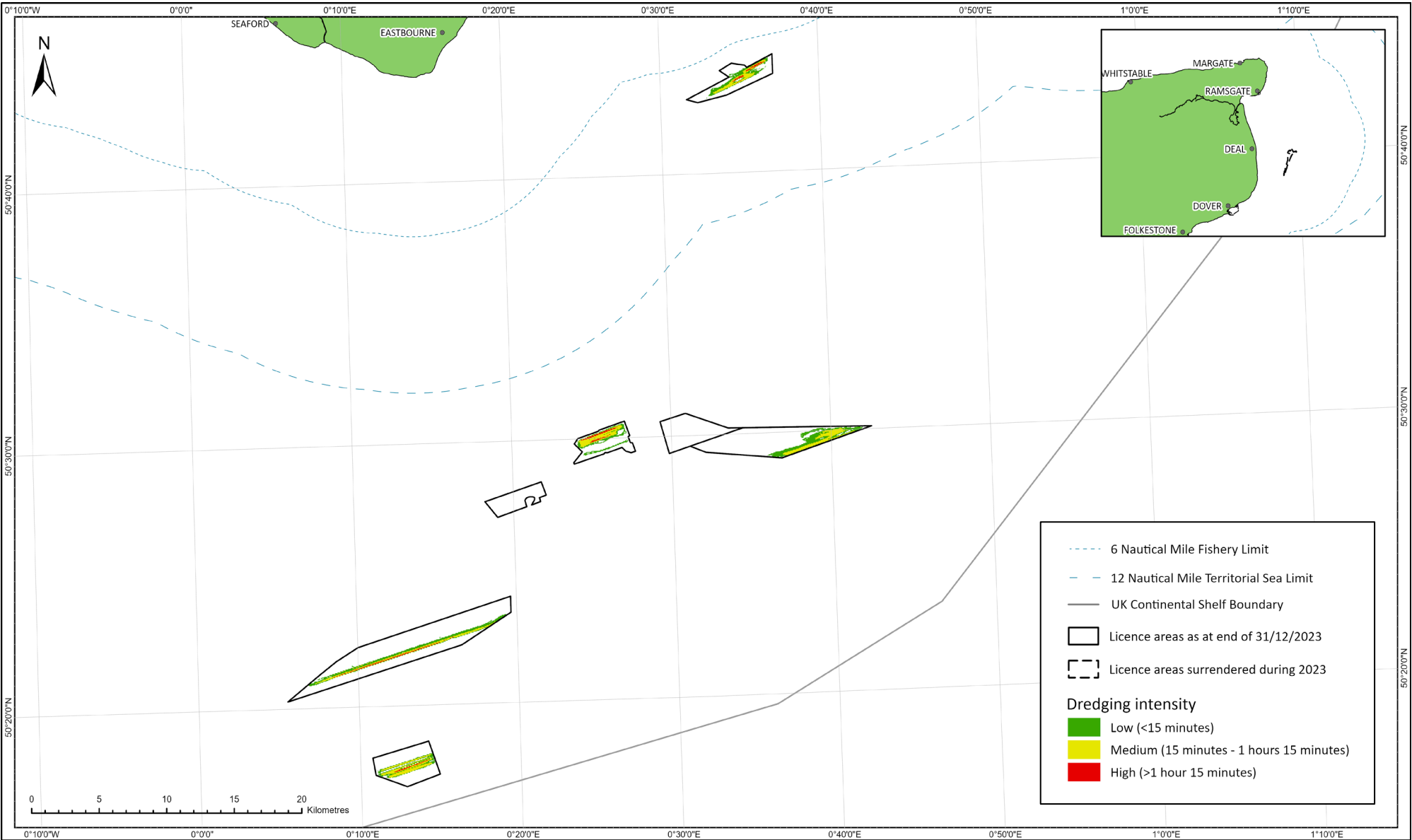
- The licensed area in the region was 85.59 km²
- The total area actually available to be dredged within the region (due to zoning) was 37.73 km²
- Dredging took place within 16.90 km² – 19.75% of the licensed area
- The area dredged with high intensity (for more than 1 hour 15 minutes in the year) was 1.11 km²
- 90 % of regional dredging effort took place within 8.11 km²
- During 2023, the area licensed for marine aggregate extraction reduced by 2.43 km²

Area of seabed licensed and dredged 2019-2023



New area licensed versus existing area surrendered 2019-2023





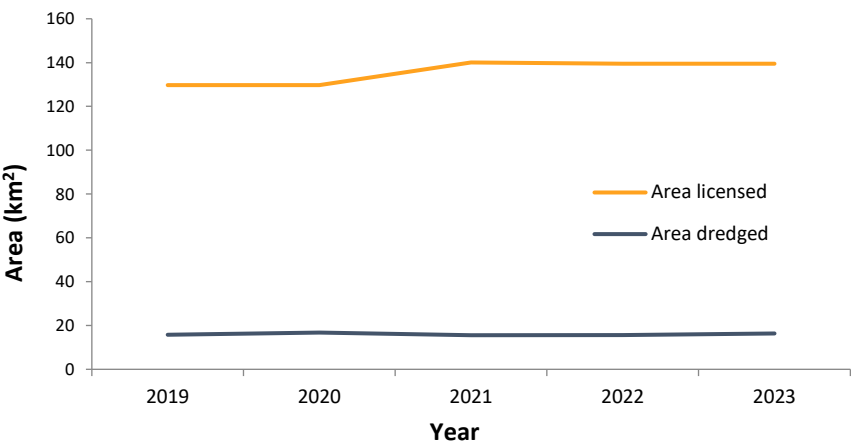
Background

- The South Coast region has 15 production licences, operated by Aggregate Industries UK Ltd, CEMEX UK Marine Ltd, Heidelberg Materials Marine Ltd, Tarmac Marine Ltd, Volker Dredging Ltd and Westminster Gravels Ltd for sand and gravel, principally for use in the construction industry
- During 2023, 4.02 million tonnes (mt) of construction aggregate were dredged from a permitted licensed tonnage of 8.13 mt. In addition 0.07 mt were dredged for beach nourishment.
- Of the total marine aggregate dredged for construction from the region:
 - 58.3 % was delivered to the South Coast (2.35 mt)
 - 24.6 % was delivered to the Thames Estuary (0.99 mt)
 - 12.4 % was delivered to East English Channel (0.50 mt)
 - 3.0 % was delivered to East Coast (0.12 mt)
 - 1.7 % was delivered to mainland Europe (0.07 mt)

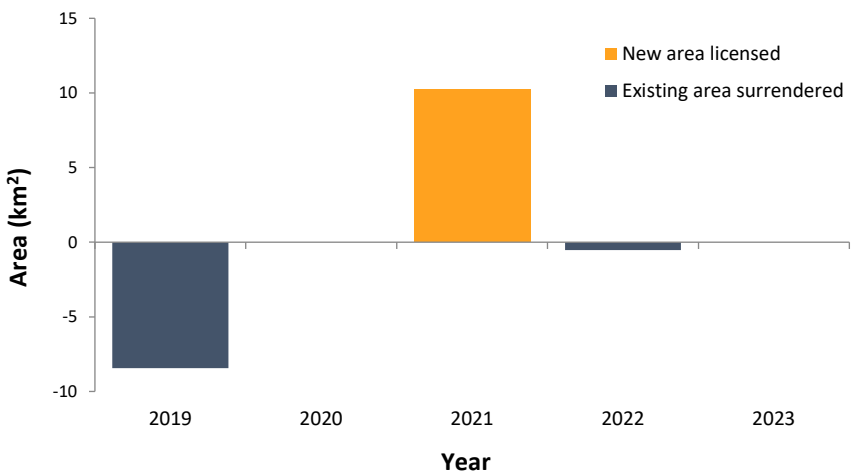
Regional statistics

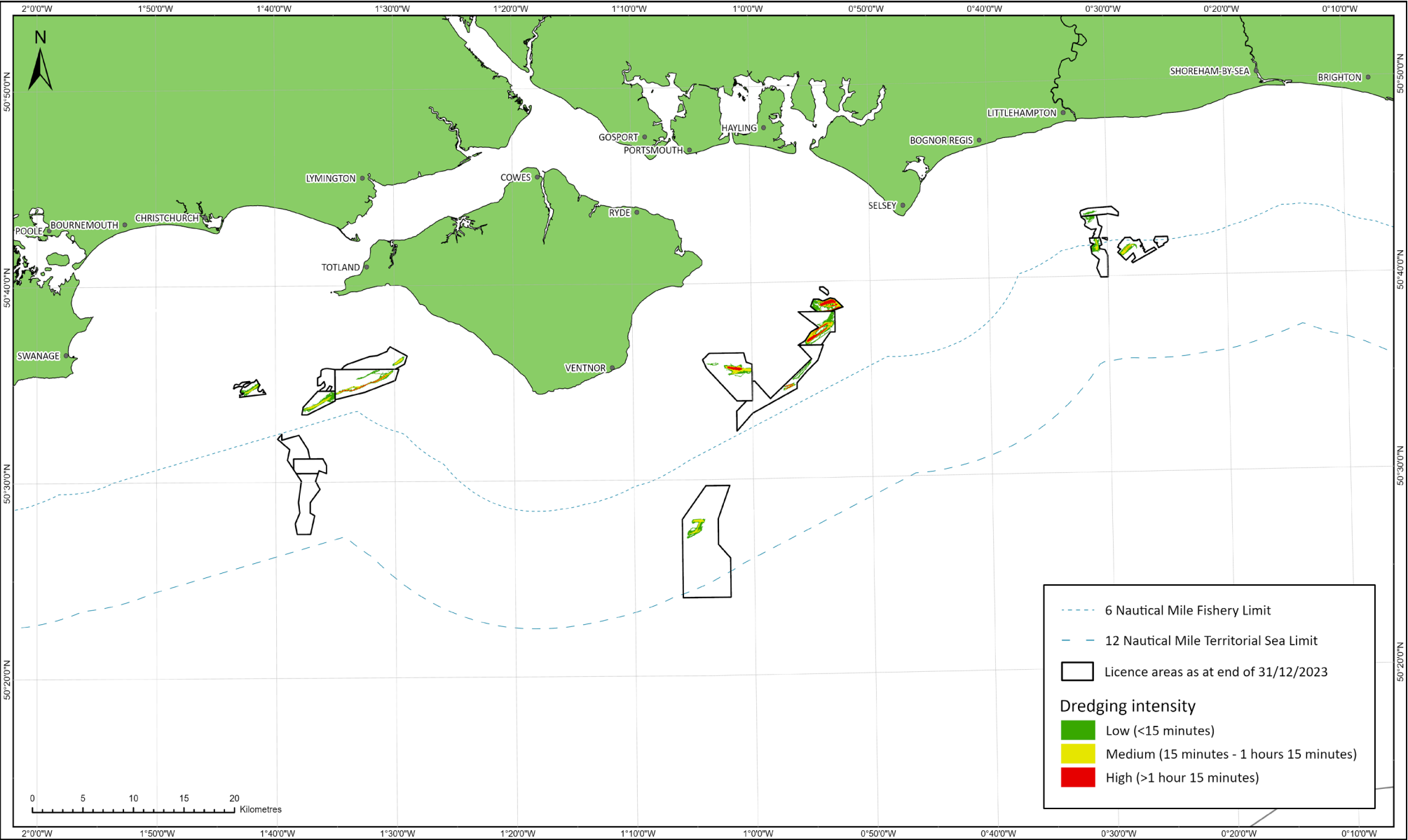
- The licensed area in the region was 139.54 km²
- The total area actually available to be dredged within the region (due to zoning) was 57.24 km²
- Dredging took place within 16.33 km² – 11.70 % of the licensed area
- The area dredged with high intensity (for more than 1 hour 15 minutes in the year) was 2.10 km²
- 90 % of regional dredging effort took place within 5.42 km²
- During 2023, the area licensed for marine aggregate extraction remained unchanged

Area of seabed licensed and dredged 2019-2023



New area licensed versus existing area surrendered 2019-2023





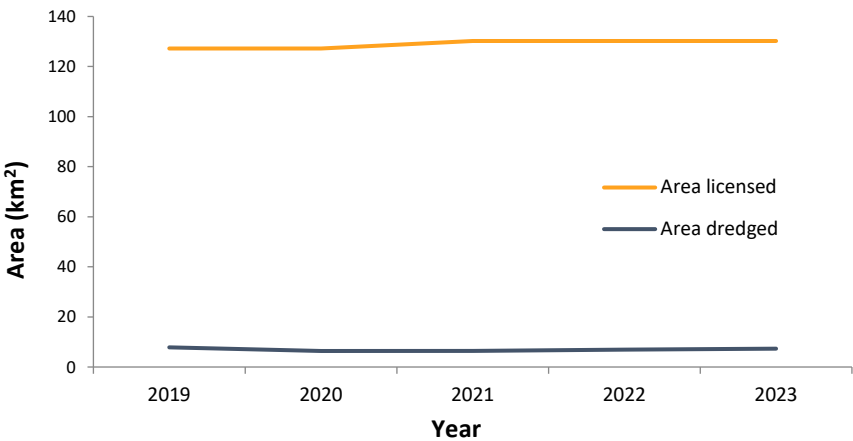
Background

- The South West region has 9 production licences, operated by CEMEX UK Marine Ltd, Heidelberg Materials Marine Ltd, Llanelli Sand Dredging Ltd, Severn Sands Ltd and Tarmac Marine Ltd for sand, principally for use in the construction industry
- During 2023, 1.32 million tonnes (mt) of construction aggregate were dredged from a permitted licensed tonnage of 2.80 mt. In addition, 0.06 mt were dredged for non construction purposes
- Of the total marine aggregate dredged for construction from the region:
 - 100 % was delivered to the South West (1.32 mt)
 - 53.3 % of this went to English wharves (0.70 mt)
 - 46.7 % of this went to Welsh wharves (0.62 mt)

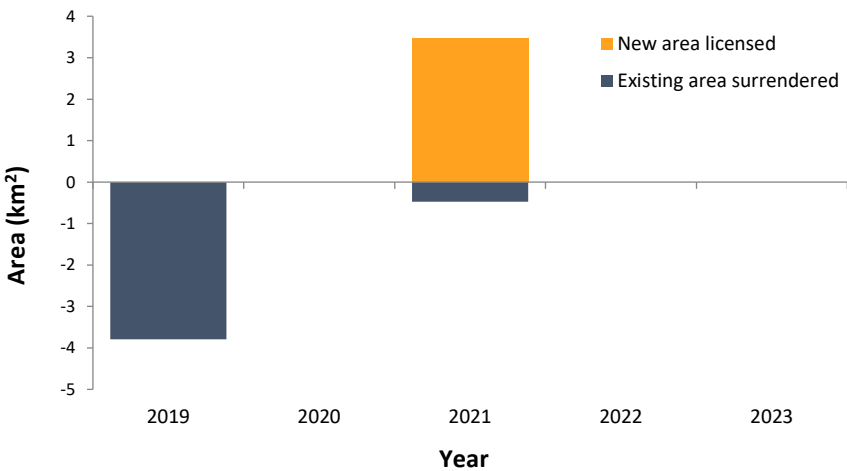
Regional statistics

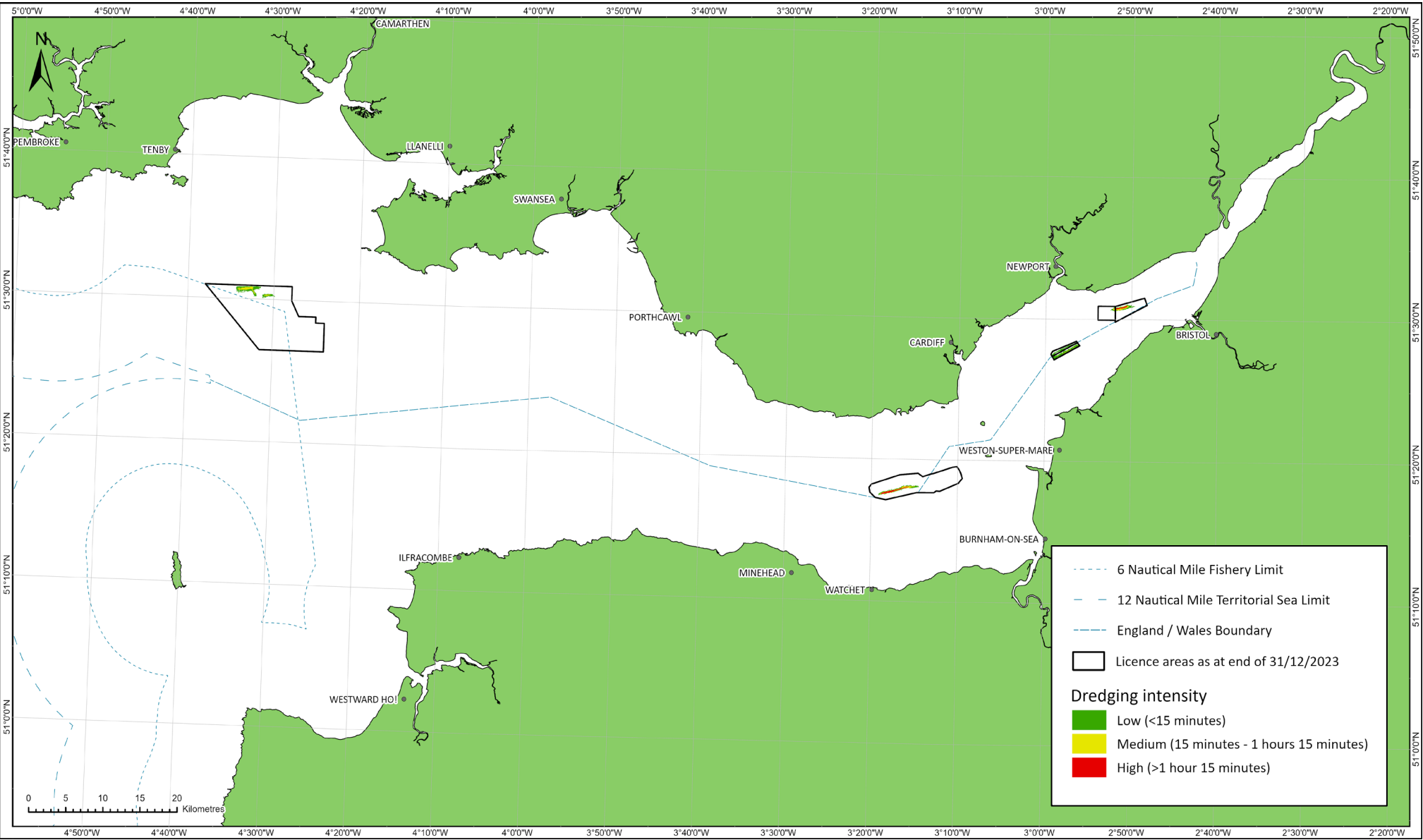
- The licensed area in the region was 130.21 km²
- The total area actually available to be dredged within the region (due to zoning) was 31.05 km²
- Dredging took place within 7.34 km² – 5.64 % of the licensed area
- The area dredged with high intensity (for more than 1 hour 15 minutes in the year) was 0.82 km²
- 90% of regional dredging effort took place within 2.17 km²
- During 2023, the area licensed for marine aggregate extraction remained unchanged

Area of seabed licensed and dredged 2019-2023



New area licensed versus existing area surrendered 2019-2023





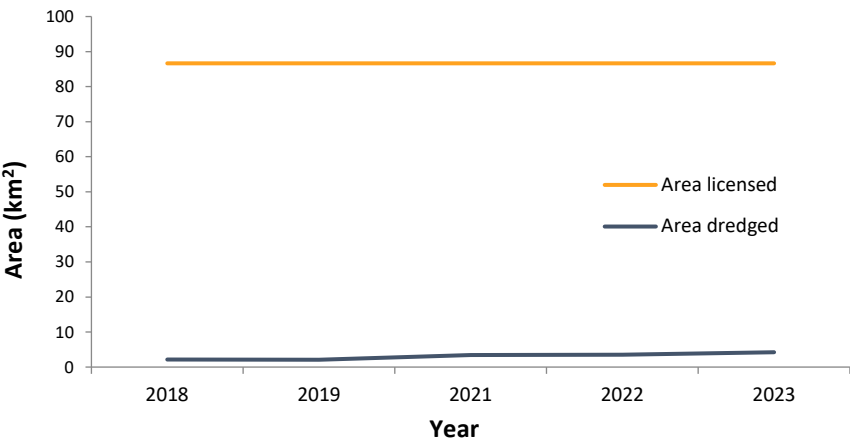
Background

- The North West region has 2 production licences, operated by Mersey Sand Suppliers, and Westminster Gravels Ltd for sand, principally for use in the construction industry
- During 2023, 0.29 million tonnes (mt) of construction aggregate were dredged from a permitted licensed tonnage of 0.70 mt. In addition, 0.002 mt were dredged for non construction purposes
- Of the total marine aggregate dredged for construction from the region:
- 100 % of the tonnage dredged was delivered to the North West (0.29 mt)
 - 97.3 % of this went to English wharves (0.29 mt)
 - 2.7 % of this went to Welsh wharves (<0.01 mt)

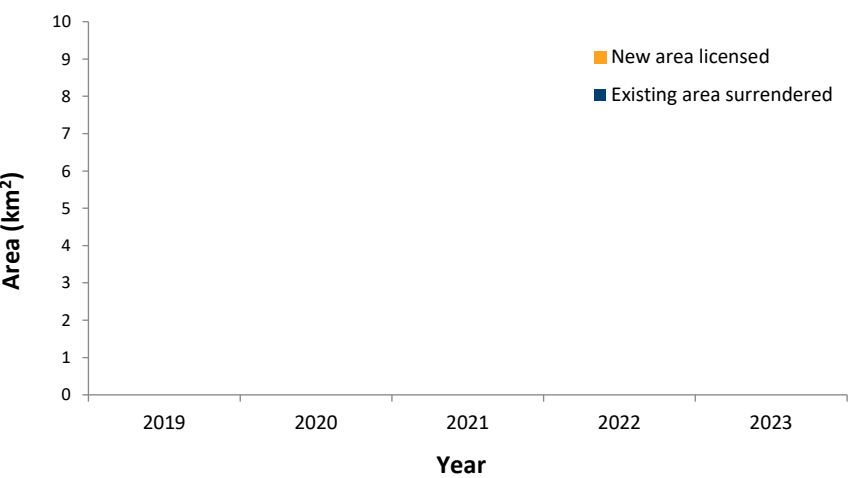
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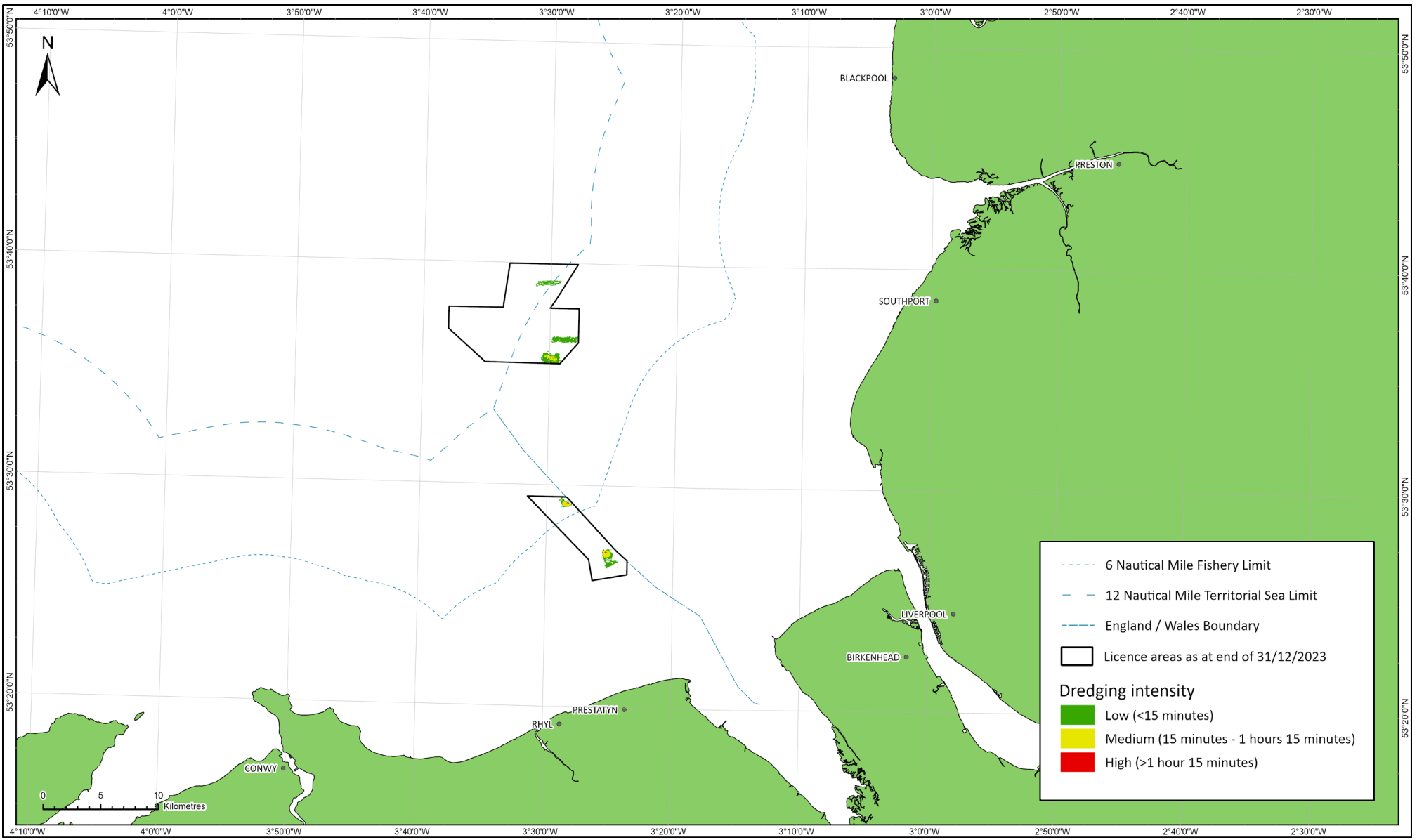
- The licensed area in the region was 86.65 km²
- The total area actually available to be dredged within the region (due to zoning) was 19.46 km²
- Dredging took place within 4.23 km² – 4.88 % of the licensed area
- The area dredged with high intensity (for more than 1 hour 15 minutes in the year) was 0.04 km²
- 90 % of regional dredging effort took place within 1.68 km²
- During 2023, the area licensed for marine aggregate extraction remained unchanged

Area of seabed licensed and dredged 2019-2023



New area licensed versus existing area surrendered 2019-2023





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 variety of uses. These range from housebuilding, to major infrastructure projects like the Thames Tideway Tunnel and Liverpool 2 container terminal, to coastal protection such as the innovative Bacton to Walcott Sandscaping scheme.

The Crown Estate manages the seabed around England, Wales and Northern Ireland, 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 played an important role in the building industry since the 1960s and today meet over 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 construction 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 30 vessels on 64 production licences around the UK as of November 2024.

BMAPA membership (as of November 2024) is comprised of: Aggregate Industries, Britannia Aggregates, Breedon Group, Brett Group, CEMEX UK Marine, DEME Building Materials, Heidelberg Materials Marine, Norwest Sand & Ballast Co, Sea Aggregates, Tarmac Marine and Volker Dredging.



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