

# The area involved – 24<sup>th</sup> annual report



MARINE AGGREGATE EXTRACTION 2021



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## Marine aggregate extraction 2021

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ISBN: 978-1-906410-81-0

## 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 1<sup>st</sup> January 2021 to 31<sup>st</sup> December 2021, is the 24<sup>th</sup> 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 2021 based on GIS data and from analysis of dredger Electronic Monitoring System records. Information on dredged area and intensity (reported as time dredged per 50m x 50m 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 2021. 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.

## 2021 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

**21 m tonnes**

(18 m tonnes in 2020)

The **area of seabed licensed** increased to

**1068 km<sup>2</sup>**

(1055 km<sup>2</sup> in 2020)

The **area of seabed dredged** increased to

**106 km<sup>2</sup>**

(101 km<sup>2</sup> in 2020)

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

**6 km<sup>2</sup>**

(5 km<sup>2</sup> in 2020)

The **percentage of licenced area dredged** remained

**10 %**

(10 % in 2020)

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

**43 km<sup>2</sup>**

(42 km<sup>2</sup> in 2020)

Region	Total area licensed during 2021 (km <sup>2</sup> )	Total active dredge area for 2021 (km <sup>2</sup> )* <sup>1</sup>	Total area dredged during 2021 (km <sup>2</sup> )
Humber	312.21	188.28	32.16
East Coast	180.55	156.16	23.57
Thames	130.49	100.82	8.43
East English Channel	88.01	16.88	16.75
South Coast	140.06	42.45	15.56
South West	130.21	28.00	6.44
North West	86.65	17.28	3.44
<b>Total (km<sup>2</sup>)</b>	<b>1068.18</b>	<b>549.87</b>	<b>106.35</b>

## Area of seabed licensed increased by 13 km<sup>2</sup> during 2021

Area of seabed licensed (km<sup>2</sup>) 2017-2021

Year <sup>*2</sup>	2017	2018	2019	2020	2021
0 – 6 nm <sup>*3</sup>	318	353	341	341	354
6 – 12nm <sup>*3</sup>	360	344	343	325	325
>12 nm <sup>*3</sup>	379	405	395	389	389
<b>Total area licensed (km<sup>2</sup>)</b>	<b>1057</b>	<b>1102</b>	<b>1079</b>	<b>1055</b>	<b>1068</b>
<b>Total active dredge area (km<sup>2</sup>)</b>	<b>522</b>	<b>571</b>	<b>579</b>	<b>578</b>	<b>550</b>

## Area of seabed dredged increased by 5 km<sup>2</sup> during 2021

Area of seabed dredged (km<sup>2</sup>) 2017-2021

Year	2017	2018	2019	2020	2021
0 – 6 nm <sup>*3</sup>	45	46	50	41	40
6 – 12nm <sup>*3</sup>	23	23	28	30	31
>12nm <sup>*3</sup>	23	29	27	30	35
<b>Total (km<sup>2</sup>)</b>	<b>91</b>	<b>98</b>	<b>105</b>	<b>101</b>	<b>106</b>
<b>Area dredged &gt;1 hr 15 mins (km<sup>2</sup>)</b>	<b>8.03</b>	<b>6.31</b>	<b>6.29</b>	<b>5.12</b>	<b>6.43</b>
<b>90% of dredging effort (km<sup>2</sup>)</b>	<b>38.30</b>	<b>39.50</b>	<b>42.24</b>	<b>41.98</b>	<b>43.00</b>

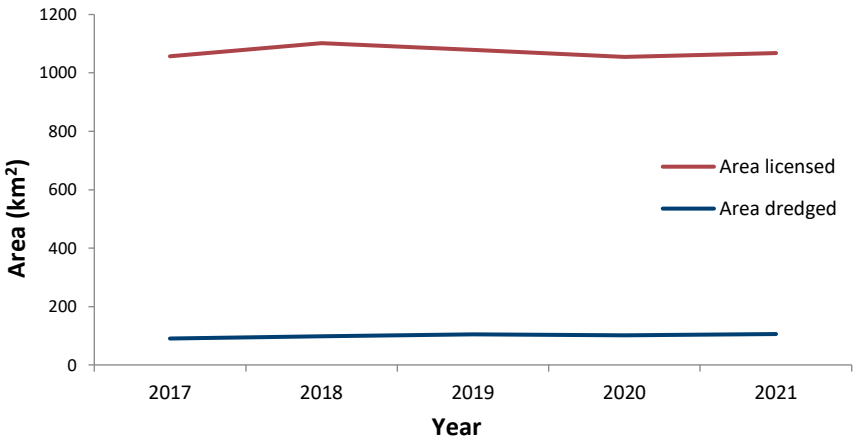
<sup>\*1</sup> Total area actually available to be dredged due to zoning during 2021, calculated on a cumulative basis

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

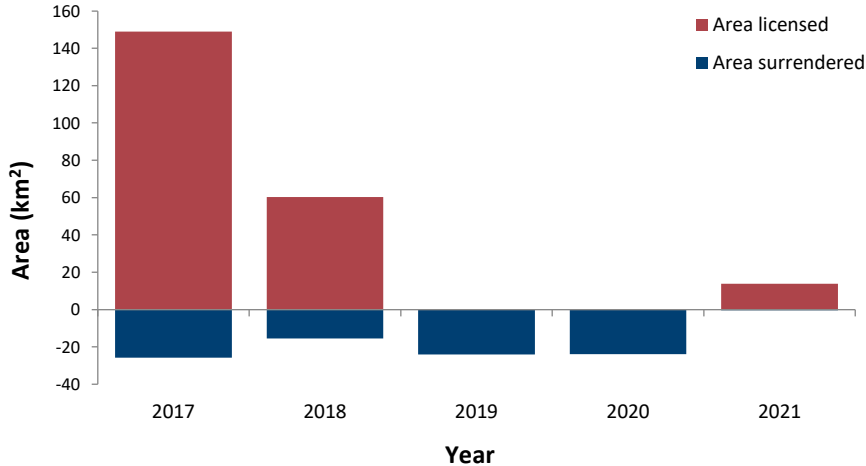
<sup>\*3</sup> Based on a standardised 6 and 12 nm (UKHO 01/01/05) to allow for accurate comparison between years



### Area of seabed licensed and dredged 2017 - 2021



### New area licensed versus existing area surrendered 2017 - 2021



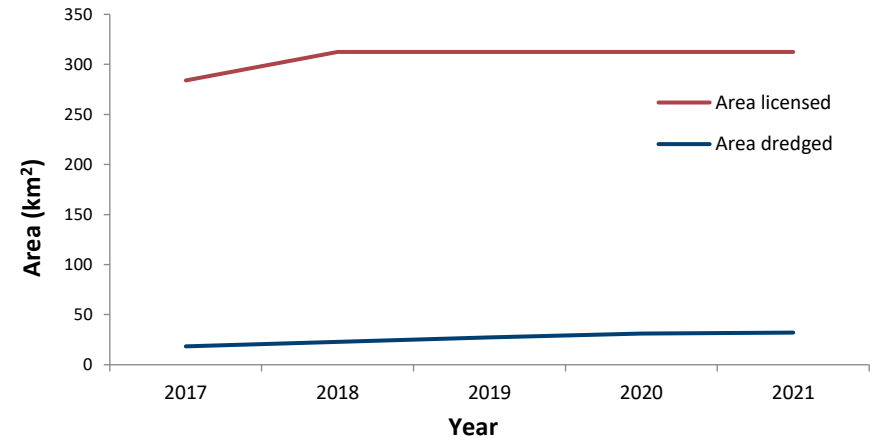
## Background

- The Humber region has 10 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 2021, 3.5 million tonnes (mt) of construction aggregate were dredged from a permitted licensed tonnage of 6.9 mt. In addition 0.74 mt were dredged for beach nourishment.
- Of the total marine aggregate dredged for construction from the region:
  - 70.1 % of the tonnage dredged was delivered to mainland Europe (2.45 mt)
  - 19.6 % of the tonnage dredged was delivered to the Humber and North East (0.69 mt)
  - 9.6 % of the tonnage dredged was delivered to the Thames Estuary (0.34 mt)
  - 0.7 % of the tonnage dredged was delivered to the East English Channel (0.02 mt)

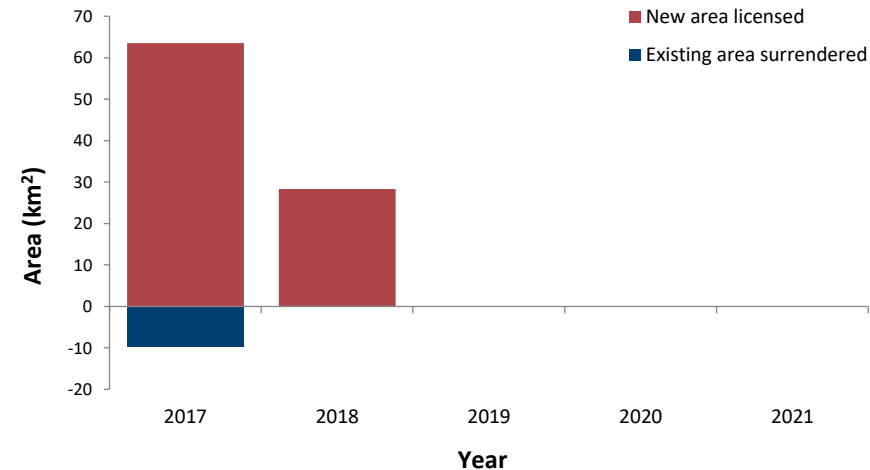
## Regional statistics

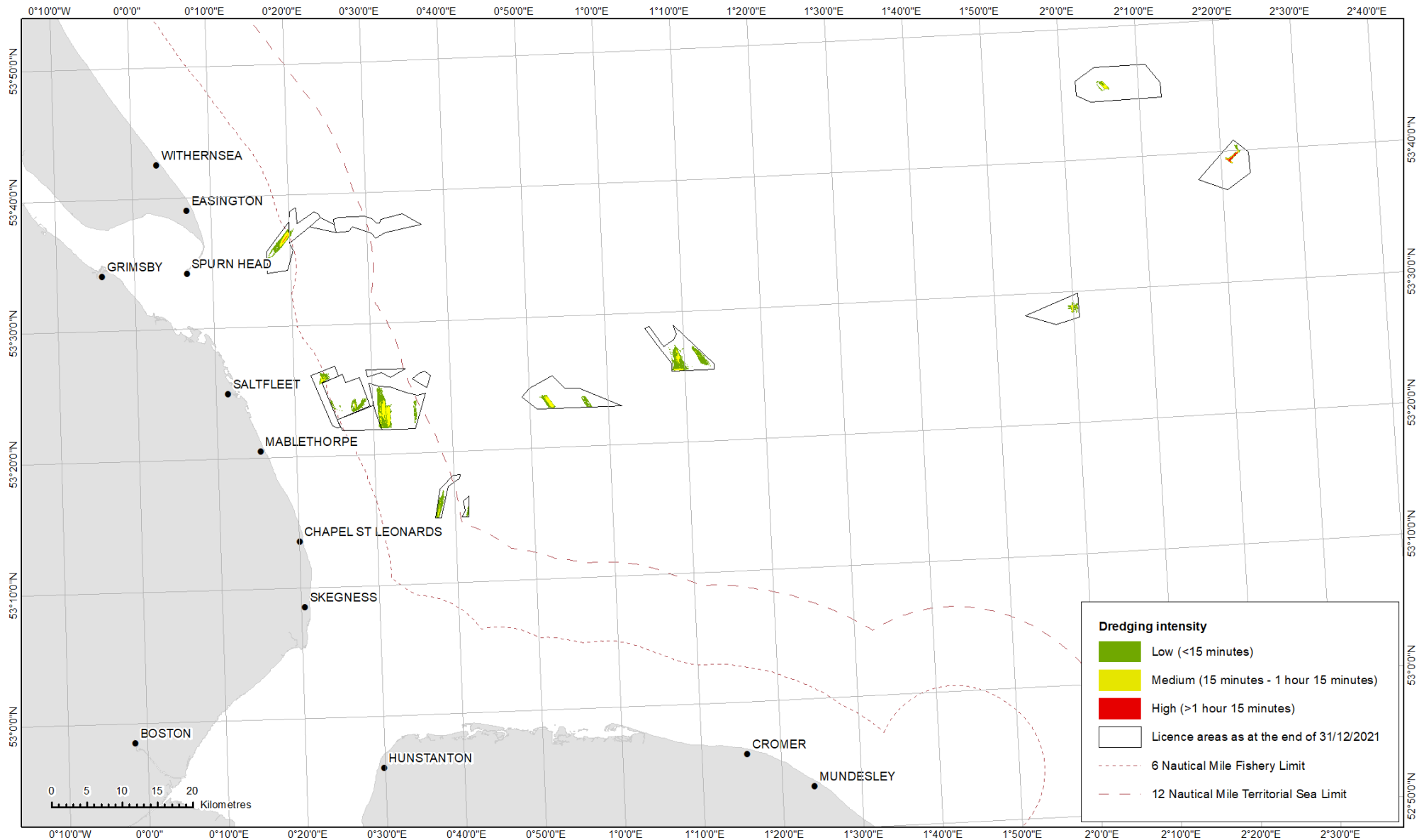
- The licensed area in the region was 312.21 km<sup>2</sup>
- The total area actually available to be dredged within the region (due to zoning) was 188.28 km<sup>2</sup>
- Dredging took place within 32.16 km<sup>2</sup> – 10.30 % of the licensed area
- The area dredged with high intensity (for more than 1 hour 15 minutes in the year) was 0.60 km<sup>2</sup>
- 90 % of regional dredging effort took place within 14.90 km<sup>2</sup>
- During 2021, the area licensed for marine aggregate extraction remained unchanged

## Area of seabed licensed and dredged 2017 - 2021



## New area licensed versus existing area surrendered 2017 - 2021





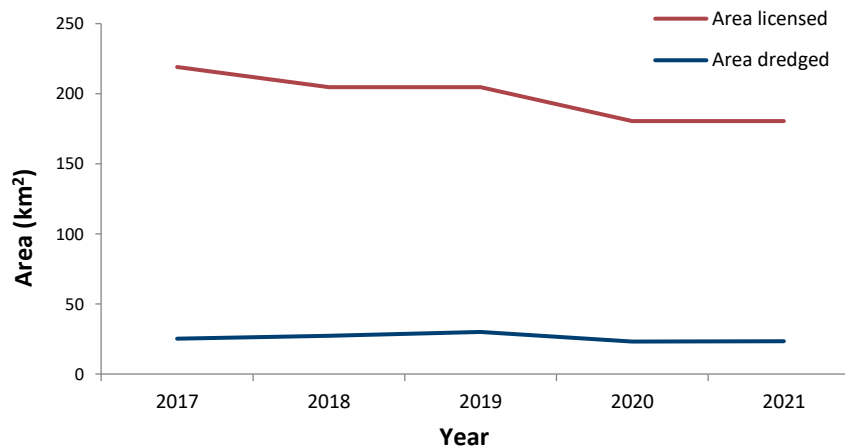
## Background

- The East Coast region has 11 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 2021, 3.3 million tonnes (mt) of construction aggregate were dredged from a permitted licensed tonnage of 7.1 mt.
- Of the total marine aggregate dredged for construction from the region:
  - 87.62 % of the tonnage dredged was delivered to the Thames Estuary (2.9 mt)
  - 10.67 % of the tonnage dredged was delivered to the Humber and North East (0.35 mt)
  - 1.65 % of the tonnage dredged was delivered to mainland Europe (0.05 mt)
  - 0.05 % of the tonnage dredged was delivered to the East English Channel (<0.01 mt)
  - 0.01 % of the tonnage dredged was delivered to the East English Channel (<0.01 mt)

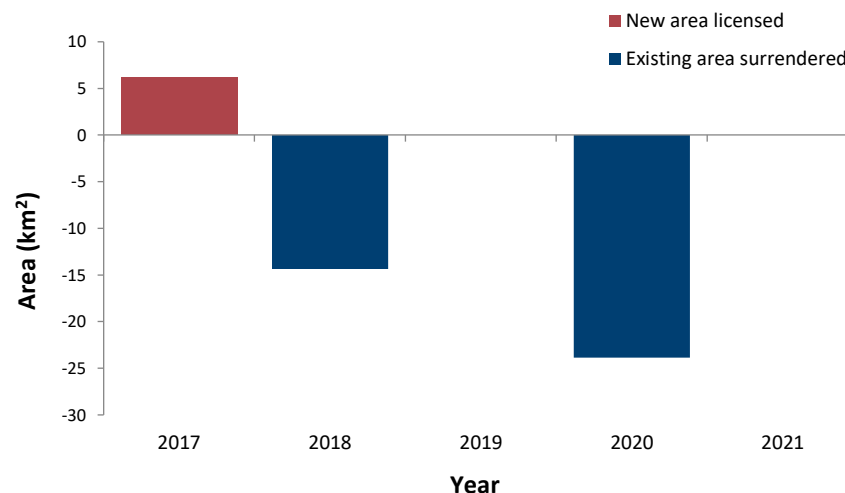
## Regional statistics

- The licensed area in the region was 180.55 km<sup>2</sup>
- The total area actually available to be dredged within the region (due to zoning) was 156.16 km<sup>2</sup>
- Dredging took place within 23.57 km<sup>2</sup> – 13.05 % of the licensed area
- The area dredged with high intensity (for more than 1 hour 15 minutes in the year) was 0.63 km<sup>2</sup>
- 90 % of regional dredging effort took place within 11.89 km<sup>2</sup>
- During 2021, the area licensed for marine aggregate extraction remained unchanged

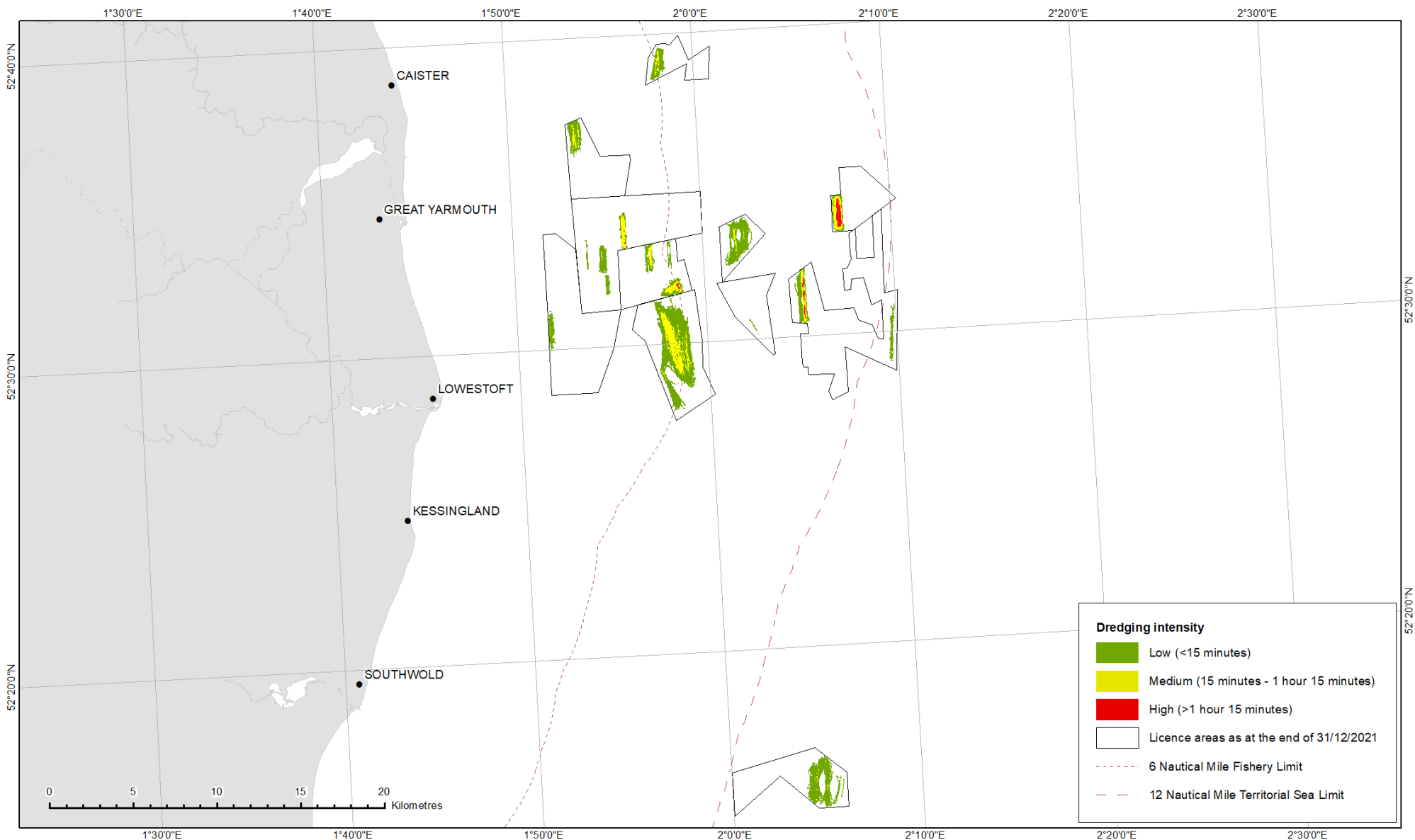
## Area of seabed licensed and dredged 2017 - 2021



## New area licensed versus existing area surrendered 2017 - 2021







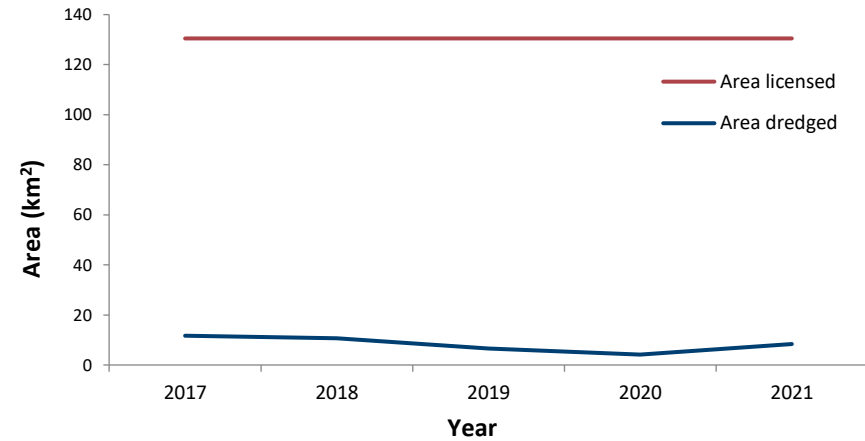
## Background

- The Thames Estuary region has 8 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 2021, 1.6 million tonnes of construction aggregate were dredged from a permitted licensed tonnage of 3.8 million (mt). In addition 0.52 mt were dredged for beach nourishment.
- Of the total marine aggregate dredged for construction from the region:
  - 85.7 % of the tonnage dredged was delivered to the Thames Estuary (1.37 mt)
  - 9 % of the tonnage dredged was delivered to mainland Europe (0.14 mt)
  - 2.7 % of the tonnage dredged was delivered to East English Channel (0.04 mt)
  - 1.5 % of the tonnage dredged was delivered to the South (0.02 mt)
  - 1.1 % of the tonnage dredged was delivered to Humber & North East (0.02 mt)

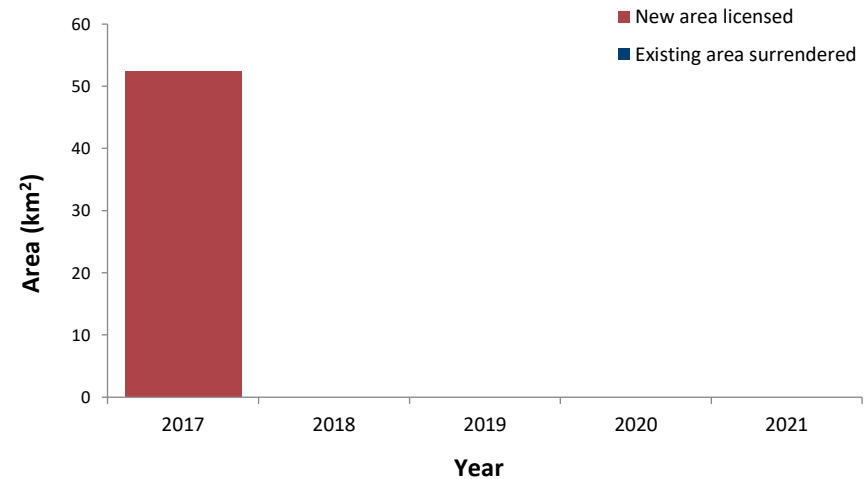
## Regional statistics

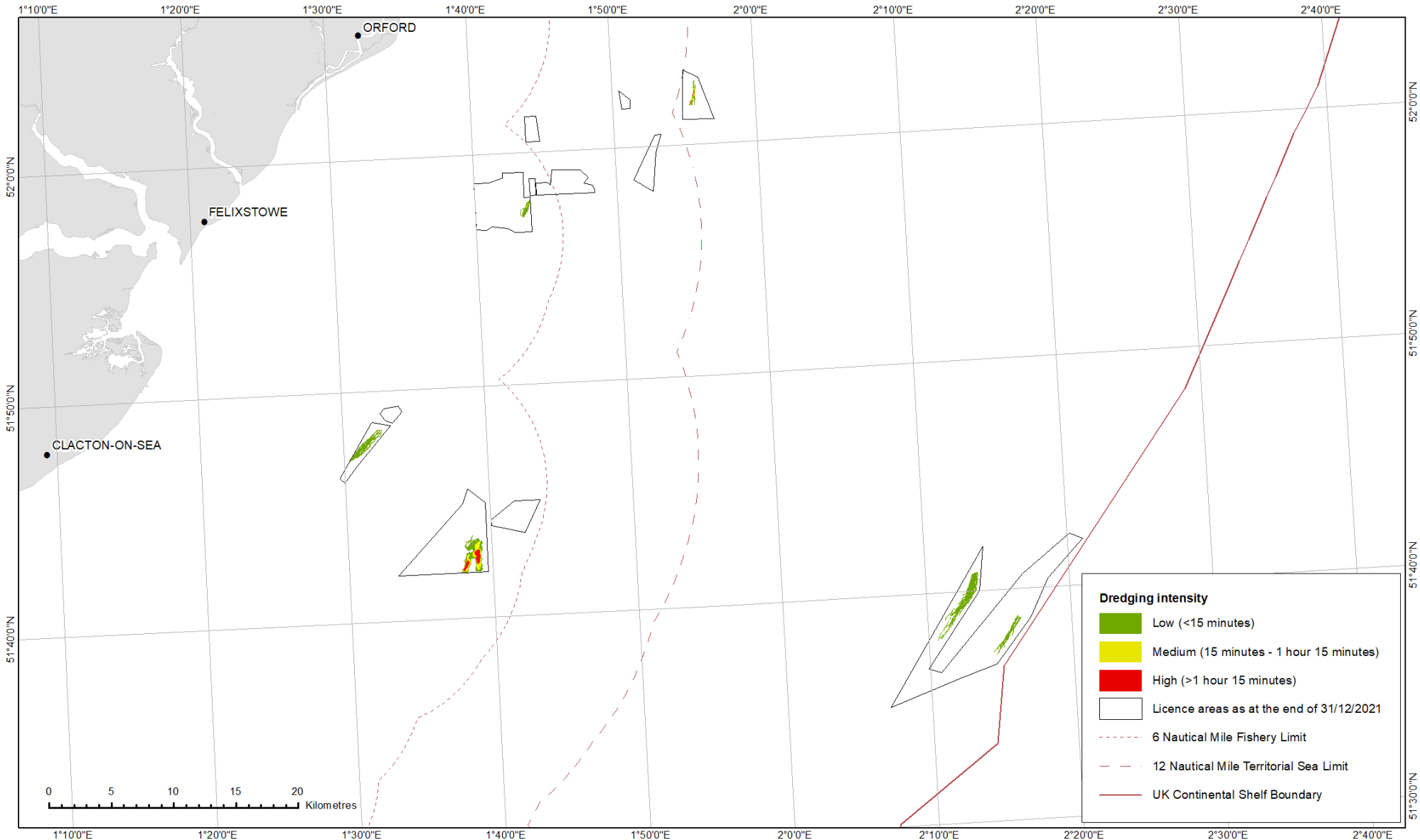
- The licensed area in the region was 130.49 km<sup>2</sup>
- The total area actually available to be dredged within the region (due to zoning) was 100.82 km<sup>2</sup>
- Dredging took place within 8.43 km<sup>2</sup> – 6.46 % of the licensed area
- The area dredged with high intensity (for more than 1 hour 15 minutes in the year) was 0.62 km<sup>2</sup>
- 90 % of regional dredging effort took place within 1.77 km<sup>2</sup>
- During 2021, the area licensed for marine aggregate extraction remained unchanged

## Area of seabed licensed and dredged 2017 - 2021



## New area licensed versus existing area surrendered 2017 - 2021





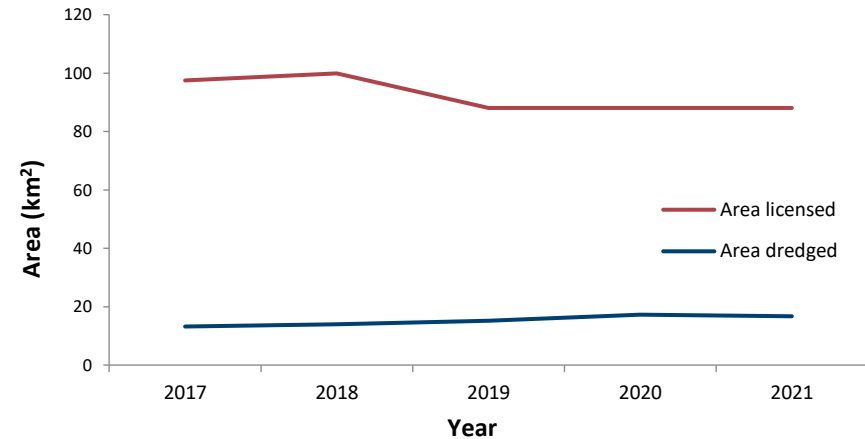
## Background

- The East English Channel region has 10 production licences, operated by CEMEX UK Marine Ltd, DEME Building Materials Ltd, Dover Harbour Board, Hanson Aggregates Marine Ltd, Tarmac Marine Ltd and Volker Dredging Ltd for sand and gravel, principally for use in the construction industry
- During 2021, 4.48 million tonnes (mt) of construction aggregate were dredged from a permitted licensed tonnage of 9.9 mt. In addition 0.1 mt were dredged for beach nourishment.
- Of the total marine aggregate dredged for construction from the region:
  - 59.5 % of the tonnage dredged was delivered to the Thames Estuary (2.67 mt)
  - 35.5 % of the tonnage dredged was delivered to mainland Europe (1.59 mt)
  - 4.8 % of the tonnage dredged was delivered to the East Coast (0.22 mt)
  - 0.2 % of the tonnage dredged was delivered to East English Channel (0.01 mt)

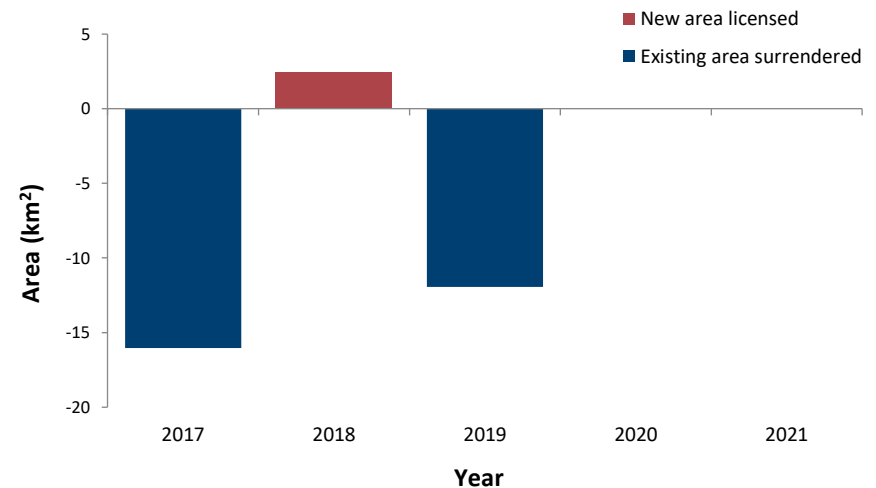
## Regional statistics

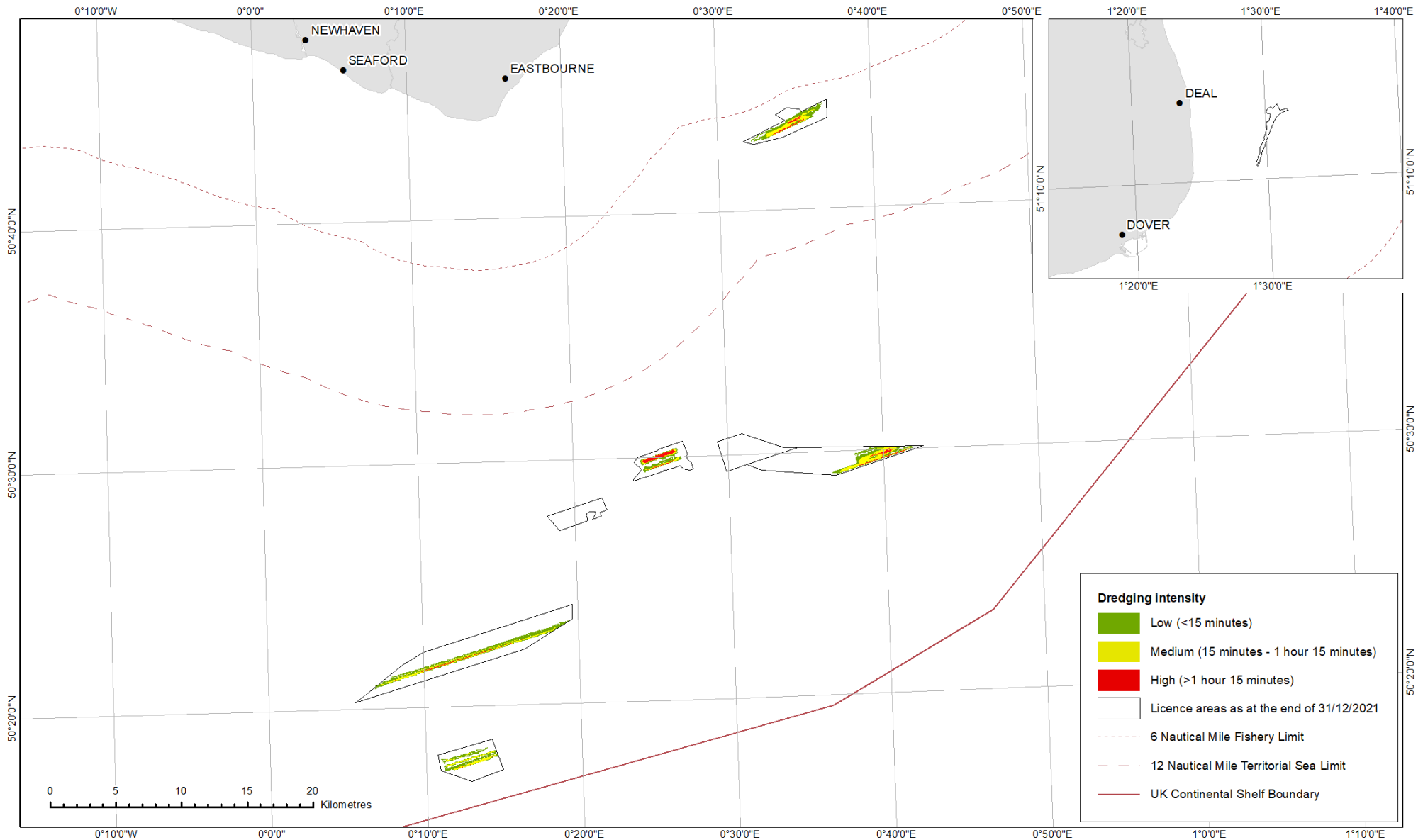
- The licensed area in the region was 88.01 km<sup>2</sup>
- The total area actually available to be dredged within the region (due to zoning) was 16.88 km<sup>2</sup>
- Dredging took place within 16.75 km<sup>2</sup> – 19.03 % of the licensed area
- The area dredged with high intensity (for more than 1 hour 15 minutes in the year) was 1.72 km<sup>2</sup>
- 90 % of regional dredging effort took place within 6.98 km<sup>2</sup>
- During 2021, the area licensed for marine aggregate extraction remained unchanged

## Area of seabed licensed and dredged 2017 - 2021



## New area licensed versus existing area surrendered 2017 - 2021





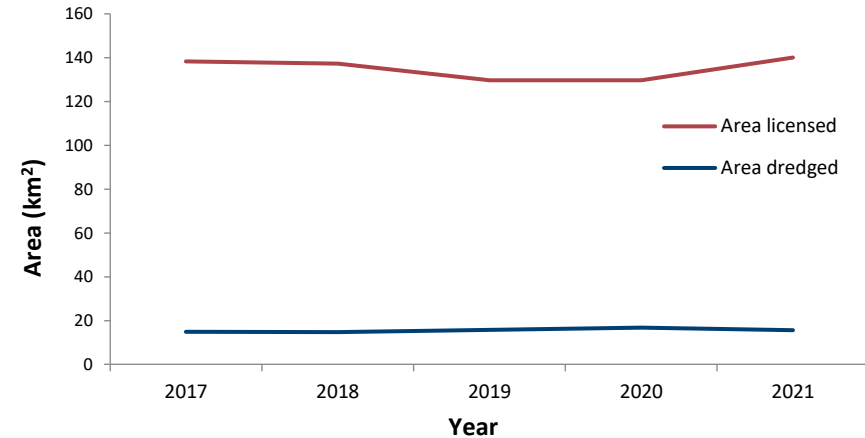
## Background

- The South Coast region has 15 production licences, operated by Aggregate Industries UK Ltd, CEMEX UK Marine Ltd, the Environment Agency, Hanson Aggregates Marine Ltd, Tarmac Marine Ltd, Volker Dredging Ltd and Westminster Gravels Ltd for sand and gravel, principally for use in the construction industry
- During 2021, 3.99 million tonnes (mt) of construction aggregate were dredged from a permitted licensed tonnage of 8.1 mt. In addition <0.01 mt were dredged for beach nourishment.
- Of the total marine aggregate dredged for construction from the region:
  - 64.2 % of the tonnage dredged was delivered to the South Coast (2.56 mt)
  - 23.7 % of the tonnage dredged was delivered to the Thames Estuary (0.94 mt)
  - 10.3 % of the tonnage dredged was delivered to East English Channel (0.41 mt)
  - 1.7 % of the tonnage dredged was delivered to mainland Europe (0.07 mt)
  - 0.1 % of the tonnage dredged was delivered to East Coast (0.01 mt)

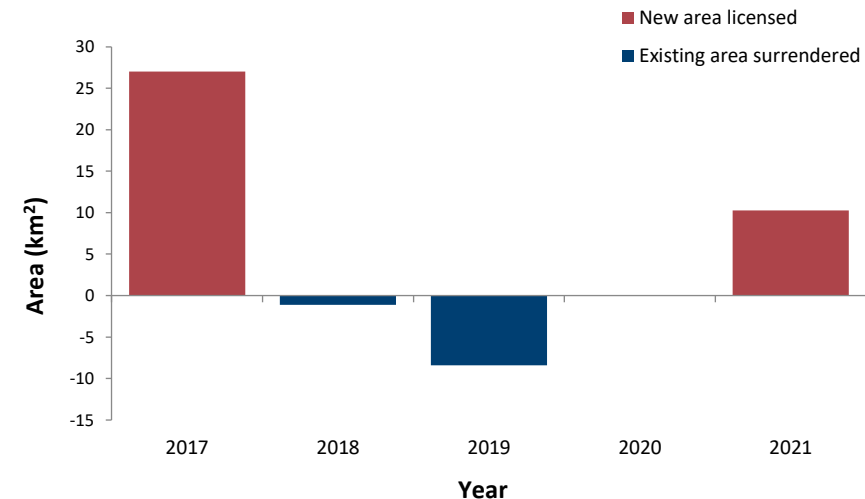
## Regional statistics

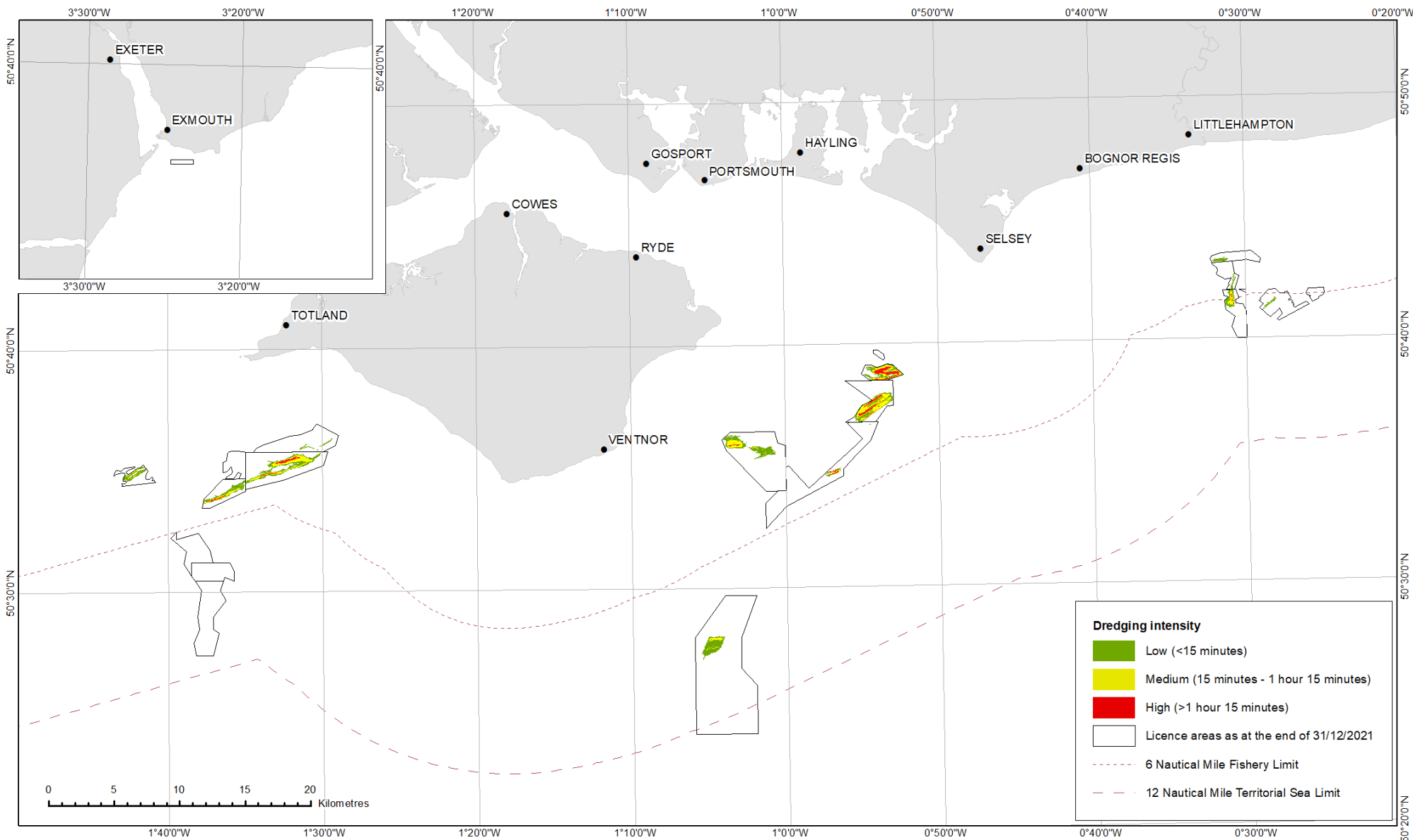
- The licensed area in the region was 140.06 km<sup>2</sup>
- The total area actually available to be dredged within the region (due to zoning) was 42.45 km<sup>2</sup>
- Dredging took place within 15.56 km<sup>2</sup> – 11.11% of the licensed area
- The area dredged with high intensity (for more than 1 hour 15 minutes in the year) was 1.70 km<sup>2</sup>
- 90% of regional dredging effort took place within 6.43 km<sup>2</sup>
- During 2021, the area licensed for marine aggregate extraction increased by 10.27 km<sup>2</sup>

## Area of seabed licensed and dredged 2017 - 2021



## New area licensed versus existing area surrendered 2017 - 2021





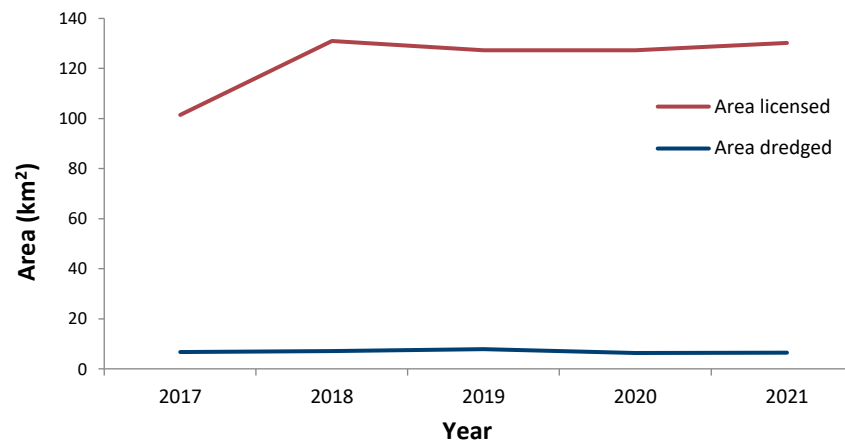
## Background

- The South West region has 9 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 2021, 1.43 million tonnes (mt) of construction aggregate were dredged from a permitted licensed tonnage of 3 mt. In addition, 0.02 mt were dredged for non construction purposes
- Of the total marine aggregate dredged for construction from the region:
  - 99.7 % of the tonnage dredged was delivered to the South West (1.4 3 mt)
    - 51.13 % of this went to English wharves (0.73 mt)
    - 48.57 % of this went to Welsh wharves (0.7 mt)
  - 0.3 % of the tonnage dredged was delivered to the South Coast (<0.01 mt)

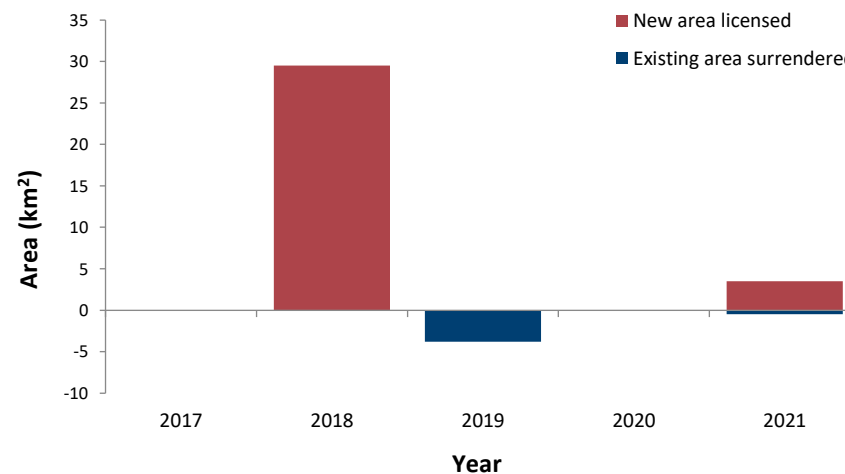
## Regional statistics

- The licensed area in the region was 130.21 km<sup>2</sup>
- The total area actually available to be dredged within the region (due to zoning) was 28 km<sup>2</sup>
- Dredging took place within 6.44 km<sup>2</sup> – 4.95 % of the licensed area
- The area dredged with high intensity (for more than 1 hour 15 minutes in the year) was 1.04 km<sup>2</sup>
- 90% of regional dredging effort took place within 2.12 km<sup>2</sup>
- During 2021, the area licensed for marine aggregate extraction increased by 3 km<sup>2</sup>

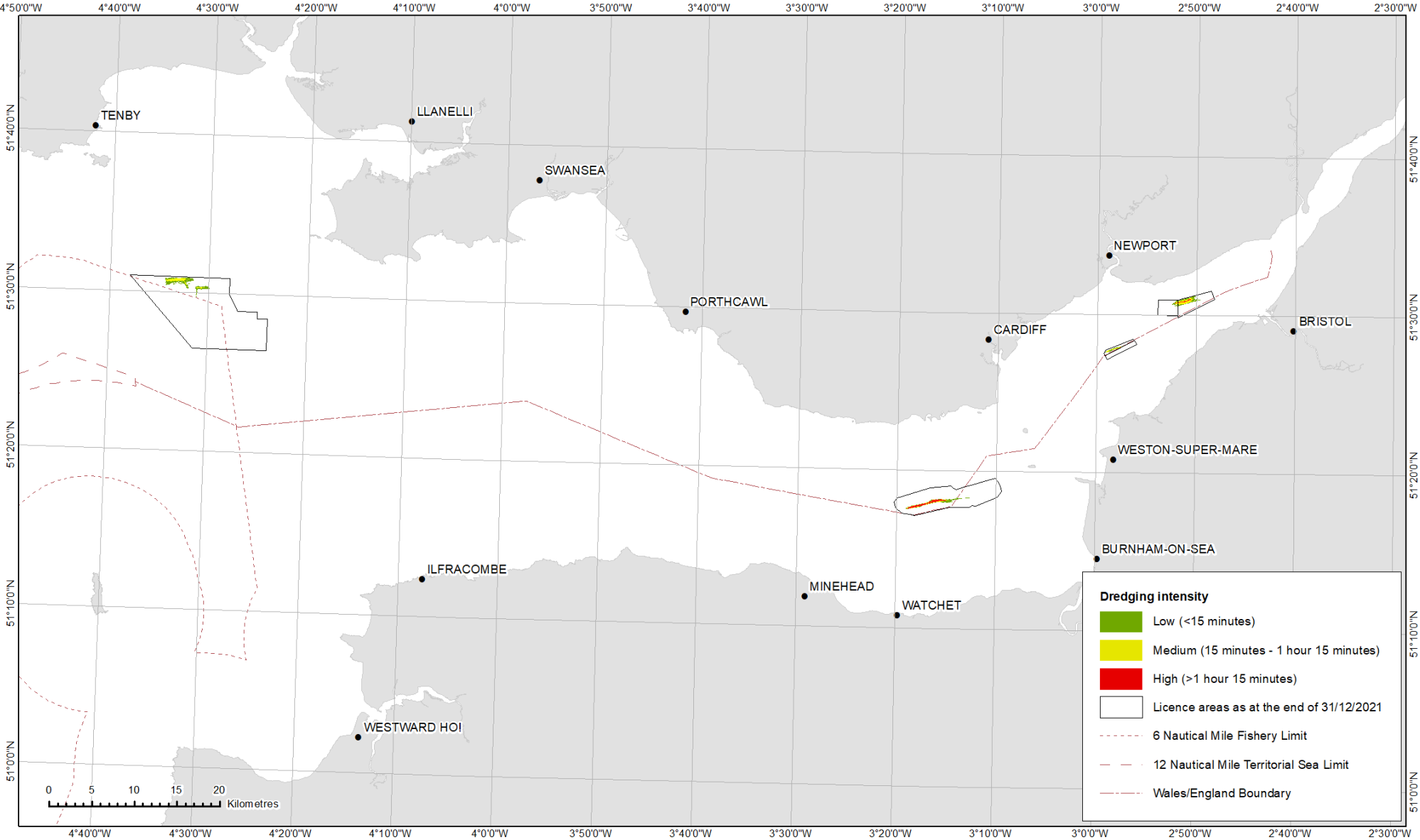
## Area of seabed licensed and dredged 2017 - 2021



## New area licensed versus existing area surrendered 2017 - 2021







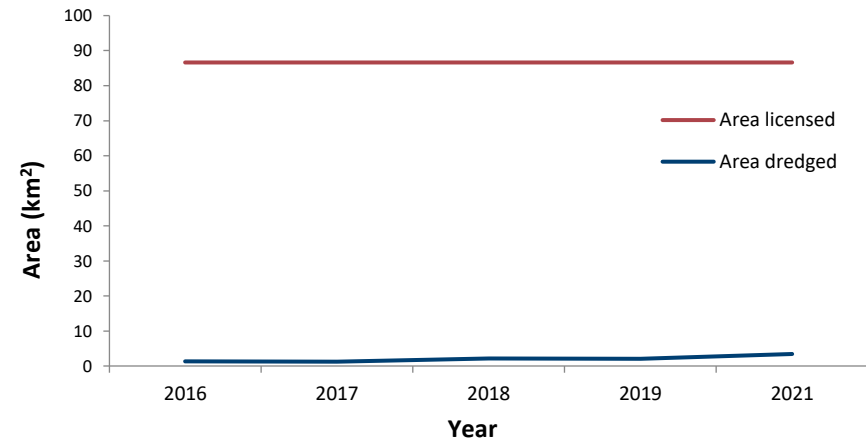
## Background

- The North West region has 2 production licences, operated by Mersey Sand Suppliers, Tarmac Marine Ltd and Westminster Gravels Ltd for sand, principally for use in the construction industry
- During 2021, 0.26 million tonnes (mt) of construction aggregate were dredged from a permitted licensed tonnage of 1.1 mt. In addition, 0.67 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 (0.26 mt)
  - ▣ 98.8 % of this went to English wharves (0.25 mt)
  - ▣ 1.2 % of this went to Welsh wharves (<0.01 mt)

## Regional statistics

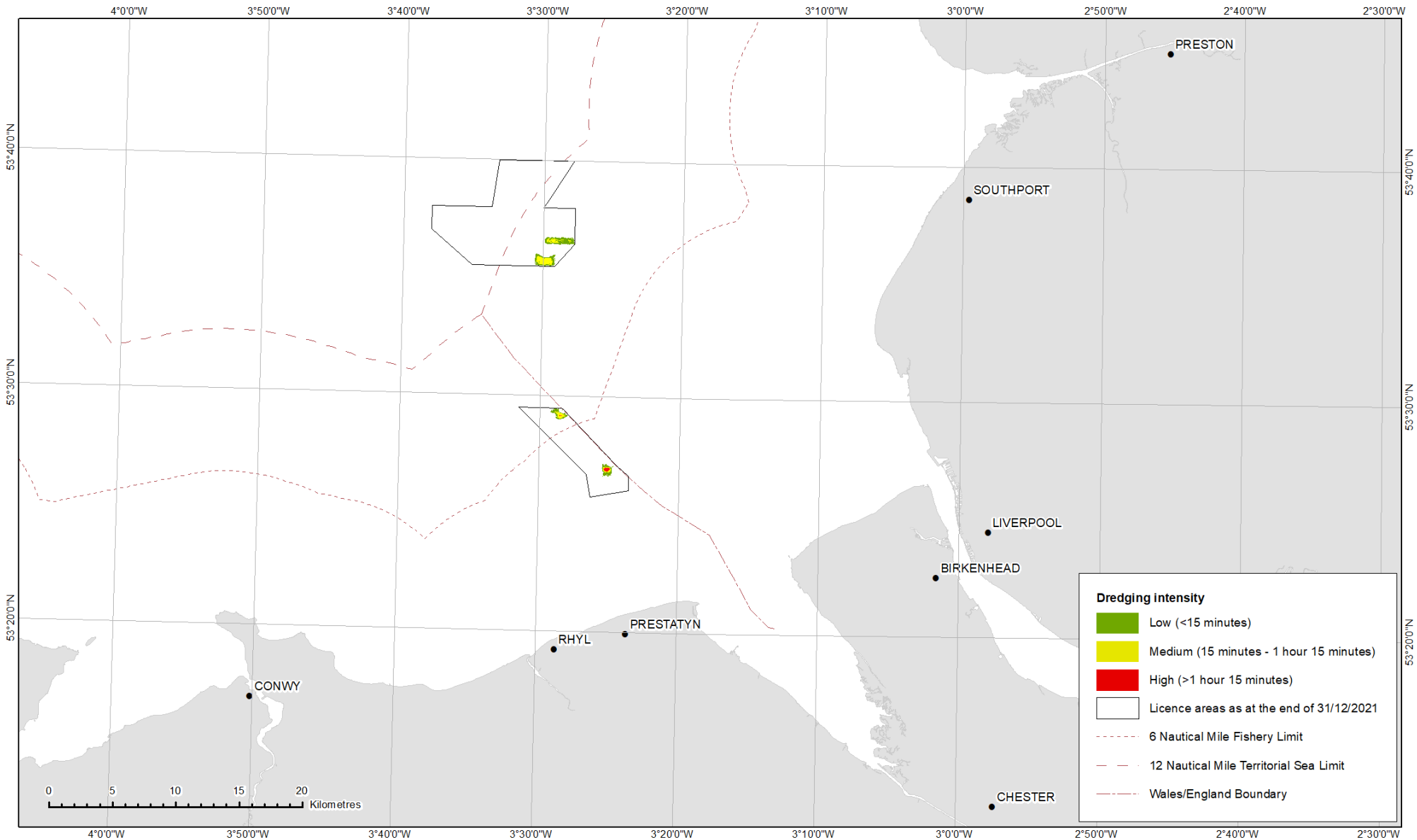
- The licensed area in the region was 86.65 km<sup>2</sup>
- The total area actually available to be dredged within the region (due to zoning) was 17.28 km<sup>2</sup>
- Dredging took place within 3.44 km<sup>2</sup> – 3.97 % of the licensed area
- The area dredged with high intensity (for more than 1 hour 15 minutes in the year) was 0.12 km<sup>2</sup>
- 90 % of regional dredging effort took place within 1.82 km<sup>2</sup>
- During 2021, the area licensed for marine aggregate extraction remained unchanged

## Area of seabed licensed and dredged 2017 - 2021



## New area licensed versus existing area surrendered 2017 - 2021

*No area was licensed or surrendered in this period*



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 28 vessels on 66 production licences around the UK as of August 2022.

BMAPA membership (as of September 2022) 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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**ISBN:** 978-1-906410-81-0