



Inner Thames Estuary Feasibility Study

Response to Airports Commission Call for Evidence

**The Mayor of London's Submission:
Supporting technical documents**

23 May 2014

Title: Ecology Desk Study Part B: Marine and Coastal Baseline (2013)

Author: ABP Marine Environmental Research Ltd

Purpose of paper:

To present the baseline description of the marine ecology of the study area which includes, Thames, Medway, Swale, Crouch and Roach estuaries as well as open coastline.

Key messages:

- Produced in 2013 to support the Mayor of London's submissions to the Airports Commission: Outline proposals for long term aviation capacity.

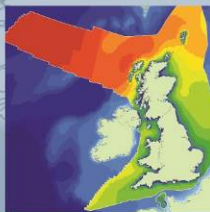
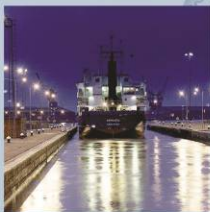
Atkins

Hub for London Ecology Desk Study Part B: Marine and Coastal Baseline

Report R.2130

August 2013

Creating sustainable solutions for the marine environment



Atkins Global

Hub for London Ecology Desk Study Part B: Marine and Coastal Baseline




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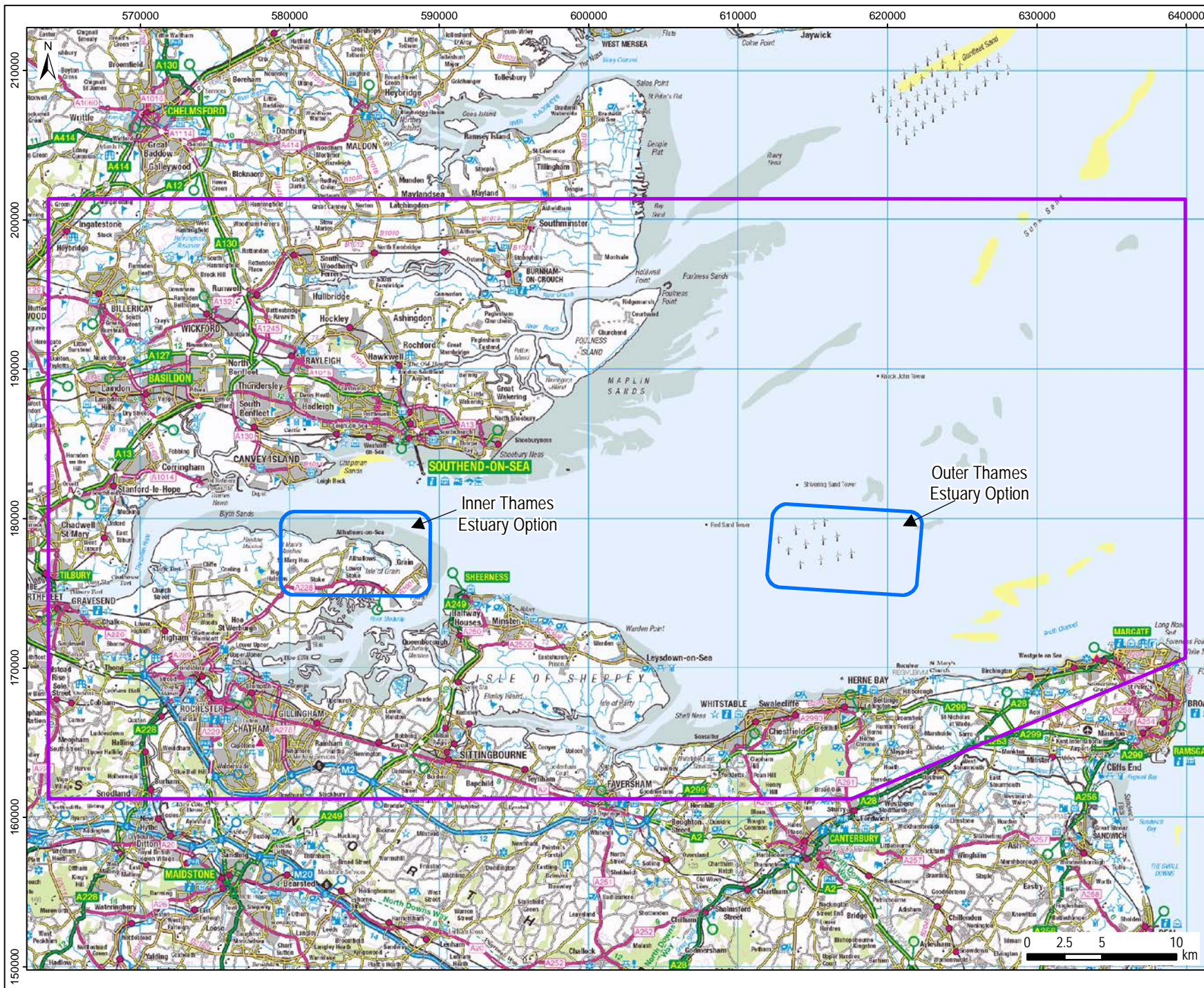
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- Study Area
- Possible Airport Options

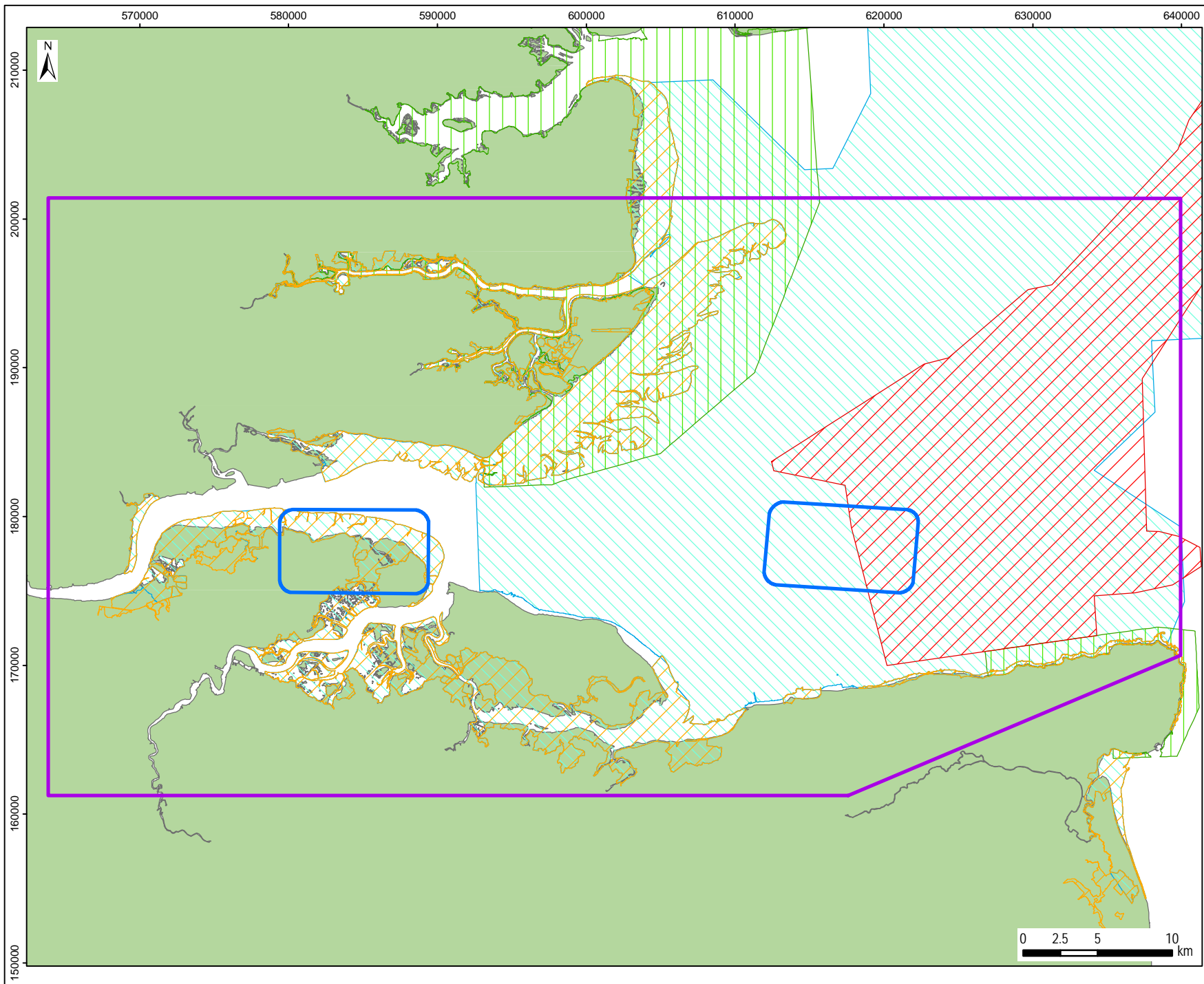
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Study Area and
Possible Airport Locations

Figure 1



- Study Area
- Possible Airport Options
- Candidate Special Area of Conservation
- Ramsar
- Special Area of Conservation
- Special Protection Area with Marine Components

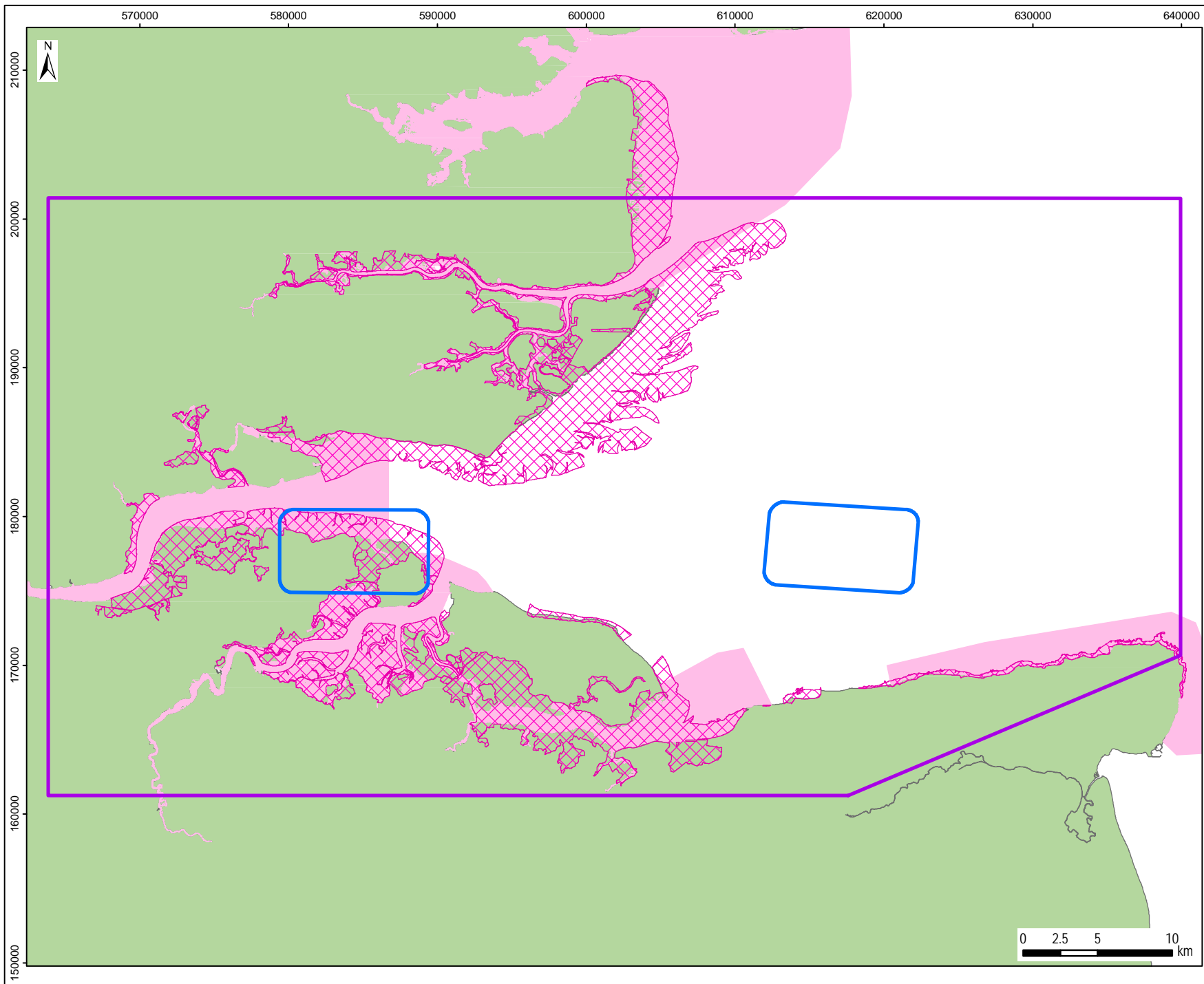
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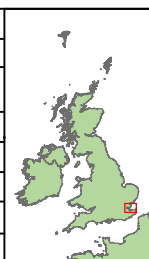
International Designations

Figure 2

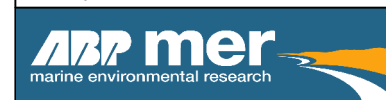


- Study Area
- Possible Airport Options
- Site of Special Scientific Interest
- Recommended Marine Conservation Zone

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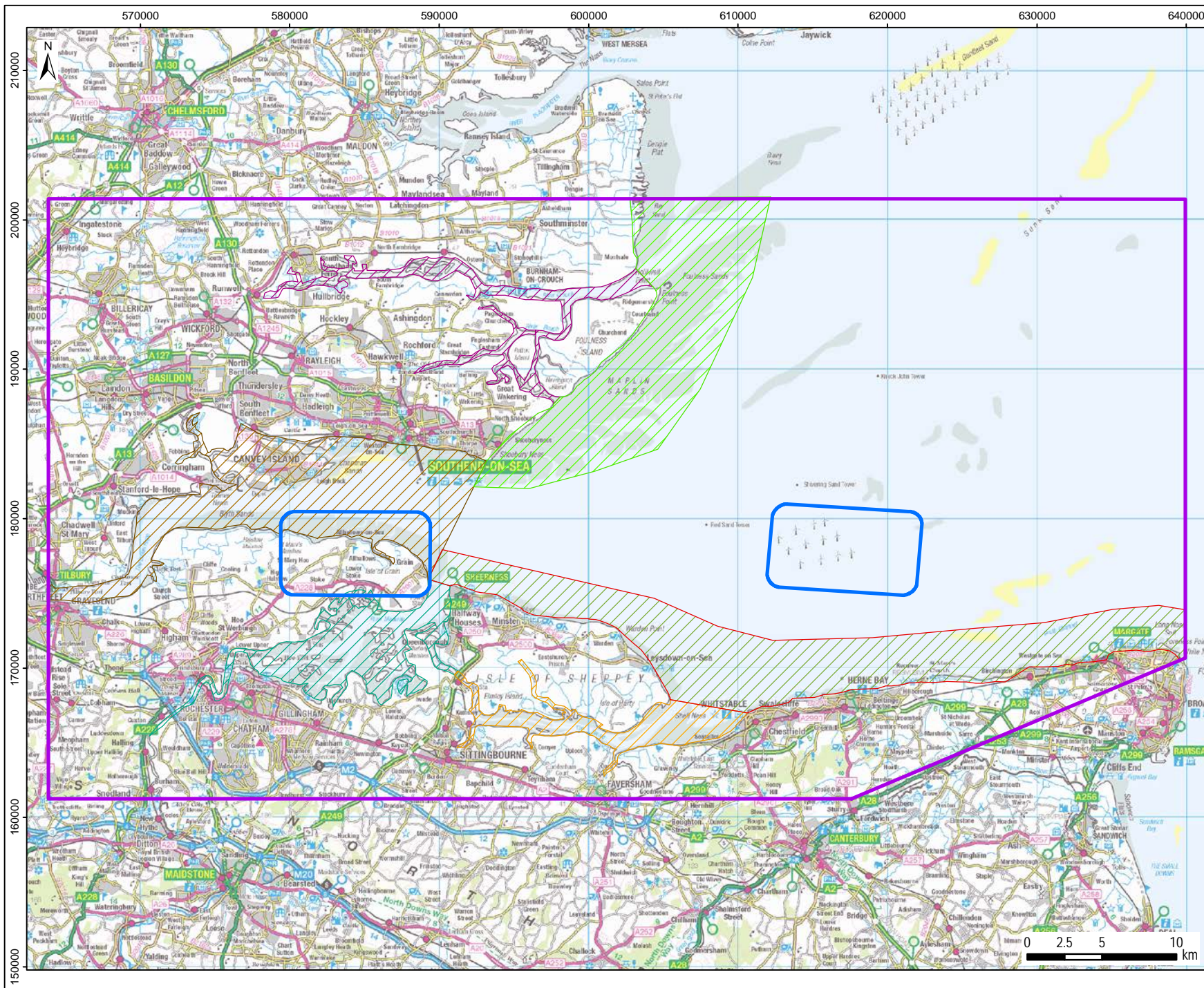


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National Designations

Figure 3



- Study Area
- Possible Airport Options
- Crouch & Roach Estuary
- Foulness & Dengie Coastlines
- Isle of Sheppey & Thanet Coastlines
- Medway Estuary
- Swale Estuary
- Thames Estuary

Date	By	Size	Version
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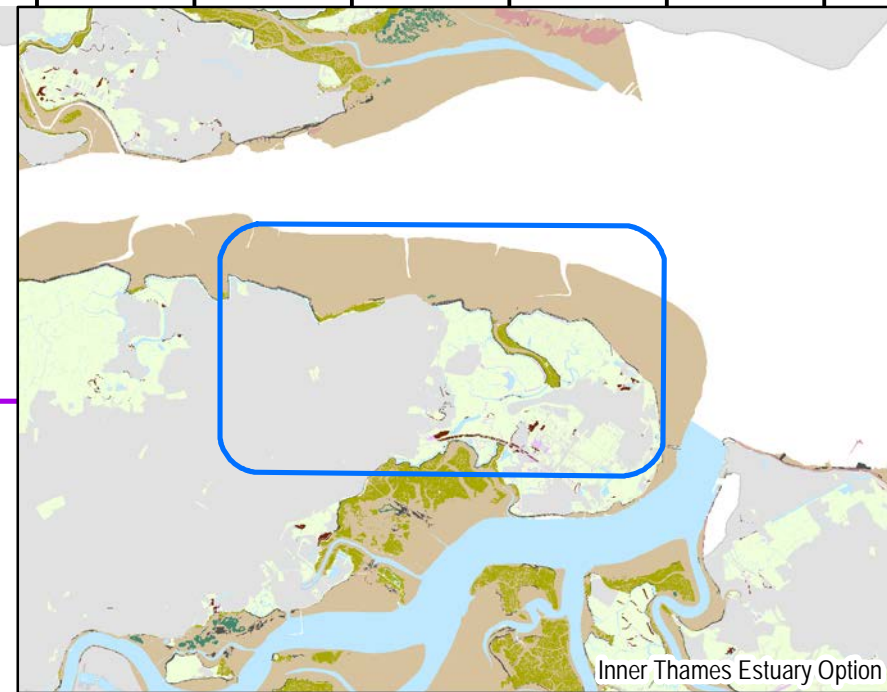
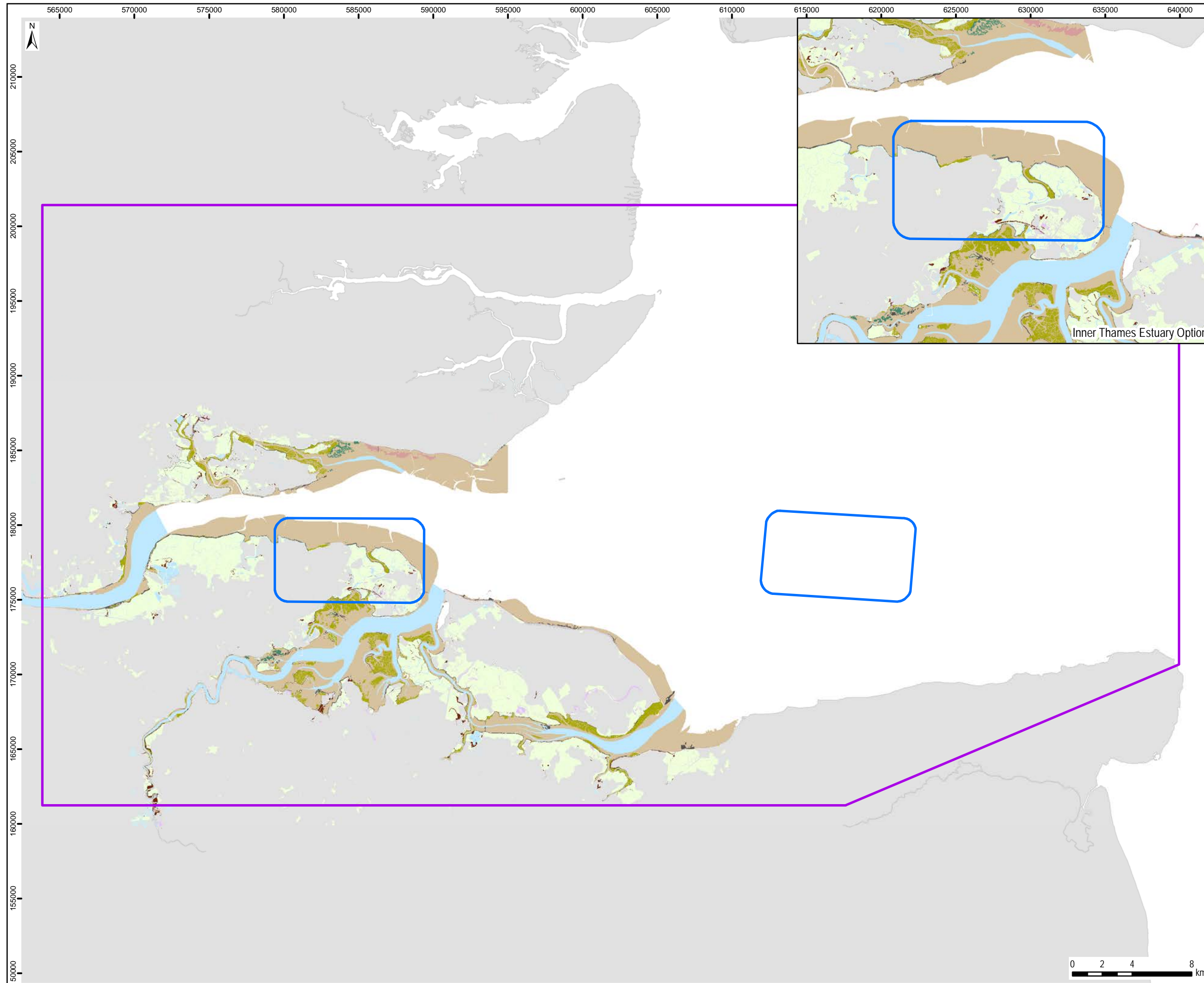
A map of the United Kingdom, including Great Britain and Ireland, is shown in green. A red square is located in the south of England, indicating the specific study area. The map is positioned to the right of the metadata table.

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Subdivisions of the Study Area Used to Describe the Intertidal and Subtidal Benthic Habitats and Species


Figure 4



- Study Area
- Possible Airport Options
- Fresh Water
- Estuarine Water
- Intertidal Mud, Sand, Sediment
- Sea Grass
- Intertidal Gravel and Shingle
- Reedbeds
- Marsh/Swamp Vegetation
- Saltmarsh
- Sand Dunes
- Grazing Marsh
- Sea Wall/Rock
- Marine Cliffs and Slopes

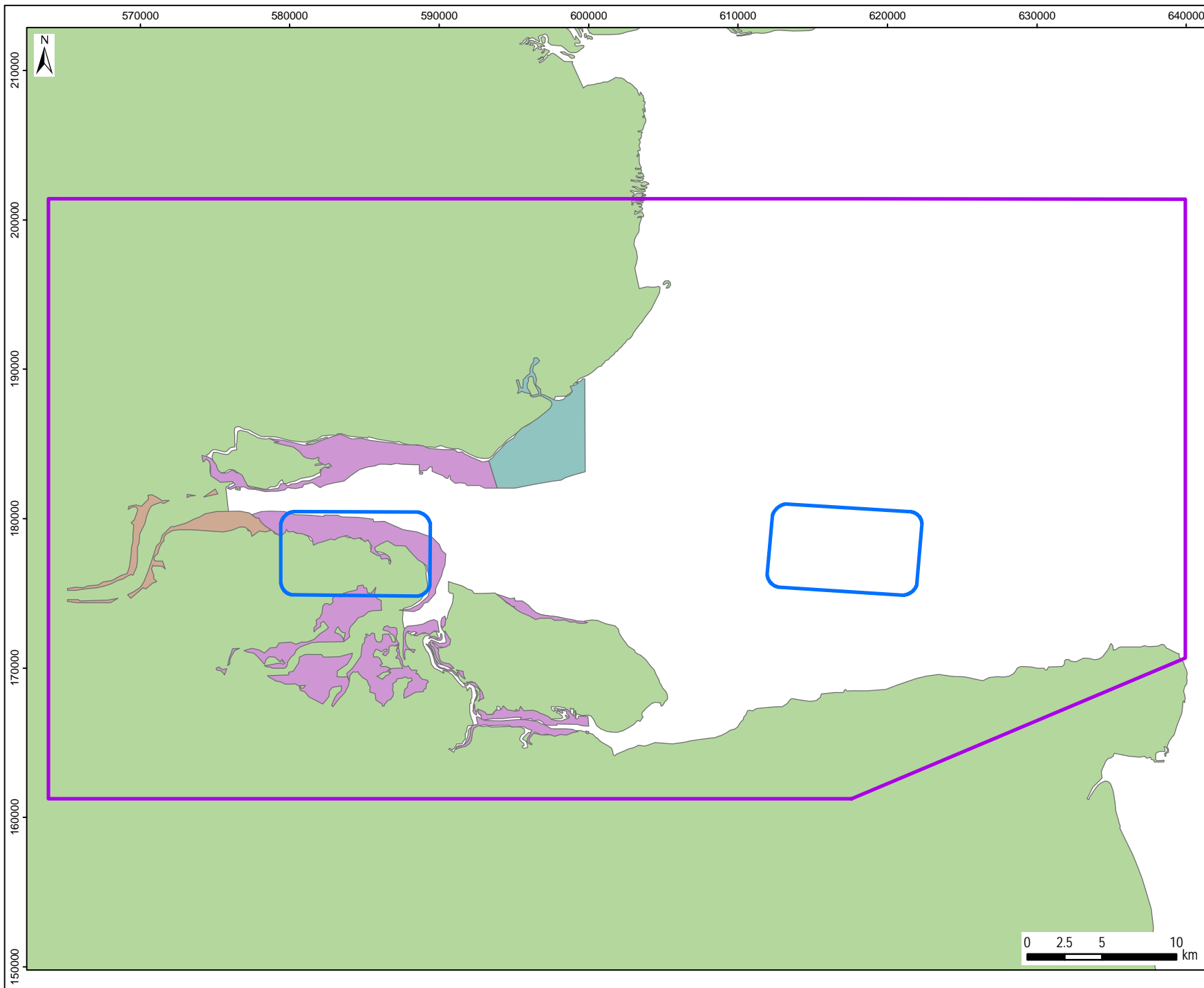
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4155 - Fig5_Int_Habitats.mxd			
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A map of the United Kingdom is shown on the right side of the page. A red box is placed on the map, indicating the location of the study area in the south of England, specifically in the region of Dorset and Devon. The map shows the coastlines of the UK and the surrounding waters.


Intertidal Habitat Map

Figure 5

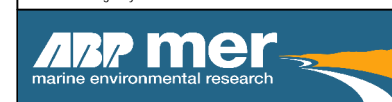


- Study Area
- Possible Airport Options
- Benthic Invertebrate Assemblages
- A
- B
- C

Date	By	Size	Version
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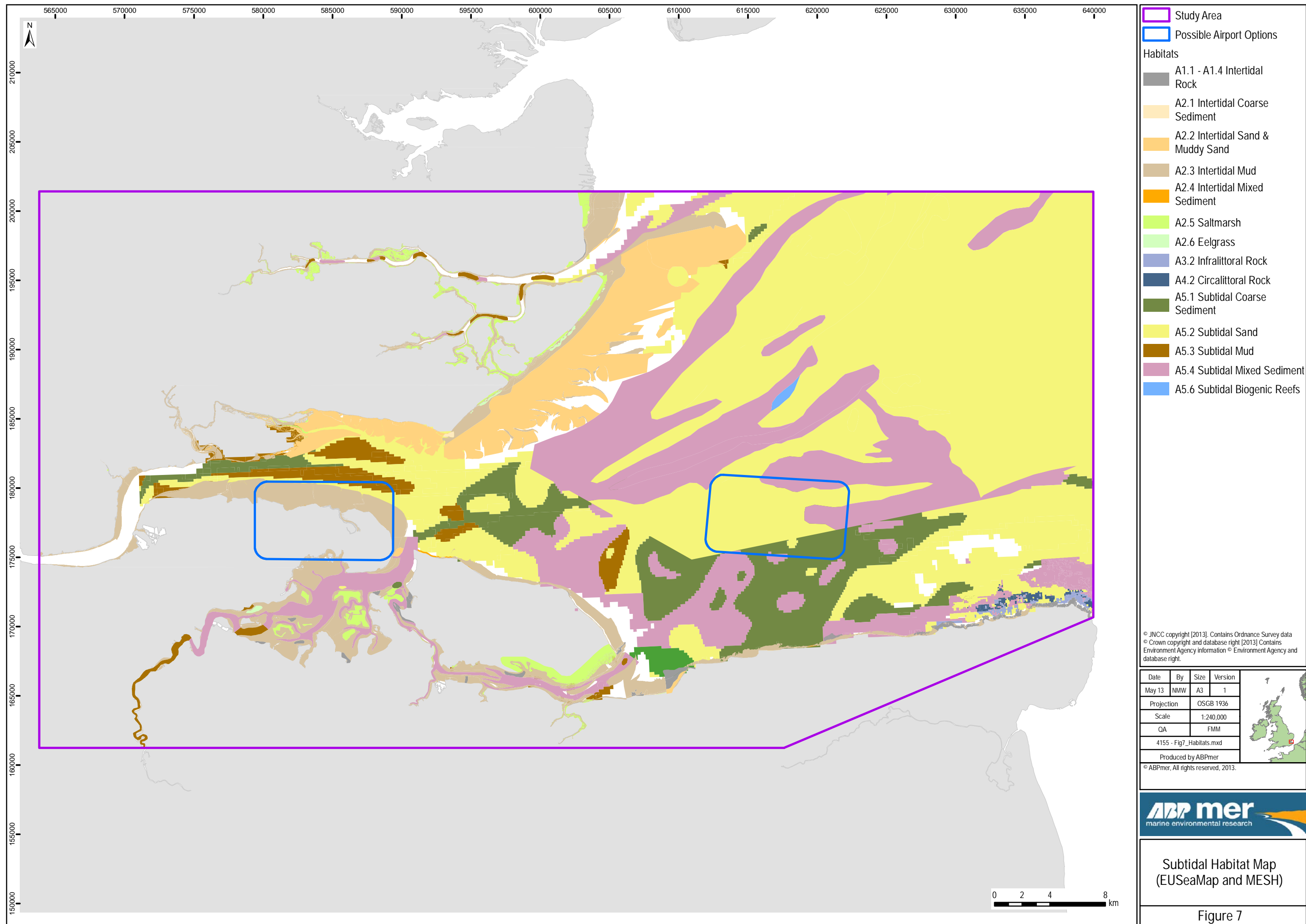
A map of the British Isles, including Great Britain and Ireland. The landmasses are colored green, and the surrounding water is light blue. A small red square is located on the southern coast of England, indicating the specific geographic area covered by the data presented in the table.

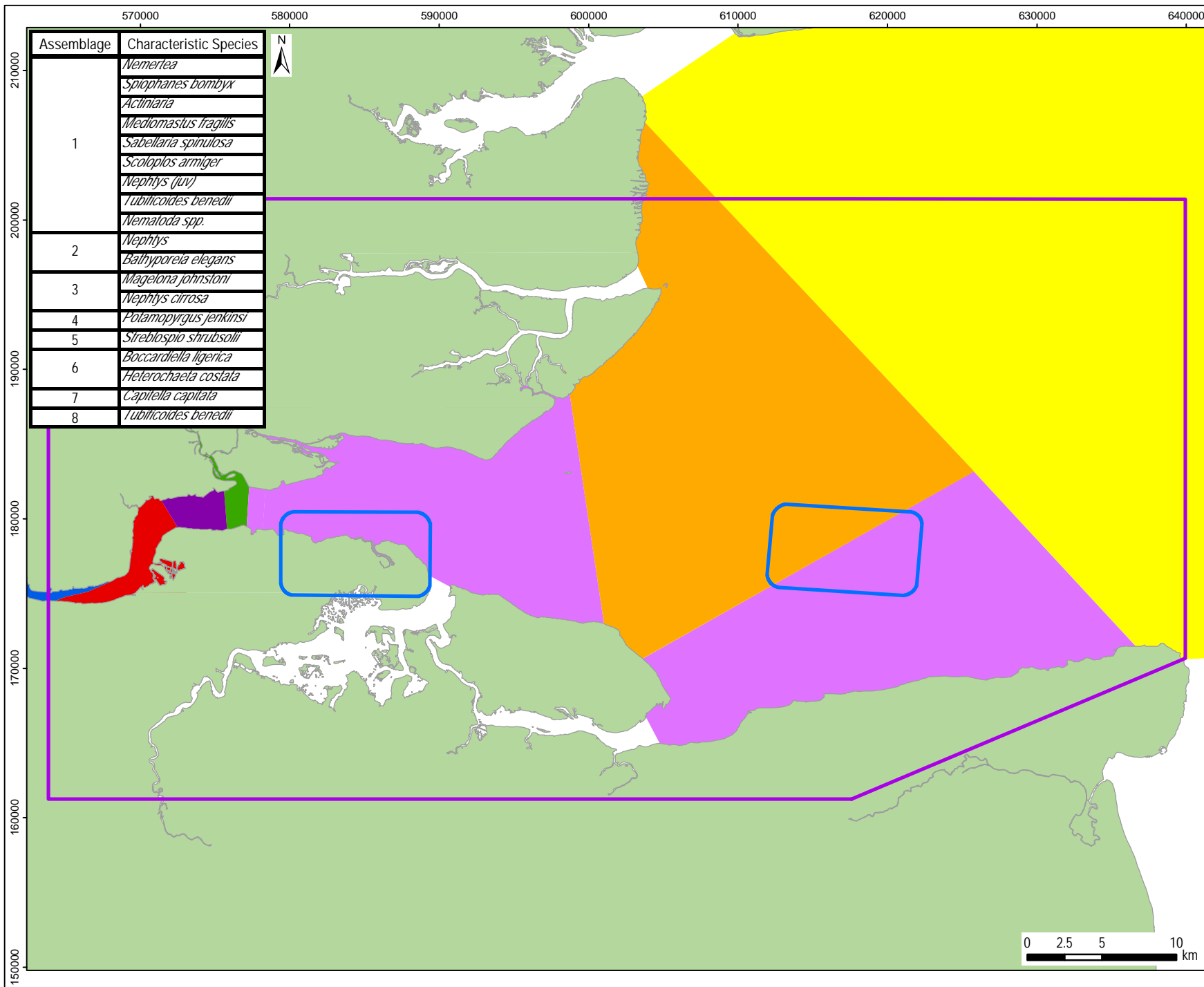
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 Environment Agency invertebrae data 1990-2000



Benthic Invertebrate
 Assemblages Within the
 Study Area

Figure 6



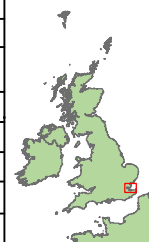


- Study Area
- Possible Airport Options

Subtidal Assemblages

- 1
- 2
- 3
- 4
- 5
- 6 (outside study area)
- 7
- 8

Date	By	Size	Version
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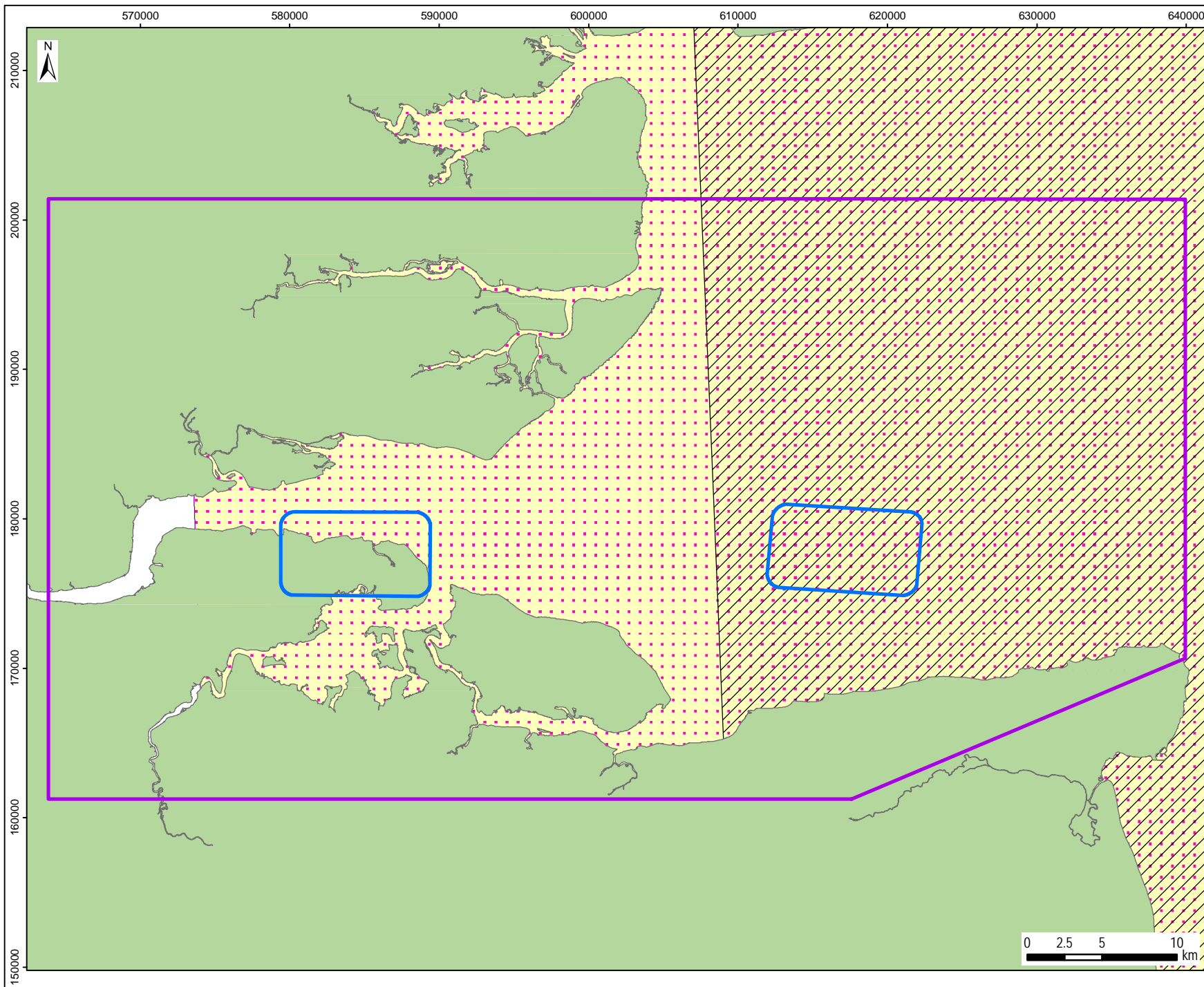


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Subtidal Benthic Assemblage

Figure 8

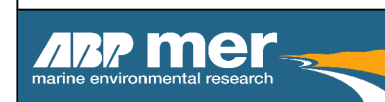


- Study Area
- Possible Airport Options
- Cod, Low Intensity
- Dover Sole, High Intensity
- Sandeel, Low Intensity

Date	By	Size	Version
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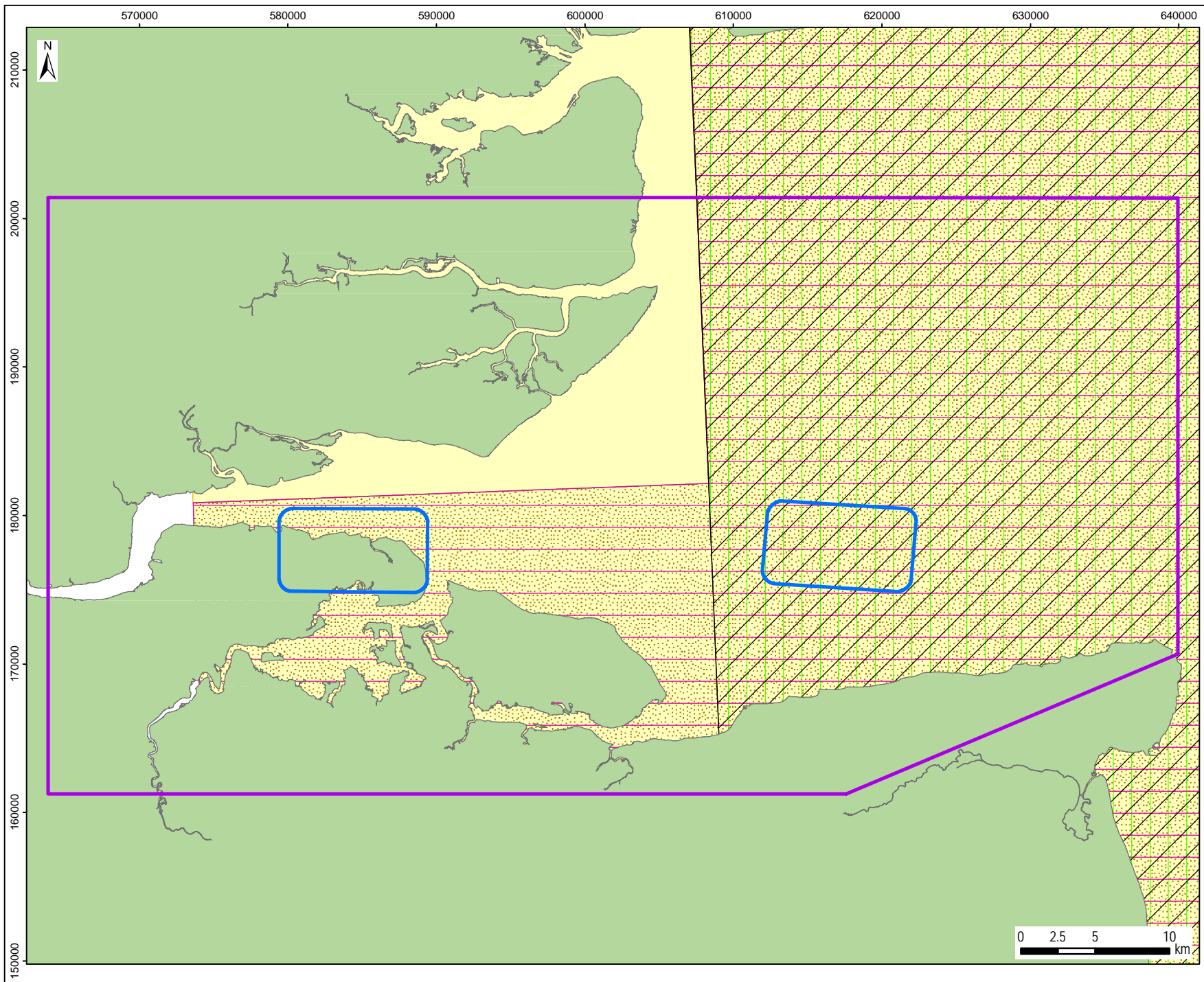


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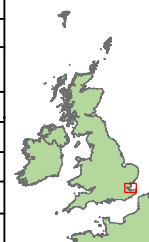
Spawning Grounds for
 Cod, Dover Sole and Sandeel
 in the Thames Estuary and
 Southern North Sea

Figure 9



- Study Area
- Possible Airport Options
- Cod, Low Intensity
- Herring, High Intensity
- Mackerel, Low Intensity
- Plaice, Low Intensity
- Whiting, Low Intensity

Date	By	Size	Version
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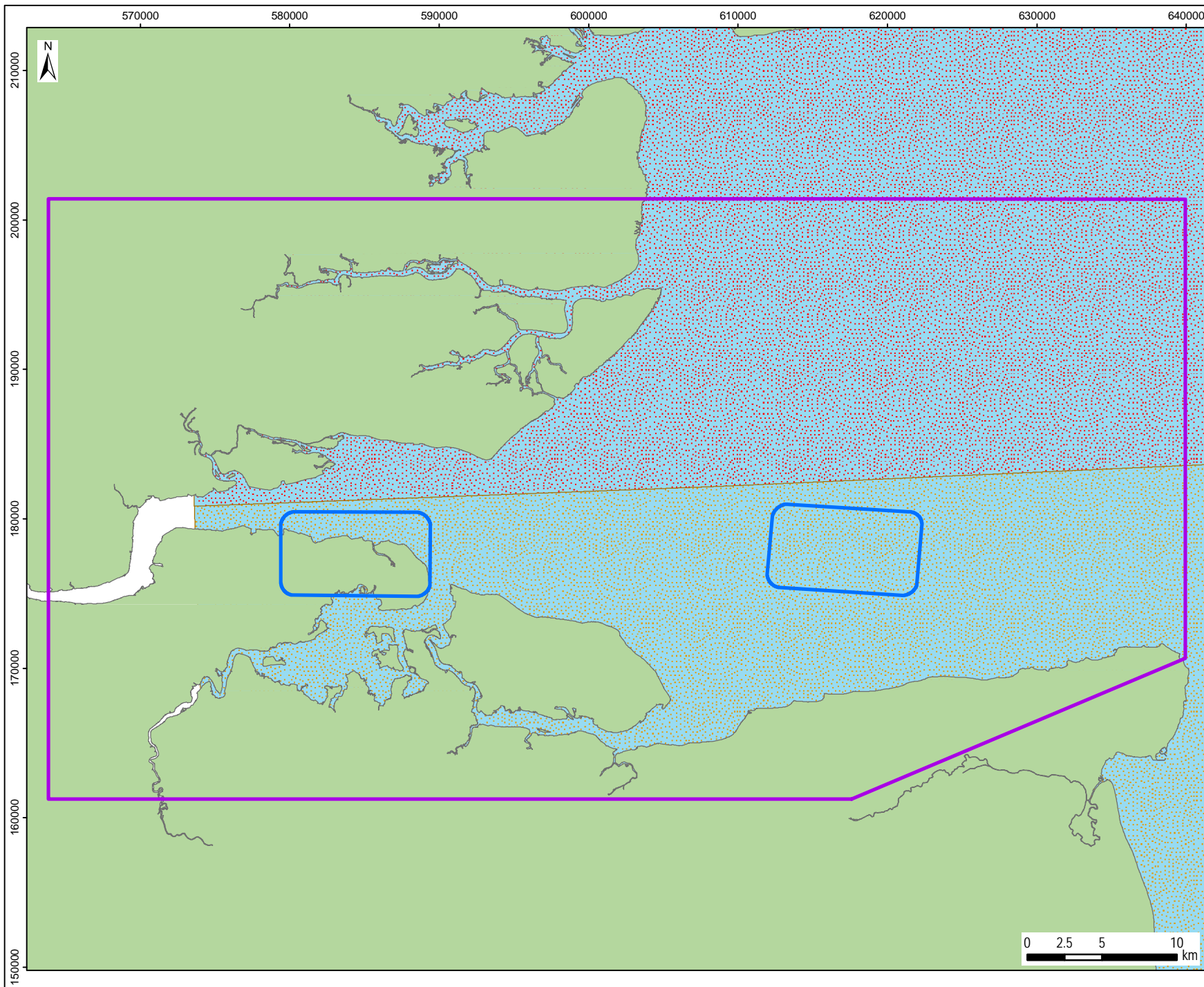


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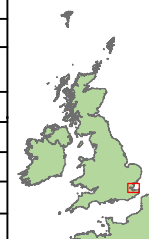
Nursery Grounds for Cod,
 Herring, Mackerel, Plaice and
 Whiting in the Thames Estuary
 and Southern North Sea

Figure 10



- Study Area
- Possible Airport Options
- Dover Sole, High Intensity
- Dover Sole, Low Intensity
- Thornback Ray, Low Intensity

Date	By	Size	Version
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Coordinate System		British National Grid	
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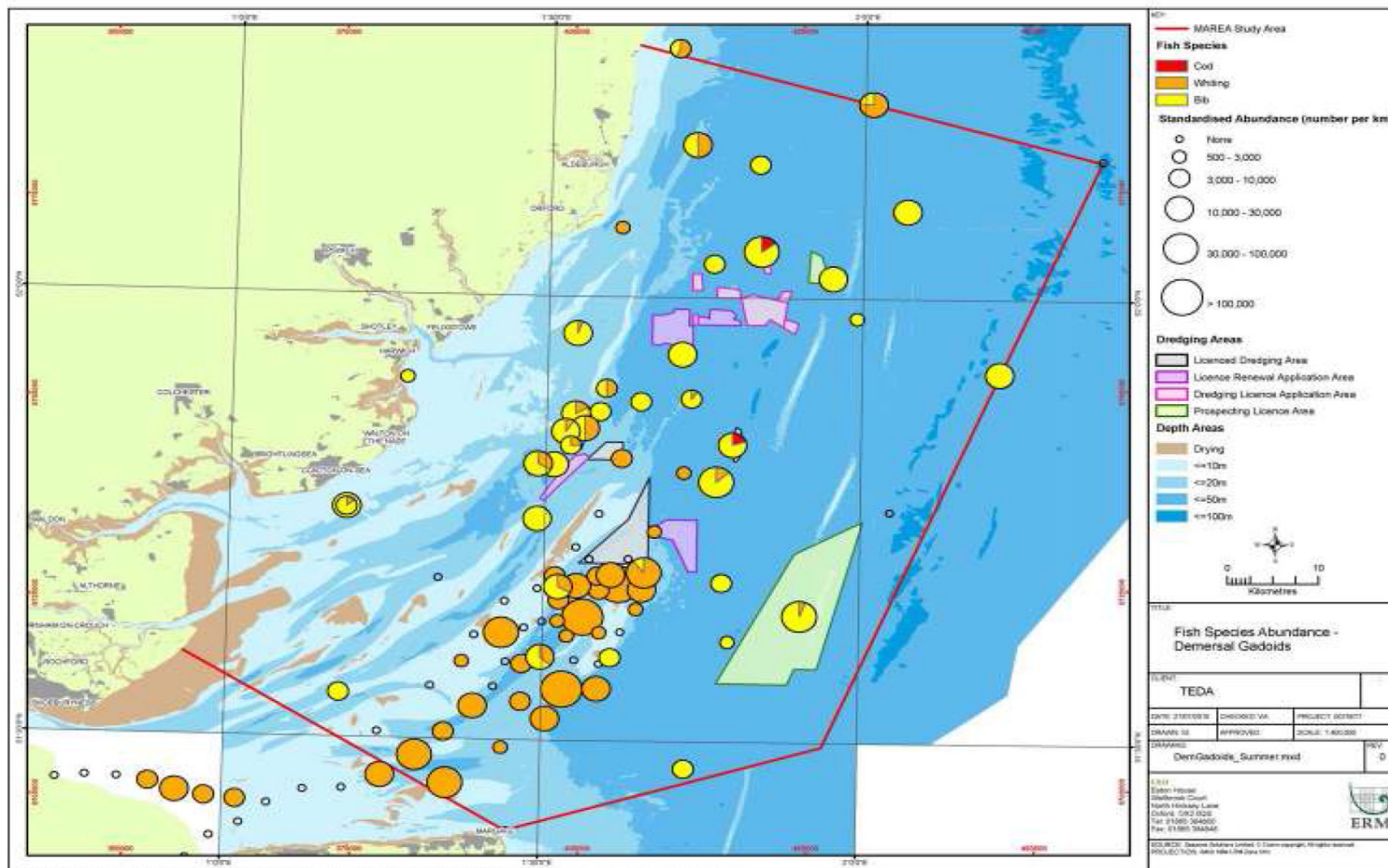


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Nursery Grounds for Dover Sole and Thornback Ray in the Thames Estuary and Southern North Sea

Figure 11



Taken from:
Marine Aggregate Regional Environmental
Assessment of the Outer Thames Estuary
TEDA, 2010
Figure 5.14, Page 109

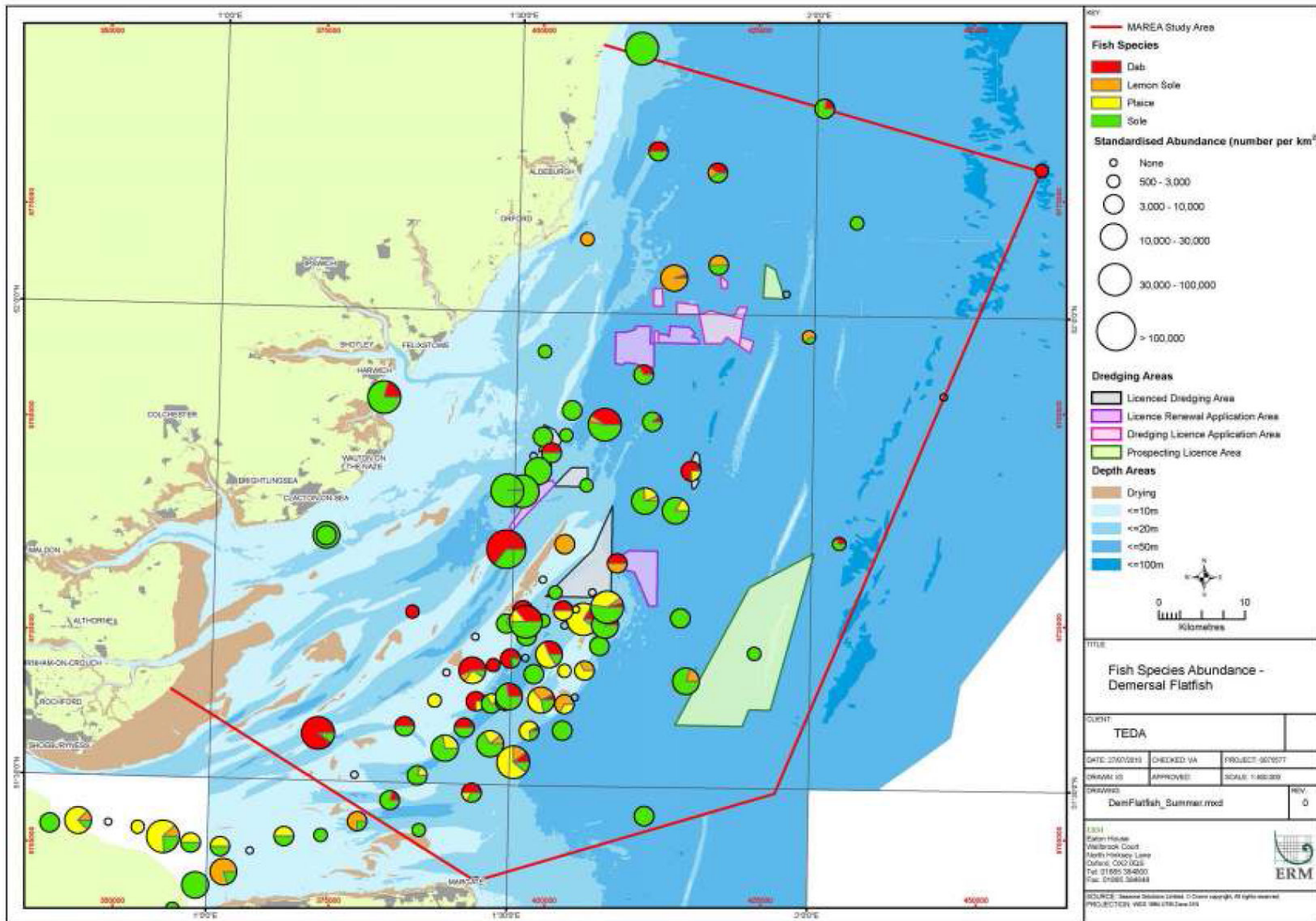
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Fig12_Fish_Abundance_Gadoids.mxd			
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Fish Species Abundance -
Demersal Gadoids

Figure 12



Taken from:
Marine Aggregate Regional Environmental
Assessment of the Outer Thames Estuary
TEDA, 2010
Figure 5.15, Page 111

Date	By	Size	Version
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Fig13_Fish_Abundance_Flatfish.mxd			
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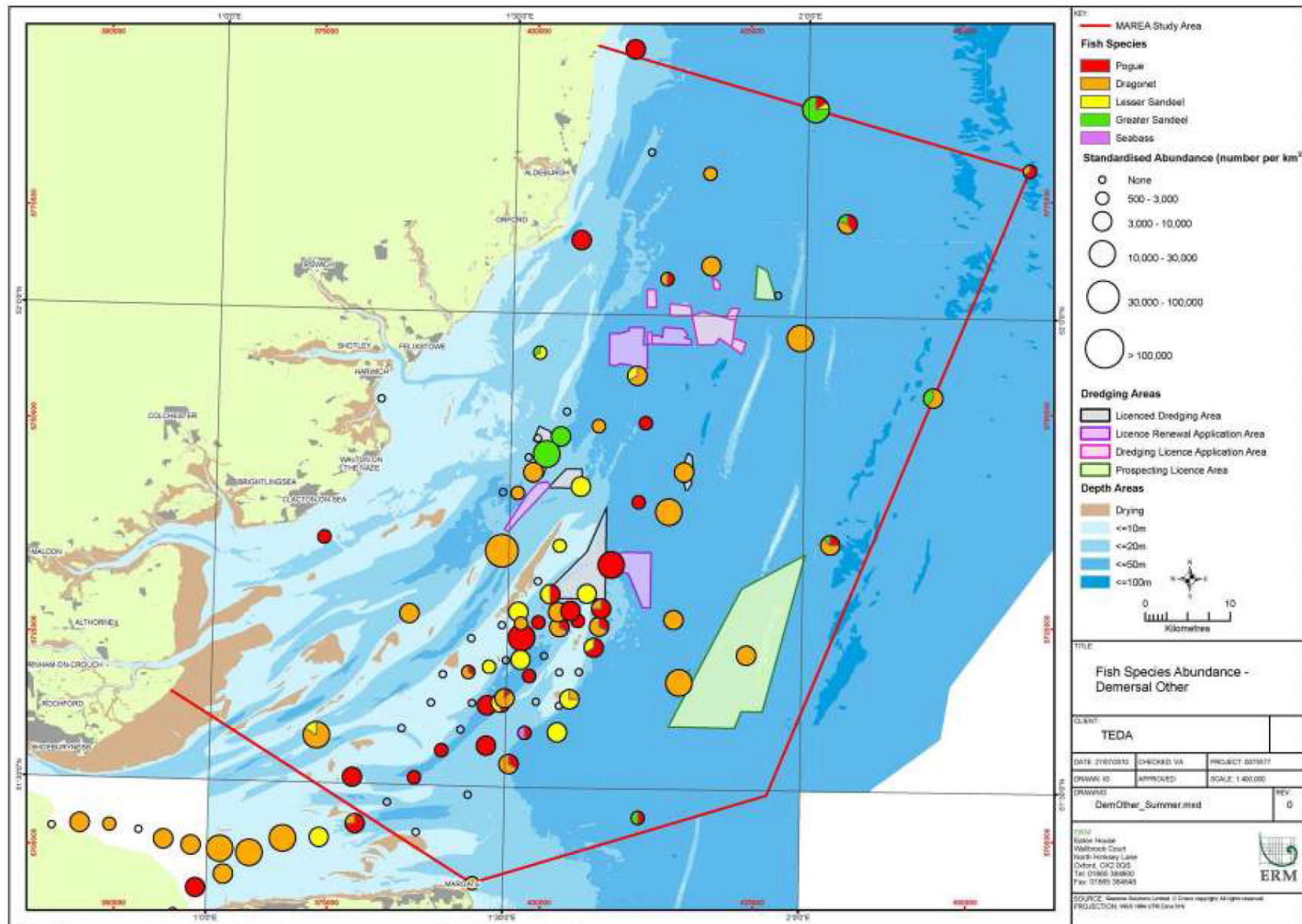
A map of the United Kingdom and Ireland. A red rectangular box is drawn in the English Channel, south of the English coast, indicating the location of the Flatfish fishery. The landmasses are shown in light green, and the surrounding water is white.

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Fish Species Abundance -
Demersal Flatfish

Figure 13

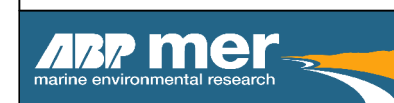


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Figure 5.16, Page 112

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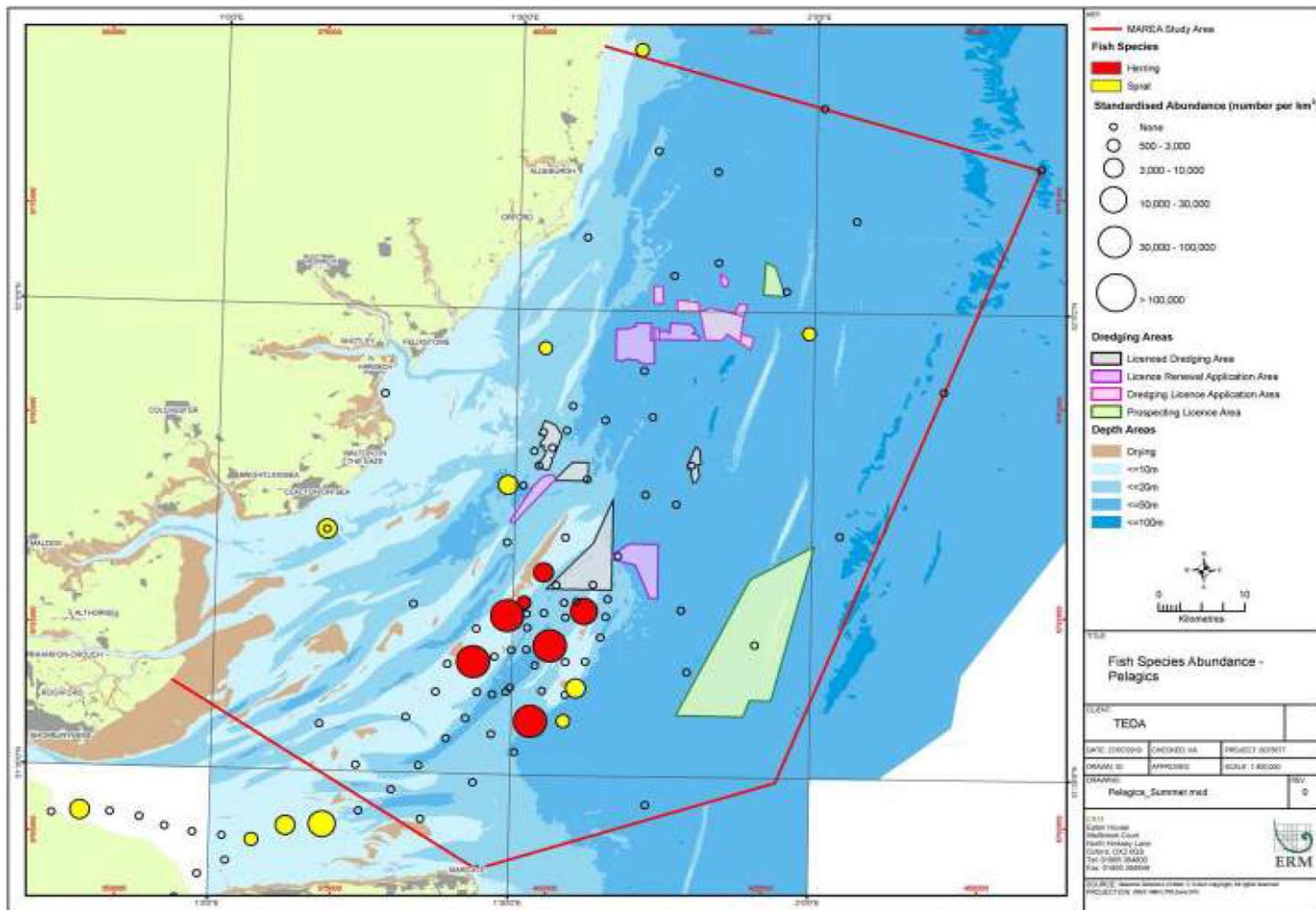
A map of the United Kingdom, including Great Britain and Ireland. The landmasses are colored green, and the surrounding waters are light blue. A small red square is located on the southern coast of England, indicating a specific geographic area of interest.

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Fish Species Abundance -
Demersal Other

Figure 14



Taken from:
 Marine Aggregate Regional Environmental
 Assessment of the Outer Thames Estuary
 TEDA, 2010
 Figure 5.21, Page 117

Date	By	Size	Version
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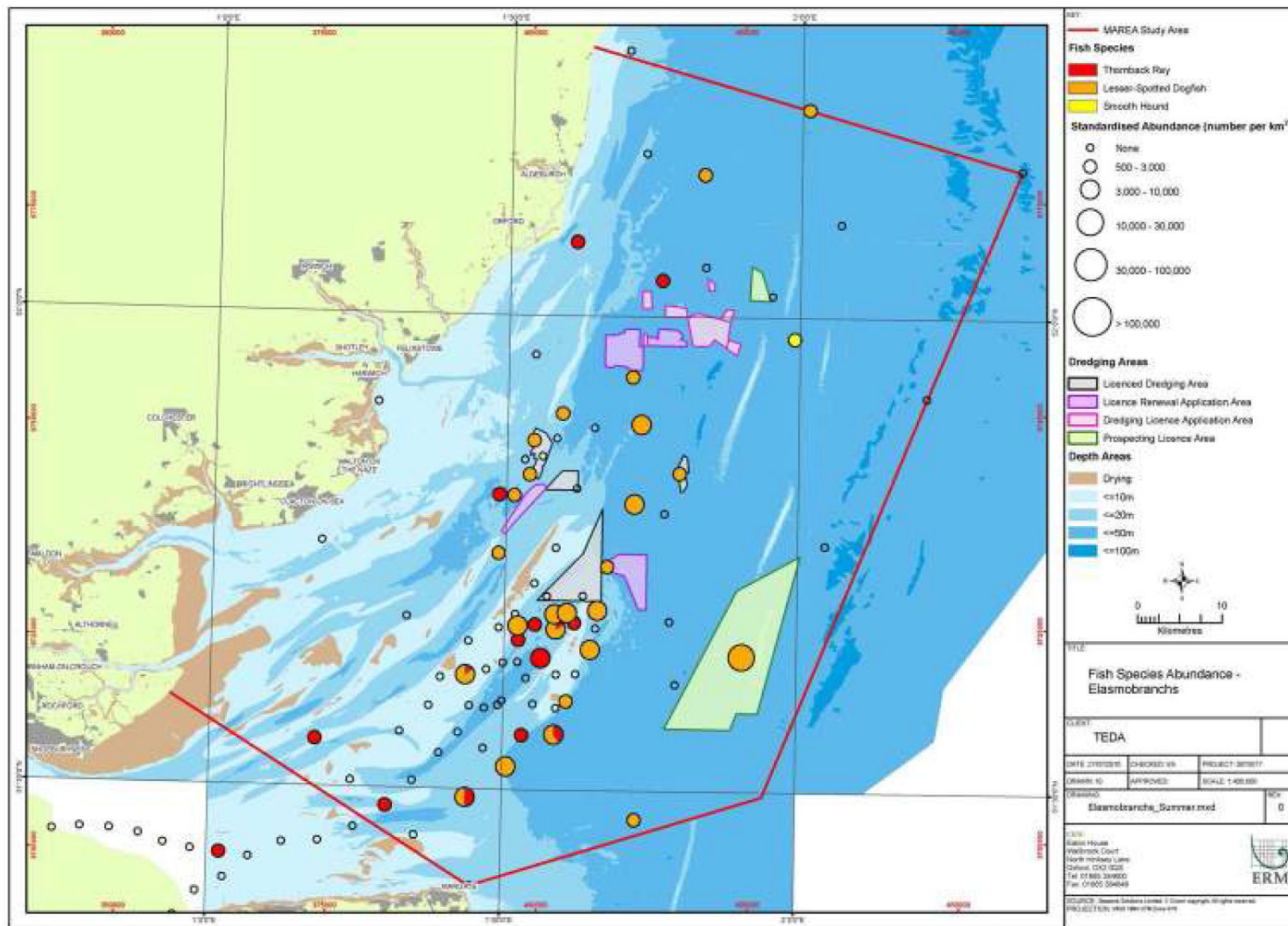
A map of the British Isles, including Great Britain and Ireland. The landmasses are colored green, and the surrounding water is white. A small red rectangular box is located in the English Channel, off the south coast of England, indicating the specific area of study for the data presented in the table.

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Fish Species Abundance -
 Pelagics

Figure 15

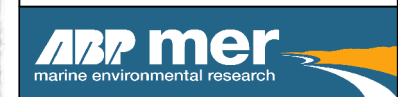


Taken from:
Marine Aggregate Regional Environmental
Assessment of the Outer Thames Estuary
TEDA, 2010
Figure 5.21, Page 119

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Fig16_Fish_Abundance_Elasmobranchs			
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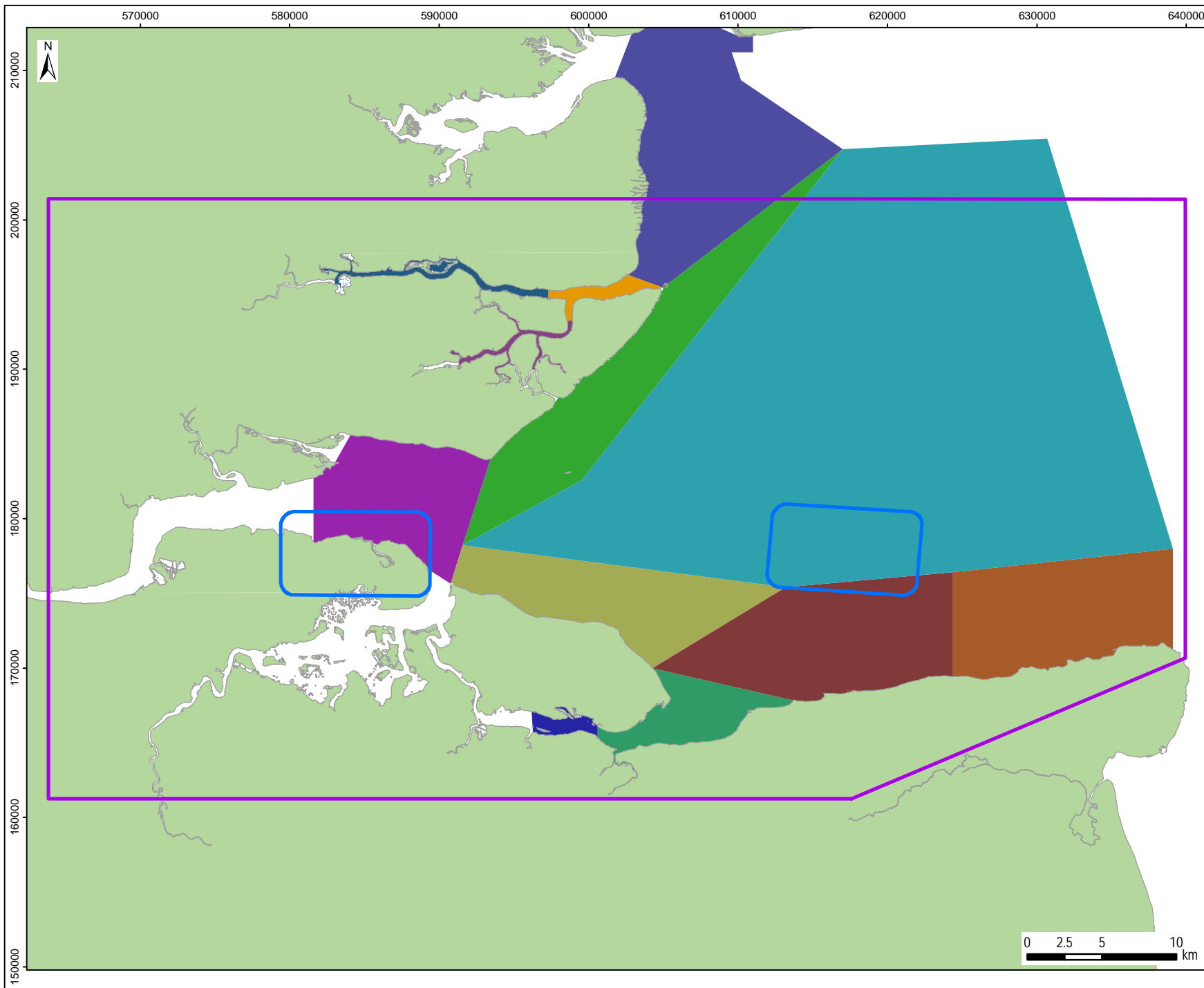
A map of the British Isles, including Great Britain and Ireland. The landmasses are colored green, and the surrounding water is light blue. A small red square is located on the southwestern coast of England, indicating the study area.

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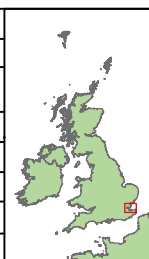
Fish Species Abundance -
Elasmobranchs

Figure 16

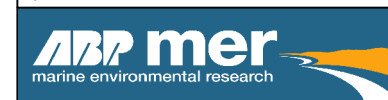


- Study Area
- Possible Airport Options
- Designated Shellfish Waters
- Dengie
 - Foulness
 - Margate
 - Outer Thames
 - Roach and Lower Crouch
 - Sheppey
 - Southend
 - Swale Central
 - Swale East
 - Swalecliffe
 - Upper Crouch
 - Upper Roach

Date	By	Size	Version
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Projection		Transverse Mercator	
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QA		FMM	
Fig17_Shellfish_Waters.mxd			
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Designated Shellfish Waters
in the Thames Estuary

Figure 17