

Rampion 2 Wind Farm

Category 6: Environmental Statement

Volume 3, Chapter 8: Fish and shellfish - Figures

Date: February 2024

Revision B

Document Reference: 6.3.8
Pursuant to: APFP Regulation 5 (2) (a)
Ecodoc number: 004884743-02



Document revisions

| Revision | Date | Status/reason for issue | Author | Checked by | Approved by |
|----------|------------|------------------------------------|--------|------------|-------------|
| A | 04/08/2023 | Final for DCO Application | GoBe | RED | RED |
| B | 28/02/2024 | Amendments to Figures 8.9 and 8.10 | GoBe | RED | RED |

Contents

List of Figures

| Figure number | Figure Title | APFP number | Ecodoc number | Revision | Revision Date |
|---------------|--|-------------|---------------|----------|---------------|
| Figure 8.1 | Rampion 2 fish and shellfish Study Area | 5 (2) (a) | 004866092-01 | A | 04/08/2023 |
| Figure 8.2 | Spawning grounds in relation to Rampion 2: cod, herring, horse mackerel and lemon sole | 5 (2) (a) | 004866093-01 | A | 04/08/2023 |
| Figure 8.3 | Spawning grounds in relation to Rampion 2: Mackerel, Plaice, Sandeel, Sole | 5 (2) (a) | 004866094-01 | A | 04/08/2023 |
| Figure 8.4 | Spawning grounds in relation to the Rampion 2 fish and shellfish ecology Study Area: sprat and whiting | 5 (2) (a) | 004866095-01 | A | 04/08/2023 |
| Figure 8.5 | Nursery grounds in relation to Rampion 2: cod, herring, horse mackerel and lemon sole | 5 (2) (a) | 004866096-01 | A | 04/08/2023 |
| Figure 8.6 | Nursery grounds in relation to Rampion 2: mackerel, plaice, sandeel and sole | 5 (2) (a) | 004866097-01 | A | 04/08/2023 |
| Figure 8.7 | Nursery grounds in relation to Rampion 2: sprat, whiting, thornback ray, undulate ray | 5 (2) (a) | 004866098-01 | A | 04/08/2023 |
| Figure 8.8 | Location of herring spawning grounds and IHLS comparison (2007-2020) in relation to Rampion 2 | 5 (2) (a) | 004866099-01 | A | 04/08/2023 |
| Figure 8.9 | Potential sandeel habitat sediment classifications within the Rampion 2 fish | 5 (2) (a) | 004866100-01 | B | 28/02/2024 |

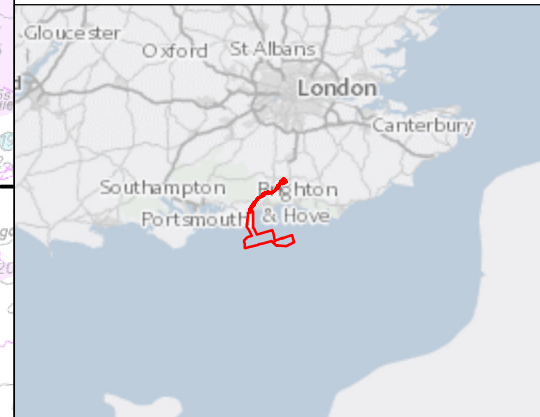
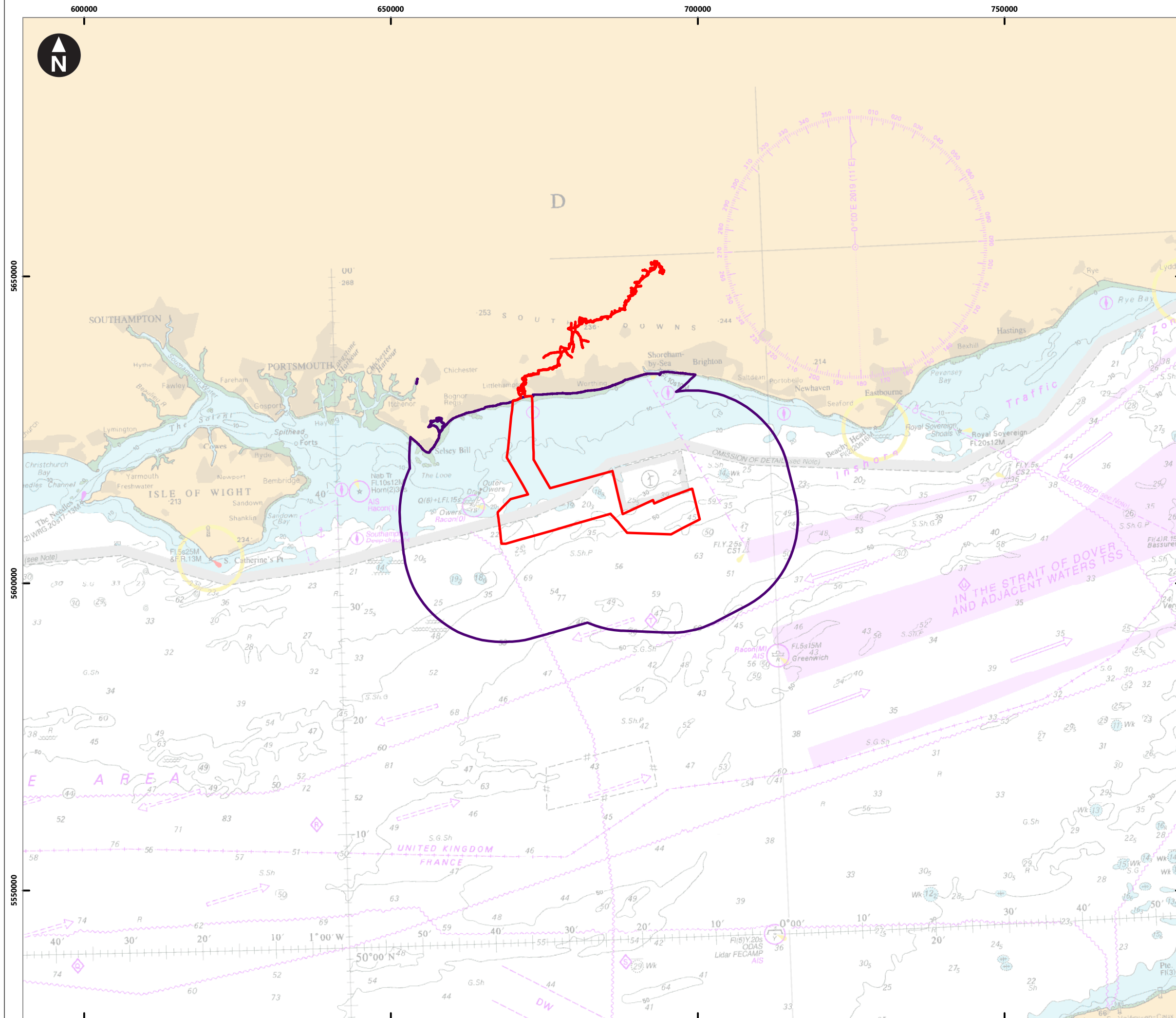
| Figure number | Figure Title | APFP number | Ecodoc number | Revision | Revision Date |
|---------------|---|-------------|---------------|----------|---------------|
| | and shellfish ecology Study Area following methods in Latto et al. (2013). Also presented are the predicted broadscale seabed habitat map, using the EUNIS habitat classification (OEL, 2020b; UKSeaMap, 2021) | | | | |
| Figure 8.10 | Potential herring habitat sediment classifications within the Rampion 2 fish and shellfish ecology Study Area following methods in Latto et al. (2013). Also presented are the predicted broadscale seabed habitat map, using the EUNIS habitat classification (OEL, 2020b; UKSeaMap, 2021) | 5 (2) (a) | 004866101-01 | B | 28/02/2024 |
| Figure 8.11 | National designated sites in relation to Rampion 2 | 5 (2) (a) | 004866102-01 | A | 04/08/2023 |
| Figure 8.12 | International designated sites in relation to Rampion 2 | 5 (2) (a) | 004866103-01 | A | 04/08/2023 |
| Figure 8.13 | Location of potential black seabream spawning grounds in relation to Rampion 2 | 5 (2) (a) | 004866104-01 | A | 04/08/2023 |
| Figure 8.14a | Location of black seabream nests within the Rampion 2 fish and shellfish Study Area | 5 (2) (a) | 004866105-01 | A | 04/08/2023 |
| Figure 8.14b | Location of black seabream nests within the Rampion 2 fish and shellfish Study Area | 5 (2) (a) | 004866106-01 | A | 04/08/2023 |
| Figure 8.15 | Black seabream catch and release locations (Sussex IFCA) within Rampion 2 fish and shellfish Study Area | 5 (2) (a) | 004866107-01 | A | 04/08/2023 |

| Figure number | Figure Title | APFP number | Ecodoc number | Revision | Revision Date |
|---------------|--|-------------|---------------|----------|---------------|
| Figure 8.16 | Predicted worst case impact ranges for spawning sandeel from the sequential piling of monopile foundations (SELCum) | 5 (2) (a) | 004866108-01 | A | 04/08/2023 |
| Figure 8.17 | Predicted worst case impact ranges for spawning sandeel from the sequential piling of multileg foundations (SELCum) | 5 (2) (a) | 004866109-01 | A | 04/08/2023 |
| Figure 8.18 | Predicted worst case impact ranges for stationary receptors from the sequential piling of multileg foundations | 5 (2) (a) | 004866110-01 | A | 04/08/2023 |
| Figure 8.19 | Predicted worst case impact ranges for stationary receptors from the sequential piling of monopile foundations | 5 (2) (a) | 004866111-01 | A | 04/08/2023 |
| Figure 8.20 | Predicted worst case behavioural response impact ranges of herring from the sequential piling of monopile foundations | 5 (2) (a) | 004866112-01 | A | 04/08/2023 |
| Figure 8.21 | Predicted worst case impact ranges of stationary receptors from the simultaneous piling of multileg foundations | 5 (2) (a) | 004866113-01 | A | 04/08/2023 |
| Figure 8.22 | Predicted worst case impact ranges from the sequential piling of monopile foundations in relation to MCZs of which seahorse are a feature (SELCum) | 5 (2) (a) | 004866114-01 | A | 04/08/2023 |
| Figure 8.23 | Predicted worst case impact ranges from the simultaneous piling of | 5 (2) (a) | 004866117-01 | A | 04/08/2023 |

| Figure number | Figure Title | APFP number | Ecodoc number | Revision | Revision Date |
|----------------------|---|--------------------|----------------------|-----------------|----------------------|
| Figure 8.24 | Rampion 2 Level 5 subtidal predictive habitat map | 5 (2) (a) | 004866118-01 | A | 04/08/2023 |
| Figure 8.25 | Projects screened into the cumulative assessment | 5 (2) (a) | 004879279-01 | A | 04/08/2023 |

Key

- Proposed DCO Order Limits
- Fish and Shellfish Study Area



0 2.5 5 10 15 20
Kilometres
1:600,000
WGS 1984 UTM Zone 30N Transverse Mercator

Rampion Extension Development

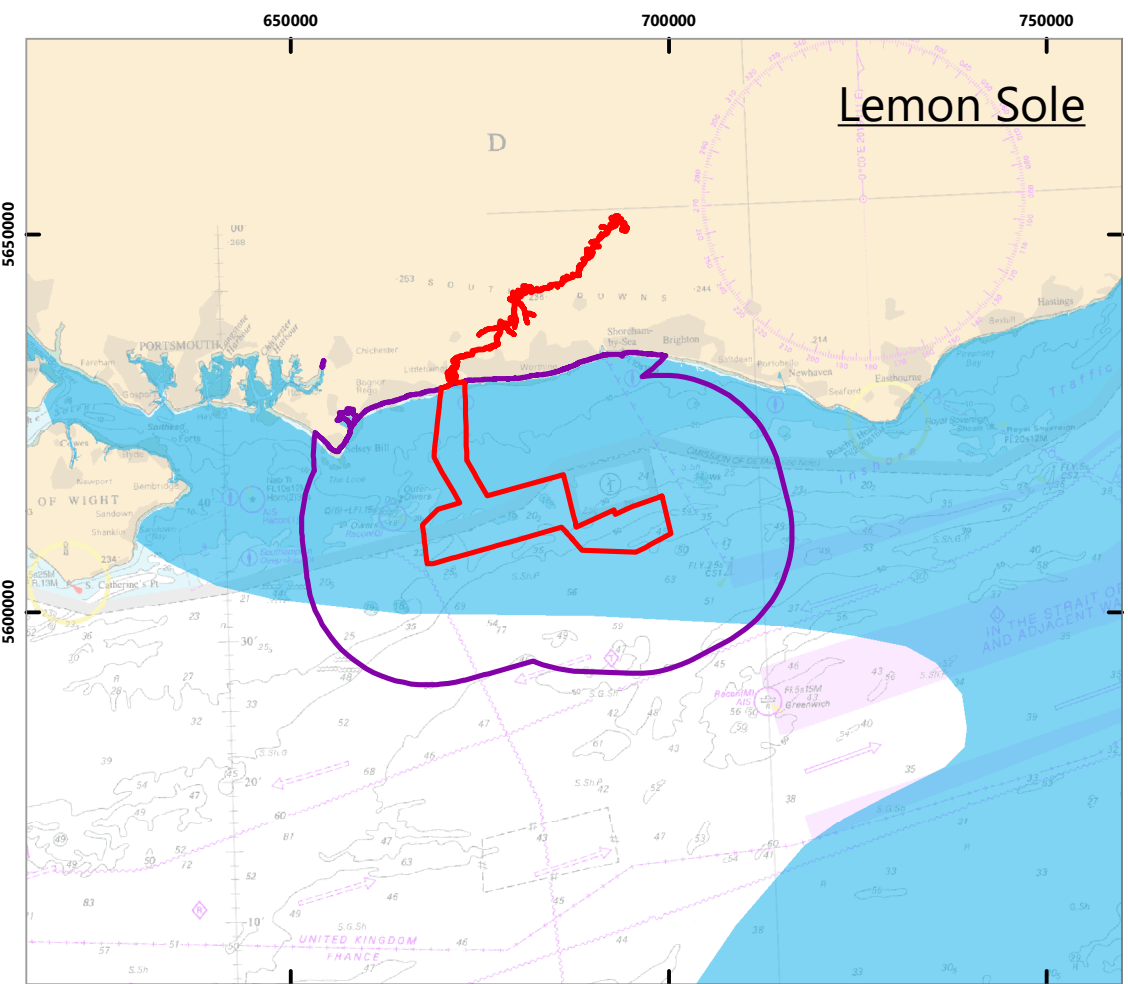
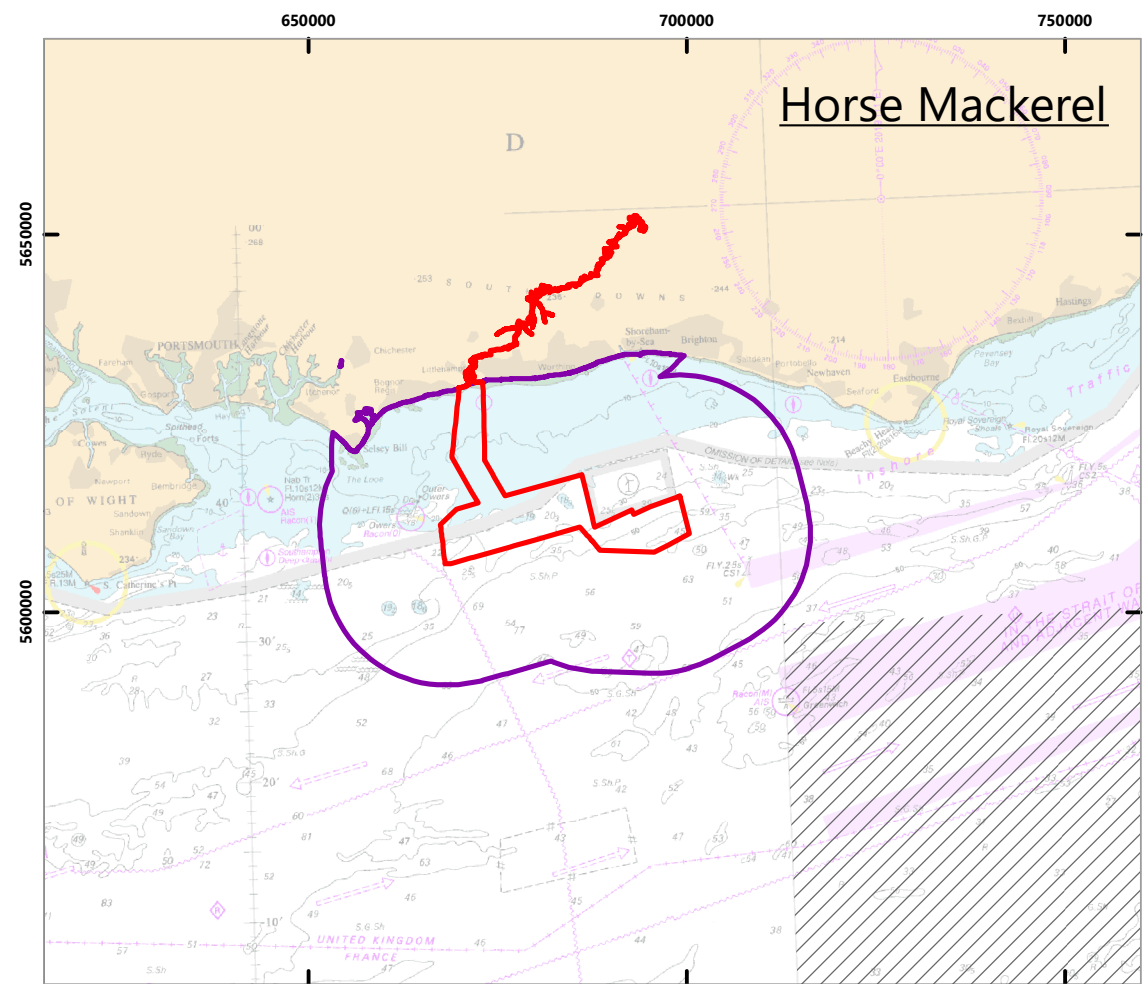
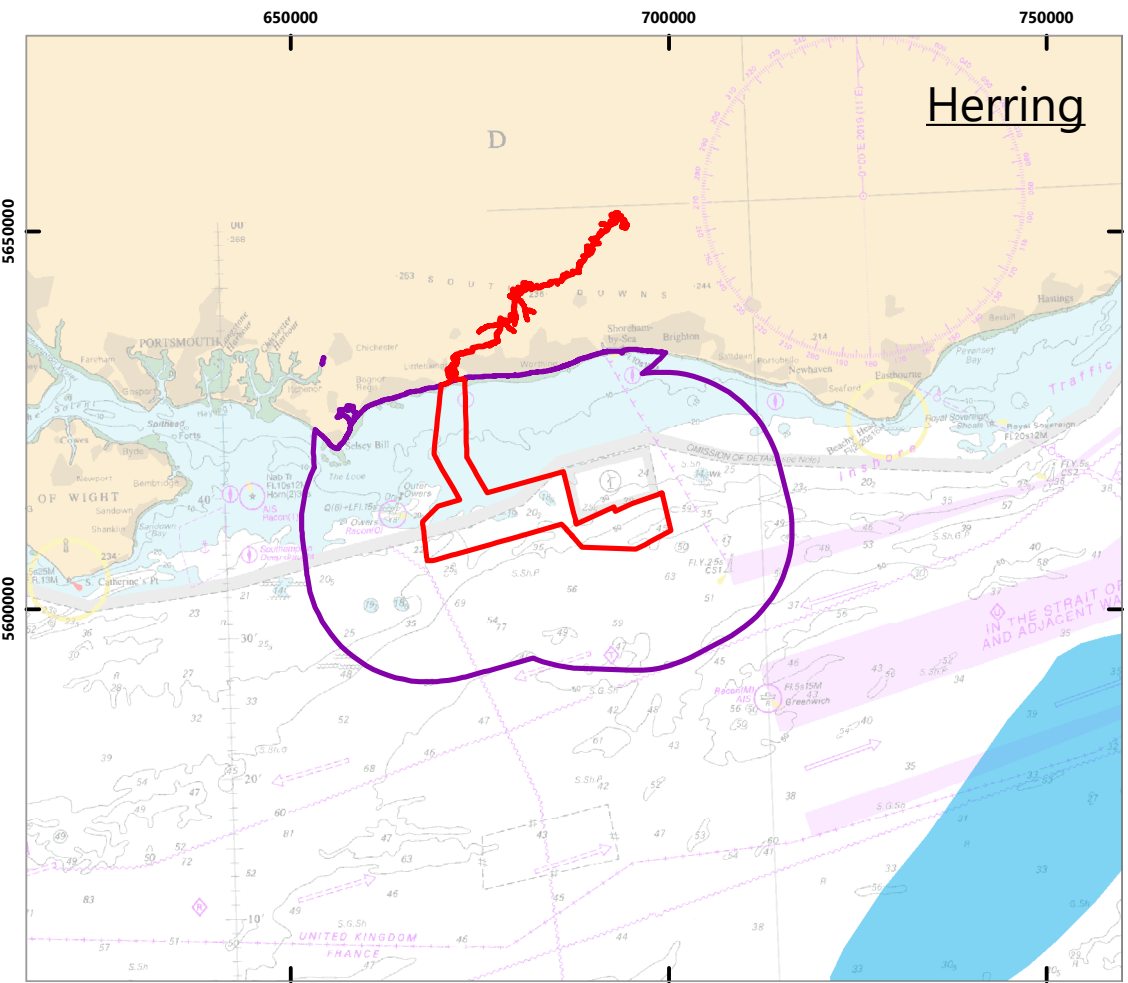
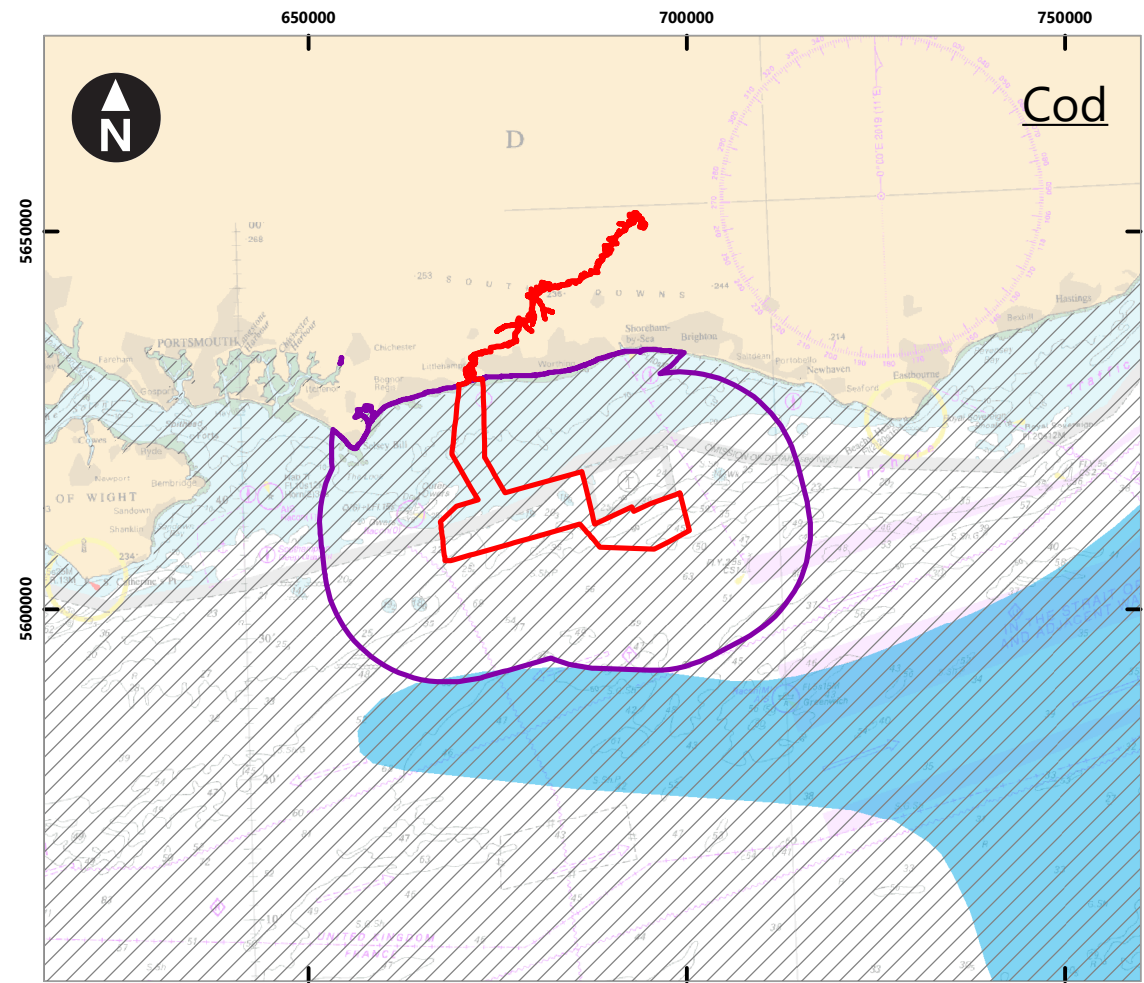

Rampion 2 Offshore Wind Farm

Figure 8.1 Rampion 2 fish and shellfish ecology Study Area

Environmental Statement

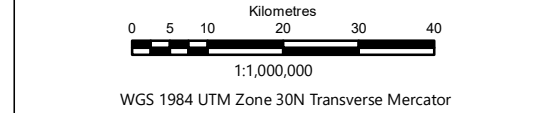
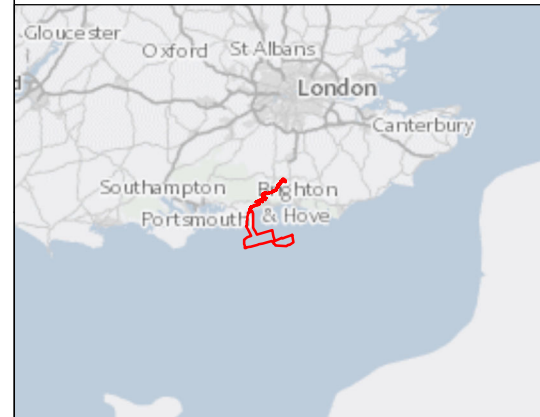
| | |
|---|-----------------|
| System Identifier: 42285-GOBE-ES-OF-FG-07-3333 | Version: 1.0 |
|---|-----------------|

| | | | | |
|------------------|------------------|------------------|---------------------------|------------------|
| Company: GOBE | Drawn By: SWM | Chk/Prvrd: NH | Drawn Date: 04/08/2023 | Status: FINAL |
|------------------|------------------|------------------|---------------------------|------------------|



Key

- Proposed DCO Order Limits
- Fish and shellfish Study Area
- Spawning area Ellis et al. 2010
- Spawning area Coull et al. 1998



Rampion Extension Development

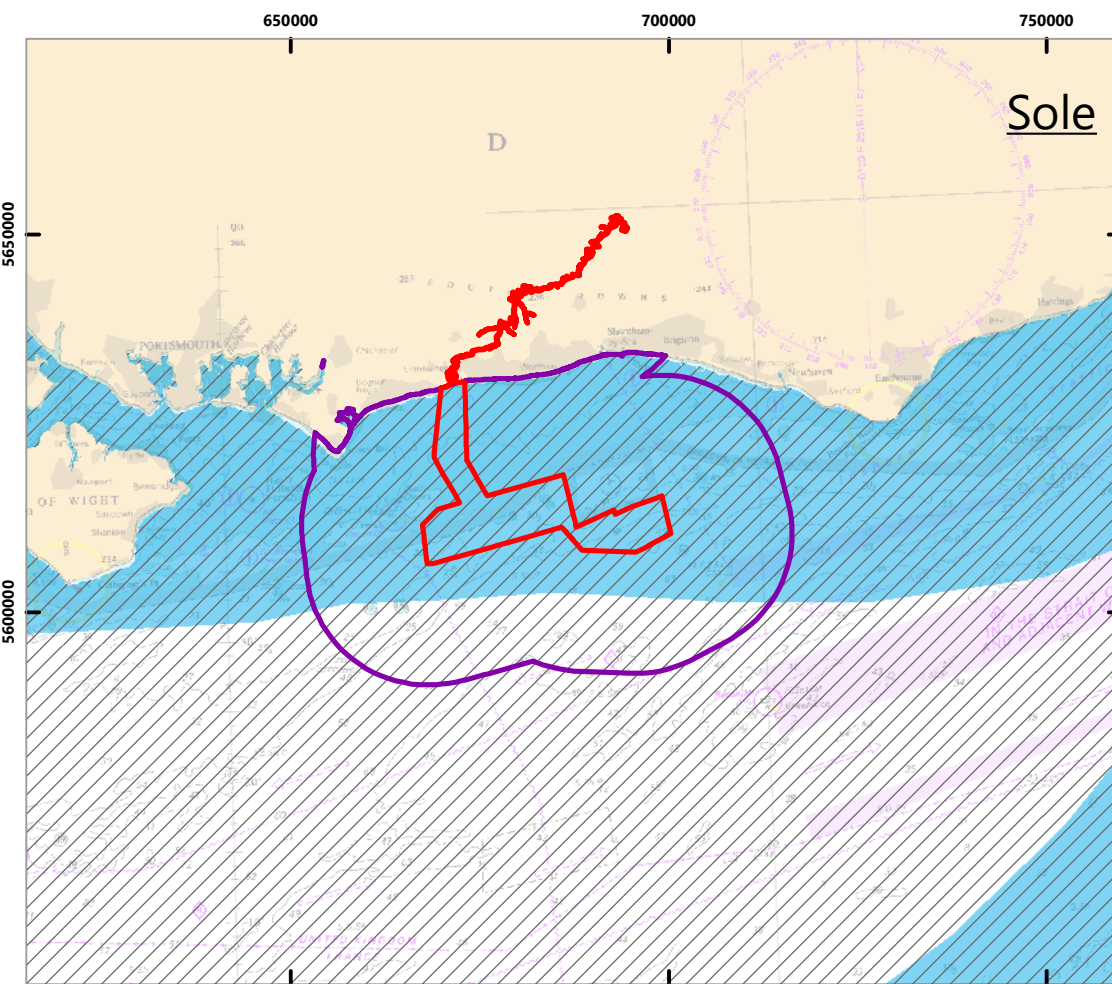
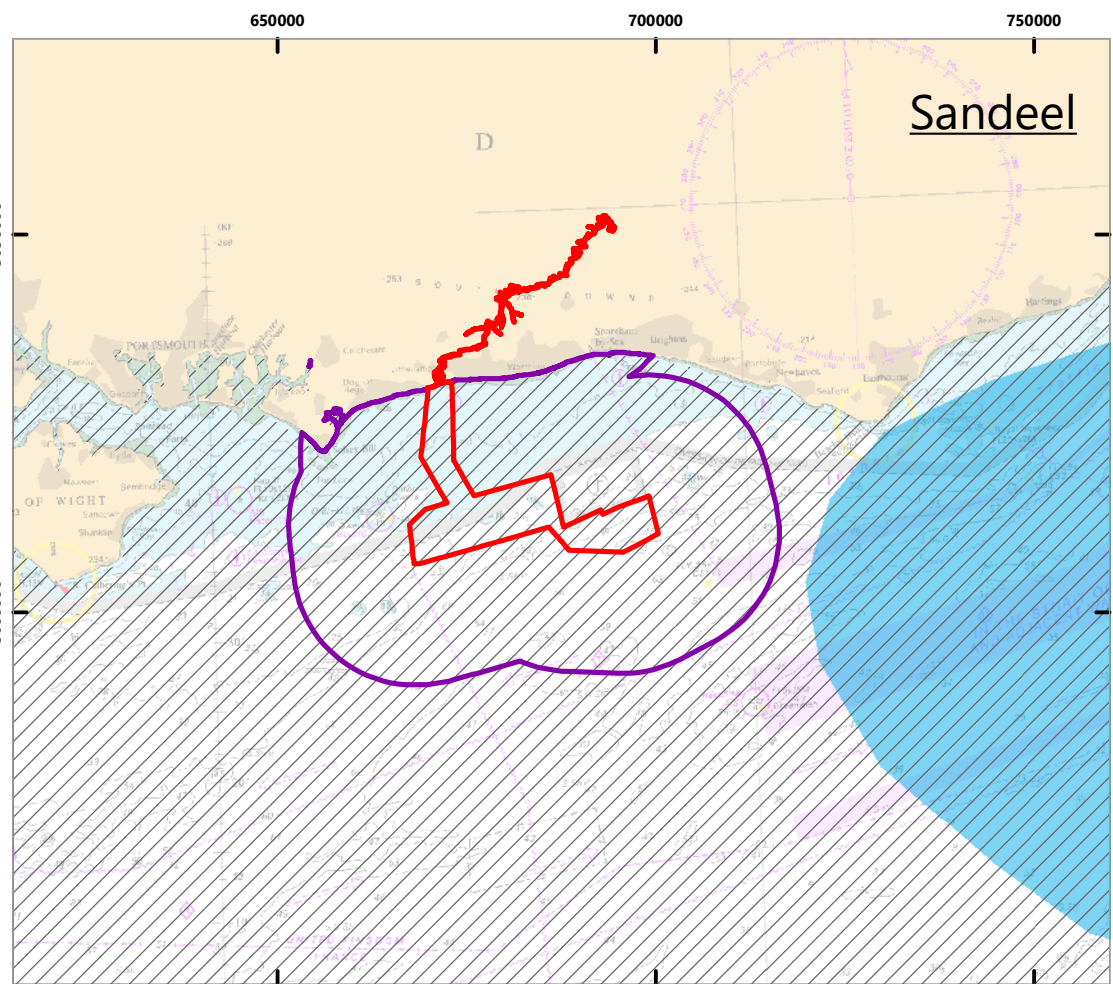
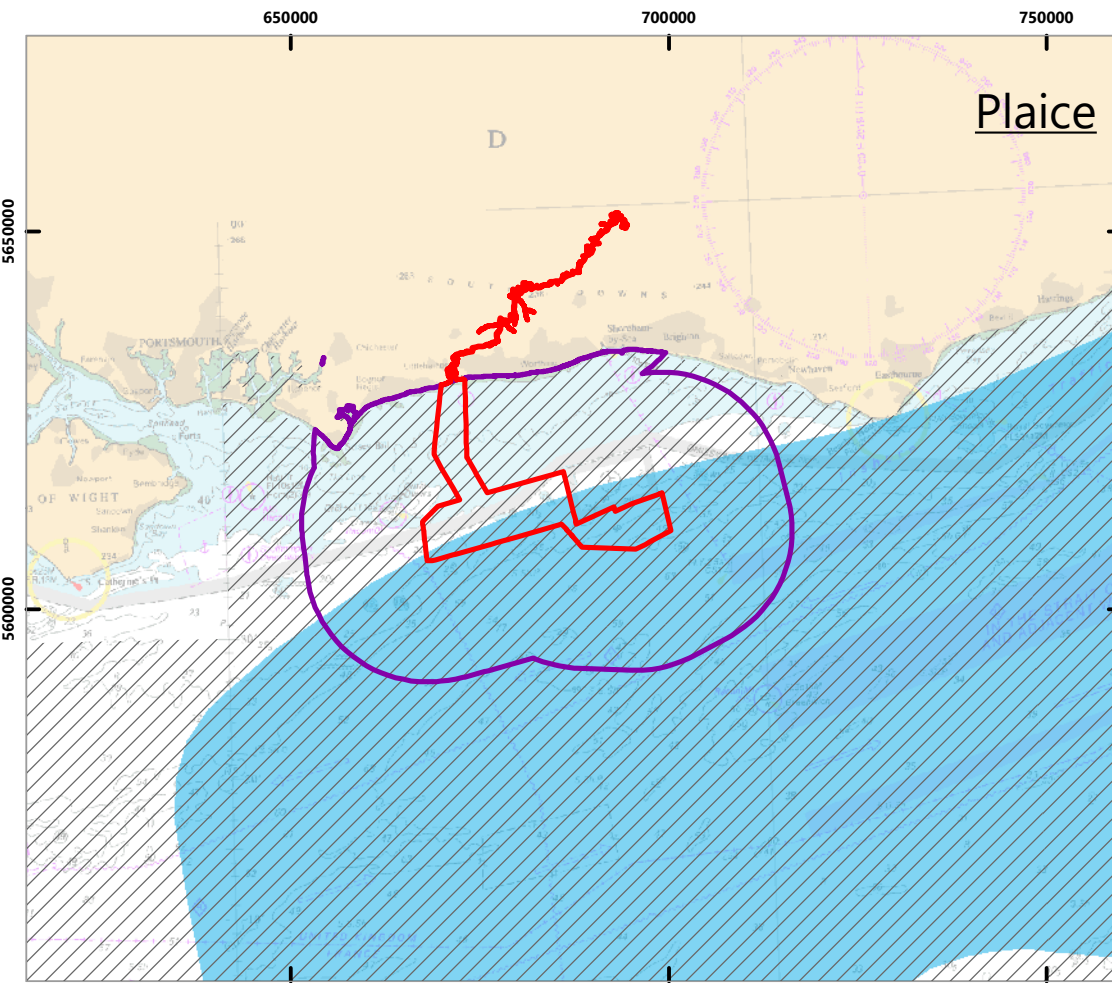
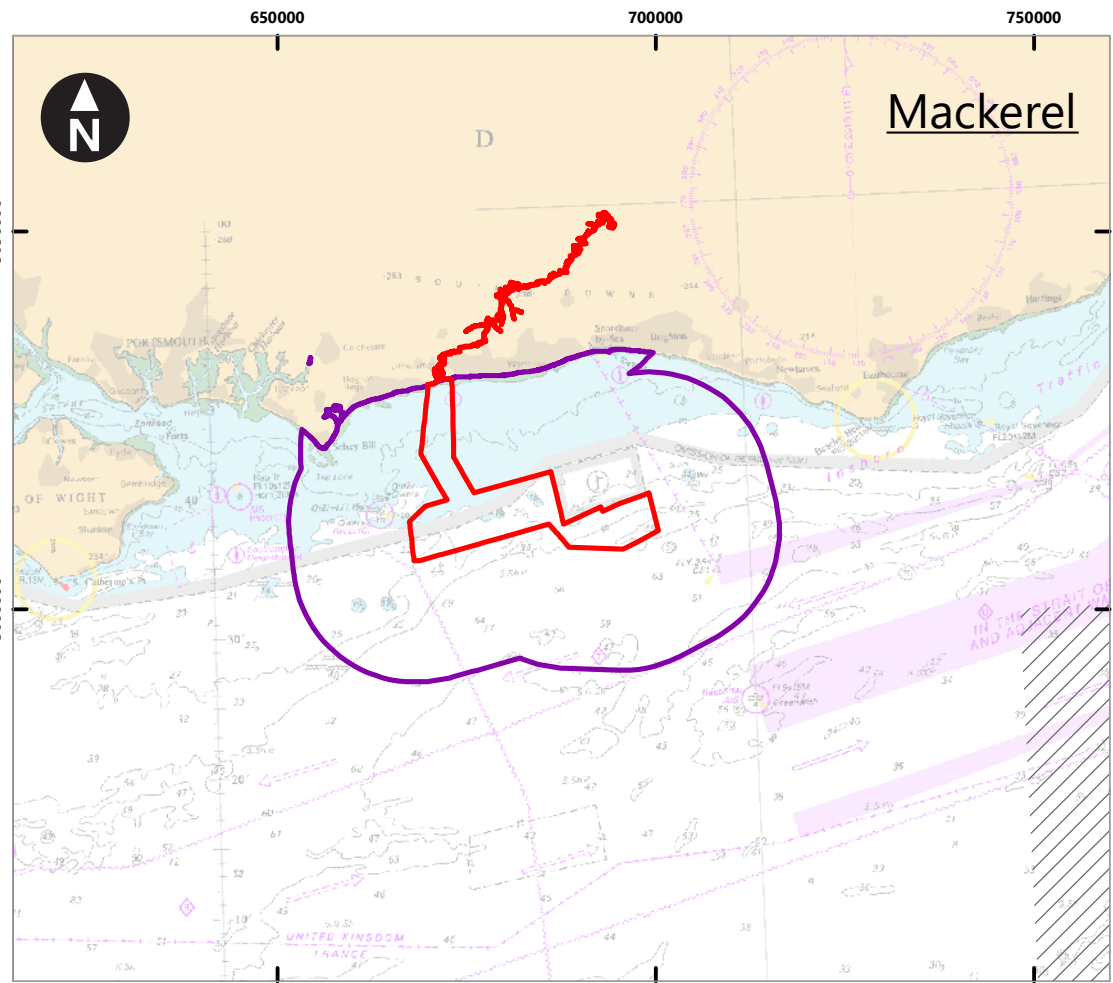
Rampion 2 Offshore Wind Farm

Figure 8.2 Spawning grounds in relation to Rampion 2: cod, herring, horse mackerel and lemon sole

Environmental Statement

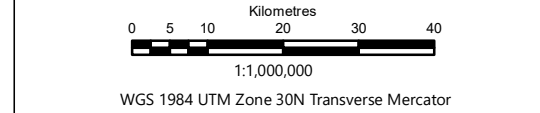
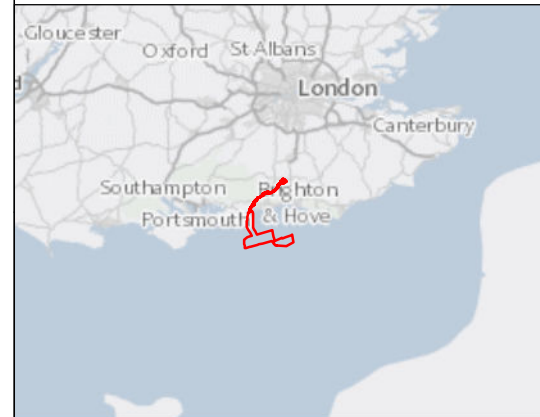
| | |
|---|-----------------|
| System Identifier: 42285-GOBE-ES-OF-FG-07-3907 | Version: 1.0 |
|---|-----------------|

| | | | | |
|------------------|------------------|------------------|---------------------------|------------------|
| Company: GOBE | Drawn By: SWM | Chk/Prvrd: NH | Drawn Date: 04/08/2023 | Status: FINAL |
|------------------|------------------|------------------|---------------------------|------------------|



Key

- Proposed DCO Order Limits
- Fish and shellfish Study Area
- Spawning area Ellis et al. 2010
- Spawning area Coull et al. 1998



Rampion Extension Development

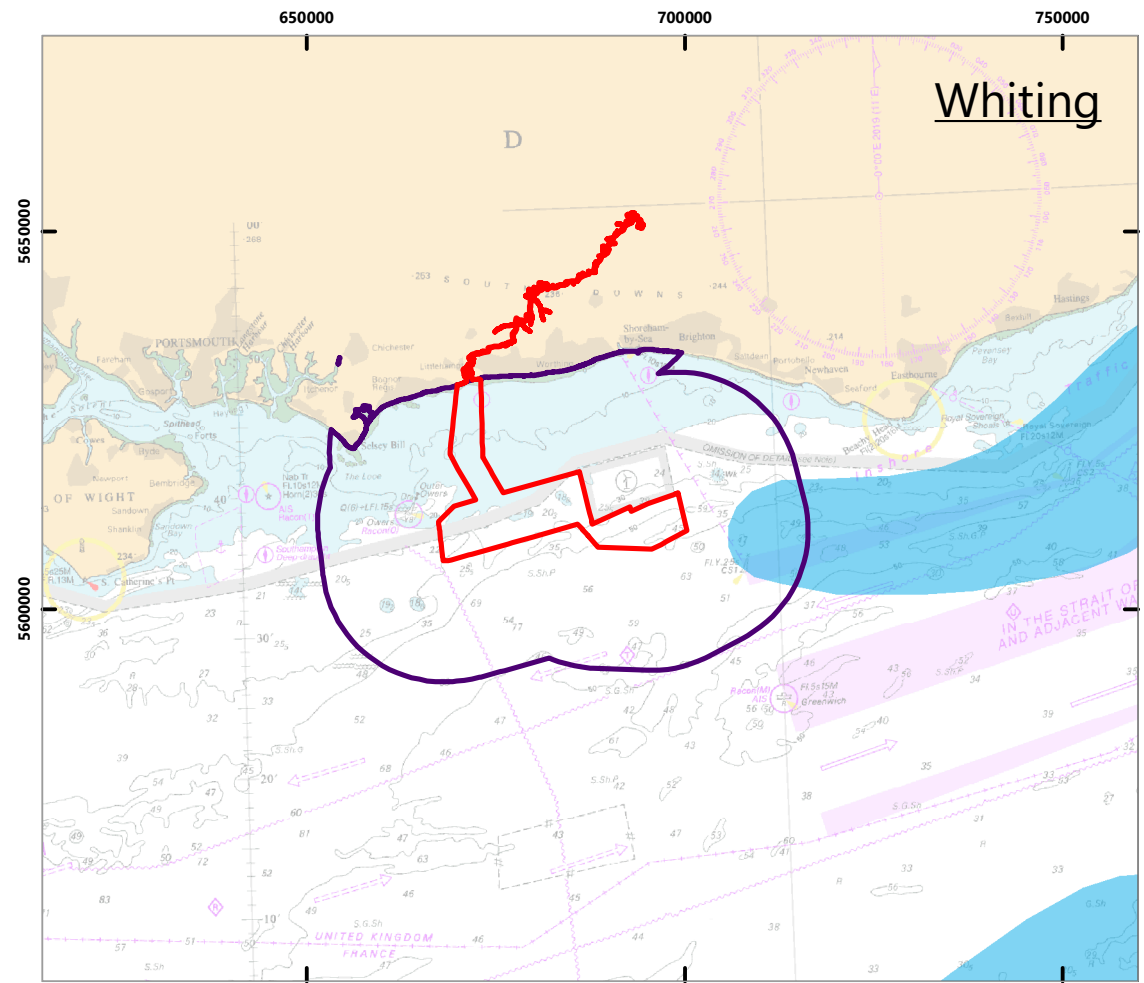
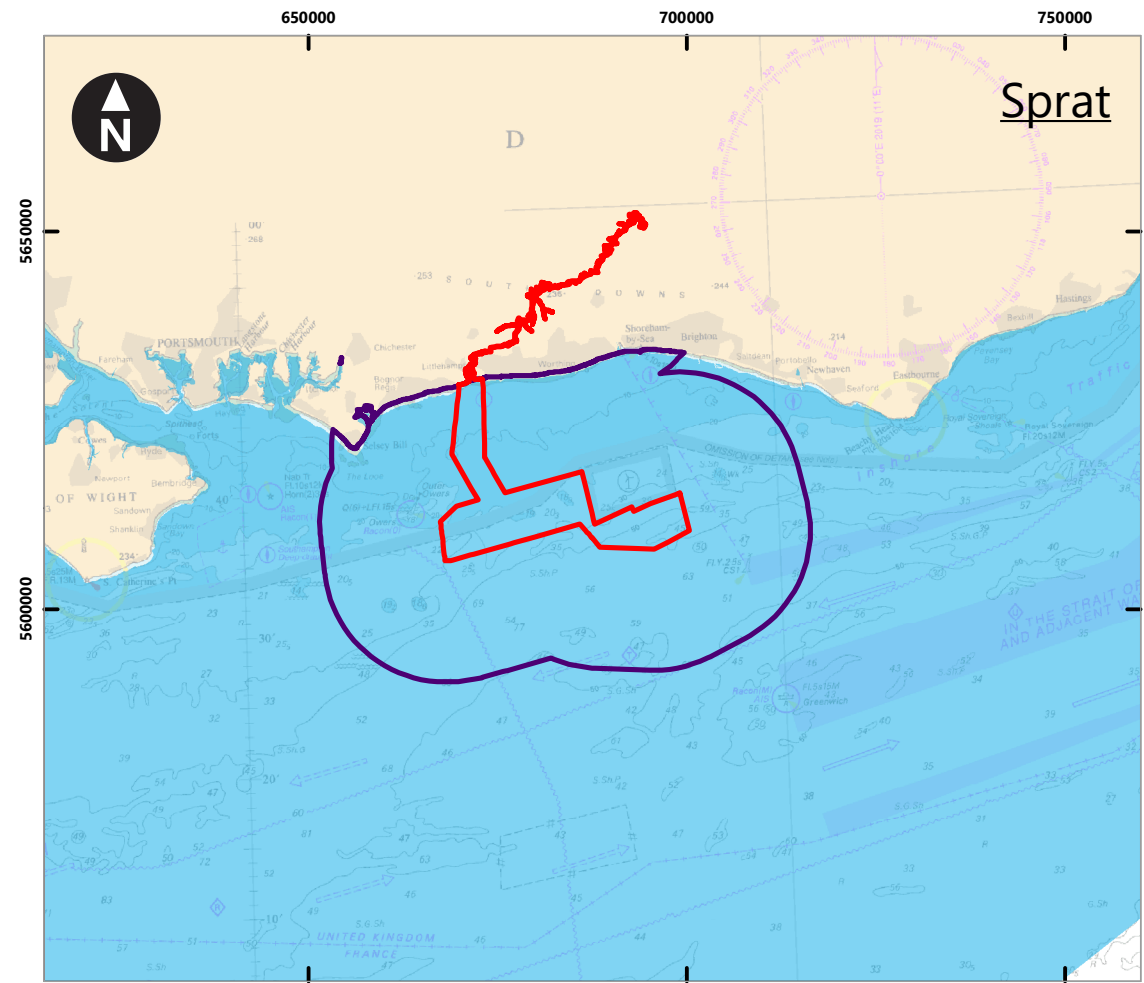
Rampion 2 Offshore Wind Farm

Figure 8.3 Spawning grounds in relation to Rampion 2: Mackerel, Plaice, Sandeel, Sole

Environmental Statement

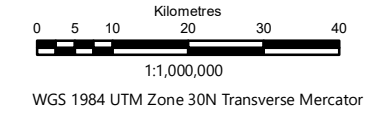
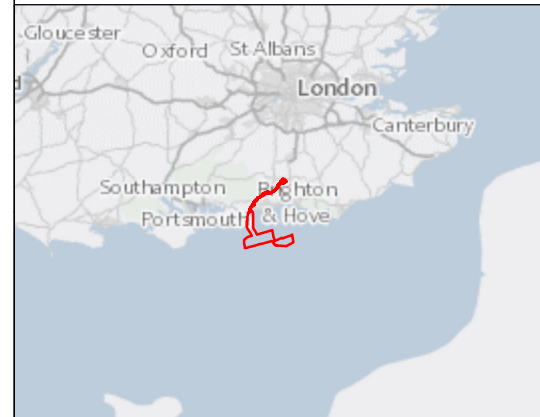
| | |
|-----------------------------|----------|
| System Identifier: | Version: |
| 42285-GOBE-ES-OF-FG-07-8751 | 1.0 |

| | | | | |
|----------|-----------|-----------|-------------|---------|
| Company: | Drawn By: | Chk/Prvd: | Drawn Date: | Status: |
| GOBE | CC | NH | 05/06/2023 | FINAL |



Key

- Proposed DCO Order Limits
- Fish and Shellfish Study Area
- Spawning area Ellis et al. 2010
- Spawning area Coull et al. 1998



Rampion Extension Development



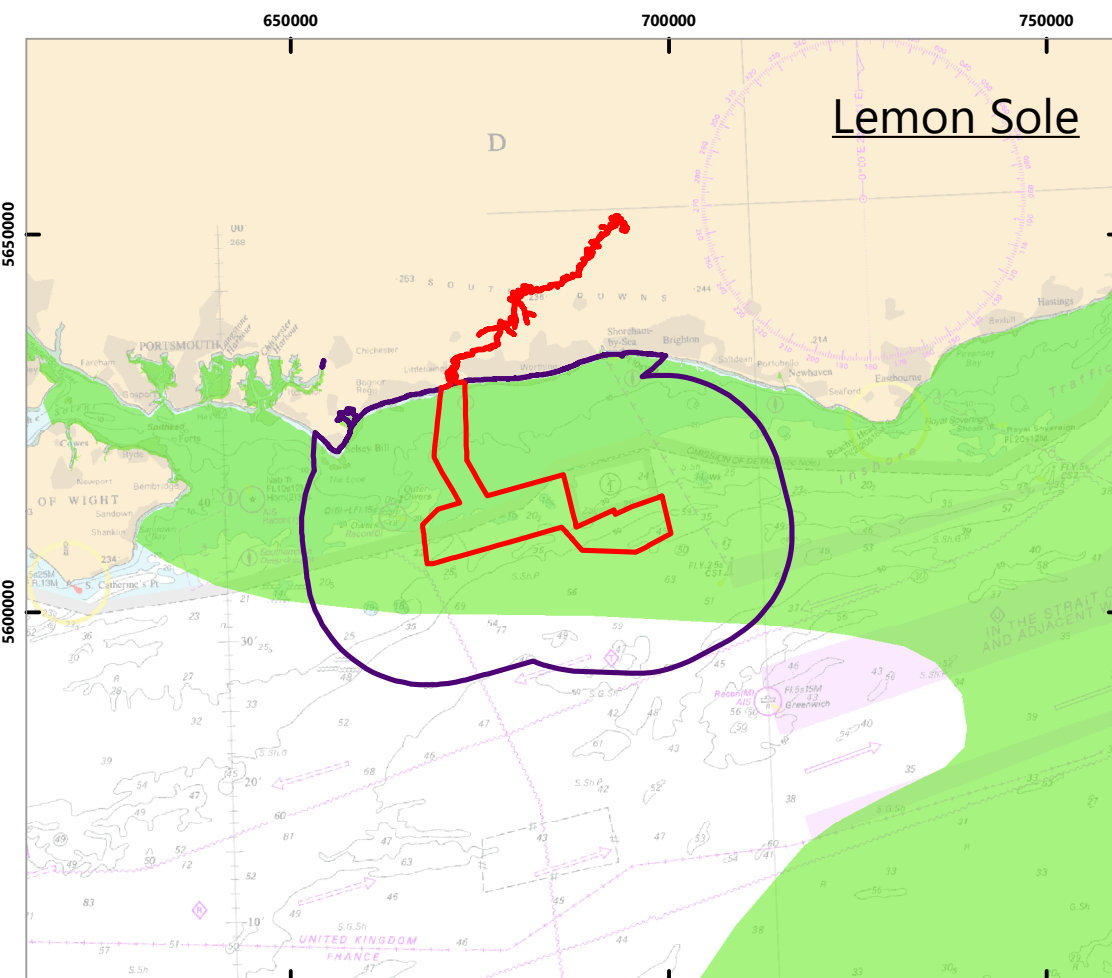
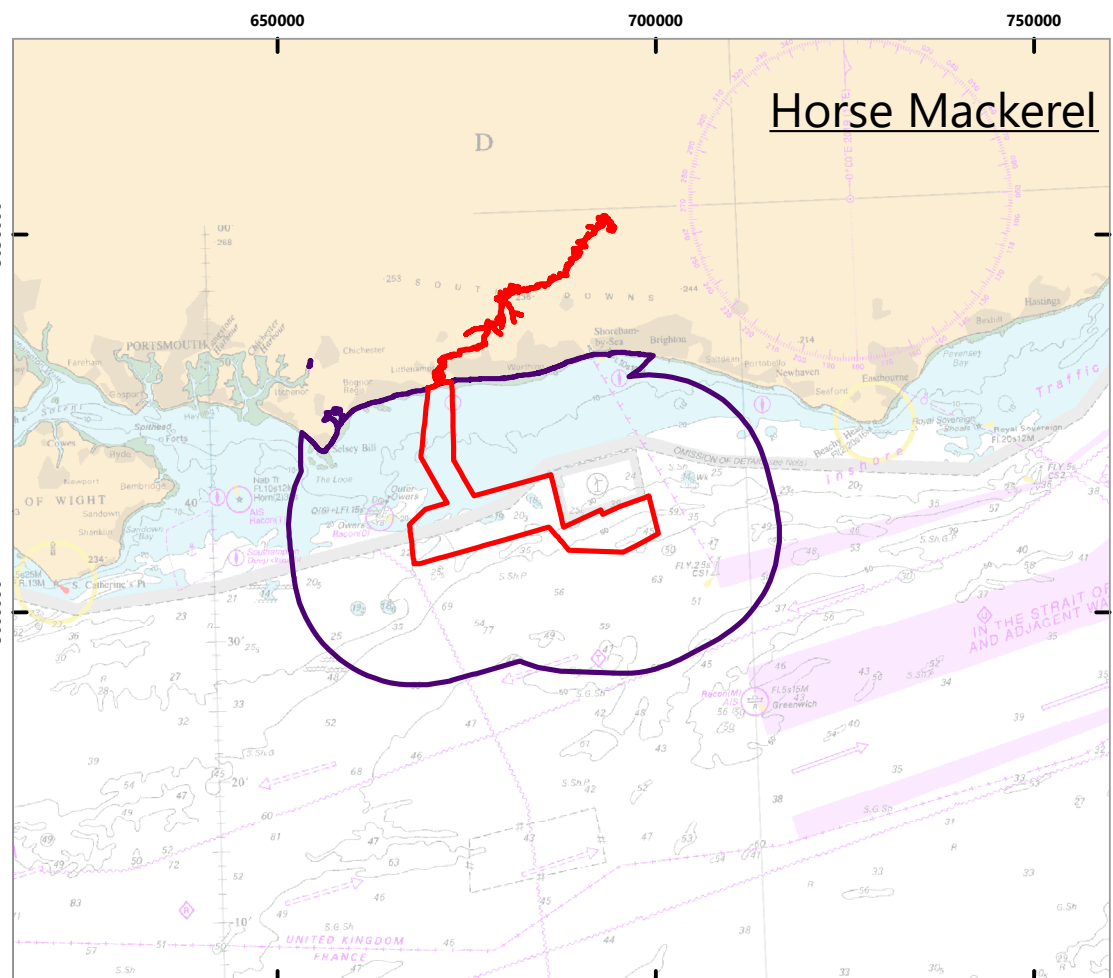
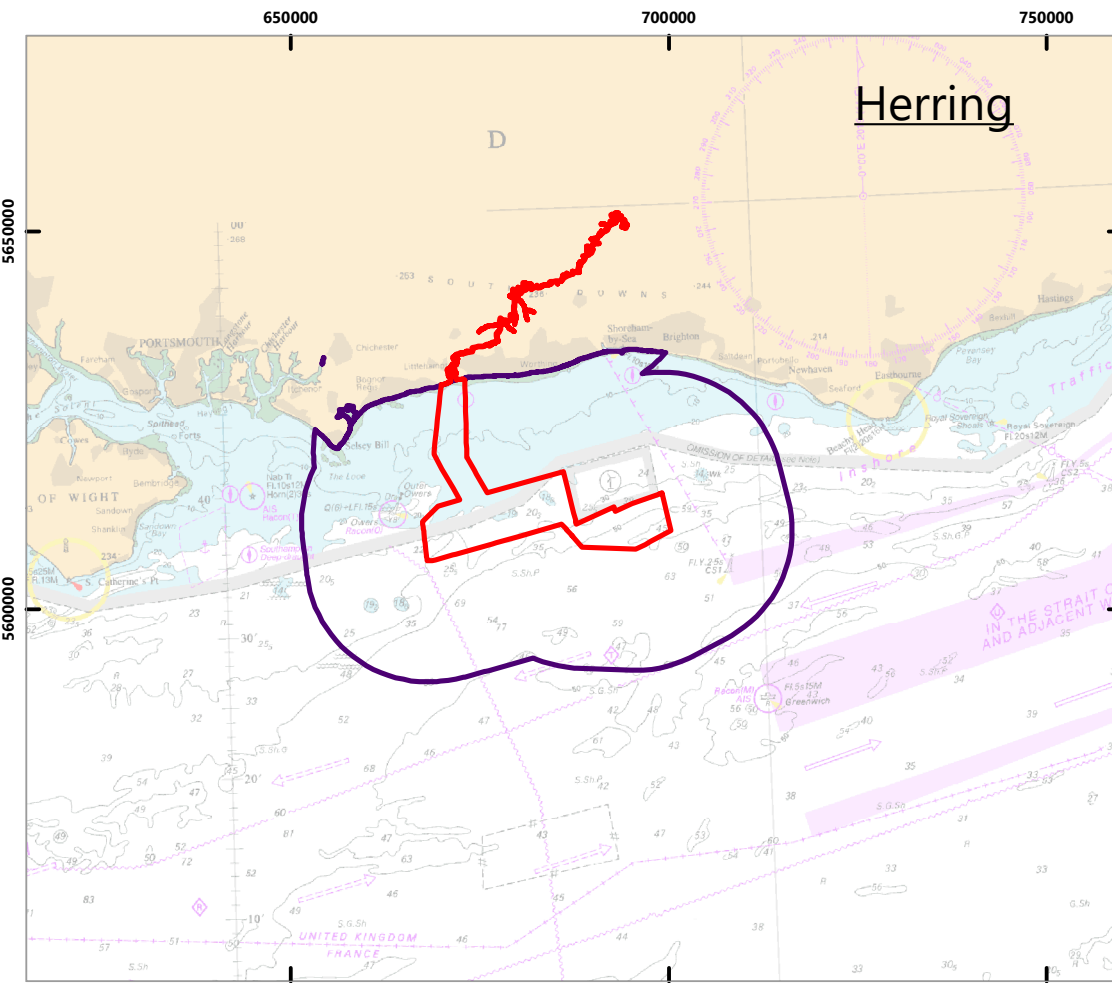
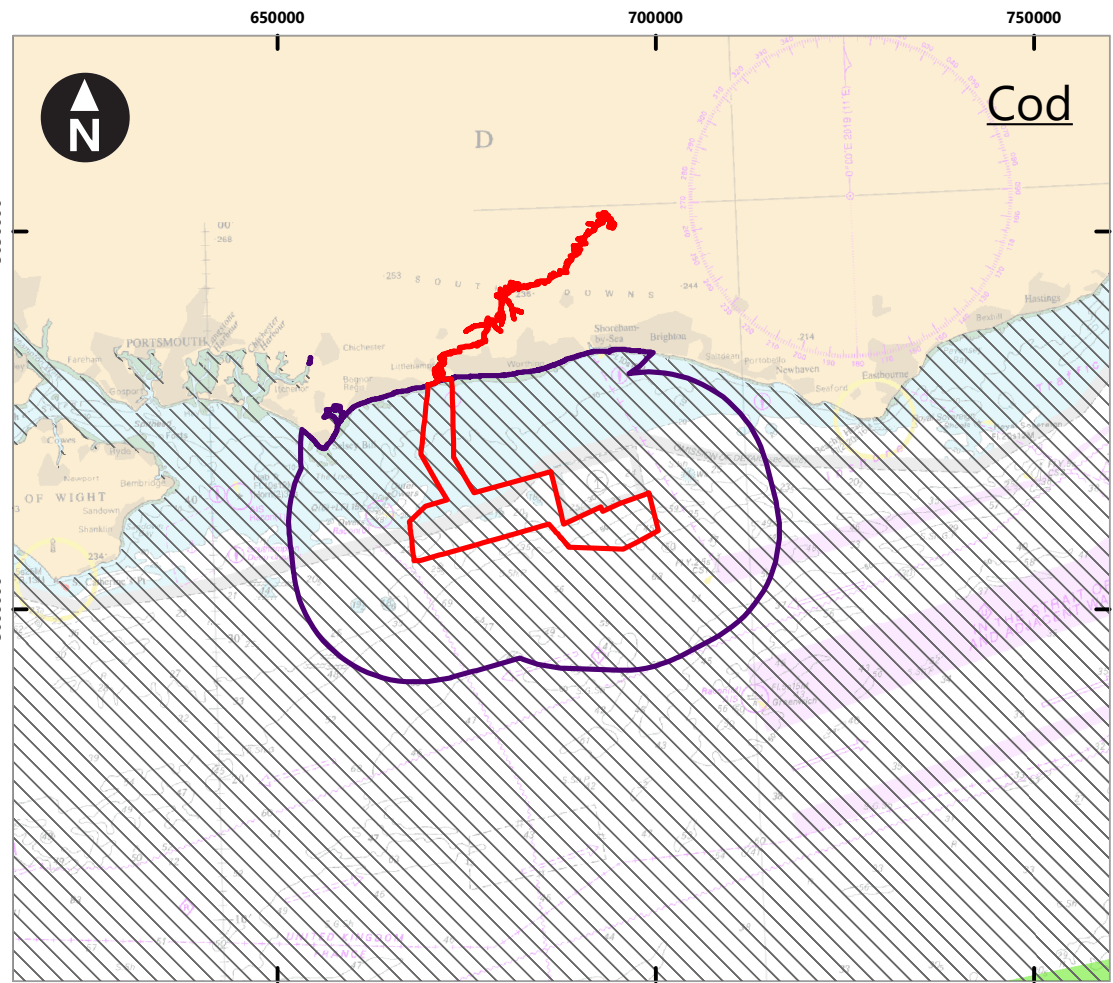
Rampion 2 Offshore Wind Farm

Figure 8.4 Spawning grounds in relation to the Rampion 2 fish and shellfish ecology Study Area: sprat and whiting

Environmental Statement

| | | |
|-----------------------------|--|----------|
| System Identifier: | | Version: |
| 42285-GOBE-ES-OF-FG-07-3163 | | 1.0 |

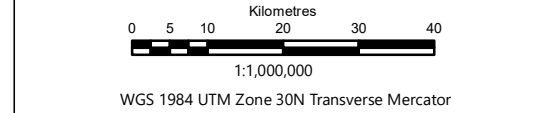
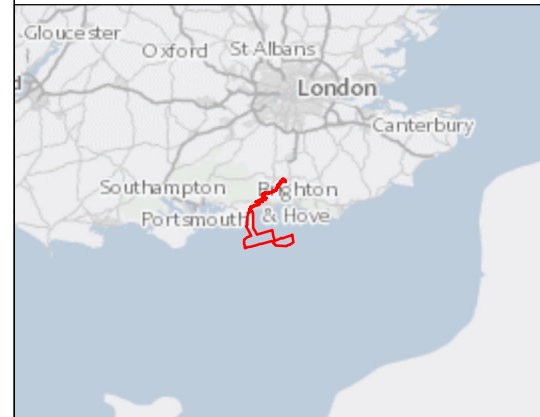
| | | | | |
|----------|-----------|-----------|-------------|---------|
| Company: | Drawn By: | Chk/Prvd: | Drawn Date: | Status: |
| GOBE | SWM | NH | 04/08/2023 | FINAL |



Key

Legend

- Proposed DCO Order Limits
- Fish and Shellfish Study Area
- Nursery grounds Coull et al. 1998
- Nursery grounds Ellis et al. 2010



Rampion Extension Development



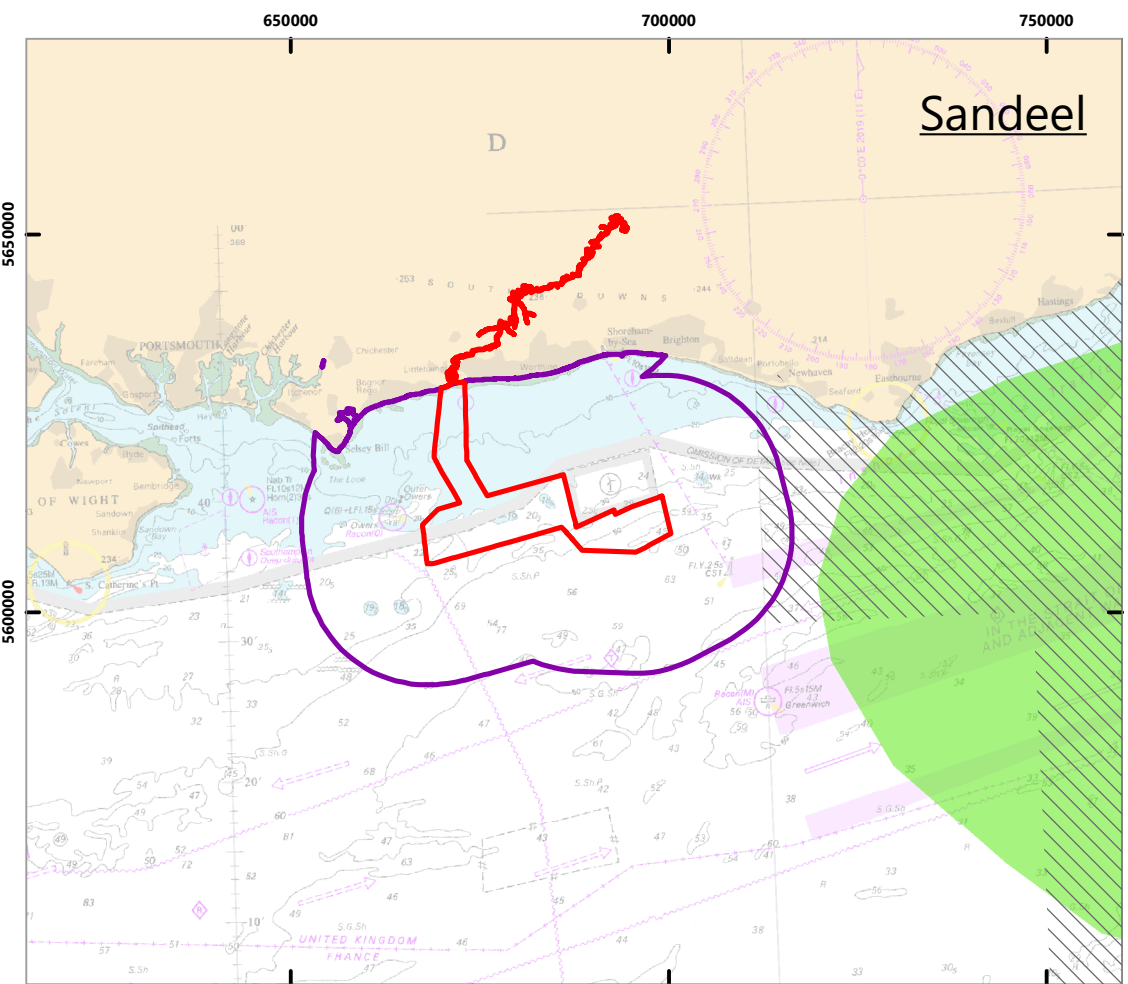
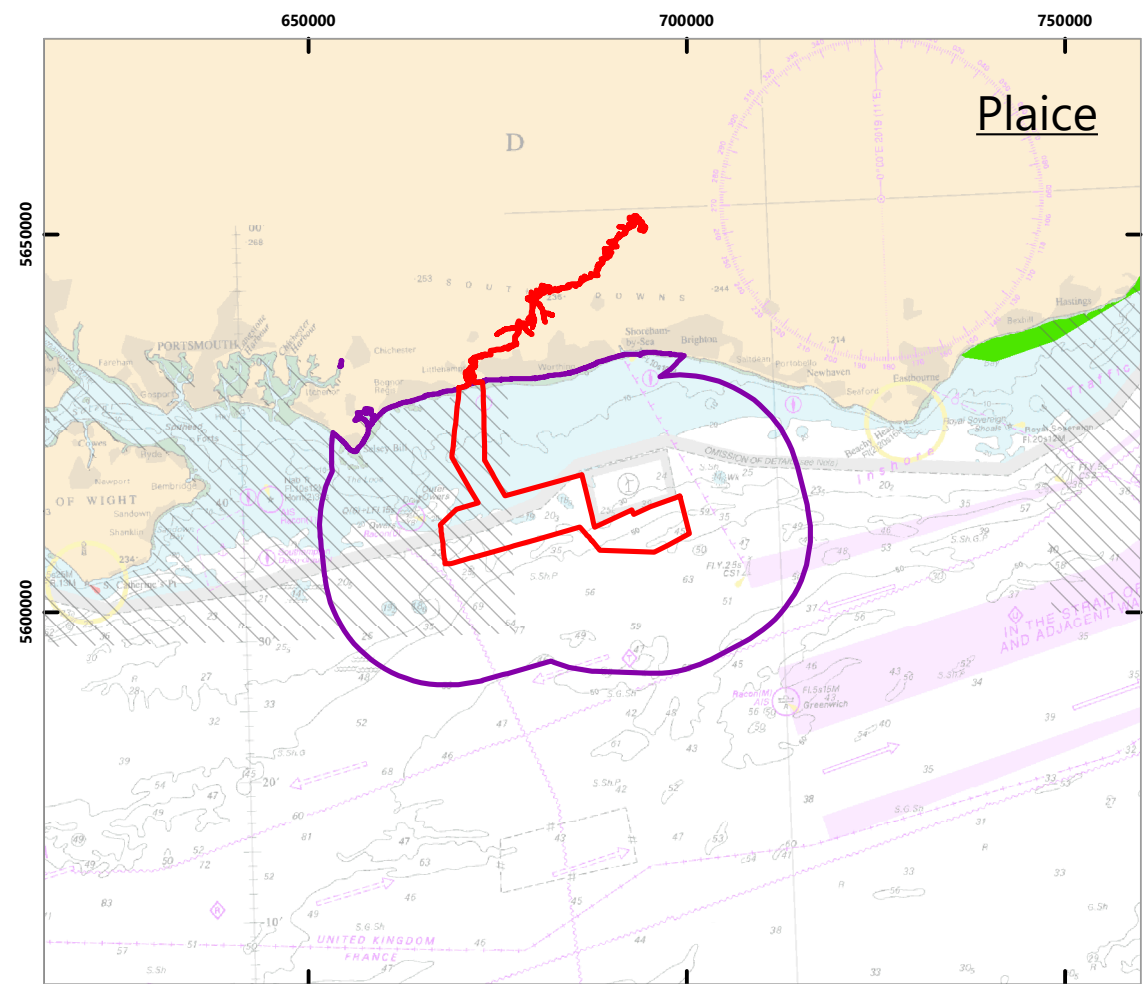
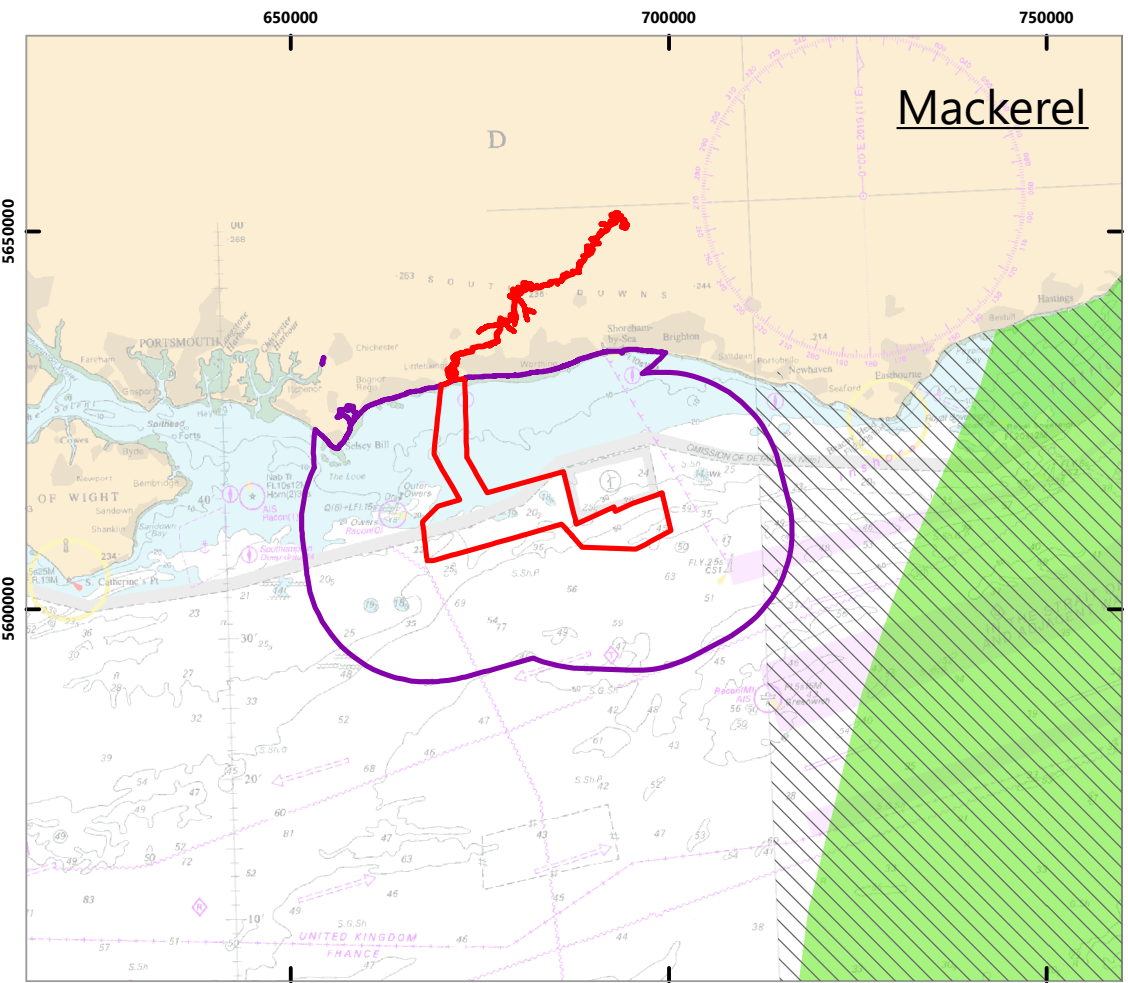
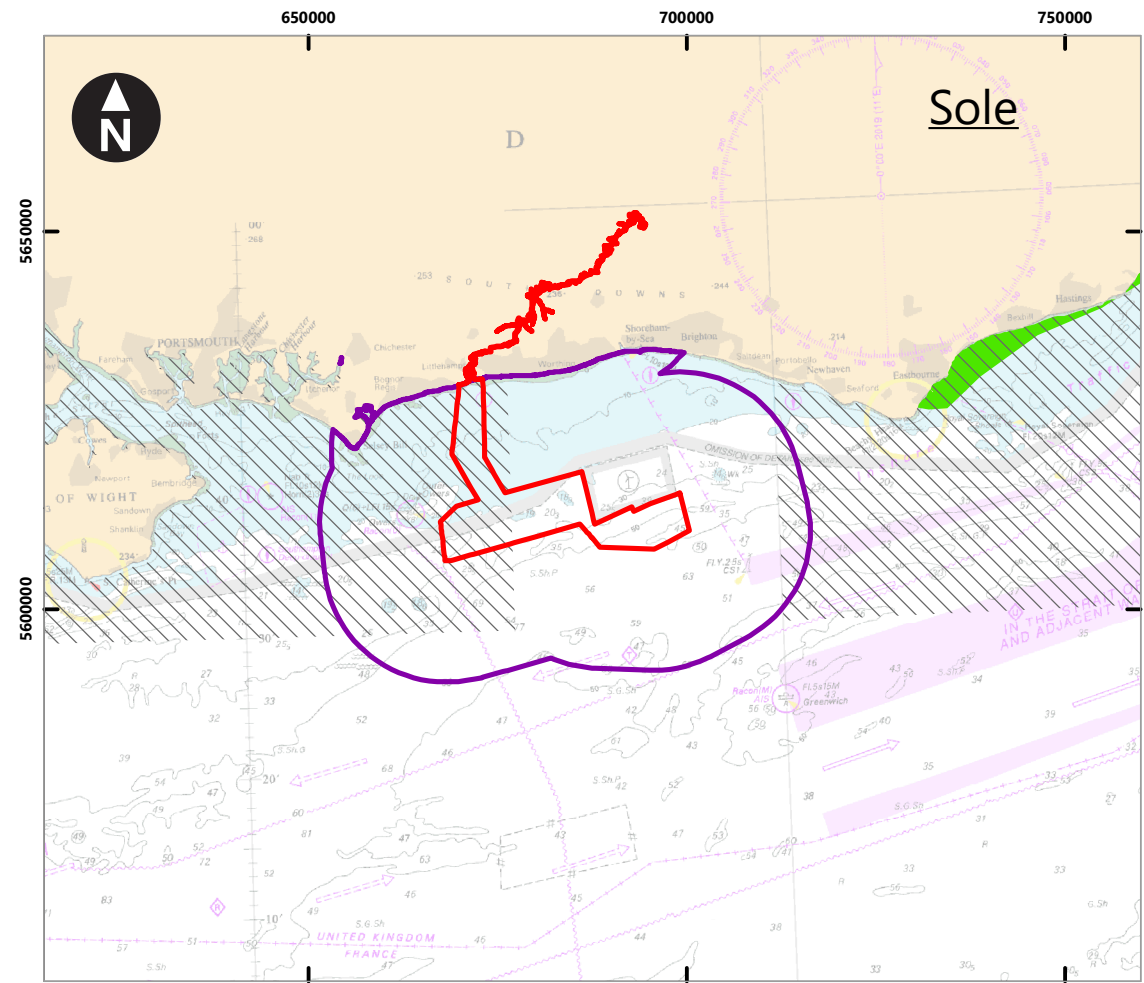
Rampion 2 Offshore Wind Farm

Figure 8.5 Nursery grounds in relation to Rampion 2: cod, herring, horse mackerel and lemon sole

Environmental Statement

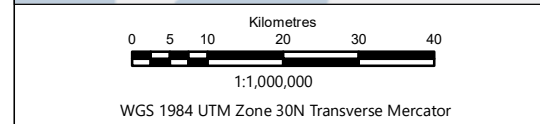
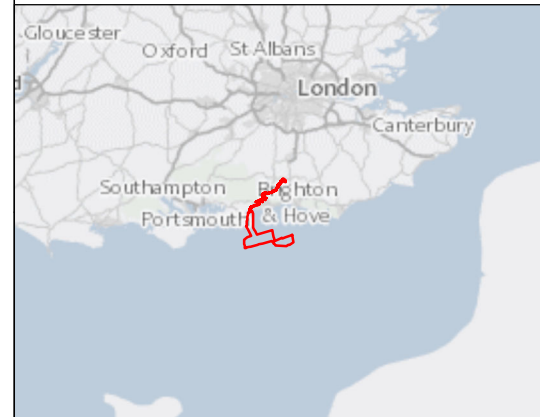
| | |
|---|-----------------|
| System Identifier: 42285-GOBE-ES-OF-FG-07-1152 | Version: 1.0 |
|---|-----------------|

| | | | | |
|------------------|------------------|-----------------|---------------------------|------------------|
| Company: GOBE | Drawn By: SWM | Chk/Prvd: NH | Drawn Date: 04/08/2023 | Status: FINAL |
|------------------|------------------|-----------------|---------------------------|------------------|



Key

- Proposed DCO Order Limits
- Fish and shellfish Study Area
- Nursery grounds Ellis et al. 2010
- Nursery grounds Coull et al. 1998



Rampion Extension Development



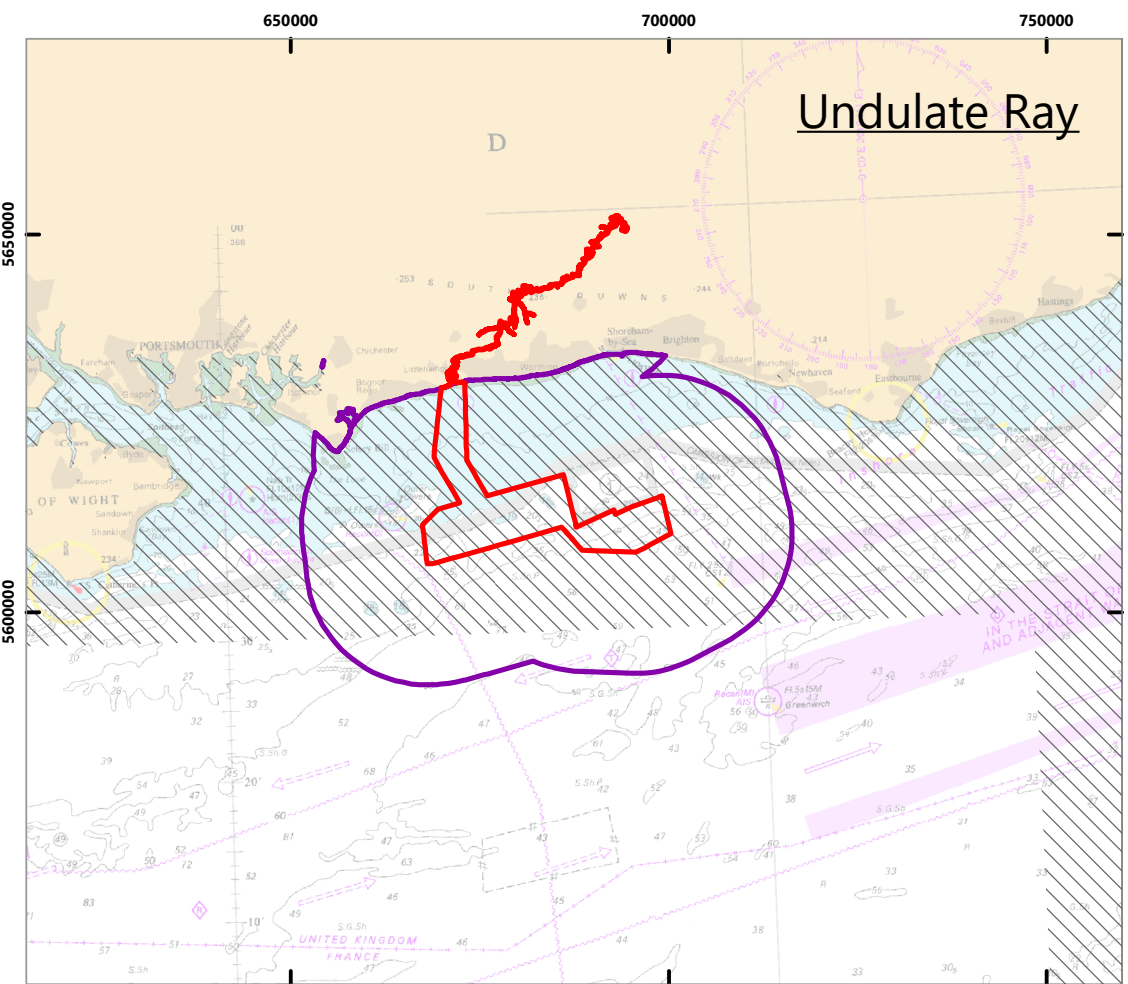
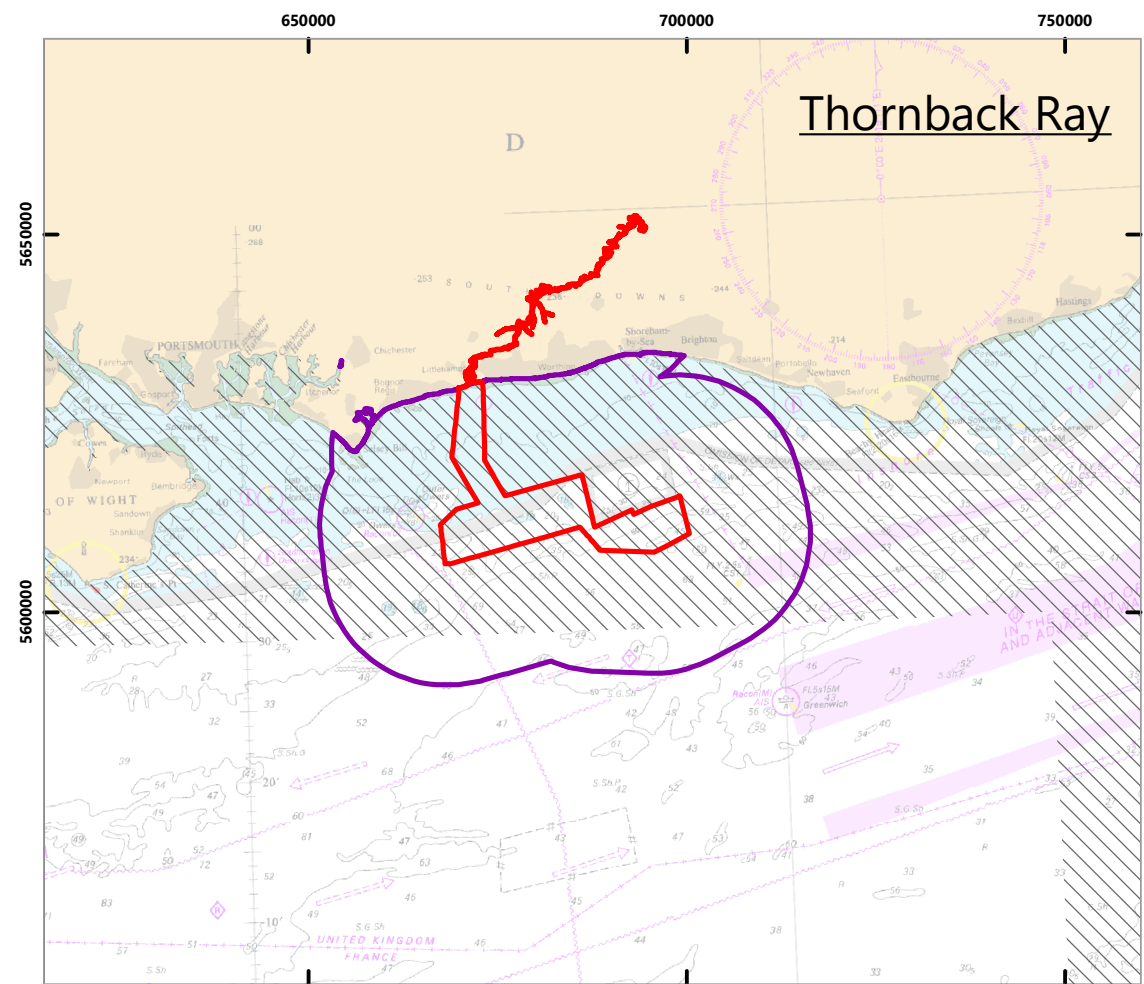
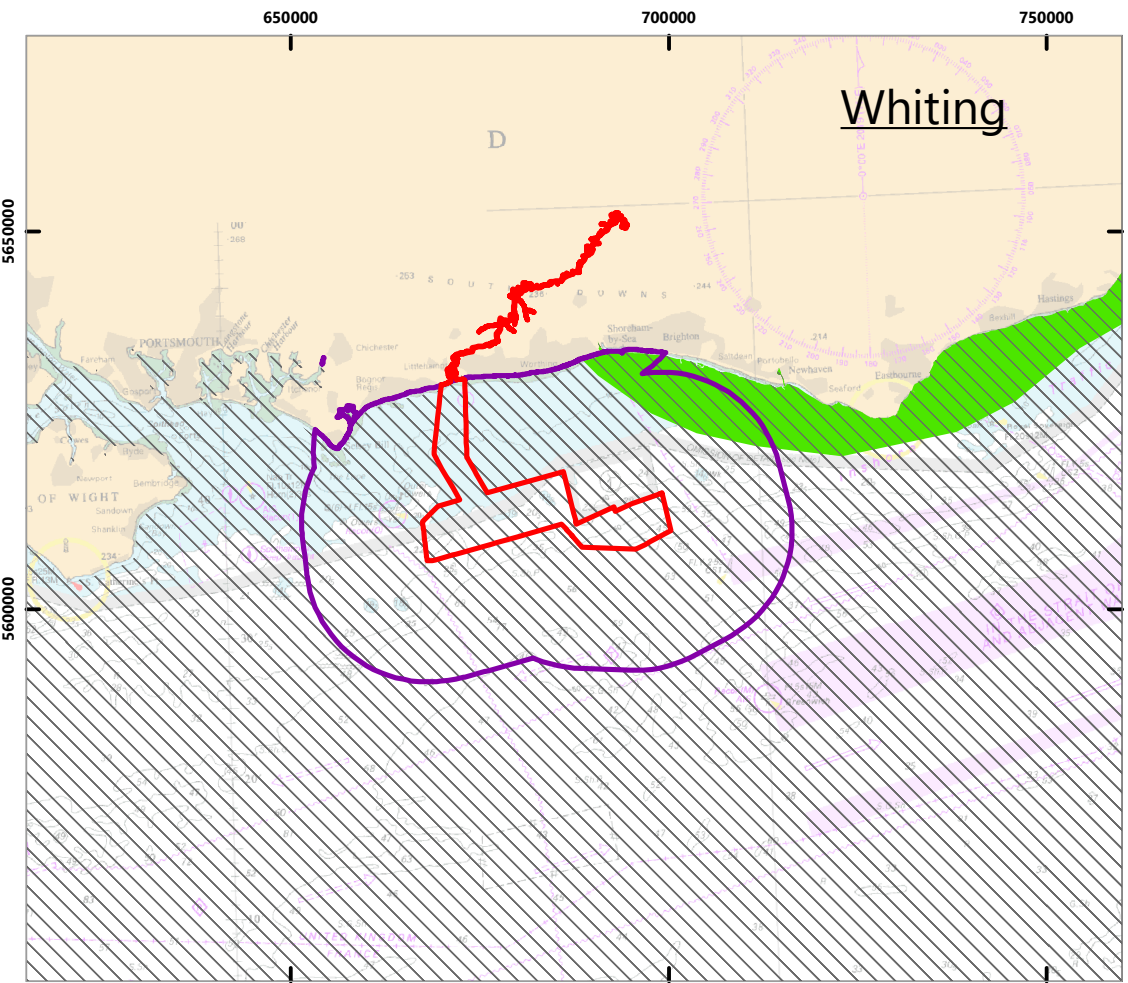
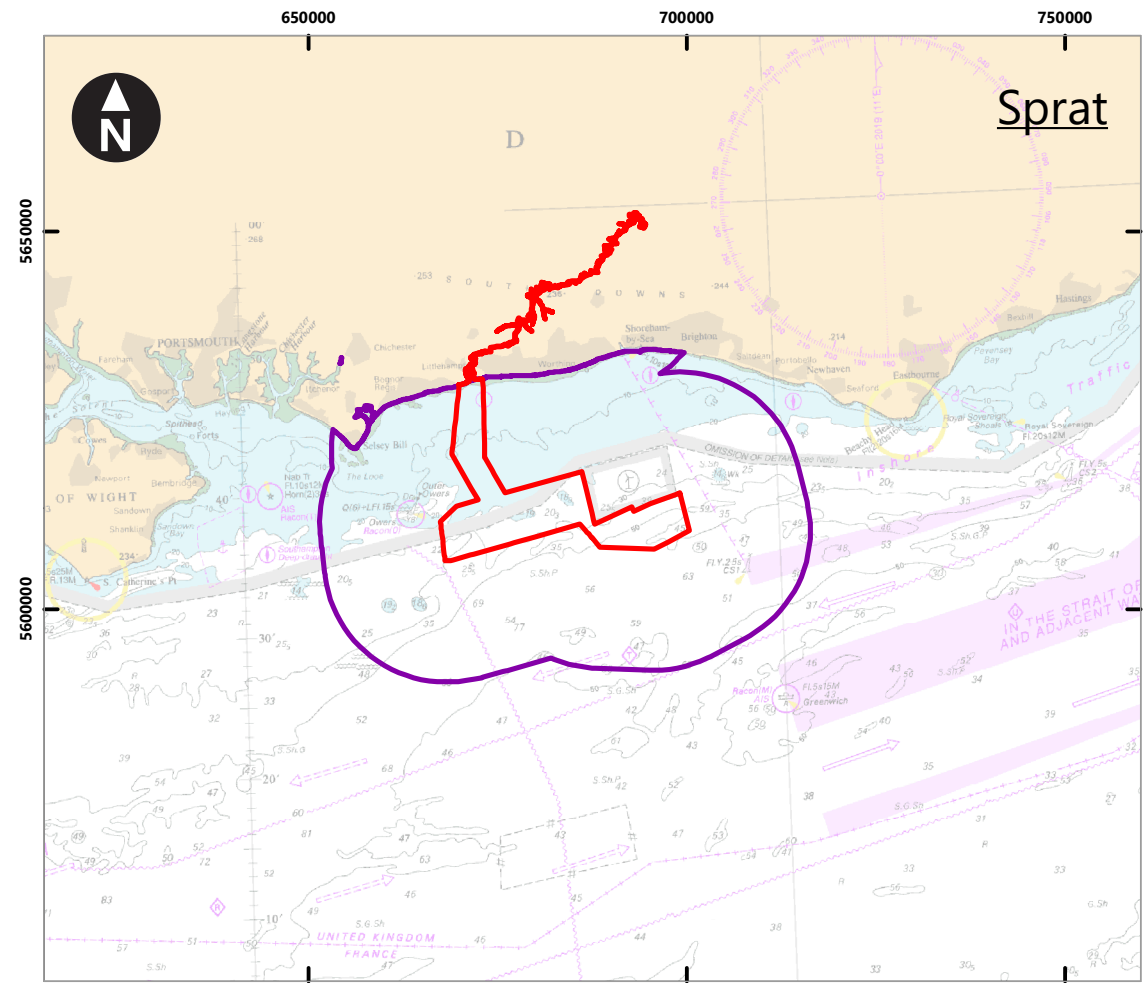
Rampion 2 Offshore Wind Farm

Figure 8.6 Nursery grounds in relation to Rampion 2: mackerel, plaice, sandeel and sole

Environmental Statement

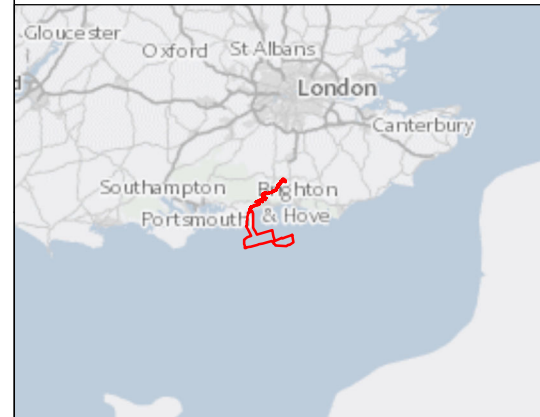
| | |
|---|-----------------|
| System Identifier: 42285-GOBE-ES-OF-FG-07-7979 | Version: 1.0 |
|---|-----------------|

| | | | | |
|------------------|------------------|------------------|---------------------------|------------------|
| Company: GOBE | Drawn By: SWM | Chk/Prvrd: NH | Drawn Date: 04/08/2023 | Status: FINAL |
|------------------|------------------|------------------|---------------------------|------------------|



Key

- Proposed DCO Order Limits
- Fish and shellfish Study Area
- Nursery grounds Coull et al. 1998
- Nursery grounds Ellis et al. 2010



Kilometres
 0 5 10 20 30 40
 1:1,000,000
 WGS 1984 UTM Zone 30N Transverse Mercator

Rampion Extension Development

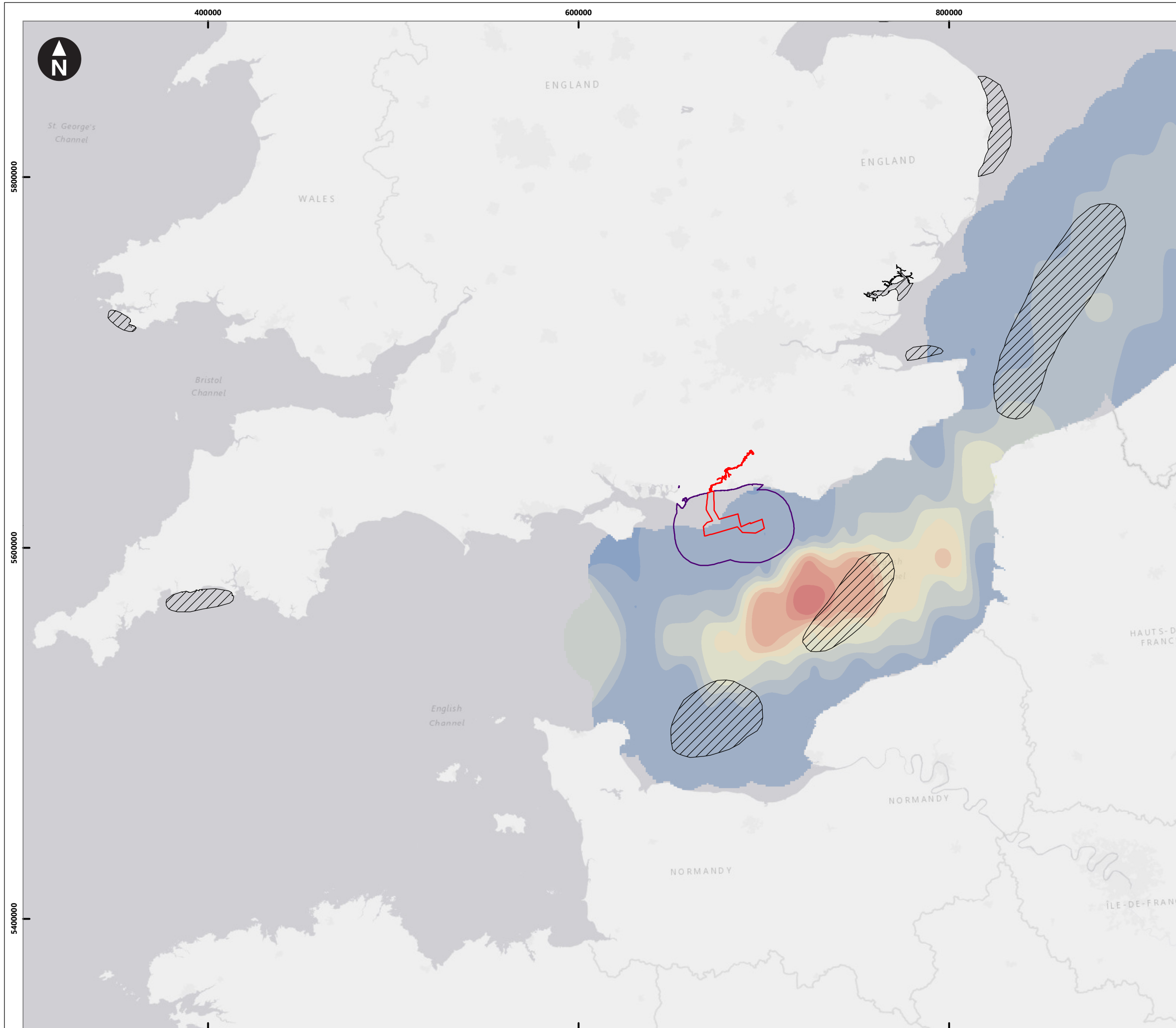
Rampion 2 Offshore Wind Farm

Figure 8.7 Nursery grounds in relation to Rampion 2: sprat, whiting, thornback ray and undulate ray

Environmental Statement

| | |
|---|-----------------|
| System Identifier: 42285-GOBE-ES-OF-FG-07-5380 | Version: 1.0 |
|---|-----------------|

| | | | | |
|------------------|-----------------|------------------|---------------------------|------------------|
| Company: GOBE | Drawn By: CC | Chk/Prvrd: NH | Drawn Date: 04/08/2023 | Status: FINAL |
|------------------|-----------------|------------------|---------------------------|------------------|



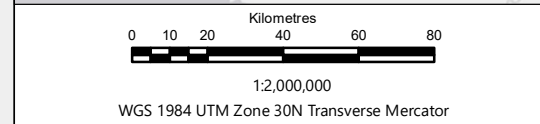
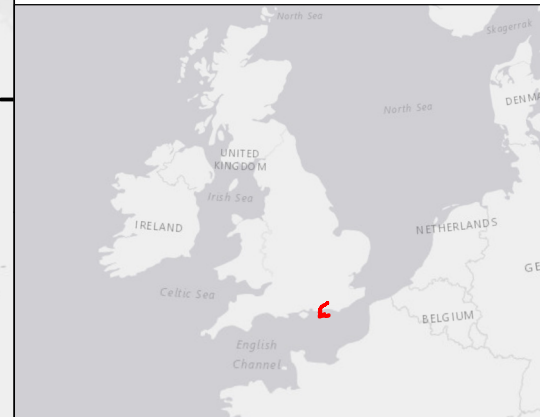
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
 Contains data sourced from Coull et al. 1998; and data derived from ICES 2021

Key

- Proposed DCO Order Limits
- Fish and Shellfish Study Area
- Herring spawning (Coul et al. 1998)

IHLS 2007/2020 downs data
 Herring larval abundance per m²

| | |
|--|-----------------|
| | 0 |
| | 0.1 - 2,500 |
| | 2,500 - 7,000 |
| | 7,000 - 14,000 |
| | 14,000 - 23,000 |
| | 23,000 - 35,000 |
| | 35,000 - 48,000 |
| | 48,000 - 63,000 |
| | 63,000 - 80,000 |
| | 80,000 - 98,500 |



Rampion Extension Development

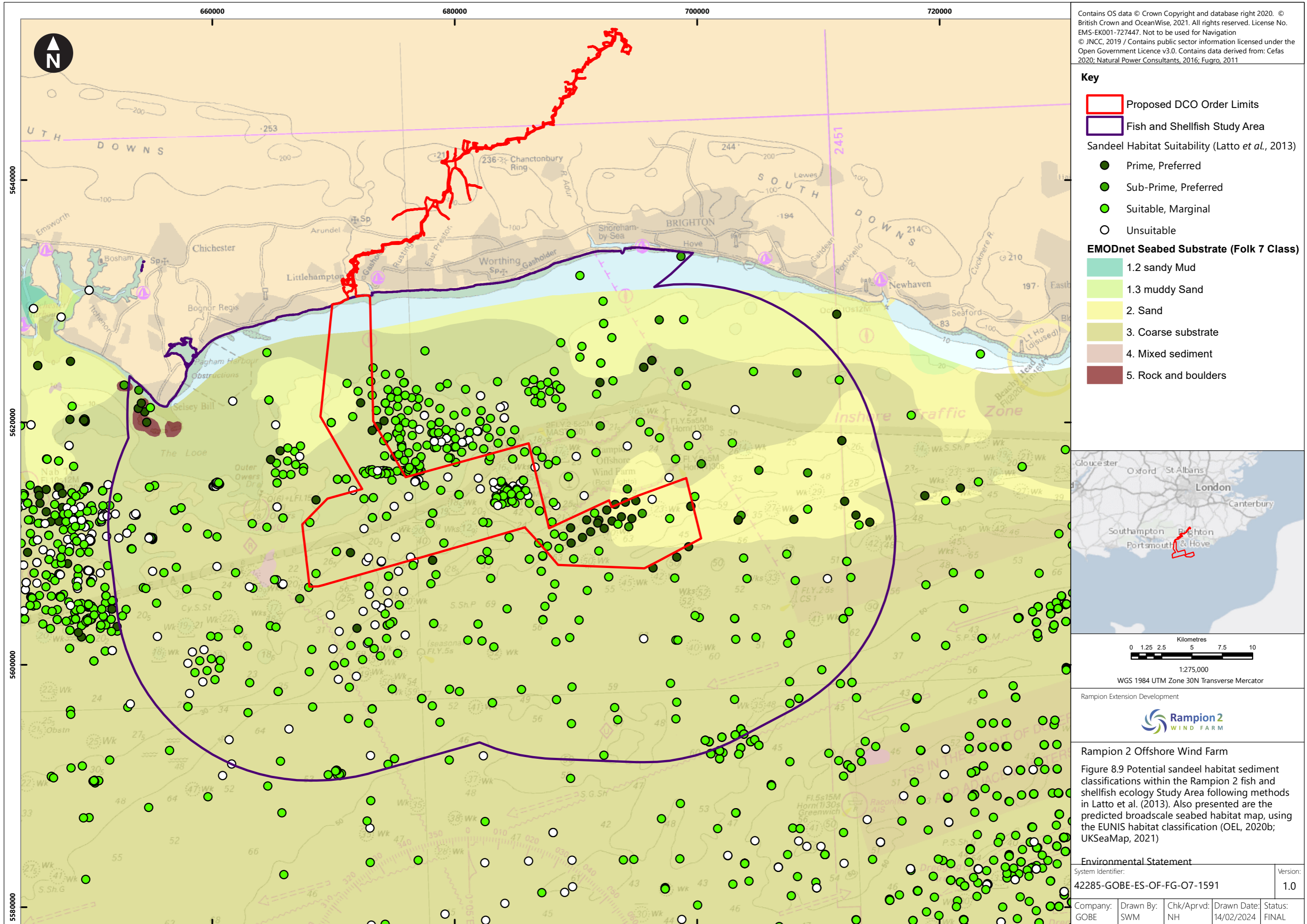


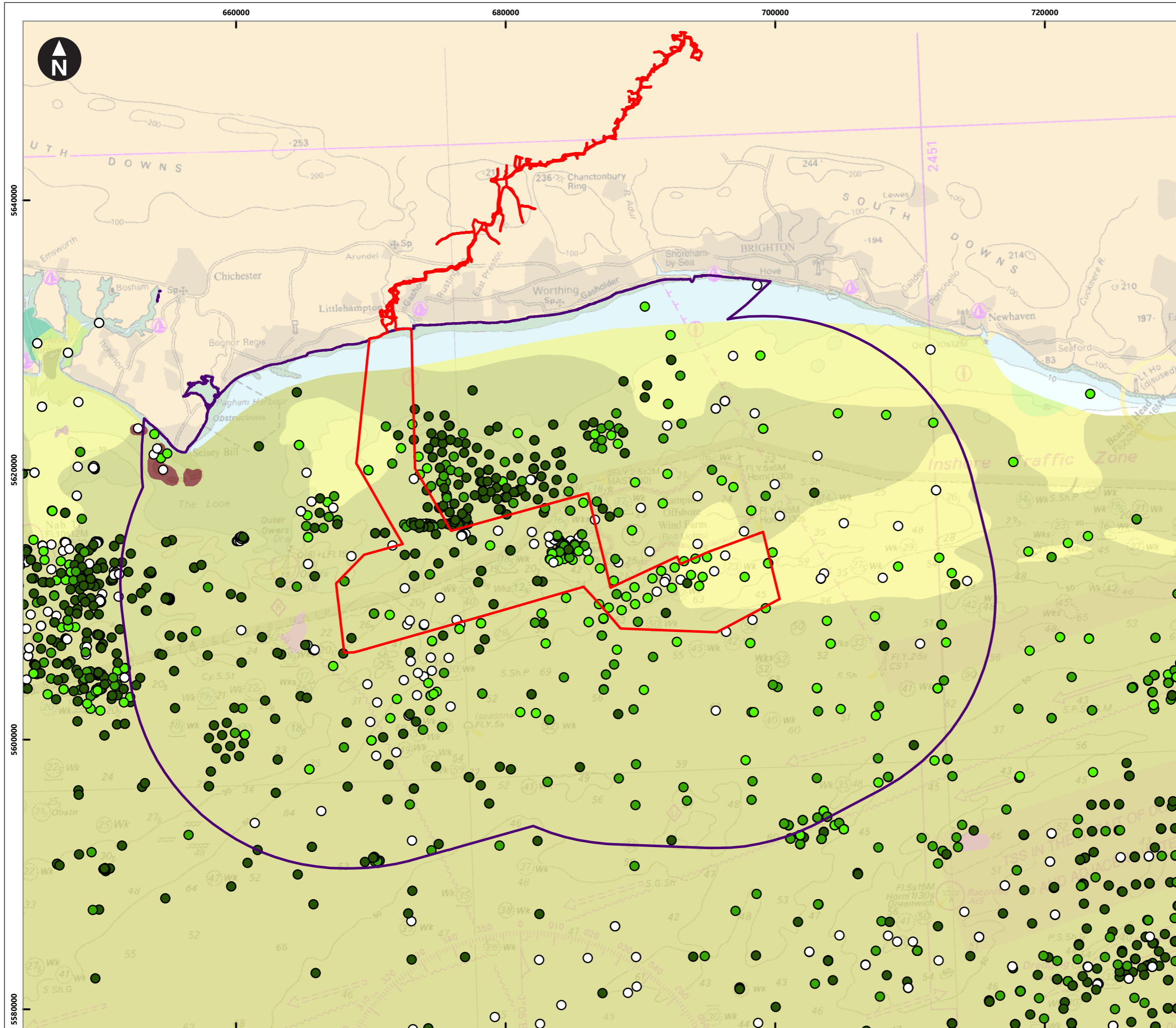
Rampion 2 Offshore Wind Farm

Figure 8.8 Location of herring spawning grounds and IHLS comparison (2007-2020) in relation to Rampion 2

Environmental Statement

| | | | | |
|---|------------------|------------------|---------------------------|------------------|
| System Identifier: 42285-GOBE-ES-OF-FG-07-3775 | | | | Version: 1.0 |
| Company: GOBE | Drawn By: SWM | Chk/Aprvd: NH | Drawn Date: 04/08/2023 | Status: FINAL |





Contains OS data © Crown Copyright and database right 2020. © British Crown and OceanWise, 2021. All rights reserved. License No. EMS-EK001-727447. Not to be used for Navigation.
 © JNCC, 2019 / Contains public sector information licensed under the Open Government Licence v3.0. Contains data derived from: Cefas 2020; Natural Power Consultants, 2016; Fugro, 2011

Key

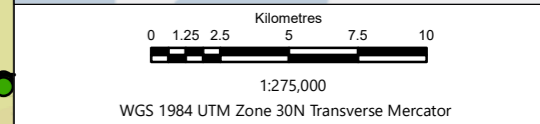
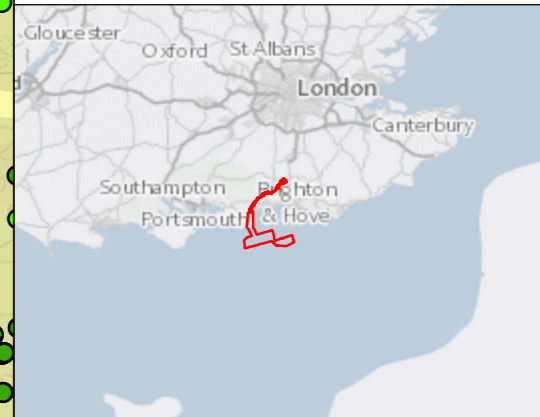
- Proposed DCO Order Limits
- Fish and Shellfish Study Area

Herring Habitat Suitability (Reach *et al.*, 2013)

- Prime, Preferred
- Sub-Prime, Preferred
- Suitable, Marginal
- Unsuitable

EMODnet Seabed Substrate (Folk 7 Class)

- 1.2 sandy Mud
- 1.3 muddy Sand
- 2. Sand
- 3. Coarse substrate
- 4. Mixed sediment
- 5. Rock and boulders



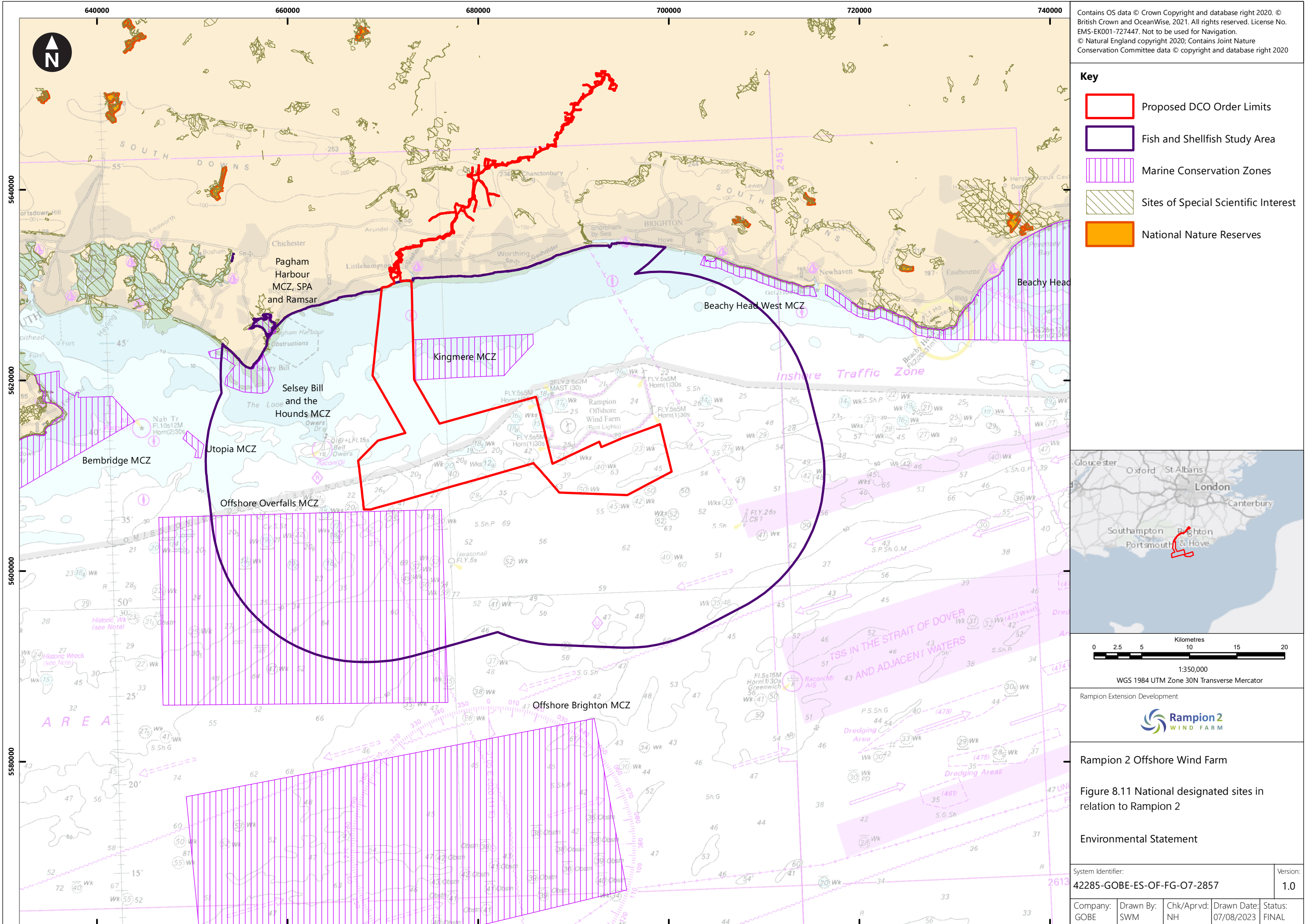
Rampion Extension Development

Rampion 2 Offshore Wind Farm
 Figure 8.10 Potential herring habitat sediment classifications within the Rampion 2 fish and shellfish ecology Study Area following methods in Reach *et al.* (2013). Also presented are the predicted broadscale seabed habitat map, using the EUNIS habitat classification (OEL, 2020b; UKSeaMap, 2021)

Environmental Statement

| | | |
|-----------------------------|--|----------|
| System Identifier: | | Version: |
| 42285-GOBE-ES-OF-FG-07-6937 | | 1.0 |

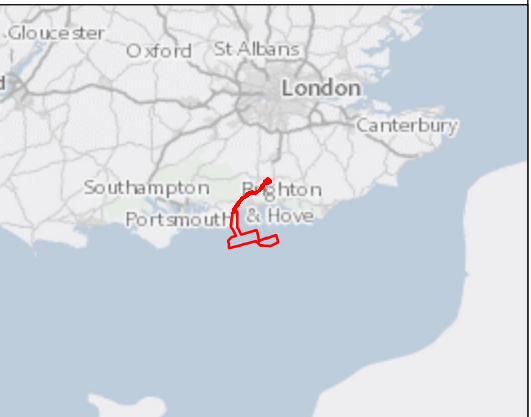
| | | | | |
|----------|-----------|------------|-------------|---------|
| Company: | Drawn By: | Chk/Prvrd: | Drawn Date: | Status: |
| GOBE | SWM | NH | 14/02/2024 | FINAL |



Contains OS data © Crown Copyright and database right 2020. © British Crown and OceanWise, 2021. All rights reserved. License No. EMS-EK001-727447. Not to be used for Navigation.
 © Natural England copyright 2020; Contains Joint Nature Conservation Committee data © copyright and database right 2020

Key

- Proposed DCO Order Limits
- Fish and Shellfish Study Area
- Marine Conservation Zones
- Sites of Special Scientific Interest
- National Nature Reserves



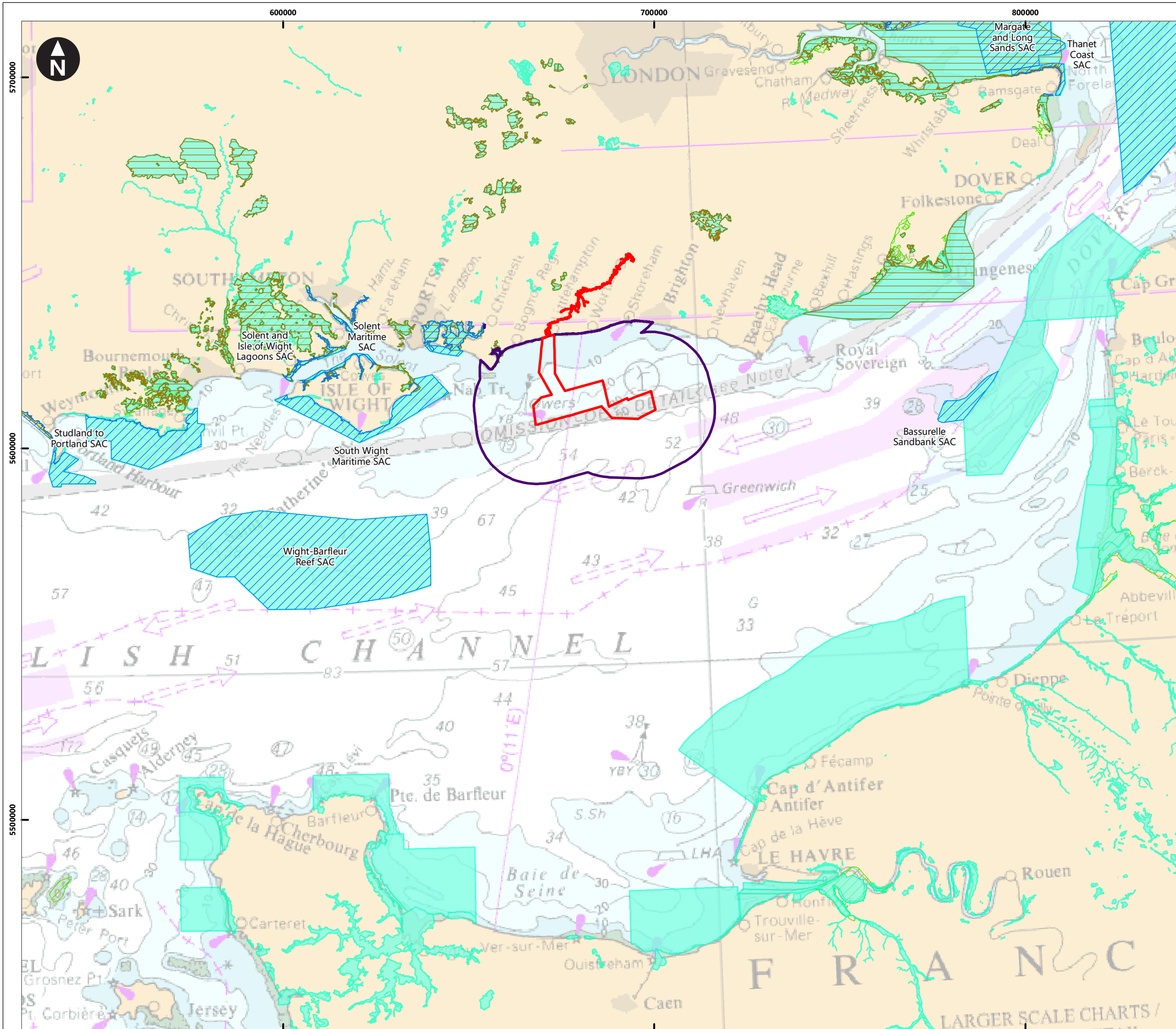
0 2.5 5 10 15 20
 Kilometres
 1:350,000
 WGS 1984 UTM Zone 30N Transverse Mercator

Rampion Extension Development


Rampion 2 Offshore Wind Farm
 Figure 8.11 National designated sites in relation to Rampion 2

Environmental Statement

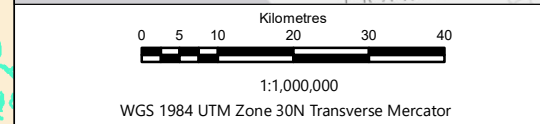
| | | | |
|---|------------------|------------------|---|
| System Identifier: 42285-GOBE-ES-OF-FG-07-2857 | | Version: 1.0 | |
| Company: GOBE | Drawn By: SWM | Chk/Prvrd: NH | Drawn Date: Status: 07/08/2023 FINAL |



Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community. © British Crown and OceanWise, 2021. All rights reserved. License No. EMS-EK001-727447. Not to be used for Navigation © Natural England copyright 2020; Contains Joint Nature Conservation Committee data © copyright and database right 2020

Key

- Proposed DCO Order Limits
- Fish and Shellfish Study Area
- Special Areas of Conservation with marine components
- Special Protection Areas
- Europe Natura 2000 sites
- Ramsar Sites



Rampion Extension Development

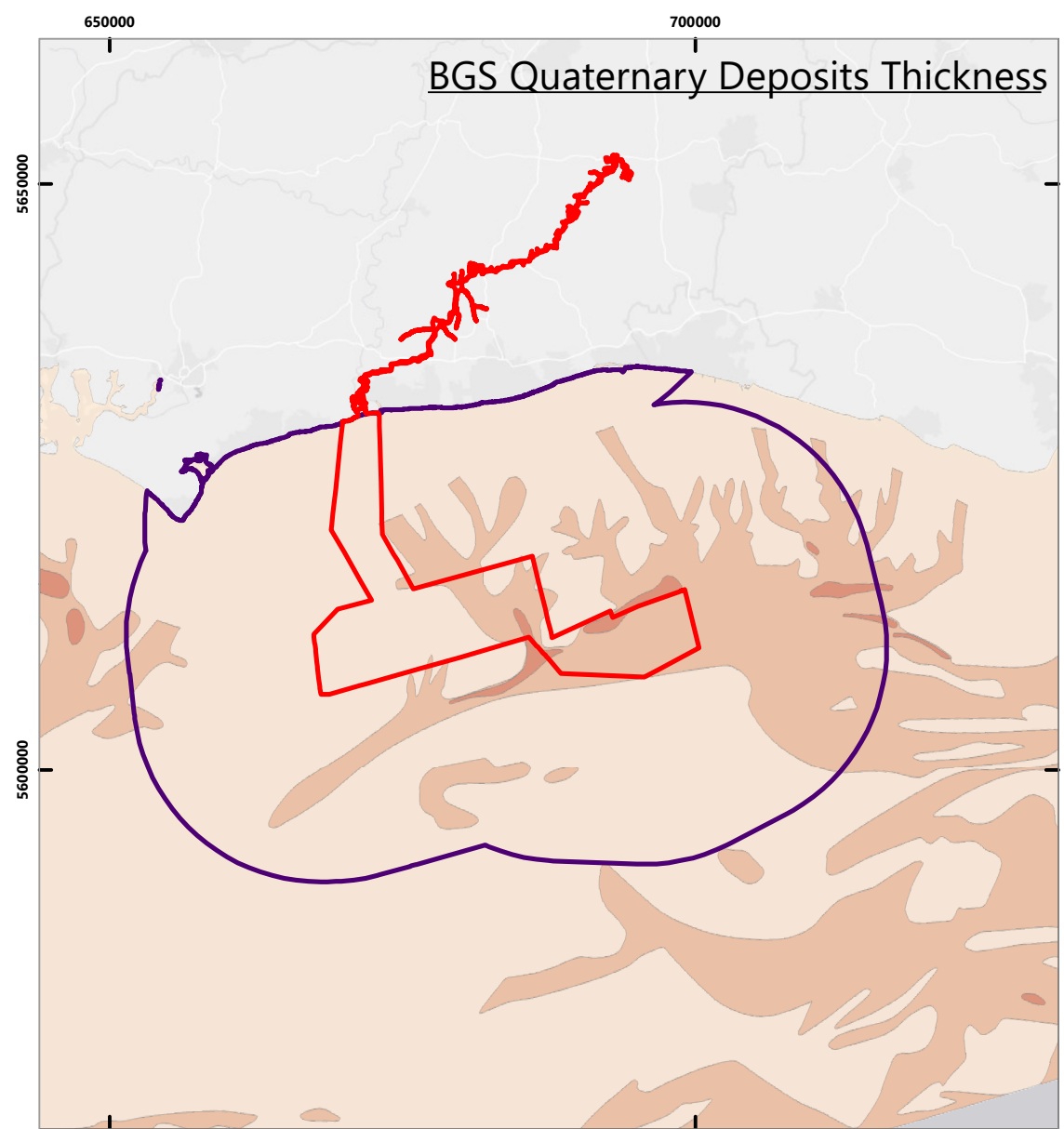
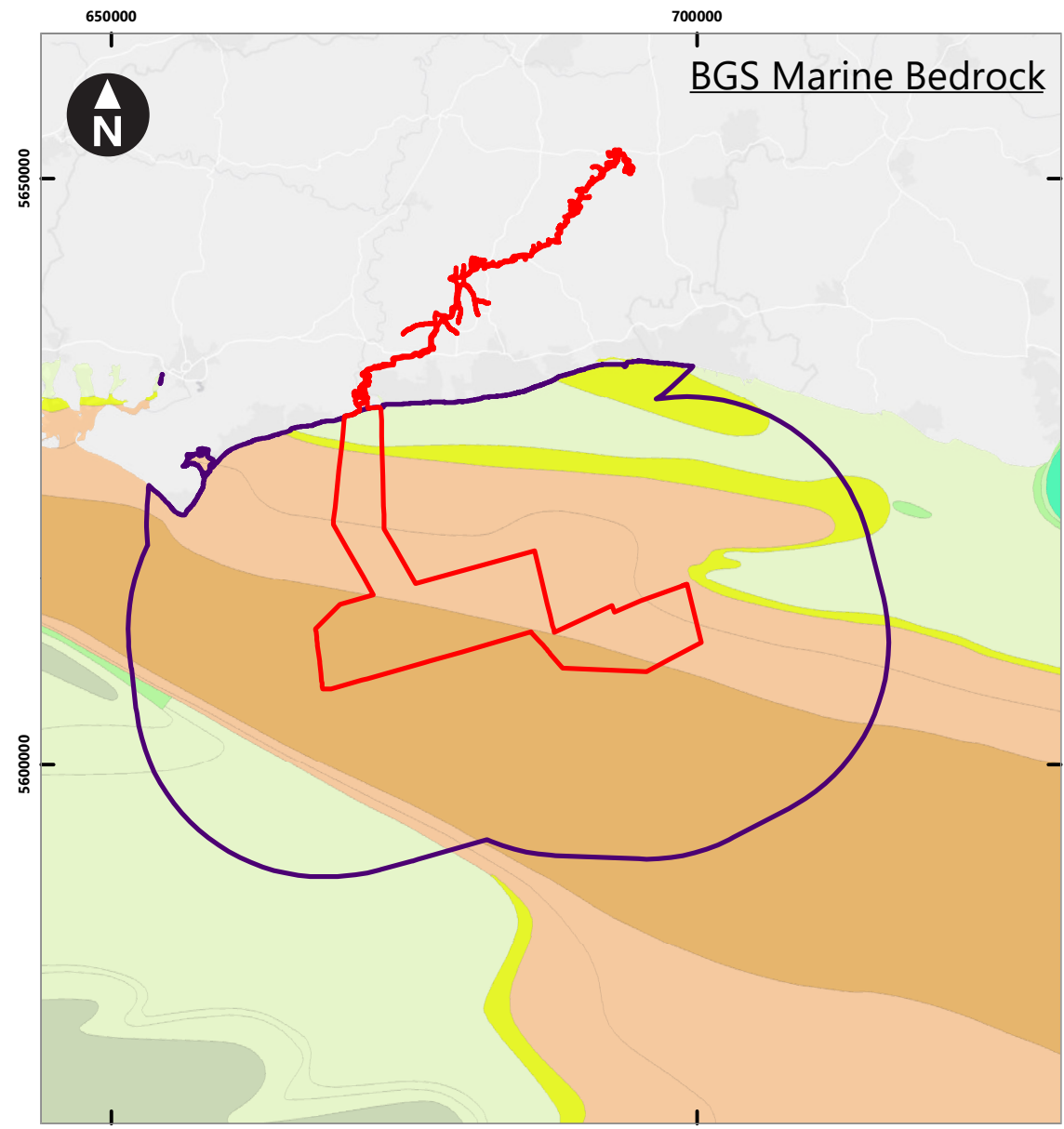


Rampion 2 Offshore Wind Farm

Figure 8.12 International designated sites in relation to Rampion 2

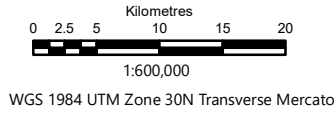
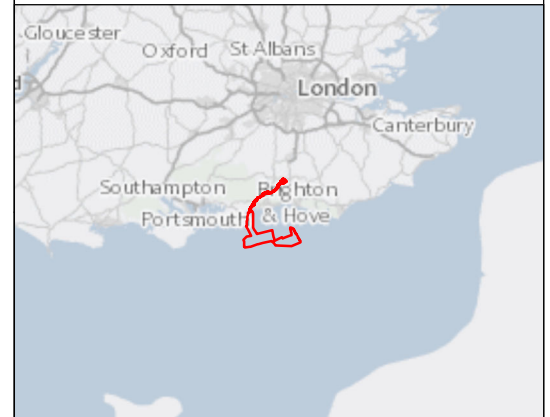
Environmental Statement

| | | | | |
|---|------------------|------------------|---------------------------|------------------|
| System Identifier: 42285-GOBE-ES-OF-FG-07-4444 | | | | Version: 1.0 |
| Company: GOBE | Drawn By: SWM | Chk/Prvrd: NH | Drawn Date: 04/08/2023 | Status: FINAL |



Key

- Proposed DCO Order Limits
- Fish and Shellfish Study Area



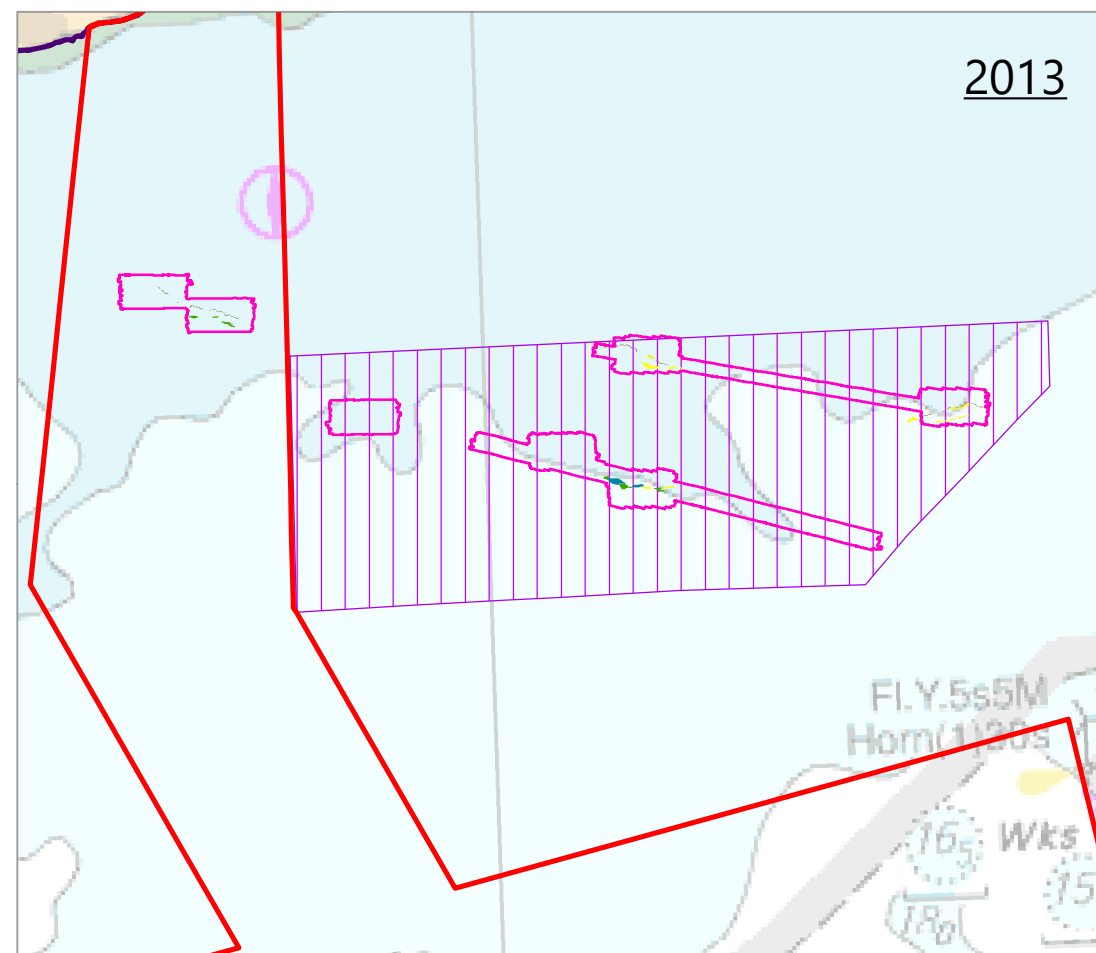
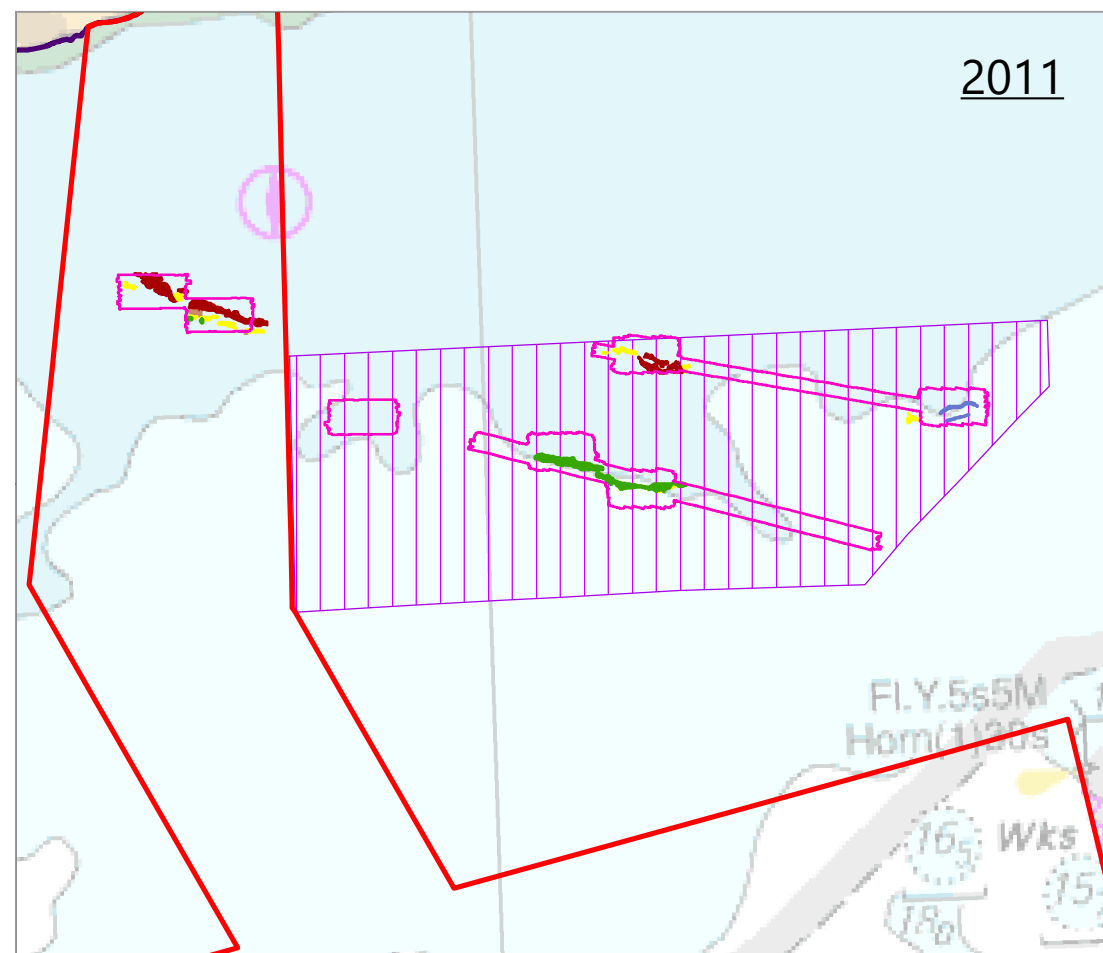
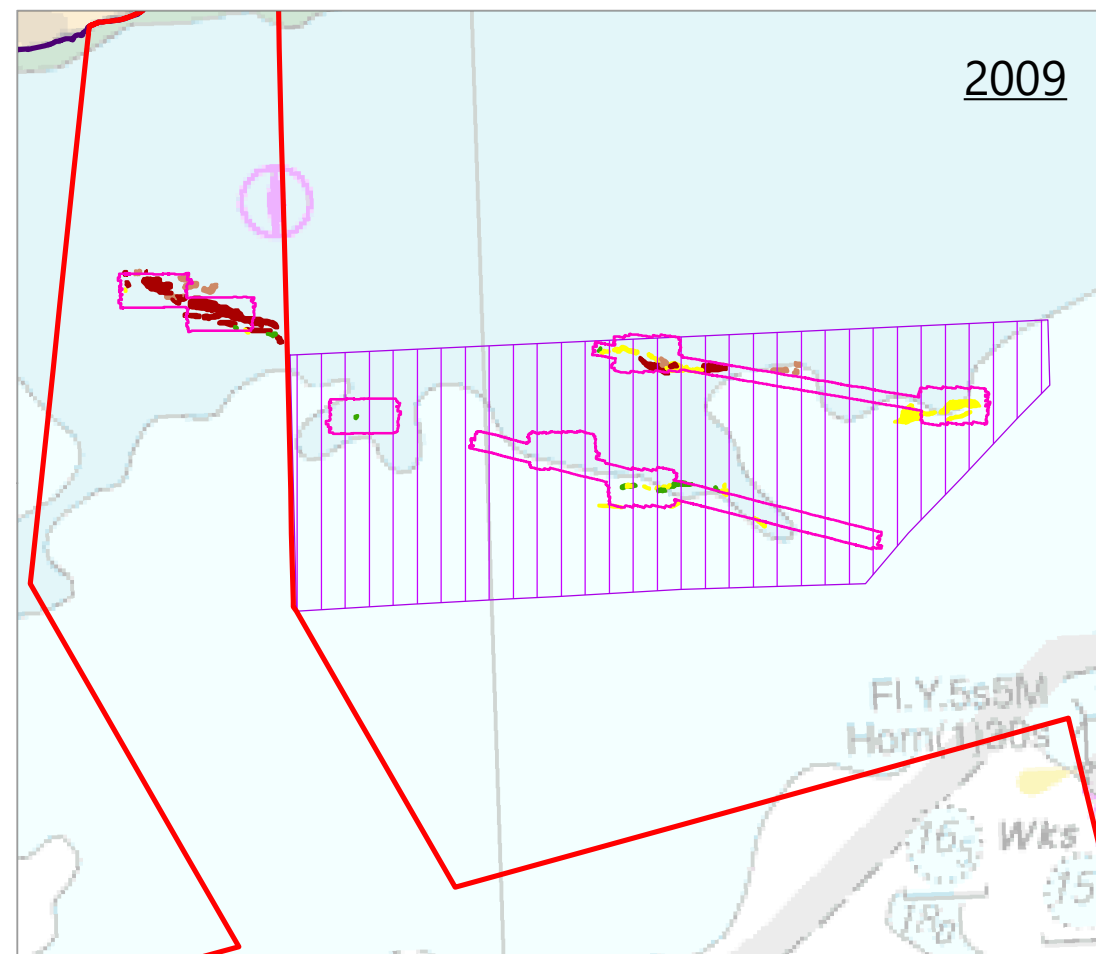
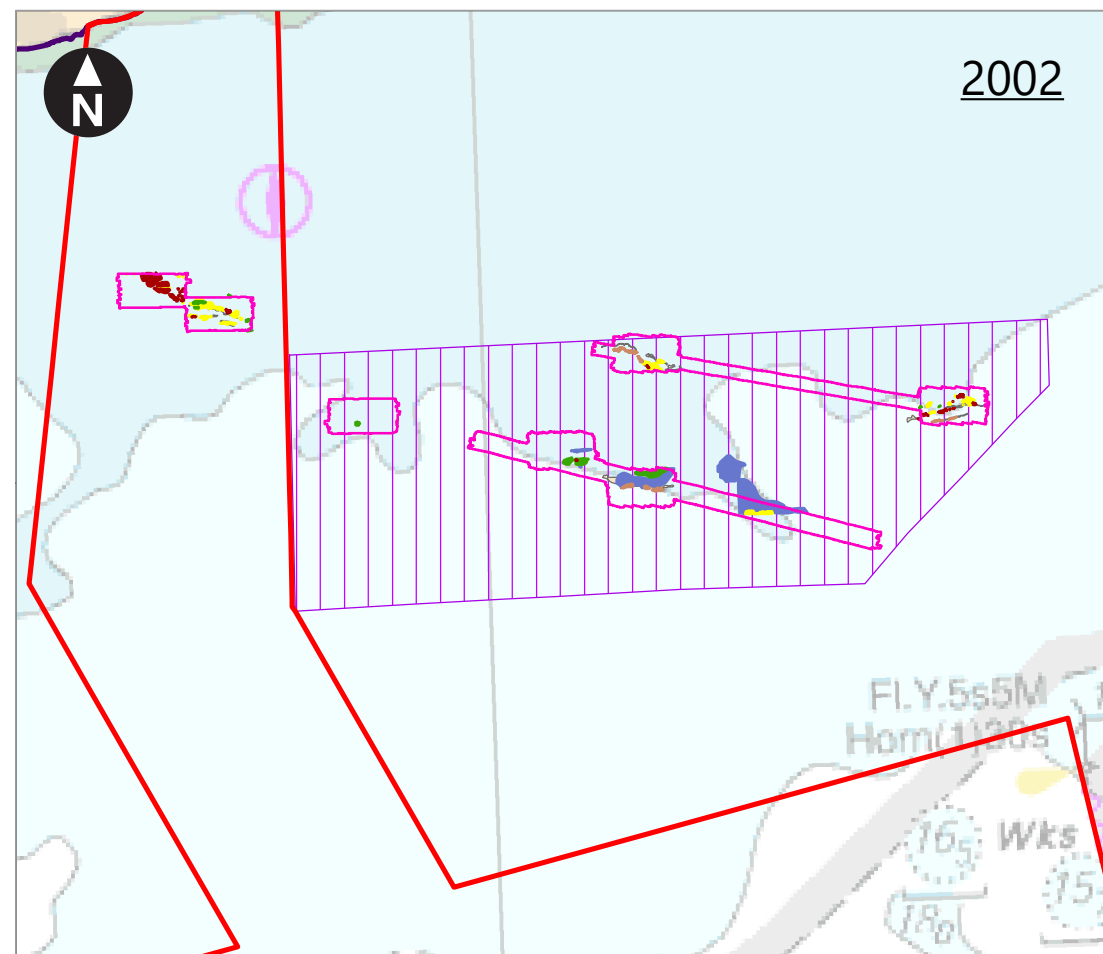
Rampion Extension Development

Rampion 2 Offshore Wind Farm

Figure 8.13 Location of potential black seabream spawning grounds in relation to Rampion 2

Environmental Statement

| | | | | |
|---|------------------|------------------|---------------------------|------------------|
| System Identifier: 42285-GOBE-ES-OF-FG-07-1809 | | | | Version: 1.0 |
| Company: GOBE | Drawn By: SWM | Chk/Aprvd: NH | Drawn Date: 04/08/2023 | Status: FINAL |

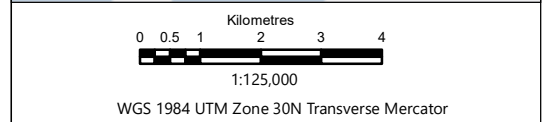
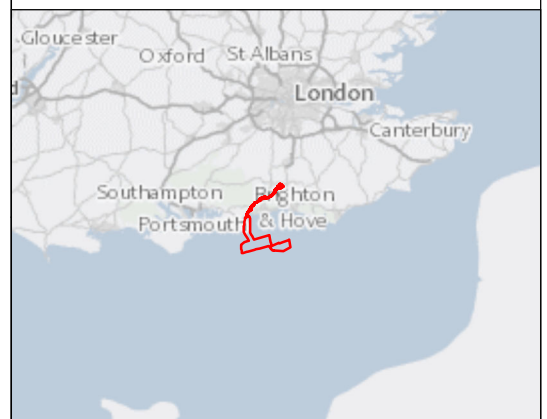


Key

- Proposed DCO Order Limits
- Fish and Shellfish Study Area
- Black Seabream Survey Extents
- Kingmere Marine Conservation Zone

Black Seabream Nest Density

- Dense nests
- Faint dense nests
- Less dense / patchy nests
- Small patches of nests
- Sparse single nests



Rampion Extension Development



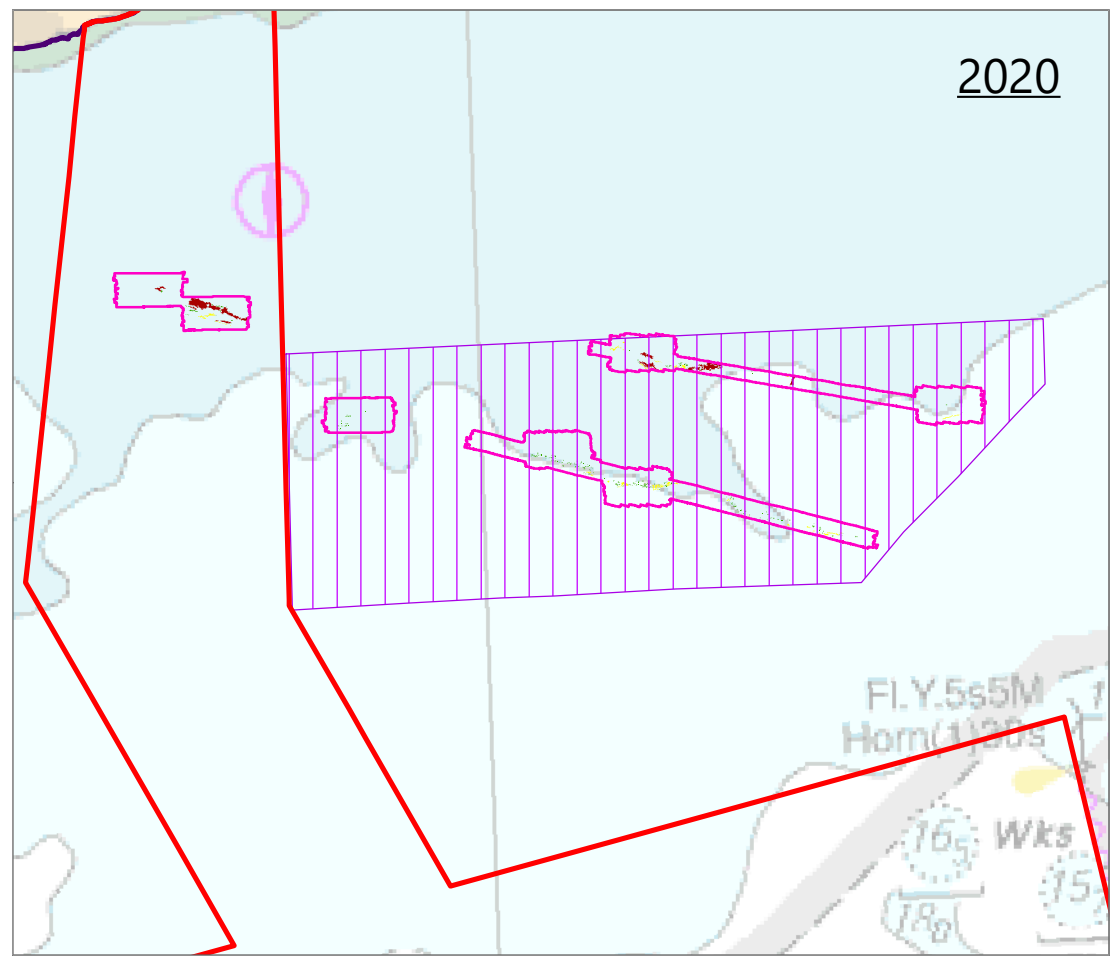
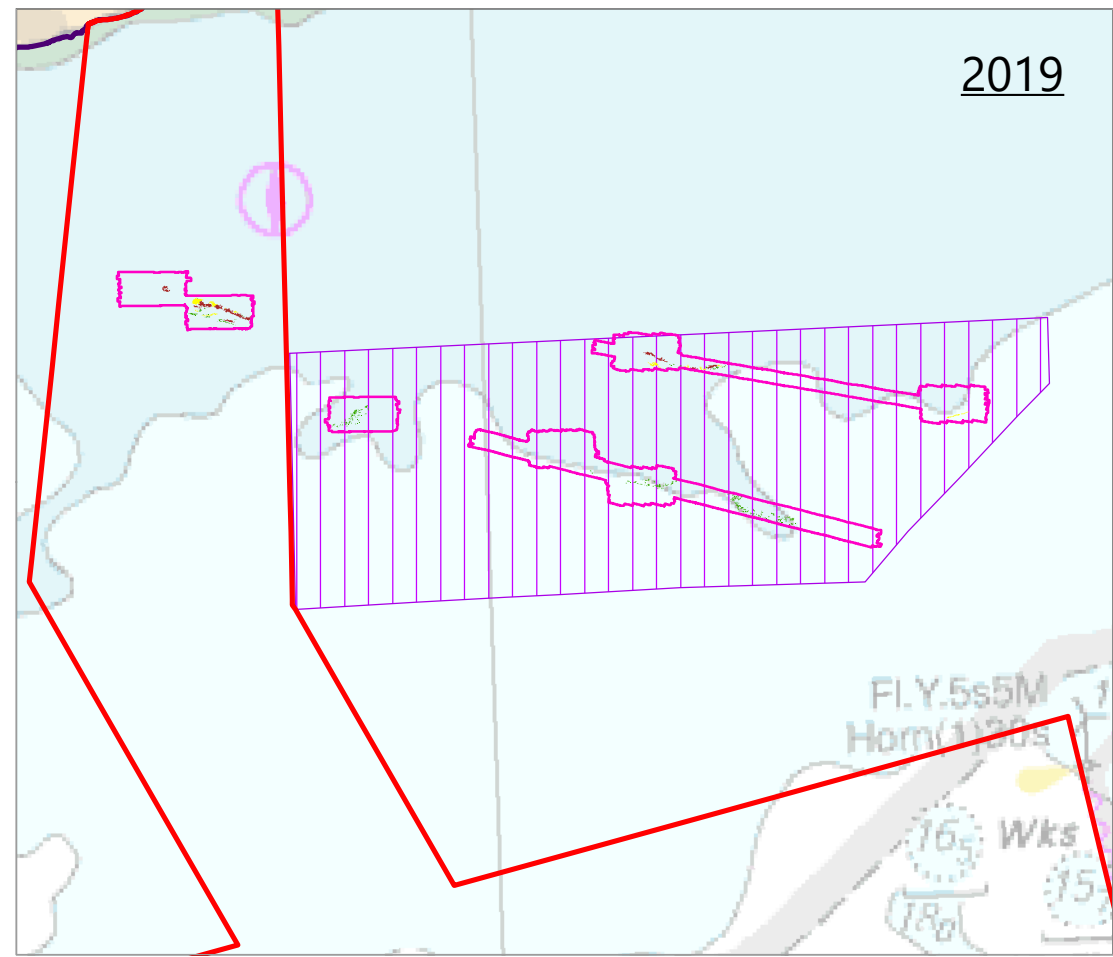
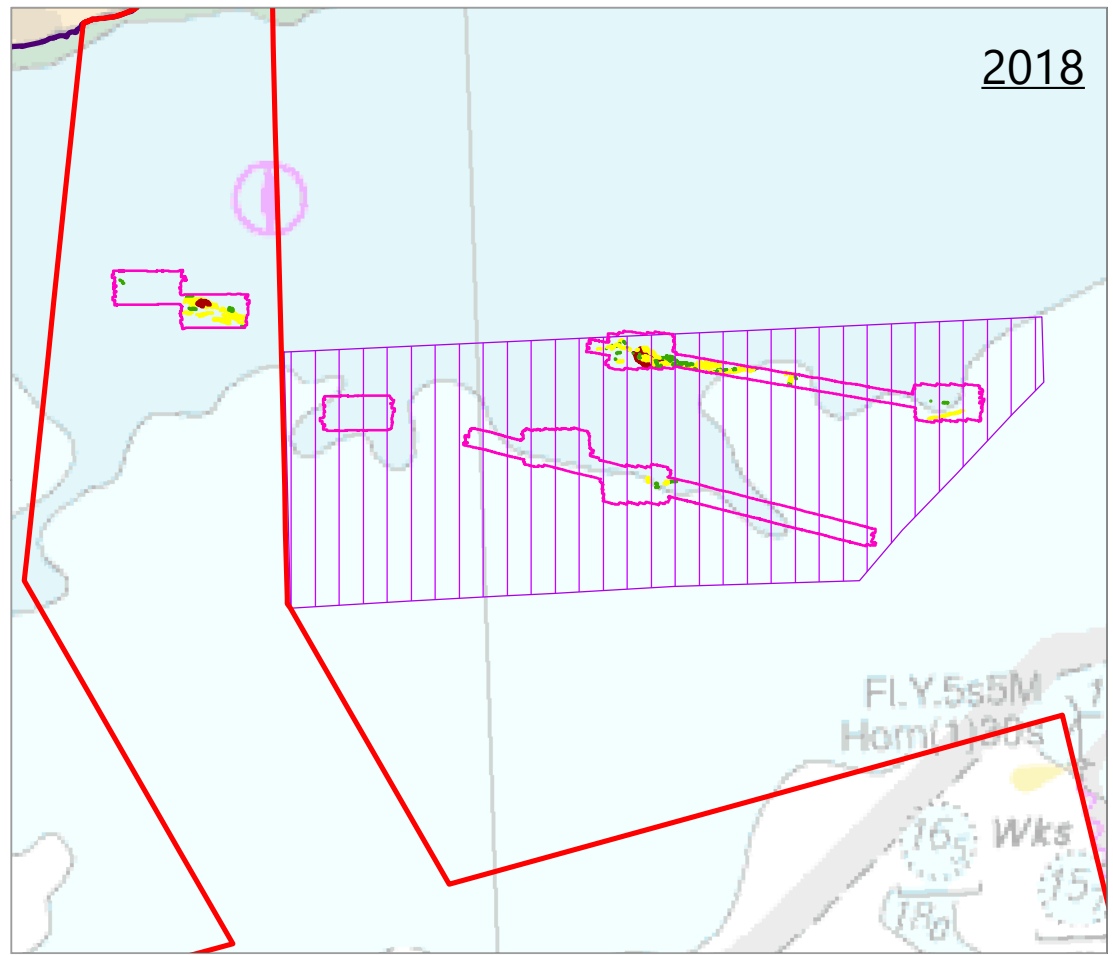
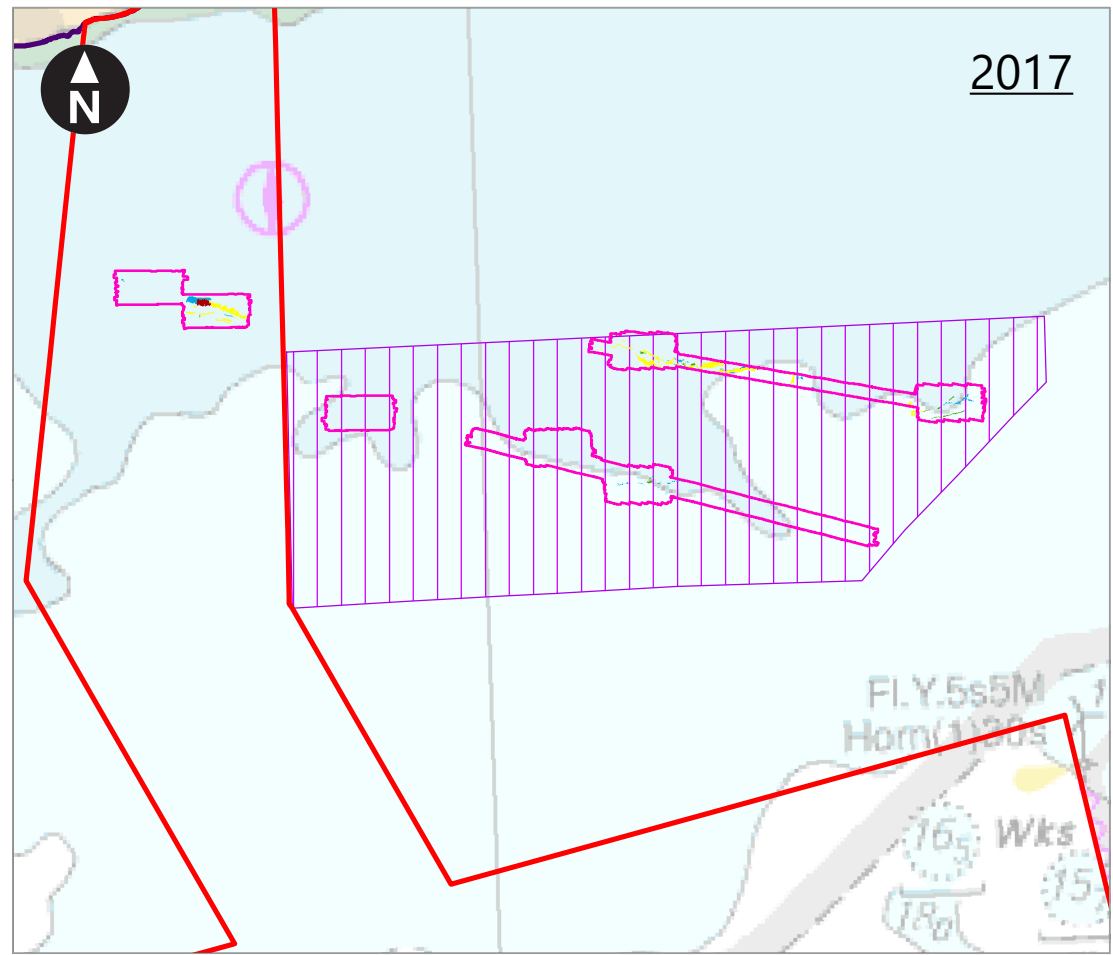
Rampion 2 Offshore Wind Farm

Figure 8.14a Location of black seabream nests within the Rampion 2 fish and shellfish Study Area

Environmental Statement

| | |
|-----------------------------|----------|
| System Identifier: | Version: |
| 42285-GOBE-ES-OF-FG-07-1521 | 1.0 |

| | | | | |
|----------|-----------|------------|-------------|---------|
| Company: | Drawn By: | Chk/Aprvd: | Drawn Date: | Status: |
| GOBE | SWM | NH | 04/08/2023 | FINAL |

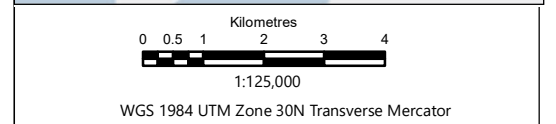
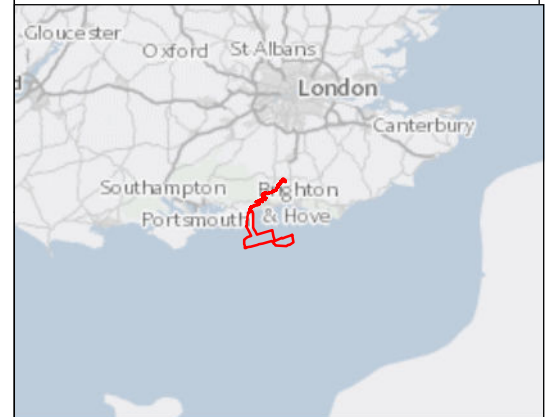


Key

- Proposed DCO Order Limits
- Fish and Shellfish Study Area
- Black Bream Survey Extents
- Kingmere Marine Conservation Zone

Black bream nest density

- Dense nests
- Faint dense nests
- Less dense / patchy nests
- Small patches of nests
- Sparse single nests



Rampion Extension Development



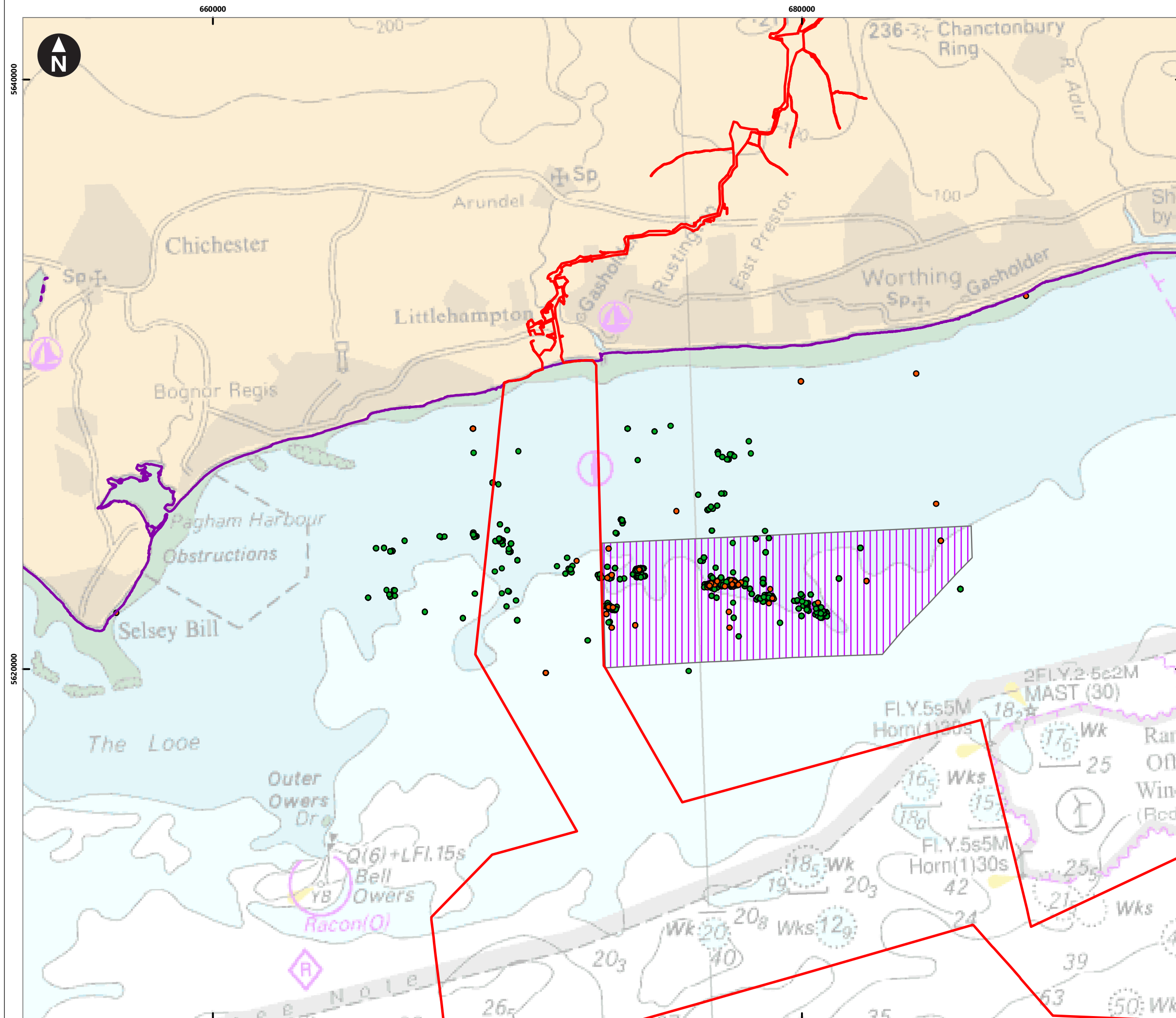
Rampion 2 Offshore Wind Farm

Figure 8.14b Locations and densities of black bream nests within the Rampion 2 fish and shellfish Study Area

Environmental Statement

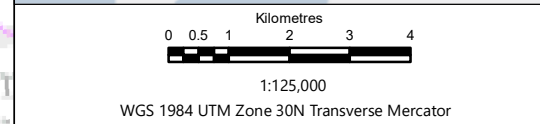
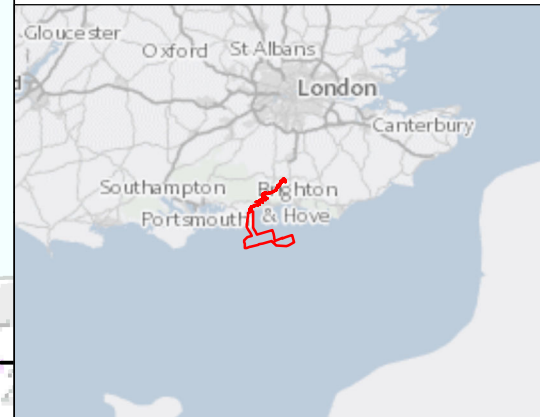
| | |
|---|-----------------|
| System Identifier: 42285-GOBE-ES-OF-FG-O7-5313 | Version: 1.0 |
|---|-----------------|

| | | | | |
|------------------|------------------|------------------|---------------------------|------------------|
| Company: GOBE | Drawn By: SWM | Chk/Aprvd: NH | Drawn Date: 05/06/2023 | Status: FINAL |
|------------------|------------------|------------------|---------------------------|------------------|



Key

- Proposed DCO Order Limits
- Fish and shellfish Study Area
- Kingmere Marine Conservation Zone
- Black seabream recapture (2014-2016)
- Black seabream release (2014-2016)



Rampion Extension Development

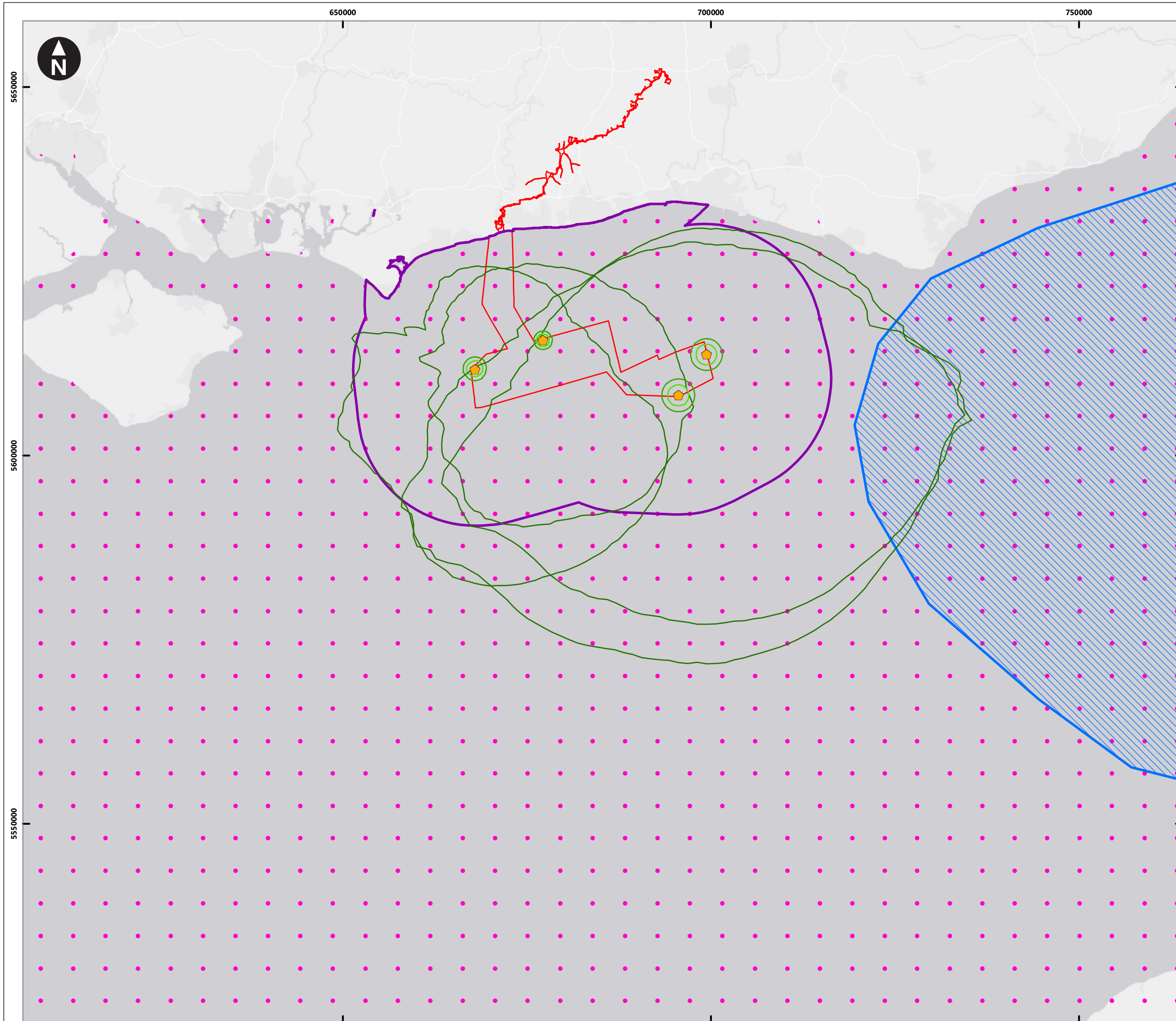
Rampion 2 Offshore Wind Farm

Figure 8.15 Black seabream catch and release locations (Sussex IFCA) within Rampion 2 fish and shellfish Study Area

Environmental Statement

| | |
|---|-----------------|
| System Identifier: 42285-GOBE-ES-OF-FG-07-6265 | Version: 1.0 |
|---|-----------------|

| | | | | |
|------------------|------------------|------------------|---------------------------|------------------|
| Company: GOBE | Drawn By: SWM | Chk/Aprvd: NH | Drawn Date: 04/08/2023 | Status: FINAL |
|------------------|------------------|------------------|---------------------------|------------------|



Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
 Contains data sourced from Coull et al. 1998; and data derived from ICES 2021

Key

- Proposed DCO Order Limits
- Fish and shellfish Study Area
- ◆ Noise Modelling Locations
- MDS Monopile Contours 4,400 kJ dB SELcum:
 - 219dB
 - 216dB
 - 186dB
- Spawning Grounds, Coull-1998 (Species):
 - Sandeel,
- Spawning Grounds, Ellis-2010 (Species, Intensity):
 - Sandeel, Lower



0 2.5 5 10 15 20
 Kilometres
 1:500,000
 WGS 1984 UTM Zone 30N Transverse Mercator

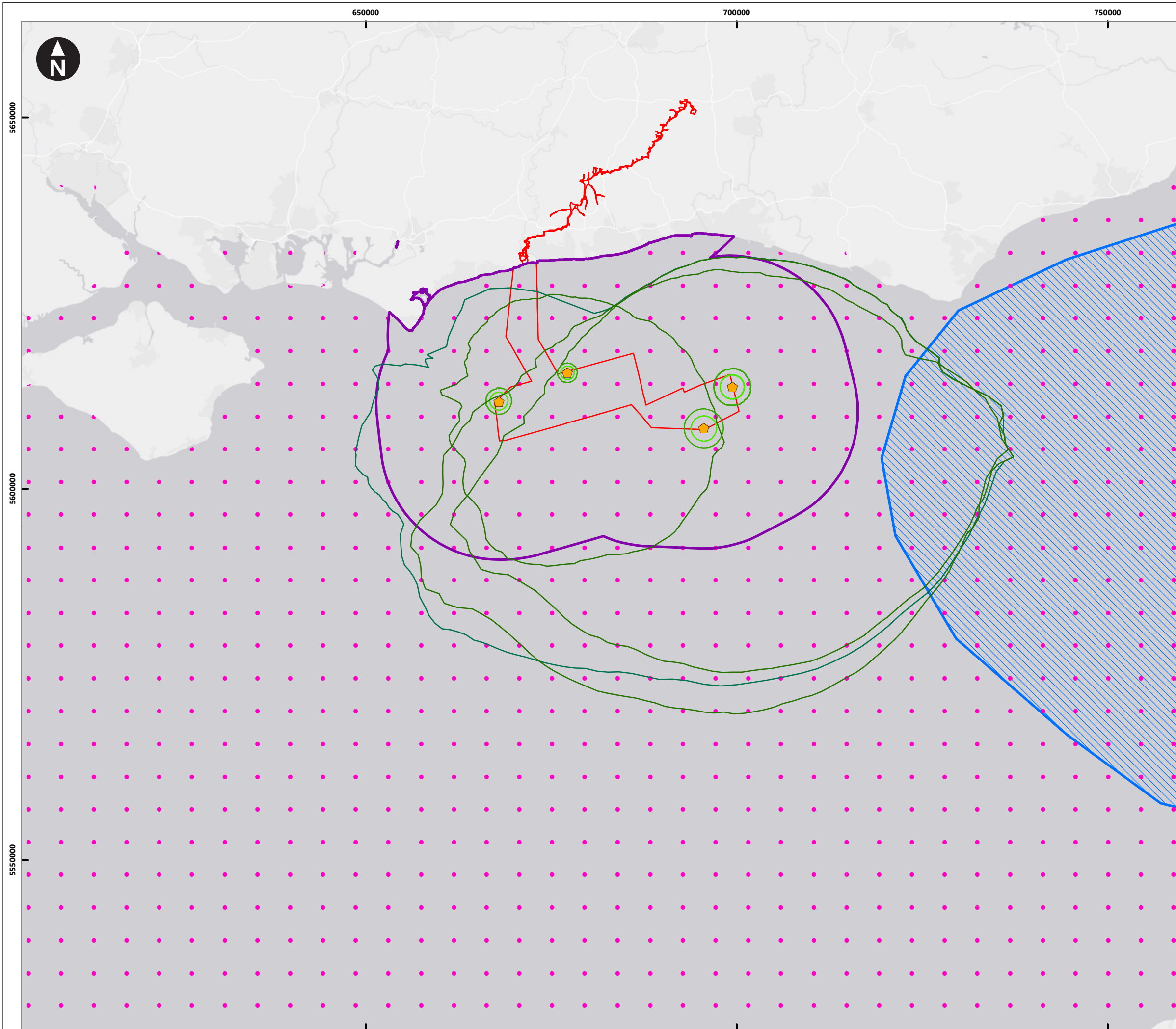
Rampion Extension Development


Rampion 2 Offshore Wind Farm
 Figure 8.16 Predicted worst case impact ranges for spawning sandeel from the sequential piling of monopile foundations (SELCum)

Environmental Statement

| | |
|---|-----------------|
| System Identifier: 42285-GOBE-ES-OF-FG-07-9457 | Version: 1.0 |
|---|-----------------|

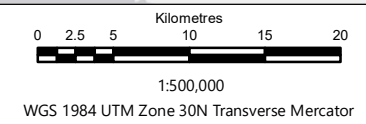
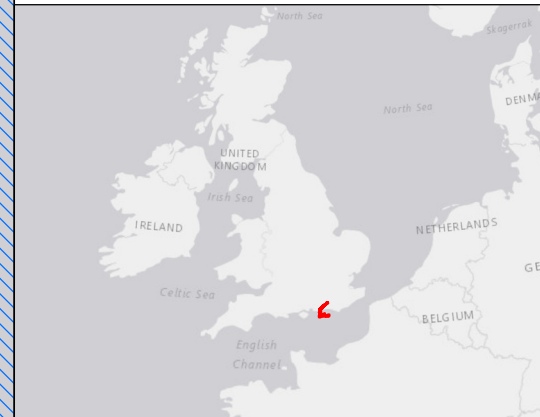
| | | | | |
|------------------|------------------|------------------|---------------------------|------------------|
| Company: GOBE | Drawn By: SWM | Chk/Aprvd: NH | Drawn Date: 05/06/2023 | Status: FINAL |
|------------------|------------------|------------------|---------------------------|------------------|



Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
 Contains data sourced from Coull et al. 1998; and data derived from ICES 2021

Key

- Proposed DCO Order Limits
- Fish and Shellfish Study Area
- ⬠ Noise Modelling Locations
- MDS Multileg Contours 2,500 kJ dB SELcum:
 - 219dB
 - 216dB
 - 186dB
- Spawning Grounds, Coull-1998 (Species):
 - Sandeel,
- Spawning Grounds, Ellis-2010 (Species, Intensity):
 - Sandeel, Lower



Rampion Extension Development



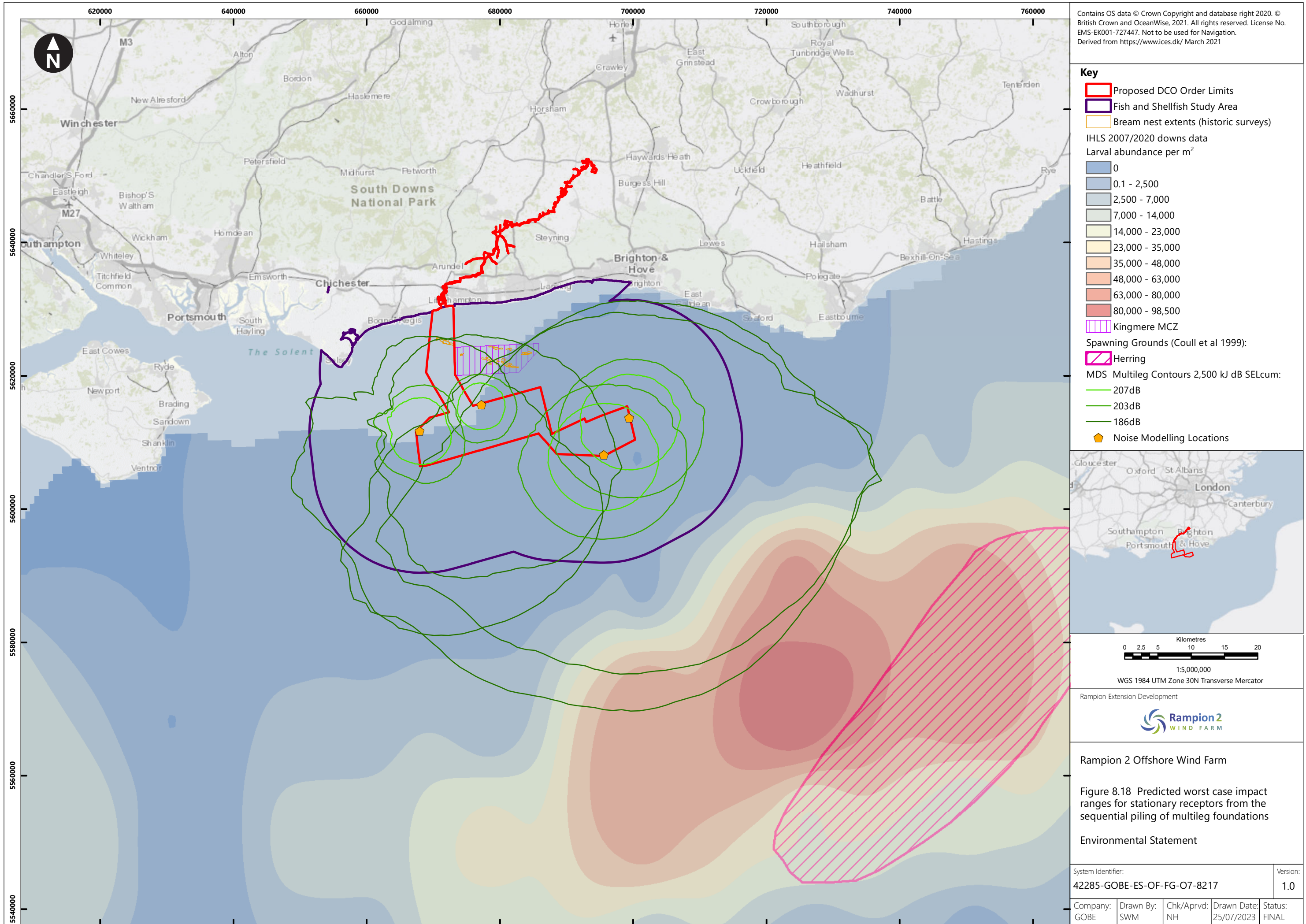
Rampion 2 Offshore Wind Farm

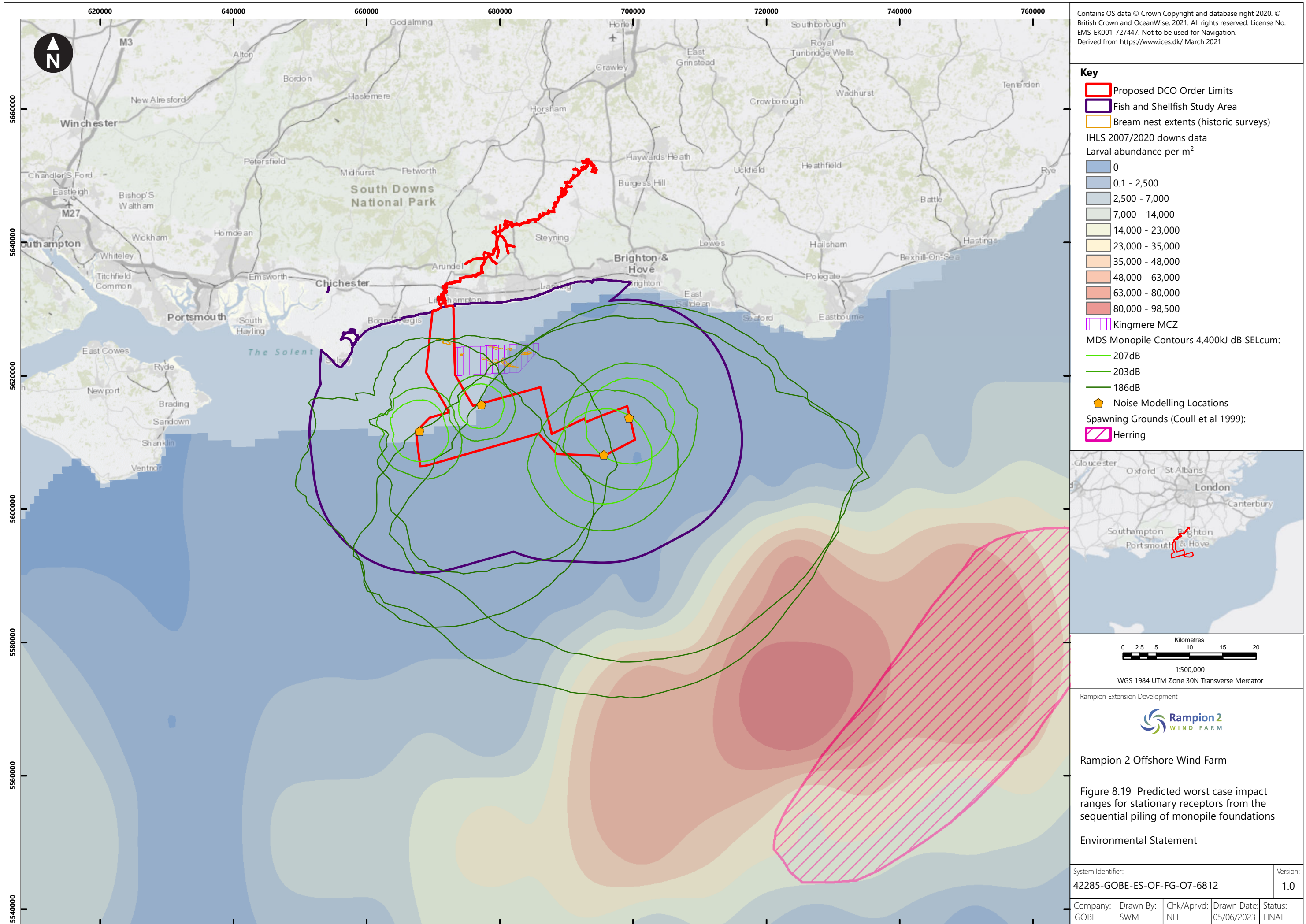
Figure 8.17 Predicted worst case impact ranges for spawning sandeel from the sequential piling of multileg foundations (SELCum)

Environmental Statement

| | | |
|---|--|-----------------|
| System Identifier: 42285-GOBE-ES-OF-FG-07-1039 | | Version: 1.0 |
|---|--|-----------------|

| | | | | |
|------------------|------------------|-----------------|---------------------------|------------------|
| Company: GOBE | Drawn By: SWM | Chk/Prvd: NH | Drawn Date: 04/08/2023 | Status: FINAL |
|------------------|------------------|-----------------|---------------------------|------------------|





Contains OS data © Crown Copyright and database right 2020. © British Crown and OceanWise, 2021. All rights reserved. License No. EMS-EK001-727447. Not to be used for Navigation. Derived from <https://www.ices.dk/> March 2021

Key

- Proposed DCO Order Limits
- Fish and Shellfish Study Area
- Breem nest extents (historic surveys)

IHLS 2007/2020 downs data
Larval abundance per m²

- 0
- 0.1 - 2,500
- 2,500 - 7,000
- 7,000 - 14,000
- 14,000 - 23,000
- 23,000 - 35,000
- 35,000 - 48,000
- 48,000 - 63,000
- 63,000 - 80,000
- 80,000 - 98,500

- Kingmere MCZ

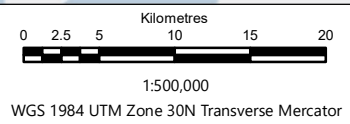
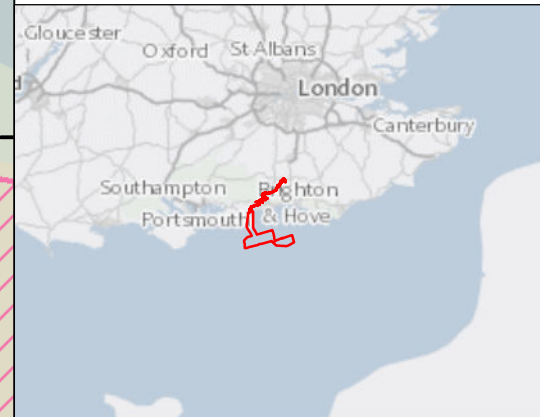
MDS Monopile Contours 4,400kJ dB SELcum:

- 207dB
- 203dB
- 186dB

- ◆ Noise Modelling Locations

Spawning Grounds (Coull et al 1999):

- Herring



Rampion Extension Development



Rampion 2 Offshore Wind Farm

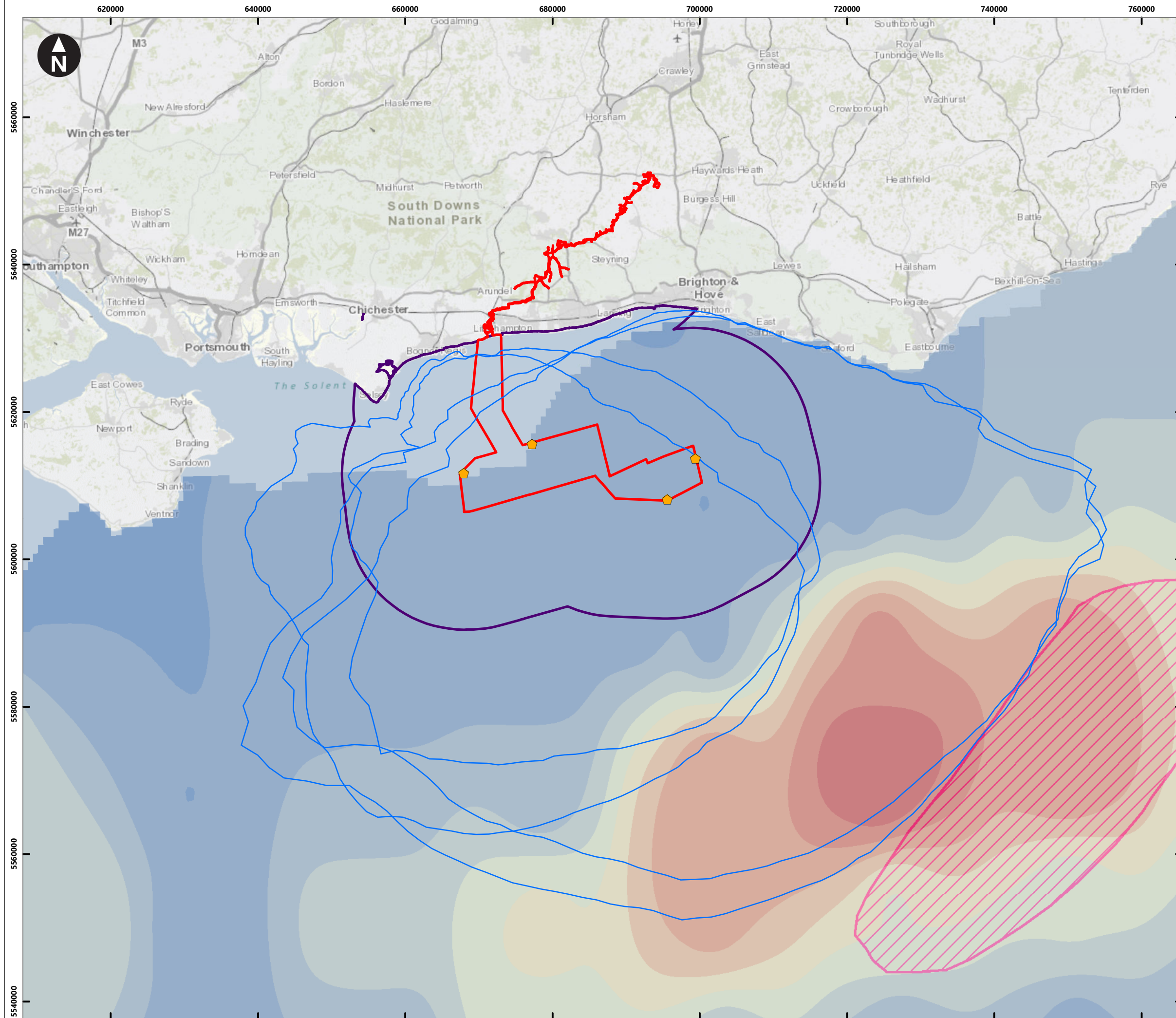
Figure 8.19 Predicted worst case impact ranges for stationary receptors from the sequential piling of monopile foundations

Environmental Statement

| | |
|---|-----------------|
| System Identifier: 42285-GOBE-ES-OF-FG-07-6812 | Version: 1.0 |
|---|-----------------|

| | | | | |
|------------------|------------------|-----------------|---------------------------|------------------|
| Company: GOBE | Drawn By: SWM | Chk/Prvd: NH | Drawn Date: 05/06/2023 | Status: FINAL |
|------------------|------------------|-----------------|---------------------------|------------------|

Contains OS data © Crown Copyright and database right 2020. © British Crown and OceanWise, 2021. All rights reserved. License No. EMS-EK001-727447. Not to be used for Navigation. Derived from https://www.ices.dk/ March 2021



Key

- Proposed DCO Order Limits
- Fish and Shellfish Study Area

IHLS 2007/2020 downs data
Larval abundance per m²

- 0
- 0.1 - 2,500
- 2,500 - 7,000
- 7,000 - 14,000
- 14,000 - 23,000
- 23,000 - 35,000
- 35,000 - 48,000
- 48,000 - 63,000
- 63,000 - 80,000
- 80,000 - 98,500

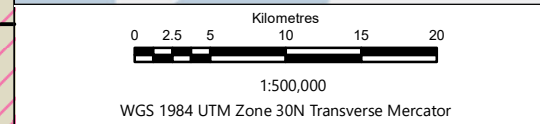
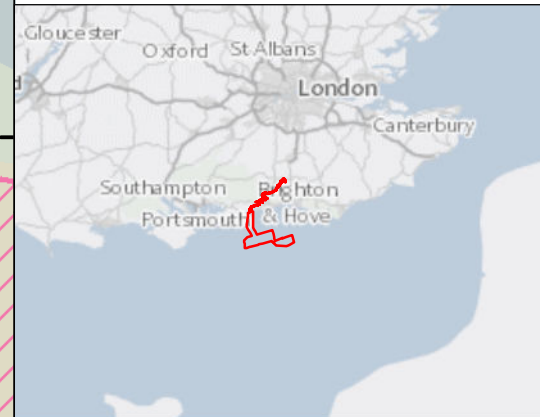
- ◆ Noise Modelling Locations

MDS Monopile Contours 4,400kJ dB SELs:

- 135dB

Spawning Grounds (Coull et al 1999):

- Herring



Rampion Extension Development



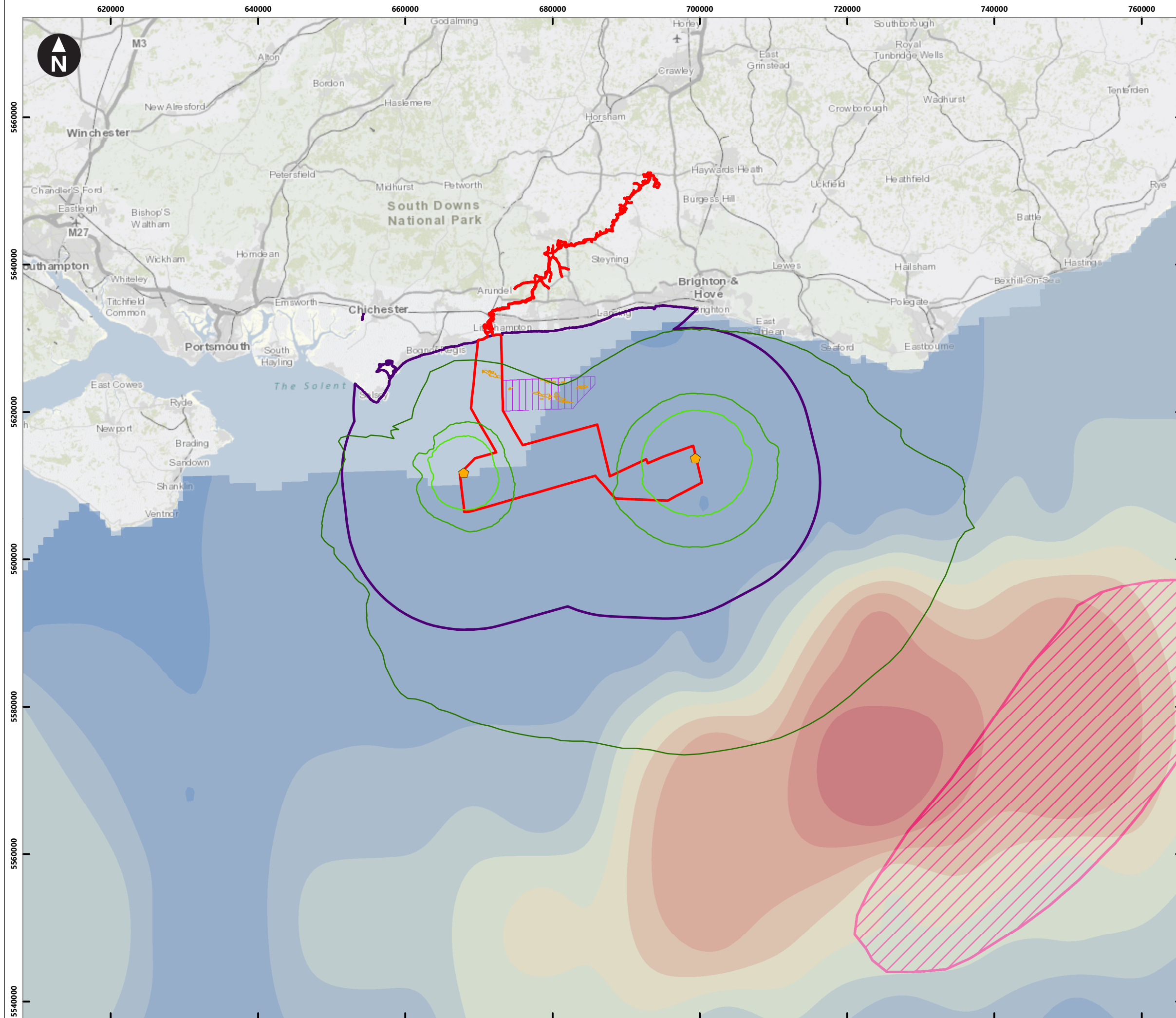
Rampion 2 Offshore Wind Farm

Figure 8.20: Predicted worst-case behavioural response impact ranges of herring from the sequential piling of monopile foundations

Environmental Statement

| | | | | |
|---|------------------|-----------------|---------------------------|------------------|
| System Identifier: 42285-GOBE-ES-OF-FG-07-2329 | | | | Version: 1.0 |
| Company: GOBE | Drawn By: SWM | Chk/Prvd: NH | Drawn Date: 02/06/2023 | Status: FINAL |

Contains OS data © Crown Copyright and database right 2020. © British Crown and OceanWise, 2021. All rights reserved. License No. EMS-EK001-727447. Not to be used for Navigation. Derived from https://www.ices.dk/ March 2021



Key

- Proposed DCO Order Limits
- Fish and Shellfish Study Area
- Bream nest extents (historic surveys)

IHLS 2007/2020 downs data
Larval abundance per m²

- 0
- 0.1 - 2,500
- 2,500 - 7,000
- 7,000 - 14,000
- 14,000 - 23,000
- 23,000 - 35,000
- 35,000 - 48,000
- 48,000 - 63,000
- 63,000 - 80,000
- 80,000 - 98,500

MDS Multileg foundation contours 2500 kJ dB SEL cum

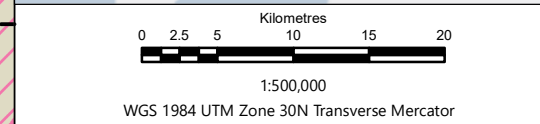
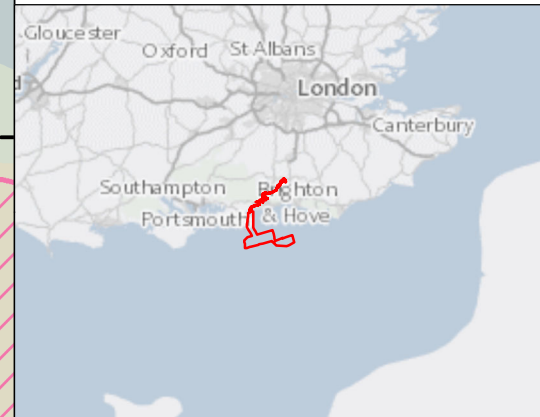
- 207 dB
- 203 dB
- 186 dB

- Kingmere MCZ

Spawning Grounds (Coull et al 1999):

- Herring

- Noise Modelling Locations



Rampion Extension Development

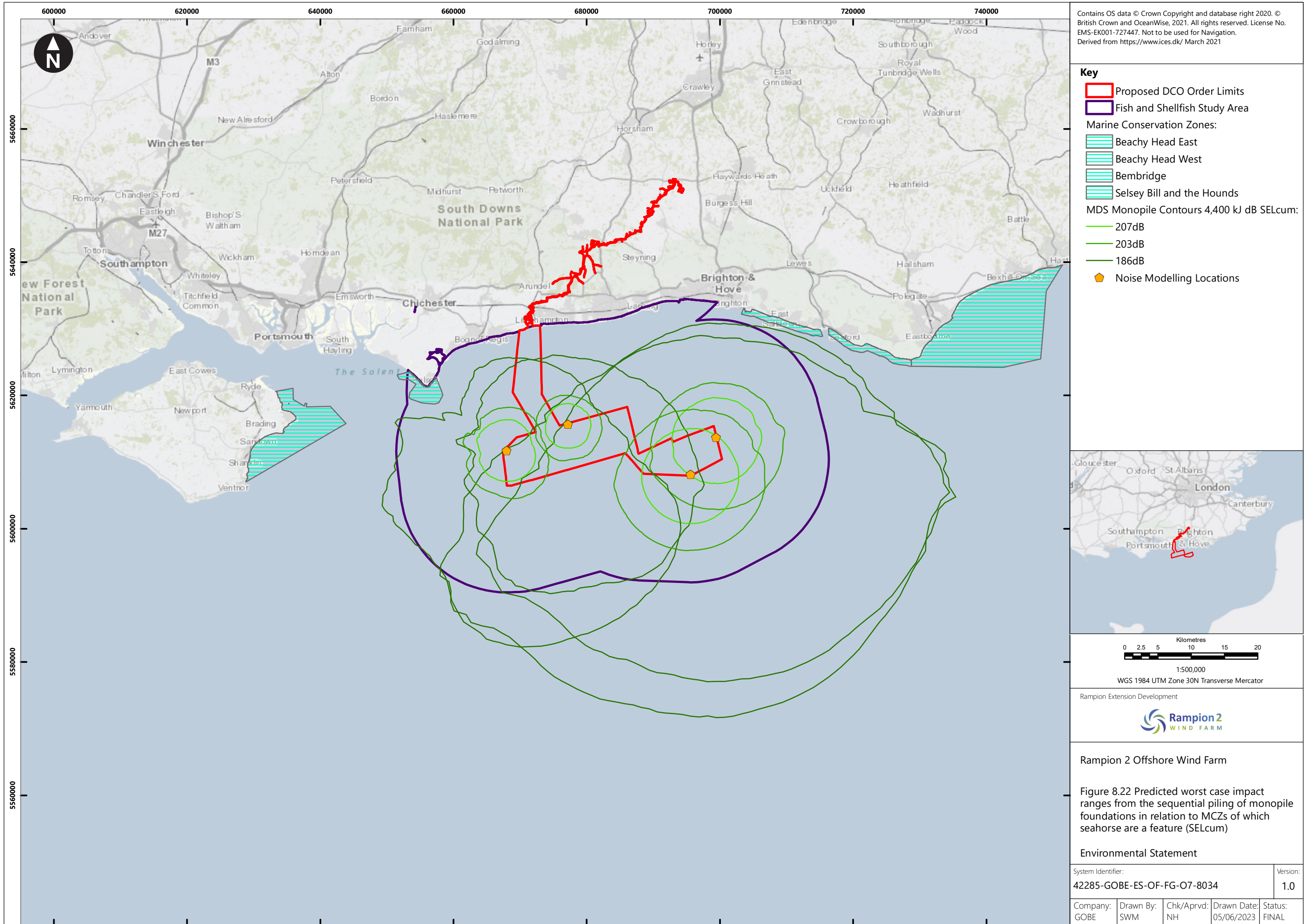


Rampion 2 Offshore Wind Farm

Figure 8.21: Predicted worst case impact ranges of stationary receptors from the simultaneous piling of multileg foundations

Environmental Statement

| | | | |
|-----------------------------|-----------|-----------|-------------|
| System Identifier: | | Version: | |
| 42285-GOBE-ES-OF-FG-07-4890 | | 1.0 | |
| Company: | Drawn By: | Chk/Prvd: | Drawn Date: |
| GOBE | SWM | NH | 28/07/2023 |
| Status: | | FINAL | |



Contains OS data © Crown Copyright and database right 2020. © British Crown and OceanWise, 2021. All rights reserved. License No. EMS-EK001-727447. Not to be used for Navigation. Derived from <https://www.ices.dk/> March 2021

Key

- Proposed DCO Order Limits
- Fish and Shellfish Study Area

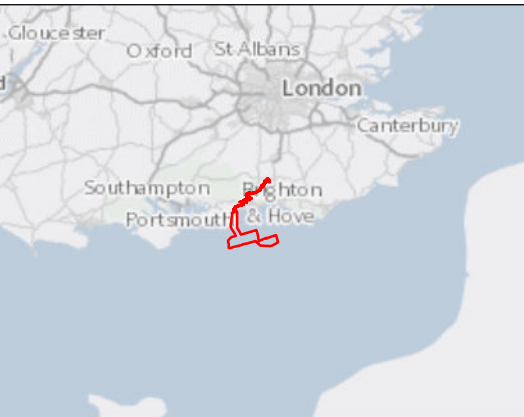
Marine Conservation Zones:

- Beachy Head East
- Beachy Head West
- Bembridge
- Selsey Bill and the Hounds

MDS Monopile Contours 4,400 kJ dB SELcum:

- 207dB
- 203dB
- 186dB

◆ Noise Modelling Locations



Kilometres
 0 2.5 5 10 15 20
 1:500,000
 WGS 1984 UTM Zone 30N Transverse Mercator



Rampion 2 Offshore Wind Farm

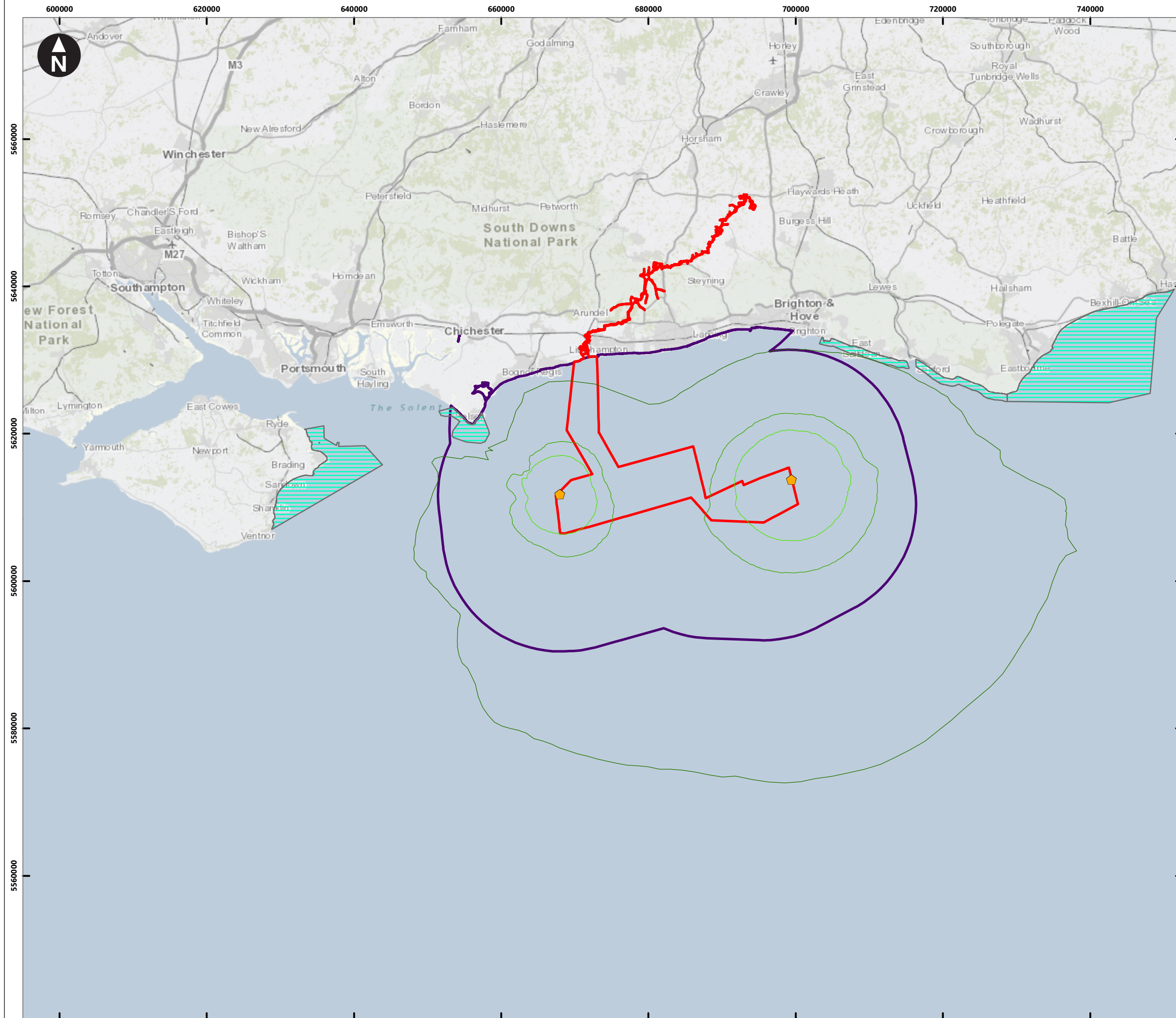
Figure 8.22 Predicted worst case impact ranges from the sequential piling of monopile foundations in relation to MCZs of which seahorse are a feature (SELcum)

Environmental Statement

| | |
|---|-----------------|
| System Identifier: 42285-GOBE-ES-OF-FG-07-8034 | Version: 1.0 |
|---|-----------------|

| | | | | |
|------------------|------------------|------------------|---------------------------|------------------|
| Company: GOBE | Drawn By: SWM | Chk/Aprvd: NH | Drawn Date: 05/06/2023 | Status: FINAL |
|------------------|------------------|------------------|---------------------------|------------------|

Contains OS data © Crown Copyright and database right 2020. © British Crown and OceanWise, 2021. All rights reserved. License No. EMS-EK001-727447. Not to be used for Navigation. Derived from https://www.ices.dk/ March 2021



Key

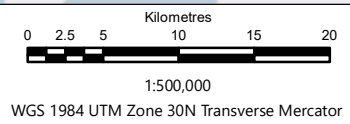
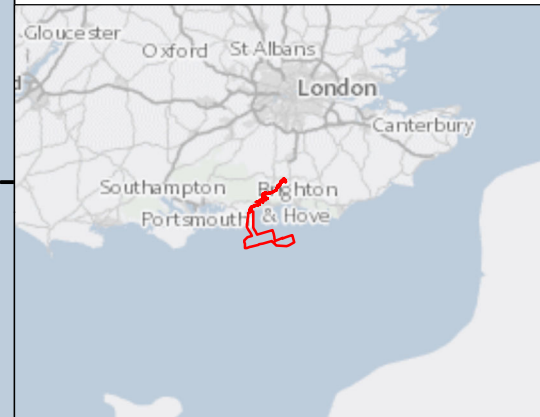
- Proposed DCO Order Limits
- Fish and Shellfish Study Area
- ◆ Noise Modelling Locations

Marine Conservation Zones:

- Beachy Head East
- Beachy Head West
- Bembridge
- Selsey Bill and the Hounds

MDS Multileg Foundation Contours 2500kJ dB SELcum:

- 207dB
- 203dB
- 186dB



Rampion Extension Development

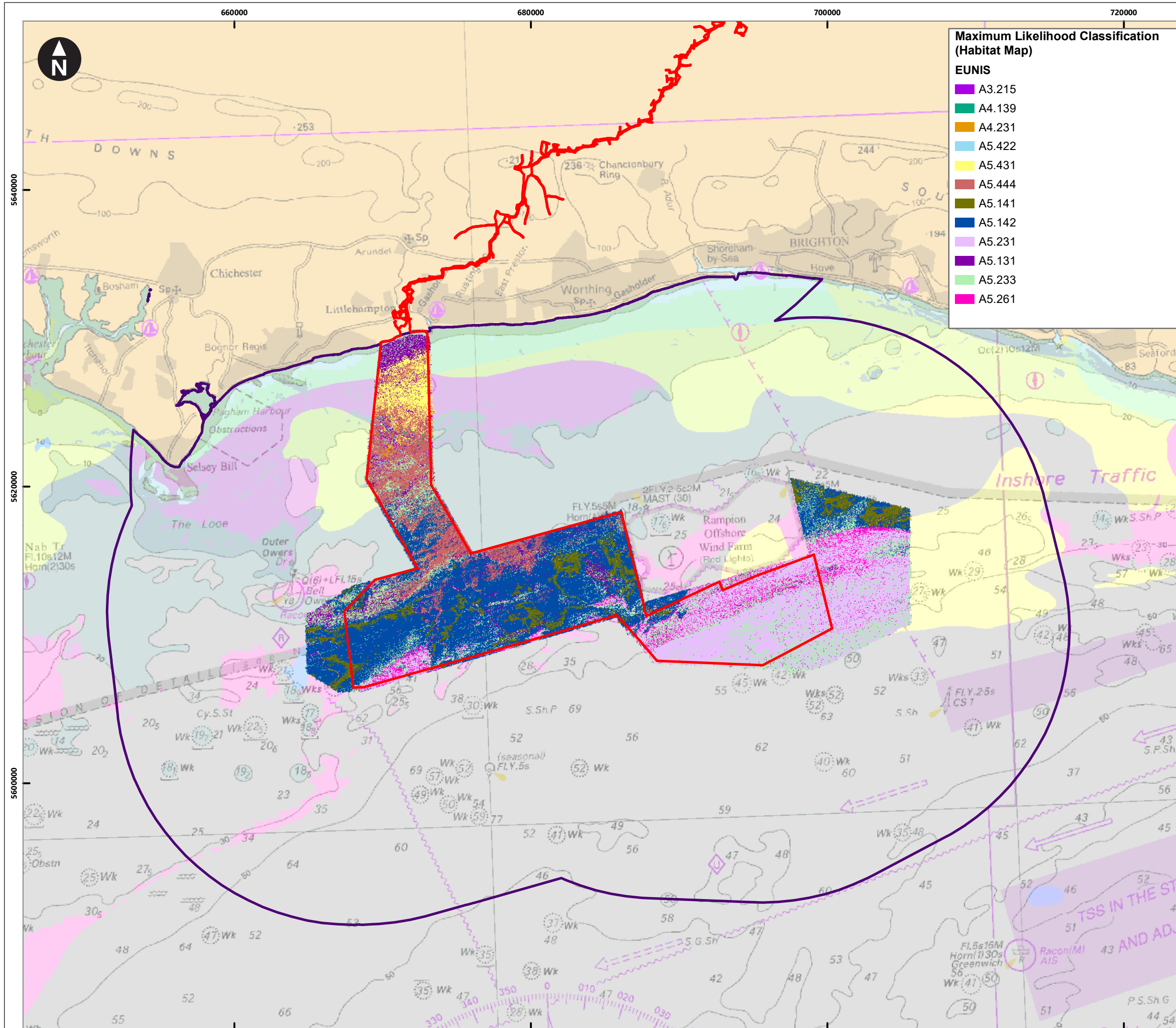
Rampion 2 Offshore Wind Farm

Figure 8.23 Predicted worst case impact ranges from the simultaneous piling of multileg foundations in relation to MCZs of which seahorse are a feature (SELcum)

Environmental Statement

| | |
|-----------------------------|----------|
| System Identifier: | Version: |
| 42285-GOBE-ES-OF-FG-07-9499 | 1.0 |

| | | | | |
|----------|-----------|------------|-------------|---------|
| Company: | Drawn By: | Chk/Aprvd: | Drawn Date: | Status: |
| GOBE | SWM | NH | 28/07/2023 | FINAL |



Maximum Likelihood Classification (Habitat Map)

EUNIS

- A3.215
- A4.139
- A4.231
- A5.422
- A5.431
- A5.444
- A5.141
- A5.142
- A5.231
- A5.131
- A5.233
- A5.261

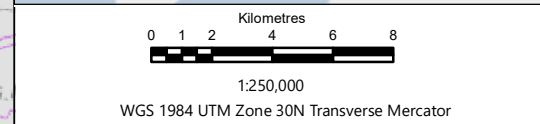
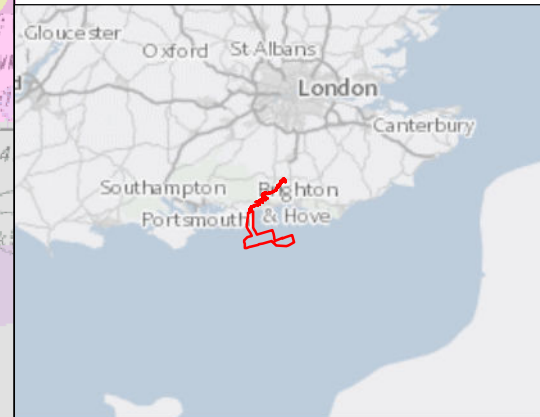
Contains OS data © Crown Copyright and database right 2020. © British Crown and OceanWise, 2021. All rights reserved. License No. EMS-EK001-727447. Not to be used for Navigation © JNCC, 2019 / Contains public sector information licensed under the Open Government Licence v3.0. Contains data derived from: Cefas 2020; Natural Power Consultants, 2016; Fugro, 2011

Key

- Proposed DCO Order Limits
- Fish and Shellfish Study Area

UK Sea Map 2021 (EUNIS)

- Hard substrata
- Coarse substrate
- Sand
- Mixed sediment
- Undefined



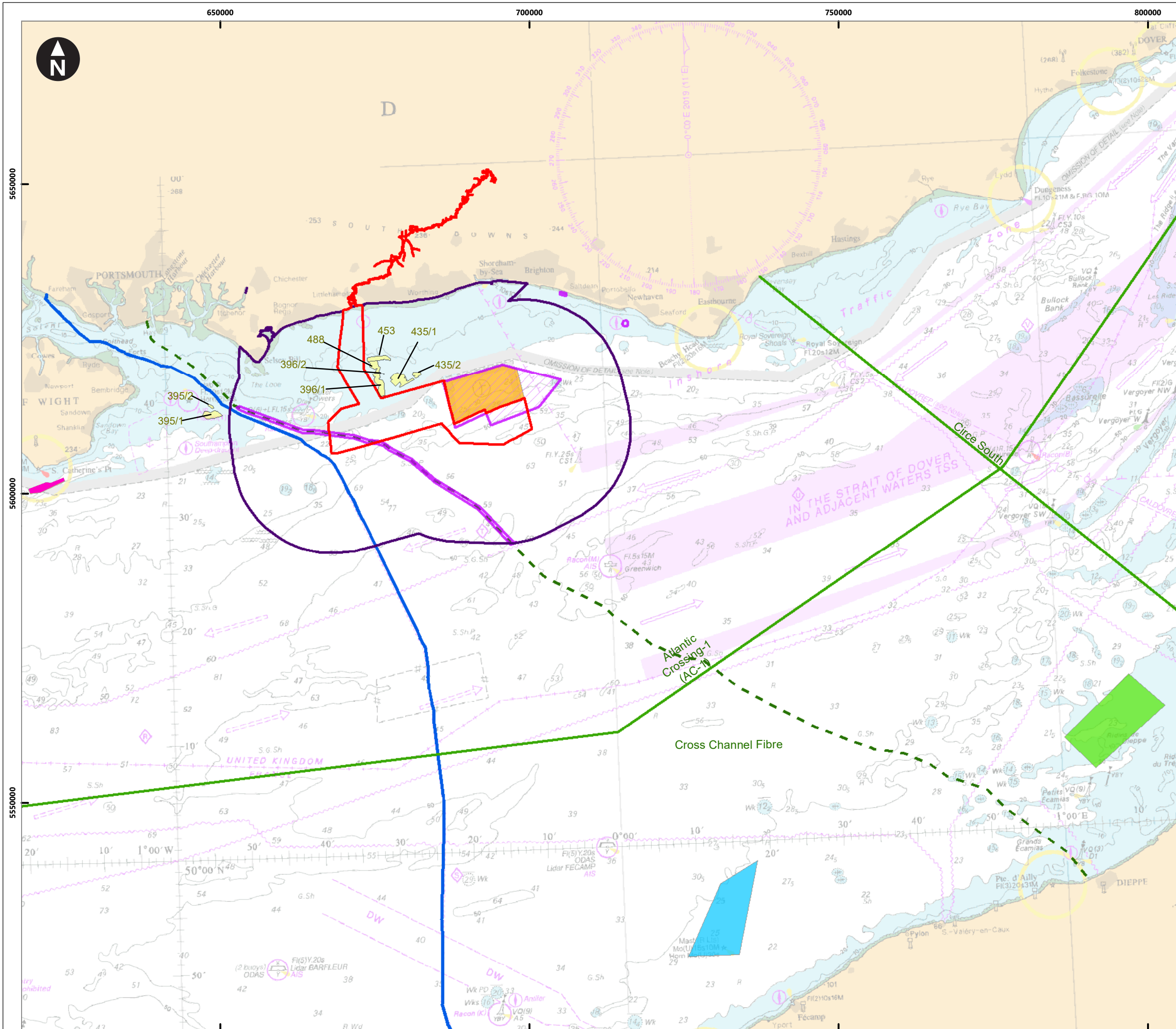
Rampion Extension Development

Rampion 2 Offshore Wind Farm

Figure 8.24 Rampion 2 Level 5 benthic predictive habitat map

Environmental Statement

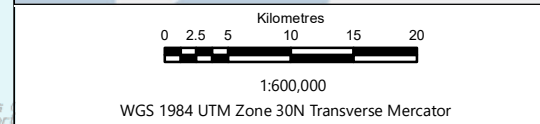
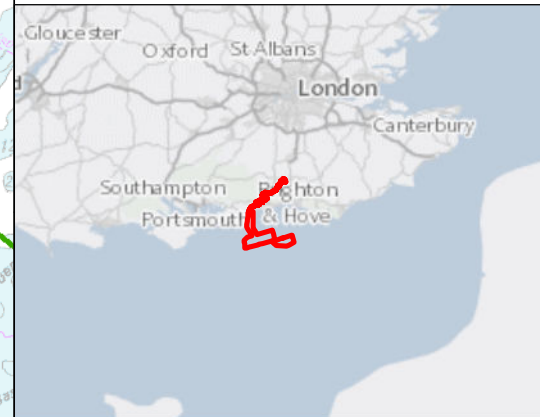
| | | |
|---|------------------|------------------|
| System Identifier: 42285-GOBE-ES-OF-FG-07-7006 | | Version: 1.0 |
| Company: GOBE | Drawn By: SWM | Chk/Prvrd: NH |
| Drawn Date: 05/06/2023 | Status: FINAL | |



Contains OS data © Crown Copyright and database right 2020. © British Crown and OceanWise, 2021. All rights reserved. License No. EMS-EK001-727447. Not to be used for Navigation.
 © Crown Copyright (2020); © EMODnet - Human Activities; © IFA2 SAS 2020; © Aquind 2020; © Cefas (2020)

Key

- Proposed DCO Order Limits
- Fish and Shellfish Study Area
- Tidal Sites Agreements
- Open disposal site
- Dieppe - Le Treport wind farm
- Fecamp wind farm
- Rampion wind farm
- Cable
- Proposed Aquind cable
- Planned IFA-2 cable
- Tidal Energy Centre
- Aggregate license area



Rampion Extension Development

Rampion 2 Offshore Wind Farm

Figure 8.25 Projects screened into the cumulative assessment

Environmental Statement

| | | | |
|---|------------------|------------------|---|
| System Identifier: 42285-GOBE-ES-OF-FG-07-6164 | | Version: 1.0 | |
| Company: GOBE | Drawn By: SWM | Chk/Prvrd: NH | Drawn Date: Status: 19/07/2023 FINAL |