Department for Environment, Food and Rural Affairs

Marine Conservation Zones: Consultation on proposals for designation in 2013

Annex A.4 – Net Gain sites requiring further consideration

The following site summaries set out the sites recommended by the Net Gain Regional MCZ Project, that we propose will require further work prior to a potential designation in a future tranche.

Further Information

SNCB Advice

The SNCB advice can be found at:
http://publications.naturalengland.org.uk/category/1723382

For specific site information please go to the page stated in the site summary.

For information on data certainty see section 5 of the SNCB advice and for advice on certainty of conservation objectives please see SNCB – supplementary advice and information at: http://publications.naturalengland.org.uk/category/1725455

Impact Assessment

For additional information on the Consultation Impact Assessment please use the following link: www.defra.gov.uk/environment/marine/protect/mpa/mcz/

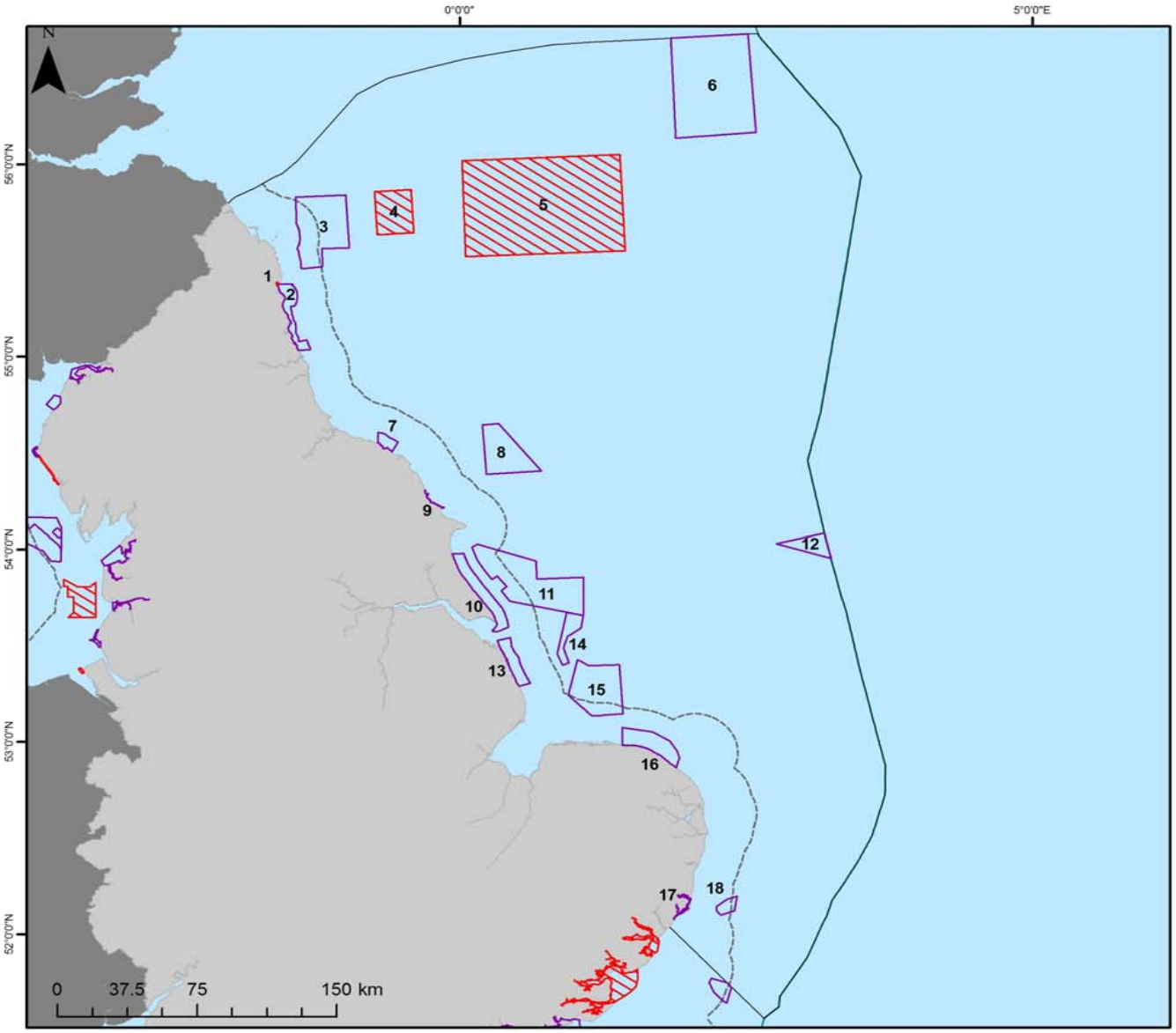
Within this link there are a series of documents including the Consultation Impact Assessment and supporting Annexes. For site specific information please open the section state in the individual site summary (Example: Chesil Beach and Stennis Ledges – Annex I2 Option 2 Page 3)

Net Gain

For additional information on the proposed first tranche sites in the Net Gain region please use the following link –

http://publications.naturalengland.org.uk/publication/1466980

Within this link there are a series of documents providing additional information on Finding Sanctuary recommended site. For site specific information please open the Net Gain Final Report Version 1.2 and go to the page stated in the site summary (Example: Aln Estuary - Final Report Version 1.2 Page 448)



Sites overview

- rMCZs put forward for designation in 2013
- Recommended MCZ
- Net Gain regional project area
- 12nM Territorial Seas Limit
- UK Continental Shelf designated area

Map Label	Site Name	Regional Project Number	**Map Label**	Site Name	Regional Project Number
1	Aln Estuary	NG 13a	**10**	Holderness Inshore	NG 8
2	Coquet to St Mary's	NG 13	**11**	Holderness Offshore	NG 9
3	Farnes East	NG 14	**12**	Markham's Triangle	NG 7
4	Rock Unique	NG 15	**13**	Lincs Belt	NG 5
5	Swallow Sand	NG 16	**14**	Silver Pit	NG 6
6	Fulmar	NG 17	**15**	Wash Approach	NG 4
7	Runswick Bay	NG 11	**16**	Cromer Shoal Chalk Beds	NG 2
8	Compass Rose	NG 12	**17**	Alde Ore Estuary	NG 1c
9	Castle Ground	NG 10	**18**	Orford Inshore	NG 1b

Consultation Site Summary: Alde Ore Estuary

Additional information for this site can be found in the SNCB Advice (page 633), Impact Assessment (Annex I2 Option 1 Net Gain, Page 18) and Regional Project recommendations (Final Report Version 1.2, Page 97).

Table 1. General Information on site and all features recommended by Regional Projects

Regional Project: Net Gain	**Site surface area:** 12 km²	**Biogeographic Region: JNCC:** Southern North Sea **OSPAR Region:** Region II Greater North Sea
Site Location: 52° 06’ 59’’ N, 1° 32’ 09’’ E **Inshore/Offshore: Inshore (Estuary)**		

Feature type	**Feature name**	**Area/no. of records**	**Conservation Objective**
Habitat FOCI	Estuarine rocky habitats	4 points	Maintain
Habitat FOCI	Sheltered muddy gravels	1 point	Maintain
Species FOCI	Smelt (*Osmerus eperlanus*)	37 km²	Maintain
Geological feature	Orfordness (subtidal)	12 km²	Maintain

Table 2. Sector Impacts and Associated Best Estimate Costs

Sectors Impacted	Best Estimate Costs (£ per year)
Renewable Energy (wind, wave and tidal)	135,000
Aquaculture	<1000
Archaeology	Unquantified
Ports, Harbours, and Commercial Shipping	<1000
	Best Estimate Total Cost =£ 135,000

Table 3. Designation Status of Site and Rationale

Decision	Requires further consideration

Rationale for Decision:

Site Advantages

The Alde Ore Estuary recommended Marine Conservation Zone (rMCZ) is an estuarine site located close to Aldeburgh on the Suffolk coast in the East of England measuring 12 km². The site has been recommended for designation for two Habitat FOCI (Estuarine rocky habitats, Sheltered muddy gravels) and one Species FOCI (Smelt (*Osmerus eperlanus*)). Intertidal rock habitat provides an important source of larval plankton which commercially important fish species feed on. It also provides an important natural form of defence from erosion. Muddy sand and mixed sediments have an important role in fundamental ecosystem processes, including nutrient cycling. Soft-bottom environments create complex microhabitats supporting abundant populations of microscopic plants on the seabed. Estuarine soft sediments support a diverse group of microscopic and macroscopic organisms. This is the only site recommended for the protection of smelt within the Net Gain region**.** European eel (Anguilla Anguilla) has also been recorded within the site but has not been put forward as a feature for protection by the Regional Project. The site includes the Orfordness (subtidal) geological feature which has also been proposed for designation, and extends beyond the site boundaries. The site is important for fish nursery and migration with nursery grounds for bass, sprat, herring, sand-smelt, sole, flounder, smelt

and dab in the Alde and Ore estuary. Migratory fish species such as salmon, sea trout and eel are common in the area.

Socio-Economics

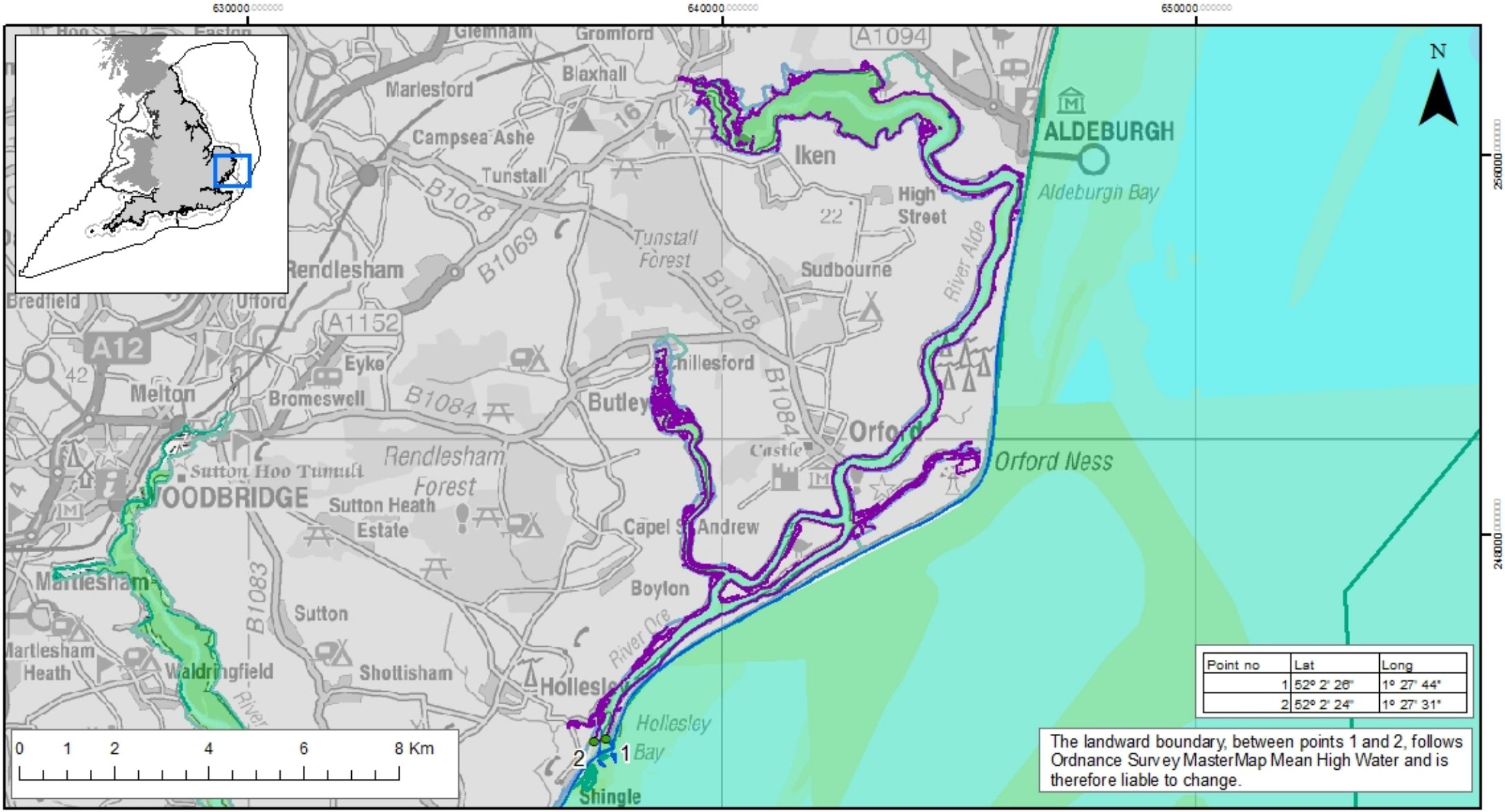
The Alde Ore Estuary recommended Marine Conservation Zone was supported by stakeholders such as RSPB and The Crown Estate. The main sector impacted by this site is the renewable energy sector; for this sector there is a best estimate cost of £135,000 per year associated with mitigation that might be needed due to potential overlap of the site with the possible route of an export cable for an offshore wind farm (Round 3 development in Zone 5 for the East Anglia offshore wind farm).

Data Certainty

The Alde Ore Estuary recommended Marine Conservation Zone does not have acceptable data certainty for, any of, the recommended features. All features have unacceptable data certainty and will require further work prior to their designation. Those are Orfordness (Subtidal) geological feature, Estuarine rocky habitats, Sheltered muddy gravels and Smelt (*Osmerus eperlanus*).

Conclusion

For this site there is a strong indication of a potentially significant socio-economic implication associated with the renewable energy sector. Further work will therefore be required to better understand this implication and improve the data certainty prior to this site being considered for future designation.



Point no	Lat	Long
1	52° 2' 26"	1° 27' 44"
2	52° 2' 24"	1° 27' 31"

The landward boundary, between points 1 and 2, follows Ordnance Survey MasterMap Mean High Water and is therefore liable to change.

Alde Ore Estuary rMCZ

- Recommended MCZ
- rMCZ boundary co-ordinates
- Regional MCZ project area
- 12nM Territorial Seas Limit
- Land
- SAC with Marine Components
- SPAs with Marine Components

Depth Areas (metres)

- -20.0 - -10.0
- -9.9 - -5.0
- -4.9 - 0.0
- 0.1 - 5.0
- 5.1 - 10.0
- 10.1 - 25.0
- 25.1 - 50.0
- 50.1 - 100.0
- 100.1 - 250.0
- 250.1 - 500.0
- 500.1 - 1000.0

Reference: Theme ID: 1477589
Map Projection: British National Grid

Consultation Site Summary: Castle Ground

Additional information for this site can be found in the SNCB Advice (page 598), Impact Assessment (Annex I2 Option 1 Net Gain, Page 149) and Regional Project recommendations (Final Report Version 1.2, Page 314).

Table 1. General Information on site and all features recommended by Regional Projects

Regional Project: Net Gain	**Site surface area:** 4 km²		**Biogeographic Region: JNCC :** Northern North Sea **OSPAR Region:** Region II Greater North Sea
Site Location: 54° 15’ 21’’ N, 0° 21’ 08’’ W **Inshore/Offshore: Inshore**			
Feature type	**Feature name**	**Area/no. of records**	**Conservation Objective**
Broad Scale Habitat	High energy intertidal rock	0.1 km²	Maintain
Broad Scale Habitat	Moderate energy intertidal rock	0.4 km²	Maintain
Broad Scale Habitat	Low energy intertidal rock	0.03km²	Maintain
Broad Scale Habitat	Intertidal coarse sediment	0.1km²	Maintain
Broad Scale Habitat	Intertidal sand and muddy sand	1 km²	Maintain

Broad Scale Habitat	Intertidal mud	0.02km²	Recover[1]
Habitat FOCI	Intertidal underboulder communities	3 points	Maintain

Table 2. Sector Impacts and Associated Best Estimate Costs

Sectors Impacted	**Best Estimate Costs (£ per year)**
Renewable Energy (wind, wave and tidal)	120,000
Flood and Coastal Erosion Risk Management	<1000
Ports, Harbours and Commercial Shipping	3,000
Archaeology	Unquantified
National Defence	Non-site specific cost
Cables (Power and Telecommunications Cables excluding cables for renewable developments)	Non-site specific cost
	Best Estimate Total Cost =£123,000

[1] *Following advice from SNCBs, the Conservation Objective for this feature has been changed from the original Regional Project recommendation*

Table 3. Designation Status of Site and Rationale

Decision	Requires further consideration

Rationale for Decision:

Site Advantages

The Castle Ground recommended Marine Conservation Zone (rMCZ) is an inshore site measuring 4 km². Within this rMCZ there are Broad Scale Habitat features such as High energy intertidal rock, Intertidal mud and muddy sand, and Intertidal coarse sediment. It also includes Intertidal underboulder communities which is a Habitat FOCI. The High energy Intertidal rock habitat is of particular interest since its distribution in English waters is limited and this site is needed to meet adequacy. Intertidal rock habitats provide a particularly rich source of food in the UK while intertidal coarse sediments contribute to beach protection and provide feeding sites for wading birds at the strandline. Underboulder communities also provide habitats for a range of species such as sponges and bryozoans, and predator protection for fish.

Socio-Economics

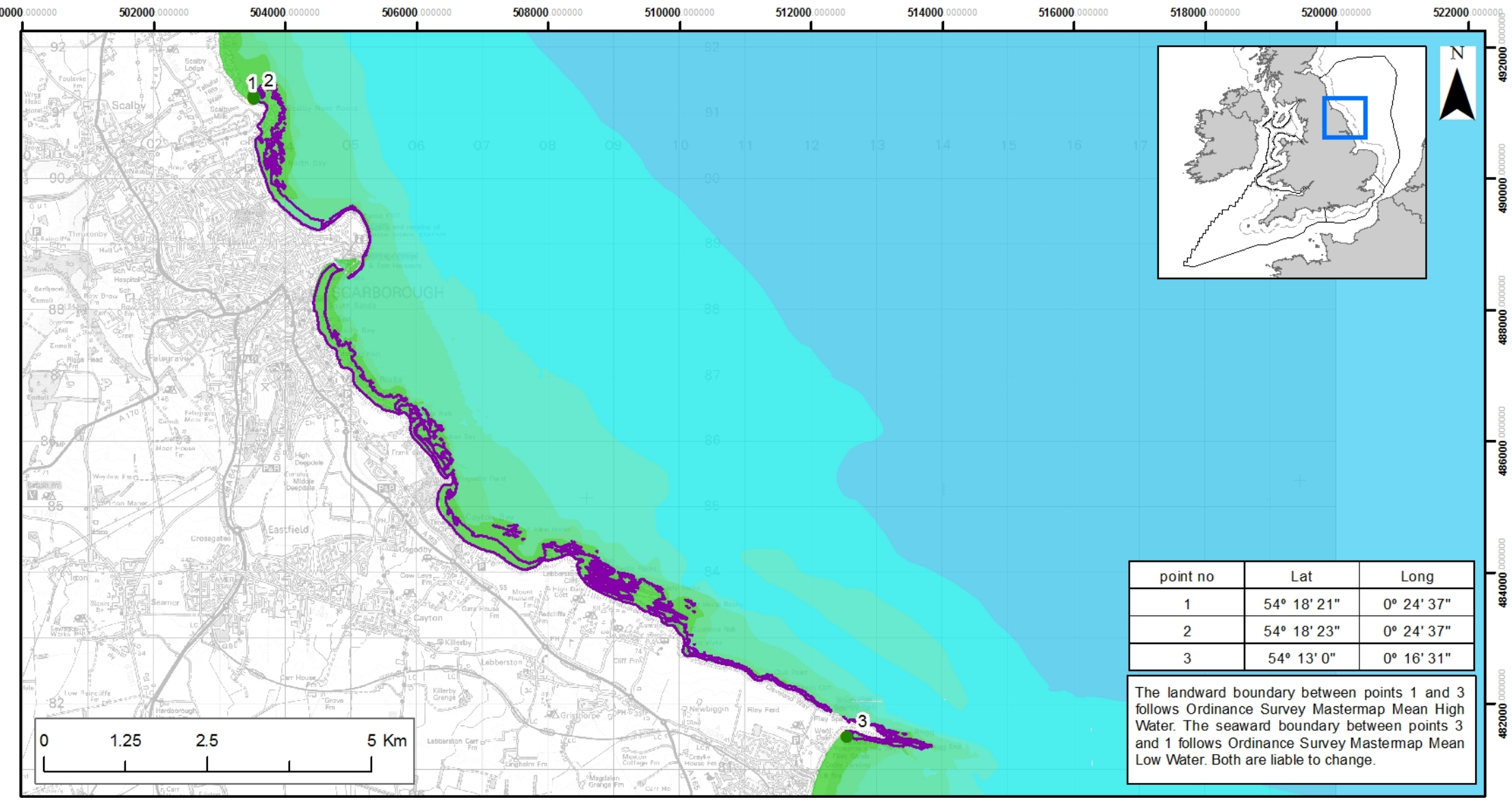
The Castle Ground recommended MCZ had support by RSPB, The Wildlife Trusts and others. The sector that could be impacted by this site is the renewable energy sector. For the renewable energy sector there is a best estimate cost of approximately £120,000 per year associated with potential overlap of this site with the routes of cables that connect wind farms (e.g. Dogger Bank offshore) to land

Data Certainty

The Castle Ground recommended MCZ has acceptable data certainty for six of the features recommended for designation while one feature, Intertidal coarse sediment, has unacceptable data certainty and will require further work prior to its designation. However, it is not clear whether favourable conditions could be achieved or maintained for the recommended intertidal feature, because there is uncertainty about the impacts that future flood defence work might have on intertidal features.

Conclusion

For this site there is a strong indication of a potentially significant socio-economic implication associated with the renewable energy sector. Also, there are indications that future work to support flood defences might make it difficult to avoid impacts on intertidal features and prevent favourable condition being achieved. Therefore, further work will be required to better understand these implications and improve data certainty prior to this site being considered for future designation.



point no	Lat	Long
1	54º 18' 21"	0º 24' 37"
2	54º 18' 23"	0º 24' 37"
3	54º 13' 0"	0º 16' 31"

The landward boundary between points 1 and 3 follows Ordinance Survey Mastermap Mean High Water. The seaward boundary between points 3 and 1 follows Ordinance Survey Mastermap Mean Low Water. Both are liable to change.

Castle Ground

Recommended MCZ

- Recommended MCZ
- rMCZ boundary co-ordinates
- MCZ Regional Projects boundaries
- England 12nM Territorial Seas Limit

Depth Areas (m)

- -20.0 - -10.0
- -9.9 - -5.0
- -4.9 - 0.0
- 0.1 - 5.0
- 5.1 - 10.0
- 10.1 - 25.0
- 25.1 - 50.0
- 50.1 - 100.0
- 100.1 - 250.0
- 250.1 - 500.0
- 500.1 - 1000.0

Reference: Theme ID 1477584,
Map Projection:British National Grid

Consultation Site Summary: Compass Rose

Additional information for this site can be found in the SNCB Advice (page 580), Impact Assessment (Annex I2 Option 1 Net Gain, Page 184) and Regional Project recommendations (Final Report Version 1.2, Page 379).

Table 1. General Information on site and all features recommended by Regional Projects

Regional Project: Net Gain		**Site surface area:** 552 km²	**Biogeographic Region: JNCC:** Northern North Sea **OSPAR Region:** Region II Greater North Sea
Site Location: 54° 29’ 31’’ N, 0° 15’ 22’’ E **Inshore/Offshore: Offshore**			
Feature type	**Feature name**	**Area/no. of records**	**Conservation Objective**
Broad Scale Habitat	Moderate energy circalittoral rock	245 km²	Recover

Table 2. Sector Impacts and Associated Best Estimate Costs

Sectors Impacted	Best Estimate Costs (£ per year)
Commercial Fishing	2,000
Non-UK Commercial Fishing	Unquantified
Oil and gas exploration and production, gas interconnectors and gas storage (including carbon capture and storage)	Non site specific cost
National Defence	Non-site specific cost
Cables (Power and Telecommunications Cables excluding cables for renewable developments)	Non-site specific cost
	Best Estimate Total Cost = £2,000

Table 3. Designation Status of Site and Rationale

Decision	Requires further consideration

Rationale for Decision:

Site Advantages

The Compass Rose recommended Marine Conservation Zone (rMCZ) is an offshore site measuring 552 km². Within this rMCZ there are Broad Scale Habitat features such Moderate energy circalittoral rock. This site contributes the second largest area of Moderate energy circalittoral rock and is needed to meet the adequacy target for that feature. This rMCZ also falls within the foraging radii for certain seabird species (e.g. common gull, and common guillemot), and there are nursery grounds for ten fish species and spawning grounds for four fish species within the local area.

Socio-Economics

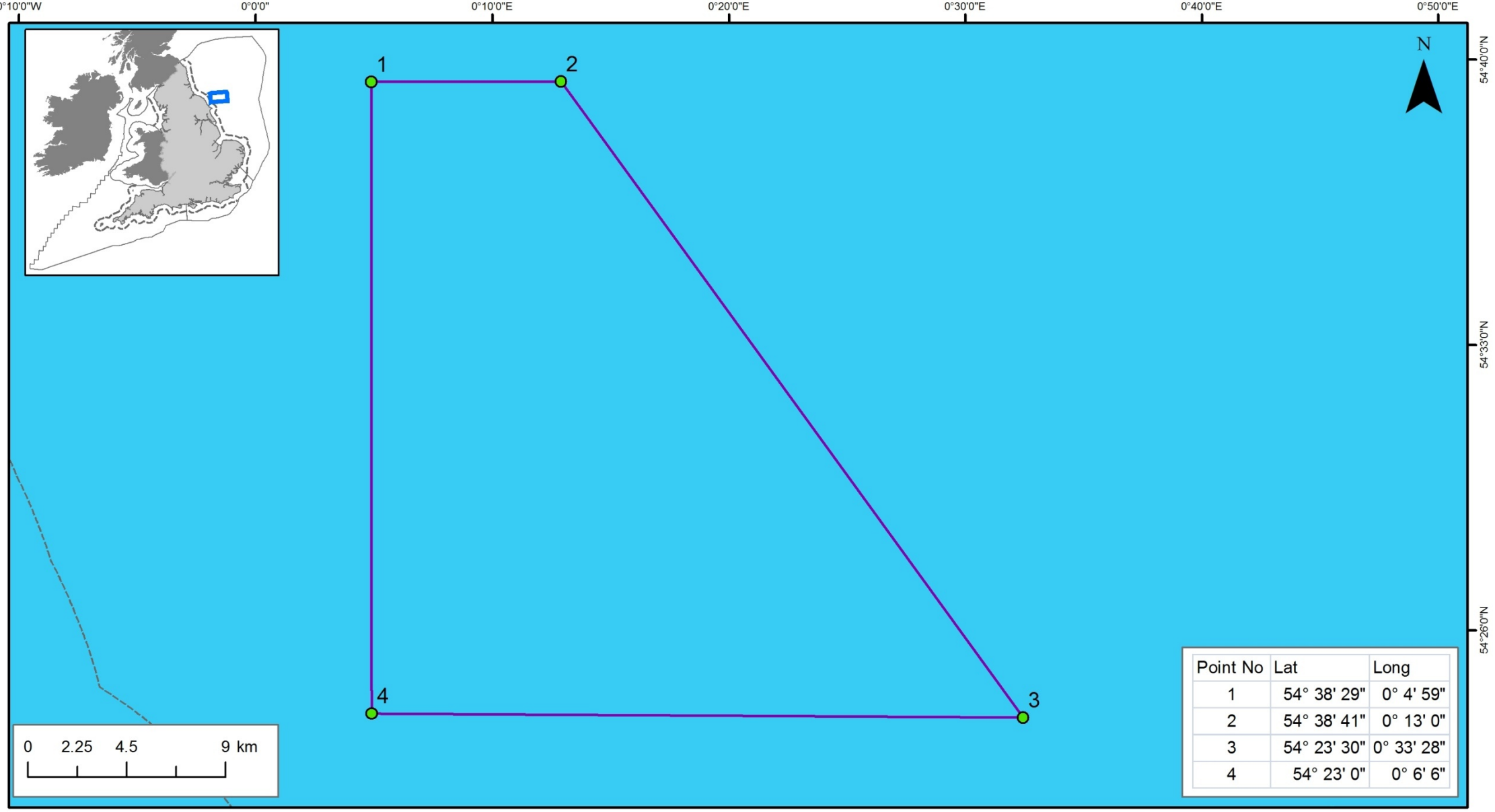
The Compass Rose recommended MCZ had some support but concerns were expressed by other stakeholders (e.g. non-UK commercial fishing industry). The sector that could be impacted most by this site is the commercial fishing sector. For the UK commercial fishing sector there is a best estimate cost of £2,000 per year while it was not possible to quantify the cost to the non-UK commercial fishing sector.

Data Certainty

The Compass Rose recommended MCZ does not have acceptable data certainty for the feature recommended for designation. For that feature, Moderate energy circalittoral rock, data certainty is unacceptable and will require further work prior to its designation.

Conclusion

Although the advantages for this site justify the socio-economic implications, further work will be required to improve the data certainty prior to this site being designated.



Point No	Lat	Long
1	54° 38' 29"	0° 4' 59"
2	54° 38' 41"	0° 13' 0"
3	54° 23' 30"	0° 33' 28"
4	54° 23' 0"	0° 6' 6"

Compass Rose rMCZ

- Recommended MCZ
- rMCZ boundary co-ordinates
- Regional MCZ project area
- 12nM Territorial Seas Limit
- Land

Depth Areas (metres)

- 0.0 - 5.0
- 5.1 - 10.0
- 10.1 - 25.0
- 25.1 - 50.0
- 50.1 - 100.0
- 100.1 - 250.0
- 250.1 - 500.0
- 500.1 - 1000.0

Map Projection:WGS84UTM31N, Inset: BNG

Consultation Site Summary: Coquet to St Mary's

Additional information for this site can be found in the SNCB Advice (page 606), Impact Assessment (Annex I2 Option 1 Net Gain, Page 199) and Regional Project recommendations (Final Report Version 1.2, Page 403).

Table 1. General Information on site and all features recommended by Regional Projects

Regional Project: Net Gain	**Site surface area:** 199 km²	**Biogeographic Region:** **JNCC:** Northern North Sea **OSPAR Region:** Region II Greater North Sea
Site Location: 55° 14' 18'' N, 1° 29' 31'' W **Inshore/Offshore: Inshore**		

Feature type	**Feature name**	**Area/no. of records**	**Conservation Objective –**
Broad Scale Habitat	Moderate energy intertidal rock	0.3 km²	Maintain
Broad Scale Habitat	Low energy intertidal rock	0.1 km²	Maintain
Broad Scale Habitat	Intertidal coarse sediments	0.2 km²	Maintain
Broad Scale Habitat	Intertidal sand and muddy sand	0.03 km²	Maintain
Broad Scale Habitat	Intertidal mud	0.03 km²	Maintain

Broad Scale Habitat	Intertidal mixed sediments	0.3 km²	Maintain
Broad Scale Habitat	High energy infralittoral rock	73 km²	Maintain
Broad Scale Habitat	Moderate energy infralittoral rock	48 km²	Maintain
Broad Scale Habitat	Moderate energy circalittoral rock	69 km²	Maintain
Broad Scale Habitat	Subtidal coarse sediment	1 km²	Maintain
Broad Scale Habitat	Subtidal sand	0.1 km²	Maintain
Broad Scale Habitat	Subtidal mud	0.2 km²	Maintain
Broad Scale Habitat	Subtidal mixed sediment	3 km²	Maintain
Habitat FOCI	Intertidal underboulder communities	6 points	Maintain

Table 2. Sector Impacts and Associated Best Estimate Costs

Sectors Impacted	**Best Estimate Costs (£ per year)**
Renewable Energy (wind, wave and tidal)	263,000
Ports, Harbours and Commercial Shipping	17,000
Archaeology	Unquantified
	Best Estimate Total Cost =£ 280,000

Table 3. Designation Status of Site and Rationale

Decision	Requires further consideration

Rationale for Decision:

Site Advantages

The Coquet to St Mary's recommended Marine Conservation Zone (rMCZ) is an inshore site measuring 199 km². Within this rMCZ there is a wide range of Broad Scale Habitat features including Moderate and Low energy intertidal rock, different types of Infralittoral and Circalittoral rock as well as sand, mud and other sediments. It also includes Intertidal underboulder communities which is a Habitat FOCI. Moderate energy infralittoral rock and Moderate energy circalittoral rock are not currently protected by existing marine protected areas in the Net Gain region. For the former habitat, the area proposed for designation in this site is the second largest area of this feature recommended for designation in the whole MCZ projects area while there are only 3 rMCZs in the Net Gain region in which this site is proposed for designation. Similarly, for High energy infralittoral rock, this site contributes the biggest area of this feature in the whole MCZ projects area and contributes more than 50% of the area needed to meet adequacy criteria in the Net Gain region. Infralittoral rock is extremely rich in faunal and floral species and kelp plants associated with this habitat are significant primary producers. Circalittoral rock habitats are characterised by high species diversity, supporting a range of fauna including polychaetes, sponges, and soft and hard corals. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen and may act as temporary or permanent sinks for pollutants, particularly toxic metals. Similarly, intertidal coarse sediment plays an important role in beach protection and provides feeding sites for wading birds at the strandline. Intertidal rock habitat provides a particularly rich source of microscopic animal biomass and an important natural form of defence from erosion.

Socio-Economics

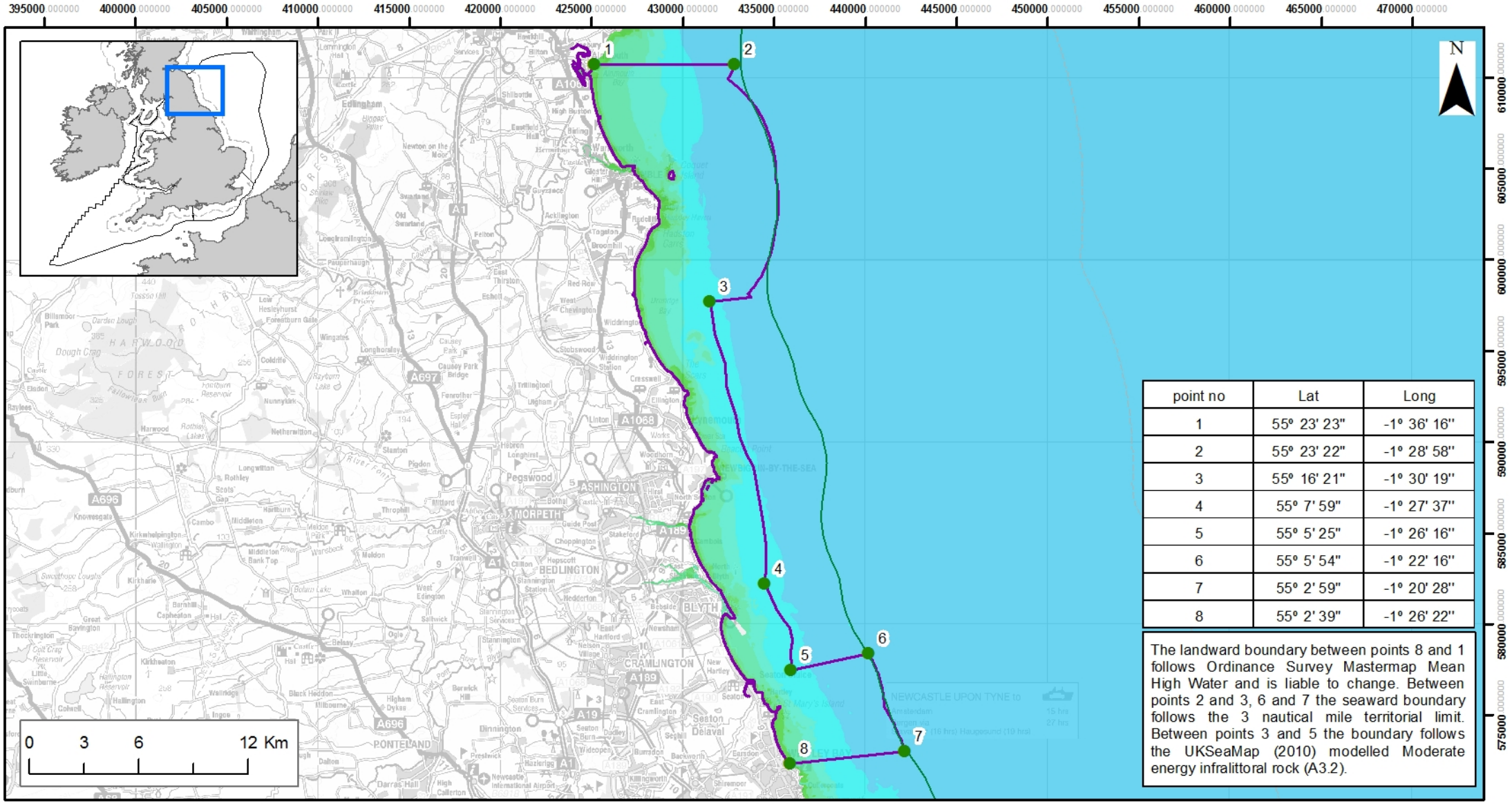
The Coquet to St Mary's recommended MCZ had support from RSPB, The Wildlife Trusts and others. The sector that could be impacted most by this site is the renewable energy sector. For the renewable energy sector there is a best estimate cost of approximately £263,000 per year associated with potential overlap of this site with the routes of cables that connect wind farms (e.g. Dogger Bank offshore wind farm and Blyth offshore wind demonstration platform) to land.

Data Certainty

The Coquet to St Mary's recommended MCZ has acceptable data certainty for two of the features recommended for designation while twelve features have unacceptable data certainty and will require further work prior to its designation. Those features with uncertainty are Subtidal mixed sediments, Subtidal coarse sediment, Moderate energy circalittoral rock, Moderate energy infralittoral rock, High energy infralittoral rock, Low energy intertidal rock, Moderate energy intertidal rock, Subtidal mud, Subtidal sand, Intertidal mud, Intertidal mixed sediment and Intertidal coarse sediment.

Conclusion

For this site there is a strong indication of a potentially significant socio-economic implication associated with the renewable energy sector. Further work will be required to better understand this implication and improve the data certainty prior to this site being considered for designation.



point no	Lat	Long
1	55º 23' 23"	-1º 36' 16"
2	55º 23' 22"	-1º 28' 58"
3	55º 16' 21"	-1º 30' 19"
4	55º 7' 59"	-1º 27' 37"
5	55º 5' 25"	-1º 26' 16"
6	55º 5' 54"	-1º 22' 16"
7	55º 2' 59"	-1º 20' 28"
8	55º 2' 39"	-1º 26' 22"

The landward boundary between points 8 and 1 follows Ordinance Survey Mastermap Mean High Water and is liable to change. Between points 2 and 3, 6 and 7 the seaward boundary follows the 3 nautical mile territorial limit. Between points 3 and 5 the boundary follows the UKSeaMap (2010) modelled Moderate energy infralittoral rock (A3.2).

Coquet to St Mary's

Recommended MCZ

- Recommended MCZ
- rMCZ boundary co-ordinates
- MCZ Regional Projects boundaries
- England 12nM Territorial Seas Limit
- England 3nM Territorial Seas Limit

Depth Areas (m)

- -20.0 - -10.0
- -9.9 - -5.0
- -4.9 - 0.0
- 0.1 - 5.0
- 5.1 - 10.0
- 10.1 - 25.0
- 25.1 - 50.0
- 50.1 - 100.0
- 100.1 - 250.0
- 250.1 - 500.0
- 500.1 - 1000.0

Reference: Theme ID 1477586,
Map Projection:British National Grid

Consultation Site Summary: Cromer Shoal Chalk Beds

Additional information for this site can be found in the SNCB Advice (page 636), Impact Assessment (Annex I2 Option 1 Net Gain, Page 32) and Regional Project recommendations (Final Report Version 1.2, Page 119).

Table 1. General Information on site and all features recommended by Regional Projects

Regional Project: Net Gain	**Site surface area:** 316 km²	**Biogeographic Region: JNCC:** Southern North Sea **OSPAR Region:** Region II Greater North Sea
Site Location: 52° 57' 18" N, 1° 21' 03" E **Inshore/Offshore: Inshore**		

Feature type	**Feature name**	**Area/no. of records**	**Conservation Objective –**
Broad Scale Habitat	High energy infralittoral rock	3 km²	Maintain
Broad Scale Habitat	Moderate energy infralittoral rock	146 km²	Maintain
Broad Scale Habitat	Moderate energy circalittoral rock	12 km²	Maintain
Habitat FOCI	Subtidal chalk	189 km^2 / 22 point records	Maintain
Geological feature	North Norfolk coast (Subtidal)	15 km²	Maintain

Table 2. Sector Impacts and Associated Best Estimate Costs

Sectors Impacted	Best Estimate Costs (£ per year)
Renewable Energy (wind, wave and tidal)	250,000
Archaeology	Unquantified
Ports, Harbours and Commercial Shipping	1000
Cables (Power and Telecommunications Cables excluding cables for renewable developments)	Non-site specific cost
Oil and gas exploration and production, gas interconnectors and gas storage (including carbon capture and storage)	Non-site specific cost
	Best Estimate Total Cost = £251,000

Table 3. Designation Status of Site and Rationale

Decision	Requires further consideration

Rationale for Decision

Site Advantages

The Cromer Shoal Chalk Beds recommended Marine Conservation Zone (rMCZ) is an inshore site measuring 316 km². Within this site there are a variety of features including 3 Broad Scale Habitats, one Habitat FOCI and 1 Geological feature. Of particular interest within this site is the Subtidal chalk feature which represents one of the best examples of Subtidal chalk in the Net Gain region and is the only example of this feature within the southern North Sea. Subtidal chalk is often bored into by bivalve molluscs, such as the common piddock (*Pholas dactylus*), and empty bore holes provide habitat for a range of crevice dwelling animals. The

SNCBs have also identified that the landward boundary of this site could be extended to 50m from low water to capture the additional benefits of infralittoral chalk and possibly intertidal chalk.

The site also includes two features, i.e. Moderate energy infralittoral rock and Moderate energy circalittoral rock, that are not protected in existing marine protected areas in the region. Circalittoral rock habitat communities are important secondary producers through growth of epibiotic organisms including sponges and tunicates. This habitat is characterised by high species diversity supporting a range of fauna including polychaetes, sponges, soft and hard corals, bryozoans as well as mobile species in more sheltered areas.
Moderate energy infralittoral rock has been put forward for designation in only three MCZs in the Net Gain region, so there are limited opportunities to protect it within the Net Gain region. Approximately 75% of the Moderate energy infralittoral rock recommended for designation is found in this site, without which the adequacy target for this feature will not be met in the Net Gain region. The site includes Subtidal sands and gravels, and Peat and clay exposures that have not been proposed for designation. The site, is also an important fish spawning ground, and provides a good foraging area for seabirds. Small cetacean and seals are also recorded in the site**.**

Socio-Economics

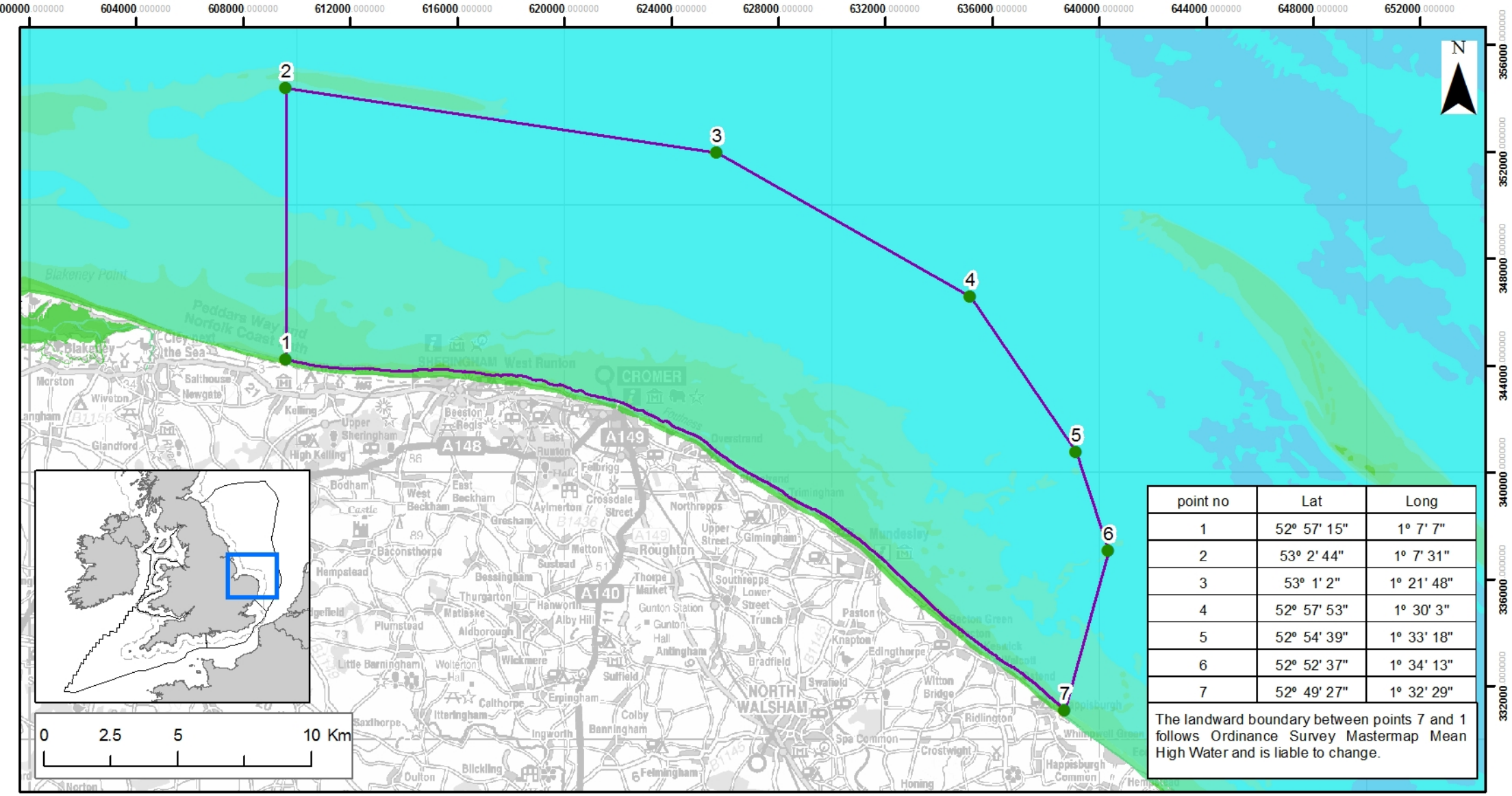
The Cromer Shoal Chalk Beds recommended MCZ is supported by RSPB, the Wildlife Trusts and The Crown Estate. The main sector impacted by this site is the renewable energy sector; for this sector there is a best estimate cost of £250,000 associated with the proposed offshore cable route for the Dudgeon Round 2 wind farm which partly overlaps with this site.

Data Certainty

The Cromer Shoal Chalk Beds recommended MCZ does not have acceptable data certainty for any of the recommended features All five of the recommended features within this site have unacceptable data certainty and will require further work prior to their designation. Those features are Moderate energy infralittoral rock, High energy infralittoral rock, Moderate energy circalittoral rock, North Norfolk coast (Subtidal) geological feature, and Subtidal chalk.

Conclusion

Although the advantages for this site justify the socio-economic implications, further work will be required to improve the data certainty prior to this site being designated.



point no	Lat	Long
1	52º 57' 15"	1º 7' 7"
2	53º 2' 44"	1º 7' 31"
3	53º 1' 2"	1º 21' 48"
4	52º 57' 53"	1º 30' 3"
5	52º 54' 39"	1º 33' 18"
6	52º 52' 37"	1º 34' 13"
7	52º 49' 27"	1º 32' 29"

The landward boundary between points 7 and 1 follows Ordinance Survey Mastermap Mean High Water and is liable to change.

Cromer Shoal Chalk Beds

Recommended MCZ

- Recommended MCZ
- rMCZ boundary co-ordinates
- MCZ Regional Projects boundaries
- England 12nM Territorial Seas Limit

Depth Areas (m)

- -20.0 - -10.0
- -9.9 - -5.0
- -4.9 - 0.0
- 0.1 - 5.0
- 5.1 - 10.0
- 10.1 - 25.0
- 25.1 - 50.0
- 50.1 - 100.0
- 100.1 - 250.0
- 250.1 - 500.0
- 500.1 - 1000.0

Reference: Theme ID 1477590,
Map Projection:British National Grid

Consultation Site Summary: Farnes East

Additional information for this site can be found in the SNCB Advice (page 583), Impact Assessment (Annex I2 Option 1 Net Gain, Page 218) and Regional Project recommendations (Final Report Version 1.2, Page 475).

Table 1. General Information on site and all features recommended by Regional Projects

Regional Project: Net Gain	**Site surface area: :** 945 km ²		**Biogeographic Region:** **JNCC:** Northern North Sea **OSPAR Region:** Region II Greater North Sea
Site Location: 55° 41’ 02’’ N, 1° 14’ 29’’ W **Inshore/Offshore: Inshore & Offshore** (crosses the 12 nm territorial seas limit)			
Feature type	**Feature name**	**Area/no. of records**	**Conservation Objective**
Broad Scale Habitat	Moderate energy circalittoral rock	518 km²	Maintain
Broad Scale Habitat	Subtidal coarse sediment	247 km²	Maintain
Broad Scale Habitat	Subtidal sand	178 km²	Maintain
Broad Scale Habitat	Subtidal mud	13 km²	Recover
Broad Scale Habitat	Subtidal mixed sediment	3 km²	Maintain

Habitat FOCI	Peat and clay exposures	4 km²	Maintain

Table 2. Sector Impacts and Associated Best Estimate Costs

Sectors Impacted	Best Estimate Costs (£ per year)
Commercial Fishing	6,000
Non-UK Commercial Fishing	Unquantified
National Defence	Non-site specific cost
Cables (Power and Telecommunications Cables excluding cables for renewable developments)	Non-site specific cost
	Best Estimate Total Cost = £6,000

Decision	Requires further consideration

Rationale for Decision:

Site Advantages

The Farnes East recommended Marine Conservation Zone (rMCZ) is a site that crosses the 12 nm territorial seas limit, so it is located both inshore and offshore, and measures 945 km². Within this rMCZ there are Broad Scale Habitat features including Moderate energy circalittoral rock, Subtidal mud and mixed sediments and Subtidal sand. It also includes Peat and clay exposures which is a Habitat FOCI. This site contributes the largest area of Moderate energy circalittoral rock and the second largest area of Subtidal mud out of all of the rMCZs and existing marine protected areas in the regional MCZ project area. Subtidal mud is of particular interest since the adequacy target has not been met for that feature. The site also provides one of the only three examples of the peat and clay exposures habitat recommended for designation within the regional MCZ project. Peat and clay

exposures have been identified as promoting species diversity and forming species habitats, e.g. burrowing piddocks and their associated unique microhabitat. The area where this site is has been identified as important for many marine mammals and bird species and it is thought that the deep water Farnes Deep geological feature (which overlaps with part of this site) could provide a breeding area for white-beaked dolphins. Within this rMCZ there are records of sightings for basking sharks in the south of the site, while there are nursery grounds and spawning grounds for several fish species within the local area.

Socio-Economics

The Farnes East recommended MCZ had support from RSPB, The Wildlife Trusts and others, but some concerns have also been raised. The sector that could be impacted by this site is the commercial fishing sector. For the UK commercial fishing sector there is a best estimate cost of approximately £3,000 per year. It was not possible to estimate the cost for the non-UK fishing sector.

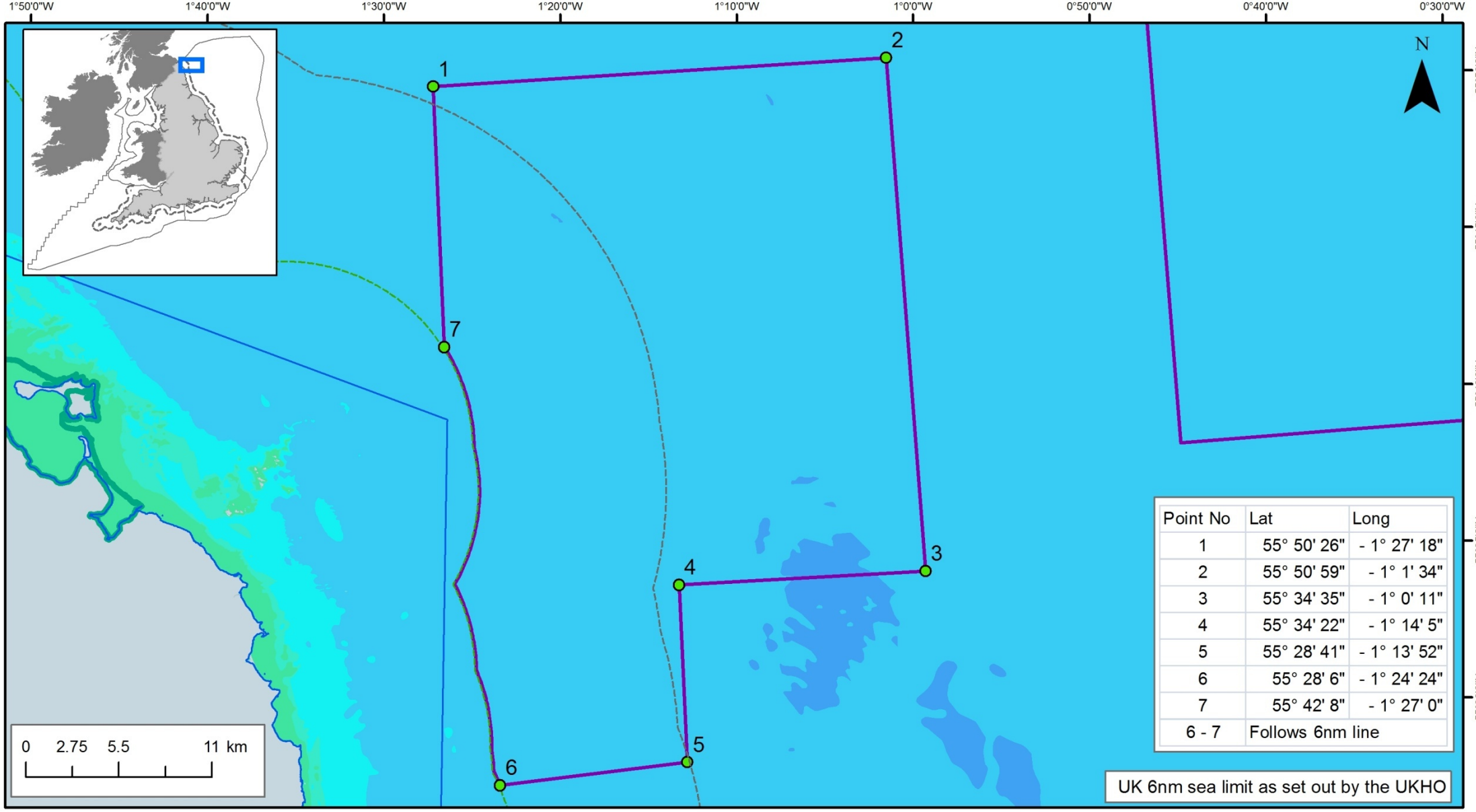
Data Certainty

The Farnes East recommended MCZ has acceptable data certainty for one of the features recommended for designation while five features have unacceptable data certainty and will require further work prior to its designation. Those features with unacceptable data certainty are; Subtidal mixed sediments, Moderate energy circalittoral rock, Subtidal sand, Subtidal mud, and Peat and clay exposures.[2]

Conclusion

Although the advantages for this site justify the socio-economic implications, further work will be required to improve the data certainty prior to this site being designated

[2] Recent survey data has been collected for this site (site report published on Defra website) however this was not available to be considered during the MCZ decision making. This survey data will be considered in further detail for future tranche assessments.



Point No	Lat	Long
1	55° 50' 26"	- 1° 27' 18"
2	55° 50' 59"	- 1° 1' 34"
3	55° 34' 35"	- 1° 0' 11"
4	55° 34' 22"	- 1° 14' 5"
5	55° 28' 41"	- 1° 13' 52"
6	55° 28' 6"	- 1° 24' 24"
7	55° 42' 8"	- 1° 27' 0"
6 - 7	Follows 6nm line	

Farnes East rMCZ

- Recommended MCZ
- rMCZ boundary co-ordinates
- Regional MCZ project area
- 6nM Limit
- 12nM Territorial Seas Limit
- Land
- SACs with Marine Components
- SPAs with Marine Components

Depth Areas (metres)

- 0.0 - 5.0
- 5.1 - 10.0
- 10.1 - 25.0
- 25.1 - 50.0
- 50.1 - 100.0
- 100.1 - 250.0
- 250.1 - 500.0
- 500.1 - 1000.0

Map Projection:WGS84UTM30N, Inset: BNG

Consultation Site Summary: Fulmar

Additional information for this site can be found in the SNCB Advice (page 588), Impact Assessment (Annex I2 Option 1 Net Gain, Page 236) and Regional Project recommendations (Final Report Version 1.2, Page 541).

Table 1. General Information on site and all features recommended by Regional Projects

Regional Project: Net Gain	**Site surface area: :** 2,437 km ²	**Biogeographic Region: JNCC :** Northern North Sea **OSPAR Region:** Region II Greater North Sea
Site Location: 56° 21’ 01’’ N, 2° 10’ 34’’ E **Inshore/Offshore: Offshore**		

Feature type	**Feature name**	**Area/no. of records**	**Conservation Objective**
Broad Scale Habitat	Subtidal coarse sediment	45 km²	Maintain
Broad Scale Habitat	Subtidal sand	2,390 km²	Maintain
Habitat FOCI	Subtidal sands and gravels (modelled)	2,402 km²	Maintain
Species FOCI	Ocean quahog (*Arctica islandica*)	48 points	Maintain

Table 2. Sector Impacts and Associated Best Estimate Costs

Sectors Impacted	Best Estimate Costs (£ per year)
National Defence	Non-site specific cost
Cables (Power and Telecommunications Cables excluding cables for renewable developments)	Non-site specific cost
Oil and gas exploration and production, gas interconnectors and gas storage (including carbon capture and storage)	Non-site specific cost
	Best Estimate Total Cost = No site-specific cost

Table 3. Designation Status of Site and Rationale

Decision	Requires further consideration

Rationale for Decision:

Site Advantages

The Fulmar recommended Marine Conservation Zone (rMCZ) is an offshore site measuring 2,437 km². Within this rMCZ there are Broad Scale Habitat features such as Subtidal sand and Subtidal coarse sediments. It also includes Subtidal sands and gravels which is a habitat FOCI and the Species FOCI Ocean quahog *(Arctica islandica*). This site contributes the largest area of Subtidal sand out of all of the rMCZs within the whole MCZ project area and the second largest area of Subtidal coarse sediment out of all of the rMCZs in the Net Gain region. This site also provides one of two replicates of Ocean quahog (*Arctica islandica*) in the Net Gain region; this species is not protected in existing marine protected areas. Within this site there are records of sightings for basking sharks and cetaceans, and it falls within the foraging radii for certain seabird species (e.g. common guillemot, and black-legged kittiwake).

Socio-Economics

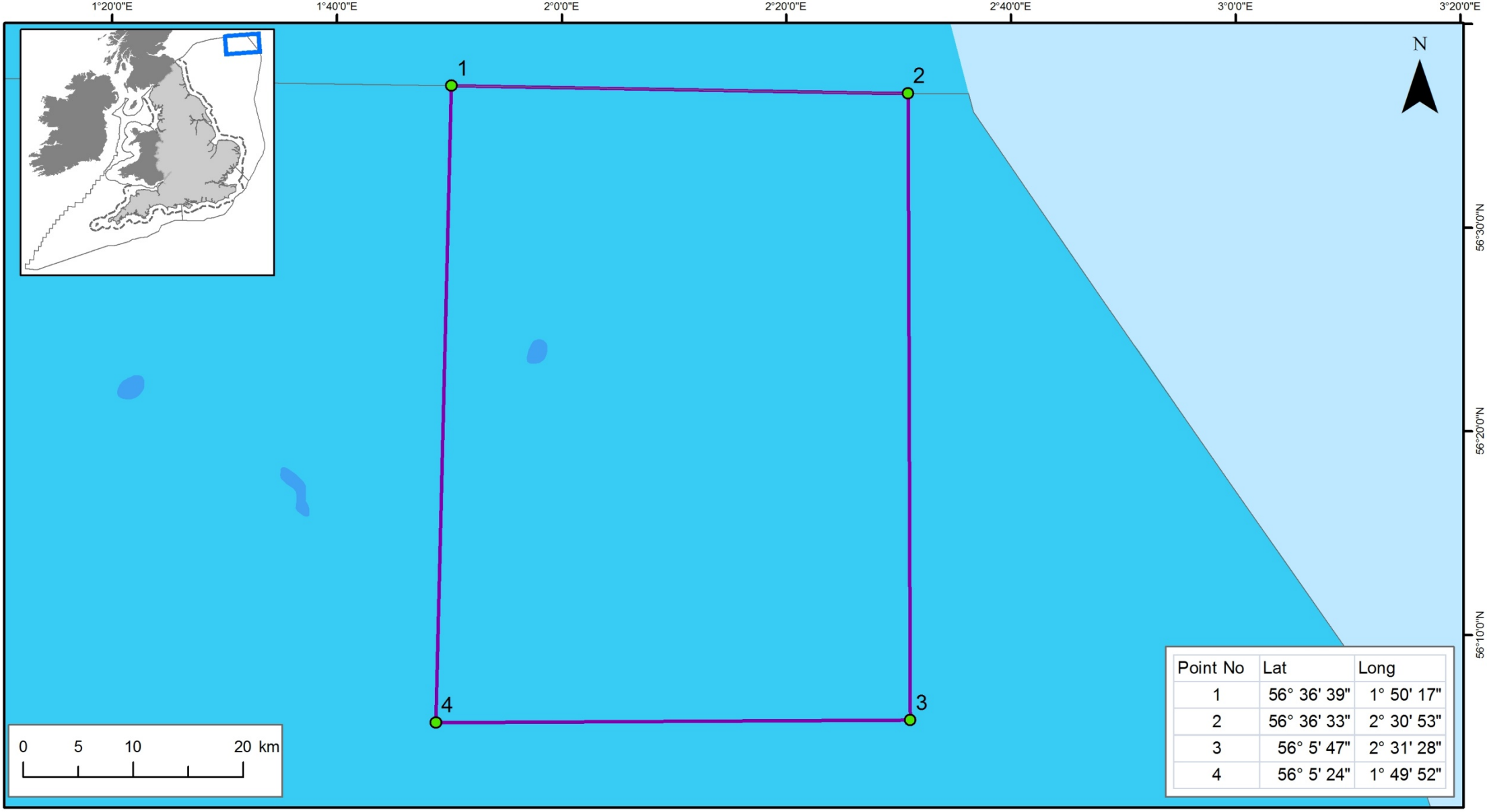
The Fulmar recommended MCZ had support from RSPB, The Wildlife Trusts and others. Sectors that might be impacted by this site include national defence and oil and gas. However, it was not possible to estimate a site-specific cost for these sectors.

Data Certainty

The Fulmar recommended MCZ has acceptable data certainty for one of the features recommended for designation while three features have unacceptable data certainty and will require further work prior to its designation. The features with unacceptable data certainty are Subtidal sand, Subtidal sand and gravels, and Ocean quahog (*Arctica islandica*).

Conclusion

Although the advantages for this site justify the socio-economic implications; further work will be required to improve the data certainty prior to this site being designated



Point No	Lat	Long
1	56° 36' 39"	1° 50' 17"
2	56° 36' 33"	2° 30' 53"
3	56° 5' 47"	2° 31' 28"
4	56° 5' 24"	1° 49' 52"

Fulmar rMCZ

- Recommended MCZ
- rMCZ boundary co-ordinates
- Regional MCZ project area
- 12nM Territorial Seas Limit
- Land

Depth Areas (metres)

- 0.0 - 5.0
- 5.1 - 10.0
- 10.1 - 25.0
- 25.1 - 50.0
- 50.1 - 100.0
- 100.1 - 250.0
- 250.1 - 500.0
- 500.1 - 1000.0

Map Projection:WGS84UTM31N, Inset: BNG

Consultation Site Summary: Holderness Inshore

Additional information for this site can be found in the SNCB Advice (page 643), Impact Assessment (Annex I2 Option 1 Net Gain, Page 113) and Regional Project recommendations (Final Report Version 1.2, Page 253).

Table 1. General Information on site and all features recommended by Regional Projects

Regional Project: Net Gain		**Site surface area:** 307 km²	**Biogeographic Region: JNCC:** Southern North Sea **OSPAR Region:** Region II Greater North Sea
Site Location: 53° 46’ 28’’ N, 0° 02’ 01’’ E **Inshore/Offshore: Inshore**			
Feature type	**Feature name**	**Area/no. of records**	**Conservation Objective –**
Broad Scale Habitat	Intertidal mixed sediments	2 km²	Maintain
Broad Scale Habitat	Subtidal coarse sediment	218 km²	Maintain
Broad Scale Habitat	Subtidal sand	19 km²	Maintain
Habitat FOCI	Peat and clay exposures	1 point	Maintain
Habitat FOCI	Subtidal chalk (modelled) Subtidal chalk,	182 km² 1 point	Maintain

Habitat FOCI	Subtidal sands and gravels Subtidal sands and gravels (modelled)	101 points 98 km²	Maintain
Habitat FOCI	Ross worm (*Sabellaria spinulosa*) reefs	4 points	Maintain
Geological feature	Spurn Head	N/A	Maintain

Table 2. Sector Impacts and Associated Best Estimate Costs

Sectors Impacted	**Best Estimate Costs (£ per year)**
Renewable Energy (wind, wave and tidal)	113,000
Archaeology	Unquantified
Ports, Harbours and Commercial Shipping	<1000
National Defence	Non-site specific cost
Oil and gas exploration and production, gas interconnectors and gas storage (including carbon capture and storage)	Non-site specific cost
	Best Estimate Total Cost =£ 113, 000

Table 3. Designation Status of Site and Rationale

Decision	Requires further consideration

Rationale for Decision:

Site Advantages

The Holderness Inshore recommended Marine Conservation Zone (rMCZ) is an inshore site measuring 307 km². Within this rMCZ there are Broad Scale Habitat features such as Intertidal mixed sediments, Subtidal sand and Habitat FOCI such as Ross worm (*Sabellaria spinulosa*) reefs, Peat and clay exposures, and Subtidal chalk. The site also includes the Spurn Head geological feature which is a unique example of a dynamic spit system. This feature currently receives protection as a SSSI geological feature but the protection extends only down to the mean low-water mark. The rMCZ would allow for protection of the offshore element of this feature. This site also provides the largest contribution of Intertidal mixed sediments out of all MCZs. Subtidal mixed sediments are also within the site but were not proposed for designation by the Regional Project. Marine sediments provide nursery grounds for fish and have an important role in the global cycling of elements such as carbon and nitrogen. Also, biogenic reefs, such as those found in this site, play an important role in microscopic plant biomass production and provide resistance to wave energy, and therefore contribute to coastal protection.

Socio-Economics

The Holderness Inshore recommended MCZ had support by RSPB and The Wildlife Trusts, while the marine aggregates industry had expressed concerns. The main sector that could be impacted by this site is the renewable energy sector; for this sector there is a best estimate cost of £113,000 per year associated with potential overlap of this site with the routes of cables that connect wind farms, (e.g. Dogger Bank offshore, Westermost Rough and Humber Gateway wind farms, to land).

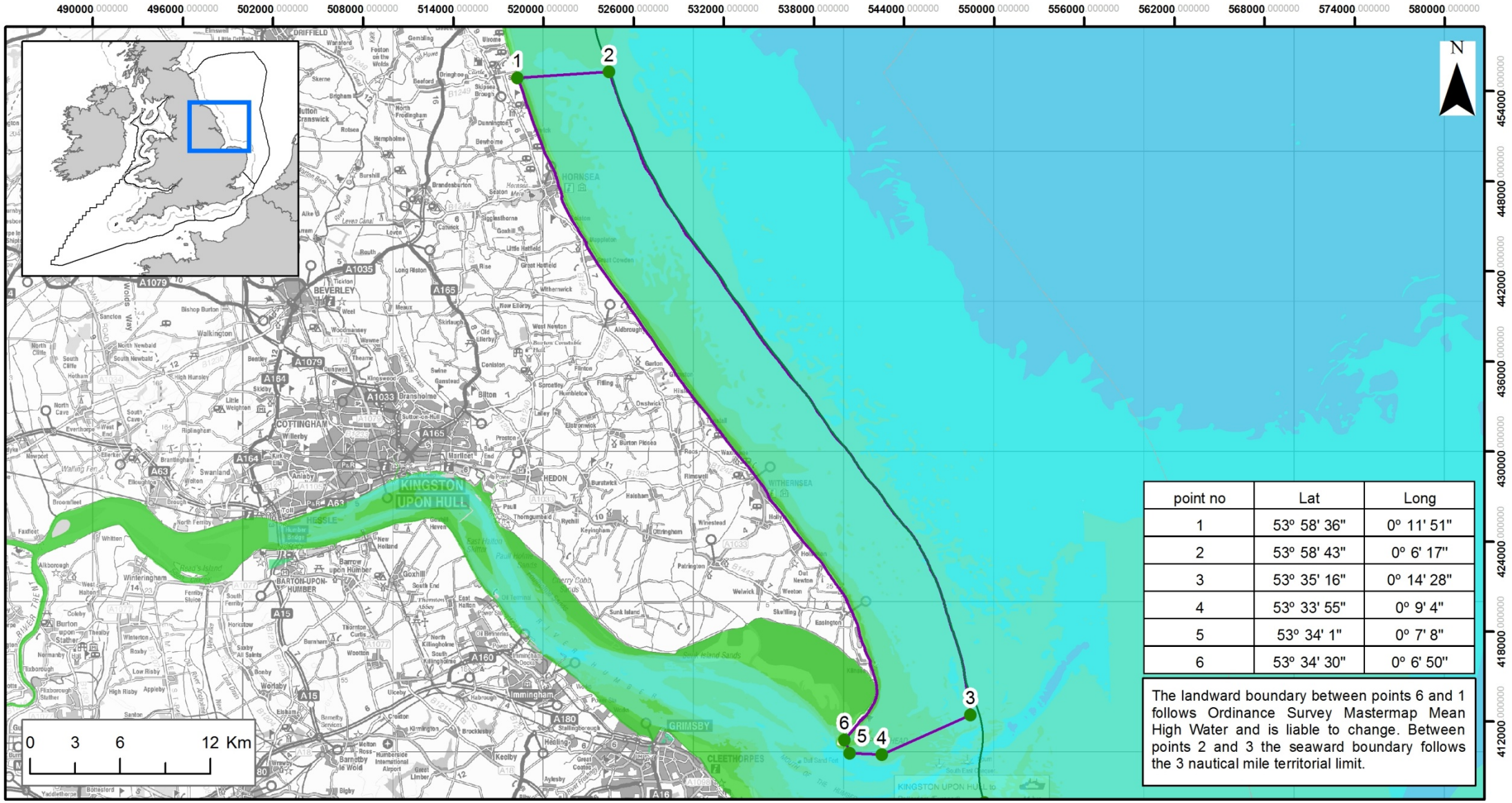
Data Certainty

The Holderness Inshore recommended MCZ has acceptable data certainty for two features while six features have unacceptable data certainty and will require further work prior to its designation. The six features with unacceptable data certainly are Subtidal coarse sediment, Spurn Head geological feature, Subtidal sand and gravels, Peat and clay exposures, Ross worm (*Sabellaria*

spinulosa) reefs, and Subtidal chalk.

Conclusion

For this site there is a strong indication of a potentially significant socio-economic implication associated with the renewable energy sector. Therefore further work will be required to better understand this implication and improve the data prior to this site being considered for future designation.



point no	Lat	Long
1	53º 58' 36"	0º 11' 51"
2	53º 58' 43"	0º 6' 17"
3	53º 35' 16"	0º 14' 28"
4	53º 33' 55"	0º 9' 4"
5	53º 34' 1"	0º 7' 8"
6	53º 34' 30"	0º 6' 50"

The landward boundary between points 6 and 1 follows Ordinance Survey Mastermap Mean High Water and is liable to change. Between points 2 and 3 the seaward boundary follows the 3 nautical mile territorial limit.

Holderness Inshore

Recommended MCZ

- Recommended MCZ
- rMCZ boundary co-ordinates
- MCZ Regional Projects boundaries
- England 12nM Territorial Seas Limit
- England 3nM Territorial Seas Limit

Depth Areas (m)

- -20.0 - -10.0
- -9.9 - -5.0
- -4.9 - 0.0
- 0.1 - 5.0
- 5.1 - 10.0
- 10.1 - 25.0
- 25.1 - 50.0
- 50.1 - 100.0
- 100.1 - 250.0
- 250.1 - 500.0
- 500.1 - 1000.0

Reference: Theme ID 1477592,
Map Projection:British National Grid

Consultation Site Summary: Holderness Offshore

Additional information for this site can be found in the SNCB Advice (page 620), Impact Assessment (Annex I2 Option 1 Net Gain, Page 130) and Regional Project recommendations (Final Report Version 1.2, Page 287).

Table 1. General Information on site and all features recommended by Regional Projects

Regional Project: Net Gain		**Site surface area:** 1,176 km²	**Biogeographic Region: JNCC:** Southern North Sea **OSPAR Region:** Region II Greater North Sea
Site Location: 53° 46’ 28’’ N, 0° 02’ 01’’ E **Inshore/Offshore:** Inshore & Offshore			
Feature type	**Feature name**	**Area/no. of records**	**Conservation Objective**
Broad Scale Habitat	Subtidal coarse sediment	536 km²	Recover
Broad Scale Habitat	Subtidal mixed sediment	610 km^2	Recover

Table 2. Sector Impacts and Associated Best Estimate Costs

Sectors Impacted	Best Estimate Costs (£ per year)
Renewable Energy (wind, wave and tidal)	323,000
Commercial Fishing	87,000
Non-UK Commercial Fishing	Unquantified
Archaeology	Unquantified
National Defence	Non-site specific cost
Oil and gas exploration and production, gas interconnectors and gas storage (including carbon capture and storage)	Non-site specific estimates
Cables (Power and Telecommunications Cables excluding cables for renewable developments)	Non-site specific estimates
	Best Estimate Total Cost = £410,000

Table 3. Designation Status of Site and Rationale

Decision	Requires further consideration

Rationale for Decision:

Site Advantages

The Holderness Offshore recommended Marine Conservation Zone (rMCZ) is an inshore & offshore site (i.e. it crosses the 12 nm territorial seas limit) measuring 1,176 km². Within this rMCZ there are Broad Scale Habitat features such as Subtidal coarse sediment and Subtidal mixed sediment. This rMCZ contributes the largest area of Subtidal mixed sediment and is needed to achieve the adequacy target for this habitat. This site also contributes to the representation of Subtidal mixed sediment within marine protected areas in the Net Gain project area, where only a small proportion of this habitat is currently protected. The site also encompasses the northern portion of the Inner Silver Pit glacial tunnel valley feature (the southern portion being within rMCZ

NG 6) but it was not put forward for protection by the Regional MCZ Projects. The Inner Silver Pit has high species biodiversity on the canyon walls and is an ecologically important area providing substrate and habitat for many species. Within this rMCZ there are records of sightings for basking sharks in the north-west and it falls within the foraging radii for certain seabird species (e.g. Atlantic puffin and great skua). The site is also in an area that provides spawning and nursery grounds for a number of fish species.

Socio-Economics

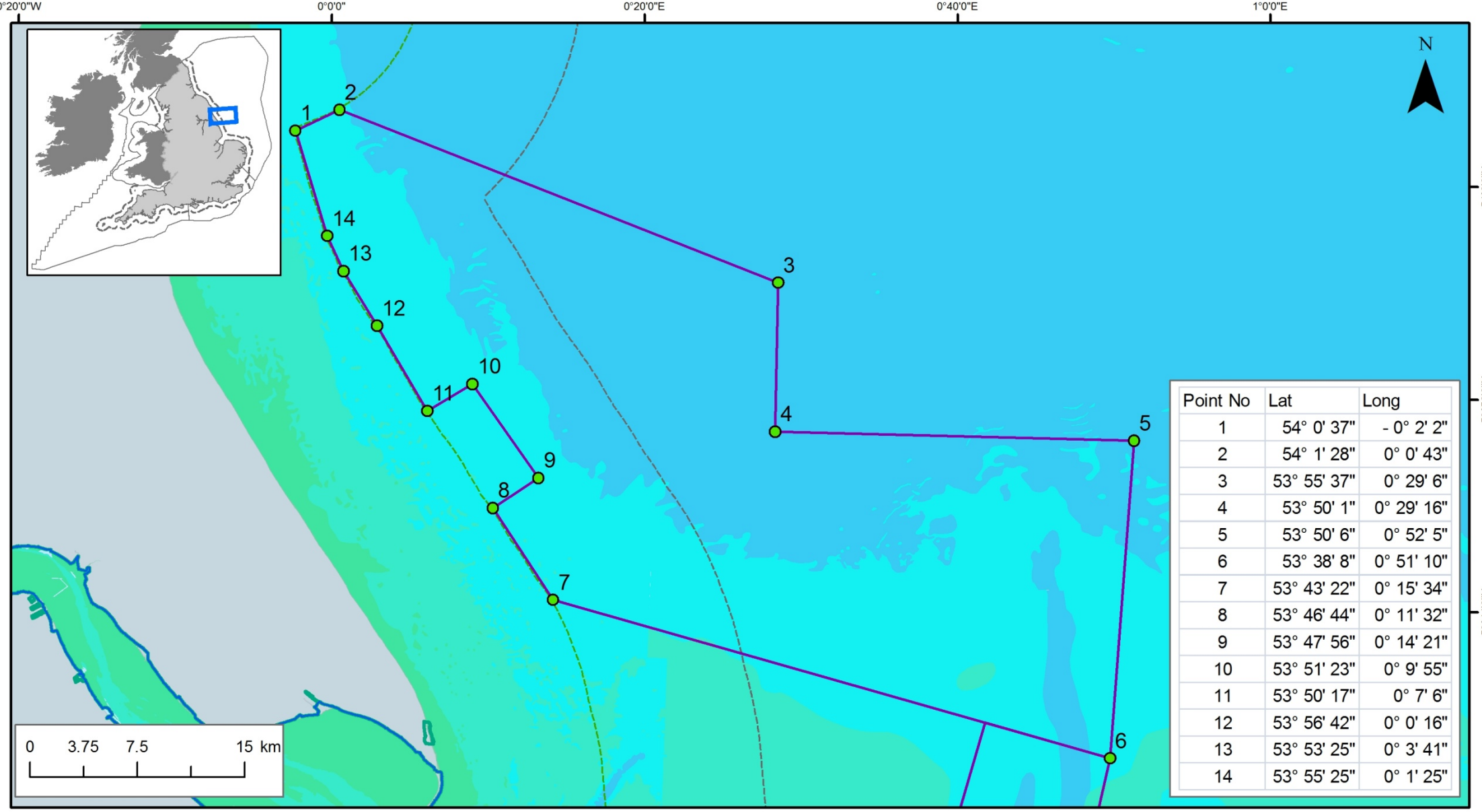
The Holderness Offshore recommended MCZ had support by RSPB and The Wildlife Trust but was not supported by the non-UK fishing sector. The sectors that could be impacted by this site are the renewable energy sector, and commercial fishing industry (both UK and non-UK). For the renewable energy sector there is a best estimate cost of approximately £323,000 per year associated with potential overlap of this site with the routes of cables that connect wind farms (e.g. Dogger Bank offshore) to land. For UK fisheries, there is a best estimate cost of approximately £87,000 per year while the cost for non-UK fisheries has not been quantified.

Data Certainty

The Holderness Offshore recommended MCZ has acceptable data certainty for all features recommended for designation.

Conclusion

For this site there is a strong indication of a potentially significant socio-economic implication associated with the renewable energy sector and fishing sector. Therefore, further work will be required to better understand this implication prior to this site being considered for future designation.



Point No	Lat	Long
1	54° 0' 37"	- 0° 2' 2"
2	54° 1' 28"	0° 0' 43"
3	53° 55' 37"	0° 29' 6"
4	53° 50' 1"	0° 29' 16"
5	53° 50' 6"	0° 52' 5"
6	53° 38' 8"	0° 51' 10"
7	53° 43' 22"	0° 15' 34"
8	53° 46' 44"	0° 11' 32"
9	53° 47' 56"	0° 14' 21"
10	53° 51' 23"	0° 9' 55"
11	53° 50' 17"	0° 7' 6"
12	53° 56' 42"	0° 0' 16"
13	53° 53' 25"	0° 3' 41"
14	53° 55' 25"	0° 1' 25"

Holderness Offshore rMCZ

- Recommended MCZ
- rMCZ boundary co-ordinates
- Regional MCZ project area
- 12nM Territorial Seas Limit
- 6nM Limit
- Land
- SACs with Marine Components
- SPAs with Marine Components

Depth Areas (metres)

- 0.0 - 5.0
- 5.1 - 10.0
- 10.1 - 25.0
- 25.1 - 50.0
- 50.1 - 100.0
- 100.1 - 250.0
- 250.1 - 500.0
- 500.1 - 1000.0

Map Projection:WGS84UTM31N, Inset: BNG

Consultation Site Summary: Lincs Belt

Additional information for this site can be found in the SNCB Advice (page 641), Impact Assessment (Annex I2 Option 1 Net Gain, Page 62) and Regional Project recommendations (Final Report Version 1.2, Page 173).

Table 1. General Information on site and all features recommended by Regional Projects

Regional Project: Net Gain	**Site surface area:** 176 km²		**Biogeographic Region: JNCC:** Southern North Sea **OSPAR Region:** Region II Greater North Sea
Site Location: 53° 24' 27'' N, 0° 16' 21'' E **Inshore/Offshore: Inshore**			
Feature type	**Feature name**	**Area/no. of records**	**Conservation Objective**
Broad Scale Habitat	Subtidal coarse sediment	34 km²	Maintain
Broad Scale Habitat	Subtidal sand	74 km²	Maintain
Broad Scale Habitat	Subtidal mixed sediment	66 km²	Maintain
Habitat FOCI	Peat and clay exposures	N/A	Maintain
Habitat FOCI	Subtidal sands and gravels Subtidal sands and gravels (modelled)	4 km² 20 km^2	Maintain

Table 2. Sector Impacts and Associated Best Estimate Costs

Sectors Impacted	Best Estimate Costs (£ per year)
Renewable Energy (wind, wave and tidal)	134,000
Archaeology	Unquantified
Ports, Harbours and Commercial Shipping	<1000
National Defence	Non-site specific cost
Cables (Power and Telecommunications Cables excluding cables for renewable developments)	Non-site specific cost
Oil and gas exploration and production, gas interconnectors and gas storage (including carbon capture and storage)	Non-site specific cost
	Best Estimate Total Cost = £134,000

Table 3. Designation Status of Site and Rationale

Decision	Requires further consideration

Rationale for Decision:

Site Advantages

The Lincs Belt recommended Marine Conservation Zone (MCZ) is an inshore site measuring 176 km². Within this rMCZ there are a Broad Scale Habitat features including Subtidal mixed sediments, and Habitat FOCIs such as Peat and clay exposures. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by microscopic plant in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals. The Peat and clay exposures feature is not protected within existing marine protected areas in the Net Gain region and there are only three rMCZ sites in which this

feature is proposed for designation in the Net Gain region. There are therefore, limited opportunities to protect it within the Net Gain region. This site also contains spawning grounds for commercially important fish species, while the area where it is located i.e. the Lincolnshire coast, provides foraging opportunities for little tern, which has a limited foraging range and is an Annex 1 species under the Birds Directive.

Socio-Economics

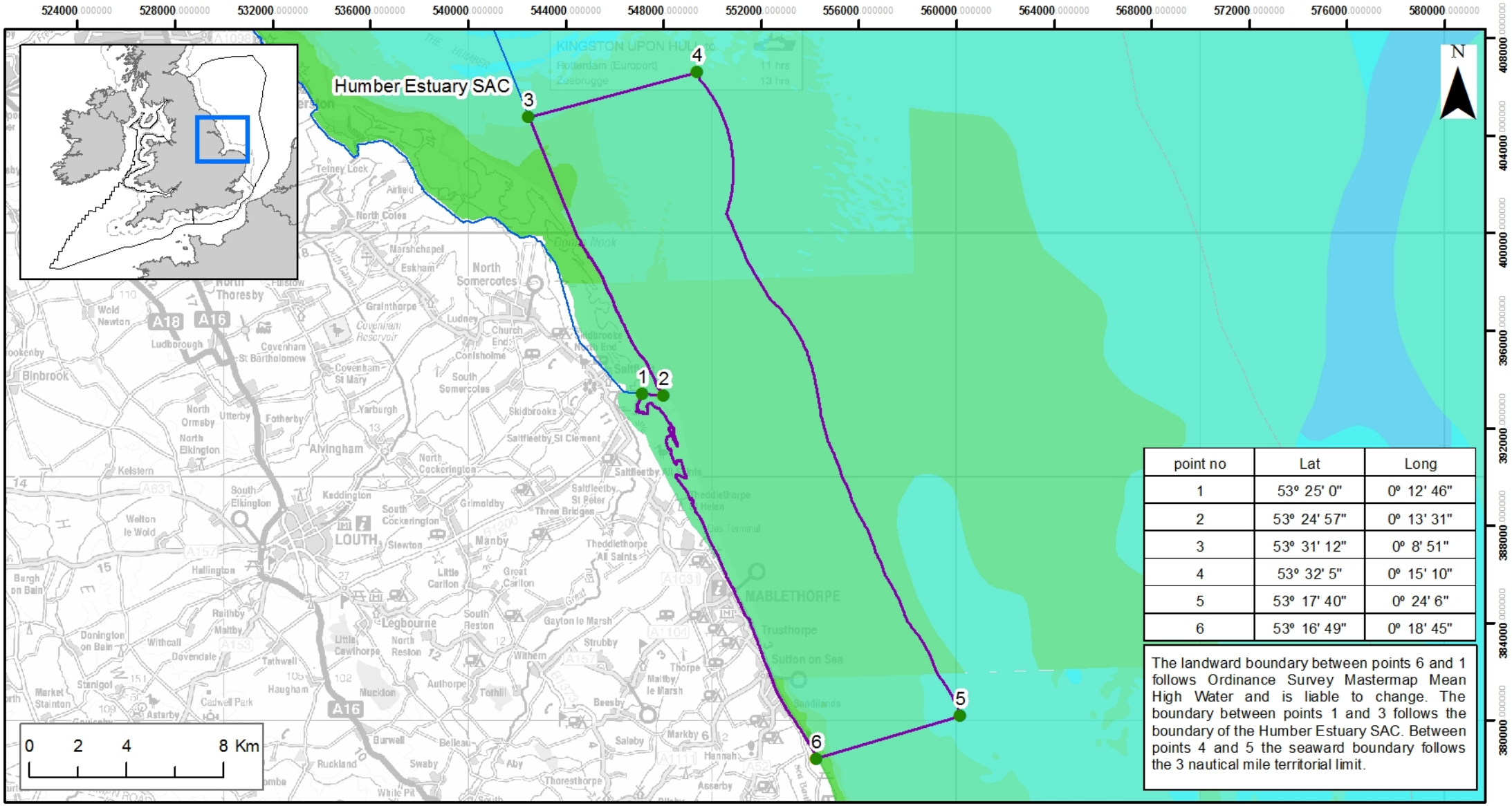
The Lincs Belt recommended MCZ was supported by some stakeholders including The Wildlife Trusts and RSPB, but others have expressed concerns (e.g. commercial fishing sector). The main sector impacted by this site is the renewable energy sector; for this sector there is a best estimate cost of approximately £134,000 associated with potential overlap of this site with cable routes that connect wind farms to land (e.g. Triton Knoll Round 2 wind farm, Dogger Bank offshore wind farm and Hornsea wind farm).

Data Certainty

The Lincs Belt recommended MCZ does not have acceptable data certainty for any of the recommended features and will require further work prior to their designation. The features are Subtidal sand and gravels, Peat and clay exposures, Subtidal coarse sediment, Subtidal sand, Subtidal mixed sediment.

Conclusion

For this site there is a strong indication of a potentially significant socio-economic implication associated with the renewable energy sector. Therefore further work will be required to better understand this implication and improve data certainty prior to this site being considered for future designation.



point no	Lat	Long
1	53º 25' 0"	0º 12' 46"
2	53º 24' 57"	0º 13' 31"
3	53º 31' 12"	0º 8' 51"
4	53º 32' 5"	0º 15' 10"
5	53º 17' 40"	0º 24' 6"
6	53º 16' 49"	0º 18' 45"

The landward boundary between points 6 and 1 follows Ordinance Survey Mastermap Mean High Water and is liable to change. The boundary between points 1 and 3 follows the boundary of the Humber Estuary SAC. Between points 4 and 5 the seaward boundary follows the 3 nautical mile territorial limit.

Lincolnshire Belt

Recommended MCZ

- Recommended MCZ
- rMCZ boundary co-ordinates
- MCZ Regional Projects boundaries
- England 12nM Territorial Seas Limit

Depth Areas (m)

- -20.0 - -10.0
- -9.9 - -5.0
- -4.9 - 0.0
- 0.1 - 5.0
- 5.1 - 10.0
- 10.1 - 25.0
- 25.1 - 50.0
- 50.1 - 100.0
- 100.1 - 250.0
- 250.1 - 500.0
- 500.1 - 1000.0

Reference: Theme ID 1477591,
Map Projection:British National Grid

Consultation Site Summary: Markham's Triangle

Additional information for this site can be found in the SNCB Advice (page 623), Impact Assessment (Annex I2 Option 1 Net Gain, Page 100) and Regional Project recommendations (Final Report Version 1.2, Page 235).

Table 1. General Information on site and all features recommended by Regional Projects

Regional Project: Net Gain		**Site surface area:** 200 km²	**Biogeographic Region: JNCC:** Southern North Sea **OSPAR Region:** Region II Greater North Sea
Site Location: 53° 56' 32'' N, 2° 44' 06'' E **Inshore/Offshore: Offshore**			
Feature type	**Feature name**	**Area/no. of records**	**Conservation Objective**
Broad Scale Habitat	Subtidal coarse sediment	168 km²	Recover
Broad Scale Habitat	Subtidal sand	31 km²	Recover

Table 2. Sector Impacts and Associated Best Estimate Costs

Sectors Impacted	**Best Estimate Costs (£ per year)**
Renewable Energy (wind, wave and tidal)	Omitted – not publicly available at the request of the developer of Hornsea windfarm
UK Commercial Fishing	19,000
Non-UK Commercial Fishing	Unquantified
National Defence	Non-site specific cost
Cables (Power and Telecommunications Cables excluding cables for renewable developments)	Non-site specific cost
Oil and gas exploration and production, gas interconnectors and gas storage (including carbon capture and storage)	Non-site specific estimates
	Best Estimate Total Cost = £19,000 + Not publicly available cost to Renewable Energy

Table 3. Designation Status of Site and Rationale

Decision	Requires further consideration
Rationale for Decision: **Site Advantages** The Markham's Triangle recommended Marine Conservation Zone (rMCZ) is an offshore site measuring 200km². Within this rMCZ there are Broad Scale Habitat features such as Subtidal sand and Subtidal coarse sediments. This site contributes to achieving the adequacy and replication targets for those two Broad Scale Habitats and it also contributes to achieving connectivity for Sublittoral sediment habitats. The site falls within the foraging radii for certain seabird species (e.g. herring gull and, black-legged kittiwakes.) and its southern corner covers a small portion of a tidal bank. The site is bordered by a Dutch Special Area of Conservation	

(i.e.Cleaver Bank) and the Outer Silver Pit, a geological/geomorphological valley feature. The Net Gain project recommendations suggest that both of these areas are known to be productive from an ecological perspective' Protecting the area between them may therefore be valuable for providing connectivity and could potentially enhance the ecological benefits of both the SAC and the rMCZ

Socio-Economics

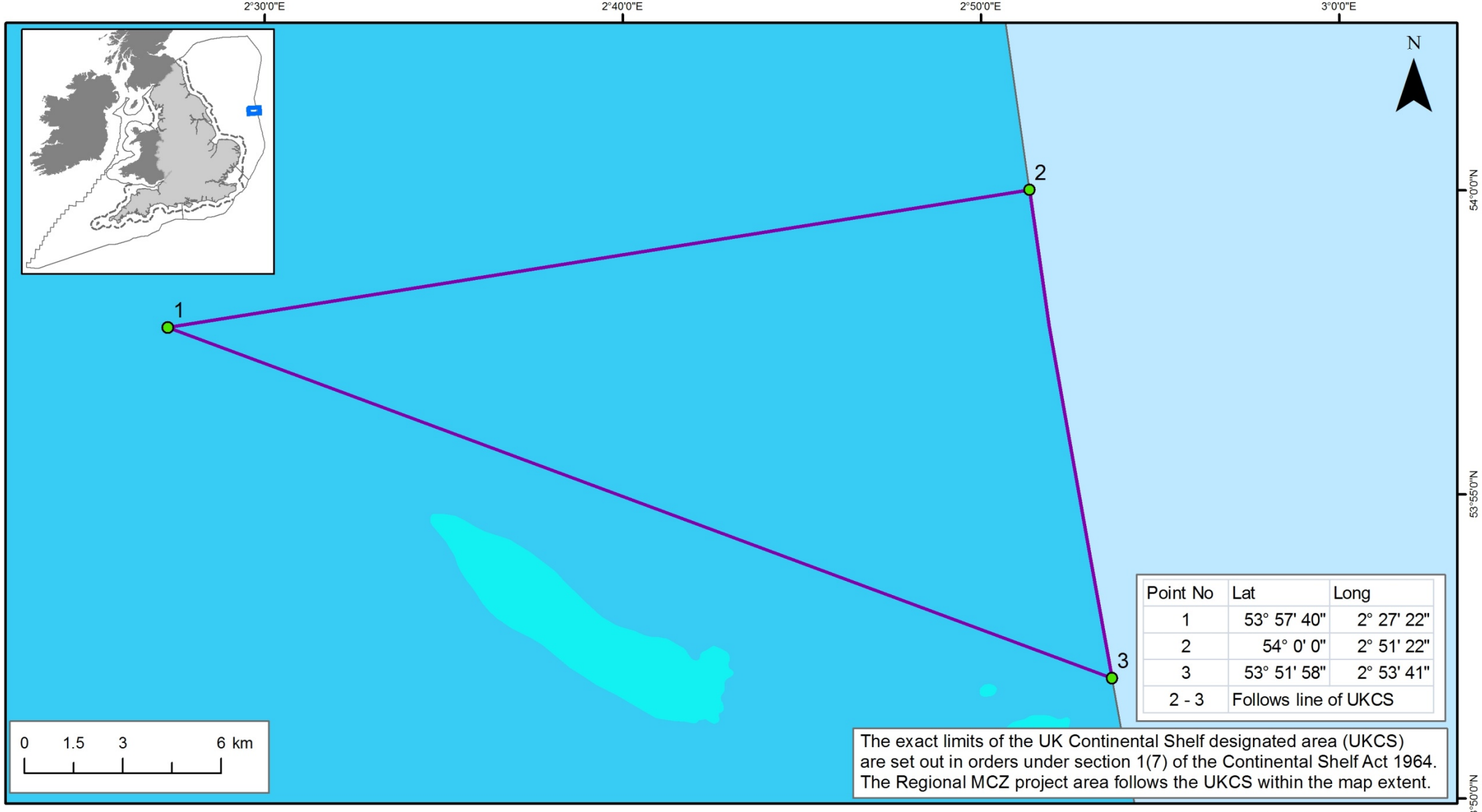
The Markham's Triangle recommended MCZ had some support by The Wildlife Trust but others have expressed concerns (e.g. non-UK fishing sector). The Markham's Triangle rMCZ includes costs that may occur in the renewable sector if the MCZ is designated. Due to commercial sensitivity of this data provided, the developer of the Hornsea windfarm requested that it is not made publicly available. Defra however, used the data in undertaking the decision making process on this site. There might also be significant cost to the non-UK fishing sector (currently unquantified).

Data Certainty

The Markham's Triangle recommended MCZ has acceptable data certainty for one feature while one feature has unacceptable data certainty and will require further work prior to its designation. The feature with unacceptable data is Subtidal coarse sediment.

Conclusion

For this site there is a strong indication of a potentially significant socio-economic implication associated with the renewable energy sector and other possibly sectors (e.g. commercial fishing sector). Further work will therefore be required to better understand this implication and improve the data prior to this site being considered for future designation.



Point No	Lat	Long
1	53° 57' 40"	2° 27' 22"
2	54° 0' 0"	2° 51' 22"
3	53° 51' 58"	2° 53' 41"
2 - 3	Follows line of UKCS	

The exact limits of the UK Continental Shelf designated area (UKCS) are set out in orders under section 1(7) of the Continental Shelf Act 1964. The Regional MCZ project area follows the UKCS within the map extent.

Markham's Triangle rMCZ

- Recommended MCZ
- rMCZ boundary co-ordinates
- Regional MCZ project area
- 12nM Territorial Seas Limit
- Land

Depth Areas (metres)

- 0.0 - 5.0
- 5.1 - 10.0
- 10.1 - 25.0
- 25.1 - 50.0
- 50.1 - 100.0
- 100.1 - 250.0
- 250.1 - 500.0
- 500.1 - 1000.0

Map Projection:WGS84UTM31N Inset: BNG

Consultation Site Summary: Orford Inshore

Additional information for this site can be found in the SNCB Advice (page 631), Impact Assessment (Annex I2 Option 1 Net Gain, Page 2) and Regional Project recommendations (Final Report Version 1.2, Page 80).

Table 1. General Information on site and all features recommended by Regional Projects

Regional Project: Net Gain		**Site surface area:** 72 km²	**Biogeographic Region: JNCC:** Southern North Sea **OSPAR Region:** Region II Greater North Sea
Site Location: 52° 05’ 36’’ N, 1° 52’ 55’’ E **Inshore/Offshore:** Inshore & Offshore (crosses the 12 nm territorial seas limit)			
Feature type	**Feature name**	**Area/no. of records**	**Conservation Objective –**
Broad Scale Habitat	Subtidal mixed sediments	72 km²	Recover

Table 2. Sector Impacts and Associated Best Estimate Costs

Sectors Impacted	Best Estimate Costs (£ per year)

Aquaculture	<1000
Commercial Fishing	3,000
Non-UK Commercial Fishing	Unquantified
Renewable Energy (wind, wave and tidal)	103,000
Archaeology	Unquantified
Cables (Power and Telecommunications Cables excluding cables for renewable developments)	Non-site specific cost
	Best Estimate Total Cost = £106,000

Table 3. Designation Status of Site and Rationale

Decision	Requires further consideration

Rationale for Decision

Site Advantages

The Orford Inshore recommended Marine Conservation Zone lies approximately 14 km off the East of England measuring 72 km^2. The sites has been recommended for designation for subtidal mixed sediments; a Broad Scale Habitat which covers almost all of the site. Only a small proportion of this feature is currently protected in existing MPAs. The recovery of Subtidal mixed sediments will restore ecosystem processes of habitat creation, food web dynamics, and secondary production. Other features that can be found in the site include Subtidal sands, and Subtidal sands and gravels. This site is important for connectivity since it links the Net Gain and Balanced Seas regional project areas. It also falls within the foraging radii for seabird colonies and is an important site as a nursery and spawning ground for fish. This site has been classified as a high risk site to reflect the recover objective for Subtidal mixed sediments due to the shallow abrasion and removal of non target species associated with benthic trawling.

Socio-Economics

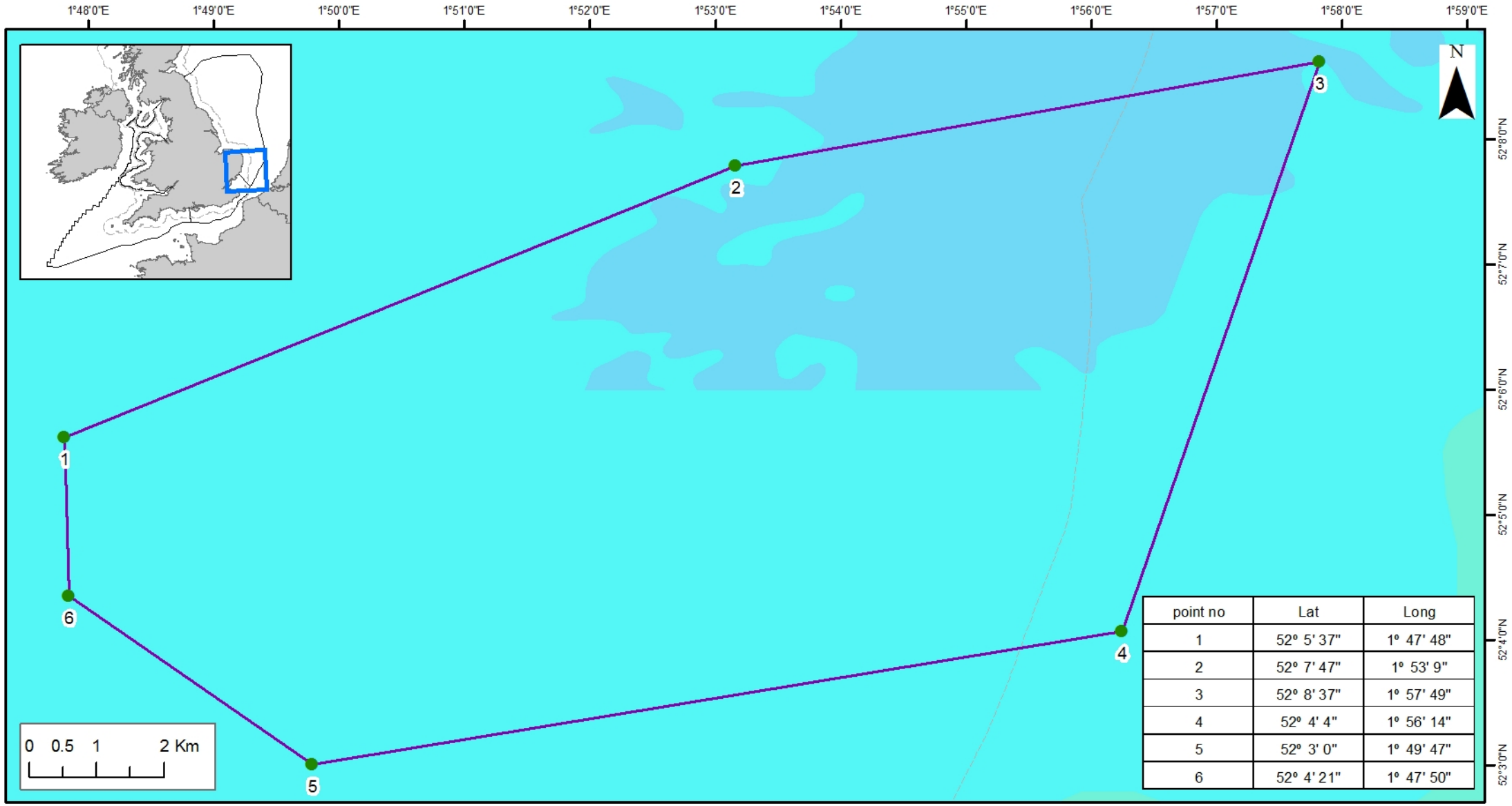
The Orford Inshore recommended Marine Conservation Zone had some support by NGOs such as the Marine Conservation Society but other groups expressed concerns (i.e. commercial fishing sector) mainly because of the potential impacts it could have on their sector. The main sector impacted by this site is the renewable energy sector; for the renewable energy sector there is a best estimate cost of £103,000 per year. The biggest contribution to the cost comes from potential impacts on renewable energy sector since cable routes that connect wind farms to land might go through the site. Some impact on the commercial fishing sector (both UK and non-UK) is also expected.

Data Certainty

The Orford Inshore recommended Marine Conservation Zone has high data certainty for both presence and extent of the proposed feature (Subtidal mixed sediments).

Conclusion

For this site there is a strong indication of a potentially significant socio-economic implication associated with the renewable energy sector. Socio-economic impacts on the commercial fishing sector (mainly the non-UK fishing sector) might also be significant. Further work will therefore be required to better understand these implications prior to this site being considered for future designation.



point no	Lat	Long
1	52º 5' 37"	1º 47' 48"
2	52º 7' 47"	1º 53' 9"
3	52º 8' 37"	1º 57' 49"
4	52º 4' 4"	1º 56' 14"
5	52º 3' 0"	1º 49' 47"
6	52º 4' 21"	1º 47' 50"

Orford inshore

Recommended MCZ

- Recommended MCZ
- rMCZ boundary co-ordinates
- MCZ Regional Projects boundaries
- England 12nM Territorial Seas Limit

Depth Areas (m)

- -20.0 - -10.0
- -9.9 - -5.0
- -4.9 - 0.0
- 0.1 - 5.0
- 5.1 - 10.0
- 10.1 - 25.0
- 25.1 - 50.0
- 50.1 - 100.0
- 100.1 - 250.0
- 250.1 - 500.0
- 500.1 - 1000.0

Reference: Theme ID 1477593,
Map Projection:WGS84

Consultation Site Summary: Runswick Bay

Additional information for this site can be found in the SNCB Advice (page 602), Impact Assessment (Annex I2 Option 1 Net Gain, Page 167) and Regional Project recommendations (Final Report Version 1.2, Page 347).

Table 1. General Information on site and all features recommended by Regional Projects

Regional Project: Net Gain	**Site surface area:** 68 km²		**Biogeographic Region: JNCC :** Northern North Sea **OSPAR Region:** Region II Greater North Sea
Site Location: 54° 33’ 51’’ N, 0° 42’ 58’’ W **Inshore/Offshore: Inshore**			
Feature type	**Feature name**	**Area/no. of records**	**Conservation Objective**
Broad Scale Habitat	High energy infralittoral rock	11 km²	Maintain
Broad Scale Habitat	Moderate energy infralittoral rock	9 km²	Maintain
Broad Scale Habitat	High energy circalittoral rock	0.1km²	Maintain
Broad Scale Habitat	Moderate energy circalittoral rock	20 km²	Maintain
Broad Scale Habitat	Subtidal coarse sediment	13 km²	Maintain

Broad Scale Habitat	Subtidal sand	7 km²	Maintain
Broad Scale Habitat	Subtidal mixed sediment	8 km²	Maintain
Species FOCI	Ocean quahog (*Artica islandica*)	8 points	Maintain

Table 2. Sector Impacts and Associated Best Estimate Costs

Sectors Impacted	**Best Estimate Costs (£ per year)**
Renewable Energy (wind, wave and tidal)	90,000
Ports, Harbours and Commercial Shipping	7,000
Archaeology	Unquantified
National Defence	Non-site specific cost
	Best Estimate Total Cost = £97,000

Table 3. Designation Status of Site and Rationale

Decision	Requires further consideration

Rationale for Decision:

Site Advantages

The Runswick Bay recommended Marine Conservation Zone (rMCZ) is an inshore site measuring 68 km². Within this rMCZ there are Broad Scale Habitat features such as High and Moderate energy infralittoral rock, High and Moderate energy circalittoral rock, and Subtidal coarse sediment. It also includes Ocean quahog (*Artica islandica*) which is a species FOCI. The High energy infralittoral rock habitat in this site is the second largest area recommended within the rMCZs in the Net Gain region. Moderate

energy infralittoral rock and High energy circalittoral rock are also of particular interest since this site includes one of only two examples of these habitats included in rMCZs or any other marine protected areas in the Net Gain region. There are therefore limited opportunities to protect those features. This site also includes one of only two examples of ocean quahog (*Artica islandica*). Infralittoral rock is extremely rich in faunal and floral species while kelp plants associated with this habitat are significant primary producers. Circalittoral rock habitats are characterised by high species diversity supporting a range of fauna including polychaetes, sponges, and soft and hard corals. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen and may act as temporary or permanent sinks for pollutants, particularly toxic metals. This habitat is also an important area for crabs and echinoderms (e.g. starfish and brittlestars). There are also intertidal features within the site but these have not been put forward by the Net Gain regional project for protection.

Socio-Economics

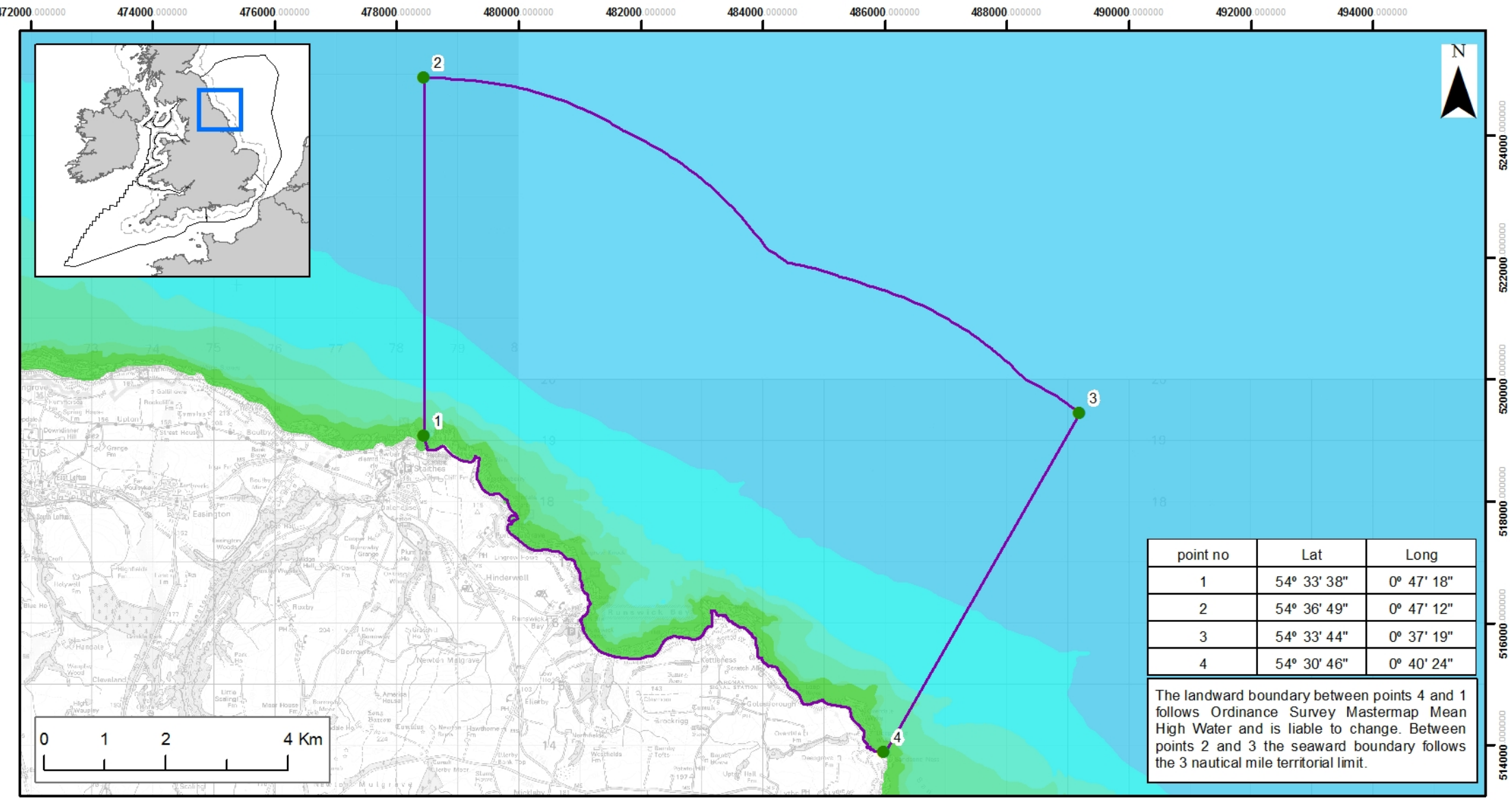
The Runswick Bay recommended MCZ had support from RSPB, The Wildlife Trusts and others. The sector that could be impacted most by this site is the renewable energy sector; for the renewable energy sector there is a best estimate cost of £90,000 per year associated with potential overlap of this site with the routes of cables that connect wind farms (e.g. Dogger Bank offshore) to land.

Data Certainty

The Runswick Bay recommended MCZ has acceptable data certainty for one of the features recommended for designation while seven features have unacceptable data certainty. The latter features will require further work prior to its designation. Those features requiring more work are High energy infralittoral rock, Moderate energy infralittoral rock, High energy circalittoral rock, Moderate energy circalittoral rock, Subtidal coarse sediment, Subtidal sand, and Subtidal mixed sediment.

Conclusion

Although the advantages for this site justify the socio-economic implications, further work will be required to improve the data certainty prior to this site being designated.



point no	Lat	Long
1	54º 33' 38"	0º 47' 18"
2	54º 36' 49"	0º 47' 12"
3	54º 33' 44"	0º 37' 19"
4	54º 30' 46"	0º 40' 24"

The landward boundary between points 4 and 1 follows Ordinance Survey Mastermap Mean High Water and is liable to change. Between points 2 and 3 the seaward boundary follows the 3 nautical mile territorial limit.

Runswick Bay

Recommended MCZ

- Recommended MCZ
- rMCZ boundary co-ordinates
- MCZ Regional Projects boundaries
- England 12nM Territorial Seas Limit

Depth Areas (m)

- -20.0 - -10.0
- -9.9 - -5.0
- -4.9 - 0.0
- 0.1 - 5.0
- 5.1 - 10.0
- 10.1 - 25.0
- 25.1 - 50.0
- 50.1 - 100.0
- 100.1 - 250.0
- 250.1 - 500.0
- 500.1 - 1000.0

Reference: Theme ID 1477585,
Map Projection:British National Grid

Consultation Site Summary: Silver Pit

Additional information for this site can be found in the SNCB Advice (page 625), Impact Assessment (Annex I2 Option 1 Net Gain, Page 78) and Regional Project recommendations (Final Report Version 1.2, Page 201).

Table 1. General Information on site and all features recommended by Regional Projects

Regional Project: Net Gain	**Site surface area:** 168 km²	**Biogeographic Region: JNCC:** Southern North Sea **OSPAR Region:** Region II Greater North Sea
Site Location: 53° 32’ 38’’ N, 0° 43’ 43’’ E **Inshore/Offshore: Offshore**		

Feature type	**Feature name**	**Area/no. of records**	**Conservation Objective**
Broad Scale Habitat	Subtidal sand	42 km²	Recover
Broad scale Habitat	Subtidal mixed sediments	127 km²	Recover
Habitat FOCI	Ross worm (*Sabellaria spinulosa*) reefs	0.05km² / 9 points	Recover[3]
Habitat FOCI	Subtidal sands and gravels Subtidal sands and gravels (modelled)	17 km^2 105 km^2	Recover

[3] *Following advice from SNCBs, the Conservation Objective for this feature has been changed from the original Regional Project recommendation.*

Table 2. Sector Impacts and Associated Best Estimate Costs

Sectors Impacted	**Best Estimate Costs (£ per year)**
Renewable Energy (wind, wave and tidal)	203,000
Commercial Fishing	12,000
Non-UK Commercial Fishing	Unquantified
Aggregate Extraction	3000
National Defence	Non-site specific cost
Cables (Power and Telecommunications Cables excluding cables for renewable developments)	Non-site specific cost
	Best Estimate Total Cost = £218,000

Table 3. Designation Status of Site and Rationale

Decision	Requires further consideration

Rationale for Decision:

Site Advantages

The Silver Pit recommended Marine Conservation Zone (rMCZ) is an offshore site measuring 168 km². Within this rMCZ there are Broad Scale Habitat features including Subtidal sand and Mixed sediments and Habitat FOCI of such as Ross worm (*Sabellaria spinulosa*) reefs, and Subtidal sands and gravels. The latter two features are in the UK Biodiversity Action Plan (BAP) list while Ross worm (*Sabellaria spinulosa*) reefs are also part of the OSPAR list of habitats. This site contributes to the representation of subtidal mixed sediment within marine protected areas in the Net Gain project region and to achieving connectivity for Sublittoral sediment habitats. The site also contains a glacial process feature called the Inner Silver Pit and shows the maximum lateral

extent of ice during the last glacial period. This feature extends in to the adjoining rMCZ known as Holderness Offshore. Silver Pit rMCZ also has records of sightings for basking sharks and the rMCZ falls within the foraging radii for certain seabird species (common guillemot, Atlantic puffin, etc). The site also has Ocean quahog (*Arctica islandica*) but it was not a feature proposed for protection by the Regional Projects.

Socio-Economics

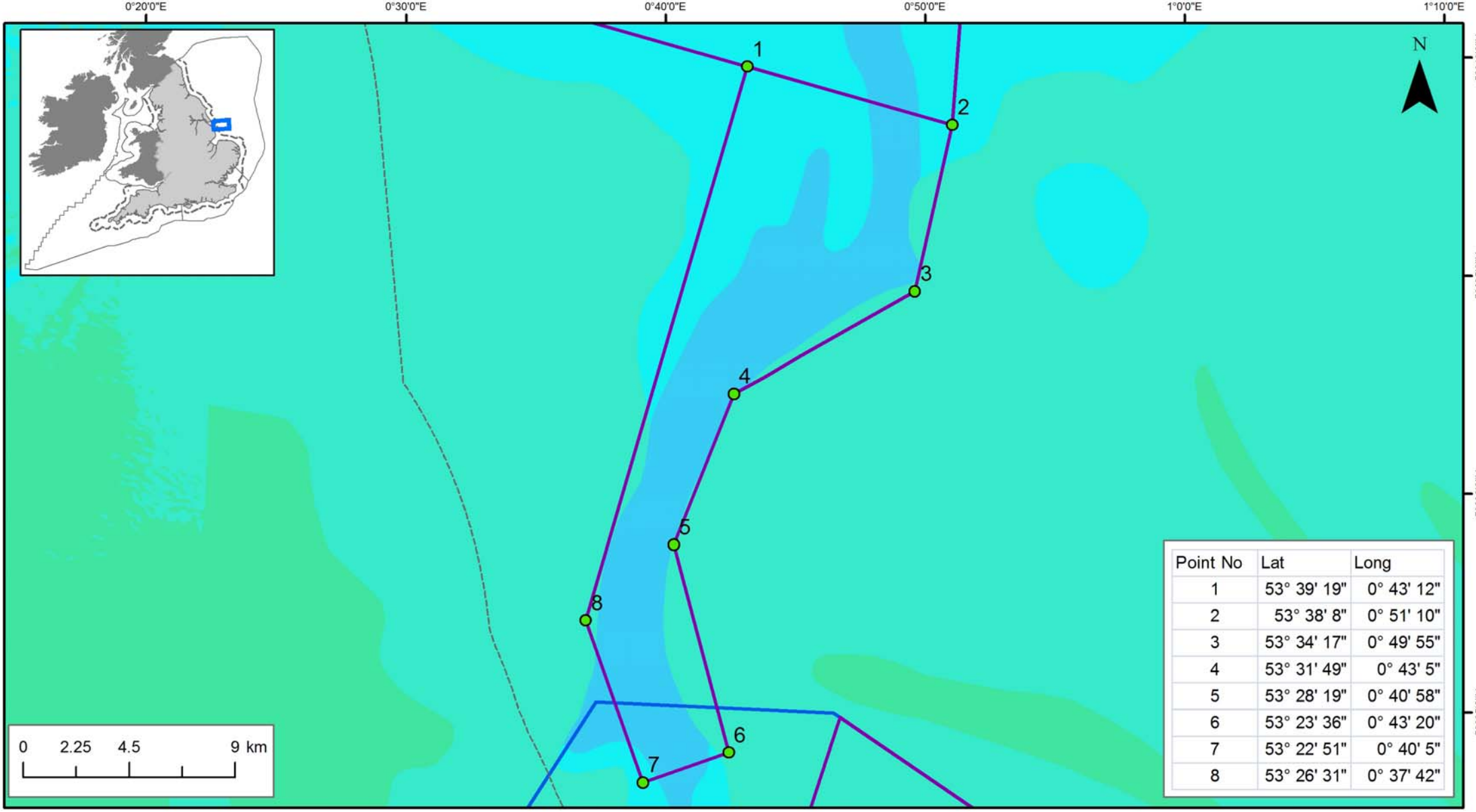
The Silver Pit recommended MCZ is supported by some stakeholders including The Wildlife Trusts and RSPB but others have expressed concerns (e.g. commercial fishing sector and aggregates). The main sector impacted by this site is the renewable energy sector; for this sector there is a best estimate cost of approximately £203,000 per year associated with potential overlap of this site with cable routes that connect wind farms to land (e.g. Triton Knoll Round 2 wind farm, Dogger Bank offshore wind farm, and Hornsea wind farm).

Data Certainty

The Silver Pit recommended MCZ has acceptable data certainty for three features while one feature – Subtidal sand and gravels has unacceptable data certainty and will require further work prior to their designation.

Conclusion

For this site there is a strong indication of a potentially significant socio-economic implication associated with the renewable energy sector and other sectors (e.g. commercial fishing sector). Further work will Therefore be required to better understand this implication and improve the data prior to this site being considered for future designation.



Point No	Lat	Long
1	53° 39' 19"	0° 43' 12"
2	53° 38' 8"	0° 51' 10"
3	53° 34' 17"	0° 49' 55"
4	53° 31' 49"	0° 43' 5"
5	53° 28' 19"	0° 40' 58"
6	53° 23' 36"	0° 43' 20"
7	53° 22' 51"	0° 40' 5"
8	53° 26' 31"	0° 37' 42"

Silver Pit rMCZ

- Recommended MCZ
- rMCZ boundary co-ordinates
- Regional MCZ project area
- 12nM Territorial Seas Limit
- Land
- SACs with Marine Components

Depth Areas (metres)

- 0.0 - 5.0
- 5.1 - 10.0
- 10.1 - 25.0
- 25.1 - 50.0
- 50.1 - 100.0
- 100.1 - 250.0
- 250.1 - 500.0
- 500.1 - 1000.0

Map Projection:WGS84UTM31N, Inset: BNG

Consultation Site Summary: Wash Approach

Additional information for this site can be found in the SNCB Advice (page 628), Impact Assessment (Annex I2 Option 1 Net Gain, Page 49) and Regional Project recommendations (Final Report Version 1.2, Page 149).

Table 1. General Information on site and all features recommended by Regional Projects

Regional Project: Net Gain		**Site surface area:** 725 km²	**Biogeographic Region: JNCC:** Southern North Sea **OSPAR Region:** Region II Greater North Sea
Site Location: 53° 15' 04'' N, 0° 56' 31'' E **Inshore/Offshore:** Inshore/Offshore			
Feature type	**Feature name**	**Area/no. of records**	**Conservation Objective –**
Broad Scale Habitat	Subtidal sand	126 km²	Maintain
Broad Scale Habitat	Subtidal mixed sediment	414 km²	Maintain
Habitat FOCI	Subtidal sands and gravels Subtidal sands and gravels (modelled)	142 km²/ 32 points 483 km^2	Maintain

Table 2. Sector Impacts and Associated Best Estimate Costs

Sectors Impacted	Best Estimate Costs (£ per year)
Renewable Energy (wind, wave and tidal)	405,000
Archaeology	Unquantified
Aggregate Extraction	4,000
Oil and gas exploration and production, gas interconnectors and gas storage (including carbon capture and storage)	Non-site specific cost
	Best Estimate Total Cost = £409,000

Table 3. Designation Status of Site and Rationale

Decision	Requires further consideration

Rationale for Decision

Site Advantages

The Wash Approach recommended Marine Conservation Zone (rMCZ) occupies an area that crosses the 12 nm territorial seas limit and measures 725 km². A large portion of the site overlaps with the Inner Dowsing, Race Bank and North Ridge Special Area of Conservation. Within this rMCZ there are Broad Scale Habitats such as Subtidal sand and Subtidal mixed sediments and Habitat FOCI such as subtidal sands and gravel. Of particular interest within this site is the Subtidal mixed sediment habitat which contributes the second largest area of this feature out of all of the rMCZs within the Net Gain project area and is needed to meet the adequacy criteria for this feature. The area is known as a foraging area for seabirds and seals all year round and there are nursery grounds for six fish species and spawning grounds for two fish species within the local area. The site also contributes to achieving connectivity for the Sublittoral sediment habitats.

Socio-Economics

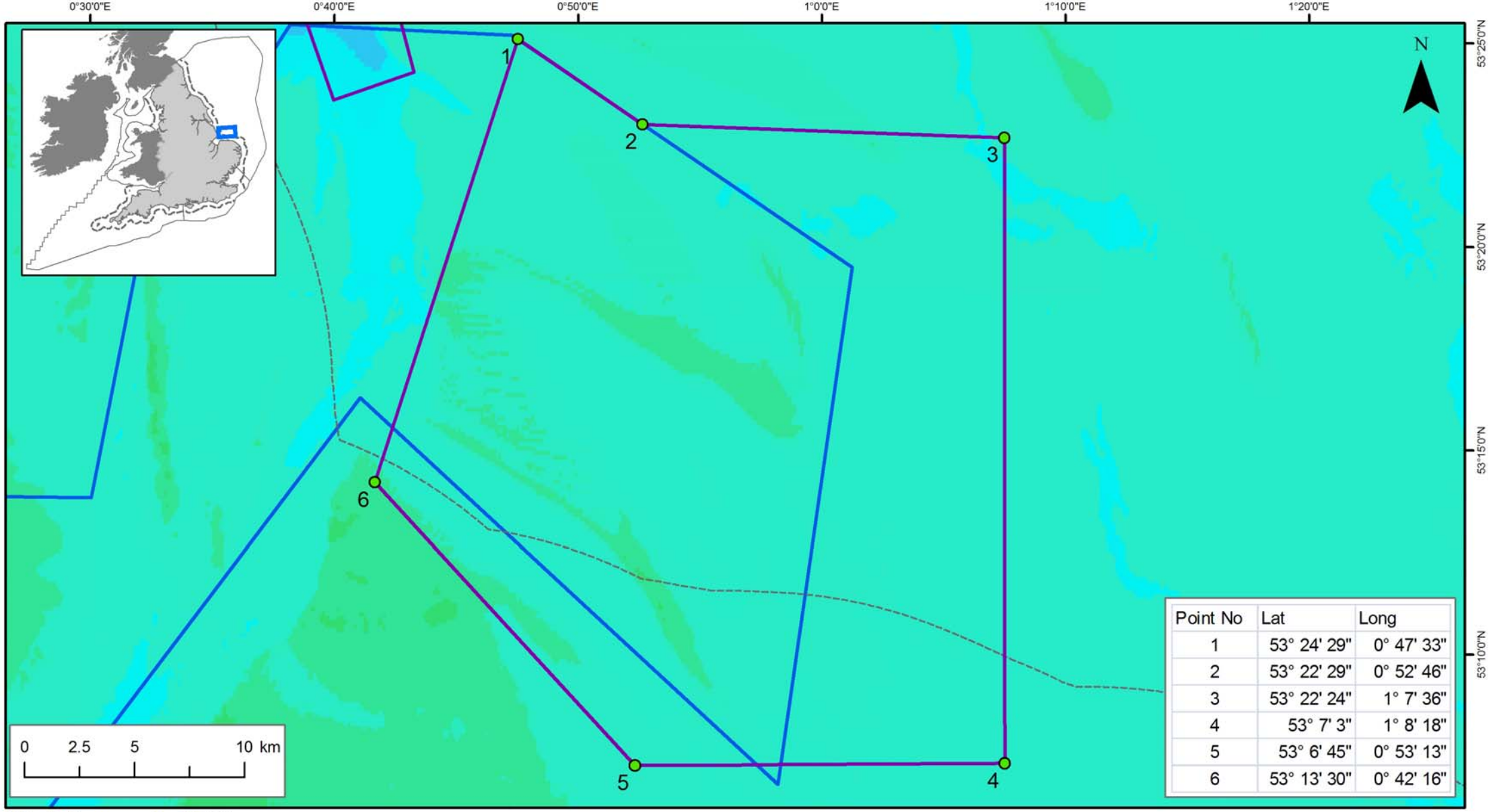
The Wash Approach recommended MCZ was partly supported by stakeholders such as The Wildlife Trust and The Crown Estate but other sectors (marine aggregates, fishing sector) have expressed some concerns. The main sector impacted by this site is the renewable sector; for this sector there is a best estimate cost of £405,000 per year associated with a possible overlap of the site with the cable route that will connect the Triton Knoll Round 2 wind farm to land and the co-location of the site with the Race Bank Round 2 wind farm.

Data Certainty

The Wash Approach recommended MCZ has acceptable data certainty for all the features that have been proposed for designation.

Conclusion

For this site there is a strong indication of a potentially significant socio-economic implication associated with the renewable energy sector. Further work will Therefore be required to better understand this implication prior to this site being considered for future designation.



Point No	Lat	Long
1	53° 24' 29"	0° 47' 33"
2	53° 22' 29"	0° 52' 46"
3	53° 22' 24"	1° 7' 36"
4	53° 7' 3"	1° 8' 18"
5	53° 6' 45"	0° 53' 13"
6	53° 13' 30"	0° 42' 16"

Wash Approach rMCZ

- Recommended MCZ
- rMCZ boundary co-ordinates
- Regional MCZ project area
- 12nM Territorial Seas Limit
- Land
- SACs with Marine Components

Depth Areas (metres)

- 0.0 - 5.0
- 5.1 - 10.0
- 10.1 - 25.0
- 25.1 - 50.0
- 50.1 - 100.0
- 100.1 - 250.0
- 250.1 - 500.0
- 500.1 - 1000.0

Map Projection:WGS84UTM31N Inset: BNG