



METOC



Strategic Environmental Assessment (SEA) of the Offshore Renewable Energy Development Plan (OREDPA) in the Republic of Ireland

Environmental Report Volume 3: Figures

October 2010

Table of Contents

VOLUME 3: FIGURES

Chapter 1: Introduction

- Figure 1.1: Study Area

Chapter 8: Resource Areas

- Figure 8.1: Wind Resource
- Figure 8.2: Wave Resource
- Figure 8.3: Tidal Resource

Chapter 9: Baseline Environment

- Figure 9.2.1: Bathymetry
- Figure 9.2.1a: INFORMAR Data Coverage
- Figure 9.2.1b: Seabed Sediment
- Figure 9.2.1c: Offshore Geology
- Figure 9.2.3: Bathing Beaches
- Figure 9.3.1: Protected Sites
- Figure 9.3.2: Predicted EUNIS Habitats
- Figure 9.3.3: Distribution of Habitats on the Initial OSPAR List of Threatened and/or Declining Species and Habitats.
- Figure 9.3.4: Fish Spawning and Nursery Areas
- Figure 9.3.5: Basking Shark Sightings
- Figure 9.3.6: Seabirds
- Figure 9.3.7a: Distribution of Annex II Marine Mammal Species
- Figure 9.3.7b: SAC Designations for Annex II Marine Mammal Species
- Figure 9.3.8: Leatherback Turtle Sightings
- Figure 9.4.1: Cultural Heritage
- Figure 9.5.1a: Fishery Restriction Areas
- Figure 9.5.1d: Licensed Aquaculture Sites
- Figure 9.5.2a: Ports and Navigational Infrastructure
- Figure 9.5.2b: Shipping Density
- Figure 9.5.3: Recreation and Tourism
- Figure 9.5.4: Aviation Interests
- Figure 9.5.5: Military Activity
- Figure 9.6.1: Cables and Pipelines
- Figure 9.6.2: Dredging and Disposal Areas
- Figure 9.6.3: Existing Renewable Infrastructure
- Figure 9.6.4: Oil and Gas Infrastructure
- Figure 9.7.1: Overview of Seascape Character Types

Chapter 11: Assessment of Assessment Areas

- Figure 11.1: Assessment Areas – Wind Resource
- Figure 11.2: Assessment Areas – Wave Resource
- Figure 11.3: Assessment Areas – Tidal Resource
- Figure 11.4: Assessment Areas – All

Chapter 12: Cumulative Effects: Testing OREDP Development Scenarios

- Figure 12.1: Environmental Constraints Assessment Area 1
- Figure 12.2: Technical Constraints Assessment Area 1
- Figure 12.3: Technical Constraints Assessment Area 2
- Figure 12.4: Environmental Constraints Assessment Area 2
- Figure 12.5: Environmental Constraints Assessment Area 3
- Figure 12.6: Technical Constraints Assessment Area 3
- Figure 12.7: Environmental Constraints Assessment Area 4
- Figure 12.8: Technical Constraints Assessment Area 4
- Figure 12.9: Environmental Constraints Assessment Area 5
- Figure 12.10: Technical Constraints Assessment Area 5
- Figure 12.11: Environmental Constraints Assessment Area 5a
- Figure 12.12: Technical Constraints Assessment Area 5a
- Figure 12.13: Environmental Constraints Assessment Area 6
- Figure 12.14: Technical Constraints Assessment Area 6
- Figure 12.15: Seascape Assessment - Wind
- Figure 12.16: Seascape Assessment – Wave
- Figure 12.17: Seascape Assessment - Tidal

Chapter 1: Introduction



Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

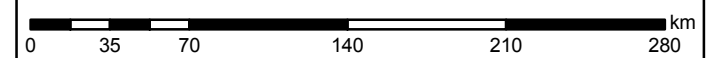
Figure 1.1: Study Area

Legend

Background

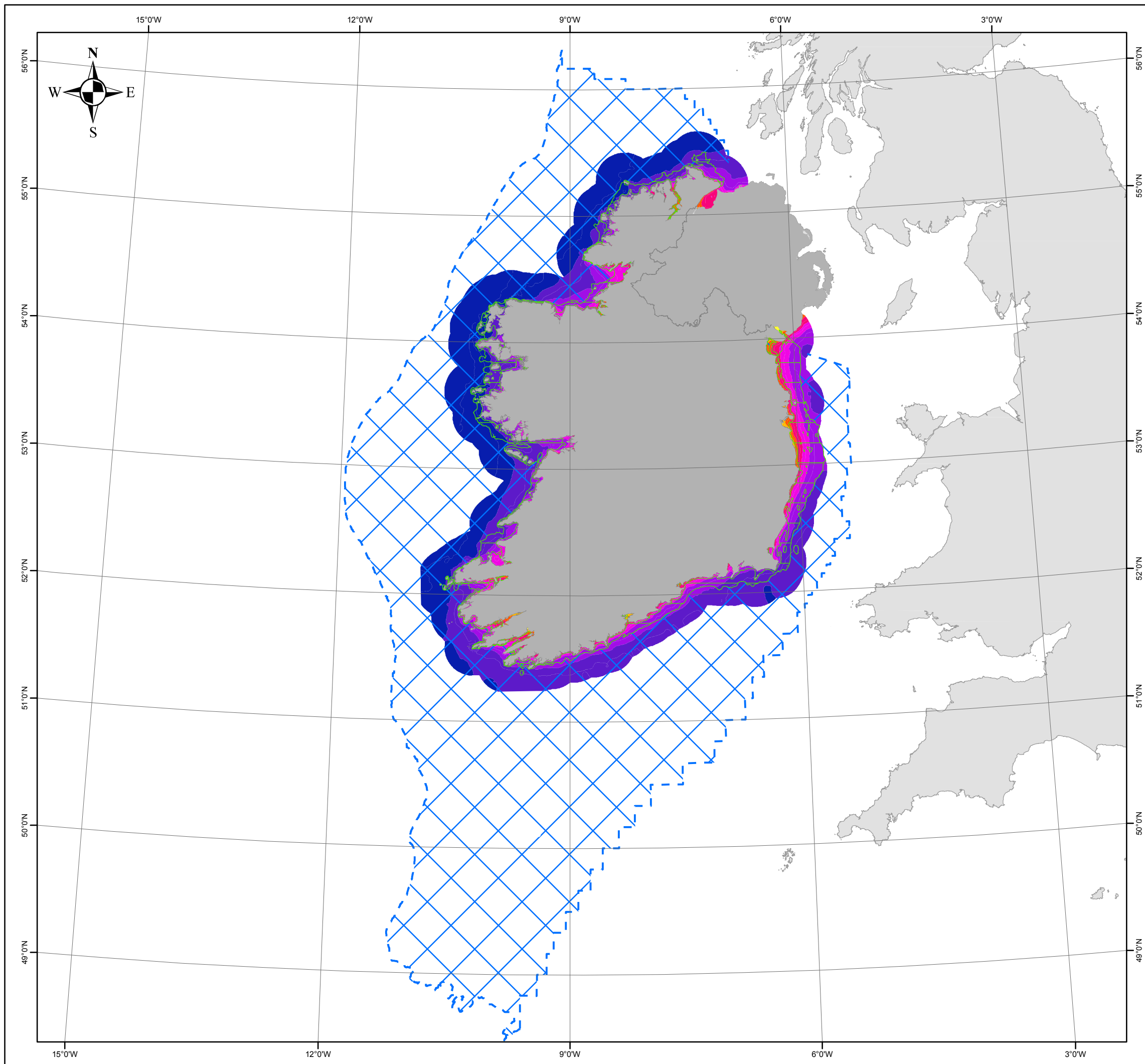
-  Ireland
-  United Kingdom
-  Study area
-  12nm limit

Note 1: Not to be used for navigation



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Data Source	SEI, GEBCO, UKHO	
File Reference	J:\P1304\Mxd\Final Figures\mxd Study Area	
Checked	Produced By	Louise Mann
	Reviewed By	Sally Holroyd

Chapter 8: Resource Areas



Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

Figure 8.1: Wind Resource

Legend

- - - Study area
 - ▭ Technical Wind Resource: >60m Water Depth
 - ▭ Technical Wind Resource: <60m Water Depth
- Theoretical Wind Resource: Mean Annual Wind Speed (metres/second)**
- 5.5 - 6.0
 - 6.1 - 6.5
 - 6.6 - 7.0
 - 7.1 - 7.5
 - 7.6 - 8.0
 - 8.1 - 8.5
 - 8.6 - 9.0
 - 9.1 - 9.5
 - 9.6 - 10.0
 - 10.1 - 11.5

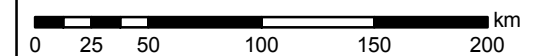
Technical Constraint Notes:

- Two technical wind resource areas are been mapped. Both areas satisfy the requirement for a mean annual wind speed of > 7 metres/second at an 100m altitude above mean sea level.
- The two areas have been defined for the following water depths: 10m to 60m water depth 60m to 200m water depth (study area limit)

Wind Resource Data Note

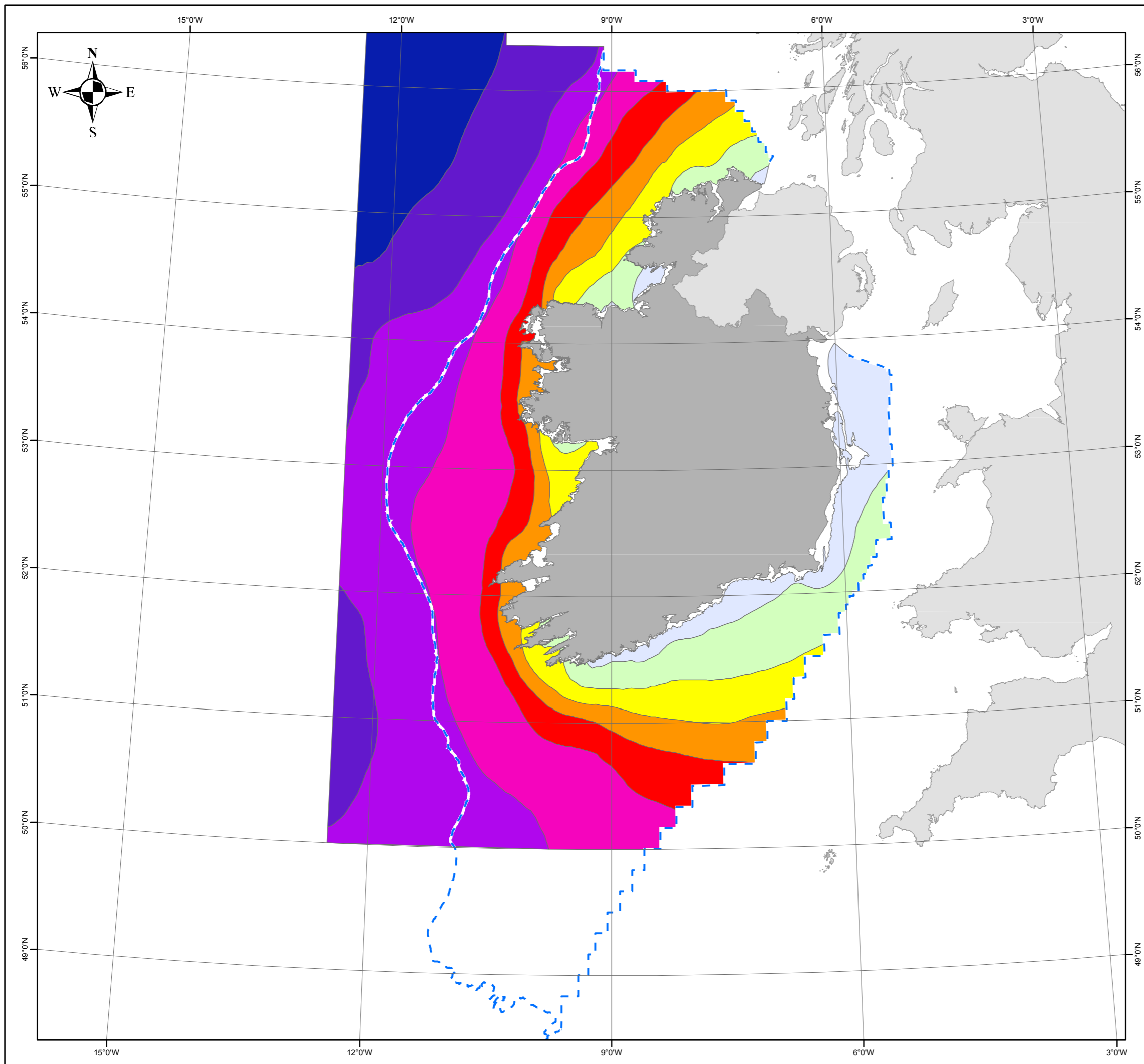
- The wind resource (mean annual wind speed) data presented is limited in extent to 20km from the Irish coast based on the original ESBI wind atlas assessment.
- Generally, mean wind speed increases with distance from the coast, as the minimum wind speed value at any part of the ESBI data boundary is 9.5 metres/second.
- The area outside the ESBI data has been defined as having technical resource, as it is highly likely that there is significant unmapped wind resource available in the area, and the area meets water depth criteria

NOT TO BE USED FOR NAVIGATION



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Data Source	Marine Institute, SEI, Petroleum Affairs Division, GEBCO, UKHO, Saorgus Energy Ltd	
File Reference	J:\P1304\Mxd\Final Figures\8.1 Wind Resource.mxd	
Checked	Produced By	S Franklin
	Reviewed By	S Holroyd





Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

Figure 8.2: Wave Resource

Legend

--- Study Area

▣ Wave Resource: Technical

Wave Resource: Theoretical

Mean Annual Wave Power: kW per metre of wave crest

0 - 10

11 - 20

21 - 30

31 - 40

41 - 50

51 - 60

61 - 70

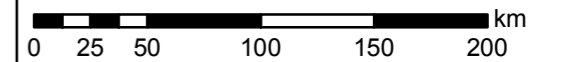
71 - 80

81 - 83

Technical Constraint Notes:

- The wave technical resources polygon is based on an area that satisfies the following criteria:
mean annual wave power of > 20 kW per metre of wave crest
water depth between 10m and 100m
- The southern area of the SEA study area is outside the boundary of the Wave Atlas assessment. A number of small areas of technical resource have been identified with this area, which satisfy the water depth criteria and are highly likely to satisfy the minimum wave power.

NOT TO BE USED FOR NAVIGATION

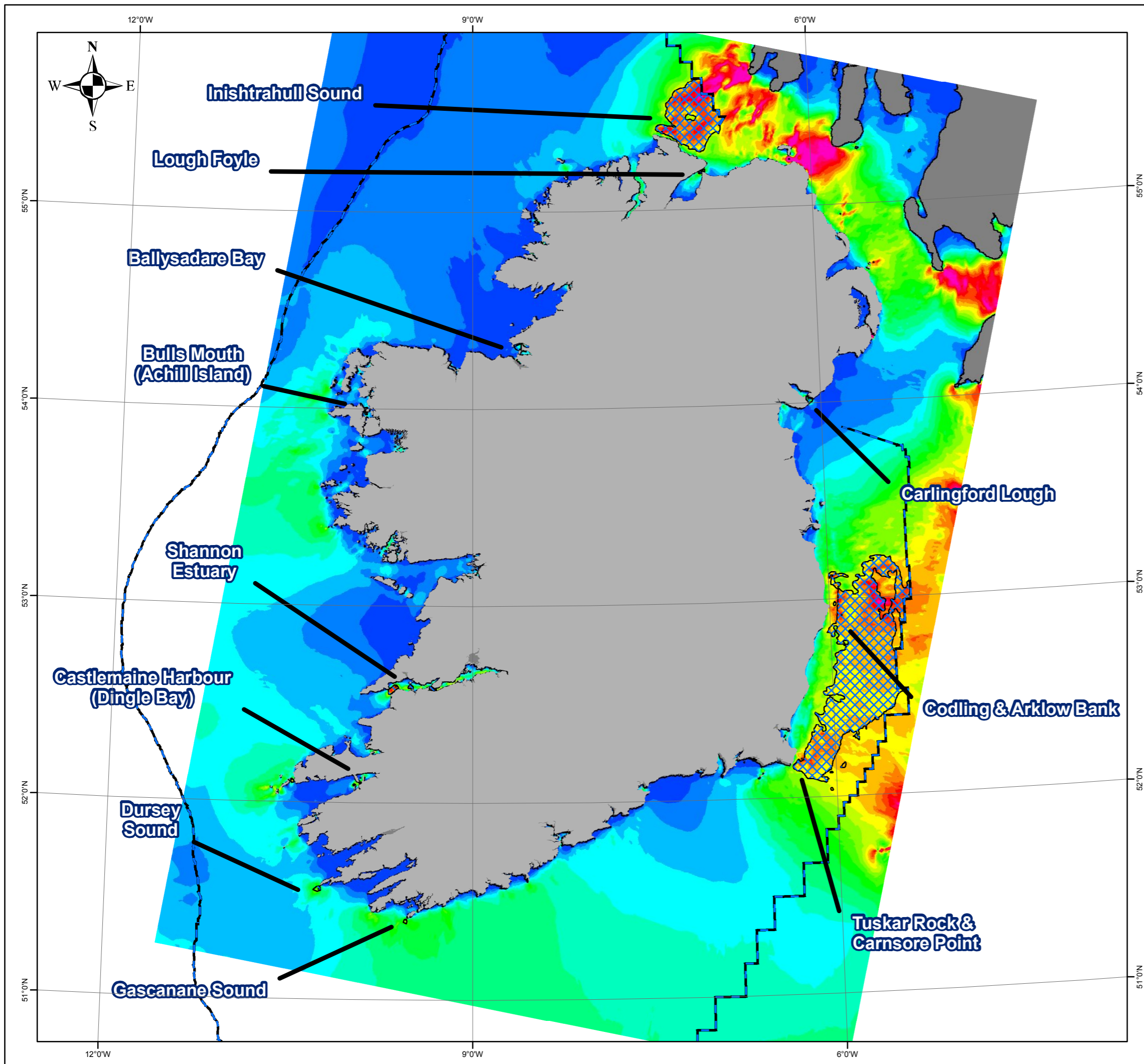


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Checked	Produced By	S Franklin
	Reviewed By	S Holroyd



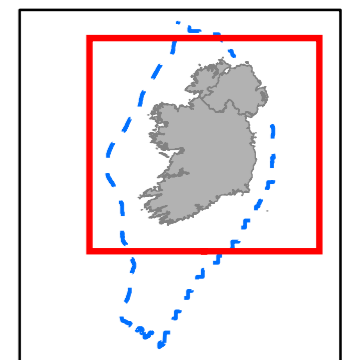
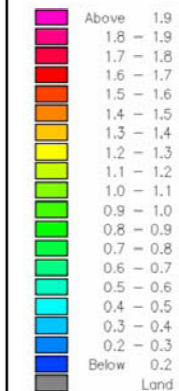
Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

Figure 8.3: Tidal Resource



Legend

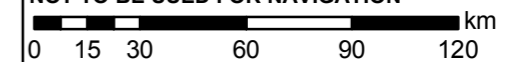
- Study Area
 - Tidal Resource: Technical (see note)
- Theoretical Tidal Resource
Peak Spring Tidal Current Speed (metres/second)



Technical Constraint Notes:

- The technical resources polygons are based only on peak spring tidal current speeds of > 1.2 metres/second, within the study area
- A constraining water depth polygon layer is presented that represents an area between 20m and 80m water depth.
- The technical tidal resource polygon has not been 'clipped' based on water depth due to poorly resolved bathymetry data in a number of estuarine areas on the west coast.

NOT TO BE USED FOR NAVIGATION



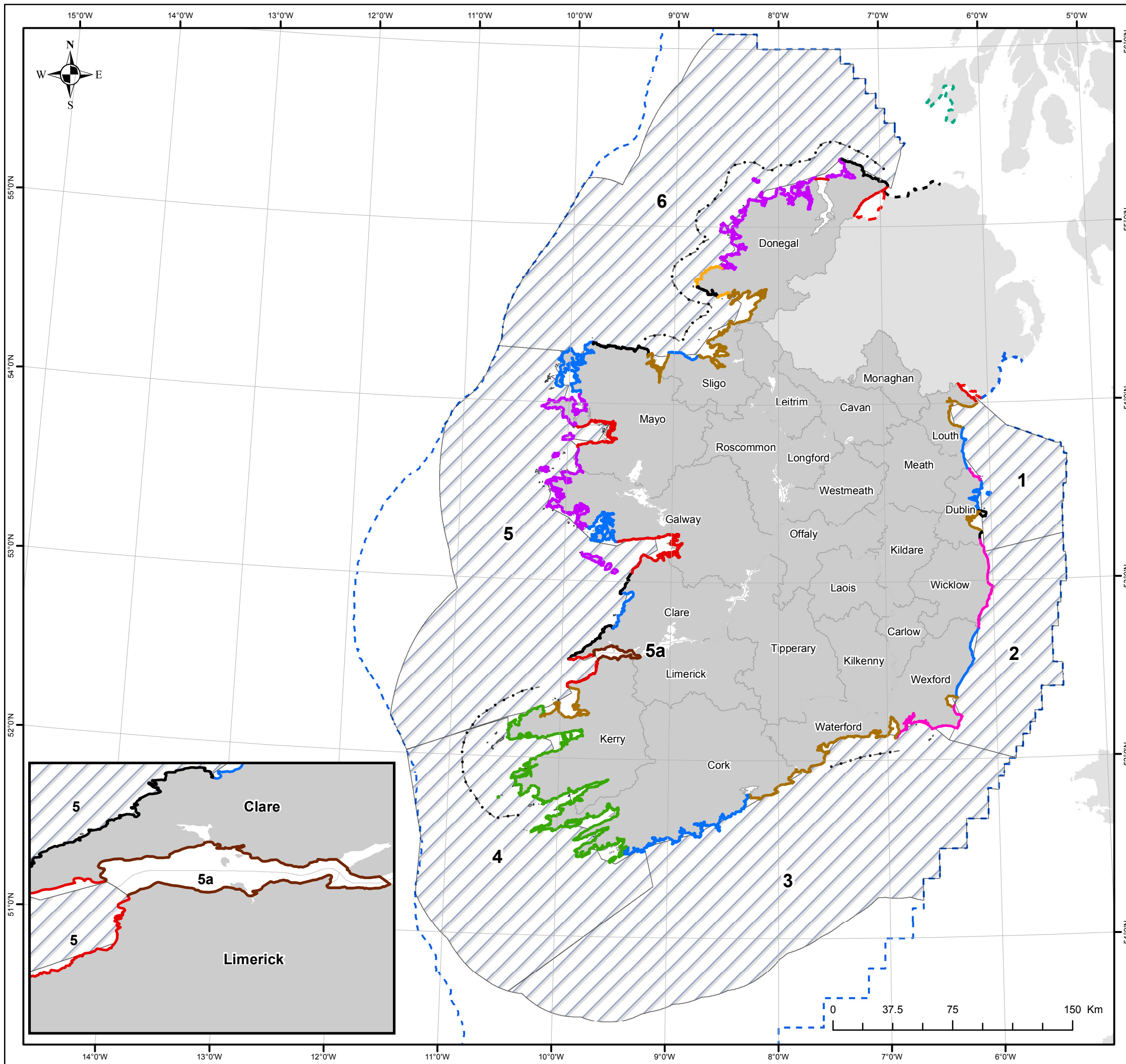
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File Reference	J:\P1304\Mxd\Final Figures\8.3 Tidal Resource.mxd	
Checked	Produced By	S Franklin
	Reviewed By	S Holroyd



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Products Licence No. 122009.010. © Metoc plc, 2010. All rights reserved.

Chapter 9: Baseline Environment

Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters Figure 9.7.1: Seascape Types



- Irish Republic
- United Kingdom
- Study Area
- Assessment Zone
- County Boundary
- Data Gaps

Seascape Type

- 1. Large open or partially open sea lough with raised hinterland
- 2. Rugged peninsula with drowned valleys
- 3. Low lying plateau landscape
- 4. Low lying coastal plain and estuarine landscape, low lying islands and peninsulas
- 5. Narrow coastal strip with raised hinterland
- 6. Complex indented coastline with small bays and offshore islands
- 7. Plateaus and high cliffs
- 8. Large bay
- 9. Large river estuary

Transboundary Seascape Type

- T.1. Large open or partially open sea lough with raised hinterland
- T.2. Low lying coastal plain
- T.3. Plateaus and high cliffs
- T.4. Rugged coastal shelf & headlands with open views to sea

Assessment Zones

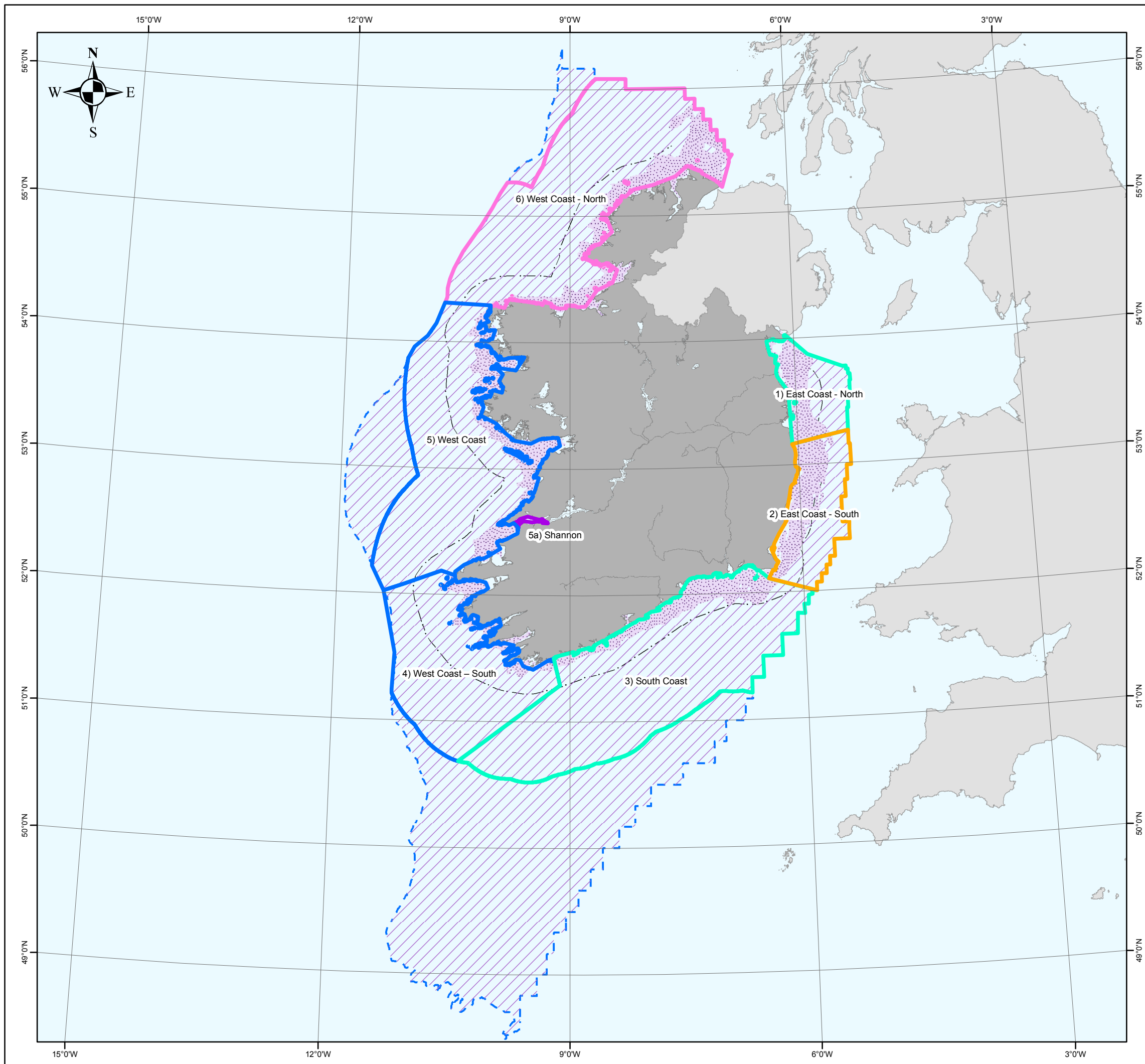
- Zone 1 - Wind
- Zone 2 - Tidal & Wind
- Zone 3 - Wind
- Zone 4 - Wind & Wave
- Zone 5 - Wind & Wave
- Zone 5a - Tidal
- Zone 6 - Wind, Wave & Tidal

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Checked	Produced By	TR
	Reviewed By	SL



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Chapter 11: Assessment Area Assessment



Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

Figure 11.1: Assessment Areas - Wind Resource

Legend

Background

- Ireland
- United Kingdom
- Study area
- 12nm limit

Assessment Areas

Resource

- Wind
- Tidal
- Wind and Wave
- Wind and Tidal
- Wind, Wave and Tidal

Wind Technical Resource

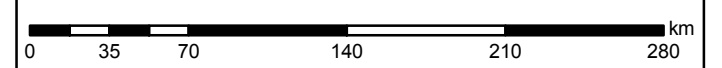
- >=7m/s Wind Speed & Water Depth 10m to 60m
- >=7m/s Wind Speed & Water Depth 60m to 200m

Note 1: Assessment Areas extend from the coast (Mean High Water) to a distance of 100km, within the boundary of the Irish Exclusive Economic Zone only

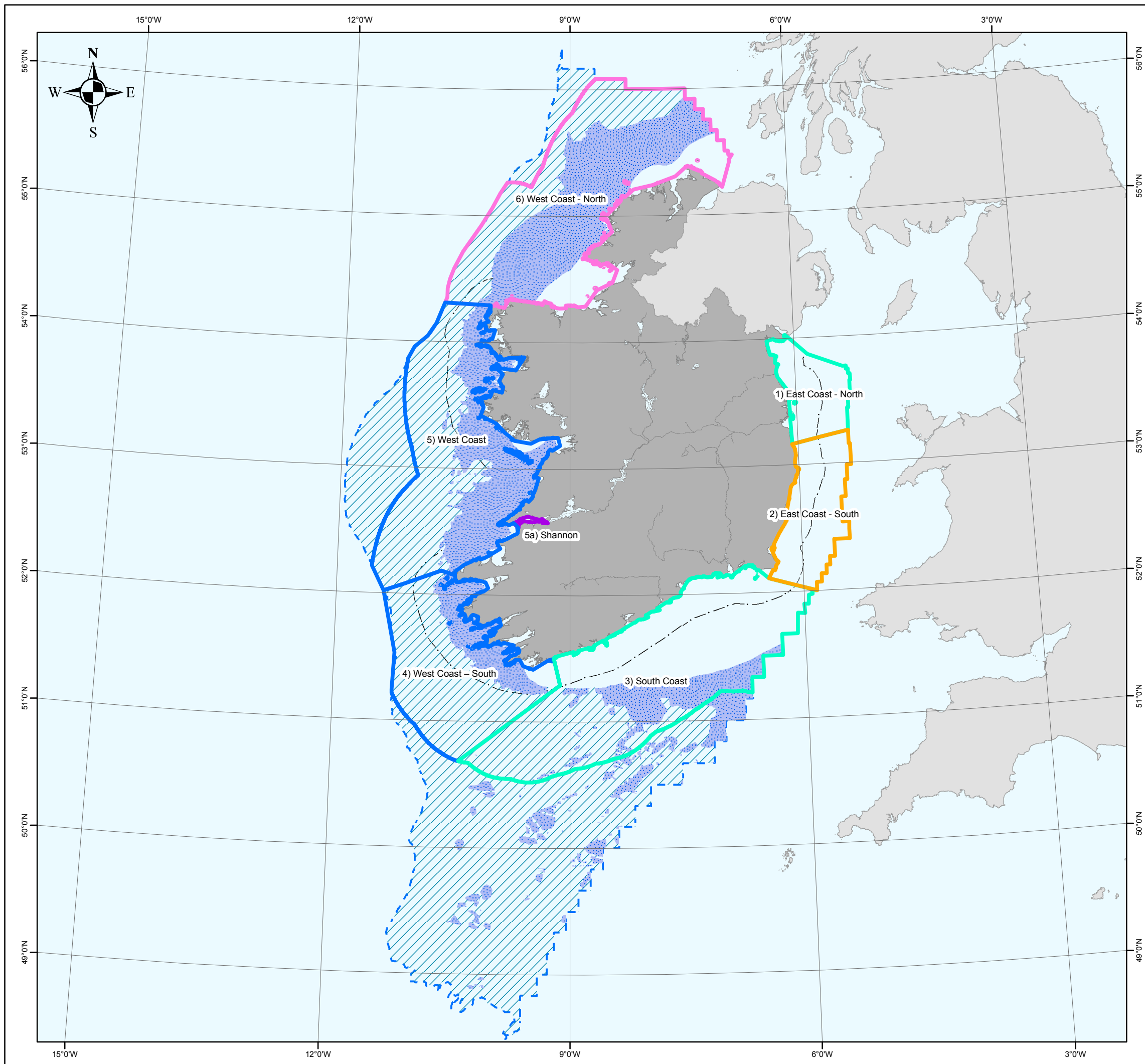
Note 2: Not to be used for navigation

Technical Constraint Notes:

- Two technical wind resource areas are been mapped. Both areas satisfy the requirement for a mean annual wind speed of > 7 metres/second at an 100m altitude above mean sea level.
- The two areas have been defined for the following water depths: 10m to 60m water depth 60m to 200m water depth (study area limit)



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File Reference	J:\P1304\Mxd\Final Figures\mxd 11.1 Assessment Area_Wind Resource	
Checked	Produced By	Anna Place
	Reviewed By	Sam Franklin



Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

Figure 11.2: Assessment Areas - Wave Resource

Legend

Background

- Ireland
- United Kingdom
- Study area
- 12nm limit

Assessment Areas

Resource

- Wind
- Tidal
- Wind and Wave
- Wind and Tidal
- Wind, Wave and Tidal

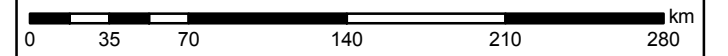
Wave Technical Resource

- $\geq 20\text{kW/mWC}$ Wave Power & Water Depth 10m to 100m
- $\geq 20\text{kW/mWC}$ Wave Power & Water Depth 100m to 200m

Note 1: Assessment Areas extend from the coast (Mean High Water) to a distance of 100km, within the boundary of the Irish Exclusive Economic Zone only

Note 2: Not to be used for navigation

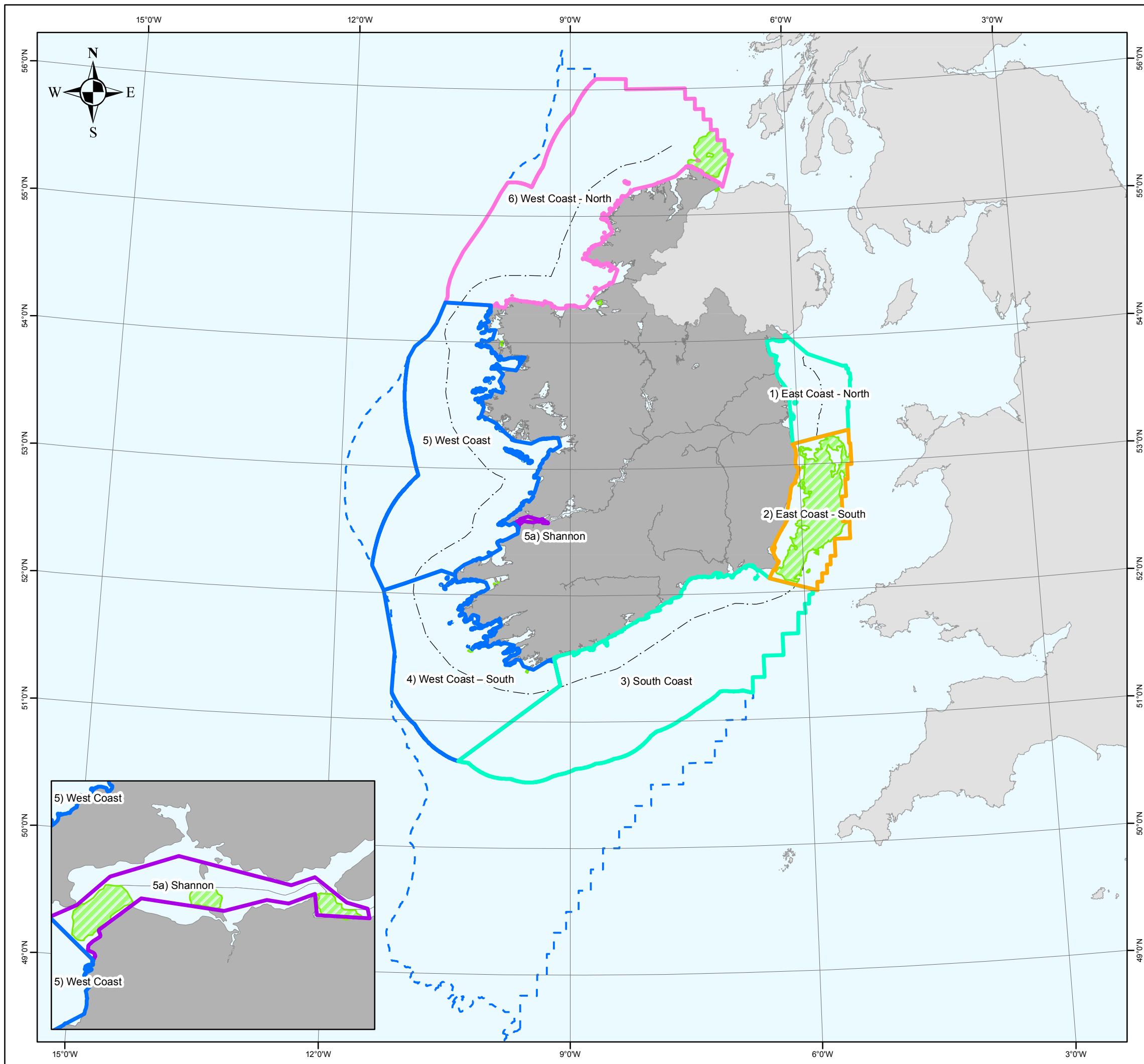
Technical Constraint Notes:
 Wave technical energy resource has been divided into two polygons, that satisfy the following criteria:
 - mean annual wave power of > 20 kilowatts per metre of wave crest (kW/mWC) and water depths between 10m and 100m
 - mean annual wave power of > 20 kilowatts per metre of wave crest (kW/mWC) and water depths between 100m and 200m



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File Reference	J:\P1304\Mxd\Final Figures\mxd 11.2 Assessment Area_Wave Resource	
Checked	Produced By	Anna Place
	Reviewed By	Sam Franklin

Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

Figure 11.3: Assessment Areas - Tidal Resource



Legend

Background

- Ireland
- United Kingdom
- Study area
- 12nm limit

Assessment Areas

Resource

- Wind
- Tidal
- Wind and Wave
- Wind and Tidal
- Wind, Wave and Tidal

Tidal Technical Resource

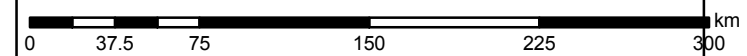
- >1.2m/s Peak Spring Current Speed & Water Depth 20m to 80m

Note 1: Assessment Areas extend from the coast (Mean High Water) to a distance of 100km, within the boundary of the Irish Exclusive Economic Zone only

Note 2: Not to be used for navigation

Technical Constraint Notes:

- The technical resources polygons are based only on peak spring tidal current speeds of > 1.2 metres/second, within the study area
- A constraining water depth polygon layer is presented that represents an area between 20m and 80m water depth.

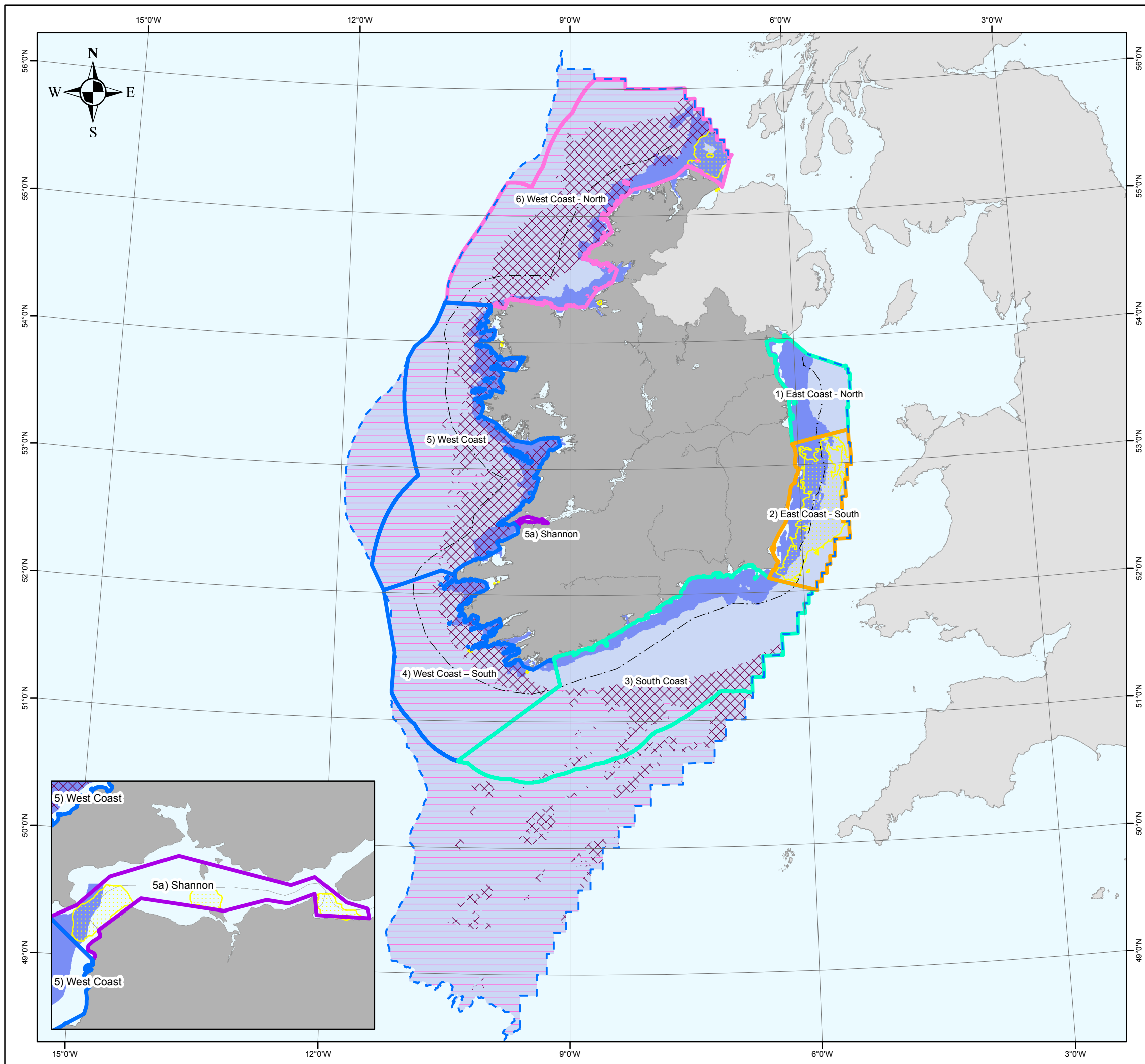


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File Reference	J:\P1304\Mxd\Final Figures\mxd 11.3 Assessment Area_Tidal Resource	
Checked	Produced By	Anna Place
	Reviewed By	Sam Franklin



Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

Figure 11.4: Assessment Areas - All Resource



Legend

Background

- Ireland
- United Kingdom
- Study area
- 12nm limit

Assessment Areas

- Wind
- Tidal
- Wind and Wave
- Wind and Tidal
- Wind, Wave and Tidal

Tidal Technical Resource

- >1.2m/s Peak Spring Current Speed & Water Depth 20m to 80m

Wave Technical Resource

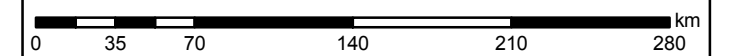
- >=20kW/mWC Wave Power & Water Depth 10m to 100m
- >=20kW/mWC Wave Power & Water Depth 100m to 200m

Wind Technical Resource

- >=7m/s Wind Speed & Water Depth 10m to 60m
- >=7m/s Wind Speed & Water Depth 60m to 200m

Note 1: Assessment Areas extend from the coast (Mean High Water) to a distance of 100km, within the boundary of the Irish Exclusive Economic Zone only

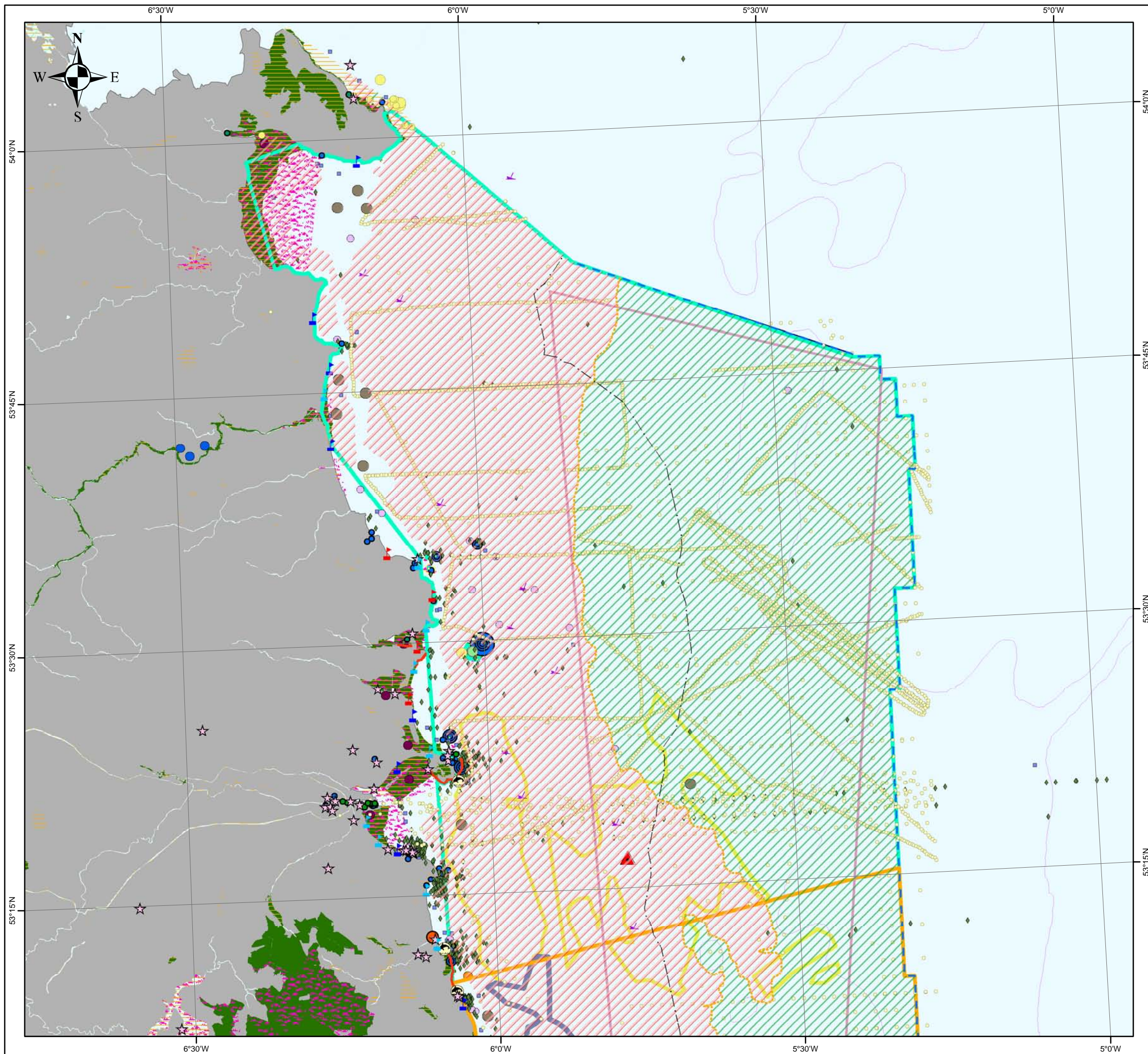
Note 2: Not to be used for navigation



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File Reference	J:\P1304\Mxd\Final Figures\mxd 11.4 Assessment Area_All	
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	Reviewed By	Sam Franklin



Chapter 12: Cumulative Assessment - Testing OREDP Scenarios



Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

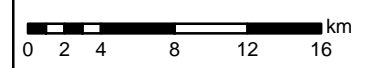
Figure 12.1: Environmental Constraints Assessment Area 1

Legend

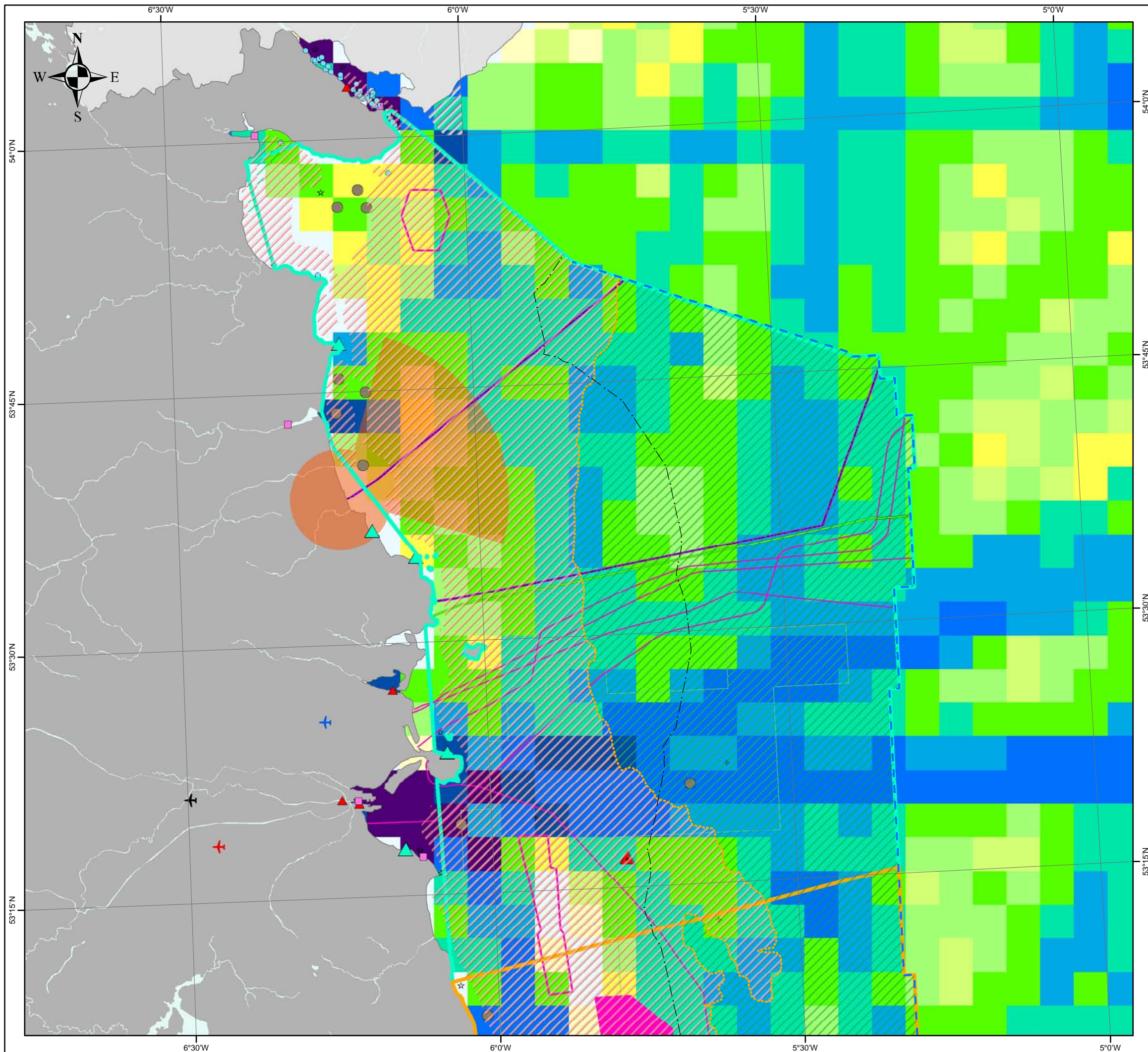
- Ireland**: Grey outline
- Study area**: Blue outline
- 12nm limit**: Dashed line
- 60m contour**: Dotted line
- 100m depth contour**: Dashed line
- Wind Technical Resource**:
 - Wind 10m to 60m: Red diagonal lines
 - Wind 60m to 200m: Green diagonal lines
- Assessment Areas**:
 - Wind: Cyan hatched area
 - Wind and Tidal: Orange hatched area
- Aggregate Resource Potential**:
 - Sandy: Yellow hatched area
 - Gravelly: Purple hatched area
 - Mixed: Blue hatched area
- Cultural Heritage**:
 - Charted wrecks: Purple triangle
- Potential Prehistoric Sites**:
 - Drowned estuaries and inlets: Orange hatched area
 - Glacial lake shore: Pink hatched area
 - Sheltered bays: Blue hatched area
- Bathing Water Quality**:
 - Guidance compliant: Blue triangle
 - Mandatory compliant: Red triangle
 - Non-compliant: Red triangle
- Tourism and Recreation**:
 - ISA sailing club: Star
 - Surfing location: Green triangle
 - Small tourism vessels: Green circle
 - Major attraction: Orange circle
 - Charter vessel port: Green circle
 - Inshore angling: Blue triangle
 - Navigable waterway: Dotted line
 - Whale & dolphin sighting: Whale icon
 - Coastal Walks: Red line
- Protected Sites**:
 - UNESCO world heritage site: Blue circle
 - UNESCO biosphere reserve: Orange circle
 - Marine nature reserve: Green circle
 - Ramsar Site: Purple circle
 - SAC: Green circle
 - SPA: Pink hatched area
 - Natural heritage area: Yellow hatched area
 - Potential natural heritage area: Orange hatched area
- Grey Seal**:
 - Breeding Site (2005): Pink circle
 - Breeding Population Estimates:
 - 0 - 10: Green circle
 - 11 - 100: Green circle
 - 101 - 500: Green circle
 - 501 - 1000: Green circle
 - >1000: Green circle
 - Harbour Seal:
 - Minimum Population Estimates (2003):
 - 1 - 9: Yellow circle
 - 10 - 22: Yellow circle
 - 23 - 39: Yellow circle
 - 40 - 60: Yellow circle
 - >60: Yellow circle
- Species**:
 - Seabird colonies (counts)**:
 - 0 - 500: Blue circle
 - 500 - 2500: Blue circle
 - 2500 - 10000: Blue circle
 - 10000 - 30000: Blue circle
 - 30000 - 70000: Blue circle
 - Bottlenose Dolphin**:
 - IWDG Sighting (1986-2009): Green diamond
 - ESAS Sighting (1980-2001): Yellow diamond
 - Basking Shark Data**:
 - Sightings (1992 - 2009): Purple circle
 - Turtle Sightings**:
 - Leatherback sighting (2003-2009): Turtle icon

Note 1: Assessment Areas extend from the coast (Mean High Water) to a distance of 100km, within the boundary of the Irish Exclusive Economic Zone only

Note 2: Not to be used for navigation



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File Reference	J:\P1304\Mxd\Cumulative assessment\Environmental constraints\mxd\Fig 13.1 Wind zone 1	
Checked	Produced By	Penny Wilson
	Reviewed By	Sally Holroyd



Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

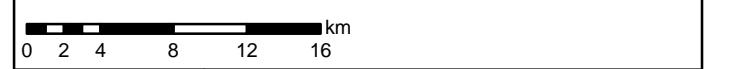
Figure 12.2: Technical Constraints Assessment Area 1

Legend

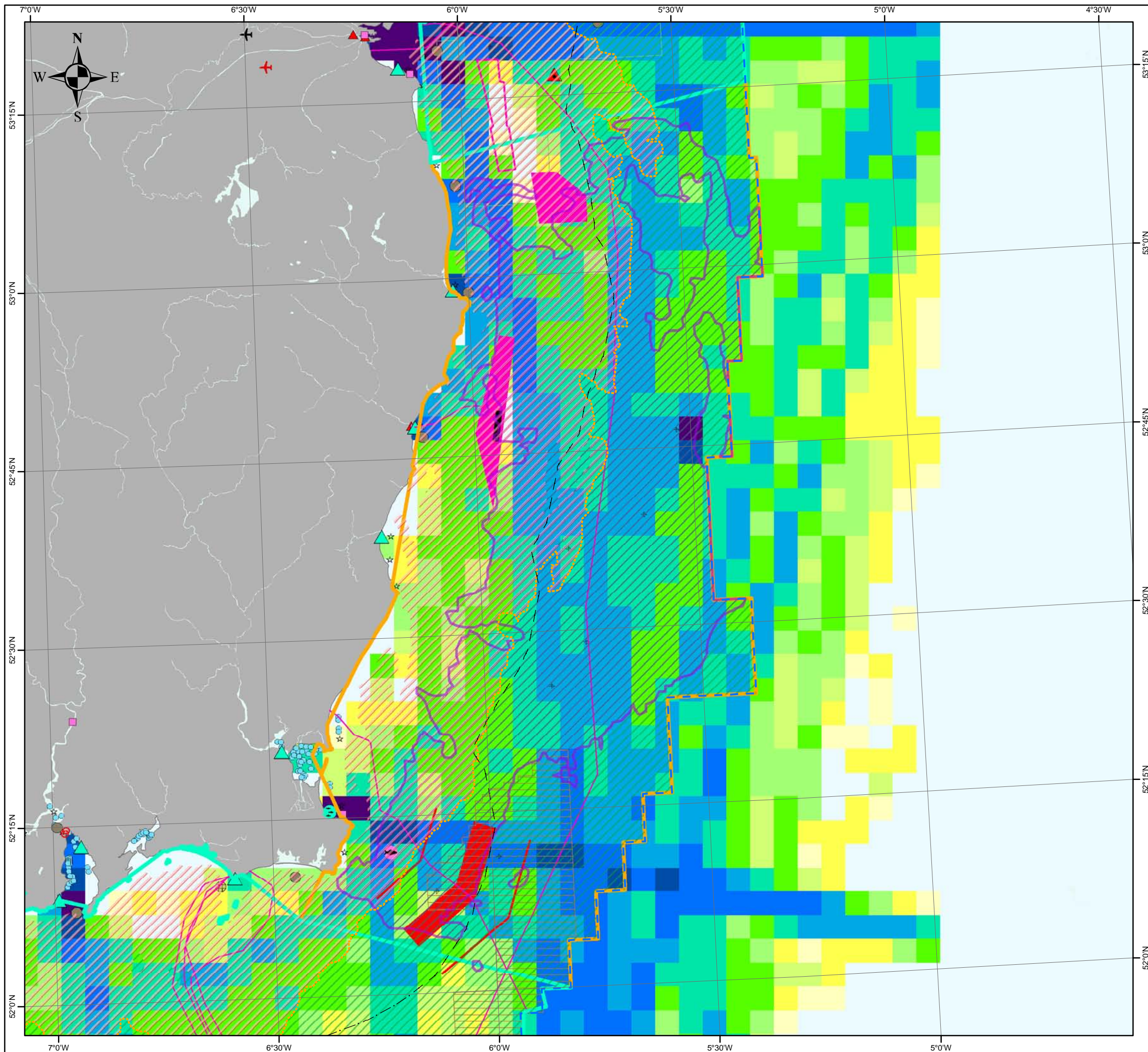
- Geography:** Ireland, United Kingdom, Study area, 12nm limit, 60m contour
- Wind Technical Resource:** Wind 10m to 60m, Wind 60m to 200m
- Assessment Areas:** Wind, Wind and Tidal
- Aquaculture:** Aquaculture sites
- Shipping and Navigation:** Commercial Port, Local Ferry Port, Fishing Port, Marina, Nearshore anchorage, Traffic Separation Scheme, Shipping density (all vessels)
- Shipping density (all vessels):** 1 - 10, 11 - 50, 51 - 100, 101 - 200, 201 - 500, 501 - 1000, 1001 - 2000, 2001 - 5000, 5001 - 10000, >10001
- Oil and Gas Infrastructure:** Well, Gas field, Petroleum lease area, Licensing option area, Exploration licence area, Rockfall 2009 licensing round area
- Cables and Pipelines (Study Area Only):** Pipeline, Proposed Corrib pipeline, Active cable, Proposed East West Interconnector cable
- Disposal sites:** Fish waste, Fish waste & dredge spoil, Dredge spoil, Rock & dredge spoil, Methanol, Industrial waste, Sewage sludge
- Extraction sites:** Maerl extraction site
- Aviation Interests:** Military aerodrome, Civil aerodrome, Civil aerodrome & radar, Radar, Low level exclusion area
- Military Activity:** Department of Defence Danger Area, Military practice and exercise area
- Renewable Infrastructure:** Wind farm in operation, Windfarm lease area, Windfarm lease area under application, Proposed Belmullet wave energy test site, Wave energy test site

Note 1: Assessment Areas extend from the coast (Mean High Water) to a distance of 100km, within the boundary of the Irish Exclusive Economic Zone only

Note 2: Not to be used for navigation



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File Reference	J:\P1304\Mxd\Cumulative assessment\Physical constraints\mxdFig 13.2 Wind zone 1	
Checked	Produced By	Penny Wilson
	Reviewed By	Sally Holroyd



Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

Figure 12.3: Technical Constraints Assessment Area 2

- Legend**
- Ireland
 - Study area
 - 12nm limit
 - 60m contour
 - Wind Technical Resource
 - Wind 10m to 60m
 - Wind 60m to 200m
 - Tidal Technical Resource
 - Tidal 20m to 80m
 - Aquaculture
 - Aquaculture
 - Shipping and Navigation
 - Commercial Port
 - Local Ferry Port
 - Fishing Port
 - Marina
 - Nearshore anchorage
 - Traffic Separation Scheme
 - Shipping density (all vessels)
 - 1 - 10
 - 11 - 50
 - 51 - 100
 - 101 - 200
 - 201 - 500
 - 501 - 1000
 - 1001 - 2000
 - 2001 - 5000
 - 5001 - 10000
 - <10001
 - Oil and Gas Infrastructure
 - Well
 - Gas field
 - Petroleum lease area
 - Licensing option area
 - Exploration licence area
 - Rockall 2009 licensing round area
 - Cables and Pipelines (Study Area Only)
 - Pipeline
 - Proposed Corrib pipeline
 - Active cable
 - Proposed East West Interconnector cable
 - Disposal sites
 - Fish waste
 - Fish waste & dredge spoil
 - Dredge spoil
 - Rock & dredge spoil
 - Methanol
 - Industrial waste
 - Sewage sludge
 - Extraction sites
 - Maerl extraction site
 - Aviation Interests
 - Military aerodrome
 - Civil aerodrome
 - Civil aerodrome & radar
 - Radar
 - Low level exclusion area
 - Military Activity
 - Department of Defence Danger Area
 - Military practice and exercise area
 - Renewable Infrastructure
 - Wind farm in operation
 - Windfarm lease area
 - Windfarm lease area under application
 - Proposed Belmullet wave energy test site
 - Wave energy test site

Note 1: Assessment Areas extend from the coast (Mean High Water) to a distance of 100km, within the boundary of the Irish Exclusive Economic Zone only

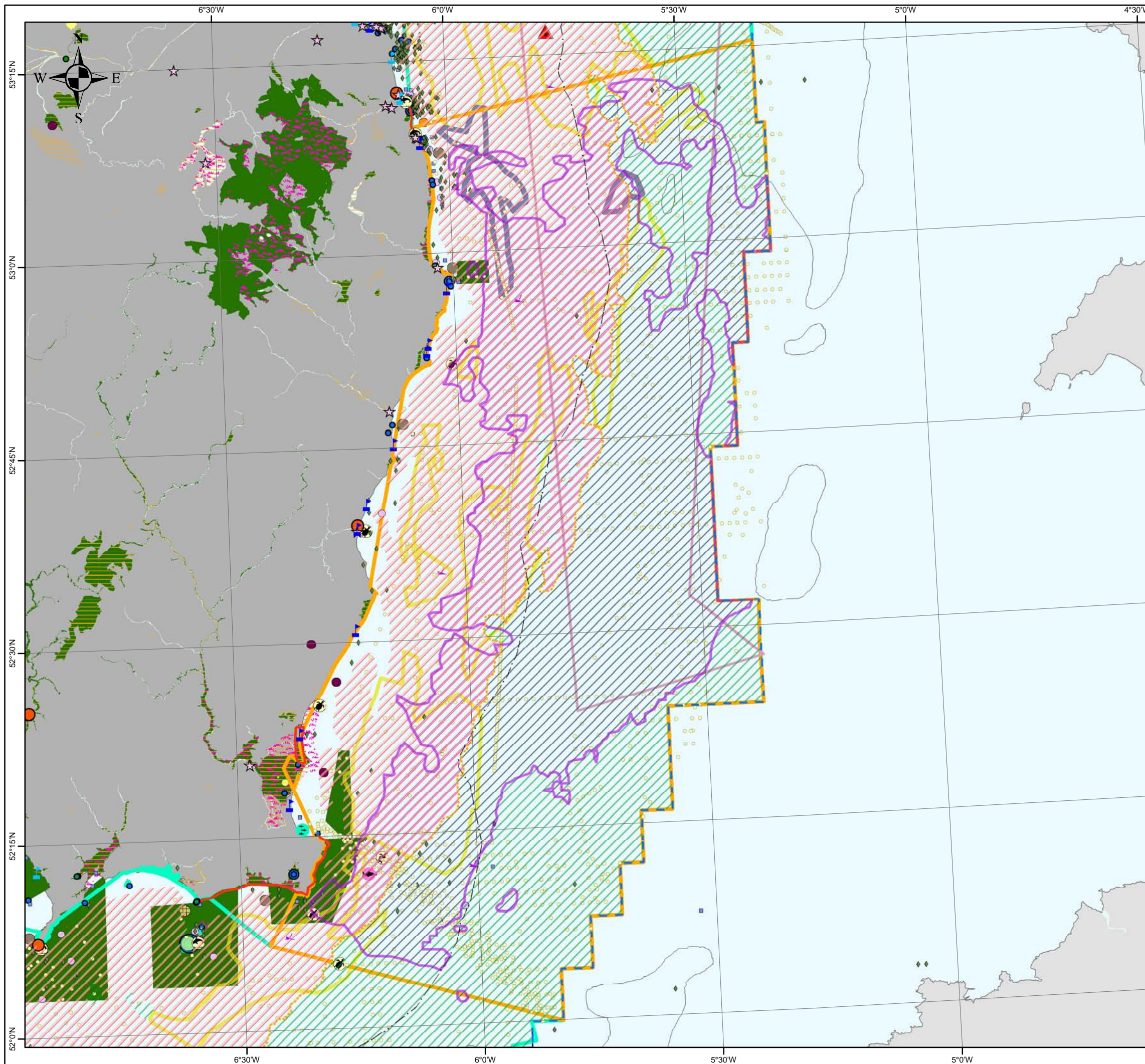
Note 2: Not to be used for navigation



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Data Source	Department of Defence, GEBCO, Irish Aviation Authority, Marine Institute, MIDA, Petroleum Affairs Division, SEAI, Seazone,	
File Reference	J:\P1304\Mxd\Cumulative assessment\Physical constraints\mxd Fig 13.6 Wind and tidal zone 1	
Checked	Produced By	Penny Wilson
	Reviewed By	Sally Holroyd

Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

Figure 12.4: Environmental Constraints Assessment Area 2

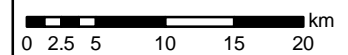


Legend

- Geography:** Ireland, United Kingdom, Study area, 12nm limit, 60m contour, 100m depth contour.
- Wind Technical Resource:** Wind 10m to 60m, Wind 60m to 200m.
- Tidal Technical Resource:** Tidal 20m to 80m.
- Assessment Areas:** Wind, Wind and Tidal.
- Aggregate Resource Potential:** Sandy, Gravelly, Mixed.
- Cultural Heritage:** Chartered wrecks.
- Potential Prehistoric Sites:** Drowned estuaries and inlets, Glacial lake shore, Sheltered bays.
- Bathing Water Quality:** Guidance compliant, Mandatory compliant, Non-compliant.
- Tourism and Recreation:** ISA sailing club, Surfing location, Small tourism vessels, Major attraction, Charter vessel port, Inshore angling, Navigable waterway, Whale & dolphin sighting, Coastal Walks.
- Protected Sites:** UNESCO world heritage site, UNESCO biosphere reserve, Marine nature reserve, Ramsar Site, SAC, SPA, Natural heritage area, Potential natural heritage area.
- Species:** Seabird colonies (counts): 0-500, 500-2500, 2500-10000, 10000-30000, 30000-70000.
- Grey Seal:** Breeding Site (2005), Breeding Population Estimates: 0-10, 11-100, 101-500, 501-1000, >1000.
- Harbour Seal:** Minimum Population Estimates (2003): 1-9, 10-22, 23-39, 40-60, >60.
- Harbour Porpoise:** IWDG Sighting (1986-2009), ESAS Sighting (1980-2001).
- Bottlenose Dolphin:** IWDG Sighting (1989-2009), ESAS Sighting (1991-2001).
- Basking Shark Data:** Sightings (1992-2009).
- Turtle Sightings:** Leatherback sighting (2003-2009).

Note 1: Assessment Areas extend from the coast (Mean High Water) to a distance of 100km, within the boundary of the Irish Exclusive Economic Zone only

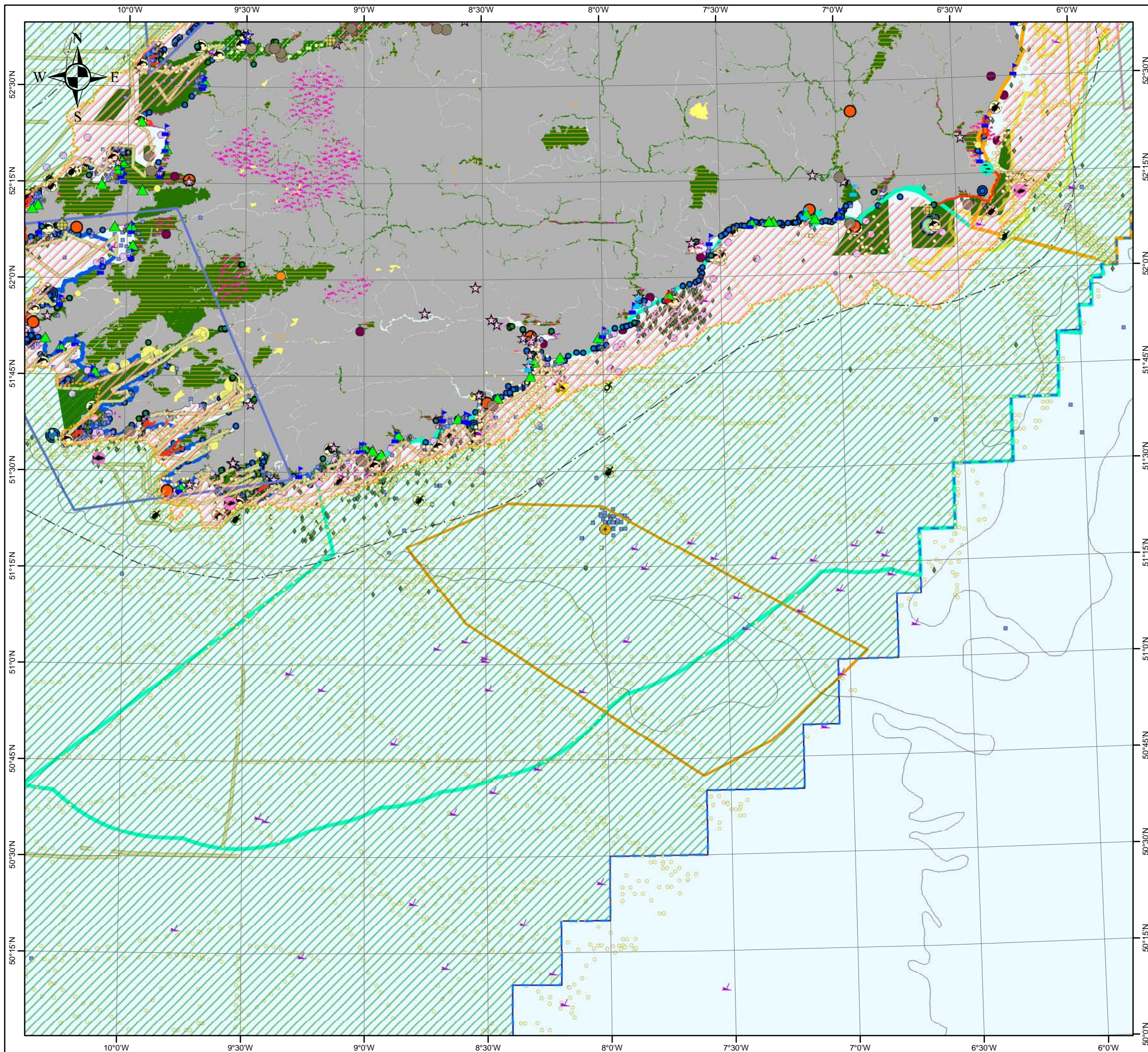
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Datum	D_WGS_1984	
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File Reference	J:\P1304\Mxd\Cumulative assessment\Environmental constraints\mxdWind and tidal zone 1	
Checked	Produced By	Penny Wilson
	Reviewed By	Sally Holroyd

Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

Figure 12.5: Environmental Constraints Assessment Area 3

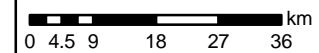


Legend

- Ireland**
- Study area**
- 12nm limit**
- 60m contour**
- 100m depth contour**
- Wind Technical Resource**
 - Wind 10m to 60m
 - Wind 60m to 200m
- Assessment Areas**
 - Wind and Wave
 - Wind
 - Wind and Tidal
- Aggregate Resource Potential**
 - Sandy
 - Gravelly
 - Mixed
- Cultural Heritage**
 - Charted wrecks
- Potential Prehistoric Sites**
 - Drowned estuaries and inlets
 - Glacial lake shore
 - Sheltered bays
- Bathing Water Quality**
 - Guidance compliant
 - Mandatory compliant
 - Non-compliant
- Tourism and Recreation**
 - ISA sailing club
 - Surfing location
 - Small tourism vessels
 - Major attraction
 - Charter vessel port
 - Inshore angling
 - Navigable waterway
 - Whale & dolphin sighting
 - Coastal Walks
- Protected Sites**
 - UNESCO world heritage site
 - UNESCO biosphere reserve
 - Marine nature reserve
 - Ramsar Site
 - SAC
 - SPA
 - Natural heritage area
 - Potential natural heritage area
- Grey Seal**
 - Breeding Site (2005)
 - Breeding Population Estimates
 - 0 - 10
 - 11 - 100
 - 101 - 500
 - 501 - 1000
 - >1000
- Harbour Seal**
 - Minimum Population Estimates (2003)
 - 1 - 9
 - 10 - 22
 - 23 - 39
 - 40 - 60
 - >60
- Harbour Porpoise**
 - IWDG Sighting (1986-2009)
 - ESAS Sighting (1980-2001)
- Bottlenose Dolphin**
 - IWDG Sighting (1989-2009)
 - ESAS Sighting (1991-2001)
- Basking Shark Data**
 - Sightings (1992 - 2009)
- Turtle Sightings**
 - Leatherback sighting (2003-2009)
- Species**
 - Seabird colonies (counts)**
 - 0 - 500
 - 500 - 2500
 - 2500 - 10000
 - 10000 - 30000
 - 30000 - 70000

Note 1: Assessment Areas extend from the coast (Mean High Water) to a distance of 100km, within the boundary of the Irish Exclusive Economic Zone only

Note 2: Not to be used for navigation



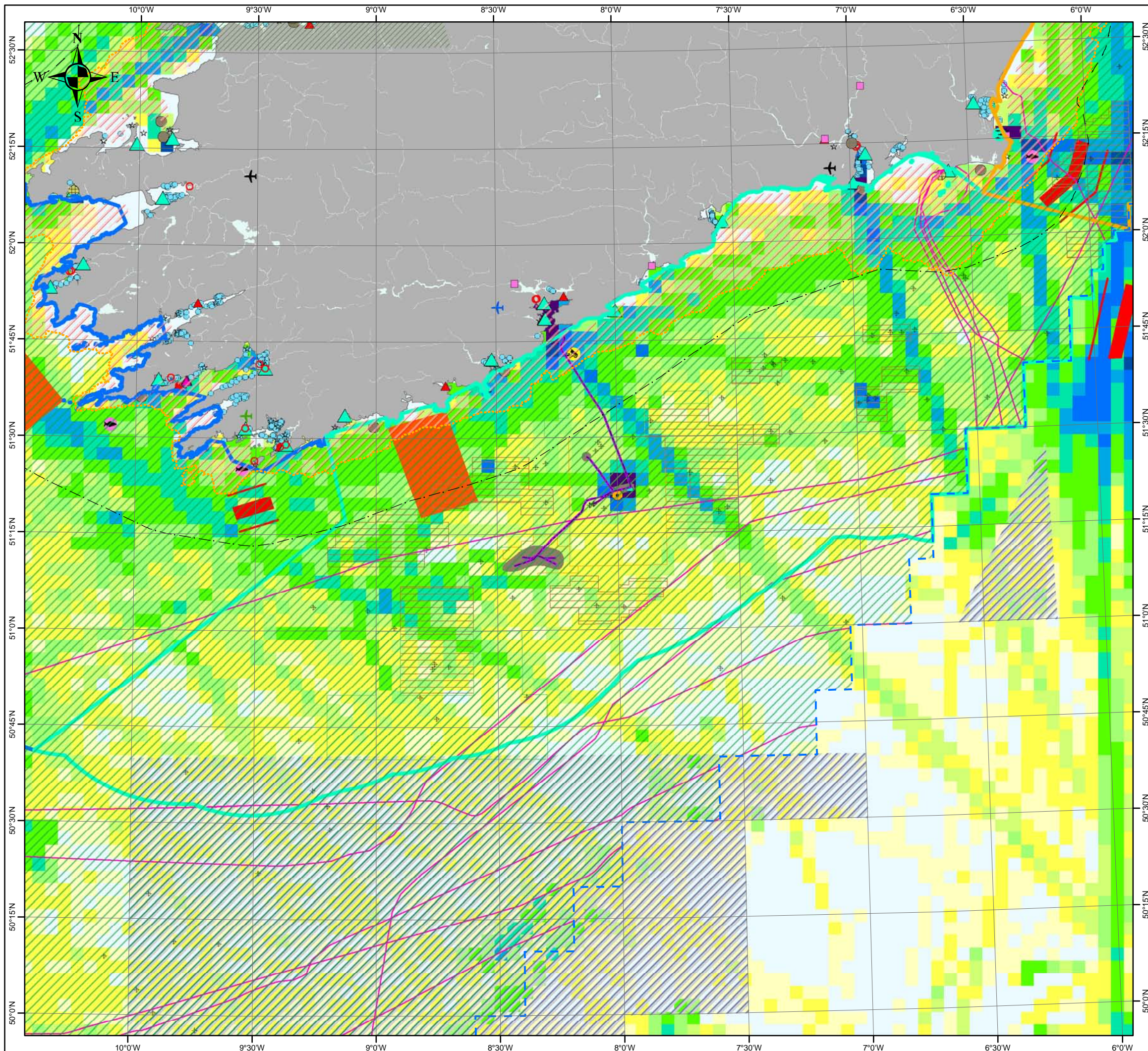
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File Reference	J:\P1304\Mxd\Cumulative assessment\Final figs\Fig 13.5 EAA3.mxd	
Checked	Produced By	Penny Wilson
	Reviewed By	Sally Holroyd



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Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

Figure 12.6: Technical Constraints Assessment Area 3



- Legend**
- Ireland**: Grey outline
 - Study area**: Blue outline
 - 12nm limit**: Dashed black line
 - 60m contour**: Dotted orange line
 - Wind Technical Resource**:
 - Wind 10m to 60m: Red diagonal lines
 - Wind 60m to 200m: Green diagonal lines
 - Assessment Areas**:
 - Wind: Light blue
 - Wind and Wave: Yellow
 - Wind and Tidal: Orange
 - Aquaculture**:
 - Aquaculture sites: Blue circles
 - Shipping and Navigation**:
 - Commercial Port: Pink square
 - Local Ferry Port: Red circle
 - Fishing Port: Green triangle
 - Marina: Red triangle
 - Nearshore anchorage: Star
 - Traffic Separation Scheme: Red rectangle
 - Shipping density (all vessels):
 - 1 - 10: Yellow
 - 11 - 50: Light green
 - 51 - 100: Green
 - 101 - 200: Dark green
 - 201 - 500: Teal
 - 501 - 1000: Blue-green
 - 1001 - 2000: Blue
 - 2001 - 5000: Dark blue
 - 5001 - 10000: Purple
 - <10001: Dark purple
 - Oil and Gas Infrastructure**:
 - Well: Black cross
 - Gas field: Brown rectangle
 - Petroleum lease area: Orange diagonal lines
 - Licensing option area: Green diagonal lines
 - Exploration licence area: Red diagonal lines
 - Rockall 2009 licensing round area: Green diagonal lines
 - Cables and Pipelines (Study Area Only)**:
 - Pipeline: Purple line
 - Proposed Corrib pipeline: Yellow line
 - Active cable: Green line
 - Proposed East West Interconnector cable: Red line
 - Disposal sites**:
 - Fish waste: Pink circle
 - Fish waste & dredge spoil: Green circle
 - Dredge spoil: Brown circle
 - Rock & dredge spoil: Grey circle
 - Methanol: Yellow circle
 - Industrial waste: Black circle
 - Sewage sludge: Red triangle
 - Extraction sites**:
 - Maerl extraction site: Pink triangle
 - Aviation Interests**:
 - Military aerodrome: Red star
 - Civil aerodrome: Black star
 - Civil aerodrome & radar: Blue star
 - Radar: Green star
 - Low level exclusion area: Blue diagonal lines
 - Military Activity**:
 - Department of Defence Danger Area: Orange diagonal lines
 - Military practice and exercise area: Blue diagonal lines
 - Renewable Infrastructure**:
 - Wind farm in operation: Black rectangle
 - Windfarm lease area: Yellow rectangle
 - Windfarm lease area under application: Pink rectangle
 - Proposed Belmullet wave energy test site: Green rectangle
 - Wave energy test site: Orange rectangle

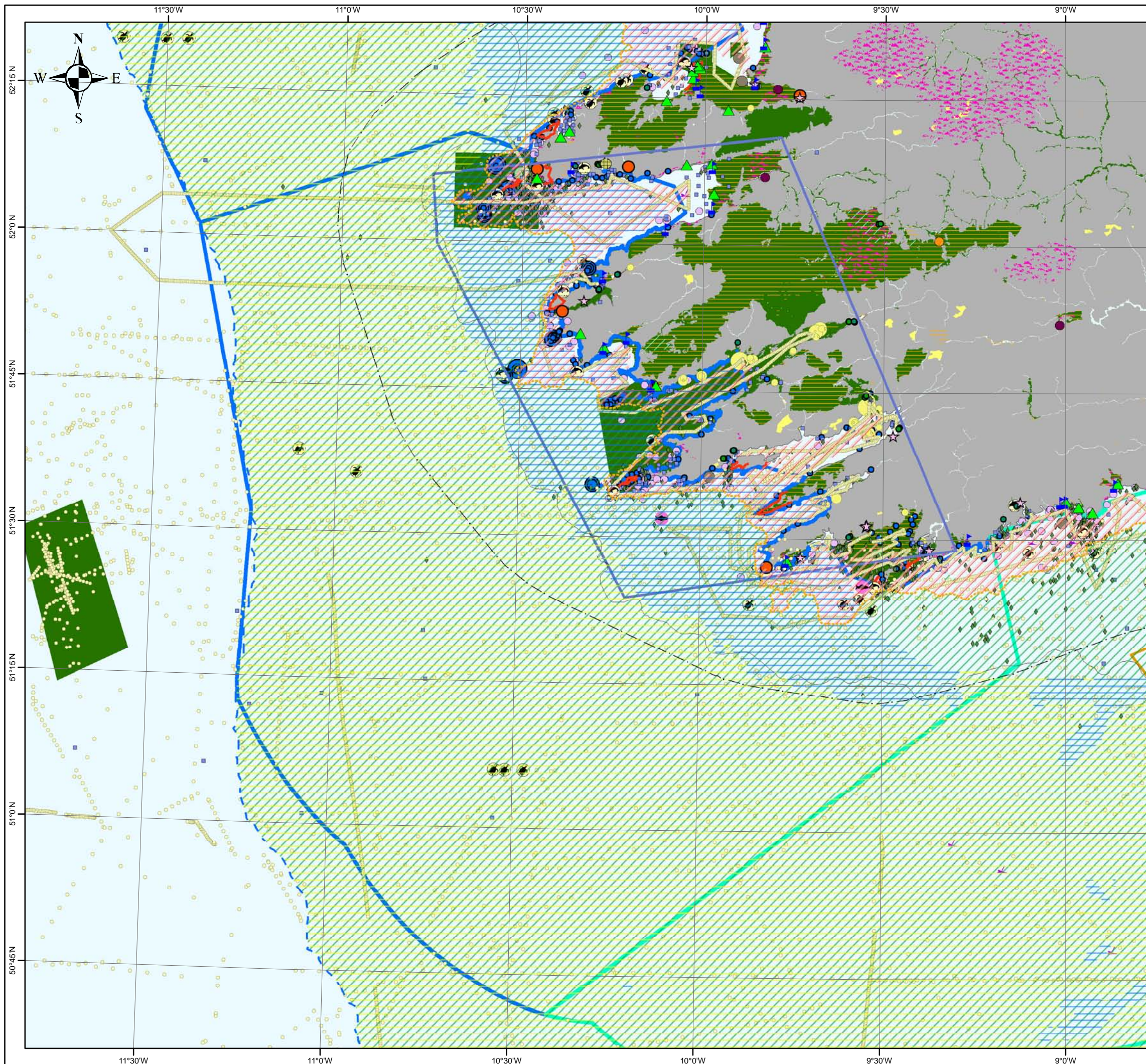
Note 1: Assessment Areas extend from the coast (Mean High Water) to a distance of 100km, within the boundary of the Irish Exclusive Economic Zone only

Note 2: Not to be used for navigation

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File Reference	J:\P1304\Mxd\Cumulative assessment\Physical constraints\mxd\Fig13.4 Wind zone 2
Checked	Produced By: Penny Wilson
	Reviewed By: Sally Holroyd

Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

Figure 12.7: Environmental Constraints Assessment Area 4

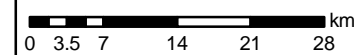


Legend

- Ireland**: Grey outline
- Study area**: Blue dashed line
- 12nm limit**: Dotted line
- 60m contour**: Dashed line
- 100m depth contour**: Solid line
- Wind Technical Resource**:
 - Wind 10m to 60m: Red diagonal lines
 - Wind 60m to 200m: Green diagonal lines
- Wave Technical Resource**:
 - Wave 10m to 100m: Blue diagonal lines
 - Wave 100m to 200m: Yellow diagonal lines
- Assessment Areas**:
 - Wind and wave: Blue hatched area
 - Wind: Green hatched area
- Aggregate Resource Potential**:
 - Sandy: Yellow hatched area
 - Gravelly: Purple hatched area
 - Mixed: Blue hatched area
- Cultural Heritage**:
 - Charted wrecks: Purple triangle
- Potential Prehistoric Sites**:
 - Drowned estuaries and inlets: Orange rectangle
 - Glacial lake shore: Pink rectangle
 - Sheltered bays: Blue rectangle
- Bathing Water Quality**:
 - Guidance compliant: Blue triangle
 - Mandatory compliant: Yellow triangle
 - Non-compliant: Red triangle
- Tourism and Recreation**:
 - ISA sailing club: Star
 - Surfing location: Green triangle
 - Small tourism vessels: Green circle
 - Major attraction: Orange circle
 - Charter vessel port: Green circle
 - Inshore angling: Green circle
 - Navigable waterway: Yellow dashed line
 - Whale & dolphin sighting: Whale icon
 - Coastal Walks: Red line
- Protected Sites**:
 - UNESCO world heritage site: Blue circle
 - UNESCO biosphere reserve: Orange circle
 - Marine nature reserve: Green circle
 - Ramsar Site: Purple circle
 - SAC: Green rectangle
 - SSPA: Pink rectangle
 - Natural heritage area: Yellow rectangle
 - Potential natural heritage area: Orange rectangle
- Grey Seal**:
 - Breeding Site (2005): Pink circle
 - Breeding Population Estimates:
 - 0 - 10: Small green circle
 - 11 - 100: Medium green circle
 - 101 - 500: Large green circle
 - 501 - 1000: Very large green circle
 - >1000: Largest green circle
- Harbour Seal**:
 - Minimum Population Estimates (2003):
 - 1 - 9: Small yellow circle
 - 10 - 22: Medium yellow circle
 - 23 - 39: Large yellow circle
 - 40 - 60: Very large yellow circle
 - >60: Largest yellow circle
- Harbour Porpoise**:
 - IWDG Sighting (1986-2009): Green diamond
 - ESAS Sighting (1980-2001): Yellow diamond
- Bottlenose Dolphin**:
 - IWDG Sighting (1989-2009): Blue square
 - ESAS Sighting (1991-2001): Pink square
- Basking Shark Data**:
 - Sightings (1992 - 2009): Purple circle
- Turtle Sightings**:
 - Leatherback sighting (2003-2009): Turtle icon
- Species**:
 - Seabird colonies (counts):
 - 0 - 500: Small blue circle
 - 500 - 2500: Medium blue circle
 - 2500 - 10000: Large blue circle
 - 10000 - 30000: Very large blue circle
 - 30000 - 70000: Largest blue circle

Note 1: Assessment Areas extend from the coast (Mean High Water) to a distance of 100km, within the boundary of the Irish Exclusive Economic Zone only

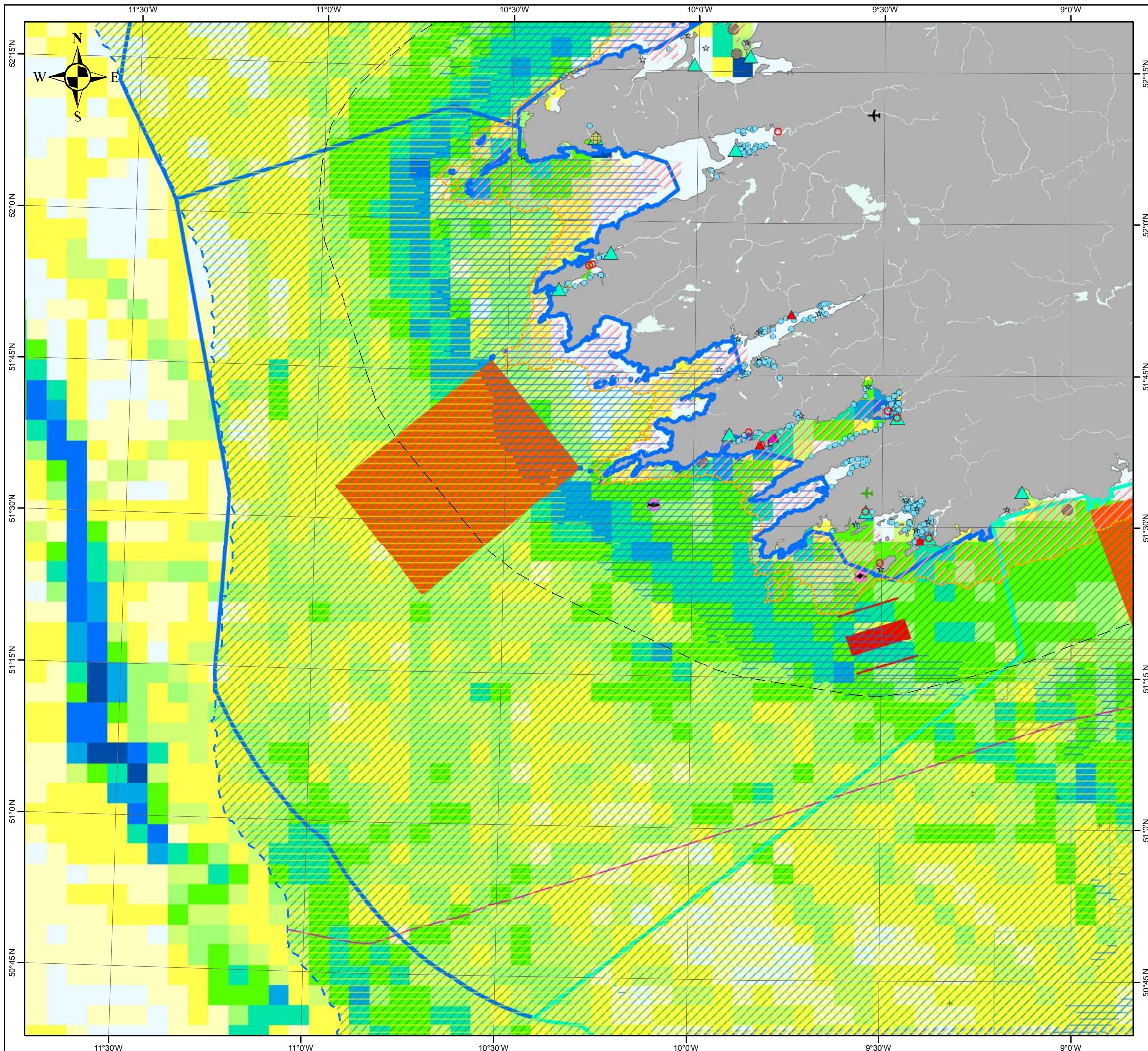
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File Reference	J:\P1304\Mxd\Cumulative assessment\Environmental constraints\mxd Fig 13.7 Wind and wave zone 1	
Checked	Produced By	Penny Wilson
	Reviewed By	Sally Holroyd

Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

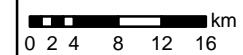
Figure 12.8: Technical Constraints Assessment Area 4



- Legend**
- Ireland
 - Study area
 - 12nm limit
 - 60m contour
 - Wind Technical Resource
 - Wind 10m to 60m
 - Wind 60m to 200m
 - Wave Technical Resource
 - Wave 10m to 100m
 - Wave 100m to 200m
 - Assessment Areas
 - Wind and Wave
 - Wind
 - Aquaculture
 - Aquaculture sites
 - Shipping and Navigation
 - Commercial Port
 - Local Ferry Port
 - Fishing Port
 - Marina
 - Nearshore anchorage
 - Traffic Separation Scheme
 - Shipping density (all vessels)
 - 1 - 10
 - 11 - 50
 - 51 - 100
 - 101 - 200
 - 201 - 500
 - 501 - 1000
 - 1001 - 2000
 - 2001 - 5000
 - 5001 - 10000
 - <10001
 - Oil and Gas Infrastructure
 - Well
 - Gas field
 - Petroleum lease area
 - Licensing option area
 - Exploration licence area
 - Rockall 2009 licensing round area
 - Cables and Pipelines (Study Area Only)
 - Pipeline
 - Proposed Corrib pipeline
 - Active cable
 - Proposed East West Interconnector cable
 - Disposal sites
 - Fish waste
 - Fish waste & dredge spoil
 - Dredge spoil
 - Rock & dredge spoil
 - Methanol
 - Industrial waste
 - Sewage sludge
 - Extraction sites
 - Maest extraction site
 - Aviation Interests
 - Military aerodrome
 - Civil aerodrome
 - Civil aerodrome & radar
 - Radar
 - Low level exclusion area
 - Military Activity
 - Department of Defence Danger Area
 - Military practice and exercise area
 - Renewable Infrastructure
 - Wind farm in operation
 - Windfarm lease area
 - Windfarm lease area under application
 - Proposed Belmullet wave energy test site
 - Wave energy test site

Note 1: Assessment Areas extend from the coast (Mean High Water) to a distance of 100km, within the boundary of the Irish Exclusive Economic Zone only

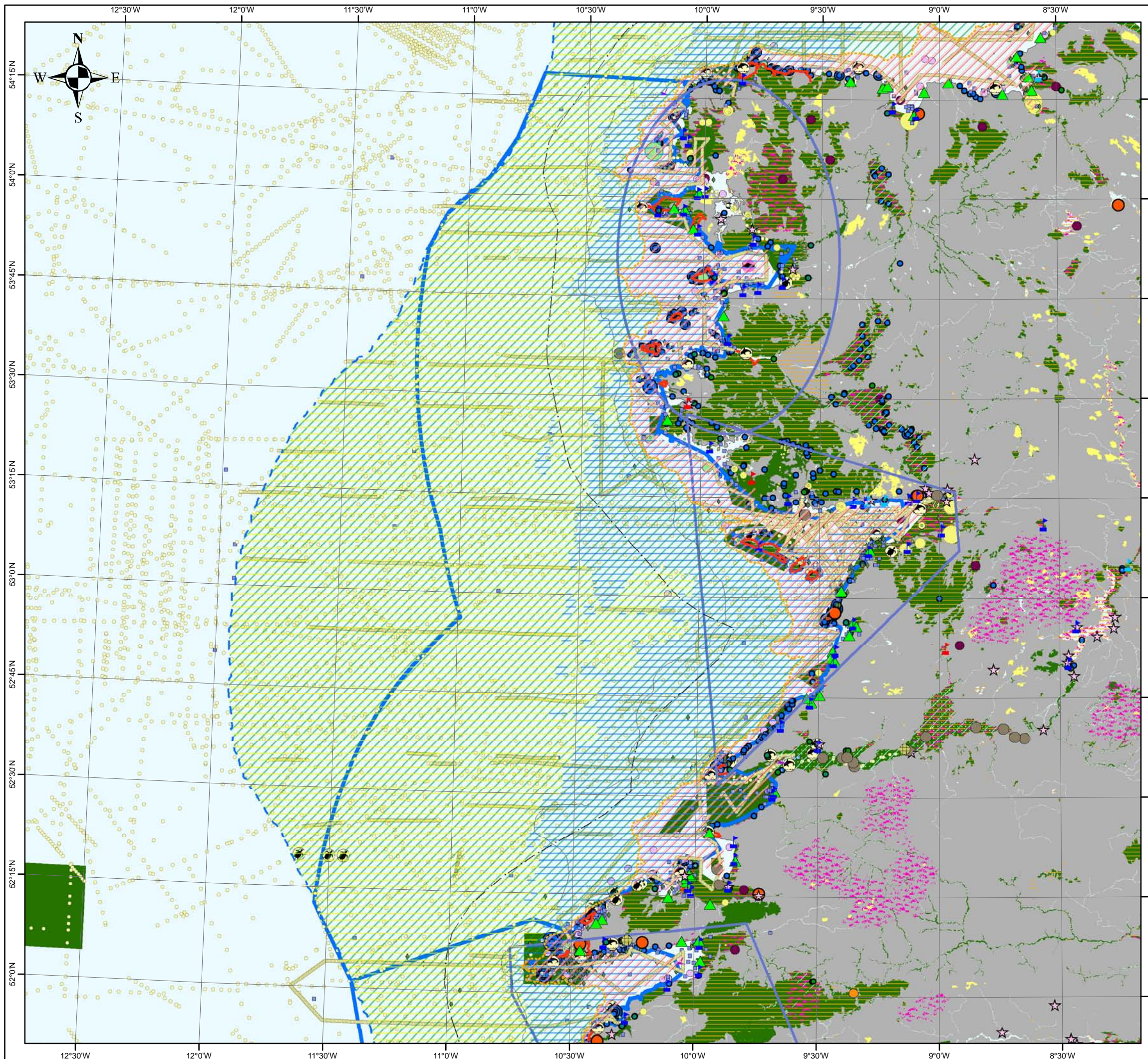
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File Reference	J:\P1304\Mxd\Cumulative assessment\Physical constraints\ .mxdFig 13.8 Wind and wave zone 1	
Checked	Produced By	Penny Wilson
	Reviewed By	Sally Holroyd

Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

Figure 12.9: Environmental Constraints Assessment Area 5

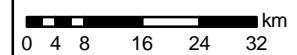


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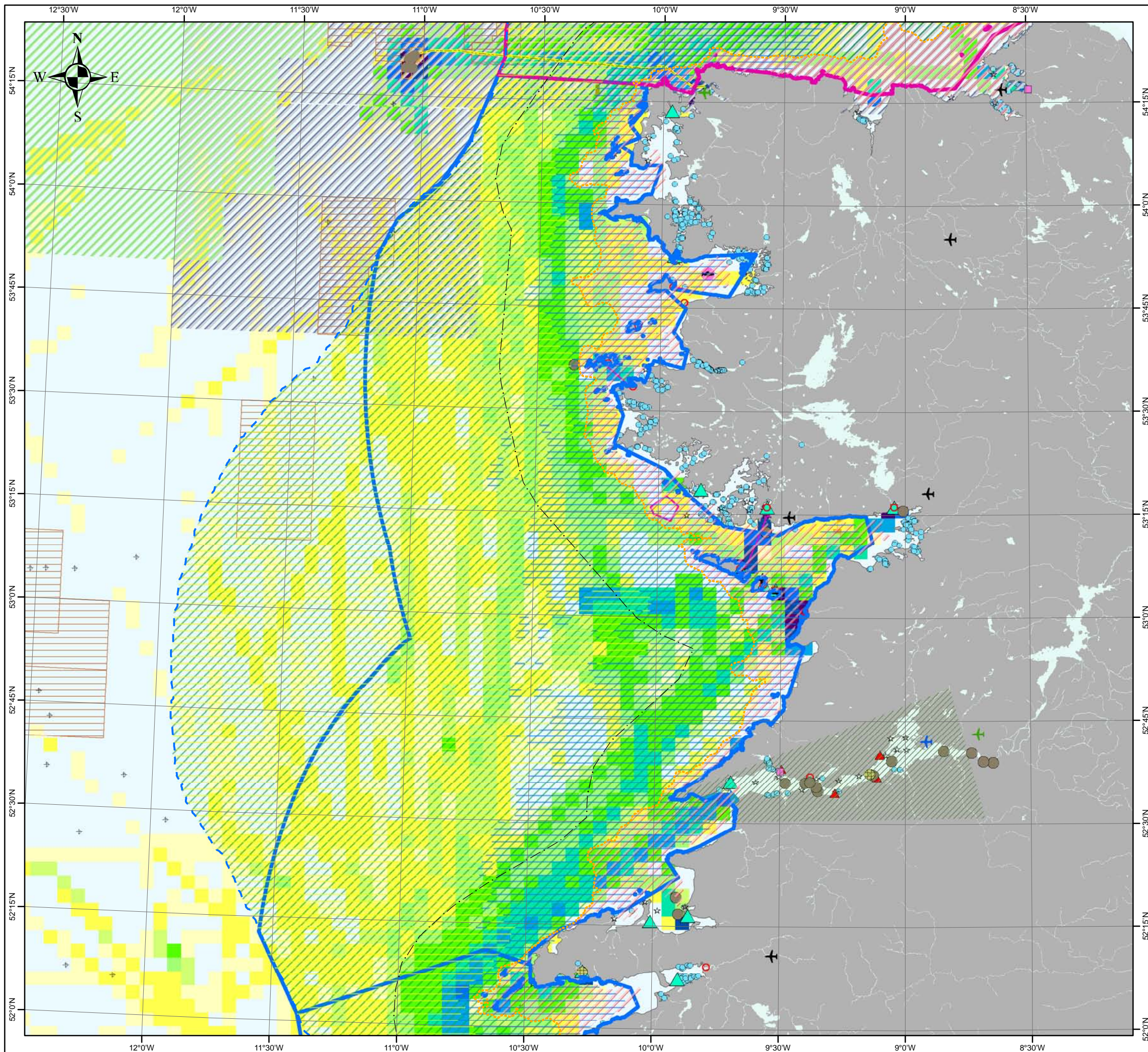
- Ireland
- Study area
- 12nm limit
- 60m contour
- 100m depth contour
- Wind Technical Resource**
 - Wind 10m to 60m
 - Wind 60m to 200m
- Wave Technical Resource**
 - Wave 10m to 100m
 - Wave 100m to 200m
- Assessment Areas**
 - Wind and wave
 - Wind
- Aggregate Resource Potential**
 - Sandy
 - Gravelly
 - Mixed
- Cultural Heritage**
 - Chartered wrecks
 - Drowned estuaries and inlets
 - Glacial lake shore
 - Sheltered bays
- Bathing Water Quality**
 - Guidance compliant
 - Mandatory compliant
 - Non-compliant
- Potential Prehistoric Sites**
 - Drowned estuaries and inlets
 - Glacial lake shore
 - Sheltered bays
- Tourism and Recreation**
 - ISA sailing club
 - Surfing location
 - Small tourism vessels
 - Major attraction
 - Charter vessel port
 - Inshore angling
 - Navigable waterway
 - Whale & dolphin sighting
 - CoastalWalks
- Protected Sites**
 - UNESCO world heritage site
 - UNESCO biosphere reserve
 - Marine nature reserve
 - Ramsar Site
 - SPA
 - Natural heritage area
 - Potential natural heritage area
- Species**
 - Seabird colonies (counts)
 - 0 - 500
 - 500 - 2500
 - 2500 - 10000
 - 10000 - 30000
 - 30000 - 70000
- Grey Seal**
 - Breeding Site (2005)
 - Breeding Population Estimates
 - 0 - 10
 - 11 - 100
 - 101 - 500
 - 501 - 1000
 - >1000
- Harbour Seal**
 - Minimum Population Estimates (2003)
 - 1 - 9
 - 10 - 22
 - 23 - 39
 - 40 - 60
 - >60
- Harbour Purpose**
 - IWDG Sighting (1986-2009)
 - ESAS Sighting (1980-2001)
- Bottlenose Dolphin**
 - IWDG Sighting (1989-2009)
 - ESAS Sighting (1991-2001)
- Basking Shark Data**
 - Sightings (1992 - 2009)
- Turtle Sightings**
 - Leatherback sighting (2003-2009)

Note 1: Assessment Areas extend from the coast (Mean High Water) to a distance of 100km, within the boundary of the Irish Exclusive Economic Zone only

Note 2: Not to be used for navigation

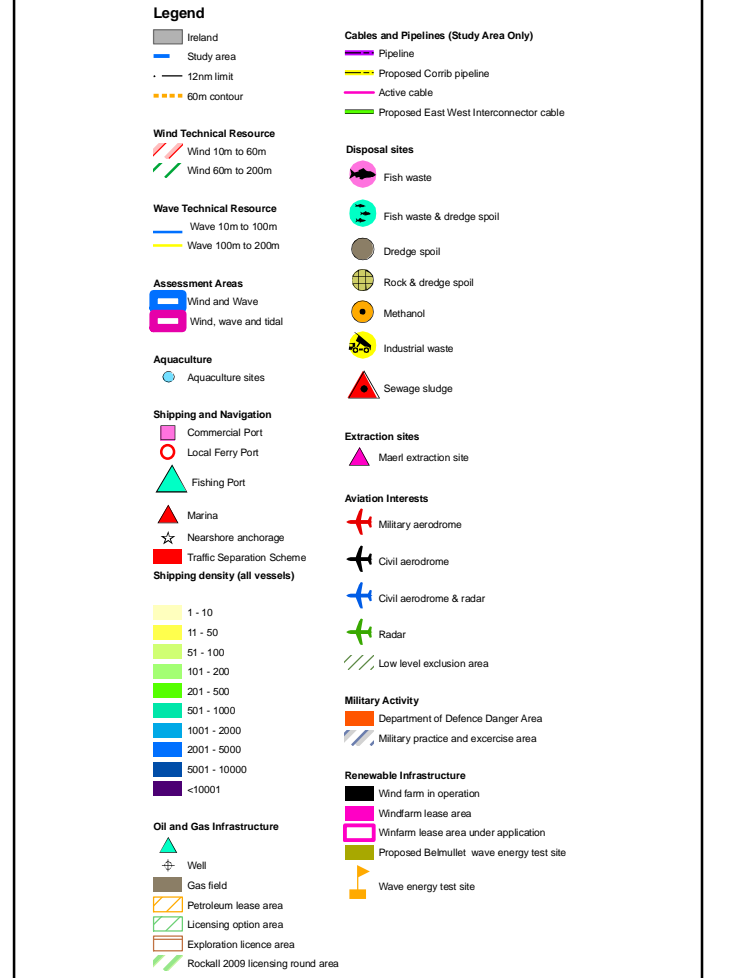


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Checked	Produced By	Penny Wilson
	Reviewed By	Sally Holroyd



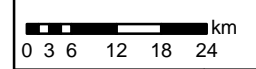
Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

Figure 12.10: Technical Constraints Assessment Areas 5

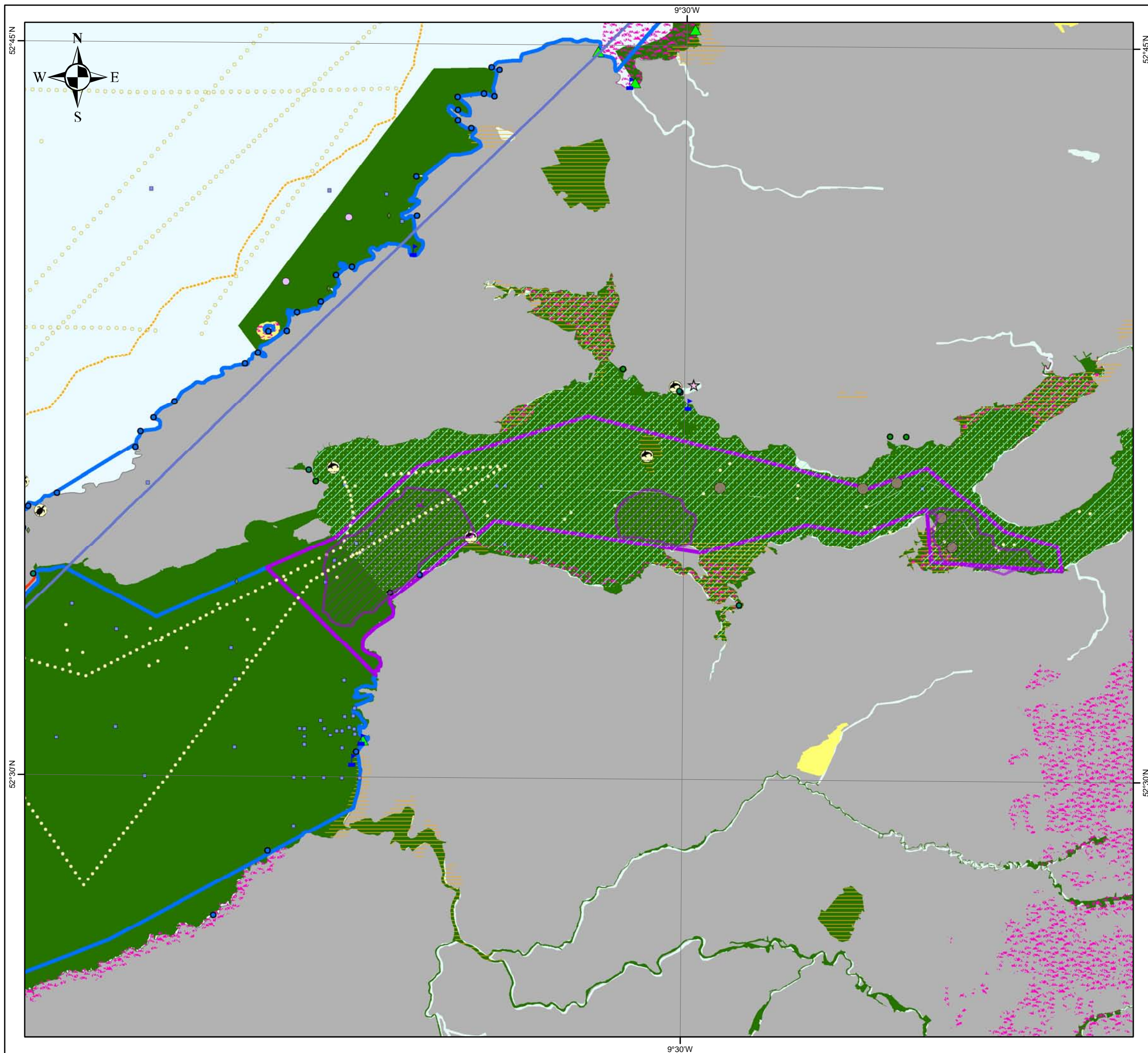


Note 1: Assessment Areas extend from the coast (Mean High Water) to a distance of 100km, within the boundary of the Irish Exclusive Economic Zone only

Note 2: Not to be used for navigation



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File Reference	J:\P1304\Mxd\Cumulative assessment\Physical constraints\ .mxd\Fig 13.10 Wind and wave zone 2	
Checked	Produced By	Penny Wilson
	Reviewed By	Sally Holroyd



Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

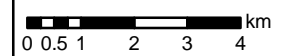
Figure 12.11: Environmental Constraints Assessment Area 5a

Legend

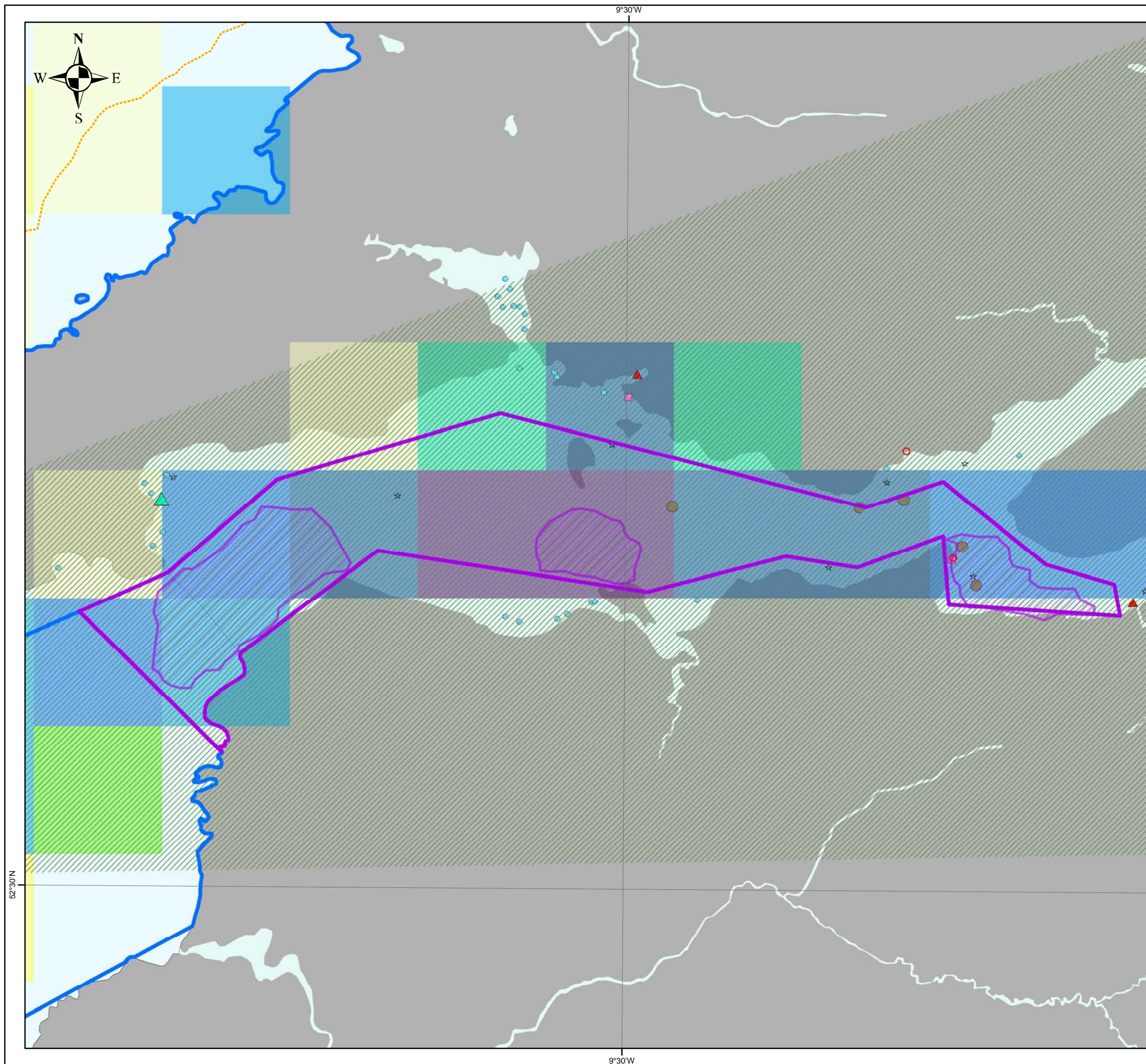
- Ireland
- Study area
- 12nm limit
- 60m contour
- 100m depth contour
- Tidal Technical Resource**
- Tidal 20m to 80m
- Assessment Areas**
- Tidal
- Wind and wave
- Aggregate Resource Potential**
- Sandy
- Gravelly
- Mixed
- Cultural Heritage**
- Charred wrecks
- Potential Prehistoric Sites**
- Drowned estuaries and inlets
- Glacial lake shore
- Sheltered bays
- Bathing Water Quality**
- Guidance compliant
- Mandatory compliant
- Non-compliant
- Tourism and Recreation**
- ISA sailing club
- Surfing location
- Small tourism vessels
- Major attraction
- Charter vessel port
- Inshore angling
- Navigable waterway
- Whale & dolphin sighting
- Coastal Walks
- Protected Sites**
- UNESCO world heritage site
- UNESCO biosphere reserve
- Marine nature reserve
- Ramsar Site
- SAC
- SPA
- Natural heritage area
- Potential natural heritage area
- Grey Seal**
- Breeding Site (2005)
- Breeding Population Estimates**
- 0 - 10
- 11 - 100
- 101 - 500
- 501 - 1000
- >1000
- Harbour Seal**
- Minimum Population Estimates (2003)**
- 1 - 9
- 10 - 22
- 23 - 39
- 40 - 60
- >60
- Harbour Porpoise**
- IWDG Sighting (1986-2009)
- ESAS Sighting (1980-2001)
- Bottlenose Dolphin**
- IWDG Sighting (1989-2009)
- ESAS Sighting (1991-2001)
- Basking Shark Data**
- Sightings (1992 - 2009)
- Turtle Sightings**
- Leatherback sighting (2003-2009)
- Species**
- Seabird colonies (counts)**
- 0 - 500
- 500 - 2500
- 2500 - 10000
- 10000 - 30000
- 30000 - 70000

Note 1: Assessment Areas extend from the coast (Mean High Water) to a distance of 100km, within the boundary of the Irish Exclusive Economic Zone only

Note 2: Not to be used for navigation



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Datum	D_WGS_1984	
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File Reference	J:\P1304\Mxd\Cumulative assessment\Environmental constraints\mxd Fig 13.13 Tidal zone 1	
Checked	Produced By	Penny Wilson
	Reviewed By	Sally Holroyd



Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

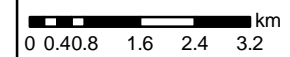
Figure 12.12: Technical Constraints Assessment Area 5a

Legend

- Ireland
- Study area
- 12nm limit
- 60m contour
- Tidal Technical Resource
 - Tidal 20m to 80m
- Assessment Areas
 - Tidal
 - Wind and Wave
- Aquaculture
 - Aquaculture sites
- Shipping and Navigation
 - Commercial Port
 - Local Ferry Port
 - Fishing Port
 - Marina
 - Nearshore anchorage
 - Traffic Separation Scheme
 - Shipping density (all vessels)
 - 1 - 10
 - 11 - 50
 - 51 - 100
 - 101 - 200
 - 201 - 500
 - 501 - 1000
 - 1001 - 2000
 - 2001 - 5000
 - 5001 - 10000
 - <10001
- Oil and Gas Infrastructure
 - Well
 - Gas field
 - Petroleum lease area
 - Licensing option area
 - Exploration licence area
 - Rockall 2009 licensing round area
- Cables and Pipelines (Study Area Only)
 - Pipeline
 - Proposed Corrib pipeline
 - Active cable
 - Proposed East West Interconnector cable
- Disposal sites
 - Fish waste
 - Fish waste & dredge spoil
 - Dredge spoil
 - Rock & dredge spoil
 - Methanol
 - Industrial waste
 - Sewage sludge
- Extraction sites
 - Maerl extraction site
- Aviation Interests
 - Military aerodrome
 - Civil aerodrome
 - Civil aerodrome & radar
 - Radar
 - Low level exclusion area
- Military Activity
 - Department of Defence Danger Area
 - Military practice and exercise area
- Renewable Infrastructure
 - Wind farm in operation
 - Windfarm lease area
 - Windfarm lease area under application
 - Proposed Belmullet wave energy test site
 - Wave energy test site

Note 1: Assessment Areas extend from the coast (Mean High Water) to a distance of 100km, within the boundary of the Irish Exclusive Economic Zone only

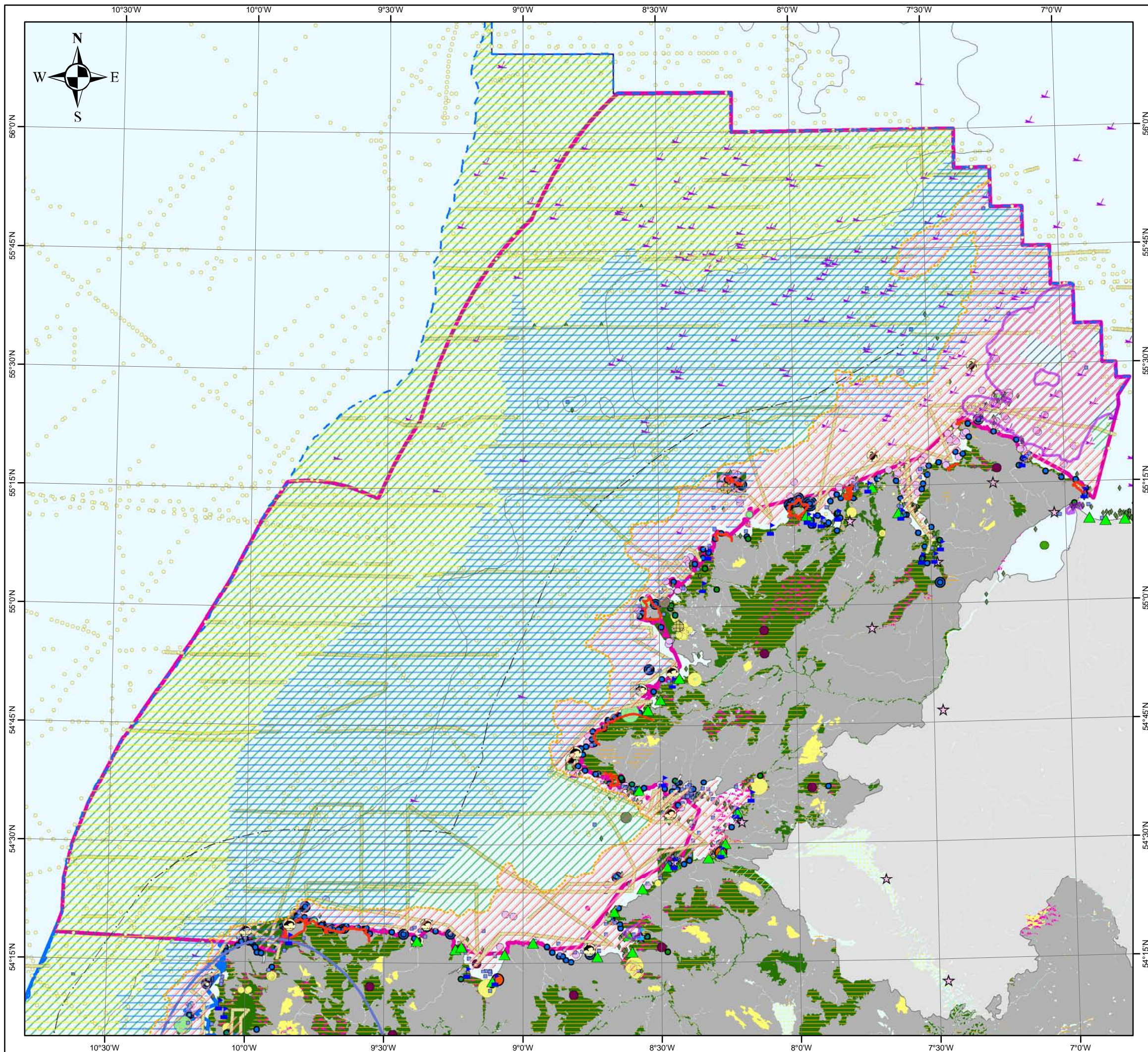
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Data Source	Department of Defence, GEBCO, Irish Aviation Authority, Marine Institute, MIDA, Petroleum Affairs Division, SEAI, Seazone,	
File Reference	J:\P1304\Mxd\Cumulative assessment\Physical constraints\ .mxdFig 13.10 Tidal zone 1	
Checked	Produced By	Penny Wilson
	Reviewed By	Sally Holroyd



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Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

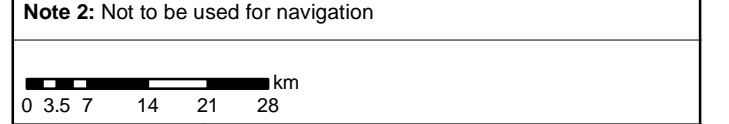
Figure 12.13: Environmental Constraints Assessment Area 6

Legend

- Geography:** Ireland, United Kingdom, Study area, 12nm limit, 60m contour, 100m depth contour
- Wind Technical Resource:** Wind 10m to 60m, Wind 60m to 200m
- Wave Technical Resource:** Wave 10m to 100m, Wave 100m to 200m
- Tidal Technical Resource:** Tidal 20m to 80m
- Assessment Zones:** Wind, wave and tidal; Wind and wave
- Aggregate Resource Potential:** Sandy, Gravelly, Mixed
- Cultural Heritage:** Charted wrecks
- Potential Prehistoric Sites:** Drowned estuaries and inlets, Glacial lake shore, Sheltered bays
- Bathing Water Quality:** Guidance compliant, Mandatory compliant, Non-compliant
- Tourism and Recreation:** ISA sailing club, Surfing location, Small tourism vessels, Major attraction, Charter vessel port, Inshore angling, Navigable waterway, Whale & dolphin sighting, CoastalWalks
- Protected Sites:** UNESCO world heritage site, UNESCO biosphere reserve, Marine nature reserve, Ramsar Site, SAC, SPA, Natural heritage area, Potential natural heritage area
- Grey Seal:** Breeding Site (2005), Breeding Population Estimates (0-10, 11-100, 101-500, 501-1000, >1000), Minimum Population Estimates (2003) (1-9, 10-22, 23-39, 40-60, >60)
- Harbour Seal:** IWDG Sighting (1986-2009), ESAS Sighting (1980-2001)
- Harbour Porpoise:** IWDG Sighting (1989-2009), ESAS Sighting (1991-2001)
- Bottlenose Dolphin:** IWDG Sighting (1989-2009), ESAS Sighting (1991-2001)
- Basking Shark Data:** Sightings (1992-2009)
- Turtle Sightings:** Leatherback sighting (2003-2009)
- Species:** Seabird colonies (counts) (0-500, 500-2500, 2500-10000, 10000-30000, 30000-70000)

Note 1: Assessment Areas extend from the coast (Mean High Water) to a distance of 100km, within the boundary of the Irish Exclusive Economic Zone only

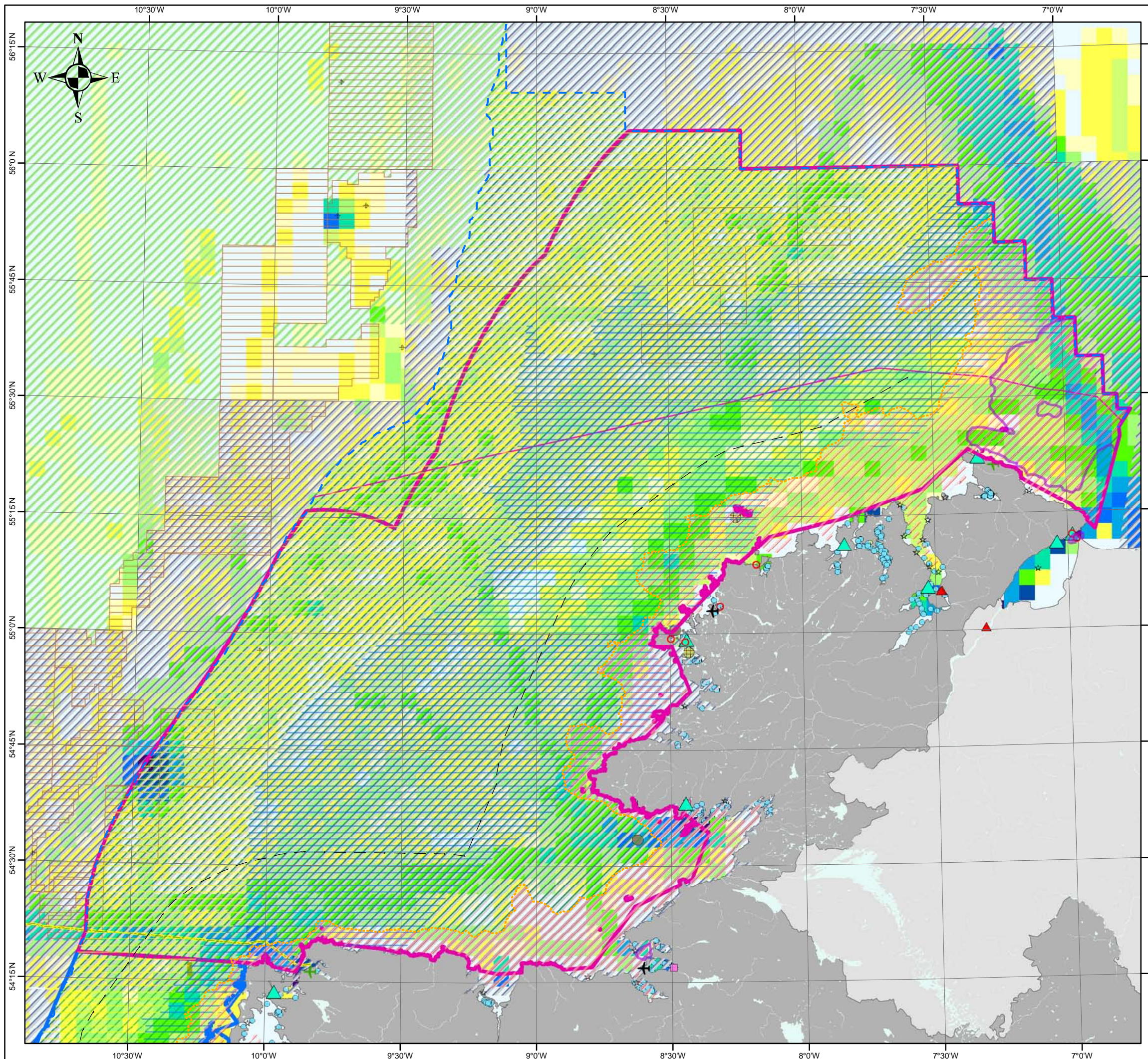
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Data Source	CRMC, JNCC, GEBCO, Irish Whale & Dolphin Group, Marine Institute, MIDA, NPWS, Petroleum Affairs Division, SeaZone,	
File Reference	J:\P1304\Mxd\Cumulative assessment\Environmental constraints\mxd Fig 13.9 Wind, wave and tidal zone 1	
Checked	Produced By	Penny Wilson
	Reviewed By	Sally Holroyd

Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

Figure 12.14: Technical Constraints Assessment Area 6

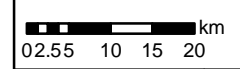


Legend

- Shipping and Navigation**
 - Commercial Port
 - Local Ferry Port
 - Fishing Port
 - Marina
 - Nearshore anchorage
 - Traffic Separation Scheme
- Shipping density (all vessels)**
 - 1 - 10
 - 11 - 50
 - 51 - 100
 - 101 - 200
 - 201 - 500
 - 501 - 1000
 - 1001 - 2000
 - 2001 - 5000
 - 5001 - 10000
 - <10001
- Disposal sites**
 - Fish waste
 - Fish waste & dredge spoil
 - Dredge spoil
 - Rock & dredge spoil
 - Methanol
 - Industrial waste
 - Sewage sludge
- Extraction sites**
 - Marl extraction site
- Aviation Interests**
 - Military aerodrome
 - Civil aerodrome
 - Civil aerodrome & radar
 - Radar
- Renewable Infrastructure**
 - Wind farm in operation
 - Windfarm lease area
 - Windfarm lease area under application
 - Proposed Belmullet wave energy test site
 - Wave energy test site
- Wind Technical Resource**
 - Wind 10m to 60m
 - Wind 60m to 200m
- Wave Technical Resource**
 - Wave 10m to 100m
 - Wave 100m to 200m
- Tidal Technical Resource**
 - Tidal 20m to 80m
- Assessment Area**
 - Wind and Wave
 - Wind, wave and tidal
- Aquaculture**
 - Aquaculture sites
- Oil and Gas Infrastructure**
 - Well
 - Gas field
 - Petroleum lease area
 - Licensing option area
 - Exploration licence area
 - Rockall 2009 licensing round area
- Cables and Pipelines (Study Area Only)**
 - Pipeline
 - Proposed Corrib pipeline
 - Active cable
 - Proposed East West Interconnector cable
- Military Activity**
 - Department of Defence Danger Area
 - Military practice and exercise area
- Low level exclusion area**

Note 1: Assessment Areas extend from the coast (Mean High Water) to a distance of 100km, within the boundary of the Irish Exclusive Economic Zone only

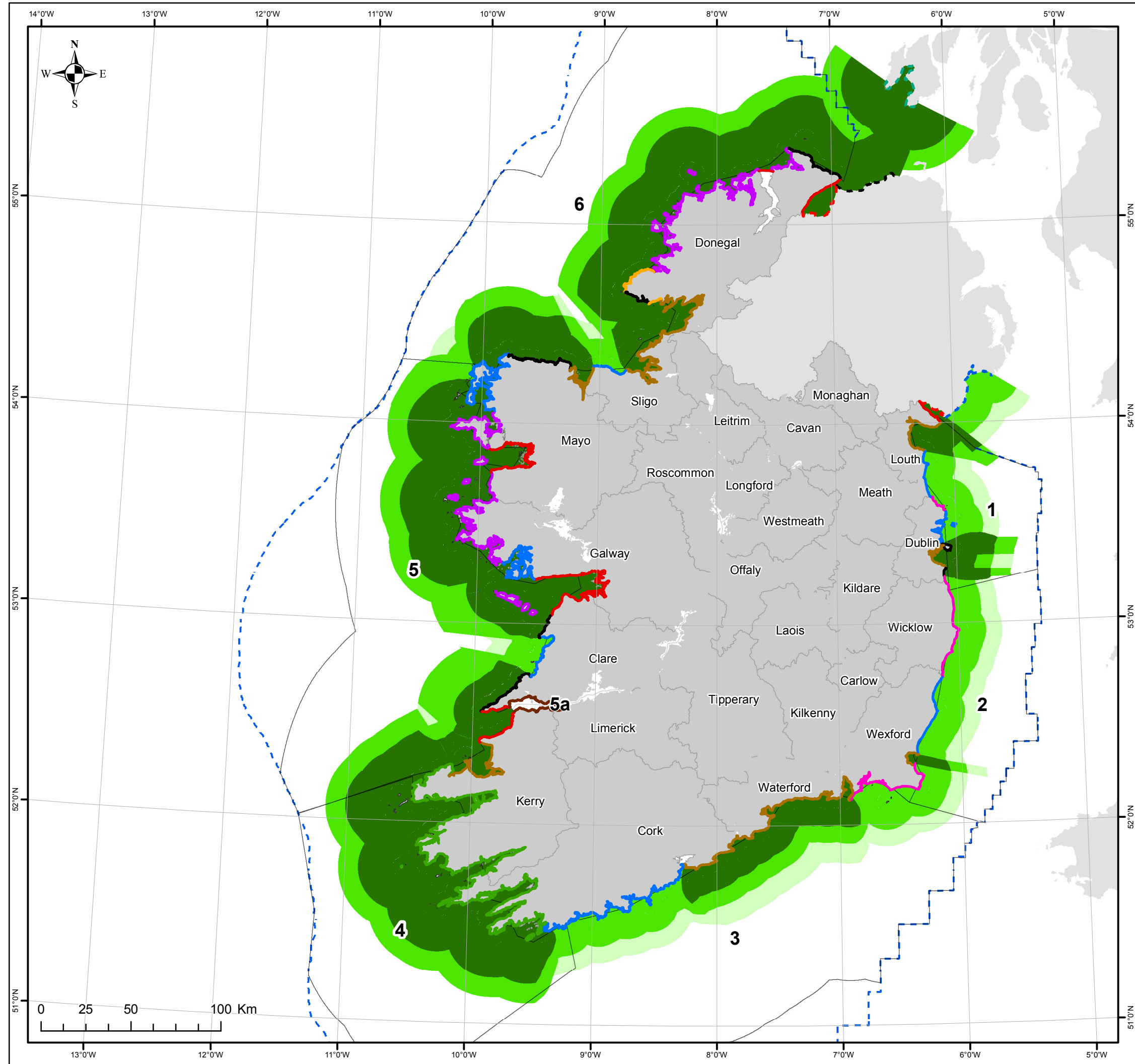
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Data Source	Department of Defence, GEBCO, Irish Aviation Authority, Marine Institute, MIDA, Petroleum Affairs Division, SEAL, Seazone,	
File Reference	J:\P1304\Mxd\Cumulative assessment\Physical constraints\ .mxdFig 13.10 Wind, wave, and tidal zone 1	
Checked	Produced By	Penny Wilson
	Reviewed By	Sally Holroyd

Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

Figure 12.15: Effects of Wind Turbines on Seascape



- Irish Republic
- United Kingdom
- Study Area
- Assessment Zone
- County Boundary

- Seascape Type**
- 1. Large open or partially open sea lough with raised hinterland
 - 2. Rugged peninsula with drowned valleys
 - 3. Low lying plateau landscape
 - 4. Low lying coastal plain and estuarine landscape, low lying islands and peninsulas
 - 5. Narrow coastal strip with raised hinterland
 - 6. Complex indented coastline with small bays and offshore islands
 - 7. Plateaus and high cliffs
 - 8. Large bay
 - 9. Large river estuary

- Transboundary Seascape Type**
- T.1. Large open or partially open sea lough with raised hinterland
 - T.2. Low lying coastal plain
 - T.3. Plateaus and high cliffs
 - T.4. Rugged coastal shelf & headlands with open views to sea

- Potential Effect**
- Slight
 - Moderate
 - Substantial
- Potential Effects are calculated at the following distances:
- Between 0 and 15km offshore from the coast
 - Between 15 and 24km offshore from the coast
 - Between 24 and 35km offshore from the coast

This drawing should be read in conjunction with the Summary of Potential Effects Table Zones 1 – 6, and Appendix A Seascape Assessment. This figure is an illustrative overview of the strategic seascape assessment only and does not preclude the requirement for further site specific assessment in relation to specific offshore developments.

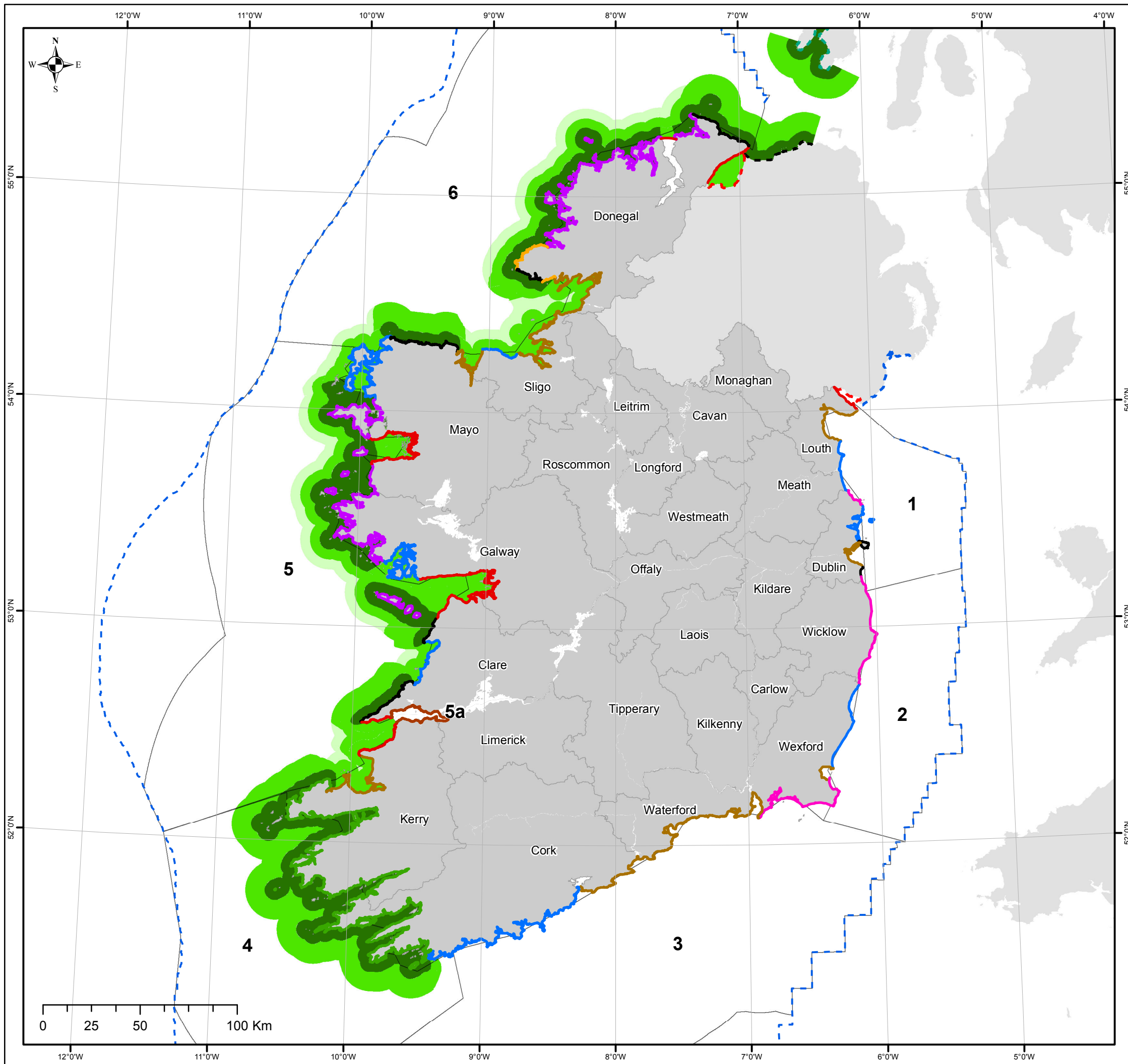
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Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

Figure 12.16: Effects of Wave (on Surface Linear) Arrays on Seascape



- Irish Republic
- United Kingdom
- Study Area
- Assessment Zone
- County Boundary

- Seascape Type**
- 1. Large open or partially open sea lough with raised hinterland
 - 2. Rugged peninsula with drowned valleys
 - 3. Low lying plateau landscape
 - 4. Low lying coastal plain and estuarine landscape, low lying islands and peninsulas
 - 5. Narrow coastal strip with raised hinterland
 - 6. Complex indented coastline with small bays and offshore islands
 - 7. Plateaus and high cliffs
 - 8. Large bay
 - 9. Large river estuary

- Transboundary Seascape Type**
- T.1. Large open or partially open sea lough with raised hinterland
 - T.2. Low lying coastal plain
 - T.3. Plateaus and high cliffs
 - T.4. Rugged coastal shelf & headlands with open views to sea

- Potential Effects**
- Slight
 - Moderate
 - Substantial
- Potential Effects are calculated at the following distances:
- Between 0 and 5km offshore from the coast
 - Between 5 and 10km offshore from the coast
 - Between 10 and 15km offshore from the coast

This drawing should be read in conjunction with the Summary of Potential Effects Table Zones 1 – 6, and Appendix A Seascape Assessment. This figure is an illustrative overview of the strategic seascape assessment only and does not preclude the requirement for further site specific assessment in relation to specific offshore developments. This drawing does not include potential effects for wave (Oscillating Surge) Arrays.

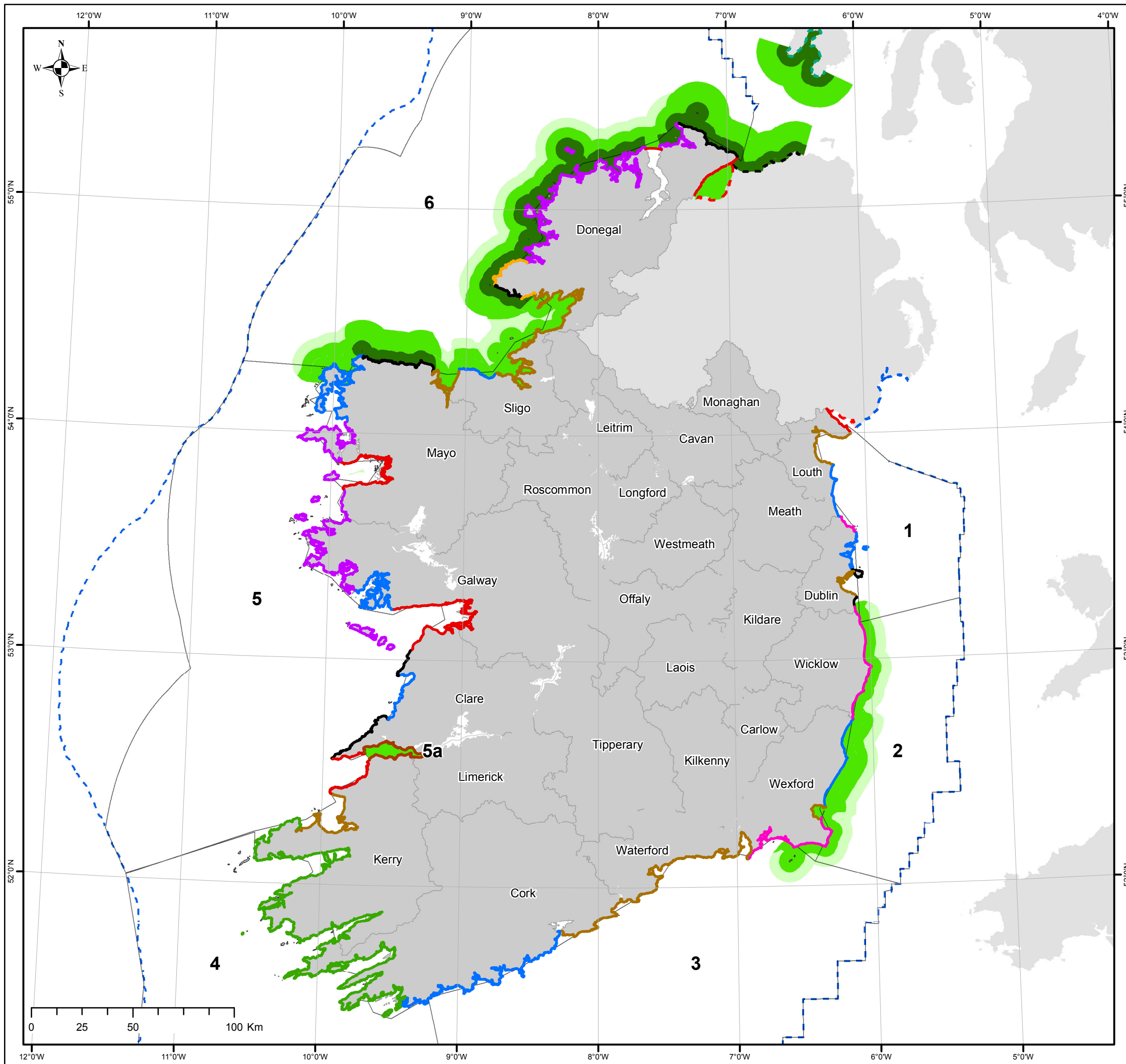
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Strategic Environmental Assessment of Wave, Tidal and Offshore Wind Development in Irish Waters

Figure 12.17: Effects of Tidal (on Surface Point Structure) Arrays on Seascape



- Irish Republic
- United Kingdom
- Study Area
- Assessment Zone
- County Boundary

Seascape Type

- 1. Large open or partially open sea lough with raised hinterland
- 2. Rugged peninsula with drowned valleys
- 3. Low lying plateau landscape
- 4. Low lying coastal plain and estuarine landscape, low lying islands and peninsulas
- 5. Narrow coastal strip with raised hinterland
- 6. Complex indented coastline with small bays and offshore islands
- 7. Plateaus and high cliffs
- 8. Large bay
- 9. Large river estuary

Transboundary Seascape Type

- T.1. Large open or partially open sea lough with raised hinterland
- T.2. Low lying coastal plain
- T.3. Plateaus and high cliffs
- T.4. Rugged coastal shelf & headlands with open views to sea

Potential Effect

- Slight
 - Moderate
 - Substantial
- Potential Effects are calculated at the following distances:
- Between 0 and 5km offshore from the coast
 - Between 5 and 10km offshore from the coast
 - Between 10 and 15km offshore from the coast

This drawing should be read in conjunction with the Summary of Potential Effects Table Zones 1 – 6, and Appendix A Seascape Assessment. This figure is an illustrative overview of the strategic seascape assessment only and does not preclude the requirement for further site specific assessment in relation to specific offshore developments.

Date	27/09/2010	
Projection	WGS_1984_UTM_Zone_29N	
Spheroid	WGS_1984	
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