Orkney Islands Marine Region: Finfish Farming Spatial Guidance

Consultation Draft

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Consultation on this draft guidance

The Orkney Islands Marine Region: Finfish Farming Spatial Guidance - Consultation Draft has been deposited for public consultation from 1 August to 25 October 2024.

The consultation documents can be accessed at www.orkney.gov.uk/finfish-spatial-guidance, Kirkwall Library & Archive, the Warehouse Buildings in Stromness or Customer Services, Orkney Islands Council, School Place, Kirkwall, KW15 1NY.

The deadline for responses to this consultation is 17:00 on 25 October 2024.

Representations about the guidance can be submitted to the Development and Marine Planning team at Orkney Islands Council, by email: marine.planning@orkney.gov.uk or in writing: Development and Marine Planning, Orkney Islands Council, School Place, Kirkwall KW15 1NY. Respondents should provide responses using the Consultation Response Form.

Orkney Islands Marine Region: Finfish Farming Spatial Guidance

Contents

1. Purpose of this guidance

1.1 The Orkney Islands Marine Region: Finfish Farming Spatial Guidance is a decision support tool that should inform decision making by public authorities and developers on finfish farm development and/or activities proposals in the Orkney Islands marine region.

1.2 The purpose of this spatial guidance is to:

- support the implementation of the Orkney Islands Regional Marine Plan, Sector Policy 2A: Finfish and shellfish farming;
- identify areas of greater and lesser potential sensitivity and/or constraint for finfish farming development and/or activities in the Orkney Islands marine region;
- provide greater clarity for stakeholders on the significance, and potential sensitivity of identified environmental, historic, social, economic and infrastructure features, or receptors, to finfish farming development and/or activities; and
- inform stakeholder understanding and participation in the planning and decision-making process for finfish farming development and/or activities.

2. Policy context

2.1 Orkney Islands Marine Region: Finfish Farming Spatial Guidance is non-statutory planning guidance that supports the implementation of the Orkney Islands Regional Marine Plan, Sector Policy 2A: Finfish and shellfish farming (see below for information). This policy states that proposals for finfish farming development and/or activities should have regard to this spatial guidance.

Sector Policy 2: Aquaculture

Sector Policy 2a: Finfish and shellfish farming

i. Proposals for finfish and shellfish farming development and/or activities should have regard to:

   a. Orkney Local Development Plan;
   b. National Marine Plan;
   c. National Planning Framework; and
   d. any Marine Directorate or SEPA licensing requirements and guidance.

ii. Proposals for finfish and shellfish farming development and/or activities should avoid, minimise and/or appropriately mitigate significant adverse impacts on:

   a. landscape and/or seascape character and visual amenity;
   b. nature conservation designations, protected species, and the wider biodiversity, including Priority Marine Features;
   c. seal haul-out sites;
   d. wild salmonid fish populations due to sea lice and/or escapes (applies to finfish farming only);
   e. water quality, biological carrying capacity and the benthic environment;
   f. historic environment assets;
   g. other coastal and marine users including, but not limited to, commercial fishing, shipping and navigation, port and harbour infrastructure/operations, existing aquaculture sites, marine cable routes and pipelines, tourism, recreation, and sport and leisure activities; and
   h. amenity, including consideration of road traffic, noise, light, access, vibration, odour and litter impacts.

iii. Proposals for finfish and shellfish development and/or activities should ensure appropriate measures are included to prevent the introduction and spread of non-native species.

iv. New finfish farms should not bridge Disease Management Areas, although boundaries may be revised by the Marine Directorate to take account of any changes in fish farm location, subject to the continued management of risk.

v. Appropriate conditions and, where necessary, a financial bond or a letter of credit will be concluded to ensure that decommissioning and site restoration arrangements will be implemented following ceasing of the operation.

vi. Proposals for finfish farming development and/or activities should have regard to the Orkney Islands Marine Region: Finfish Farming Spatial Guidance.

vii. Proposals for shellfish farming development and/or activities should have regard to the Orkney Islands Marine Region: Shellfish Farming Spatial Guidance, where available.

3. How to use this spatial guidance

3.1 This spatial guidance should be used to guide decision making on finfish farming development and/or activities in the Orkney Islands marine region. It does not identify locations that are suitable or unsuitable for finfish farm development and/or activities. The spatial guidance is a decision support tool to help identify areas of greater and lesser sensitivity and/or constraint to finfish farming development and/or activities.

3.2 There are environmental, historic, social, economic and infrastructure features, or receptors, in the Orkney Islands marine region and adjacent coastal areas, that can be affected by finfish farming development and/or activities. This spatial guidance identifies the location, significance and potential sensitivity of these receptors to finfish farm development and/or activities.

3.3 The spatial guidance receptors have been selected in accordance with the criteria in the Orkney Islands Regional Marine Plan: Consultation Draft, Sector Policy 2A (ii). Table 1 identifies the relevant receptors along with their spatial extent and the regional marine plan policies that are relevant to each receptor. These receptors include, for example, designated nature conservation sites and subsea electricity cables.

3.4 Receptors have varying levels of significance. For example, internationally rare or vulnerable habitats or species have greater significance than habitats or species that are more common and/or of lesser conservation importance. Receptors can also have higher or lower levels of sensitivity to finfish farming development and/or activities. For example, the various Priority Marine Features have different levels of sensitivity to organic enrichment associated with finfish farming development and/or activities. Where relevant, a receptor's significance value is assigned on the basis of its position within the hierarchy of international, national and regional/local importance.

3.5 Table 2 provides information on the significance, and potential sensitivity of the identified environmental, historic, social, economic and infrastructure receptors to finfish farm development and/or activities. The location, and significance and sensitivity values of the receptors, are identified in the guidance maps in Section 7: Spatial Guidance. For the purpose of the spatial guidance maps, the receptors have been assigned scores according to their significance and their potential sensitivity, as identified in Table 2.

3.6 Further information on the identified nature conservation receptors, and their potential sensitivity to finfish farm development and/or activities, is provided in Appendices 1 to 4.

3.7 The significance of any impact or effect associated with a specific finfish farming development or activity proposal is influenced by factors including

location, scale, siting and design, and any appropriate development specific mitigation measures. These development specific impacts and/or effects, and associated mitigation measures, are assessed as part of the relevant statutory consenting processes. For the purposes of this document, the assessments have been done prior to the consideration of any site-specific mitigation.

4. Online interactive maps

4.1 A web-based spatial interactive tool can be accessed at Orkney Marine Region: Finfish Farming Spatial Guidance (arcgis.com).This service allows users to identify nearby receptors from a given point by clicking on a desired location. The search distance from the clicked location can be set by the user (e.g. all receptors within 1km), with the option to view further information on the receptors present within the search radius.

5. Receptor location updates

5.1 It is important that the location of the receptors is identified using the most up to date data. The receptors identified in Appendix 5, Table A6, will be periodically reviewed and updated using the identified data sources. These updates may be made to this spatial guidance without the need for further public consultation on a revised spatial guidance document.

6. Identified Receptors

6.1 Table 1 identifies the receptors that are of relevance to Orkney Islands Regional Marine Plan: Consultation Draft *Sector Policy 2A (ii) Finfish and shellfish farming*, along with their spatial extent and the General Policies of relevance to each receptor.

Table 1. Identified receptors summary

Receptor	**Orkney Islands Regional Marine Plan:** **Relevant criteria from Sector Policy 2A (ii) Finfish and shellfish farming**	**Orkney Islands Regional Marine Plan:** **Other relevant General Polices and Sector Policies**	**Spatial extent of receptor in spatial guidance**
Nature conservation receptors			
Special Protection Areas (SPA)	b) Nature conservation designations	General Policy 9: Nature	Site boundary (The foraging range of SPA qualify bird features are identified in Appendix 1, Table A2).
Special Areas of Conservation (SAC)	b) Nature conservation designations	General Policy 9: Nature	Site boundary
Nature Conservation Marine Protected Areas (NC MPA)	b) Nature conservation designations	General Policy 9: Nature	Site boundary
Priority Marine Features (PMF): Maerl beds, seagrass beds, flame shell beds, horse mussel beds and fan shell aggregations.	b) Priority Marine Features	General Policy 9: Nature	Point data (minimum raster grid of ~300m^2)

Receptor	Orkney Islands Regional Marine Plan: Relevant criteria from Sector Policy 2A (ii) Finfish and shellfish farming	Orkney Islands Regional Marine Plan: Other relevant General Polices and Sector Policies	Spatial extent of receptor in spatial guidance
There are PMF locations within Orkney's waters that have not yet been recorded and are therefore not identified in the spatial data used within this guidance. PMFs records will be periodically updated within this guidance as detailed in Appendix 5 to incorporate any updated records.			
Principal Sea Trout Spawning Burns	b) Priority Marine Features d) Wild salmonid fish populations	General Policy 9: Nature	Point data (minimum raster grid of ~300m^2)
Seal haul-out sites	c) Seal haul-out sites	General Policy 9: Nature	Site boundary with 500 metre disturbance buffer from the area that the seals come onshore.
Landscape and seascape receptors			
National Scenic Area (NSA)	a) Landscape and/or seascape character and visual amenity	General Policy 10: Seascape and landscape	Site boundary
Historic environment receptors			
World Heritage Site and Inner Sensitivity Zone	f) Historic environment assets	General Policy 8: Historic environment	Site boundary and Inner Sensitive Zone boundary

Receptor	Orkney Islands Regional Marine Plan: Relevant criteria from Sector Policy 2A (ii) Finfish and shellfish farming	Orkney Islands Regional Marine Plan: Other relevant General Polices and Sector Policies	Spatial extent of receptor in spatial guidance
			The wider setting of the World Heritage Site component sites has not been spatially identified in the guidance maps.
Scapa Flow Historic Marine Protected Area (HMPA) **Only included if designated at the time of consultation*	f) Historic environment assets	General Policy 8: Historic environment	Site boundary
Scheduled Monuments	f) Historic environment assets	General Policy 8: Historic environment	Site boundary The setting of scheduled monuments has not been spatially identified in the guidance maps.
Listed buildings	f) Historic environment assets	General Policy 8: Historic environment	Point data (minimum raster grid of ~300m^2) The setting of listed buildings has not been spatially identified in the guidance maps.
Controlled Sites or Protected Places	f) Historic environment assets	General Policy 8: Historic environment	Point data (minimum raster grid of ~300m^2)

Receptor	Orkney Islands Regional Marine Plan: Relevant criteria from Sector Policy 2A (ii) Finfish and shellfish farming	Orkney Islands Regional Marine Plan: Other relevant General Polices and Sector Policies	Spatial extent of receptor in spatial guidance
Conservation Areas	f) Historic environment assets	General Policy 8: Historic environment	Site boundary The setting of conservation areas has not been spatially identified in the guidance maps.
Historic Gardens and Designed Landscapes	f) Historic environment assets	General Policy 8: Historic environment	Site boundary The setting of historic gardens and designated landscapes has not been spatially identified in the guidance maps.
Socio-economic / infrastructure receptors			
National Development - Scapa Deep Water Quay / sensitive area	g) Shipping and navigation, ports and harbour infrastructure/operations	Sector Policy 3: Shipping, ports, harbours and ferries	1500m radius sensitive area from centre point of proposed quay edge.
National Development - Orkney Logistics Base, Hatston / sensitive area	g) Shipping and navigation, ports and harbour infrastructure/operations	Sector Policy 3: Shipping, ports, harbours and ferries	1500m radius sensitive area from centre point of proposed quay edge.
Scapa Flow North and East Safeguarded Area	g) Shipping and navigation, ports and harbour infrastructure/operations	Sector Policy 3: Shipping, ports, harbours and ferries	Area boundary (1500 metres from Mean High Water Springs).

Receptor	Orkney Islands Regional Marine Plan: Relevant criteria from Sector Policy 2A (ii) Finfish and shellfish farming	Orkney Islands Regional Marine Plan: Other relevant General Polices and Sector Policies	Spatial extent of receptor in spatial guidance
Indicative ferry routes	g) Shipping and navigation, ports and harbour infrastructure/operations	Sector Policy 3: Shipping, ports, harbours and ferries	Indicative ferry routes with 250 metre (minimum) buffer either side. Impacts or effects on safety of navigation can occur out with these identified indicative areas.
Shipping Density Areas	g) Shipping and navigation, ports and harbour infrastructure/operations	Sector Policy 3: Shipping, ports, harbours and ferries	The average weekly shipping density at a 2km grid resolution.
Widewall Bay Harbour of Refuge	g) Shipping and navigation, ports and harbour infrastructure/operations	Sector Policy 3: Shipping, ports, harbours and ferries	Area boundary
Indicative Shipping Routes (Scapa Flow Harbour Area)	g) Shipping and navigation, ports and harbour infrastructure/operations	Sector Policy 3: Shipping, ports, harbours and ferries	Indicative shipping routes with 250 metre (minimum) buffer either side.
Indicative pier and harbour infrastructure sensitive area	g) Shipping and navigation, ports and harbour infrastructure/operations	Sector Policy 3: Shipping, ports, harbours and ferries	1500m radius sensitive area from end of pier. These areas are indicative. The exact extent of the operational area around pier and harbour infrastructure

Receptor	Orkney Islands Regional Marine Plan: Relevant criteria from Sector Policy 2A (ii) Finfish and shellfish farming	Orkney Islands Regional Marine Plan: Other relevant General Polices and Sector Policies	Spatial extent of receptor in spatial guidance
			varies depending on the specific maritime operations e.g. pier use, vessel size and type. Impacts or effects on safety of navigation and harbour operations can occur out with the identified indicative areas.
Anchor Berths (Scapa Flow) As identified on UK Hydrographic Office Charts.	g) Shipping and navigation, ports and harbour infrastructure/operations	Sector Policy 3: Shipping, ports, harbours and ferries	1500m radius sensitive area from anchor berth point. These areas are indicative. The exact extent of the operational area around anchor berths varies depending on the specific maritime operations. Impacts or effects on anchor birth operations can occur out with the identified indicative areas.
Flotta Terminal Safeguarded Area	g) Shipping and navigation, ports and harbour infrastructure/operations	Sector Policy 3: Shipping, ports, harbours and ferries Sector Policy 6: Zero carbon fuels, oil and gas transition	Area boundary

Receptor	Orkney Islands Regional Marine Plan: Relevant criteria from Sector Policy 2A (ii) Finfish and shellfish farming	Orkney Islands Regional Marine Plan: Other relevant General Polices and Sector Policies	Spatial extent of receptor in spatial guidance
Other established anchorages (Clyde Cruising Club, Visiting Yacht Moorings and Nautical Charts)	g) Shipping and navigation, ports and harbour infrastructure/operations	Sector Policy 3: Shipping, ports, harbours and ferries Sector Policy 7: Tourism, recreation, leisure and sport	Point data (minimum raster grid of ~300m^2)
Submarine electricity cables	g) Marine cable routes	Sector Policy 4: Pipeline, electricity and telecommunications infrastructure	Cable with 250 metre buffer either side
Submarine telecommunication cables	g) Marine cable routes	Sector Policy 4: Pipeline, electricity and telecommunications infrastructure	Cable with 250 metre buffer either side
Out of Service (OoS) subsea cables	g) Marine cable routes	Sector Policy 4: Pipeline, electricity and telecommunications infrastructure	Cable with 250 metre buffer either side
Hydrocarbon pipelines	g) Pipelines	Sector Policy 4: Pipeline, electricity and telecommunications infrastructure	Pipeline with 500 metre buffer either side
Subsea water pipelines	g) Pipelines	Sector Policy 4: Pipeline, electricity and telecommunications infrastructure	Pipeline with 250 metre buffer either side

Receptor	Orkney Islands Regional Marine Plan: Relevant criteria from Sector Policy 2A (ii) Finfish and shellfish farming	Orkney Islands Regional Marine Plan: Other relevant General Polices and Sector Policies	Spatial extent of receptor in spatial guidance
Wave and tidal energy sites - Crown Estate Scotland lease and agreement for lease areas	g) Other coastal and marine users	Sector Policy 5: Offshore wind, wave and tidal renewable energy generation	Lease or Agreement for Lease areas
The Sectoral Plan for Offshore Wind Energy – Plan Options (2020)	g) Other coastal and marine users	Sector Policy 5: Offshore wind, wave and tidal renewable energy generation	Plan Option areas
Active aquaculture sites	g) Other coastal and marine users	N/A	Point data (minimum raster grid of ~300m2)

7. Significance and sensitivity of receptors

7.1 Table 2 provides information on the significance, and potential sensitivity of the identified environmental, historic, social, economic and infrastructure receptors to finfish farm development and/or activities.

Table 2: Significance and sensitivity of receptors

Receptor	Significance Score (1=low; 2=medium; 3=high)	Receptor significance	Sensitivity Score (1=low; 2=medium; 3=high)	Receptor sensitivity to finfish farming development and/or activities
Nature conservation receptors				
Special Protection Areas (SPA)	3	Special Protection Areas (SPAs) are selected to protect one or more rare, threatened or vulnerable bird species listed in Appendix I of the Birds Directive, or certain regularly occurring migratory species. SPAs are of international conservation significance.	2-3	An individual site sensitivity score has been assigned to relevant SPAs within Orkney and the Orkney Islands marine region. The sensitivity score for each SPA has been assigned on the basis of the sensitivity of the site's qualifying bird features to pressures from finfish farming development and/or activities. The Orkney SPAs with qualifying features that have no pathway to impact from finfish farming development and/or activities have been screened out. Refer to Appendix 1. SPAs outwith Orkney and the Orkney Islands marine region have potential

Receptor	Significance Score (1=low; 2=medium; 3=high)	Receptor significance	Sensitivity Score (1=low; 2=medium; 3=high)	Receptor sensitivity to finfish farming development and/or activities
				connectivity with proposed finfish farming development and/or activities in Orkney. These SPAs are not identified in this spatial guidance.
Special Areas of Conservation (SAC)	3	Special Areas of Conservation (SACs) are of international conservation significance. SACs in Scotland are designated by Scottish Ministers under the EU Habitats Directive. They are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Appendixes I and II to the Directive. SACs in terrestrial areas and marine areas out to 12 nautical miles are afforded protection through the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended). SACs are of international conservation significance.	3	SACs that have no pathway to impact to their qualifying features from finfish farming development and/or activities have been screened out and are therefore not included in this spatial guidance. An individual site sensitivity score has been attributed to the SACs within Orkney and the Orkney marine region that have a pathway to impact from finfish farming development and/or activities. An individual site sensitivity score has been assigned to each relevant SAC within the Orkney Islands marine region. The sensitivity score for each SAC has been assigned on the basis of the sensitivity of the site's qualifying features to pressures from

Receptor	Significance Score (1=low; 2=medium; 3=high)	Receptor significance	Sensitivity Score (1=low; 2=medium; 3=high)	Receptor sensitivity to finfish farming development and/or activities
				finfish farming development and/or activities. Refer to Appendix 2.
Nature Conservation Marine Protected Areas (NC MPA)	2	Nature Conservation Marine Protected Areas (NC MPAs) protect a wide range of habitats, species, geology and undersea landforms in Scottish waters. NC MPAs are statutory designations under the Marine (Scotland) Act 2010 and are of national significance.	3	An individual site sensitivity score has been assigned to each NC MPA within the Orkney Islands marine region. The sensitivity score for each NC MPA has been assigned on the basis of the sensitivity of the site's protected features to pressures from finfish farming development and/or activities. Refer to Appendix 3.
Priority Marine Features (PMF): Maerl beds, seagrass beds, flame shell beds, horse mussel beds and fan shell aggregations.	2-3	PMFs are species and habitats which have been identified as being of conservation importance to Scotland. Most are a subset of species and habitats identified on national, UK or international lists. Therefore, all PMFs are of at least national conservation significance in Scotland, but may be of UK level or international significance. Each PMF recorded in the Orkney marine region has been attributed a significance score on the basis of national or international conservation status.	3	The sensitivity of PMFs to pressures from fish farming development and/or activities has been assigned using the Marine Scotland Feature Activity Sensitivity Tool (FeAST) and advice provided by NatureScot. PMFs were finfish farming pressures are unlikely to have a significant impact on their national status have been screened out. Refer to Appendix 4 for the pressures/interaction from finfish

Receptor	Significance Score (1=low; 2=medium; 3=high)	Receptor significance	Sensitivity Score (1=low; 2=medium; 3=high)	Receptor sensitivity to finfish farming development and/or activities
		Refer to Appendix 4 for the conservation status of relevant PMFs.		farming development and/or activities for PMFs.
Principal Sea Trout Spawning Burns	2	Sea trout is listed as a Priority Species in the UK Biodiversity Action Plan and the Scottish Biodiversity List. The marine phase of the sea trout's life cycle is also included on the list of Priority Marine Features (PMFs). The species is of national significance.	3	The sensitivity of sea trout has been assigned using research and analysis published by Scottish Government
Seal haul-out sites	2	Seal haul-out sites are designated under section 117 of Marine (Scotland) Act 2010. They are locations on land where seals come ashore to rest, moult or breed and which have been designated by Scottish Ministers to provide additional protection for seals from intentional or reckless harassment. Seal haul-out sites were designated through the Seals (Designation of Haul-Out Sites) (Scotland) Order 2014. These sites are of national significance.	3	The sensitivity of grey and harbour seal has been assigned on the basis of their sensitivity to pressures from finfish farming development and/or activities. Information on seal sensitivity can be found within Sanday and Faray SAC qualifying features (Appendix 2).

Receptor	Significance Score (1=low; 2=medium; 3=high)	Receptor significance	Sensitivity Score (1=low; 2=medium; 3=high)	Receptor sensitivity to finfish farming development and/or activities
Landscape and seascape receptors				
National Scenic Area (NSA)	2	The Hoy and West Mainland NSA is nationally important for its scenic quality. NSAs are designated under Part 10 of the Planning etc. (Scotland) Act 2006 giving NSAs a statutory basis. NSAs are of national significance.	3	Finfish farming development and/or activities can have significant effects on the special qualities of the NSA. Particular special qualities of the NSA are highly sensitive to finfish farm development and/or activities. These special qualities include the archaeological landscape of World Heritage Status, the spectacular coastal scenery, a long-settled and productive land and sea, a landscape of contrasting curves and lines, land and water in constantly changing combinations under the open sky and the townscape of Stromness, its setting and its link with the sea.
Historic environment receptors				
World Heritage Site and Inner Sensitivity Zone	3	The Heart of Neolithic Orkney World Heritage Site comprises six individual component sites: the settlement of Skara Brae, Maeshowe, the Stones of Stenness, the Watch Stone, the Barnhouse Stone and the Ring of Brodgar and its associated ritual and funerary monuments.	3	The World Heritage Site component sites are highly sensitive to direct physical impacts from development and/or activities. The Inner Sensitivity Zone identifies an area of high sensitivity to development and/or activities that

Receptor	Significance Score (1=low; 2=medium; 3=high)	Receptor significance	Sensitivity Score (1=low; 2=medium; 3=high)	Receptor sensitivity to finfish farming development and/or activities
		The World Heritage Site was formally inscribed onto the UNESCO World Heritage List in 1999 as a group of sites deemed to be an outstanding testimony to the cultural achievements of the Neolithic peoples of Northern Europe, fulfilling four of the six criteria of Outstanding Universal Value for cultural sites. The World Heritage Site Inner Sensitivity Zone has been designated to manage the impact of development on the wider landscape setting, and to prevent development that would have an adverse impact on the Outstanding Universal Value. The World Heritage Site and Inner Sensitive Zone are of international significance.		could affect the wider landscape setting of the World Heritage Site component sites.
Proposed Scapa Flow Historic Marine Protected Area (HMPA)	2	HMPAs are designated under Section 67 of the Marine Scotland Act 2010 to protect marine historic assets of national importance within Scottish territorial waters.	3	The marine historic features of the HPMA are highly sensitivity to direct impacts from development and/or activities including abrasion and collision (e.g. from anchors and

Receptor	Significance Score (1=low; 2=medium; 3=high)	Receptor significance	Sensitivity Score (1=low; 2=medium; 3=high)	Receptor sensitivity to finfish farming development and/or activities
				moorings) and changes to physical processes and/or sedimentation.
Scheduled Monuments	2	Designated under the Ancient Monuments and Archaeological Areas Act 1979, scheduled monuments are archaeological sites, buildings or structures of national historic importance. These monuments include the wrecks of the German High Sea Fleet in Scapa Flow, numerous broches, burnt mounds, WW1 and WW2 coastal defences, castles and Neolithic, Iron Age to medieval settlements.	3	The German High Sea Fleet scheduled monuments are highly sensitive to direct impacts from development and/or activities including abrasion and collision (e.g. from anchors and moorings) and changes to physical processes and/or sedimentation. Coastal scheduled monuments are highly sensitive to impacts from development and/or activities on their setting.
Listed buildings	1-2	There are many coastal and marine related listed buildings in Orkney including lighthouses, harbour infrastructure, such as the Lyness Golden Wharf and Kirkwall Harbour, North Ronaldsay Sheep Dyke and clusters of numerous listed buildings within coastal settlements. Listed under the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997, listed buildings	3	Listed buildings are highly sensitive to direct physical impacts from development and/or activities. Listed buildings are highly sensitive to impacts from development and/or activities on their setting.

Receptor	Significance Score (1=low; 2=medium; 3=high)	Receptor significance	Sensitivity Score (1=low; 2=medium; 3=high)	Receptor sensitivity to finfish farming development and/or activities
		are buildings of special architectural or historic interest and are listed by Historic Environment Scotland. The term 'building' has a broad definition and includes structures such as piers, walls and bridges. Listed buildings are assigned to one of three categories depending on their importance. Category A are buildings of national or international importance, either architectural or historic, or fine little-altered examples of some particular period or style. Category B are buildings of regional or more than local importance, or major examples of some particular period, style or building type which may have been altered. Category C are buildings of local importance, lesser examples of any period, style or building type, as originally constructed or moderately altered; and simple traditional buildings which group well with others in Categories A and B. The setting of a listed building		

Receptor	Significance Score (1=low; 2=medium; 3=high)	Receptor significance	Sensitivity Score (1=low; 2=medium; 3=high)	Receptor sensitivity to finfish farming development and/or activities
		can be an important factor that contributes to its significance. Category A and B listed buildings are assigned a significance score of 2 and C listed buildings a significance score of 1 within the spatial guidance.		
Controlled Sites or Protected Places	3	HMS Hampshire, HMS Royal Oak and HMS Vanguard are designated controlled sites under the Protection of Military Remains Act 1986. These are often referred to as war graves. Permission is required from the Ministry of Defence to access these sites.	3	Controlled Sites or Protected Places are highly sensitive to direct impacts from development and/or activities including abrasion and collision (e.g. from anchors and moorings) and changes to physical processes and/or sedimentation.
Conservation Areas	2	The coastal settlements of Kirkwall, Stromness, St Margaret's Hope and Balfour Village are designated Conservation Areas. Eynhallow and Brodgar are also Conservation Areas. Conservation Areas are areas of special architectural or historic interest, the character or appearance of which it is desirable to preserve or enhance. Conservation Areas are	3	Conservation Areas are highly sensitive to direct physical impacts from development and/or activities that effect their special architectural or historic interest, or the area's character or appearance. Conservation Areas are highly sensitive to impacts from development and/or activities on their setting.

Receptor	Significance Score (1=low; 2=medium; 3=high)	Receptor significance	Sensitivity Score (1=low; 2=medium; 3=high)	Receptor sensitivity to finfish farming development and/or activities
		designated under the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997.		
Historic Gardens and Designed Landscapes	2	Balfour Castle, Skaill House and Melsetter House are designated Gardens and Designed Landscapes. All landscapes included in the Inventory of Designed Landscapes are considered to be of national importance. Sites in the Inventory of Gardens and Designed Landscapes are selected under the terms of Ancient Monuments and Archaeological Areas Act 1979.	3	Historic Gardens and Designed Landscapes are highly sensitive to direct physical impacts from development and/or activities. Historic Gardens and Designed Landscapes are highly sensitive to impacts from development and/or activities on their setting.
Socio-economic / infrastructure receptors				
National Development - Scapa Deep Water Quay	2	Scapa Deep Water Quay is identified as a national development in National Planning Framework 4.	3	Scapa Deep Water Quay and the associated marine area (1500m radius) is highly sensitive to finfish farming development and/or activities that could affect safety of navigation and harbour operations.
National Development - Orkney Logistics Base, Hatston	2	Orkney Logistics Base, Hatston, is identified as a national development in National Planning Framework 4.	3	Orkney Logistics Base, Hatston, and the associated marine area (1500m radius) is highly sensitive to finfish

Receptor	Significance Score (1=low; 2=medium; 3=high)	Receptor significance	Sensitivity Score (1=low; 2=medium; 3=high)	Receptor sensitivity to finfish farming development and/or activities
				farming development and/or activities that could affect safety of navigation and harbour operations.
Scapa Flow North and East Safeguarded Area	2	The north and east coast of Scapa Flow, from Stromness to St Mary's, within an area 1,500m from the shore, is a strategically important area for potential future harbour development and/or activities in the longer term. Scapa Flow is a nationally significant harbour asset identified in National Planning Framework 4.	2	The north and east coast of Scapa Flow is sensitivity to development and/or activities that could affect safety of navigation and harbour operations.
Indicative ferry routes	3	Ferry routes are highly significant due their community, transportation and economic importance.	3	Ferry routes are highly sensitive to development and/or activities that could affect safety of navigation and their efficient operation.
Shipping density areas	3	Areas with a medium/high shipping density are highly significant for the safe navigation of vessels. This can be for both local and international operations.	1-3	The sensitivity of a given area ranges from low to high depending on the frequency of use (shipping density). This is calculated from the average weekly density of vessels passing through each raster grid cell, taken from AIS data (https://www.abpmer.co.uk/blog/the-value-of-ais-data-in-decision-making)

Receptor	Significance Score (1=low; 2=medium; 3=high)	Receptor significance	Sensitivity Score (1=low; 2=medium; 3=high)	Receptor sensitivity to finfish farming development and/or activities
				Shipping density associated with vessels that do not carry AIS are not represented in this spatial guidance.
Widewall Bay Harbour of Refuge	3	The Widewall Bay Harbour of Refuge is highly significant for the safety of oil tankers in distress when navigating the southern approach to Scapa Flow.	3	The Widewall Bay Harbour of Refuge is highly sensitive to development and/or activities that could affect the utilisation of this refuge site for maritime safety purposes.
Indicative Shipping Routes (Scapa Flow Harbour Area)	3	These important shipping routes within Scapa Flow have been identified in consultation with the Orkney Harbour Authority. These shipping routes are of high significance for the safe and efficient operation of the Scapa Flow Harbour Area.	3	The indicative shipping routes (Scapa Flow Harbour Area) are highly sensitive to development and/or activities that could affect safety of navigation and harbour operations.
Indicative pier and harbour infrastructure sensitive areas	3	Pier and harbour infrastructure assets include the 29 piers operated by the Orkney Harbour Authority, St Margaret's Hope Pier and the Geo Amenity Slipway, Deerness. These pier and harbour infrastructure assets are of high economic, transport and/or community importance.	3	Pier and harbour infrastructure, and the associated marine area (1500m radius), is highly sensitive to development and/or activities that could affect safety of navigation and harbour operations.

Receptor	Significance Score (1=low; 2=medium; 3=high)	Receptor significance	Sensitivity Score (1=low; 2=medium; 3=high)	Receptor sensitivity to finfish farming development and/or activities
Anchor Berths (Scapa Flow) As identified on UK Hydrographic Office Charts.	3	Scapa Flow is identified in National Planning Framework 4 as a nationally significant harbour asset. Scapa Flow is one of the principal locations in Europe for Ship-to-Ship (STS) operations for the transfer of crude and fuel oils. There are 15 designated anchor berths in Scapa Flow including 4 STS berths. Designated anchor berths include the associated 1500 metre radius sensitive areas for safe vessel manoeuvring. Designated Anchor Berths (Scapa Flow) are of high significance due to their navigational safety, pollution control and economic functions.	3	Designated Anchor Berths (Scapa Flow) and the associated marine area (1500m radius), are highly sensitive to development and/or activities that could affect anchoring, safety of navigation and harbour operations.
Flotta Terminal Safeguarded Area	3	The Flotta Safeguarded Area is the maritime operational area located to the north of Flotta Terminal. The Flotta Terminal Safeguarded Area is of high significance due to its	3	The Flotta Safeguarded Area is highly sensitive to development and/or activities that could affect safety of navigation and harbour operations.

Receptor	Significance Score (1=low; 2=medium; 3=high)	Receptor significance	Sensitivity Score (1=low; 2=medium; 3=high)	Receptor sensitivity to finfish farming development and/or activities
		navigational safety, pollution control and economic functions.		
Other established anchorages (Clyde Cruising Club, Visiting Yacht Moorings and Nautical Charts)	2	Other established anchorages are important assets supporting safe navigation, the marine economy and recreational activities.	3	Other established anchorages are highly sensitive to development and/or activities that could affect mooring/anchoring and safety of navigation.
Submarine electricity Cables	3	Electricity cables provide critical infrastructure of high significance connecting Orkney to mainland Scotland and for distribution of electricity to Orkney communities.	3	Electricity cables are highly sensitive to direct physical impacts from development and/or activities (e.g. anchors).
Submarine telecommunication cables	3	Telecommunication cables provide critical infrastructure of high significance for communications for Orkney communities, Scotland and outwards to international locations via an extensive network.	3	Telecommunication cables are highly sensitive to direct physical impacts from finfish farming development and/or activities (e.g. anchors).
Out of Service (OoS) subsea cables	1	Out of Service (OoS) subsea cables are occasionally left on the seabed, either to guide new cable installations or due to being abandoned from dissolved companies. They do not perform a utilities or communications function.	1	Out of Service (OoS) subsea cables are of low sensitivity to direct physical impacts development and/or activities. They are an obstruction and/or entanglement risk for finfish farm development and/or activities.

Receptor	Significance Score (1=low; 2=medium; 3=high)	Receptor significance	Sensitivity Score (1=low; 2=medium; 3=high)	Receptor sensitivity to finfish farming development and/or activities
Hydrocarbon pipelines	3	Crude oil is imported to the Flotta Oil Terminal via a 30-inch subsea pipeline from several offshore installations in the Flotta Catchment Area. This subsea pipeline is protected by a 500m safety zone established by an Offshore Installations (Safety Zones) Order under Section 22 of the Petroleum Act 1987. This pipeline is of high significance due to its safety, pollution control and economic functions.	3	Hydrocarbon pipelines are highly sensitive to direct physical impacts from development and/or activities e.g. anchors.
Subsea water pipelines	3	Subsea water pipelines provide critical potable and wastewater infrastructure for Orkney communities of high significance.	3	Water pipelines are highly sensitive to direct physical impacts from development and/or activities e.g. anchors.
Wave and tidal energy sites - Crown Estate Scotland lease and agreement for lease areas	3	Wave and tidal lease sites within the Orkney marine region are operated by the European Marine Energy Centre. These sites are of high significance for international research and development in renewable energy innovation and contribute significant economic benefits.	3	Wave and tidal energy testing sites are highly sensitive to development and/or activities that could affect their construction, operation or decommissioning.

Receptor	Significance Score (1=low; 2=medium; 3=high)	Receptor significance	Sensitivity Score (1=low; 2=medium; 3=high)	Receptor sensitivity to finfish farming development and/or activities
The Sectoral Plan for Offshore Wind Energy – Plan Options (2020)	3	The Sectoral Plan for Offshore Wind Energy sets out the strategic vision and objectives for future commercial-scale offshore wind development in Scotland. It has identified two Plan Option areas, North 1 (N1) and North East 2 (NE2), within the Orkney Islands marine region, along with a wider suite of Plan Option areas across the North of Scotland. The agreements for lease within these Plan Options areas have been issued via the Scotwind leasing round. National Marine Plan identifies that the Plan Options areas are the preferred strategic locations for the sustainable development of offshore wind and that this preference should be taken into account by marine planners and decision makers if alternative development or use of these areas is being considered.	3	Plan Option areas are highly sensitive to development and/or activities that could affect their construction, operation or decommissioning.

Receptor	Significance Score (1=low; 2=medium; 3=high)	Receptor significance	Sensitivity Score (1=low; 2=medium; 3=high)	Receptor sensitivity to finfish farming development and/or activities
		The Plan Options are of high strategic importance in terms of just transition, climate crises and socio-economic benefit priorities within National Planning Framework 4.		
Active aquaculture sites	3	Existing fish farm sites make a significant contribution to the economy and require significant investment from farm operators. The purpose of identifying existing fish farm sites in this spatial guidance is to help safeguard these assets from potential adverse effects from new fish farm sites not the alteration of existing sites.	3	Active aquaculture sites are highly sensitive to development and/or activities that could affect their safe and efficient operation.

8. Spatial guidance

8.1 This spatial guidance provides information on the location, significance, and potential sensitivity of the identified environmental, historic, social, economic and infrastructure receptors respectively, to finfish farm development and/or activities.

8.2 The spatial guidance is provided in:

Nature conservation

- Map 1: Nature conservation designation receptor locations
- Map 2: Priority Marine Feature locations
- Map 3: Nature conservation receptors significance and sensitivity

Landscape and seascape

- Map 4: Landscape and seascape receptor location
- Map 5: Landscape and seascape receptors significance and sensitivity

Historic environment

- Map 6: Historic environment receptor locations
- Map 7: Historic environment receptors significance and sensitivity

Socio-economic / infrastructure

- Map 8: Harbour infrastructure and operations receptor locations
- Map 9: Energy, utilities and aquaculture infrastructure receptor locations
- Map 10: Shipping (AIS data) and ferry route receptor locations
- Map 11: All socio-economic/infrastructure receptors significance and sensitivity

All receptors

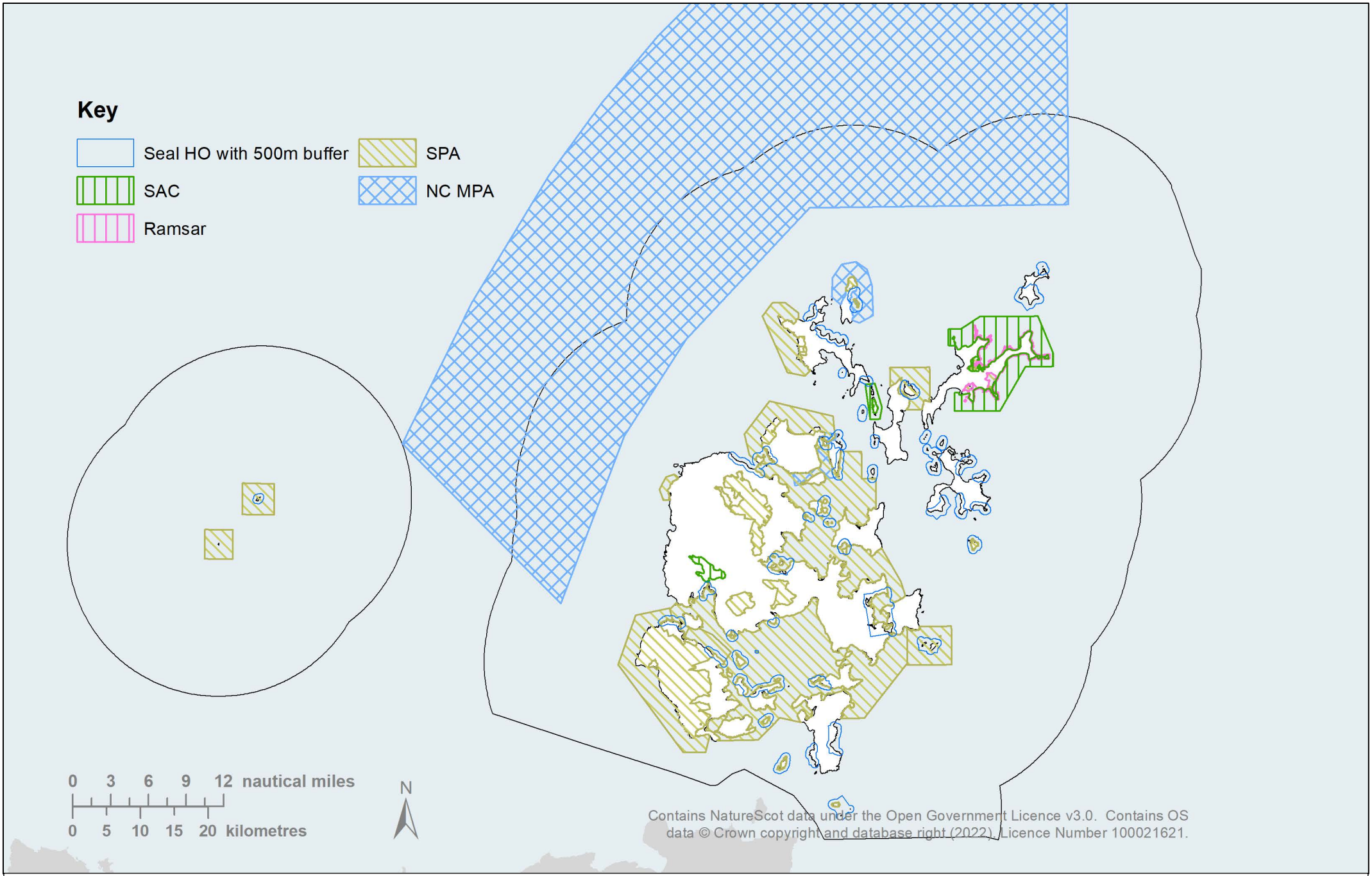
- Map 12: All receptors significance and sensitivity (i.e. combination of all the maps above)

7.3 Maps 3, 5, 7,11 and 12 identify areas of the Orkney Islands marine region with higher and lower levels of receptor significance and sensitivity to finfish farming development and/or activities. Information on the significance, and sensitivity of the identified receptors to finfish farm development and/or activities is presented in Table 2. For the purpose of the spatial guidance maps, the receptors have been assigned scores according to their significance and their potential sensitivity, as identified in Table 2. The spatial guidance Maps 3, 5, 7, 11 and 12 present the cumulative significance and sensitivity scores for the identified receptors (i.e. the sum of overlaying receptor score values).

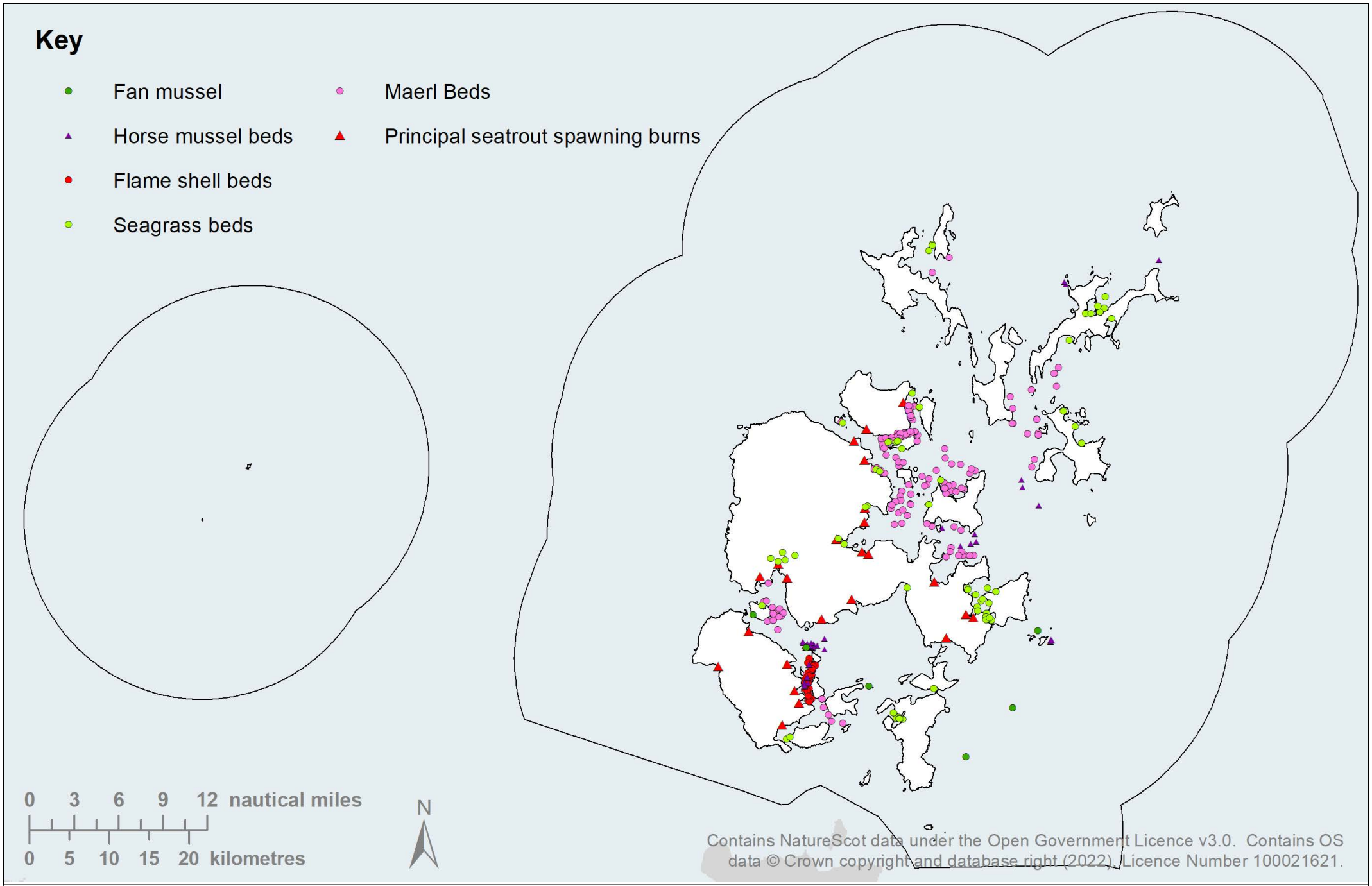
7.4 Interactive maps can be found at Orkney Marine Region: Finfish Farming Spatial Guidance (arcgis.com) to allow users to look at locations in greater detail.

7.5 Further information on the identified nature conservation receptors, and their potential sensitivity to finfish farm development and/or activities, is provided in Appendices 1 to 4.

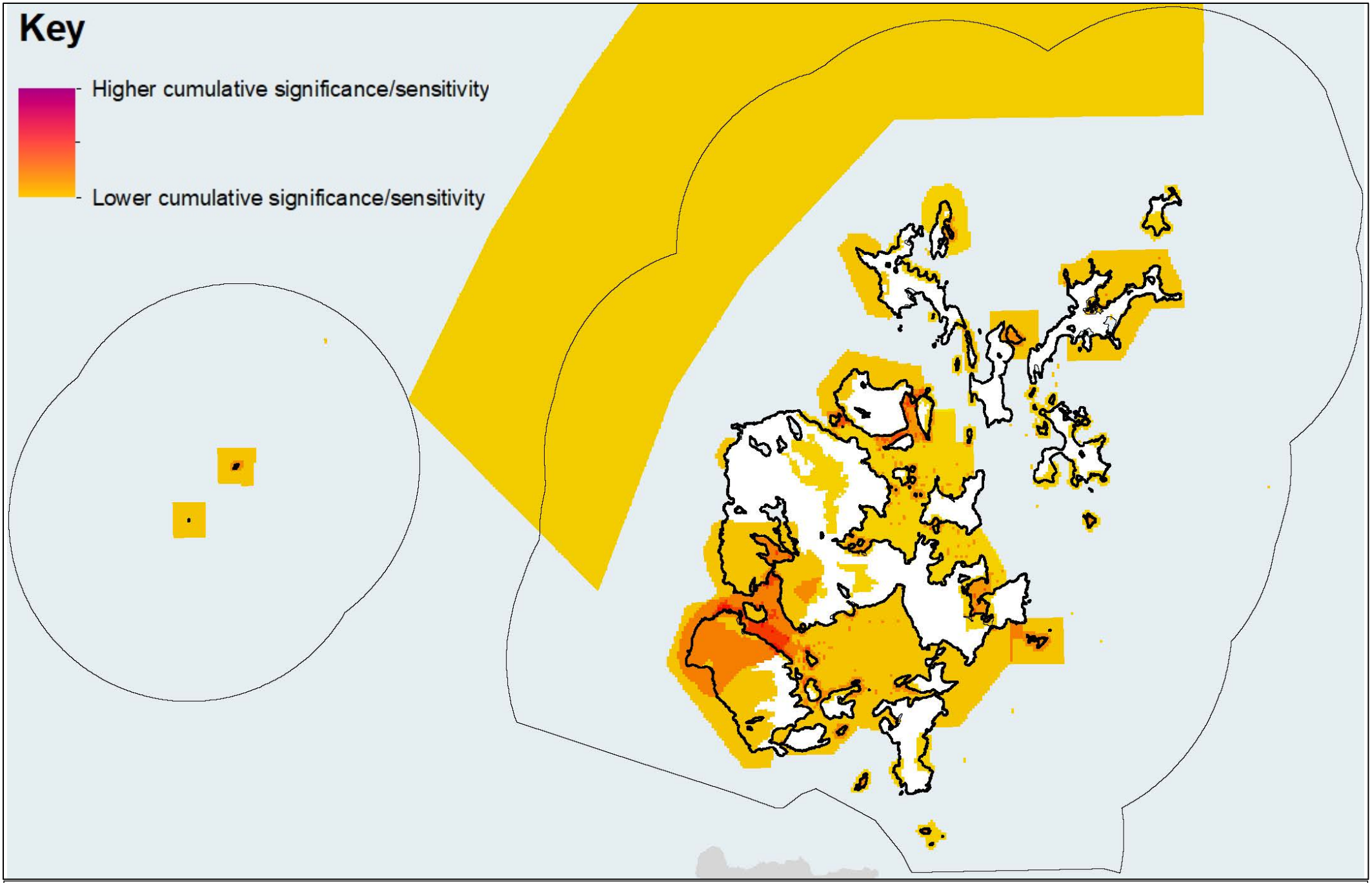
Nature Conservation Receptor Spatial Guidance



Map 1: Nature conservation designation receptor locations

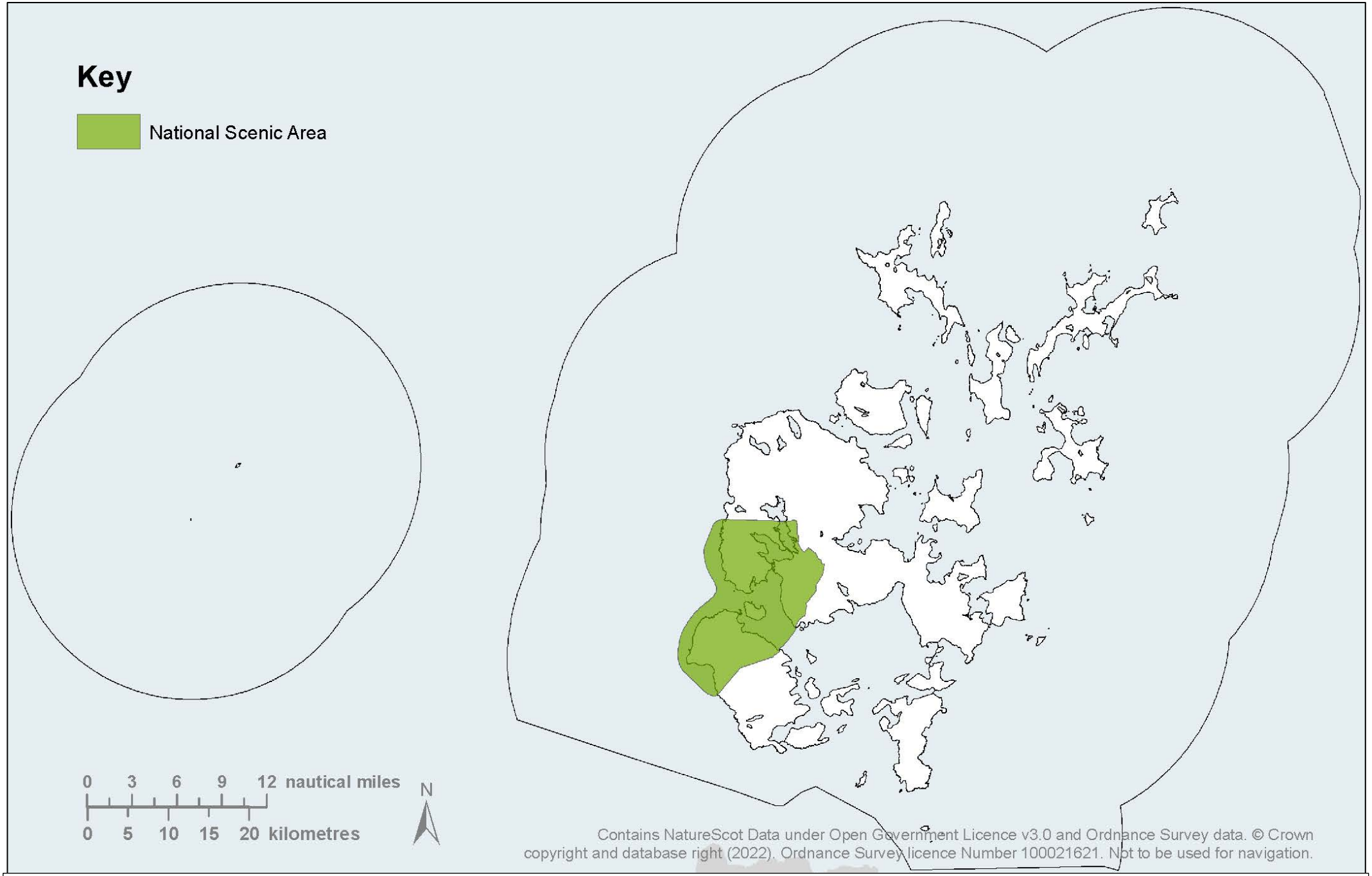


Map 2: Priority Marine Feature receptor locations The Geodatabase of Marine Features Adjacent to Scotland (GeMS) PMF records in Orkney waters are identified in Map 2. There are PMFs within Orkney's waters that have not yet been recorded and are therefore not identified in the spatial data used within this guidance.

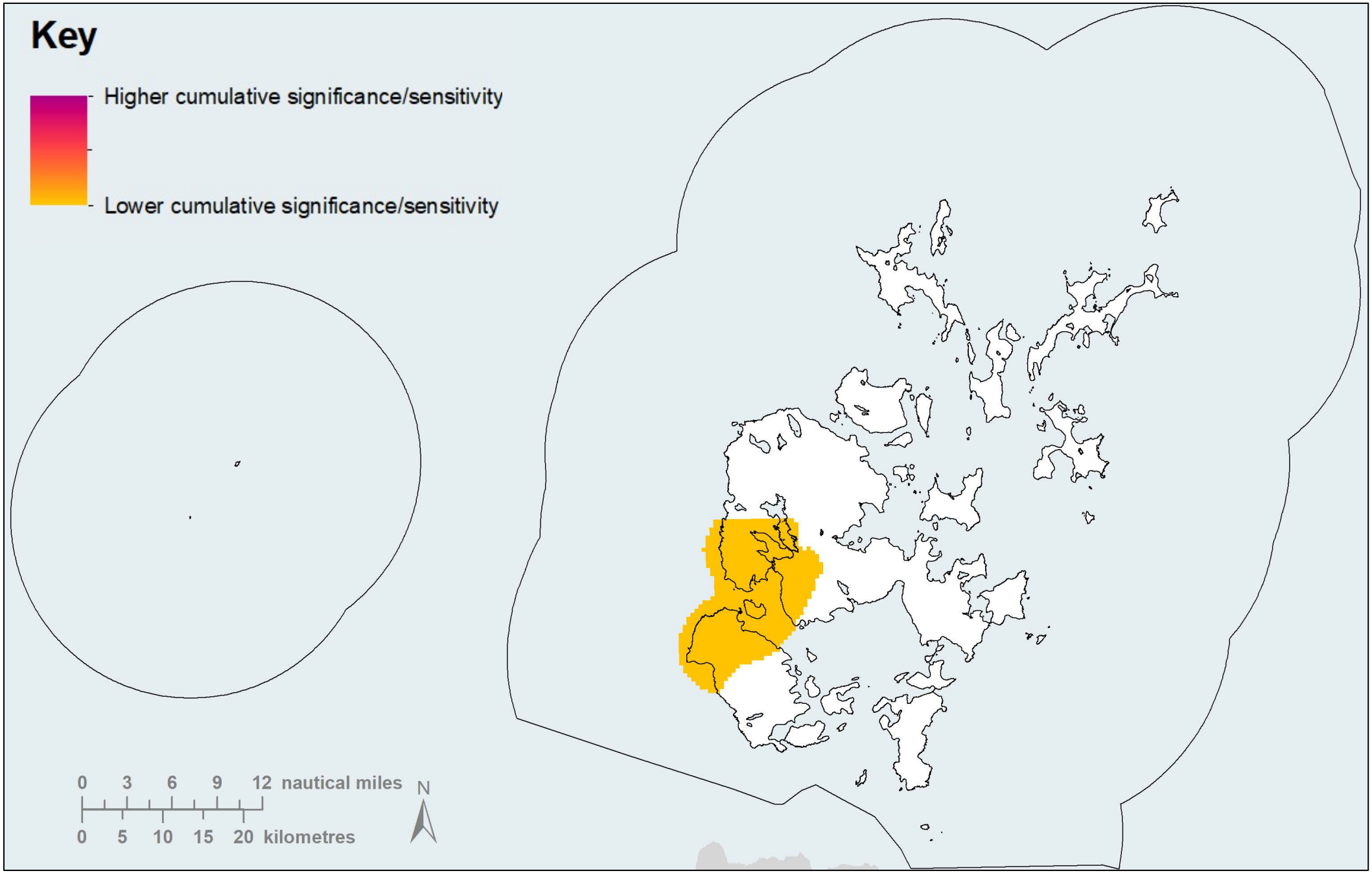


Map 3: Nature conservation receptors significance and sensitivity. This map presents the cumulative significance and sensitivity scores for the identified receptors (i.e. the sum of overlaying receptor score values).

Landscape and Seascape Receptor Spatial Guidance

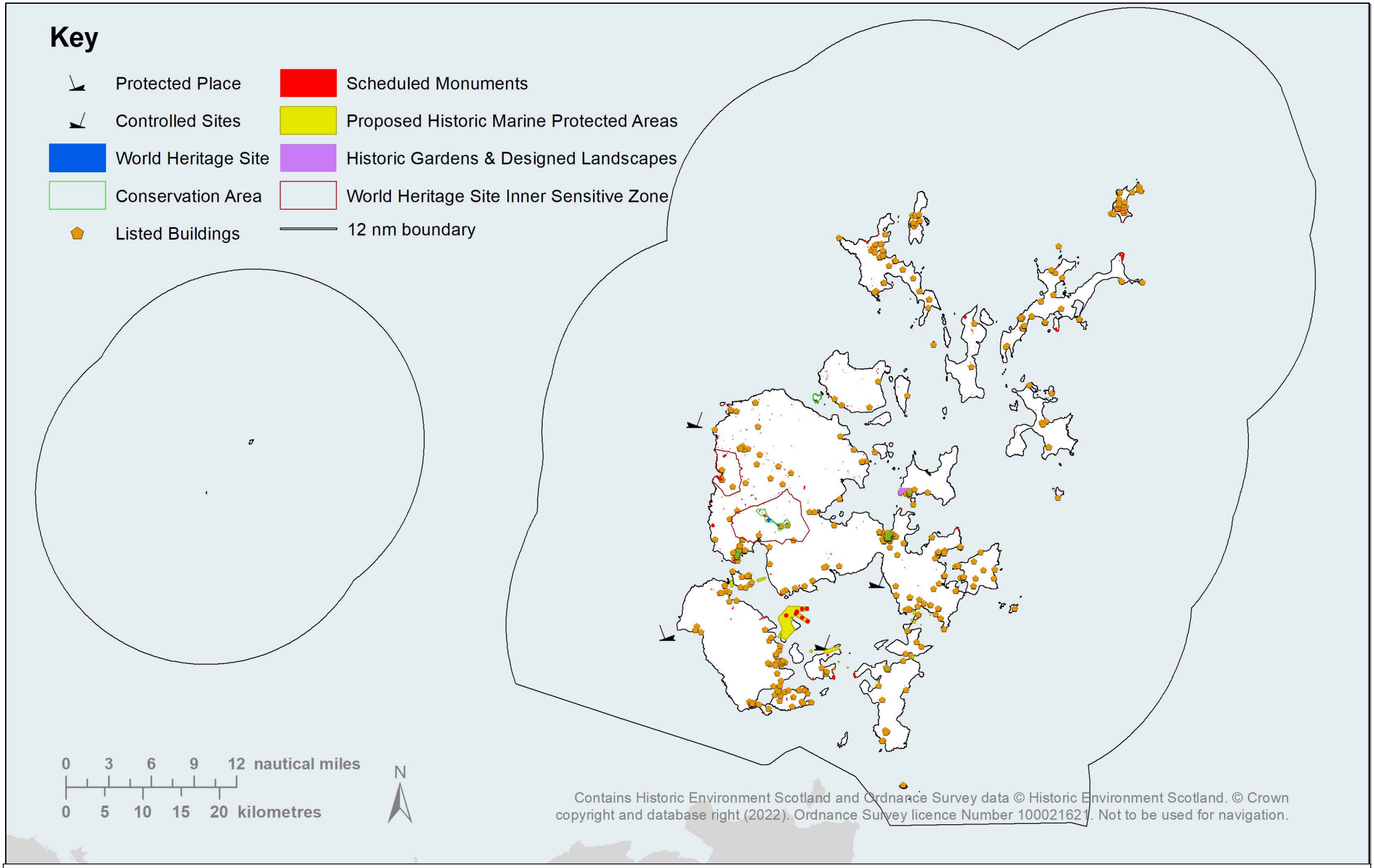


Map 4: Landscape and seascape receptor location

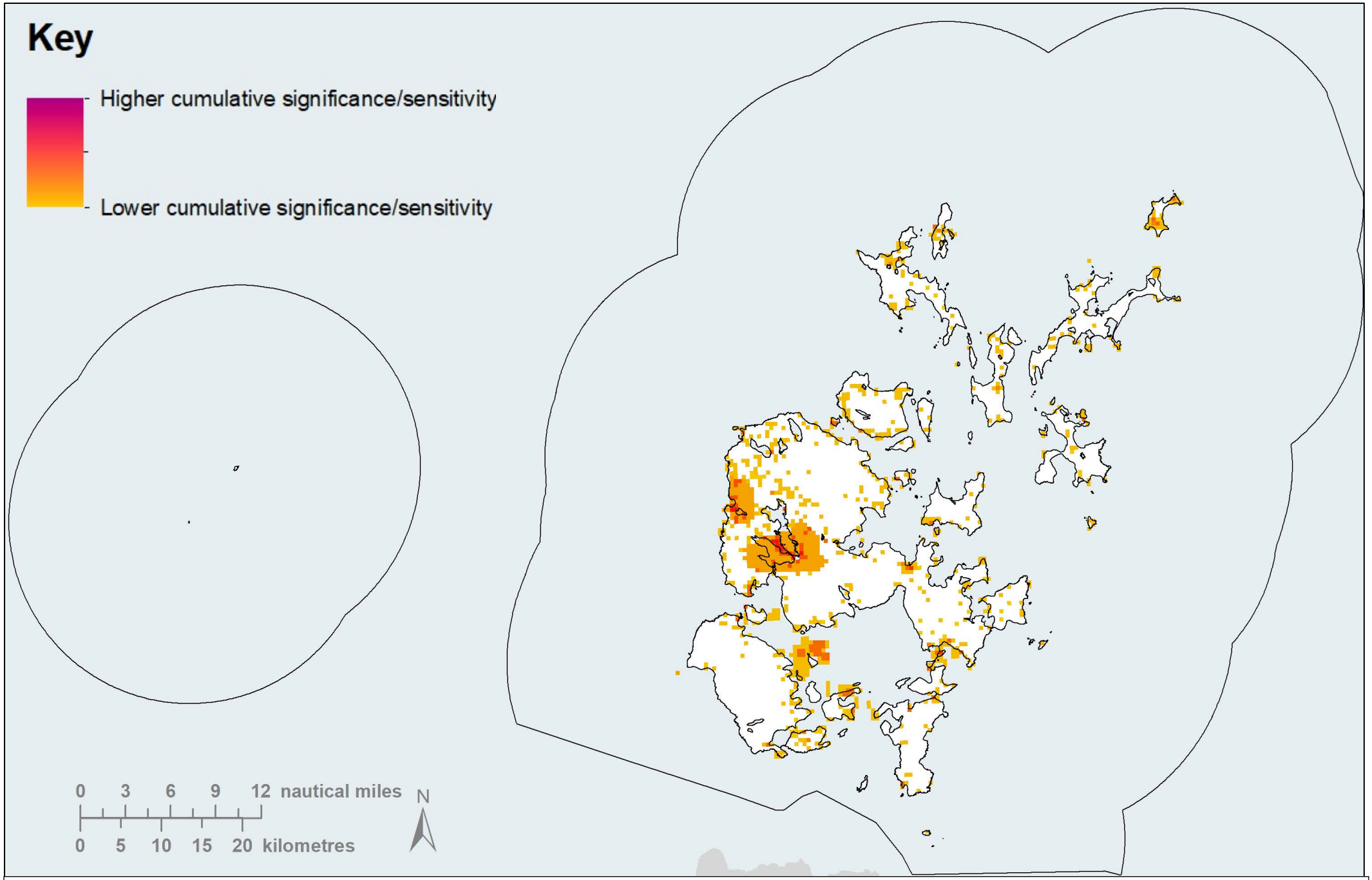


Map 5: Landscape and seascape receptors significance and sensitivity. This map presents the cumulative significance and sensitivity scores for the identified receptors (i.e. the sum of overlaying receptor score values).

Historic Environment Receptor Spatial Guidance

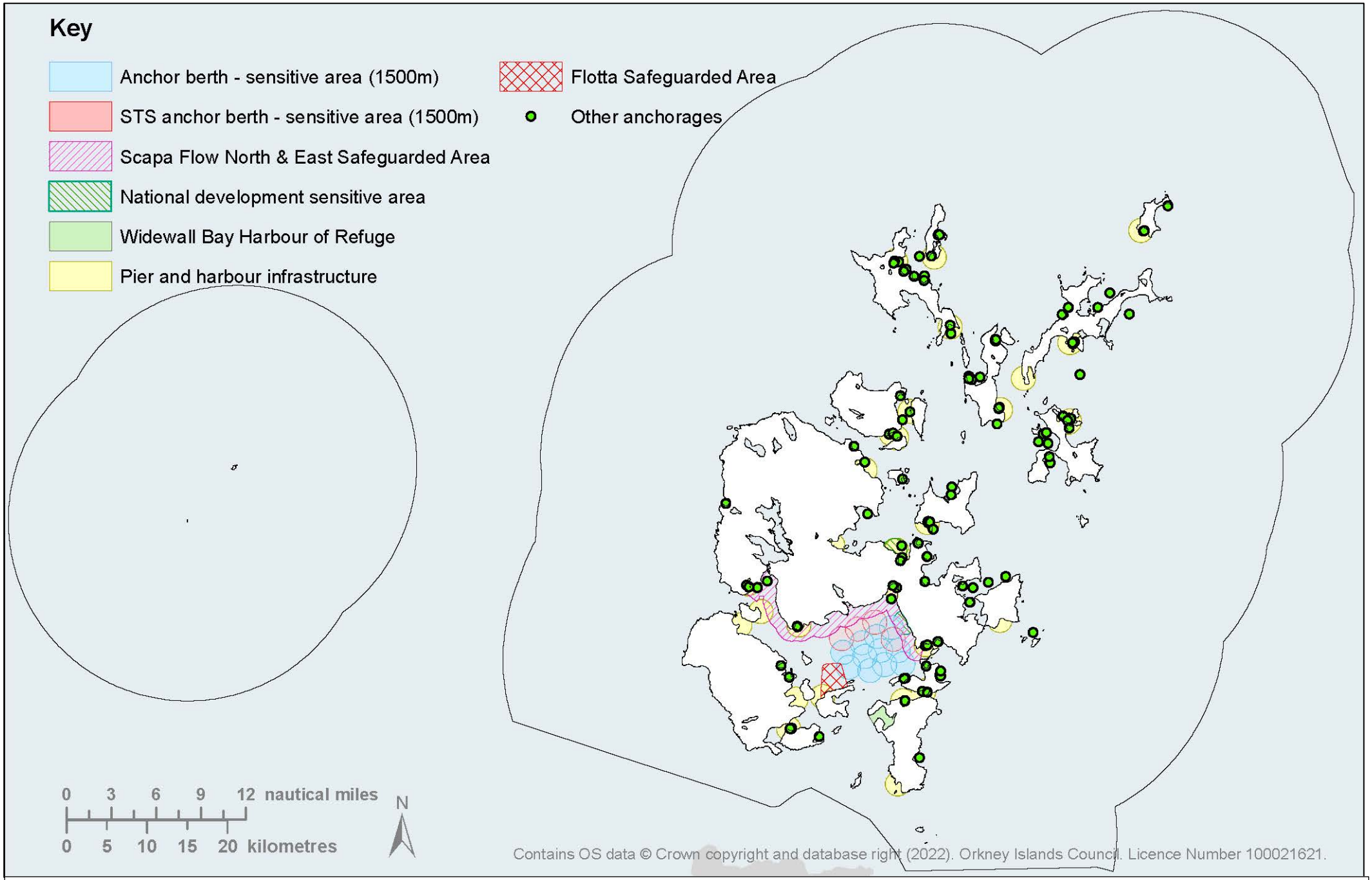


Map 6: Historic environment receptor locations It is not considered feasible to map the exact setting of historic environment assets in this guidance. However, their setting is a material consideration and the identification of the locations of these assets in the spatial guidance is required to assist site selection.

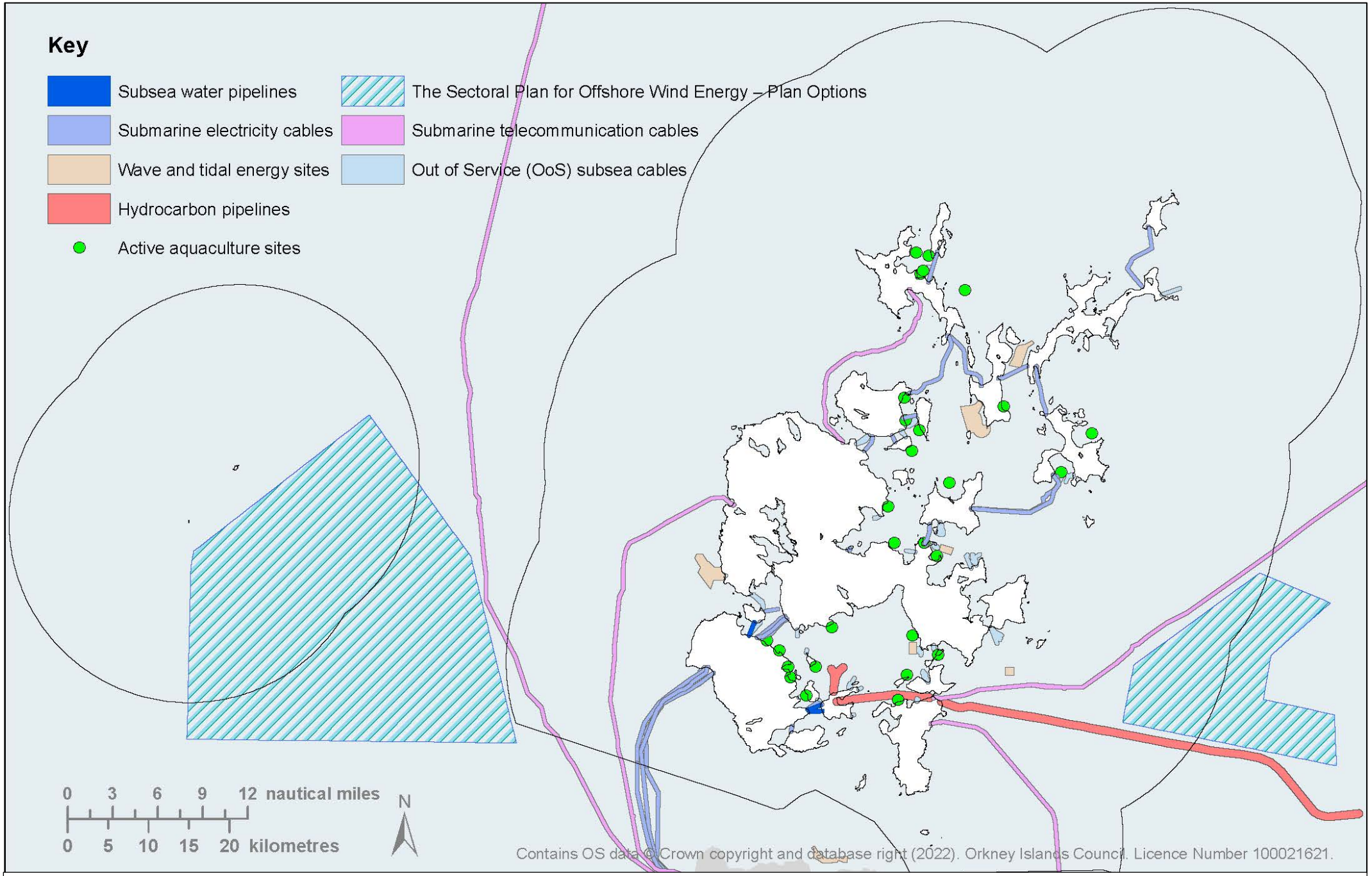


Map 7: Historic environment receptors significance and sensitivity. This map presents the cumulative significance and sensitivity scores for the identified receptors (i.e. the sum of overlaying receptor score values).

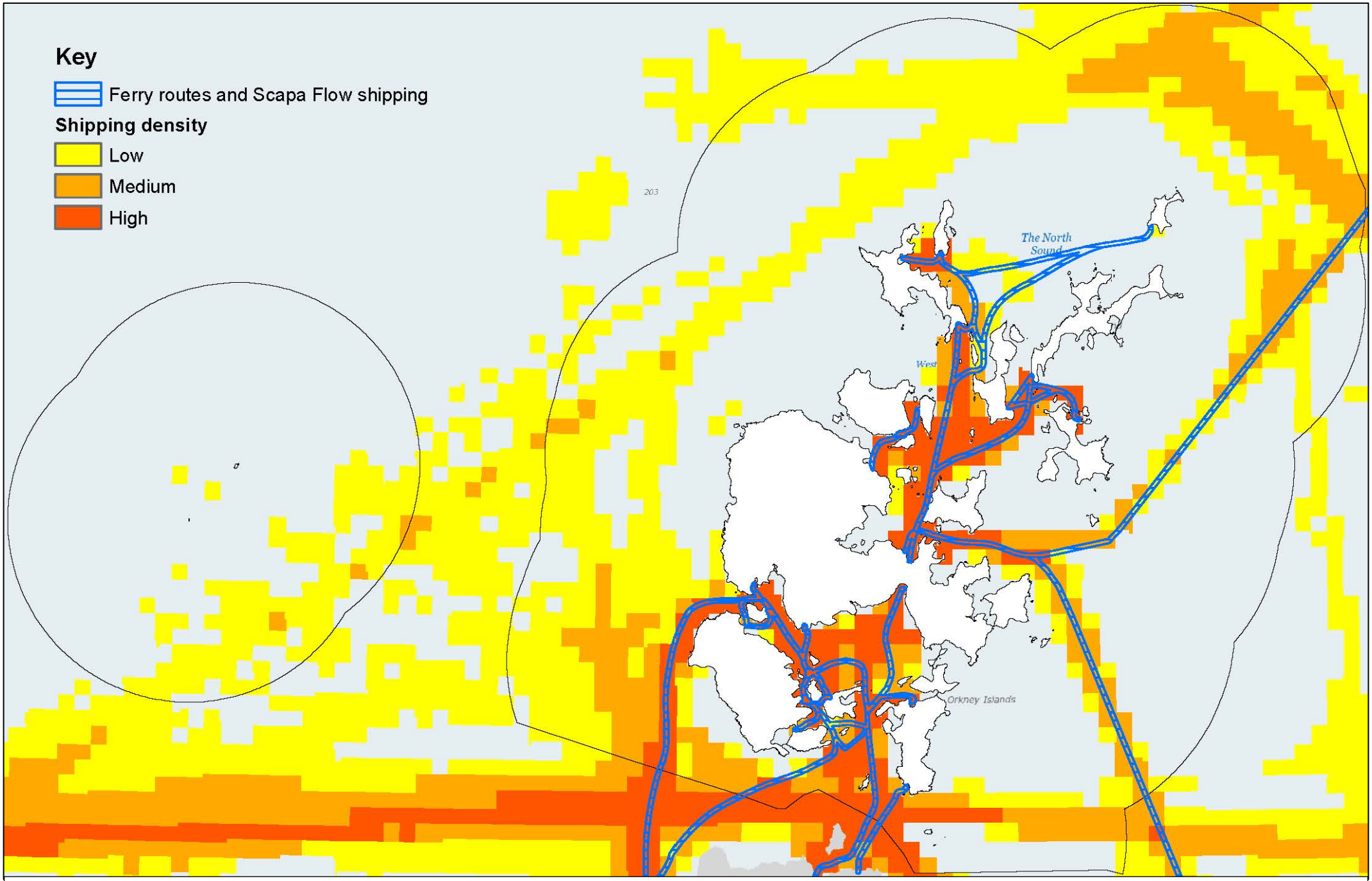
Socio-Economic and Infrastructure Receptor Spatial Guidance



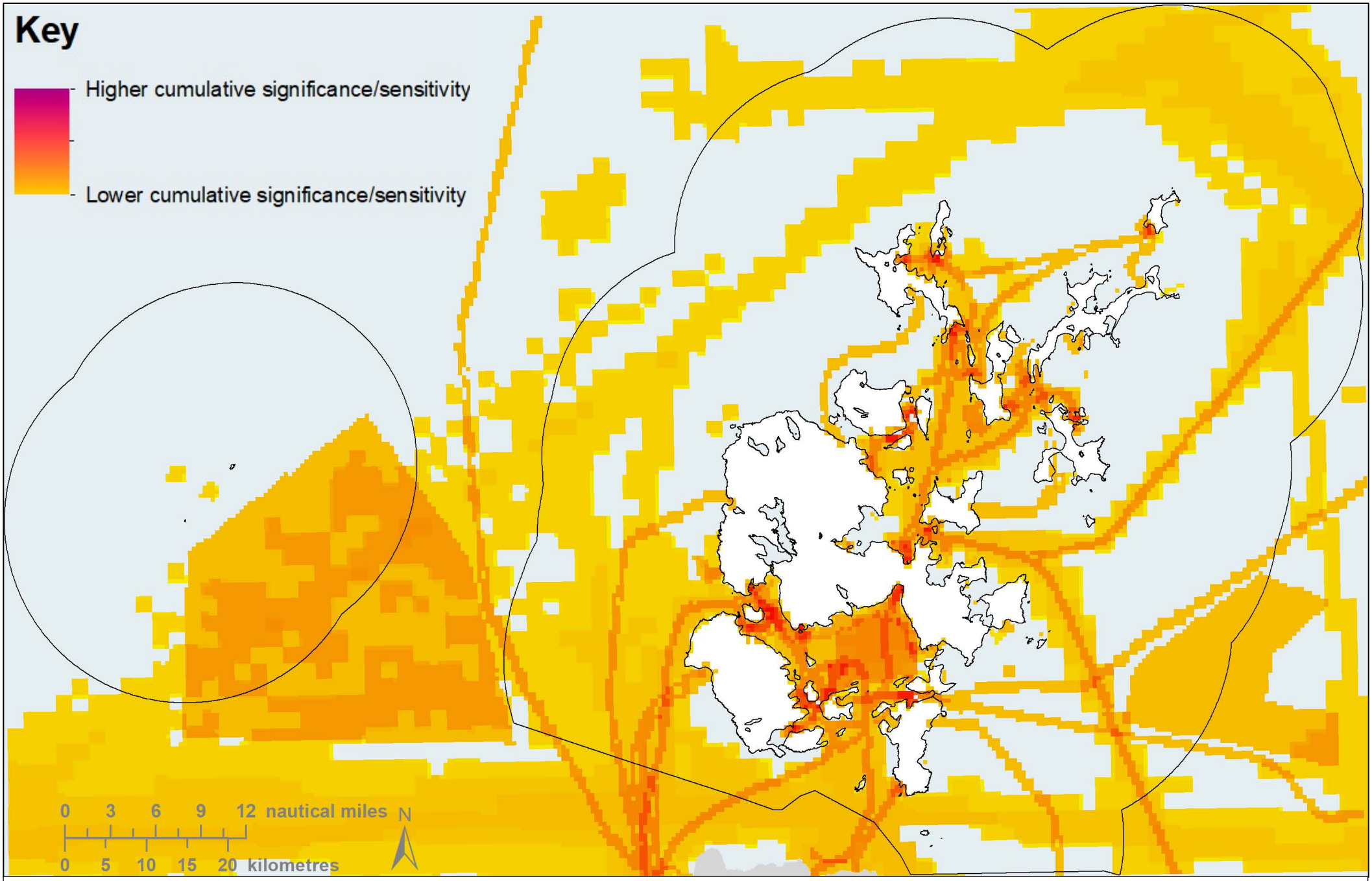
Map 8: Harbour infrastructure and operations receptor locations



Map 9: Energy, utilities and aquaculture infrastructure receptor locations

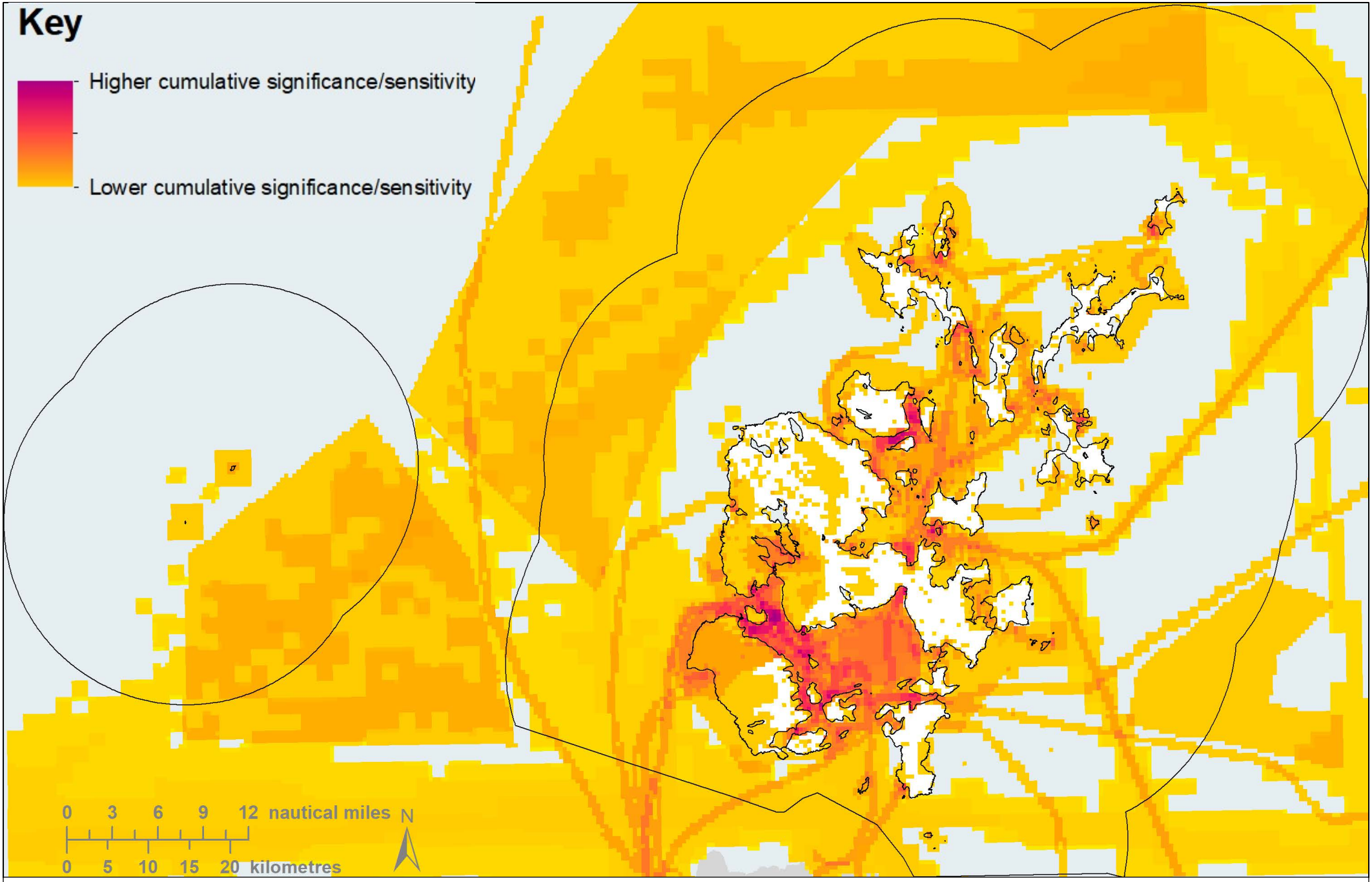


Map 10: Shipping and ferry route receptor locations. Automatic Identification System (AIS) data, Maritime and Coastguard Agency.



Map 11: All socio-economic/infrastructure receptors significance and sensitivity. This map presents the cumulative significance and sensitivity scores for the identified receptors (i.e. the sum of overlaying receptor score values).

All Receptors Spatial Guidance



Map 12: All receptor significance and sensitivity (i.e. combination of all maps above). This map presents the cumulative significance and sensitivity scores for the identified receptors (i.e. the sum of overlaying receptor score values).

Appendix 1: Special Protection Areas and qualifying features sensitivity assessment

SPAs that have no pathway to impact to their qualifying features from finfish farming development and/or activities have been screened out and are therefore not included in this spatial guidance.

An individual site sensitivity score has been attributed to the Special Protection Areas (SPAs) within Orkney and the Orkney marine region that have a pathway to impact from finfish farming development and/or activities.

The sensitivity score for each SPA has been attributed on the basis of the sensitivity of the site's qualifying bird features from finfish farming development and/or activities.

The sensitivity score for each SPA has been attributed by following steps 1 to 4:

Step 1: Identify the qualifying features for each SPA (see Table A1: Column B);

Step 2: Identify the pressures from finfish farming development and/or activities on each SPA qualifying bird feature using NatureScot Feature Activity Sensitivity Tool (FeAST) assessments (see Table A2: Column B);

Step 3: Identify the sensitivity of the qualifying bird features to each pressure using scores of low (1), medium (2) or high (3). For qualifying bird features affected by multiple pressures, the highest pressure sensitivity score was assigned to the feature (see Table A2: Column C).

Step 4: The individual SPA sensitivity score was assigned based on the most sensitive qualifying feature within the SPA citation (see Table A1: Column E).

Table A1. Special Protection Area sensitivity summary

A **Special Protection Area (SPA)**	B **Qualifying feature and condition**	C **Pressures/interactions: finfish farming**	D **FEAST 'Feature Sensitivity' [FROM TABLE A2]** *(low = 1, medium = 2, high = 3)*	E **SPA Sensitivity Score** *(Attributed on the bases of most sensitive qualifying feature)*
Auskerry	Breeding storm petrel (Unfavourable declining, 2018)	See Table A2	Medium (2)	High (3)
	Breeding Arctic tern (Favourable declining, 2018)	See Table A2	High (3)	
Calf of Eday	Breeding cormorant (Favourable recovered, 2016)	See Table A2	High (3)	High (3)
	Breeding fulmar (Favourable maintained, 2016)	See Table A2	High (3)	
	Breeding great black-backed gull (Unfavourable declining, 2016)	See Table A2	High (3)	
	Breeding kittiwake (Unfavourable declining, 2016)	See Table A2	High (3)	
	Breeding guillemot (Unfavourable declining, 2016)	See Table A2	High (3)	
	Breeding seabird assemblage (Unfavourable declining, 2016)	Screened out	N/A	
Copinsay	Breeding fulmar (Favourable maintained, 2015)	See Table A2	High (3)	High (3)
	Breeding great black-backed gull (Unfavourable declining, 2015)	See Table A2	High (3)	
	Breeding guillemot (Unfavourable no change, 2015)	See Table A2	High (3)	
	Breeding kittiwake (Unfavourable declining, 2015)	See Table A2	High (3)	
	Breeding seabird assemblage (Unfavourable no change, 2015)	Screened out	N/A	
East Sanday Coast	Non-breeding bar-tailed godwit (Favourable maintained, 2015)	Screened out	N/A	N/A
	Non-breeding turnstone (Favourable maintained, 2015)	Screened out	N/A	

A **Special Protection Area (SPA)**	B **Qualifying feature and condition**	C **Pressures/interactions: finfish farming**	D **FEAST 'Feature Sensitivity' [FROM TABLE A2]** *(low = 1, medium = 2, high = 3)*	E **SPA Sensitivity Score** *(Attributed on the bases of most sensitive qualifying feature)*
	Non-breeding purple sandpiper (Favourable maintained, 2015)	Screened out	N/A	
Hoy	Breeding Arctic skua (Unfavourable declining, 2019)	See Table A2	Medium (2)	High (3)
	Breeding great skua (Unfavourable declining, 2019)	See Table A2	Medium (2)	
	Breeding great black-backed gull (Unfavourable declining, 2019)	See Table A2	High (3)	
	Breeding guillemot (Unfavourable no change, 2017)	See Table 2	High (3)	
	Breeding kittiwake (Unfavourable declining, 2017)	See Table 2	High (3)	
	Breeding peregrine (Favourable maintained, 2013)	Screened out	N/A	
	Breeding red-throated diver (Favourable maintained, 2007)	See Table A2	Medium (2)	
	Breeding fulmar (Unfavourable no change, 2017)	See Table A2	High (3)	
	Breeding puffin (Unfavourable declining, 2004)	See Table A2	High (3)	
	Breeding seabird assemblage (Unfavourable declining, 2019)	Screened out	N/A	
Marwick Head	Breeding guillemot (Unfavourable declining, 2017)	See Table A2	High (3)	High (3)
	Breeding kittiwake (Unfavourable declining, 2015)	See Table A2	High (3)	
	Breeding seabird assemblage (Unfavourable declining, 2015)	Screened out	N/A	
Papa Westray	Breeding Arctic skua (Unfavourable declining, 2015)	See Table A2	Medium (2)	High (3)
	Breeding Arctic tern (Unfavourable no change, 2017)	See Table A2	High (3)	
	Breeding hen harrier (Favourable maintained, 2013)	Screened out	N/A	Medium (2)
	Non-breeding hen harrier (Favourable maintained, 2013)	Screened out	N/A	

A **Special Protection Area (SPA)**	**B** **Qualifying feature and condition**	**C** **Pressures/interactions: finfish farming**	**D** **FEAST 'Feature Sensitivity' [FROM TABLE A2]** *(low = 1, medium = 2, high = 3)*	**E** **SPA Sensitivity Score** *(Attributed on the bases of most sensitive qualifying feature)*
Orkney Mainland Moors	Breeding short-eared owl (Favourable maintained, 2004)	Screened out	N/A	
	Breeding red-throated diver (Favourable maintained, 2007)	See Table A2	Medium (2)	
Pentland Firth Islands	Breeding Arctic tern (Unfavourable no change, 2018)	See Table A2	High (3)	High (3)
Rousay	Breeding guillemot (Unfavourable declining, 2016)	See Table A2	High (3)	High (3)
	Breeding Arctic skua (Unfavourable no change, 2015)	See Table A2	Medium (2)	
	Breeding Arctic tern (Unfavourable declining, 2007)	See Table A2	High (3)	
	Breeding fulmar (Favourable maintained, 2016)	See Table A2	High (3)	
	Breeding kittiwake (Unfavourable declining, 2016)	See Table A2	High (3)	
	Breeding seabird assemblage (Unfavourable declining, 2016)	Screened out	N/A	
Sule Skerry and Sule Stack	Breeding gannet (favourable maintained, 2015)	See Table A2	High (3)	High (3)
	Breeding storm petrel (Favourable declining, 2018)	See Table A2	Medium (2)	
	Breeding guillemot (Favourable maintained, 2015)	See Table A2	High (3)	
	Breeding Leach's petrel (Unfavourable declining, 2018)	See Table A2	Medium (2)	
	Breeding puffin (Favourable declining, 2015)	See Table A2	High (3)	
	Breeding shag (Unfavourable declining, 2015)	See Table A2	High (3)	
	Breeding seabird assemblage (Favourable maintained, 1998)	Screened out	N/A	
Switha	Non-breeding Greenland barnacle goose (Favourable maintained, 2013)	Screened out	N/A	N/A

A **Special Protection Area (SPA)**	B **Qualifying feature and condition**	C **Pressures/interactions: finfish farming**	D **FEAST 'Feature Sensitivity' [FROM TABLE A2]** *(low = 1, medium = 2, high = 3)*	E **SPA Sensitivity Score** *(Attributed on the bases of most sensitive qualifying feature)*
West Westray	Breeding guillemot (Unfavourable declining, 2017)	See Table A2	High (3)	High (3)
	Breeding Arctic skua (Unfavourable declining, 2017)	See Table A2	Medium (2)	
	Breeding Arctic tern (Unfavourable no change, 2017)	See Table A2	High (3)	
	Breeding fulmar (Favourable recovered, 2017)	See Table A2	High (3)	
	Breeding kittiwake (Unfavourable declining, 2017)	See Table A2	High (3)	
	Breeding razorbill (Favourable recovered, 2017)	See Table A2	High (3)	
	Breeding seabird assemblage (Unfavourable declining, 2017)	Screened out	N/A	
North Orkney*	Breeding red-throated diver	See Table A2	Medium (2)	High (3)
	Non-breeding common eider	See Table A2	High (3)	
	Non-breeding European shag	See Table A2	High (3)	
	Non-breeding great northern diver	See Table A2	High (3)	
	Non-breeding long-tailed duck	See Table A2	High (3)	
	Non-breeding red-breasted merganser	See Table A2	High (3)	
	Non-breeding Slavonian grebe	See Table A2	High (3)	
	Non-breeding velvet scoter	See Table A2	High (3)	
Scapa Flow*	Breeding red-throated diver	See Table A2	Medium (2)	High (3)
	Non-breeding black-throated diver	See Table A2	High (3)	
	Non-breeding common eider	See Table A2	High (3)	
	Non-breeding common goldeneye	See Table A2	High (3)	
	Non-breeding European shag	See Table A2	High (3)	

A Special Protection Area (SPA)	B Qualifying feature and condition	C Pressures/interactions: finfish farming	D FEAST 'Feature Sensitivity' [FROM TABLE A2] *(low = 1, medium = 2, high = 3)*	E SPA Sensitivity Score *(Attributed on the bases of most sensitive qualifying feature)*
	Non-breeding great northern diver	See Table A2	High (3)	
	Non-breeding long-tailed duck	See Table A2	High (3)	
	Non-breeding red-breasted merganser	See Table A2	High (3)	
	Non-breeding Slavonian grebe	See Table A2	High (3)	

**As Scapa Flow SPA and North Orkney SPA are relatively recent designations (2021), the status of the qualifying features is currently unavailable.*

Table A2. SPA qualifying bird features sensitivity summary

A Species	B Pressures/interactions: finfish farming	C Sensitivity	D Over-all Sensitivity	E Foraging range (km) + 1 SD
Arctic skua (breeding)	Death or injury by collision above water	Medium	Medium	2±0.7
	Removal of non-target species (lethal)	Medium		
Arctic tern (breeding)	Barrier to spp. movement (including displacement)	Medium	High	6.1±4.4
	Death or injury by collision above water	Medium		
	Nitrogen & phosphorus enrichment	Medium		
	Removal of non-target species (lethal)	Medium		
	Synthetic compound contamination (inc. pesticides, antifoulants, pharmaceuticals)	Medium		
	Visual disturbance (behaviour)	High		

A Species	B Pressures/interactions: finfish farming	C Sensitivity	D Over-all Sensitivity	E Foraging range (km) + 1 SD
Black Guillemot	Barrier to mobile species movement	Medium	High	4.9
	Death or injury to mobile species by collision	Medium		
	Introduction or spread of non-indigenous species & translocations (competition)	High		
	Removal of non-target species (lethal)	Medium		
	Visual disturbance (behaviour)	High		
Common goldeneye (non-breeding)	Barrier to spp. movement (including displacement)	Medium	High	Scapa Flow SPA boundary
	Death or injury by collision above water	Medium		
	Death or injury by collision below water	Medium		
	Removal of non-target species (lethal)	High		
	Visual disturbance (behaviour)	High		
European shag (non-breeding)	Barrier to spp. movement (including displacement)	Medium	High	9.2±4.9
	Death or injury by collision above water	Medium		
	Death or injury by collision below water	Medium		
	Removal of non-target species (lethal)	Medium		
	Visual disturbance (behaviour)	High		
Fulmar (breeding)	Barrier to spp. movement (including displacement)	Medium	High	134.6±90.1
	Removal of non-target species (lethal)	High		
	Visual disturbance (behaviour)	High		
Gannet (breeding)	Barrier to spp. movement (including displacement)	High	High	120.4±50
	Death or injury by collision above water	Medium		
	Death or injury by collision below water	Medium		
	Removal of non-target species (lethal)	High		
	Visual disturbance (behaviour)	Medium		
Great skua (breeding)	Death or injury by collision above water	Medium	Medium	67±31.5
	Removal of non-target species (lethal)	Medium		

A Species	B Pressures/interactions: finfish farming	C Sensitivity	D Over-all Sensitivity	E Foraging range (km) + 1 SD
Guillemot (breeding)	Barrier to spp. movement (including displacement)	Medium	High	33.1±36.5
	Death or injury by collision above water	Medium		
	Death or injury by collision below water	High		
	Nitrogen & phosphorus enrichment	Medium		
	Removal of non-target species (lethal)	High		
	Visual disturbance (behaviour)	High		
Kittiwake (breeding)	Barrier to spp. movement (including displacement)	Medium	High	54.7±50.4
	Removal of non-target species (lethal)	High		
	Synthetic compound contamination (inc. pesticides, antifoulants, pharmaceuticals)	Medium		
Leach's petrel (breeding)	Barrier to spp. movement (including displacement)	Medium	Medium	657
	Death or injury by collision above water	Medium		
	Removal of non-target species (lethal)	Medium		
	Visual disturbance (behaviour)	Medium		
Puffin (breeding)	Barrier to spp. movement (including displacement)	Medium	High	62.4±34.4
	Death or injury by collision above water	Medium		
	Death or injury by collision below water	High		
	Removal of non-target species (lethal)	High		
	Visual disturbance (behaviour)	Medium		
Razorbill (breeding)	Barrier to spp. movement (including displacement)	Medium	High	61.3±33.4
	Death or injury by collision above water	Medium		
	Death or injury by collision below water	High		
	Nitrogen & phosphorus enrichment	Medium		
	Removal of non-target species (lethal)	High		
Red-throated diver (breeding)	Barrier to spp. movement (including displacement)	Medium	Medium	11km
	Death or injury by collision above water	Medium		

A Species	B Pressures/interactions: finfish farming	C Sensitivity	D Over-all Sensitivity	E Foraging range (km) + 1 SD
	Death or injury by collision below water	Medium		
	Nitrogen & phosphorus enrichment	Medium		
	Removal of non-target species (lethal)	Medium		
	Visual disturbance (behaviour)	Medium		
Storm petrel (breeding)	Barrier to spp. movement (including displacement)	Medium	Medium	657
	Death or injury by collision above water	Medium		
	Removal of non-target species (lethal)	Medium		
	Visual disturbance (behaviour)	Medium		
Black-throated diver (non-breeding)	Mortality (by-catch through entanglement in nets in the water column)	High	High	Scapa Flow SPA boundary
	Disturbance (vessel movement and displacement from foraging areas)	Medium		
Common eider (non-breeding)	Mortality (by-catch through entanglement in nets in the water column	High	High	3.2±4.2
Cormorant (breeding)	Barrier to spp. movement (including displacement)	Medium	High	7.1±3.8
	Death or injury by collision above water	Medium		
	Death or injury by collision below water	Medium		
	Removal of non-target species (lethal)	Medium		
	Visual disturbance (behaviour)	High		
Great black-backed gull (breeding)	Barrier to spp. movement (including displacement)	Medium	High	30
	Removal of non-target species (lethal)	High		
	Visual disturbance (behaviour)	High		
Great northern diver (non-breeding)	Mortality (by-catch through entanglement in nets in the water column)	High	High	North Orkney and Scapa Flow SPA boundary
	Disturbance (vessel movement and displacement from foraging areas)	Medium		

A Species	B Pressures/interactions: finfish farming	C Sensitivity	D Over-all Sensitivity	E Foraging range (km) + 1 SD
Long-tailed duck (non-breeding)	Mortality (by-catch through entanglement in nets in the water column)	High	High	North Orkney and Scapa Flow SPA boundary
Red-breasted merganser (non-breeding)	Mortality (by-catch through entanglement in nets in the water column)	High	High	North Orkney and Scapa Flow SPA boundary
	Disturbance (vessel movement and displacement from foraging areas)	Medium		
Slavonian grebe (non-breeding)	Mortality (by-catch through entanglement in nets in the water column)	High	High	North Orkney and Scapa Flow SPA boundary
	Disturbance (vessel movement and displacement from foraging areas)	Medium		
Velvet scoter (non-breeding)	Mortality (by-catch through entanglement in nets in the water column)	High	High	North Orkney SPA boundary
Greenland barnacle goose (non-breeding)	No interaction - screened out	N/A	None	N/A
Hen harrier (breeding)	No interaction - screened out	N/A	None	N/A
Bar-tailed godwit (non-breeding)	No interaction - screened out	N/A	None	N/A
Peregrine (breeding)	No interaction - screened out	N/A	None	N/A
Purple sandpiper (non-breeding)	No interaction - screened out	N/A	None	N/A
Short-eared owl (breeding)	No interaction - screened out	N/A	None	N/A
Turnstone (non-breeding)	No interaction - screened out	N/A	None	N/A

Appendix 2: Special Areas of Conservation assessment

A2.1 Special Areas of Conservation (SACs) that have no pathway to impact to their qualifying features from finfish farming development and/or activities have been screened out and are therefore not included in this spatial guidance.

A2.2 An individual site sensitivity score has been attributed to the SACs within Orkney and the Orkney marine region that have a pathway to impact from finfish farming development and/or activities.

A2.3 The sensitivity score for each SAC has been attributed on the basis of the sensitivity of the site's qualifying features to finfish farming development and/or activities.

A2.3 The sensitivity score for each SAC has been attributed by following steps 1 to 4:

Step 1: Identify the qualifying features for each SAC (see Table A3: Column B);

Step 2: Identify the pressures from finfish farming development and/or activities on each SAC qualifying feature in consultation with NatureScot (see Table A3: Column C);

Step 3: Identify the sensitivity of these qualifying features to each identified pressure using scores of low (1), medium (2) or high (3) (see Table A3: Column D).

Step 4: The individual SAC sensitivity score was assigned based on the most sensitive qualifying feature within the SAC citation (see Table A3: Column E).

Table A3: SAC Summary Table

A **Special Area of Conservation**	B **Qualifying feature and condition**	C **Pressures/interactions: finfish farming**	D **Sensitivity** *(low = 1, medium = 2, high = 3)*	E **Sensitivity Score** *(Attributed on the bases of most sensitive qualifying feature)*
Faray and Holm of Faray	Grey seal (Favourable maintained, 2014)	Visual disturbance (behaviour)	High (3)	High (3)
		Noise (above and below water)	High (3)	
Loch of Stenness	Coastal Lagoon	Penetration and/or disturbance of the substrate below the surface of the seabed, including abrasion	High (3)	High (3)
		Abrasion/disturbance of the substrate on the surface of the seabed	High (3)	
		Changes in suspended solids (water clarity)	High (3)	
		Smothering and siltation rate changes	High (3)	
		Deoxygenation	High (3)	
		Nutrient enrichment/organic enrichment	High (3)	
		Introduction or spread of invasive non-indigenous species (INIS)	High (3)	
Sanday	Reefs (Favourable maintained, 2008)	Penetration and/or disturbance of the substrate below the surface of the seabed, including abrasion	High (3)	High (3)
		Abrasion/disturbance of the substrate on the surface of the seabed	High (3)	
		Changes in suspended solids (water clarity)	High (3)	
		Smothering and siltation rate changes	High (3)	

A **Special Area of Conservation**	**B** **Qualifying feature and condition**	**C** **Pressures/interactions: finfish farming**	**D** **Sensitivity** *(low = 1, medium = 2, high = 3)*	**E** **Sensitivity Score** *(Attributed on the bases of most sensitive qualifying feature)*
		Deoxygenation	High (3)	
		Nutrient enrichment/organic enrichment	High (3)	
		Introduction or spread of invasive non-indigenous species (INIS)	High (3)	
	Subtidal sandbanks (Favourable maintained, 2008)	Abrasion/disturbance of the substrate on the surface of the seabed	High (3)	
		Smothering and siltation rate changes	High (3)	
		Deoxygenation	High (3)	
		Nutrient enrichment/organic enrichment	Medium (2)	
		Introduction or spread of invasive non-indigenous species (INIS)	High (3)	
	Intertidal mudflats and sandflats (Favourable maintained, 2008)	No interaction	N/A	
	Harbour seal (Unfavourable declining, 2013)	Visual disturbance (behaviour)	High (3)	
		Noise (above and below water)	High (3)	

Appendix 3: Nature Conservation Marine Protected Areas assessment

A3.1 An individual site sensitivity score has been attributed to the Nature Conservation Marine Protected Areas (NC MPA) within the Orkney marine region that have protected features with a pathway to impact from finfish farming development and/or activities.

A3.2 The sensitivity score for each NC MPA has been attributed on the basis of the sensitivity of the site's protected feature(s) to finfish farming development and/or activities.

A3.3 The sensitivity score for each NC MPA has been attributed by following steps 1 to 4:

Step 1: Identify the protected features for each NC MPA (see Table A4: Column B);

Step 2: Identify the pressures from finfish farming development and/or activities on each NC MPA protected feature using Feature Activity Sensitivity Tool (FeAST) assessments (see Table A4: Column C) ;

Step 3: Identify the sensitivity of these qualifying features to each pressure using scores of low (1), medium (2) or high (3) (see Table A4: Column D).

Step 4: The individual NC MPA sensitivity score was assigned based on the most sensitive qualifying feature within the NC MPA designation (see Table A4: Column E).

Table A4: Nature Conservation Marine Protected Areas Summary

A **Nature Conservation MPA**	**B** **Qualifying feature**	**C** **Pressures/interactions: finfish farming**	**D** **FEAST 'Feature Sensitivity'** *(low = 1, medium = 2, high = 3)*	**E** **Sensitivity Score** *(Attributed on the bases of most sensitive qualifying feature)*
Wyre and Rousay Sounds	Kelp and seaweed communities on sublittoral sediment	Introduction or spread of non-indigenous species & translocations (competition)	Medium (2)	High (3)
		Removal of non-target species (lethal)	Medium (2)	

A **Nature Conservation MPA**	**B** **Qualifying feature**	**C** **Pressures/interactions: finfish farming**	**D** **FEAST 'Feature Sensitivity'** *(low = 1, medium = 2, high = 3)*	**E** **Sensitivity Score** *(Attributed on the bases of most sensitive qualifying feature)*
	Maerl beds	De-oxygenation	Medium (2)	
		Introduction or spread of non-indigenous species & translocations (competition)	High (3)	
		Nitrogen & phosphorus enrichment	High (3)	
		Organic enrichment	High (3)	
		Physical change (to another seabed type)	High (3)	
		Removal of non-target species (lethal)	High (3)	
		Siltation changes (low)	High (3)	
		Surface abrasion	High (3)	
		Synthetic compound contamination (inc. pesticides, antifoulants, pharmaceuticals)	High (3)	
		Siltation changes (high)	High (3)	
	Marine Geomorphology of the Scottish Shelf Seabed	No pressures/interactions	None	
Papa Westray	Black guillemot (foraging range 4.9 km)	Barrier to mobile species movement	Medium (2)	High (3)
		Death or injury to mobile species by collision	Medium (2)	
		Removal of non-target species (lethal)	Medium (2)	
		Visual disturbance (behaviour)	High (3)	
	Marine Geomorphology of the Scottish Shelf Seabed	No pressures/interactions	None	
North-west Orkney	Sandeels	Organic enrichment	Medium (2)	High (3)
		Physical change (to another seabed type)	High (3)	
		Siltation changes (low)	Medium (2)	
		Surface abrasion	Medium (2)	

A **Nature Conservation MPA**	**B** **Qualifying feature**	**C** **Pressures/interactions: finfish farming**	**D** **FEAST 'Feature Sensitivity'** *(low = 1, medium = 2, high = 3)*	**E** **Sensitivity Score** *(Attributed on the bases of most sensitive qualifying feature)*
		Siltation changes (high)	High (3)	
	Sand banks, sand wave fields and sediment wave fields representative of the Fair Isle Strait Marine Process Bedforms Key Geodiversity Area	Abrasion/disturbance of the substrate on the surface of the seabed	Medium (2)	
		Smothering and siltation rate changes	High (3)	
		Deoxygenation	High (3)	
		Nutrient enrichment/organic enrichment	Medium (2)	
		Introduction or spread of invasive non-indigenous species (INIS)	High (3)	

Appendix 4: Priority Marine Features assessment

A4.1 Priority Marine Features (PMF) where finfish farming development and/or activities are unlikely to result in impacts on their national status were screened out and are therefore not included in this spatial guidance.

A4.2 The Geodatabase of Marine Features Adjacent to Scotland (GeMS) PMF records in Orkney waters are identified in Map 2. There are PMF locations within Orkney's waters that have not yet been recorded and are therefore not identified in the spatial data used within this guidance. PMFs records will be periodically updated within this guidance as detailed in Appendix 5 to incorporate any updated records.

A4.3 An individual PMF sensitivity score has been attributed to PMFs within Orkney's marine region that have a pathway to impact from finfish farming development and/or activities.

A4.4 The sensitivity score for each PMF has been attributed by following steps 1 to 4:

Step 1: Identify the PMF's present within Orkney's marine region (Table A5, Column A);

Step 2: Advice was taken from NatureScot on which PMFs to include within the spatial guidance;

Step 3: Identify the pressures/interactions on the selected PMFs from finfish farming using Feature Activity Sensitivity Tool (FeAST) assessments (see Table A5: Column D);

Step 4: Identify the sensitivity of selected PMFs to each pressure using scores of low (1), medium (2) or high (3) (Table A5, Column E);

Step 5: The overall PMF sensitivity score was assigned based on the highest sensitivity of a FEAST-listed pressure/interaction (Table A5, Column F).

Table A5: Priority Marine Features Summary

A **Priority Marine Feature (PMF)**	B **PMF Conservation Status**	C **Significance score** **(1=low, 2=medium, 3=high)**	D **Pressures/interactions: finfish farming**	E **FEAST** **'Feature sensitivity'** *(low = 1, medium = 2, high = 3)*	F **Sensitivity Score***
Maerl Beds	International significance (Habitats Directive Appendix 1 and OSPAR threatened and/or declining habitats and species Region III.	3	De-oxygenation	Medium (2)	High (3)
			Introduction or spread of non-indigenous species & translocations (competition)	High (3)	
			Nitrogen & phosphorus enrichment	High (3)	
			Organic enrichment	High (3)	
			Physical change (to another seabed type)	High (3)	
			Removal of non-target species (lethal)	High (3)	
			Siltation changes (low)	High (3)	
			Surface abrasion	High (3)	
			Synthetic compound contamination (inc. pesticides, antifoulants, pharmaceuticals)	High (3)	
			Siltation changes (high)	High (3)	
Seagrass beds	International significance (Habitats Directive Appendix 1 and OSPAR threatened and/or declining habitats	3	Introduction or spread of non-indigenous species & translocations (competition)	Medium (2)	High (3)
			Nitrogen & phosphorus enrichment	Medium (2)	

A **Priority Marine Feature (PMF)**	B **PMF Conservation Status**	C **Significance score** **(1=low, 2=medium, 3=high)**	D **Pressures/interactions: finfish farming**	E **FEAST** **'Feature sensitivity'** *(low = 1, medium = 2, high = 3)*	F **Sensitivity Score***
	and species. All regions where they occur.		Organic enrichment	High (3)	
			Physical change (to another seabed type)	High (3)	
			Removal of non-target species (lethal)	High (3)	
			Siltation changes (low)	High (3)	
			Surface abrasion	Medium (2)	
			Siltation changes (high)	High (3)	
Flame shell beds	National Significance (BAP priority habitat/ species). Scotland is a particularly important location for this species in the international context.	2	Organic enrichment	High (3)	High (3)
			Physical change (to another seabed type)	High (3)	
			Removal of non-target species (lethal)	High (3)	
			Siltation changes (low)	Medium (2)	
			Surface abrasion	High (3)	
			Siltation changes (high)	High (3)	
Horse mussel beds	International significance (Habitats Directive Appendix 1 and OSPAR threatened and/or declining habitats and species. All regions where they occur.	3	Organic enrichment	Medium (2)	High (3)
			Physical change (to another seabed type)	High (3)	
			Removal of non-target species (lethal)	High (3)	
			Siltation changes (low)	Medium (2)	
			Surface abrasion	Medium (2)	
			Siltation changes (high)	High (3)	
Fan mussel aggregations (Low	National Significance (BAP priority habitat/ species, and	2	Physical change (to another seabed type)	High (3)	High (3)

A **Priority Marine Feature (PMF)**	B **PMF Conservation Status**	C **Significance score** **(1=low, 2=medium, 3=high)**	D **Pressures/interactions: finfish farming**	E **FEAST** **'Feature sensitivity'** *(low = 1, medium = 2, high = 3)*	F **Sensitivity Score***
or limited mobility species)	Wildlife and Countryside Act - Schedule 5). Scotland is a particularly important location for this species in the international context.		Removal of non-target species (lethal)	High (3)	
			Surface abrasion	Medium (2)	
			Siltation changes (high)	Medium (2)	
			Physical change (to another seabed type)	Medium (2)	
			Removal of non-target species (lethal)	Medium (2)	
			Siltation changes (low)	Medium (2)	
			Surface abrasion	Medium (2)	
			Siltation changes (high)	High (3)	
			Removal of non-target species (lethal)	Medium (2)	
			Siltation changes (high)	High (3)	

**Attributed on the basis of most sensitive qualifying feature*

Appendix 5: Receptor data updates

A5.1 It is important that receptor locations are identified using the most up to date data. The receptors identified in Table A6 will be reviewed and updated on a regular basis to ensure that the data are current and up to date. These data will be periodically reviewed and updated using the identified data sources below. These updates to receptor locations will be made to this spatial guidance without public consultation on a revised spatial guidance document.

Table A6: Data sources for regularly updated receptors

Receptor	Data source
Special Protection Areas (SPA)	NatureScot SiteLink
Special Areas of Conservation (SAC)	NatureScot SiteLink
Nature Conservation Marine Protected Areas (NC MPA)	NatureScot SiteLink
Priority Marine Features (PMF)	NatureScot Geodatabase for Marine Habitats and Species adjacent to Scotland
Seal haul-out sites	Marine Scotland National Marine Plan interactive
National Scenic Area (NSA)	NatureScot SiteLink
World Heritage Site and Inner Sensitivity Zone	Historic Environment Scotland
Scapa Flow Historic Marine Protected Area (HMPA)	Historic Environment Scotland
Scheduled Monuments	Historic Environment Scotland
Listed buildings	Historic Environment Scotland
Controlled Sites or Protected Places	Ministry of Defence
Conservation Areas	Historic Environment Scotland
Historic Gardens and Designed Landscapes	Historic Environment Scotland
Indicative ferry routes	Orkney Islands Council
Shipping Density Areas	Marine Management Organisation
Widewall Bay Harbour of Refuge	Orkney Islands Council
Pier and harbour infrastructure locations (not the associated sensitive areas)	Orkney Islands Council
Designated Anchor Berths (Scapa Flow)	OceanWise
Other established anchorages	OceanWise
Submarine electricity cables	OceanWise
Submarine telecommunication cables	OceanWise

Receptor	Data source
Out of Service (OoS) subsea cables	OceanWise
Hydrocarbon pipelines	OceanWise
Subsea water pipelines	OceanWise
Wave and tidal energy sites - Crown Estate Scotland lease and agreement for lease areas	Crown Estate Scotland
The Sectoral Plan for Offshore Wind Energy – Plan Options	Crown Estate Scotland
Active aquaculture sites	Marine Scotland National Marine Plan interactive

This publication is available at www.orkney.gov.uk

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