



# Appraisal of potential for Orkney Marine Cable HDD Marine Exit Works to Affect North Caithness Cliffs SPA

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Prepared by Digger Jackson

## Background information on North Caithness Cliffs SPA

Table 1. North Caithness Cliffs SPA conservation objectives and qualifying interests (from NatureScot SiteLink website, accessed 11 March 2024)

<b>Conservation Objectives for North Caithness Cliffs Special Protection Area</b>
<p>To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and</p> <p>To ensure for the qualifying species that the following are maintained in the long term:</p> <ul style="list-style-type: none"><li>➤ Population of the species as a viable component of the site</li><li>➤ Distribution of the species within site</li><li>➤ Distribution and extent of habitats supporting the species</li><li>➤ Structure, function and supporting processes of habitats supporting the species</li><li>➤ No significant disturbance of the species</li></ul>
<p style="text-align: center;"><b>Qualifying Species:</b></p> <ul style="list-style-type: none"><li>• Fulmar (<i>Fulmarus glacialis</i>)*</li><li>• Guillemot (<i>Uria aalge</i>)</li><li>• Kittiwake (<i>Rissa tridactyla</i>)*</li><li>• &lt;Redacted&gt;</li><li>• Puffin (<i>Fratercula arctica</i>)*</li><li>• Razorbill (<i>Alca torda</i>)*</li> <li>• Seabird assemblage</li></ul>
<p>* indicates assemblage qualifier only</p>

### North Caithness Cliffs SPA designation history:

- SPA classified on 16 August 1996 (original terrestrial part)
- Marine extension classified on 25 September 2009
- SPA citation updated September 2018

The SPA is based on five sections of cliff used by colonial nesting seabirds and breeding <Redacted>, all of which are also SSSIs in their own right.

**Table 2. North Caithness Cliffs SPA qualifying feature condition assessment (from NatureScot SiteLink website, accessed 11 March 2024)**

Qualifying interest	Latest Assessed Condition <sup>1</sup>	Date last assessed	Negative pressures
Fulmar, breeding	Favourable maintained	13 June 2016	None
Kittiwake, breeding	Unfavourable declining	13 June 2016	None
Guillemot, breeding	Favourable maintained	13 June 2016	None
Razorbill, breeding	Favourable maintained	13 June 2016	None
Puffin, breeding	Favourable maintained	13 June 2016	None
Kittiwake, breeding	Favourable maintained	13 June 2016	None
Seabird assemblage	Favourable maintained	13 June 2016	None
<Redacted>	Unfavourable declining	24 June 2014	To be identified

<sup>1</sup> Note, although not stated on the SiteLink website, it is likely that the most recent seabird condition assessment was based on the 2015/16 survey data

**Table 3. North Caithness Cliffs SPA qualifying feature populations size on JNCC Standard Data Form based on 1985 to 1987 count data (from NatureScot SiteLink website, accessed 11 March 2024)**

SPA Count Sections	Fulmar (pairs)	Kittiwake (pairs)	Guillemot (Individuals)	Razorbill (Individuals)	Puffin (pairs)	<Redacted> (pairs)
NCC SPA all count sections <sup>1</sup>	14,700	13,100	38,300	4,000	2,080	6

<sup>1</sup> Note, errors in the database regarding whether count sections are within SPA boundary have been corrected

**Table 4. 2015/16 count data for North Caithness Cliffs SPA (data from SNH Research Report No. 965)**

SPA Count Sections	Fulmar (Apparently Occupied Sites)	Kittiwake (Apparently Occupied Nests)	Guillemot (Individuals)	Razorbill (Individuals)	Puffin (Apparently Occupied Burrows)
NCC SPA all count sections	13,405	5,568	38,863	3,503	3,053
Sandside Head 1 count section	263	195	0	58	3
Sandside Head 1 % of whole SPA	2.0%	3.5%	0.0%	1.7%	0.1%

**Table 5. 2023 count data for North Caithness Cliffs SPA (data from Seabird Monitoring Programme database accessed 11 March 2024)**

SPA Count Sections	Fulmar (Apparently Occupied Sites)	Kittiwake (Apparently Occupied Nests)	Guillemot (Individuals)	Razorbill (Individuals)	Puffin (Apparently Occupied Burrows)
NCC SPA all count sections <sup>1</sup>	13,011	8,197	48,290	9,855	2,862
Sandside Head 1 count section	278	1,013	865	173	0
Sandside Head 1 % of whole SPA	2.1%	12.4%	1.8%	1.8%	0%

<sup>1</sup> Note, errors in the database regarding whether count sections are within SPA boundary have been corrected

### Marine extension

Originally, breeding seabird SPAs focussed on the designated the landward extent of breeding colonies. In recognition of the importance of the sea close to seabird breeding colonies for seabird to undertake maintenance activities (e.g. bathing, preening, and resting) many breeding seabird SPAs (but generally not the corresponding SSSI) have subsequently been extended to include areas of nearby sea.

Following a JNCC/SNCB led research project that examined the utilisation of the sea in the vicinity of a sample of seabird colonies, JNCC<sup>1</sup> recommend generic marine extension to seabird colony SPAs as follows:

- 1 km for guillemot, puffin and razorbill,
- 2 km for gannet and fulmar
- 4 km (minimum) for Manx shearwater.

As a result of this recommendation most seabird colony SPAs in Scotland have now been extended to include areas of nearby sea. In the case of NorthCaithness Cliffs SPA, a 2km marine extension was added in September 2009. The choice of a 2 km extension for this SPA was considered appropriate in light of the fulmar being a qualifying interest.

<sup>1</sup> [Genetic maintenance extensions around seabird breeding colonies: data collection and analysis - sas-generic-maintenance-extensions-seabird-colonies.pdf](#) (note, first word in title should be 'generic')

## Assessment of potential for disturbance to SPA qualifying interests

The North Caithness Cliffs SPA (NCC SPA) consist of five disjunct components, each comprising a section of cliff with breeding seabirds and an adjacent area of sea extending to approximately 2 km from the coast (Figure 1).

The works associated with the Orkney – Dounreay marine cable has potential to affect the seabirds breeding at the westernmost component of the SPA, in the vicinity of Sandside Head. In particular, the proposed vessel activity in the vicinity of the location where the HDD would exit the seabed (approx. 600m from the coast) would be just inside the NCC SPA marine extension (Figure 2). This raises the question as to whether this vessel activity could lead to disturbance of NCC SPA qualifying species, leading to the possibility of an adverse effect on the integrity of the SPA.

In addressing this concern it is relevant to consider the likely utilisation of the vicinity of the HDD exit location by each species in terms of the proportion of SPA birds that might be present, and the purpose for which they use the area. It is also relevant to consider the vulnerability of the qualifying species to disturbance and displacement from vessel-based activity.

Furness *et al.* (2013) developed an index that rates the sensitivity of Scottish seabird species to disturbance and displacement. The index values were derived by combining a species' ratings for vulnerability to disturbance (i.e., the opposite of tolerance), habitat flexibility and conservation importance. The disturbance/displacement sensitivity index developed by Furness *et al.* is considered relevant informing the potential for vessel activity in the vicinity of the HDD exit location to affect NCC SPA seabirds. The disturbance/displacement sensitivity index developed by Furness scores each species on a scale ranging from zero (least sensitive) to 50 (most sensitive). The scores for the five NCC SPA seabird species are as follows:

- Fulmar, score 2;
- Kittiwake, score 6;
- Guillemot, score 14;
- Razorbill, score 14; and,
- Puffin, score 10.

The nearest SPA seabird count section to the HDD exit location is the 'Sandside Head 1' count section (labelled 'SAN1' in Figure 2) which is between 1.9 km and 3.7 km from the HDD exit site. The other twenty three NCC SPA count sections are further away, between 3.7 km and 43 km from the HDD exit location. For assessment purposes it is reasonable to assume that it is only birds from the 'Sandside Head 1' count section that are involved in maintenance behaviours on the sea (e.g. preening, bathing and resting – but not foraging) might be adversely affected by project vessel disturbance.

It is relevant to note that for all the NCC SPA qualifying seabird species, the numbers breeding in the 'Sandside Head 1' count section represent only a small proportion of the NCC SPA total (Table 5). For all species except kittiwake, the 'Sandside Head 1' count section has less than 3% of the SPA total. For kittiwake this section has approximately 12% of the SPA total. Unfortunately the SMP database does not detail where within this 1.8 km section of coastline seabirds are breeding, but the auk colonies at least are believed to be all west of Sandside Head itself.

The JNCC/SNCB research underpinning the advice on the appropriate size of marine extensions indicates that the three auk species undertake maintenance behaviour mostly within 1 km of their colony. Therefore, given that the distance to the closest cliffs with breeding auks is more than 2 km (i.e. cliffs to west of Sandside Head), there is no expectation that the HDD exit location and surrounding

waters up to approximately 1 km away will be used to more than a negligible extent by breeding auks for their maintenance behaviours. Of course, the vicinity of the HDD exit may also be used for foraging. However, these locally breeding auk species all have very extensive areas of foraging habitat available to them (1000s of km<sup>2</sup>) and therefore the temporary displacement of a few foraging individuals from the vicinity of the HDD exit would be negligible. Guillemot, razorbill and puffin are categorised by Furness *et al.* (2013) as having a low to moderate vulnerability to vessel disturbance (disturbance/displacement index scores of 10 out of 50 for puffin, and 14 out of 50 for guillemot and razorbill).

Kittiwakes were not considered in the own right by JNCC to merit marine extensions to SPAs to support maintenance behaviour. Therefore it is reasonable to assume that vessel activity in the vicinity of the HDD exit would have only negligible potential for disturbance of kittiwakes engaged in maintenance behaviour. It is likely that some NCC SPA kittiwakes would on occasions forage in the vicinity of the HDD exit however this species has very extensive areas of foraging habitat available to it (1000s of km<sup>2</sup>) and therefore the temporary displacement of a few foraging individuals from the vicinity of the HDD exit would be a negligible effect. Kittiwake is categorised by Furness *et al.* (2013) as having a low vulnerability to vessel disturbance (disturbance/displacement index score of 6 out of 50)

Fulmar is the only NCC SPA qualifying species for which the HDD site and its near vicinity is likely to be frequently used by birds engaged in maintenance behaviour. This is because the research underpinning the advice on the appropriate size of marine extensions indicated that fulmar commonly undertake maintenance behaviour on the sea up to approximately 2 km from their breeding colony, and a small proportion of the NCC SPA fulmars nest within 2 to 3 km of the HDD exit location. However, fulmars are categorised as having a very low vulnerability to vessel disturbance by Furness *et al.* (2013), (disturbance/displacement index score of 2 out of 50). Therefore, only fulmars that are on the sea and that are very close to working vessels are likely to show a displacement response (based on experience, fulmars are unlikely to show a response to active vessels at distances greater than approximately 200m away).

Although, some NCC SPA fulmars may on occasions forage in the vicinity of the HDD exit this species has very extensive areas of foraging habitat available to it (100,000s of km<sup>2</sup>) and therefore the temporary displacement of a few foraging individuals from the vicinity of the HDD exit would be a negligible effect.

Given that the proportion of NCC SPA fulmars engaged in maintenance behaviour that could be at potential risk from vessel disturbance is very small, that displaced individuals would be able to quickly relocate and continue maintenance behaviour in the nearby unaffected parts of the marine extension and that the vessel disturbance at the HDD location would be temporary in nature, it is considered that the overall effect on the NCC SPA fulmars would be negligible.

## References

Furness, R.W., Wade, H.M., Masden, E.A., (2013). Assessing vulnerability of marine bird populations to offshore wind farms. *J. Environ. Manage.* 119, 56 – 66.

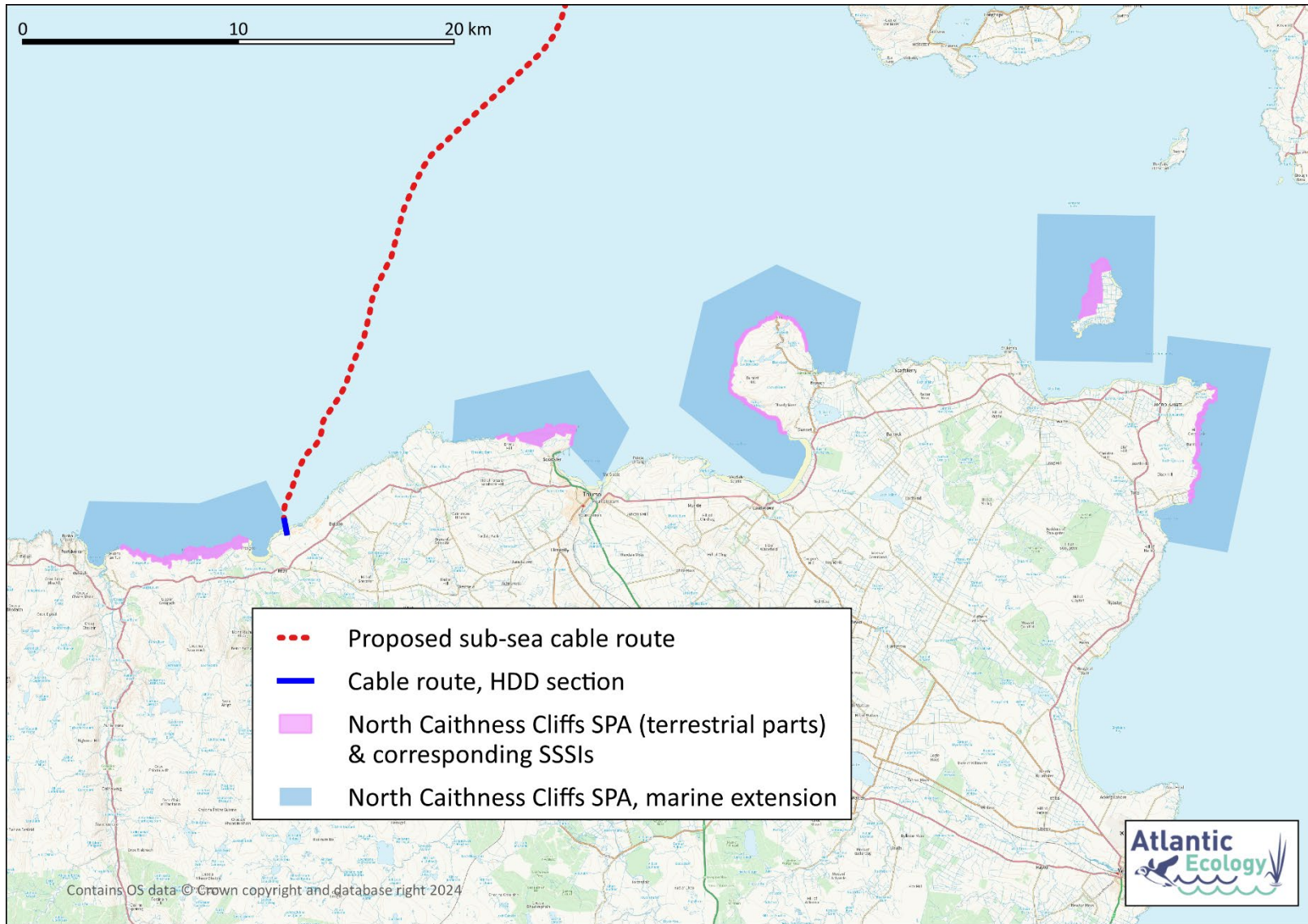


Figure 1

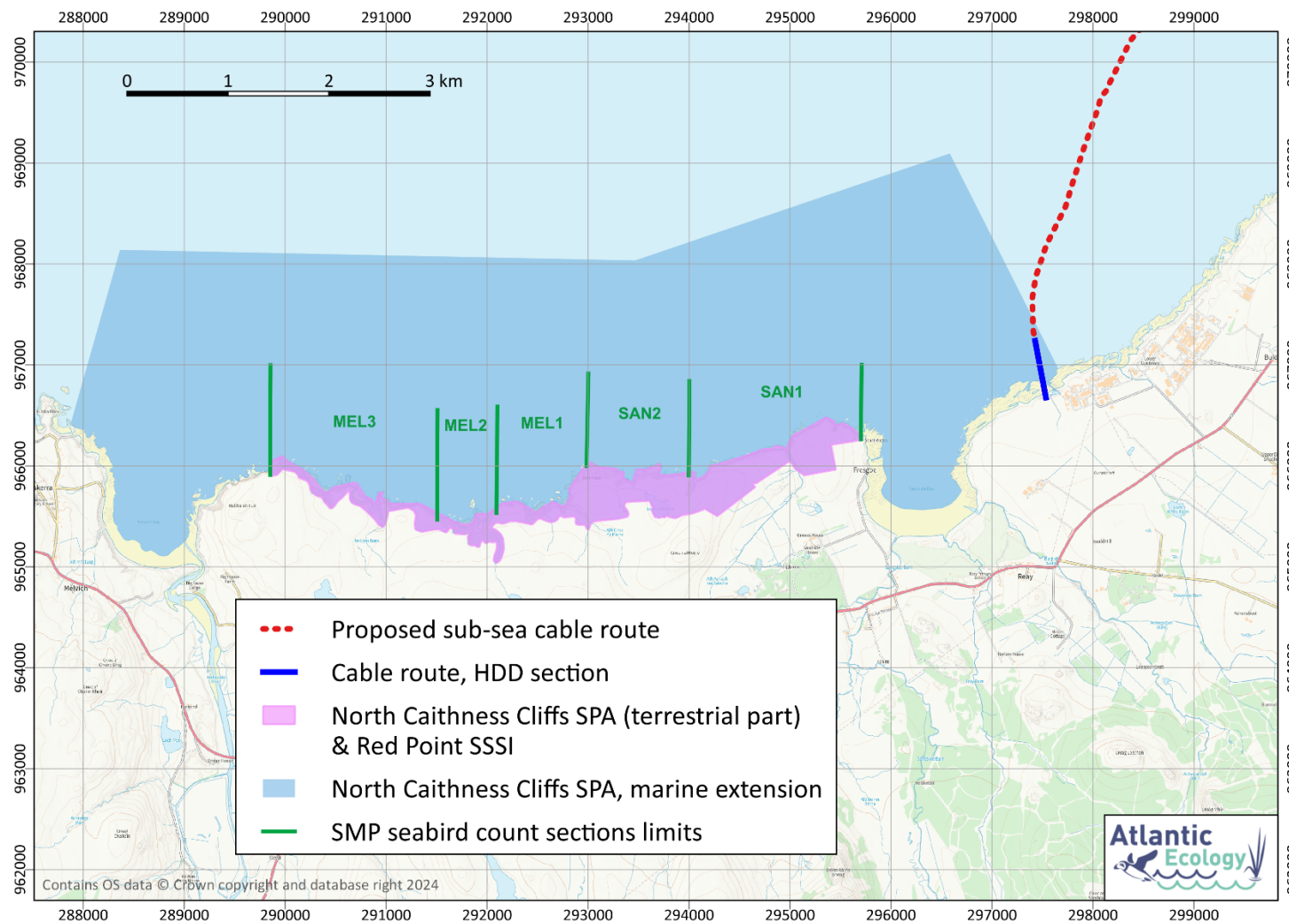


Figure 2