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# **NORD STREAM 2 NATURA ASSESSMENT SCREENING FOR THE SEA AREA SOUTH OF SANDKALLAN, PORVOO (FI0100106)**

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Revision **06**  
Date **16 December 2016**  
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# 1. INTRODUCTION

## Project

In September 2015, PJSC Gazprom, the German companies E.ON and Wintershall, the Anglo-Dutch group Royal Dutch Shell, the Austrian OMV and the French group Engie (formerly GDF SUEZ) signed a Shareholders Agreement to establish Nord Stream 2 AG for the purpose of constructing additional gas infrastructure from Russia to the EU. The Nord Stream 2 twin pipelines through the Baltic Sea will have the capacity to deliver 55 billion cubic metres (bcm) of natural gas per year directly to the EU market in an environmentally safe and reliable way for over 50 years. The Nord Stream 2 project will complement the existing natural gas import routes to the EU. It will also strengthen EU gas infrastructure and the hubs and markets in North West Europe as well as Central and Southeastern Europe via connections to the gas hub in Baumgarten, Austria. The project will be based on the positive experience of the existing Nord Stream natural gas pipeline.

The total length of the Nord Stream 2 natural gas pipelines will be approximately 1,200 km, stretching across the Baltic Sea from Russia's Baltic coast to the German coast near Greifswald, without an intermediate compressor station. The Finnish section within the Exclusive Economic Zone (EEZ) of Finland is some 375 km long. The average depth along the route of the pipeline is approximately 70 m. The route runs at a distance of 20–30 km from the Finnish coastline. The pipelines will be installed on the northern side of the existing Nord Stream pipelines.

The two Nord Stream pipelines were commissioned in 2011 and in 2012, respectively. In May 2012, Nord Stream AG conducted a feasibility study of two potential additional pipelines with an operating life of 50 years, including the study of technical solutions, route alternatives, environmental impacts and financing.

In the feasibility study, Nord Stream AG proposed three main route corridor options and, in particular, investigated potential environmental restrictions to the project within the Finnish EEZ.

## Natura 2000

In the context of the feasibility study, critical areas along the route were identified, one of which is the nearest Natura 2000 site called "Sea Area South of Sandkallan, Porvoo" (later referred to as "Sandkallan"). At the time of the feasibility study, the gas pipeline survey corridor was planned to be located in the immediate vicinity of the nature protection site (with the shortest distance being 6 m from the border). Consequently, the relevant coordinating authority (Centre for Economic Development, Transport and the Environment of Uusimaa (later Uusimaa ELY Centre) required that the impacts of the project to the Sandkallan site be assessed (Ramboll 2013a, Uusimaa ELY Centre 2013). Issues related to protection areas have later been consulted with the Uusimaa ELY Centre.

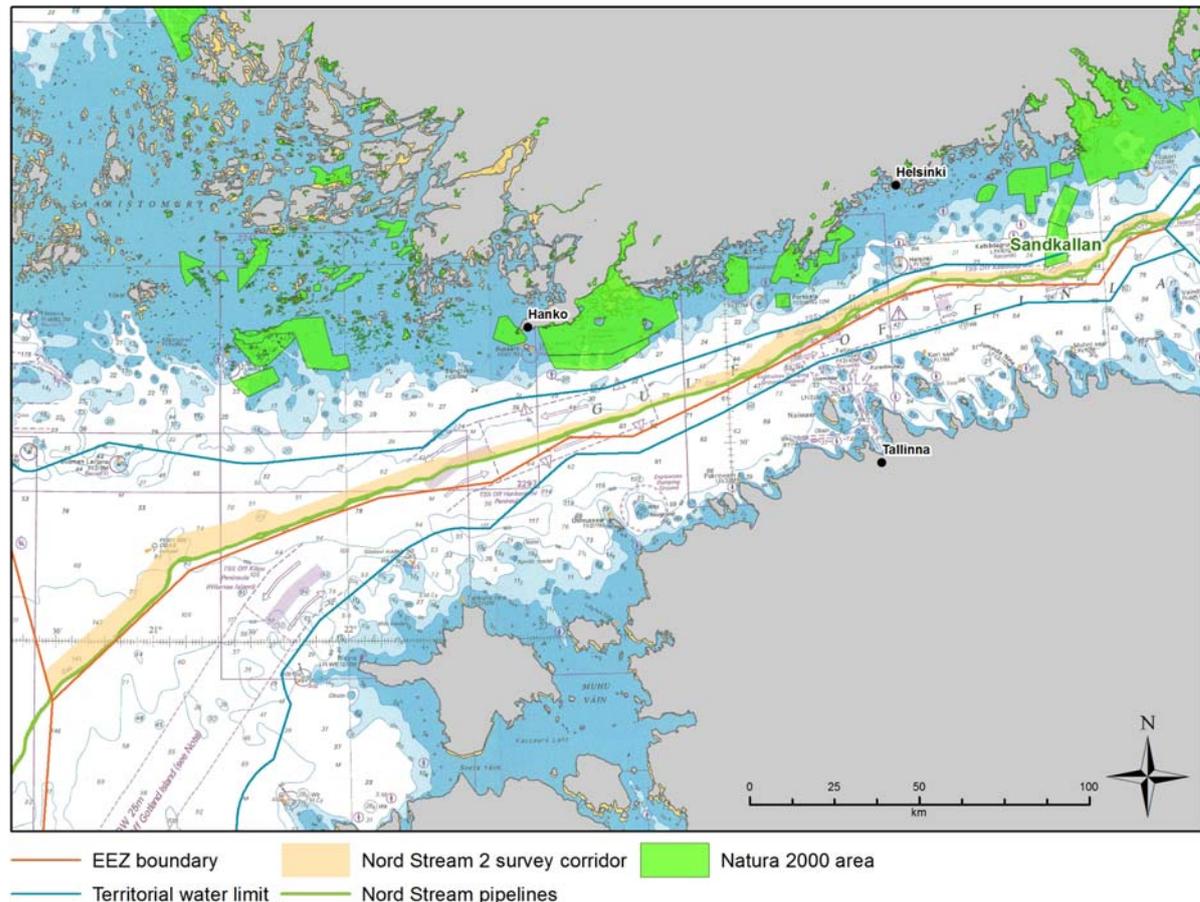
According to permit 3.12.2105 TEM/1641/08.08.01/2015, the protected area is located at a distance of 800 m from the permitted survey area and 1,800 m from the pipeline route currently under consideration (preliminary route option of 6 November, 2015). At a meeting concerning the environmental impact assessment (EIA) procedure held at the Uusimaa ELY Centre on 26 October 2015, it was decided that a Natura assessment screening will be conducted in the first instance. The potential need for an actual Natura assessment would be decided based on the results of the screening exercise.

On this basis, a Natura assessment screening was conducted concerning the impacts of the Nord Stream 2 pipeline project on the Natura 2000 site "Sandkallan". Currently, alternative route

options have not been finalised for the Nord Stream 2 gas pipelines as surveys are underway to select the feasible route options. For the purposes of this study, the closest distance of the proposed route to the Sandkallan site has been set conservatively at 1,800 m. Based on this distance, the Natura assessment screening is limited only to "Sandkallan".

## 2. DESCRIPTION OF THE PROJECT

The planned location of the Nord Stream 2 permitted survey area is presented in Figure 2-1.



**Figure 2-1.** Location of the Nord Stream 2 permitted survey area within the Finnish EEZ (Nord Stream 2 AG).

The implementation of the project requires various preparatory and construction related works in the Finnish EEZ. These are:

- Munitions clearance
- Rock placement onto the seabed in order to level it out and to minimise pipeline freespan
- Transportation of rock material from the port (possibly Kotka) to the installation corridor of the pipelines
- Construction of the points of cross over with existing cables and pipelines
- Pipe carrier vessel traffic from the port (possibly Hanko and Kotka) to the lay barge
- Possible pre-commissioning of pipelines (pressure testing) after installation
- Possible hyperbaric tie-in of pipeline sections
- Commissioning of pipelines
- Operation
- Decommissioning of pipelines

For pipe lay, which is to be carried out in the Finnish EEZ, two types of vessel are planned to be used. For the eastern section, i.e. from the Russian border to the southern sea area of Hanko, a vessel that can be dynamically positioned (DP) by way of thrusters, is intended to be used for pipe lay. From Hanko to the western border of the Finnish EEZ, an anchored lay barge is likely to be used. Overall, the project is intended to be similar to the construction of the Nord Stream pipeline system carried out in 2009–2012. A distinct difference is that, in this project, both pipelines are planned to be constructed concurrently. However, this does not necessarily mean that two pipe lay vessels would be simultaneously present in Finland. The crossing of the planned pipelines with the existing Nord Stream pipelines is planned to be located within the Finnish EEZ, in close proximity to Russian territorial waters.

The laying speed of the pipes is estimated to be approximately 2–3 km per day. As a general guide, the minimum distance of the new pipe routing to the existing Nord Stream pipelines is 500 m for the sections to be laid by the DP vessel and 1,200 m for the sections to be laid by an anchored lay barge.

### 3. BACKGROUND TO THE NATURA ASSESSMENT SCREENING

#### 3.1 Natura 2000 Network

Different habitat types and species and their habitats which fall under the EU Habitats Directive (892/43/EEC) and the EU Bird Directive (79/409/EEC) and which member states have announced or proposed to form part of the Natura 2000 network, are protected. Member states are obliged to ensure that in the preparation and decision-making of projects and plans, a so called Natura assessment is carried out. The purpose of the assessment is to ensure that the ecological values, for which an area is included or is proposed to be included in the Natura 2000 network, *are not significantly deteriorated*.

Activities that have a deteriorating impact are prohibited both inside the site and outside its borders. However, neither the Habitats Directive nor the Bird Directive defines when an ecological value is considered to be deteriorated or significantly deteriorated.

Chapter 10 of the Nature Conservation Act (1096/1996) as it relates to the Natura 2000 network must be applied to all authority decisions. Most Acts which include provisions on activities likely to have an impact on land use or the natural environment contain a reference to section 65 and 66 of the Nature Conservation Act.

*"If a project or plan, either individually or in combination with other projects and plans, is likely to have significant adverse effect on the ecological value of a site included in, or proposed by the Government for inclusion in the Natura 2000 network, and the site has been included in, or is intended for inclusion in the Natura 2000 network, for the purpose of protecting this ecological value, the planner or implementer of the project is required to conduct an appropriate assessment of its impact. The same shall correspondingly apply to any project or plan outside the site which is liable to have a significantly harmful impact on the site. The above assessment of impact can also be carried out as part of the assessment procedure referred to in Chapter 2 of the Act on Environmental Impact Assessment Procedure (468/1994). (24.6.2004/553)"*

In summary, sections 65 and 66 of the Nature Conservation Act mean that the projects and plans may not, either individually or in combination with other projects, significantly deteriorate those ecological values for which an area is included in the Natura 2000 network. If it is likely that such impacts occur, the impacts must be assessed. A permit may be granted or a plan may be

approved only once the assessment and statement procedure have shown that the impacts are not significant. This applies to activities both inside the Natura site and projects outside the site which have an impact on the Natura site. However, it should be noted that activities that have an impact on the natural environment within the Natura site may be permitted, provided that the activities do not significantly deteriorate the grounds for which protection was granted.

#### Habitats Directive

The Habitats Directive aims to protect natural habitat types and natural fauna and flora and their habitats. The objective is to ensure the favourable conservation status of these natural habitat types and species of Community importance by way of a variety of measures. Key measures include the establishment of Natura 2000 areas, the scheme of strict protection and regulation of exploitation.

Natural habitat types and species of Community importance listed in the appendices to the Habitats Directive are found in Finland as follows:

- Annex I, 69 natural habitat types, protection measure Natura 2000 areas (SAC-areas, *Special Areas of Conservation*)
- Annex II, 88 species, protection measure Natura 2000 areas (SAC-areas, *Special Areas of Conservation*)
- Annex IV, 73 species, the scheme of strict protection (Nature Conservation Act, section 49)

In the appendices to the Habitats Directive, natural habitat types and species of Community importance, that are in danger of extinction from their natural area of distribution; that have small populations or areas of distribution; that are good examples of attributes of the nature-geographical area in question and that are endemic species, have been selected. Some of the natural habitat types and species of the Habitats Directive are defined as priority habitats or species, and they have been indicated by an asterisk (\*) in Annex I and II. With respect to those species, the Community has particular responsibility.

#### Coherence of the Natura Area

The Habitats Directive highlights the significance of the Natura area as a whole and the importance of its ecological attributes to the natural habitat types and species found in the area (Söderman 2003). In addition to the impacts on single natural habitat types and species, also impacts of the project to the coherence of the Natura area have to be assessed. Even if the impacts on any individual natural habitat type or species was not significant on its own, minor or somewhat major impacts on several species and natural habitat types could significantly deteriorate the ecological structure of the area or its operation. Coherence and integrity refer to the ecological structure and operation of the area remaining habitable and that the natural habitat types and species, for which the area has been selected to the Natura network, remain viable.

### **3.2 Natura Assessment Screening**

The Natura assessment screening includes five elements: 1) a description of the project or the plan, 2) a description of the Natura site and the impacts to it, 3) an assessment of the significance of the impacts, 4) an investigation of the mitigating measures, alternatives and cumulative impacts and 5) the conclusions including the impact assessment.

The screening can have the following conclusions:

- 1) Does not deteriorate Natura protection values; no need for a Natura assessment
- 2a) Deteriorating; Natura assessment required
- 2b) Occurrence of the impacts is uncertain; Natura assessment required

The "Sea Area South of Sandkallan" has been included in the Finnish Natura network under the Habitats Directive (SAC). Hence, the project's impacts on the conservation status in accordance with the Habitats Directive must be assessed.

## 4. DATA AND METHODS

The possible impacts of the Nord Stream 2 pipeline project on the Natura site (FI0100106, SAC) called the "Sea Area South of Sandkallan" were assessed on the basis of existing data. The design of the planned project has not progressed so far that information of the installation activities near the protection area would have been available at the time of writing this report.

The following data was used as the primary source of information in the assessment:

- Natura data form (2012), the "Sea Area South of Sandkallan, Porvoo". The site has been included in the Natura 2000 network as a later supplement (Proposal for the supplement of the Natura 2000 network proposal, Ministry of the Environment, 1 April 2009).
- The proposed updated data in the Natura data form (2014). Information in the updated proposal is preliminary and may still be amended.
- Marin Mäteteknik AB. 2008. Biological Survey Kalbådagrund. Gulf of Finland
- Marin Mäteteknik AB. 2014a. Nord Stream. Benthic Survey. Kalbådagrund – Gulf of Finland
- Knowledge of the environmental impacts arising from the construction of gas pipelines gained during monitoring of the previously constructed Nord Stream Project.

In addition, results of possible natural habitat type inventories and other potential monitoring data concerning the area were requested from the National Board of Forestry (Metsähallitus). No data was available on natural habitat types for the sea area south of Sandkallan (as per email received from Jyrki Määttä, National Board of Forestry, on 7 December 2015). Equally, no other underwater survey information concerning the area is available (as per email received from Maiju Lanki, National Board of Forestry, on 7 December 2015).

This Natura assessment screening has been prepared by Ramboll (biologist Kaisa Torri M. Sc. and hydrobiologist Ari Hanski M. Sc.) at the request of Nord Stream 2.

## 5. NATURA 2000 SITE OF THE SEA AREA SOUTH FROM SANDKALLAN

### 5.1 Location and General Information

According to the Natura data form: *"The Natura 2000 site is located at open sea south of the city of Porvoo. The topography of the site varies from hard rocky and stony bottoms to large sand areas. The proportion of bedrock, till, sand, gravel and stony bottoms is estimated to be approximately ¾ of the total site area. Even clay bottoms are located in excess of 50 m depth. The depth of water ranges between 10 and 80 m, while the average depth is 35–45 m. The depth of water is more than 50 m in most of the area. However, there are several reef-like stone and bedrock deposits that protrude from the seabed up to 15–20 m depth in the shallowest areas. Although these bedrock, stone and boulder deposits form only a small part of the total surface*

area of the Natura 2000 site, the communities in these areas are diverse and zonal. The dominant species in these areas are blue mussel (*Mytilus trossulus*) and barnacle (*Balanus improvisus*). Also red algae (e.g. *Polysiphonia* sp.) and clawed fork weed (*Furcellaria lumbricalis*) are found in the upper parts of the protrusions. At best, the coverage of blue mussel in these areas is 80%. In deeper areas, the coverage of growth decreases, and almost no blue mussels are found in excess of 30 m depth. At approximately 40–50 m depth, only a few colonies of hydrozoans are found on bedrock and stone surfaces. While the surface areas are small, these occurrences are valuable when located on formations that protrude far out to open sea.

The number of species at the Natura 2000 site is few, as is typical for areas of the Baltic Sea with low salinity. The species are not different from the typical species that are found in the Gulf of Finland. However, the occurrence of the species in remote open sea areas as a representative collection is rare, and the area could be significant with respect to e.g. the conservation and spreading of species in changing environmental conditions. At least blue mussel, barnacle, baltic clam (*Macoma baltica*), *Saduria entomon*, amphipod, ragworm (*Nereis diversicolor*), viviparous eelpout (*Zoarces viviparous*), clawed fork weed and common jellyfish (*Aurelia aurita*) in polypoid stage are found at the Natura 2000 site."

The planned location of the Nord Stream 2 permitted survey area and the nearest Natura 2000 site "Sandkallan" is presented in Figure 5-1.

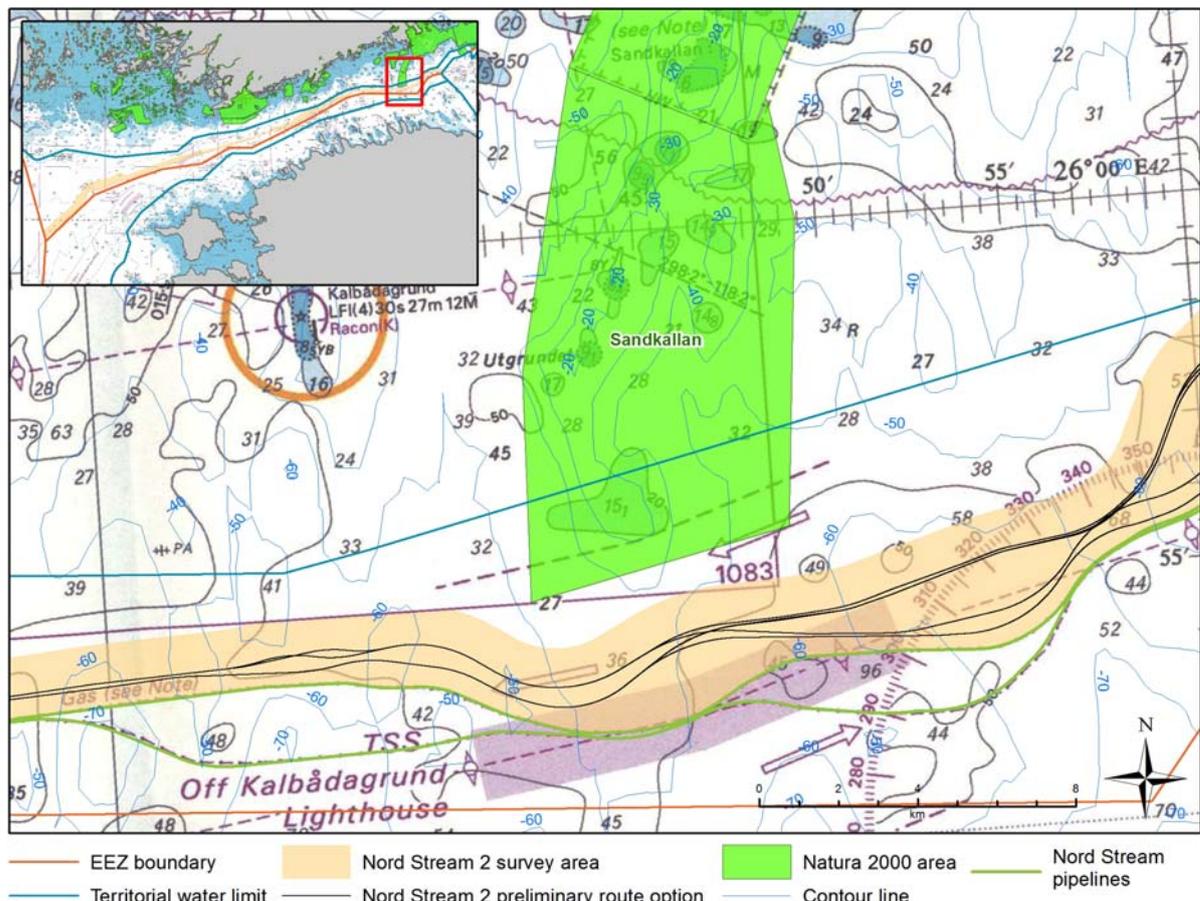


Figure 5-1. Location of the planned Nord Stream 2 Project in the Finnish EEZ in relation to the Natura 2000 site of "Sea Area South of Sandkallan, Porvoo" (Nord Stream 2 preliminary routes of 6 November 2015).

## 5.2 Status of Conservation

The “Sea Area South of Sandkallan, Porvoo” (7,468 hectares (ha)), is a designated HELCOM Marine Protected Area (MPA). The site is protected by virtue of the Water Act (587/2011) and the Nature Conservation Act (1096/1996). No management plan has been established for the site (refer to Figure 5-2).

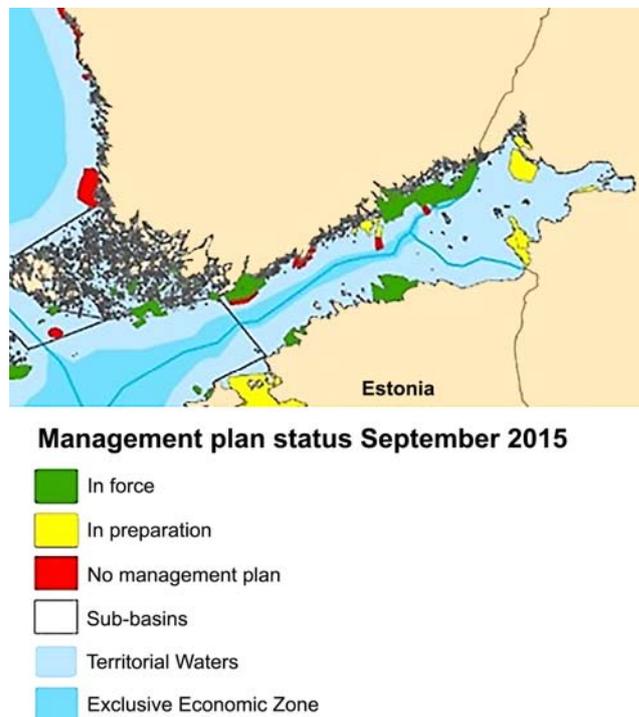


Figure 5-2. The status of management plans in 2015 in the Baltic Sea Protected Areas Network regarding the Gulf of Finland (HELCOM 2015).

## 5.3 The habitat types of Annex I to the Habitats Directive

One habitat type from Annex I to the Habitats Directive, “Reefs (1170)”, has been mentioned in the Natura 2000 information sheet. In connection with the update of the Natura 2000 information sheets in 2014, no changes have been requested to the original habitat types. The habitat type “Reefs” is well represented at the Natura 2000 site, and it has been very roughly estimated that the total coverage at the site is approximately 220 ha. The estimation is based on maps and depth data (as per email received from Maiju Lanki, National Board of Forestry, on 7 December 2015).

A description of the habitat type “Reefs” (Airaksinen and Karttunen 2001): in Finland, there are no actual biogenic reefs, apart from the habitat type comprising rocky shores and groundswith algae zones, which are common in the outer archipelago. In the shores of the northern Baltic Sea, filamentous algal zones are found in the uppermost coastal waters. These zones are often well developed in gently sloping shores. Below the filamentous algal zones, bladder wrack (*Fucus vesiculosus*) zones are found in the sublittoral zone at a depth of 0.5–6.0 m. Below the bladder wrack zones, red algae zones are found at a depth of 5–10 m.

The description of the Sandkallan Natura 2000 site mentions that the site represents the most remote borderline zones of the area of distribution of the habitat type “Reefs” in Finland, and at

the same time, it represents the transitional zones of the habitat type that are only found in deep waters.

#### **5.4 The species of Annex II to the Habitats Directive**

No species from Annex II to the Habitats Directive have been mentioned in the Natura 2000 information sheet. In connection with the update of the Natura 2000 information sheets in 2014, no changes have been requested with regards species listed in Annex II to the Habitats Directive.

#### **5.5 Species of Annex I to the Birds Directive**

No species from Annex I to the Birds Directive have been mentioned in the Natura 2000 information sheet. In connection with the update of the Natura 2000 information sheets in 2014, no changes have been requested with regards bird species listed in Annex I to the Birds Directive.

#### **5.6 Threatened and Other Noteworthy Species**

No threatened or other noteworthy species have been mentioned in the Natura 2000 information sheet. In connection with the update of the Natura 2000 information sheets in 2014, no changes have been requested with regards threatened or other noteworthy species.

## **6. THE ENVIRONMENTAL IMPACTS OF THE NORD STREAM PROJECT**

### **6.1 General information**

The environmental impacts of construction and operation of the previously implemented Nord Stream gas pipeline project have been monitored in accordance with a specific monitoring programme. The main results and conclusions are presented in the following paragraphs and subsections. In addition, the monitoring results of two biological surveys near "Sandkallan" have been summarised.

As a general observation, it can be stated that the identified environmental impacts during construction were realised at the level anticipated and in some cases at levels lower than anticipated (Ramboll 2013b).

Increased temporary sea water turbidity was detected within a 10 m zone above the seabed (soft sediment type) at the largest rock placement area (hyperbaric tie-in). The impacted zone extended to less than 1 km from the work site (Ramboll 2013b).

During munitions clearance, the most common sediment type at the sites of detonations was very soft or soft clay. The main conclusion of the monitoring results was that the extent of the turbidity plumes, if any, extended 200–300 m around the detonation point. Average concentration of suspended solid matter calculated for all water samples taken was 2.4 mg/l and average turbidity value was 0.7 FNU<sup>1</sup>. Metal or nutrient concentrations did not increase from background values in the vertical sampling profiles.

During pipe lay, the DP lay barge did not cause significant increase in sea water turbidity near the seabed (Ramboll 2013b).

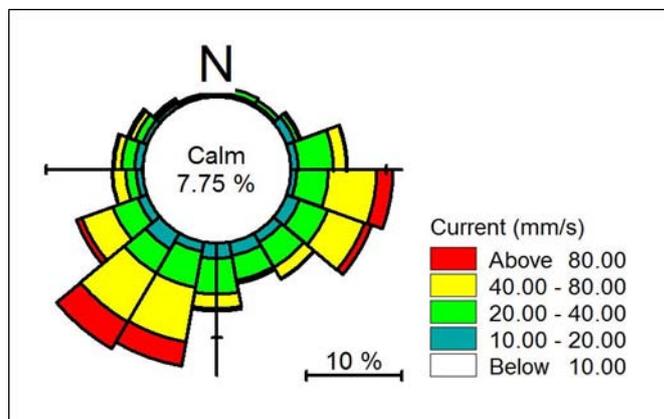
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<sup>1</sup> FNU = a turbidity unit equivalent to NTU

Based on the side scan sonar survey results from 2014, during operation, both Nord Stream pipelines lie on the seabed in the Finnish EEZ where currents near the seabed are normally low (MMT 2014b). Therefore, processes like scouring (erosion) or sedimentation is not expected to occur to a significant degree. Potentially, local scouring may occur in the immediate vicinity (1 m offset) of the pipes which is caused by currents near the seabed. Exposed pipes (embedment <20%) can have some impact on currents near the pipes, but no significant impacts were recorded at distances in excess of 50 m (Witteveen+Bos et al. 2012).

## 6.2 Rock placement near the Kalbådgrund area

At the rock placement sites closest to "Sandkallan", the dominating bottom currents have an easterly and south-westerly direction (Appendix 1, Figure 6-1). The planned Nord Stream 2 pipelines are intended to be located south of the Natura site in question.



**Figure 6-1.** A rose diagram of the average direction and speed of the current as measured in the lowest 10 m water column, at site VOFIXIW3 during rock placement. Measurement period : 6 May 2010 – 29 June 2010 (Ramboll 2011; Appendix 1).

The highest turbidity values recorded by fixed sensors were 6–9 NTU. The total duration of elevated turbidity in sea water, i.e. with values exceeding 5 NTU<sup>2</sup>, lasted a maximum of one hour (Ramboll 2011). Figure 6-2 indicates the occurrence and magnitude of turbidity peaks near the seabed during rock placement activities in May 2010.

<sup>2</sup> The average background turbidity (2 NTU) and turbidity increase because of construction activities (>3 NTU)

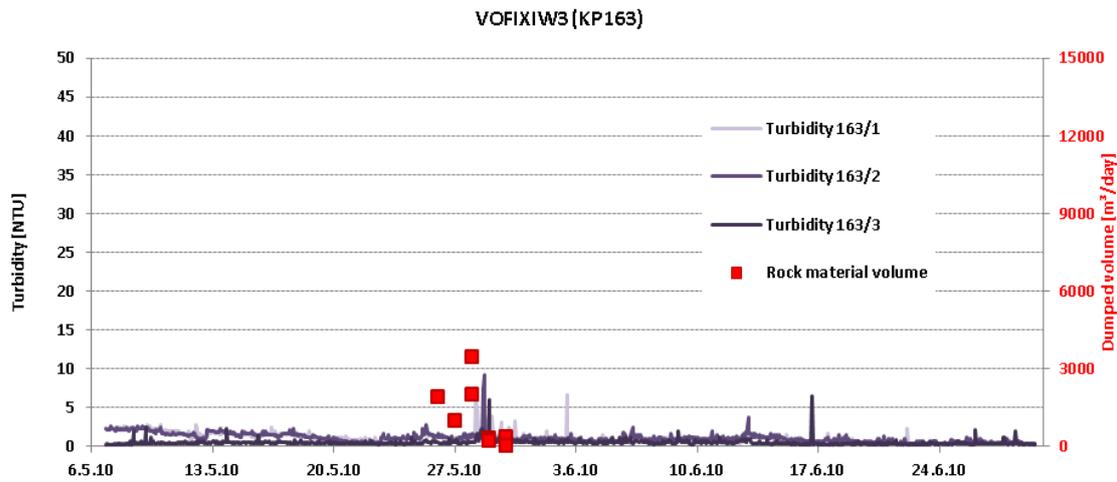
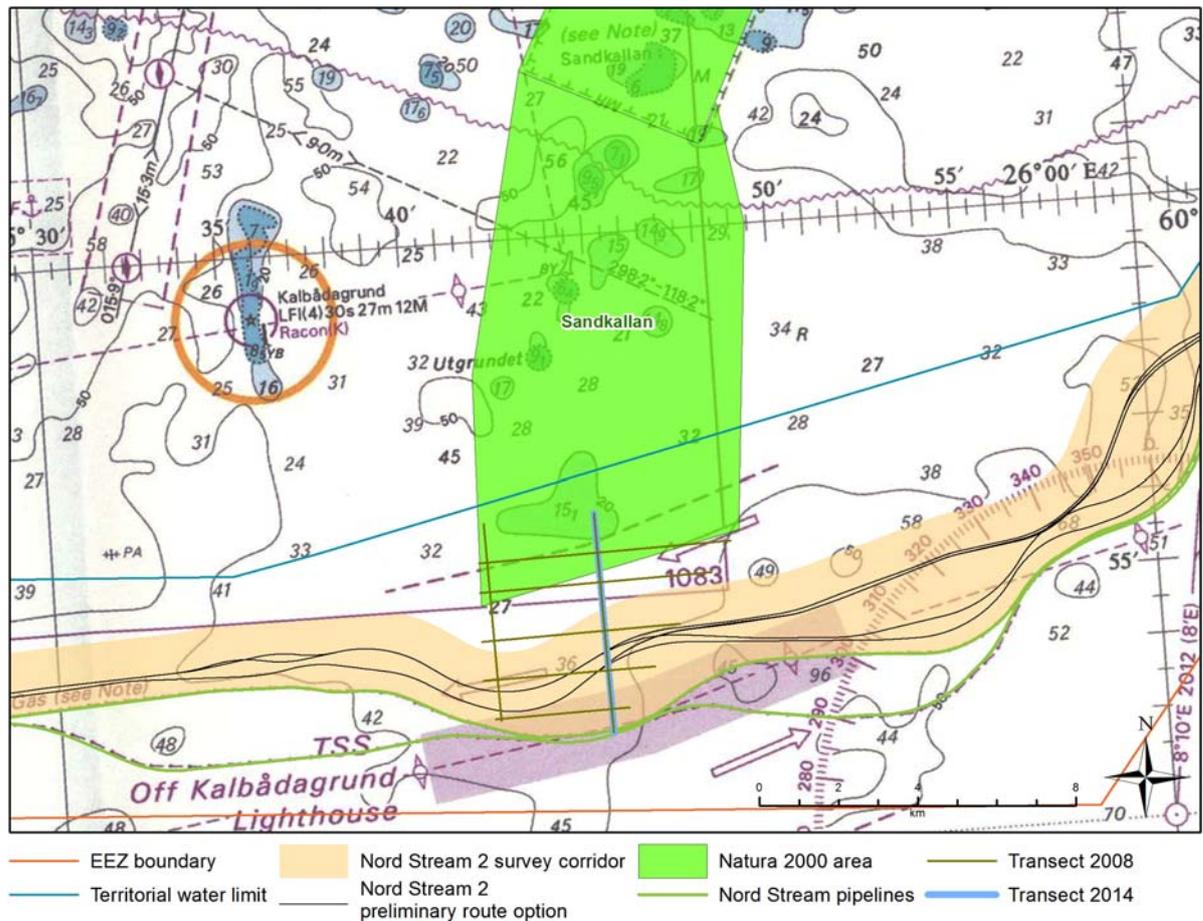


Figure 6-2. Turbidity (NTU) near the seabed (left y-axis) and volume of placed rock material per day (right y-axis) at VOFIXIW3 during 6 May–29 June 2010 (Luode Consulting Oy 2010).

### 6.3 Transect surveys in the Kalbådagrund area

The quality, conditions and populations of the seabed at the edge of the Sandkallan Natura 2000 site that faces the open sea, have been monitored in selected survey lines on two occasions, in 2008 and in 2014, in connection with the environmental impact assessment of the Nord Stream Project and monitoring of the construction phase. The southern border of the site is located at a 2.9 km distance from the pipeline route in a sector where a DP lay barge was used. Prior to pipe lay, the nearest rock placement areas were located at a 3.3–3.9 km distance from the southern border of the Natura 2000 site.

In both previously mentioned years, the total length of the survey transect was approximately 5 km (Figure 6-3). The survey was carried out by taking continuous video footage (DDV) and stills every 50 m. Water depth along the transect varied between 25–70 m. The quality of the seabed varied from coarser materials in the northern part to finer materials in the southern part, which was generally covered with bacterial growth indicating a deterioration in the oxygen condition.



**Figure 6-3.** The transects in the southern part of the Natura 2000 site and in the nearby sea area in 2008 and 2014. The blue transect is common for both years. The figure also presents the preliminary route options of the new pipelines (preliminary route option of 6 November 2015).

#### 6.4 Results of video photography

The objective of the survey was to map out existing habitats, their occurrence and spread as well as the composition of the species on different types of seabed. In addition, observations were made on whether the construction of the pipelines had potentially caused any changes to the state of the seabed or biota.

Based on the results, it was observed that hard and soft bottoms alternated and several potential habitats were identified:

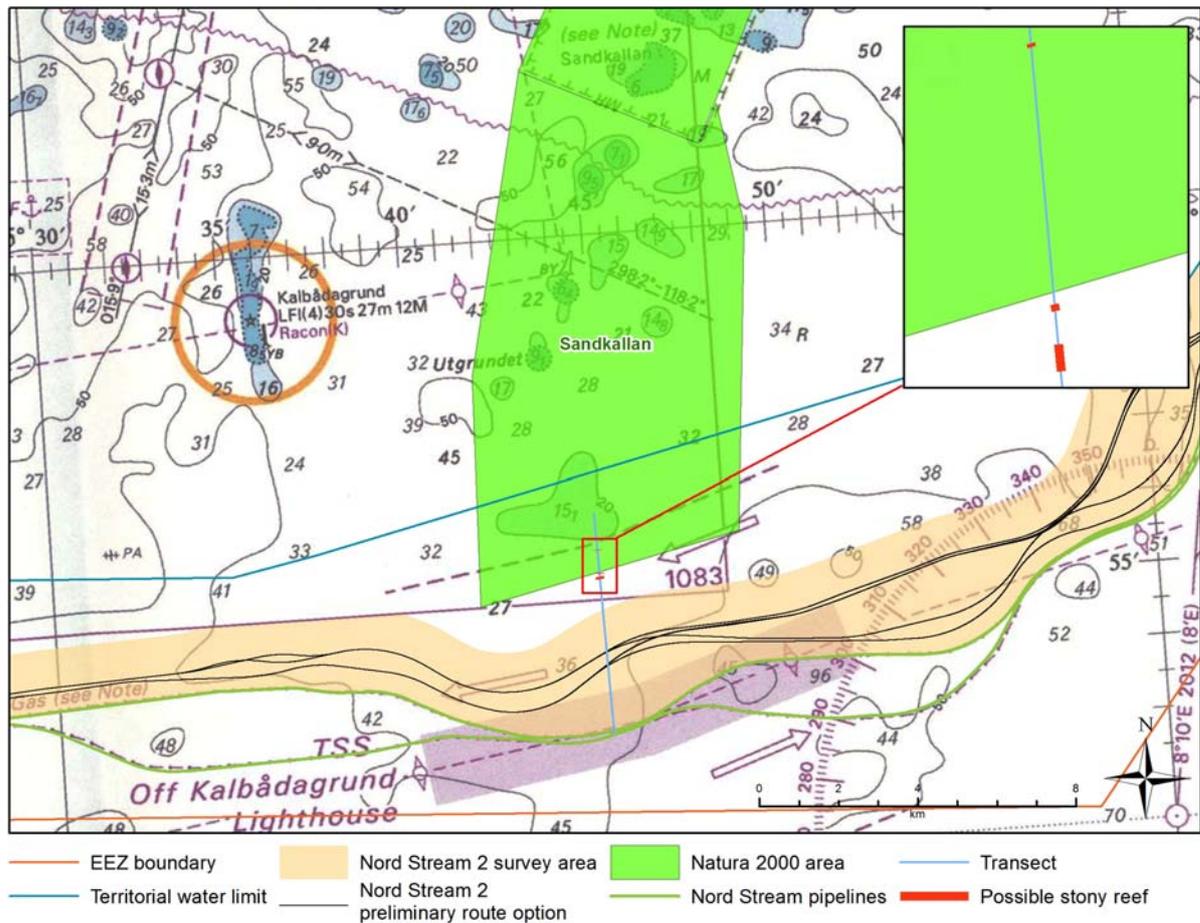
- Bedrock
- Rock – boulders
- Nodule residues
- Nodules or nodules with sand/gravel
- Sandy sediment
- Clay/silt
- Oxygen-free, bacteria covered bottom

*In August 2008*, in the transect, at a depth of over 60 m, oxygen-free areas were observed and no biota was identified on the seabed. The polychaete, *Harmothoe sarsi*, was common at a depth of 50-64 m among the bedrock, boulders and nodules. On soft bottoms, signs of another polychaete (*Marenzelleria spp.*) were observed. These habitats often suffer from lack of oxygen. On sandy sediments, and also on bedrocks, boulders and nodules, *Mysis sp.* was met. *Saduria*

*entomon* was dominant on sandy sediments at a depth zone of 33–43 m. However, densities were very low, <20 individuals/m<sup>2</sup>. In shallow parts (32–55 metres), few *Mytilus edulis* was found between boulders and rocks (5–20 individuals /m<sup>2</sup>). No dense mussel colonies formed by *Mytilus* were observed. Also, only a few *Macoma baltica* were observed. On hard bottoms, viviparous eelpout (*Zoarces viviparus*) was found. (Marin Mätteknik AB 2008)

In June 2014, the same transect as in 2008 was surveyed. At a depth of 59–65 m, *Saduria entomon* was the only macrofauna species that was found in loose, soft, clay and in silt covered with a bacterial growth. The largest observed density of *Macoma balthica* was around 200 individuals/m<sup>2</sup> at a depth of 52 m where there were more rough sediments, boulders, cobbles and occasional bedrock outcrops. In similar types of bottoms, *M. edulis* was found at depths of 27–39 m, with a density of 175 individuals/m<sup>2</sup>. *Saduria entomon* was the species that was found most commonly in different habitats along the transect. The fish species found were viviparous eelpout and fourhorn sculpin (*Myxochephalus quadricornis*).

Corresponding to the results of the 2008 survey, no actual blue mussel colonies or organic (biogenic) reefs were observed due to the low individual density of *Mytilus*. However, on the basis of the size of the aggregations and the composition of the stony bottoms, some bottom areas in the survey line (three points) were classified as potential stony reefs. The extent of the areas varied between 8–61 m. One of the areas is located inside the Natura protection site and two are outside (Figure 6-4; MMT 2014a).



**Figure 6-4.** Location of potential stony reefs in the transect of 2014. The figure presents the preliminary route options of the new pipelines (preliminary route option of 6 November 2015). Observed possible reefs outside the Natura site are not protected under the Habitats Directive nor the Nature Conservation Act, and hence fall outside of the scope of this assessment screening.

### 6.5 Conclusions

The comparison between the results of 2008 and 2014 shows that the construction works of the twin pipeline carried out nearest to the Natura site did not alter the seabed conditions in the southern parts of the Natura site. Hence, the works did not cause a harmful impact on the grounds of conservation of the Sandkallan Natura 2000 site i.e. the representativeness of habitats found on the seabed and the epifauna living there. No new seabed material was observed to have sedimented on the seabed which would have indicated the potential spread of sediment due to pipeline construction activities. This observation is consistent with the results of the environmental monitoring carried out during the construction activities. The conclusion of the comparison of the survey results presented in the Annual Environmental Monitoring Report 2014 was that "Construction of the pipelines has not had any impact on the living conditions on hard seabed areas at the Kalbådagrund area" (Ramboll 2015).

## 7. ASSESSED IMPACTS OF NORD STREAM 2 ON THE SANDKALLAN NATURA 2000 SITE

### 7.1 General information

The EIA programme stated that the impacts on protected areas will be identified with regards to different project stages (Ramboll 2013a). The potential interference from the construction of the pipelines to the nearest protection area, Sandkallan Natura 2000 site, will mainly be related to possible changes in water quality through suspension and spreading of disturbed sediments. In this context, the activities include potential munitions clearance, potential rock placement to support the pipeline on uneven seabed, pipe lay using the DP barge and eventually the operation of the pipelines.

Only the habitat type but no species mentioned in the Habitats Directive or Birds Directive are protected (see subsections 5.3. -5.6). For this reason, impacts of dangerous substances and underwater noise on aquatic animals or birds have not been assessed in this Natura screening.

Important key factors when assessing impacts are distance of the works in relation to the protection area, bathymetry and seabed type (hard/soft) in the section of the planned pipeline route and dominating currents near the seabed in the area. For the purposes of this screening, valuable information was obtained from the results and conclusions of the environmental monitoring carried out during the Nord Stream Project (see section 6).

### 7.2 Impact on Natural Habitat Types of the Habitat Directive

The shortest distance from the permitted survey area of the planned project to the border of the Natura site is approximately 800 m and 1 800 m from the nearest route option of the pipelines (preliminary route option of 6 November 2015). Based on the transect description (Figure 6-3), the composition of the seabed in the area comprises mostly hard substances, gravel and boulders and only patches of finer material, clay and silt (MMT 2014a). However, depth conditions in the area nearest to the protection site seem to vary slightly (shallowing from east to west). It is probable that some seabed intervention activities (rock placement) are needed to avoid large freespans.

Both rock placement and possible munitions clearance will cause some temporary impacts to the quality of sea water near the seabed. This impact is highly dependent on the composition of the seabed which is assumed to comprise mainly hard substances. Based on previous experience, the temporary turbidity plumes are not expected to reach the protection site even in the worst case scenario (see section 6). Based on measurement results, the dominant currents near the seabed do not flow in the direction of the protected site (Figure 6-1).

Operation of the pipelines will not cause any significant impact to the environment nor to the protected site. Pipelines on the seabed may cause minor, localised impacts that are related to the hydrological conditions (see section 6). In certain circumstances, the current flow nearest to the pipes may be affected. However, due to distance, this is not expected to have any impact on the Natura site.

The conclusion of this assessment is that no harm will be caused to the Natura 2000 site that would jeopardise the representativeness of the natural habitat type "Reefs".

### 7.3 Impact on species of Annex II to the Habitat Directive

No species of Annex II of the Habitat Directive have been mentioned in the Natura data form.

#### **7.4 Impact on species of Annex I to the Bird Directive**

No species of Annex I of the Bird Directive have been mentioned in the Natura data form.

#### **7.5 Threatened species and other noteworthy species**

No threatened species or other noteworthy species have been mentioned in the Natura data form.

## **8. CUMULATIVE EFFECTS WITH OTHER PROJECTS**

During the compilation of this Natura assessment screening, no other construction projects or other activities are known to be present that in combination with the planned pipeline project would threaten the present state of the Sandkallan Natura 2000 site.

According to regional zonal plans, certain sea areas close to the shore areas have been reserved for the development of wind parks. As per the proposed fourth stage regional plan of Uusimaa, Figure 8-1 shows the location of an area outside of Porvoo reserved for wind park development. The area is located at a distance of 12 km from the Natura site in question (Helsinki-Uusimaa Regional Council, 16 November 2015). Similar areas indicated in the regional zonal plan of Kymenlaakso are located further away from the protected site. Based solely on the distances involved, it can be stated that cumulative impacts will not be generated by the planned project and potential wind park developments. Moreover, the construction phase of the pipelines will likely not concur with any potential windpark development.

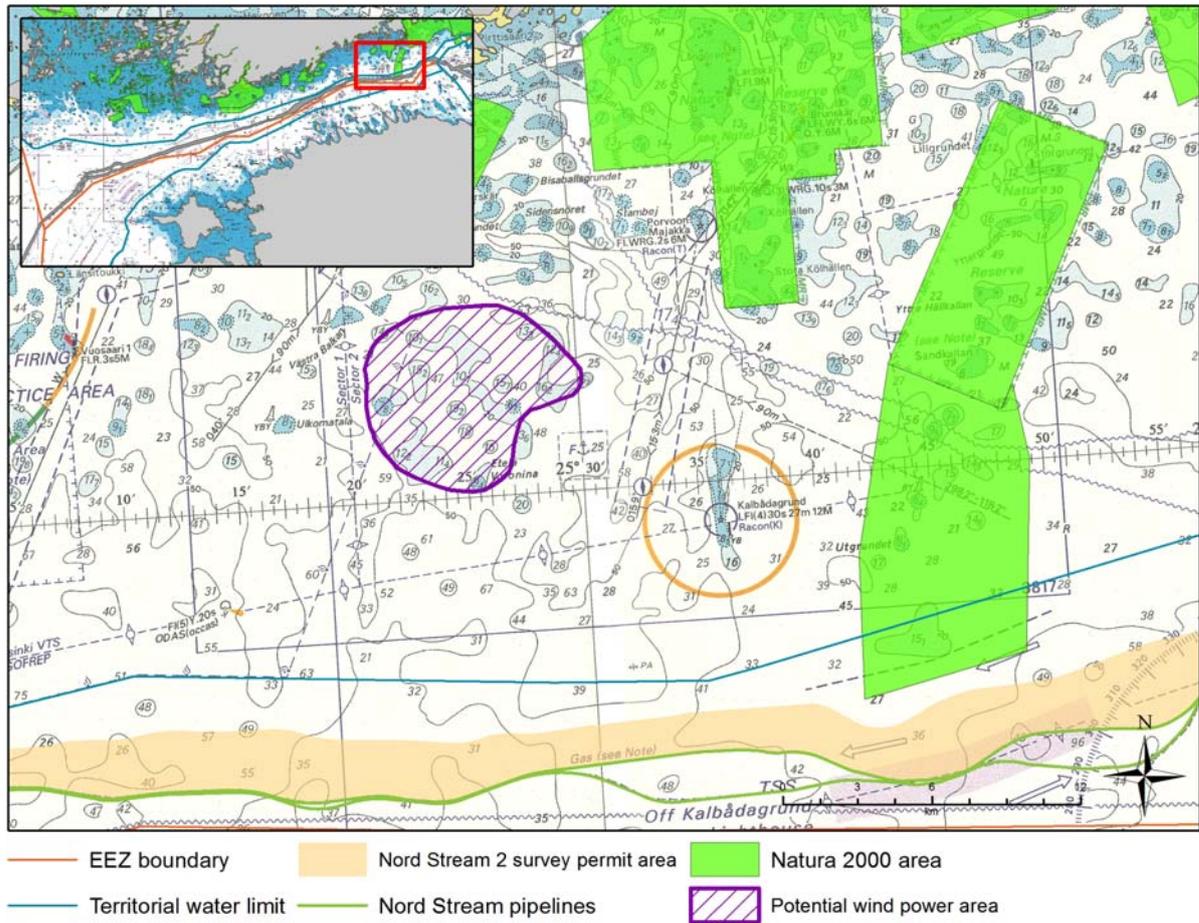


Figure 8-1. Sea area outside of Porvoo and nearest to Sandkallan which is reserved for a windpark

## 9. IMPACT ON THE COHERENCE OF THE NATURA SITE

Coherence and integrity refers to the ecological structure and operation of the site in question remaining habitable and that the natural habitat types and species for which the site has been selected to the Natura network remain viable. The assessed project does not have such impacts that would deteriorate the ecological values that serve as the grounds for the conservation of the Natura site. The Nord Stream 2 project is assessed not to have an impact on the coherence of the Natura site called the “Sea Area South of Sandkallan”.

## 10. MITIGATING ADVERSE IMPACTS

Based on the available technical description of the planned project (location of the permitted survey area and location of the pipeline route options with respect to the protection and probable construction activities), no adverse impacts are expected for the Natura site. Therefore, based on current knowledge of the project design, no special mitigation measures are assessed to be necessary at this point of the pipeline route. Environmental monitoring during the construction activities will reveal the scope and intensity of the impacts. The results will indicate any potential need for mitigation measures.

## 11. CONCLUSIONS

Based on the assessment and the distances of 800 m from the permitted survey area and 1,800 m from the nearest pipeline route under consideration , the planned Nord Stream 2 project will not have adverse impacts on the natural habitat type “reefs” that forms the basis for conservation in “Sandkallan” Natura 2000 area. For this reason, an actual Natura assessment is not considered necessary for the project.

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