



Nord Stream 2

Committed. Reliable. Safe.

---

## Environmental Monitoring of Nord Stream 2 Construction in Russia

---

Nord Stream 2 AG | Nov-19





## Table of Contents

<b>Environmental Monitoring of Nord Stream 2 Construction in Russia .....</b>	<b>3</b>
1. General Information .....	3
2. Comprehensive Environmental Monitoring Programme .....	4
3. Localised and Short-term Impacts .....	5
4. External Watchdogs Ensuring Compliance .....	6



# Environmental Monitoring of Nord Stream 2 Construction in Russia

## 1. General Information

**Pipelay monitoring results in Russia show only localised and short-term impacts.**

Nord Stream 2, the developer of the twin pipeline to supply Russian natural gas to the EU market through the Baltic Sea, **has completed pipelay** in the Russian offshore and onshore sections – **the most environmentally significant activities as part of Nord Stream 2 construction in Russia.**

The Russian onshore section of the pipeline passes through the Kurgalsky nature reserve. Fully aware of its responsibility **to minimise the impact of construction on this valuable area**, the company deployed an innovative open-cut trench box construction method and thus reduced the construction corridor and related environmental impacts **by 50%.**

Works are supported by **a broad range of mitigation and compensation measures** in order to further minimise the impacts and ensure compliance with the Russian legislation and international standards. Some elements of this programme go beyond the conclusion of the State Environmental Expert Review (SEER) under the Russian Federal Service for Supervision of Natural Resource Use (Rosprirodnadzor).

Before the construction activities commenced, the company had launched **the multi-faceted and comprehensive environmental monitoring programme** so as to compare environmental impacts with those described in the Environmental Impact Assessment (EIA) report. Monitoring reports are being regularly (quarterly, semi-annually and annually) submitted to the competent authorities, which also carry out onsite inspections.

**Over one and a half years of monitoring results** confirm that impacts are localised, short-term and do not exceed admissible levels, as estimated in the EIA report. External watchdogs, overseeing compliance with high environmental standards during construction in the Kurgalsky reserve commend the company's responsible approach towards project implementation.

The following paper outlines the environmental monitoring programme implemented as part of Nord Stream 2 construction in Russia in more detail.



## 2. Comprehensive Environmental Monitoring Programme

### **Comprehensive environmental monitoring has been ongoing since the beginning of preparatory works through specialised contractors and consultants**

The comprehensive environmental monitoring programme **was approved by the SEER** as part of the project documentation. It allows the comparison of environmental impacts with those described in the EIA report.

The monitoring has been ongoing since the **beginning of preparatory works in 2018 through a number of specialised contractors and independent consultants**, including several scientific institutions such as the State Hydrological Institute, the All-Russian Institute of Plant Industry, the All-Russian Research Institute of Metrology, the Russian Federal Research Institute of Fisheries & Oceanography, the Arctic & Antarctic Research Institute and others.

While the performed programme is multi-faceted and comprehensive in nature, the key aspects are as follows:

- > **Visual observations and soil sampling** in the water protection zone of the Gulf of Finland;
- > Monitoring of **migratory avifauna** and **fish species of commercial value**;
- > Monitoring of construction impacts **on the Kurgalsky reserve's habitats**;
- > Monitoring of **the relocated protected plants species**.

The onshore section is under **continuous observation**. For the offshore works over **140 days (over 15,000 man-hours)** of monitoring survey work have been carried out by the end of Q3 2019; the work will continue going forward.

- > **Offshore, around 35 stations** have been installed, with an integrated set of parameters being monitored.
  - The number of monitoring stations is higher in the sensitive nearshore area, where impacts are estimated to be the most significant. As such, the **total area covered by monitoring exceeds 40km<sup>2</sup>**.
  - **Areas adjacent to the construction corridor** were constantly monitored and sediment control measures were deployed to ensure that turbid water doesn't enter the natural habitat.
- > **On top of regular surveys**, fish **spawning grounds**, **seabird** and **salmon** migration are monitored seasonally, with additional control being organised for **specific construction activities** such as storing soil underwater, rock placement, etc.
- > **Onshore, over 20 integrated monitoring stations have been established**, supplemented by **flora transect surveys** and more **than 20 locations** to monitor the relocated protected plants:
  - The scope of works includes surveys of **local and migratory avifauna**, as well as of **rare and indicator species** for the three main biotopes along the pipeline route: Ringed Plover (*Charadrius hiaticula*) for the coastal line, Black Woodpecker (*Dryocopus martius*) for the forest and Common Crane (*Grus grus*) for the swampy area.



- **Photo traps** were installed along migration routes in each key biotope in order to evaluate whether a special passage organized for animals is effective in helping them to cross the construction corridor.
- > **Upon the recommendation of independent watchdogs** and given **the Kurgalsky reserve's status** as an internationally recognised wetland, the company also conducts **hydrological monitoring** in partnership with the State Hydrological Institute – a leading specialised institution in the field.
- **Network of observatory wells** has been installed **within the reserve** to monitor groundwater level.
- **This monitoring** will continue through the construction phase in order **to assess whether construction** has resulted in any changes to hydrology.

### 3. Localised and Short-term Impacts

#### Over one and a half years of monitoring results confirm that the impacts were localised and short-term

Over one and a half years of environmental monitoring results have been obtained as of the end of Q3 2019. These confirm that construction works in the Kurgalsky reserve have only **localised and short-term impacts** that do not exceed admissible levels, as estimated in the EIA report. While surveys are still ongoing, the preliminary conclusions are as follows:

- > Environmental impacts of **offshore construction** are comparable to **natural fluctuations and seasonal changes**.
- > Impacts of the **nearshore sea-bed preparatory activities** were short-term and temporary. Once the works had been completed, indicators returned back to their **natural level**.
  - In terms of turbidity, **the peak concentration of suspended sediments as a result of construction** did not exceed the levels associated with seasonal factors.
  - Monitoring results show that there were **no transboundary impacts**, and that construction activities **did not have impacts on the herring and goby spawning grounds** located in about 4km to the north of the construction site:
    - Scope of work included **continuous turbidity monitoring** with remote stations located close to the Estonian border and near the spawning grounds, **as well as a monthly control** of water quality, sediments and ichthyoplankton.
    - 4km from the construction site, **no turbidity fluctuations** have been identified as directly associated with offshore activities.
  - During sea-bed preparation, impacts at the temporary soil storage site **were in line with those modelled in the EIA report**.
    - Consequently, turbidity levels **neither exceeded the control level nor reached the threshold** as outlined in Russian legislation.
- > In the Luga Bay, at the permanent soil storage area, the level of turbidity deviated slightly from background levels, nonetheless remaining in line with the EIA model. **Ten days** after works had been completed, the **water quality and sediments returned to their natural level**.
  - Those activities **did not have impact on phyto- and zooplankton development**. Measurements taken in June 2019 confirmed that those quantitative indicators were



within the range observed due to seasonal factors. Aquatic organisms were also not impacted.

- > When monitoring **the Gulf of Finland water protection zone**, no impacts were observed as a result of construction.
- > No significant impacts on birds have been identified as a result of construction, including the migratory and indicator species. The impact on some species has been assessed as acceptable, namely:
  - **There has been no disruption to the migration of key bird groups as a result of construction.** While it was noted that some geese and seaducks changed their preferred stopover sites during spring migration, ornithologist believe that this impact is **acceptable**.
  - **There has been no impact on the local crane population or breeding grounds** which is an indicator species for the swampy habitat.
  - **There has been no impact on the black woodpecker** (an indicator species for the forest area) in the south of the Kurgalsky peninsula.
  - **There has been no impact on the** ringed plover population (an indicator species for the coastal line).
  - During the winter (non-breeding) period, **a small group of non-migratory bird species temporarily spread across the area away from the construction corridor.** No impact on forage areas or overall living conditions of the species have been identified. Upon completion of the cofferdam construction (which caused some noise pollution) and the start of vegetative season in April 2019, **no such behaviour was any longer observed.**
- > **No negative impacts on the Kurgalsky habitats, through which the pipeline passes, have been identified:**
  - At the control plots in the Kurgalsky reserve, no impact on **trees and vegetation** have been found as a result of construction.
- > It has been confirmed that the protected plant species relocated in 2018 on the basis of permits issued by the competent authorities are **showing a high survival rate and generally in good condition.**
- > The majority of protected plant species growing near the construction corridor **are in good condition.**

## 4. External Watchdogs Ensuring Compliance

### External watchdogs recognise the company's responsible approach towards project implementation

Going beyond the requirements of the Russian legislation, as a responsible project developer, Nord Stream 2 **retained two leading Russian and international firms as independent watchdogs together with an environmental auditor.** In line with best industry practices, the auditors perform an external oversight of company's compliance with commitments and high environmental standards when working in the Kurgalsky reserve.

**All project activities within the protected area are being audited by VNI Ecology,** a prominent Russian research institute with special expertise on the management of pro-



tected areas. In one report, the auditor noted: *“During the onsite inspection, no environmental restrictions have been identified as a result of construction. As such, in terms of environmental requirements construction work may continue, no risk factors for the environment have been found, the defined estimates are in line with the Russian law.”*

To ensure compliance with international standards, the company partners with **Royal Haskoning DHV**, a leading international engineering and environmental consultancy. The report, issued after the field visit in summer 2019, outlines the following: *“It is the opinion of the independent environmental and technical advisor that the project is well managed and follows good environmental management practices.”*

In addition, **ERM, a global provider of environmental, health, safety, risk, and social consulting services, regularly** audits the key contractors’ performance against environmental protection requirements established for the Russian landfall construction site.

**None of the watchdogs or auditors identified critical deviations from design documentation, Russian law, or international standards throughout the most active phase of construction.** No violations have been observed as part of construction activities in the Kurgalsky reserve. All comments and recommendations from auditors are aimed at further improving environmental performance and being taken onboard by the company.



For more information on the Nord Stream 2 AG, please visit our website: <https://www.nord-stream2.com/>.

For more information on the Environmental and Community Initiatives Strategy, please visit: <https://www.nord-stream2.com/responsibility-sponsoring/eco-i-russia/>

### **Nord Stream 2 AG**

Baarerstrasse 52, 6300 Zug, Switzerland

[info@nord-stream2.com](mailto:info@nord-stream2.com)

T: +41 41 414 54 54

F: +41 41 414 54 55

### **Moscow Branch**

Plotnikov pereulok 17, 119002 Moscow, Russia

T: +7 495 229 65 85

F: +7 495 229 65 80

### **St. Petersburg Branch**

ul. Reshetnikova 14a, 196105 St. Petersburg, Russia

T: +7 812 331 16 71

F: +7 812 331 16 70

[Russia@nord-stream2.com](mailto:Russia@nord-stream2.com)

### **Our Russian social media channels:**

#### **Twitter:**

<https://twitter.com/NordStream2>

@NSP2\_Rossiya

**YouTube: Nord Stream 2**

**VK: Nord Stream 2**

### **About Nord Stream 2 AG**

Nord Stream 2 is a planned pipeline through the Baltic Sea, which will transport natural gas over 1,200 km from the world's largest gas reserves in Russia via the most efficient route to consumers in Europe. Nord Stream 2 will largely follow the route and design of the successful Nord Stream pipeline. With Europe's domestic gas production projected to halve in the next 20 years, Nord Stream 2's twin pipeline system will help Europe to meet its future gas import needs, with the capacity to transport 55 billion cubic metres of gas per year, enough to supply 26 million European households. This secure supply of natural gas with its low CO2 emissions will also contribute to Europe's objective to have a more climate-friendly energy mix with gas substituting for coal in power generation and providing back-up for intermittent renewable sources of energy such as wind and solar power.

[www.nord-stream2.com](http://www.nord-stream2.com)