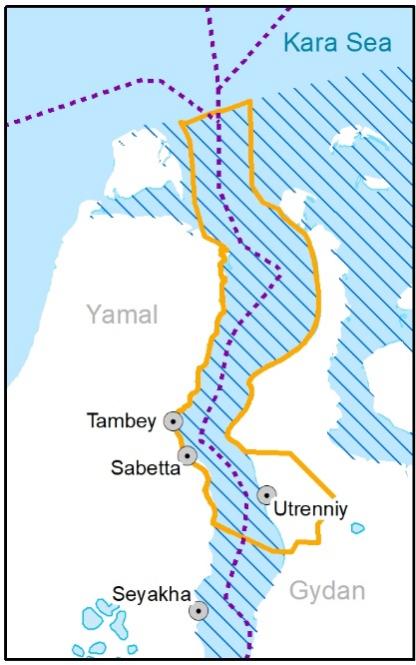
# Introduction

## Report Objectives

The Arctic LNG 2 is a project in the sphere of hydrocarbons extraction, production and offloading of liquefied natural gas and stabilized gas condensate. The Project comprises three process trains for production 6.6 MTPA of liquefied natural gas each, and up to 1.6 MTPA of stabilised gas condensate. The combined capacity of the three LNG trains is 19.8 MTPA. The resource base for the Project is the Salmanovskoye (Utrenneye) oil, gas, and condensate field (OGCF) at the border of the Gydan and Yamal petroleum regions in the West-Siberian oil-and-gas bearing province.

The Project includes the following components:

1. Salmanovskoye (Utrenneye) OGCF Facilities Setup (well pads, power supply facilities, gas treatment facilities, water intake and treatment facilities, wastewater treatment and disposal facilities, SMCIW disposal site, helicopter pads, materials and equipment facilities, temporary accommodation camps, Emergency Rescue Centre, infrastructure, temporary facilities for the construction phase;

2. Construction of the GBS Plant for production, storage and offloading of liquefied natural gas and stabilised gas condensate (GBS with LNG & SGC storage facilities, topside including process modules, loading arms and power supply facilities, onshore facilities (flare system, Operations Control Complex, pipe racks, boiler plant, utilities, drainage channel);

3. Construction of the Utrenniy liquefied natural gas and stabilised gas condensate terminal, including

- Temporary berth structures;

- Early development facilities (approach channel, port water area, ALP-1 with a quayside, general-purpose berth, utilities, storage facilities);

- Operating phase facilities (ALP-2 with a quayside, port fleet berth, ice barriers, navigation safety systems).

Figure 1.1: Project Area of Influence. Diagonal hatch indicates EBSA. Dashed line – Northern Sea Route

Table 1 Glossary: key terms and definitions[[1]](#footnote-0)

|  |
| --- |
| **Ecosystems** is a dynamic complex of plant, animal, and microorganism communities and the nonliving environment interacting as a functional unit. Humans are an integral part of ecosystems. Ecosystems vary enormously in size; a temporary pond in a tree hollow and an ocean basin can both be ecosystems |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |

Инвазивные виды в понимании СД6 МФК – требования и ограничения к проекту. Дудов

## Limitations

# Assessment Methodology

## Overview

Table 2.1: Significance of the [Пример оформления таблицы]

| No. | Criterion | Significance | Description |
| --- | --- | --- | --- |
| 1 | Uniqueness or rarity | High | The area is the biggest estuary system in the Arctic, affecting the entire adjacent marine ecosystem of the Kara Sea. The huge river run-off has a great impact on the Arctic Ocean, influencing hydrology, ice regime and geochemistry. Some populations of semi-anadromous fish are particular to this area, i.e., Ob Sturgeon, but there are no endemic species of fish, seabirds or marine mammals. |
| 2 | Special importance for species development cycle stages | High | Estuaries are important staging areas for aquatic birds, important habitat for white fishes (feeding, migrating, wintering); the maritime zone, with recurring polynya, is an important spawning area for polar cod (*Boreogadus saida*), while the fast ice in the gulfs is a breeding ground for ringed seals. |
| 3 | Importance for threatened, endangered or declining species and/or habitats | Medium | Important summer feeding grounds for beluga whales (IUCN near threatened), important staging areas for long-tailed duck (IUCN, VU), velvet scoters (IUCN, VU) and Steller’s eiders (IUCN VU). Polar bears (IUCN VU) occur in the outer part of the area. |
| 4 | Vulnerability, fragility, sensitivity, or slow recovery | Medium | The dynamic hydrological regime acts as a buffer for many external impacts; animals such sea ducks and white fishes have long life expectancy and low reproductive rates, thus slow recovery rate; sea ducks and polar cod fry are particularly vulnerable to oil spills, while the estuarine ecosystem in general may be vulnerable to changes in the salinity regime caused by large-scale bar dredging for port construction |
| 5 | Biological productivity | High | Owing to high primary production at the frontal zones the area supports large stocks of freshwater and semi-anadromous fishes, aquatic birds and waterfowl |
| 6 | Biological diversity | Low | Biodiversity of the lower trophic levels is relatively low due to a variable hydrological regime and vast zone of brackish waters; however, there are remarkable gradients towards offshore areas while waterfowl and shorebirds are relatively diverse. |
| 7 | Naturalness | Medium | The Yenisei river estuary is rather pristine while Ob Gulf is already experiencing shipping traffic, geological explorations and onshore infrastructure construction in several points. Rivers bring considerable amounts of pollutants (on the Arctic scale) from their vast watersheds. |

The middle part of the Ob Estuary referred to as the Ob-Taz area (see Figure 2.6) is considered as a priority fishery conservation area (FCA) due to the high concentration of fish of many species during wintering and spawning, including Siberian sturgeon, which is listed as globally Endangered on the IUCN Red List (Matkovsky et al., 2014)[[2]](#footnote-1). [Примеры ссылок на литературу]

The above areas with high-value biodiversity components are shown in Figure 2.6.

|  |  |
| --- | --- |
|  |  |

Figure 2.6: Water areas of the high environmental value in the Project area [Пример рисунка]

1. International Finance Corporation’s Guidance Note 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources January 1, 2012 (updated June 27, 2019) and "Millennium Ecosystem Assessment". www.millenniumassessment.org. Archived from the original on 24 February 2018. Retrieved 28 April 2018 with addition [Вот так цитируется литература – при первом упоминании в сноску, далее (Автор, год) ] [↑](#footnote-ref-0)
2. A. K. Matkovsky, P. A. Kochetkov, B. V. Stepanova, S. I. Stepanov. Ecological rationale for the creation of a fishery conservation area and reduction of anthropogenic load on the ecosystem of the Ob-Taz estuarian zone // Fishery Sciene Bulletin. 2014. Vol. 1. No. 2. pp. 12-26. [In Russian] [↑](#footnote-ref-1)