

2.2. Maps of areas covered by questionnaire survey

References to contained data:

Results from questionnaire survey carried out during the present project (Yasavey / Olga Murashko) and satellite image interpretation (Norwegian Polar Institute). It is important to notice that the indicated routes, areas and places of traditional nature use are only a minor part of the total.

MAP A-1 (page 106): Kaninskaya Tundra, land use - 29 respondents from 4 villages

Nes: The centre of the Kaninskaya Village Council. Situated on the right banks of the Nes River. Founded in the second half of the 18th century; in 1831 a church opened for the Kanin Nenets; before 1896 the village belonged to the Mezensky District, since 1896 it was the centre of the Nes 'volost' (smallest admin. division of Tsarist Russia); 1924 - 1929 it was centre of the Kanin-Cheshsky Samoyed 'volost'; since 1934 the village forms part of NAO; in 1995 it was given the status of municipality. The population amounts to 1407 people, including more than 7000 Nenets (2005). The main activities include reindeer husbandry (centre of the reindeer herding cooperative Kanin), fishing (centre of the fishing cooperative Severny Polyus), hunting, potato cultivation. Connection with Naryan-Mar is by air.

Oma: A village founded in the first half of 19th century as a station en-route of the Mezen winter tract; the first registered settlers were Old Believers. Presently it is the centre of the Omsk Village Council. The population amounts to 878 people, including about 150 Nenets (2005). Oma is the central base of the reindeer herding SPK Voskhod and has a cattle farm. Local people are also engaged in hunting, fishing, cattle herding and potato cultivation. Connection with Naryan-Mar is by air.

Kiya: A village that appeared in the first quarter of the 20th century at the site of a seasonal fishing camp; it belongs to Shoynensk Village Council. The population is 67 people (2005).

Chizha: a village that appeared in the first quarter of the 20th century at the site of a seasonal fishing camp; it belongs to the Shoynskiy Village Council. The population is 36 people (2005).

Reindeer herds migrate from northern Kanin in summer to southern Kanin and adjacent areas in the Arkhangelsk Oblast, around Mezen and beyond, in winter. Calving areas and fishing places are spread throughout the area; hunting and gathering areas are

preferentially in the northern part of the peninsula. No industrial development affecting the tundra.

MAP A-2 (page 107): Timan Ridge, land use - 16 respondents from Indiga

Indiga (Malozemelskaya tundra, territory of SPK Indiga). The village was founded at the site of a fishing camp, which existed until the 18th century. In 1937 people from the Mezen municipality of the Arkhangelsk Region were moved to Indiga. In 1958 the kolkhos Timanets was established out of the nomadic farms Yadey Ty and 2nd Pyatiletka. Since the 1960s it has been the central base of the sovkhos Indiga. Centre of the Timanskiy Village Council. The population is 625, including 375 Nenets (2005). The obshchina Syatorey Yakha and the peasant farming unit Apitsyn V.F. are registered within its area. Apart from reindeer husbandry, local people are engaged in hunting and fishing. There is a secondary school, a kindergarten, a community centre, a district hospital and an airport.

Reindeer herds migrate within small areas. Calving areas and fishing grounds are mainly in northern parts of the area, while hunting and gathering areas are preferably close to the shore. No industrial development affecting the tundra, but an oil terminal under construction and a planned pipeline.

MAP A-3 (page 108): Kolguev Island, land use - 14 respondents from Bugrino

Bugrino: A village of reindeer herders on Kolguev Island. There is a boarding school, which was opened in 1930. The village has a post/telegraph office, feldsher-midwife station, shop and club. A tv station has been in operation since 1983. There are 446 villagers (including 426 Nenets), and 117 farming units. The maximum number of reindeer, 6000, was registered in mid-20th century. At the same time, a policy of sedantism – movement from tents into houses – has been implemented. In 1957, 10 families were moved from Novaya Zemlya (source: NAO ES, articles by L.Yu. Korepanova "Bugrino," "Kolguev Island Committee," "Kolguev Village Council"). The population is mainly engaged in reindeer husbandry, fishing, sealing and gathering. The Peshchanka oil field was discovered in 1982 in the eastern part of the island. There is a shift camp for the Peshchanka oil workers.

Reindeer herds migrate small distances, they pasture mainly in the north in winter and in the south in summer. Hunting, fishing and gathering places are

mainly close to the settlement in the south. Oil industry affects the easternmost part of the island.

MAP A-4 (page 109): Malozemetskaya Tundra, land use - 20 respondents from Nelmin Nos

Nelmin Nos (Malozemetskaya Tundra, SPK im. Vyucheyetskogo, and numerous "obshchina"s). A village founded in 1938 as a base for the kolkhos im. Vyucheyetskogo. By 1941 residential houses were built, in 1956 a primary school, and in 1979 the folk ensemble Maimbava was founded. In 1995 it attained the status of municipality and became the centre of the Malozemelskiy Village Council. In 2005 the population amounted to 1025 people (282 farms), including 953 Nenets; permanent residents amount to 831: 419 men and 412 women. Nelmin Nos is the central base of the reindeer herding communities (obshchinas) Ilebs, Neruta, Tabseda, Opseda, and the fishing community Malozemelets. Local people are involved in reindeer husbandry, hunting, and fishing. There is a kindergarten, an incomplete general school, a shop, a museum, a community centre, a medical centre, a post office, an automatic telephone station, a tv station and a bath house. Connection with Naryan-Mar in summer is by river passenger boats, in winter by motor vehicles.

Reindeer herds migrate small distances, without a regular pattern. Due to short distances of the migration routes, other nature use areas are distributed all over the land. A minor area north of Korovinskaya guba has suffered from earlier hydrocarbon prospecting work. A gas pipeline crossing some migration routes and a gas terminal at Nizhniy Shar are planned.

MAP A-5 (page 110): Bolshezemetskaya Tundra West, land use - 15 respondents from Krasnoe

Krasnoe (Bolshezemetskaya Tundra, western part, territories of SPK "Kharp" and SPK "ERV"). Krasnoe village is the centre of the Primorsk-Kuysk Village Council. The population is 1650 people, including 900 Nenets (2005). People from the village of Chernaya and from Varandey are also living here. It is the central base for reindeer-herding SPKs Kharp and ERV. Local people are mainly engaged in reindeer husbandry, hunting and fishing. Villagers keep cattle stock and grow potatoes. There is a community centre, a garage of equipment for "Kharp", a kindergarten, a secondary school also functioning as a boarding school, a boiler station, a post office, a veterinary clinic, an ambulatory station, a fur-processing workshop, a cattle farm, an automatic telephone station and a museum. The village is supplied with gas. It is

connected with Naryan-Mar by a road, and during high-water periods by river boats.

Reindeer herds migrate from northern areas (Varandey, Chernaya) in summer to southern areas in winter. Calving areas lie mainly southeast of Krasnoe and south of Varandey / Pakhancheskaya guba. Fishing sites occur mostly in the central and northern areas, while other land use areas lie preferentially in the northern parts. Industrial development affects the tundra especially in the northern areas. Tight interaction with oil installation occurs in the Khylichuyu and Varandey areas and along the new Khylichuyu-Varandey pipeline.

MAP A-6 (page 112): Bolshezemetskaya Tundra East, land use - 9 respondents from Khorey-Ver (8), Karatayka (1)

Karatayka, (Bolshezemetskaya Tundra, territory of SPK Druzhba Narodov, centre of the Yusharskiy Village Council.) Founded in the 1930s. The population is 647 people, including 415 Nenets. It is the central base for the reindeer-herding SPK Druzhba Narodov (5 brigades on mainland, 1 – on Vaygach Island). Druzhba Narodov has 150 employees. Along with reindeer husbandry, local people are engaged in hunting and fishing. There is a school, a boarding school, an ambulatory station, a kindergarten and a community centre. There is air connection with Naryan-Mar. The town of Vorkuta can be reached by plane or tracked vehicles.

Khorey-Ver, from Nenets "straight wood" (Bolshezemetskaya Tundra, territory of SPK Put Iliche). Khorey-Ver was founded in the 2nd half of the 20th century. It is situated on the shore of the Kolva River. Since 1952 it has been the central base of the kolkhos Put Iliche, later the reindeer-herding SPK Put Iliche. Since 1955 there has been air connection with Naryan-Mar (AN-2). In 2005 the population was 856 people, including 471 Nenets. Local people are engaged in reindeer husbandry, fishing, hunting and potato cultivation. There are a secondary school, a kindergarten, a post office, a district hospital, a community centre, a diesel power station, a slaughtering station, a tv station and an airport in the settlement.

Reindeer herds migrate from northeastern areas in summer to southwestern areas in winter. Calving areas are widely distributed from east of Naryan-Mar to south of Varandey. Fishing sites follow the reindeer route, but are concentrated in the Chernaya-Varandey area. Industrial development affects the tundra especially in the winter pasture areas. The Kharyaga oil field and related pipelines cut off all winter pastures to the west of it.



Kaninskaya Tundra

Land use

IPY project MODIL-NAO
Excerpt map from GIS database

Compiled by W.K. Dallmann
Norwegian Polar Institute, 2009



Legend:

Settlements and infrastructure

- Town
- Settlement, mainly Russian population
- Settlement, significant proportion of indigenous population
- Settlement, abandoned
- Cabin(s)
- Industrial site
- ✈ Airport
- ⚓ Landing place for ships
- Road (from satellite image)
- Track (from satellite image)

2003 High-resolution satellite imagery on GoogleEarth: more detailed observations

Traditional land use: places from questionnaires, N=28

- ▲ Camp site (month)
- Fishing site
- Fishing site, former
- Sea mammal hunting site
- Sea mammal hunting site, former
- Slaughtering site
- ★ Sacred site
- Historical site
- Reindeer migration route (N=12)

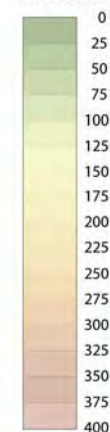
Traditional land use: areas from questionnaires, N=28

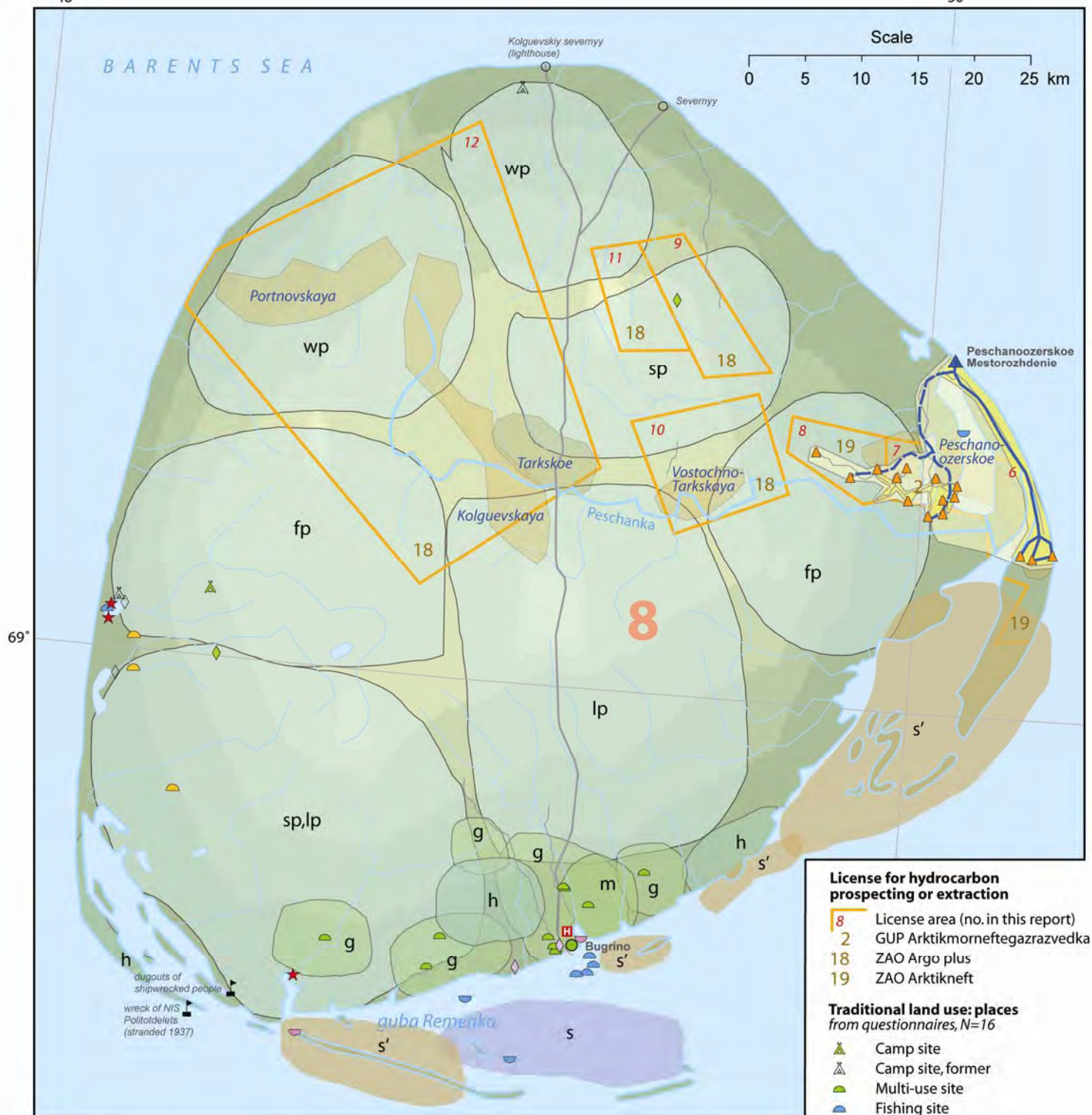
- c Calving area
- m Multi-use area
- g Gathering area
- h Hunting area
- h' Hunting area, former

Areas assigned to reindeer herding cooperatives

- 1 SPK Obshchina Kanin
- 2 SPK Voskhod
- 3 SPK Indigskiy
- boundary of area

Elevation (m a.s.l.)





License for hydrocarbon prospecting or extraction

- 8 License area (no. in this report)
- 2 GUP Arktikmorneftegazrazvedka
- 18 ZAO Argo plus
- 19 ZAO Arktikneft

Traditional land use: places from questionnaires, N=16

- Camp site
- Camp site, former
- Multi-use site
- Fishing site
- Fishing site, former
- Hunting site
- Sea mammal hunting site, former
- Geese preparation site
- Calving site
- Slaughtering site
- Saw mill, former
- Sacred site
- Historical site

Traditional land use: areas from questionnaires, N=16

- Pastures (sp=spring, lp=summer, fp=fall, wp=winter)
- Multi-use area
- Gathering area
- Hunting area
- Sea mammal hunting area
- Sea mammal hunting area, former

Areas assigned to reindeer herding cooperatives

- 8 SPK Kolguevskiy

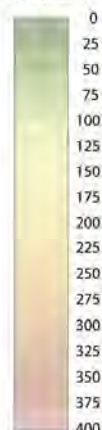
Kolguev Island

Land use

IPY project MODIL-NAO
Excerpt map from GIS database

Compiled by W.K. Dallmann
Norwegian Polar Institute, 2009

Elevation (m a.s.l.)



Settlements and infrastructure

- Settlement, significant proportion of indigenous population
- Heliport
- Road (from published map)
- Track (from satellite image)

Oil fields

- Oil and gas condensate field
- Oil field

Pesch.. Name of field

Industrial facilities

- Oil pipeline, above ground
- Oil pipeline, above ground, uncert. position
- Oil terminal
- Drilling or production site

Industrial impact

- (from satellite image [2004] interpretation)
- High impact
- Moderate impact



Malozemelskaya Tundra

Land use

IPY project MODIL-NAO
Excerpt map from GIS database

Compiled by W.K. Dallmann
Norwegian Polar Institute, 2009



Legend:

Settlements and infrastructure

- Settlement, mainly Russian population
- Settlement, significant proportion of indigenous population
- Settlement, abandoned
- ✈ Heliport
- ⚓ Landing place for ships

Roads and tracks (from satellite images):

- Road
- Track, multiple (ca. 50-200 m broad)
- Track, single or less than ca. 50 m broad

Traditional land use: places from questionnaires, N=20

- ▲ Camp site (month)
- ▲ Camp site, former
- ▲ Multi-use site
- ▲ Fishing site
- ▲ Fishing site, former
- ▲ Hunting site
- ▲ Hunting site, former
- ▲ Sea mammal hunting site
- ▲ Sea mammal hunting site, former
- ▲ Slaughtering site
- ★ Sacred site
- Place, unknown (from satellite image)
- Reindeer migration route

2003 High-resolution satellite imagery on GoogleEarth: more detailed observations

Traditional land use: areas from questionnaires, N=20

- Calving area
- Gathering area
- Hunting area

Areas assigned to reindeer herding cooperatives

- 5 SPK Naryan-Marskoe OPKh
- 6 SPK Naryana-Ty
- 7 SPK im. Vyuchey'skogo
- 9 SPK Kharp and SPK Erv

Areas assigned to fishing cooperatives

- 20 SPK RK Sula
- 23 SPK RK im. Lenina
- boundary of area

Oil fields

- Gas and gas condensate field
- Oil field
- Vasilkov Name of field

Industrial facilities

- ▲ Gas terminal, planned

Pipelines:

- Gas pipeline, above ground
- - - Gas pipeline, planned (arbitrary position)

Other installations:

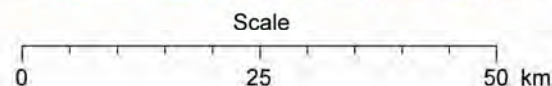
- ▲ Hydrocarbon production site
- ▲ Drilling or production site
- ▲ Working site
- ★ Gravel pit

Industrial impact (from satellite image [2004] interpretation)

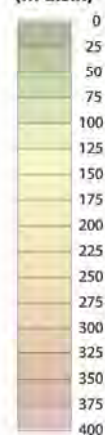
- Heavily degraded area
- High impact
- Moderate impact

License for hydrocarbon prospecting or extraction

- 3 License area, 2004 (no. in this report)
- 138 New license area, extension not verified (no. in this report)
- 22 ZAO Pechoraneftgazprom



Elevation (m a.s.l.)



Bolshezemelskaya Tundra West

Land use

IPY project MODIL-NAO
Excerpt map from GIS database

Compiled by W.K. Dallmann
Norwegian Polar Institute, 2009



Legend:

Settlements and infrastructure

- Town
- Settlement, mainly Russian population
- Settlement, significant proportion of indigenous population
- Settlement, abandoned
- Cabin(s) (from satellite image)
- Historical site
- ✈ Large airport
- ✈ Small airport
- ✈ Heliport
- ⚓ Seaport
- ⚓ Landing place for ships

Roads and tracks (from satellite images):

- Road
- Track, multiple (ca. 50-200 m broad)
- Track, single or less than ca. 50 m broad
- Forest corridor

2003 High-resolution satellite imagery on GoogleEarth: more detailed observations

2005 Year of low-resolution satellite images used for interpretation

Traditional land use: places from questionnaires, N=15

- ▲ Camp site (month)
- ▲ Camp site, former
- ▲ Multi-use site
- ▲ Fishing site
- ▲ Fishing site, former
- ▲ Hunting site
- ▲ Calving site
- ▲ Slaughtering site
- ★ Sacred site
- Reindeer migration route

Traditional land use: areas from questionnaires, N=15

- Calving area
- Gathering area
- Hunting area
- Hunting area, former
- Sea mammal hunting area

Areas assigned to reindeer herding cooperatives

- 5 SPK Naryan-Marskoe OPKh
- 6 SPK Naryana-Ty
- 7 SPK im. Vyucheynskogo
- 9 SPK Kharp and SPK Erv
- 10 SPK Izhemskiy olenovod
- 11 SPK Druzhba narodov

Areas assigned to fishing cooperatives

- 21 SPK RK Pobeda
- 22 SPK RK Rodina
- 23 SPK RK im. Lenina

— boundary of area

Oil fields

- Gas and gas condensate field
- Oil and gas condensate field
- Oil field
- Name of field

Industrial facilities

- Industrial settlement
- ▲ Oil terminal

Pipelines:

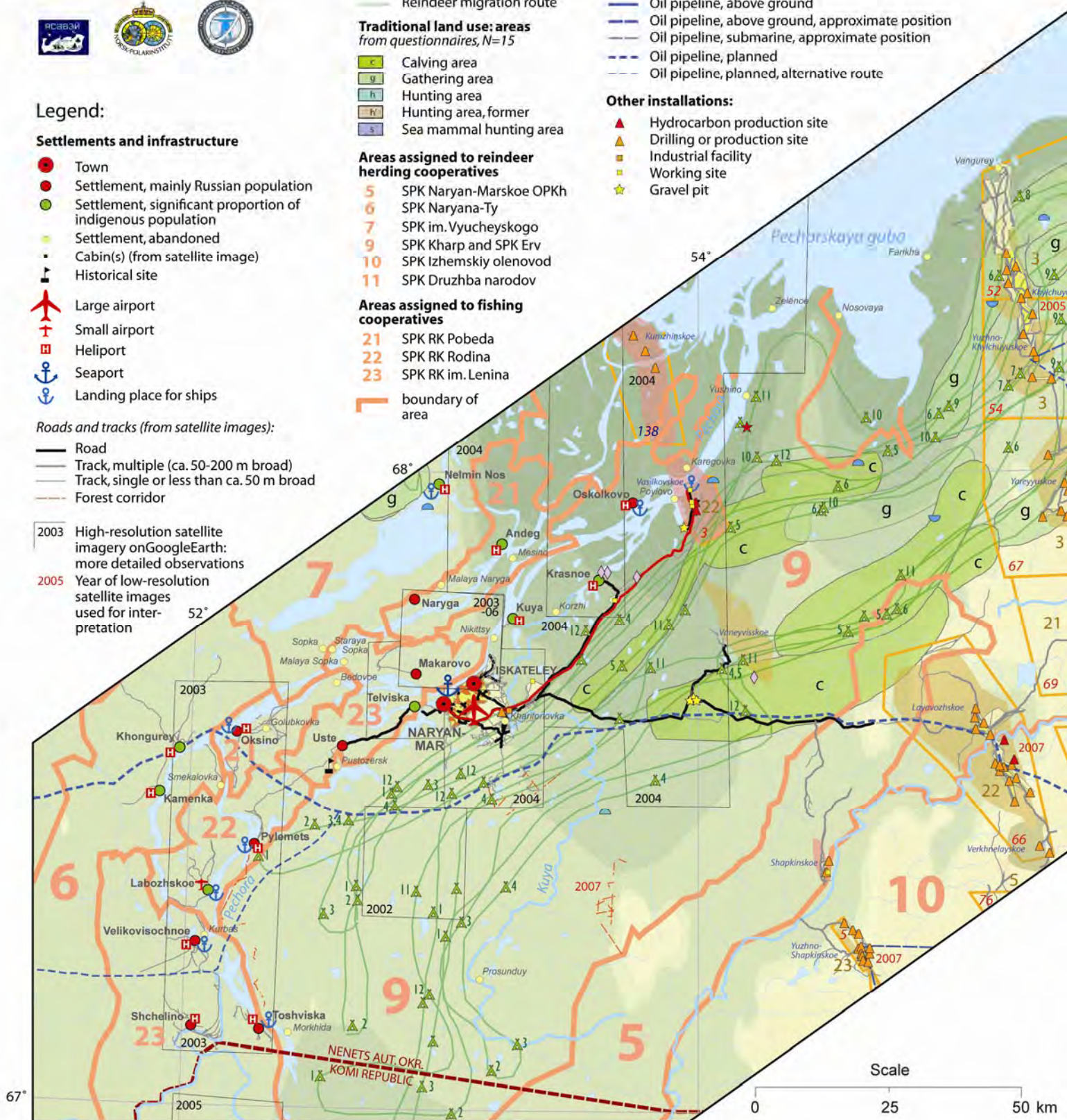
- Gas pipeline, above ground
- Oil pipeline, above ground
- Oil pipeline, above ground, approximate position
- Oil pipeline, submarine, approximate position
- Oil pipeline, planned
- Oil pipeline, planned, alternative route

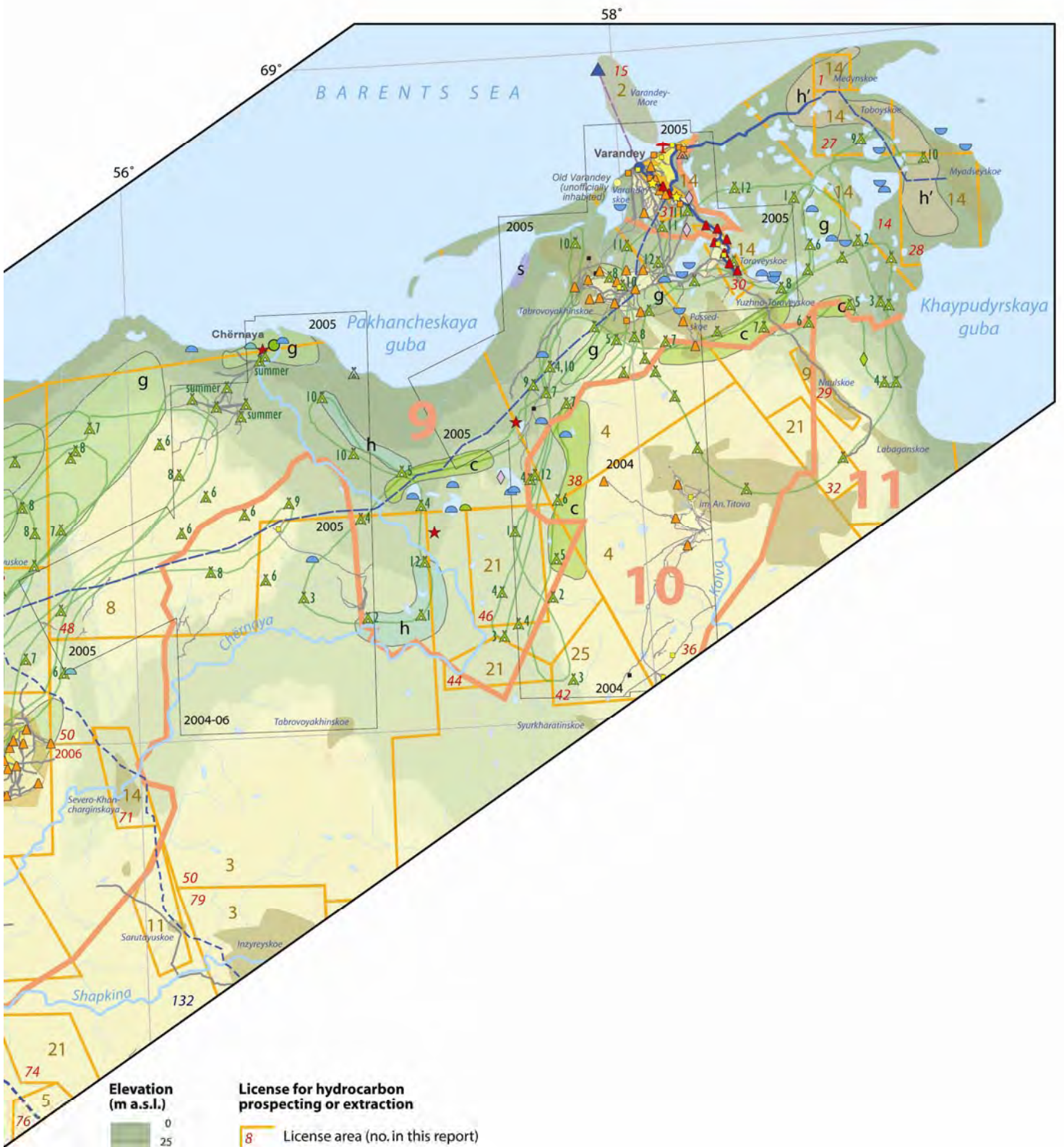
Other installations:

- ▲ Hydrocarbon production site
- ▲ Drilling or production site
- Industrial facility
- Working site
- ★ Gravel pit

Industrial impact (from satellite image [2004] interpretation)

- Developed area
- Heavily degraded area
- High impact
- Moderate impact





Bolshezemelskaya Tundra East

Land use

IPY project MODIL-NAO
Excerpt map from GIS database

Compiled by W.K. Dallmann
Norwegian Polar Institute, 2009



Legend:

Settlements and infrastructure

- Settlement, significant portion of indigenous population
- Settlement, abandoned
- Cabin(s) (from satellite image)
- ▲ Historical site
- ✈ Small airport
- ✈ Heliport
- ⚓ Landing place for ships

Roads and tracks (from satellite images):

- Road
- Track, multiple (ca. 50-200 m broad)
- Track, single or less than ca. 50 m broad
- Forest corridor

Traditional land use: places from questionnaires, N=9

- ▲ Camp site (month)
- Fishing site
- Fishing site, former
- Hunting site
- Slaughtering site
- ★ Sacred site
- Reindeer migration route

Traditional land use: areas from questionnaires, N=9

- Calving area
- Gathering area
- Hunting area, former

Areas assigned to reindeer herding cooperatives

- 10 SPK Izhemskiy olenovod
- 11 SPK Druzhba narodov
- 12 SPK Put Iliche
- 13 SPK Severnyy
- 14 SPK Ust Usinskiy
- 15 SPK Rassvet Severa
- boundary of area

Oil fields

- Oil field

Pipelines:

- Oil pipeline, above ground
- Oil pipeline, above ground, approximate position
- Oil pipeline, planned

Other installations:

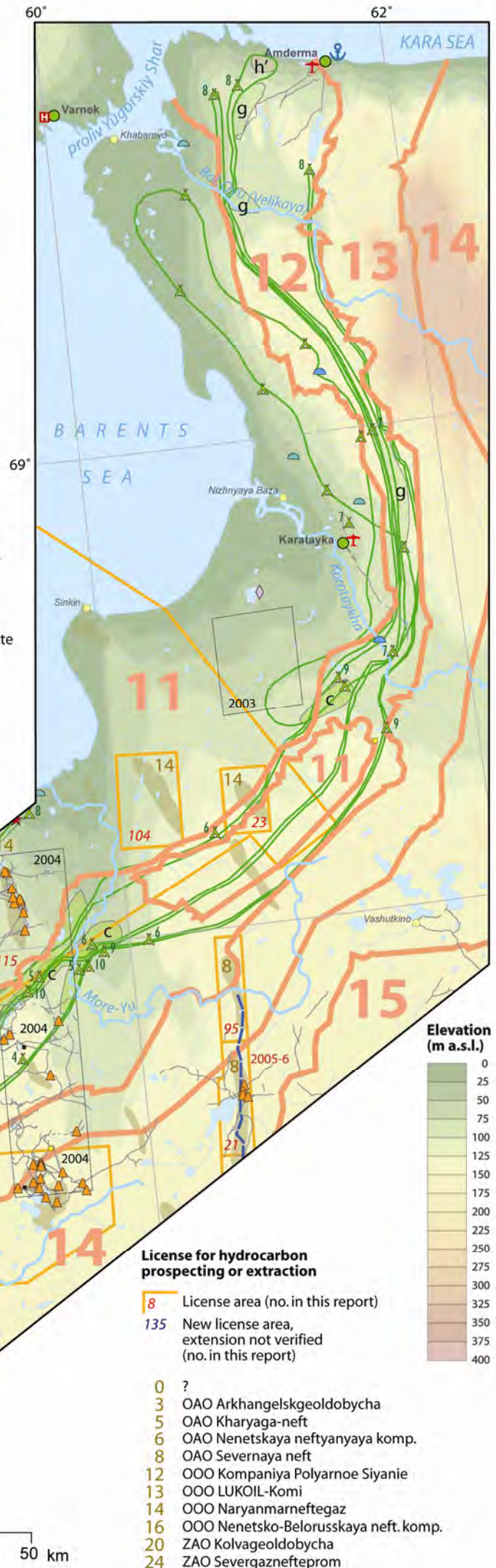
- ▲ Hydrocarbon production site
- ▲ Drilling or production site
- Industrial facility
- Working site
- ★ Gravel pit

Industrial impact (from satellite image [2004] interpretation)

- Developed area
- Heavily degraded area
- High impact
- Moderate impact

2003 High-resolution satellite imagery on GoogleEarth: more detailed observations

2005 Year of low-resolution satellite images used for interpretation



Scale

0 25 50 km

2.3. Maps of oil-development areas

References to contained data:

Results of satellite image interpretation (Norwegian Polar Institute) on oil development; map data on traditional modes of livelihood from the questionnaire survey carried out under the present project (Yasavey / Olga Murashko) are added. For more details about oil development in general see section 1.3.1. The maps are drawn on GoogleEarth satellite imagery.

MAP B-1 (page 114):

Varandey, land use

Today Varandey is the NAO's main oil terminal for oil to be transported by sea (see section 1.3.1), with pipeline connections to the adjacent oil fields, as well as fields to the east at Khaypudyrskaya guba, and, since 2008, the Yuzhno-Khylchuyu oil field far to the west. Satellite images have high resolution and are mainly from 2005 and are supposed to illustrate roughly the present situation. Several reindeer migration routes of SPK Erv cross the pipelines in several places during the summer. Various traditional land use areas lie very close to the installations. Abandoned test drilling sites and areas degraded by heavy vehicle tracks at the Tabrovayakhibskoe oil field, lie within these. Fishing sites adjacent to the modern oil installations have mostly been abandoned.

MAP B-2 (page 115):

Yuzhno-Khylchuyu, land use

The Yuzhno-Khylchuyu oil field has been developed during recent years, and the pipeline to the Varandey oil terminal has been completed in 2008. Satellite images are from 2005 and 2006, from before its construction, and have a low resolution. The map thus only shows a very rough picture of the situation, without feeder pipelines to the main junction, and only the old, distinct, major vehicle tracks. All reindeer migration routes cross the oil fields and, proba-

bly, the feeder pipelines. The area forms summer pastures of SPK Kharp and lies within the gathering grounds of the cooperative. Calving areas lie not far from the installations to the southwest.

MAP B-3 (page 116):

Kharyaga, land use

In terms of the area they cover, the Kharyaga oil fields are the largest development area of the NAO. The pipeline system sets a barrier for the migration of reindeer of the SPK Put Iliche. Satellite images have partly high resolution and are mainly from 2005 and 2007, thus supposed to illustrate roughly the present situation. Although crossing the pipelines in principle should be possible, the herders seem to stick to the winter pastures to the east of it. The northern part of the Kharyaga oil fields lies within the winter pastures of SPK Druzhba narodov, while the fields in the western part of the map (Layavozhskoye, Komandirshorskoye) interfere with the migration routes of the Komi cooperative SPK Izhemskiy olenovod. This cooperative was not surveyed by questionnaire.

MAP B-4 (page 118):

Kolvinskoe, land use

The oil fields Kolvinskoe, Severo-Khosedayuskoe and several adjacent minor ones are not producing oil. A number of drilling sites and networks of heavy vehicle tracks have locally damaged the landscape, clearly visible even on the low-resolution imagery (2004) covering the Severo-Khosedayuskoe field. Reindeer migration routes of SPK Put Iliche cross the field, and the area is also a calving site. The Kolvinskoe field lies in the route for the Komi cooperatives SPK Severnyy and SPK Ust Usinskiy. These cooperatives were not surveyed by questionnaire.

58°

Varandey

Land use

IPY project MODIL-NAO
Excerpt map from GIS database

Compiled by W.K. Dallmann
Norwegian Polar Institute, 2009



Old Varandey
(unofficially
inhabited)

Varandey

Varandey-
More

BARRENTS SEA

Pakhan-
cheskaya
guba

68°
40'

68°
20'

High-resolution satellite imagery
from GoogleEarth, mainly 2005
(2004 in southern part)

Scale

0 5 10 15 km

Legend:

Settlements and infrastructure

- Settlement, abandoned
- Industrial settlement
- Cabin(s)
- Small airport

Roads and tracks (from satellite images):

- Road
- Track, multiple (ca. 50-200 m broad)
- Track, single or less than ca. 50 m broad

Traditional land use: places (from questionnaires)

- Camp site (month)
- Camp site, former
- Fishing site
- Fishing site, former
- Slaughtering site
- Sacred site
- Reindeer migration route

Traditional land use: areas (from questionnaires)

- Calving area
- Gathering area
- Sea mammal hunting area

Oil fields

- Oil field
- Torav. Name of field

Pipelines (mainly from satellite images)

- Oil pipeline, above ground
- Oil pipeline, above ground, approx. pos.
- Oil pipeline, submarine, approx. pos.

Other installations (from satellite images):

- Hydrocarbon production site
- Drilling or production site
- Industrial facility
- Working site
- Sedimentation basin
- Crossing ramp

Industrial impact (from satellite images)

- Developed area
- Heavily degraded area
- High impact
- Moderate impact

55°

BARENTS
SEAPechorskaya
guba

Vangurey

68°
20'

Farikha

Khylichuyuskoe

Yuzhno-
Khylichuyuskoe

Yuzhno-Kylchuyu

Yareyyuskoe

Scale

0 5 10 15 km

Yuzhno-Khylchuyu Land use

IPY project MODIL-NAO
Excerpt map from GIS database

Compiled by W.K. Dallmann
Norwegian Polar Institute, 2009



Low-resolution satellite imagery
from GoogleEarth, 2005 in northern
part, 2006 in southern part

Legend:

Settlements and infrastructure

- Settlement, abandoned
- Industrial settlement
- Heliport (position not accurate)

Roads and tracks (from satellite images):

- Track, multiple (mostly over 50 m broad)

Traditional land use: places (from questionnaires)

- ▲ 4 Camp site (month)
- Fishing site
- Fishing site, former
- Reindeer migration route

Traditional land use: areas (from questionnaires)

- c Calving area
- g Gathering area

Oil fields

- Oil and gas condensate field
- Khylich. Name of field

Pipelines

- Oil pipeline, above ground
- - - Oil pipeline, above ground, approx. pos.
- - - Oil pipeline, planned

Other installations (from satellite images):

- ▲ Drilling or production site
- Industrial facility

Industrial impact (from satellite images)

- High impact
- Moderate impact

Legend:

Settlements and infrastructure

- Industrial settlement
- Cabin(s)
- ✈ Small airport
- ⚑ Historical site

Roads and tracks (from satellite images):

- Road
- Track, multiple (ca. 50-200 m broad)
- Track, single or less than ca. 50 m broad
- Forest corridor
- Power line

Traditional land use
(from questionnaires)

- ⛴ Camp site (month)
- Reindeer migration route

Oil fields

- Oil and gas condensate field
- Oil field
- Khary. Name of field

Pipelines (mainly from satellite images)

- Oil pipeline, above ground
- Oil pipeline, above ground, approx. pos.
- Oil pipeline, planned

Other installations (from satellite images):

- ▲ Hydrocarbon production site
- ▲ Drilling or production site
- Industrial facility
- Working site
- ★ Gravel pit
- ✕ Crossing ramp

Industrial impact (from satellite images)

- Developed area
- Heavily degraded area
- High impact
- Moderate impact

Kharyaga

Land use

IPY project MODIL-NAO
Excerpt map from GIS database

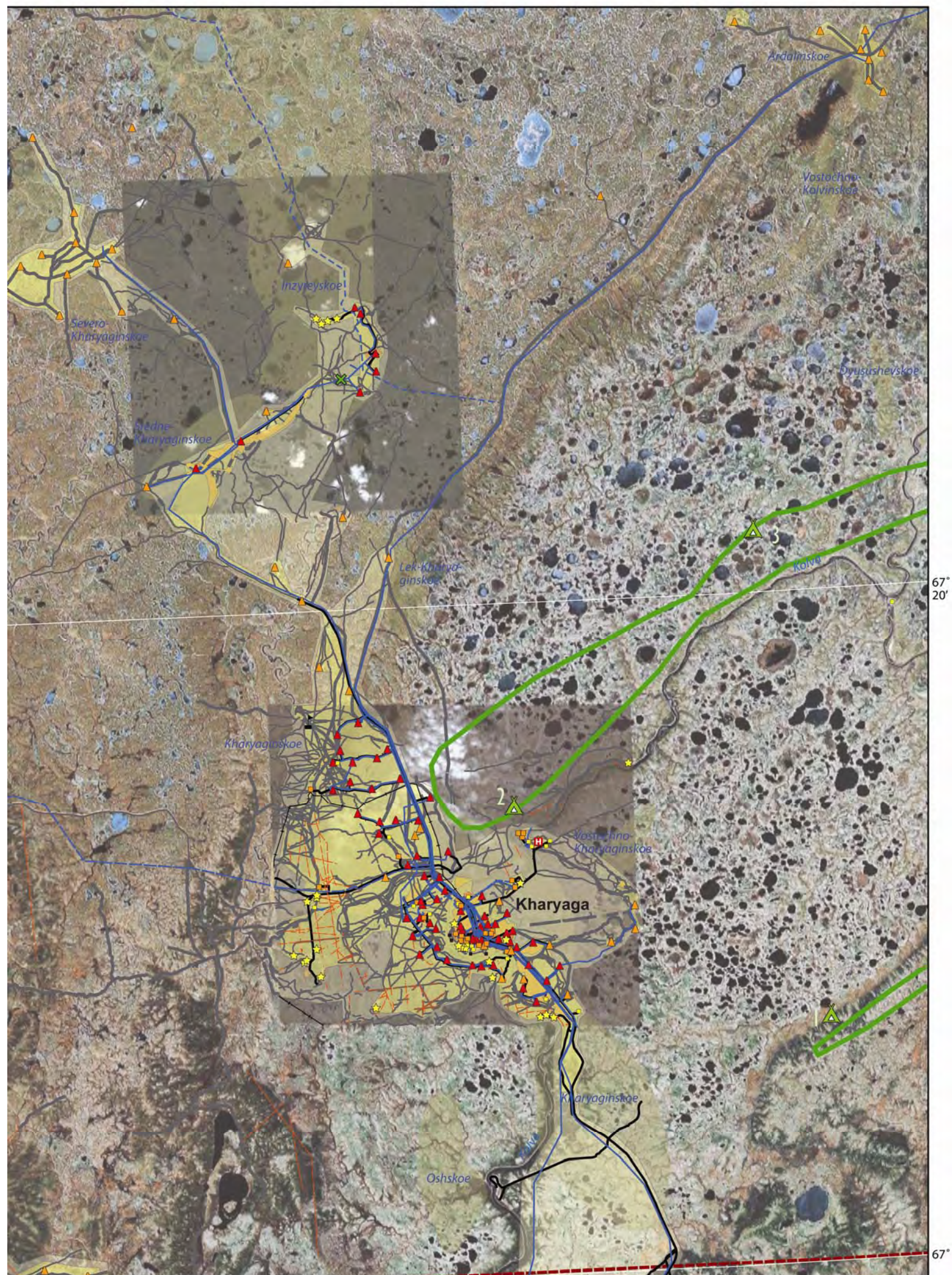
Compiled by W.K. Dallmann
Norwegian Polar Institute, 2009



High-resolution satellite imagery
from GoogleEarth, 2005 (southern
square) and 2007 (northern square);
low-resolution imagery from 2007

Scale

0 5 10 15 km



59°

Kolvinskoe

Land use

IPY project MODIL-NAO
Excerpt map from GIS database

Compiled by W.K. Dallmann
Norwegian Polar Institute, 2009



High-resolution satellite imagery
from GoogleEarth, 2004 (dark strip);
low-resolution imagery from 2004

68°

67°
40'

Legend:

Roads and tracks (from satellite images):

— Track, single or less than ca. 50 m broad

Traditional land use (from questionnaires)

- Camp site (month)
- Fishing site
- Fishing site, former
- Reindeer migration route
- Calving area

Oil fields

- Oil field
- Kolvin.* Name of field

Other installations (from satellite images):

- Drilling or production site
- Working site
- Cabin(s)

Industrial impact (from satellite images)

- Heavily degraded area
- High impact
- Moderate impact

Scale

0 5 10 15 km

Sedya-
ginskoe

oz. Alutuyin

Visovoe

Lapko-
tynskoe

oz. Porchty

Severo-
Khasedayuskoe

oz. Lyosty

oz. Sera Sererty

Zapadno-
Vareyyaginskoe

Kolvinskoe

oz. Bolbant

Dataset No. 19: Protected areas

Polygon data, 12 map elements (status: 2009)

Technical designation: protected_areas

Nature reserves and national parks as well as Territories of Traditional Nature Use for indigenous people are shown in this dataset. For sources of the latter, see dataset 21. Borders of nature reserves and national parks are from the General Geographical Map, 1:1 million "Arkhangelskaya Oblast – Nenetskiy Avtonomnyy Okrug" (Aerogeodeziya Roskartografiya 1995; revised in 2005), supplemented by information from the Encyclopedic Dictionary "Nenetskiy Avtonomnyy Okrug".

Attribute	Explanation
name	name of the protected area
type_code	type of area, code number
type_description	type of area, description
year_established	year of establishment of protected area
remarks	comments on any of the database fields
accuracy	refers to the position of the area boundaries on the map
source	data source of the map element (year)

Type_code	Type_description
1	zapovednik (nature reserve)
2	zakaznik (national park)
3	others

Dataset No. 20: Traditional land use cooperations

Polygon data, 32 map elements (status: 2009)

Technical designation: trad_occupations_coop

Information from the former Office for Reindeer Husbandry Management of the NAO Agricultural Department, transferred from a map prepared by the Nenets Information and Analytical Centre.

Attribute	Explanation
name	name of the cooperation or clan community
center	village, where central management is placed
occupation	main traditional occupation pursued by the cooperation or clan community
number_employees	number of employees (year of reference)
documents	pdf files linked to the element on the map
remarks	comments to any of the database fields; "TTNU" refers to a formally established Territory of Traditional Nature Use
accuracy	refers to the position of the area boundaries on the map
source	data source of the map element (year)