


2093

NINA Report

## Alien species in North-West Russian Arctic

– Information campaign to prevent travellers bringing alien species to the Arctic

Jørn Thomassen, Ivan Mizin, Artem Polikarpov, Jan Arne Stokmo, Inga E. Bruteig, Johanna Niemivuo-Lahti, Melanie Josefsson and Kristine Bakke Westergaard



Remember, if you are visiting the Arctic, make sure you don't bring any stowaways with you!



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Trondheim, February 2022

ISSN: 1504-3312

ISBN: 978-82-426-4880-8

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AVAILABILITY

Open

PUBLICATION TYPE

Digital document (pdf)

QUALITY CONTROLLED BY

Dagmar Hagen

SIGNATURE OF RESPONSIBLE PERSON

Svein-Håkon Lorentsen, Research director (sign.)

CLIENT(S)/SUBSCRIBER(S)

Ministry of Climate and Environment, Norway

CLIENT(S) REFERENCE(S)

RUS-19/0001

CLIENTS/SUBSCRIBER CONTACT PERSON(S)

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COVER PICTURE

Polar Bear as Border Guard © Klipp og Lim

KEY WORDS

Alien species, information campaign, North-West Russian Arctic, animation film, stowaways, travellers, measures

NØKKEWORD

Fremmede arter, informasjonskampanje, nordvest russisk Arktis, animasjonsfilm, blindpassasjerer, reisende, tiltak

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## Abstract

Thomassen, J., Mizin, I., Polikarpov, A., Stokmo, J.A., Bruteig, I.E., Niemivuo-Lahti, J., Josefsson, M. & Westergaard, K.B. 2022. Alien species in North-West Russian Arctic – Information campaign to prevent travellers bringing alien species to the Arctic. NINA Report 2093. Norwegian Institute for Nature Research.

Alien species are a serious threat to biodiversity, human health and the global economy, and perhaps especially in the Arctic where the environment is particularly vulnerable. Under the auspices of the Arctic Council through CAFF/PAME, the Arctic Invasive Alien Species (ARIAS) initiative is an important work on alien species in the Arctic. In the ARIAS Strategy and Action Plan 2017 (CAFF & PAME 2017), one of the priority actions is to develop targeted communication and dissemination measures aimed to raise awareness of invasive alien species. The project “*Alien species in North-West Russian Arctic – Information campaign to prevent travellers bringing alien species to Arctic*” is a direct follow-up to this prioritized action.

The project focus on simple measures that travellers can take to prevent them from taking stowaways (alien species) on their trip to the Arctic. A pilot project with Svalbard as case was conducted in 2018-2019 and based on experiences from this pilot the campaign was extended to North-West Russian Arctic in 2020-2021. The main message emerges through an animation film of ca. 2 minutes. The film is produced in two versions, one in English and one in Russian, both with subtitles in 13 languages (English, Norwegian, Finnish, Swedish, Icelandic, Greenlandic, German, French, Spanish, Italian, Russian, Mandarin and Japanese). The film and further information can be found on the project's website <https://www.stoparcticaliens.com/>. The information campaign has been spread through a variety of channels to travellers via, among others, internet and social media.

The animation film is built up around a "border guard" (polar bear) who guards the entrance to the Arctic and meets three different types of travellers (cruise tourist, backpacker, researcher/resident) who have come to the Arctic by plane or boat. The polar bear examines the tourists to find stowaways on clothing, equipment or in their luggage. Alien species are symbolized through seeds, insects and parasites that can potentially establish and spread in the Arctic. The message from the polar bear is that each individual can do simple measures (brush, Hoover and wash clothes and equipment) before departure and at arrival to protect the vulnerable Arctic environment. In the film, the polar bear speaks English and Russian.

The message is spread through various Russian channels reaching travellers directly or indirectly. Due to the covid19 pandemic the numbers of travellers have been low compared to the situation before the pandemic, but we have tried to reach as many as possible and aim for the campaign to be operational and sustainable when the pandemic situation allows for increased travelling activities to the North-West Russian Arctic. The information campaign in North-West Russian Arctic is funded by the Ministry of Climate and Environment, Norway.

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## Аннотация

Й. Томассен, И. Мизин, А. Поликарпов, Й.А. Стокмо, И.Е. Брутейг, Ниёмивуо-Лахти, М. Йозефссон, К.Б.Вестергаард, 2022. Чужеродные виды в северо-западной части Российской Арктики - информационная кампания по предотвращению завоза чужеродных видов в Арктику путешественниками. Отчет Норвежского института исследования природы (NINA) 2093. Норвежский институт исследования природы.

Чужеродные виды представляют собой серьезную угрозу для биоразнообразия, здоровья человека и мировой экономики, и, возможно, особенно для Арктики, где природа особенно уязвима. Инициатива по работе с инвазивными чужеродными видами в Арктике (ARIAS) является важной деятельностью под эгидой Арктического совета, которая проводится рабочими группами по сохранению флоры и фауны и морской среды (CAFF/PAME). В стратегии и плане действий Инициативы по работе с инвазивными чужеродными видами в Арктике на 2017 год (CAFF и PAME 2017 год) одним из приоритетных видов деятельности является разработка целевых мер по коммуникации и мер по борьбе с распространением семян растений, направленных на повышение осведомленности об инвазивных чужеродных видах. Проект "Чужеродные виды на северо-западе российской Арктики" – представляет собой информационную кампанию по предотвращению завоза чужеродных видов в Арктику и является следующим этапом данного приоритетного вида деятельности.

Проект сосредоточен на самых простых мерах, которые путешественники могут предпринять для предотвращения завоза чужеродных видов (так называемых «безбилетников») во время своей поездки в Арктику. Пилотный проект на Шпицбергене проводился в 2018-2019 годах, и основываясь на его опыте информационная кампания была распространена на Северо-Запад Российской Арктики в 2020-2021 годах. Основное послание туристам выражается в анимационном фильме продолжительностью около 2 минут. Фильм выпущен в двух версиях, одна на английском, другая на русском, обе с субтитрами на 13 языках (английском, норвежском, финском, шведском, исландском, гренландском, немецком, французском, испанском, итальянском, русском, мандаринском и японском). Фильм и дополнительную информацию можно найти на сайте проекта <https://www.stoparcticaliens.com/>. Информационная кампания распространялась по различным каналам среди путешественников, в частности, через Интернет и социальные сети.

Анимационный фильм связан с "сотрудником пограничной службы" (белым медведем), который охраняет вход в Арктику и встречает три разных типа путешественников (круизные туристы, пешие туристы, исследователи/местные жители), которые прибывают в Арктику на самолете или лодке. Белый медведь осматривает туристов, чтобы найти «безбилетников» на одежде, снаряжении или в багаже. Чужеродные виды представлены семенами растений, насекомыми и паразитами, которые потенциально могут обосноваться и распространиться в Арктике. Послание белого медведя заключается в том, что каждый человек может предпринять доступные ему простые меры (почистить щеткой, пропылесосить и постирать одежду и снаряжение) до отъезда и по прибытии в Арктику, чтобы защитить уязвимую арктическую среду. В фильме белый медведь говорит на английском и русском языках.

Сообщение распространяется по различным российским каналам, прямо или косвенно информируя путешественников. В связи с пандемией коронавирусной инфекции 2019 года число путешественников было достаточно низким по сравнению с ситуацией до начала пандемии, но мы постарались охватить как можно больше людей и стремимся к тому, чтобы информационная кампания была эффективной и устойчивой, к тому моменту, когда ситуация с пандемией позволит увеличить количество экспедиций в северо-западную часть российской Арктики.



Информационная кампания финансируется Министерством климата и окружающей среды Норвегии.

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## Sammendrag

Thomassen, J., Mizin, I., Polikarpov, A., Stokmo, J.A., Bruteig, I.E., Niemivuo-Lahti, J., Josefsson, M. & Westergaard, K.B. 2022. Fremmede arter i nord-vest arktiske Russland – Informasjonskampanje for å hindre at reisende bringer med seg fremmede arter til Arktis. NINA Rapport 2093. Norsk institutt for naturforskning.

Fremmede arter er en alvorlig trussel mot biologisk mangfold, menneskets helse og økonomi globalt, og særlig i Arktis hvor miljøet er spesielt sårbart. I regi av Arktisk råd gjennom CAFF/PAME er Arctic Invasive Alien Species (ARIAS)-initiativet et viktig arbeid når det gjelder fremmede arter i Arktis. I ARIAS Strategy and Action Plan 2017 (CAFF & PAME 2017) er en av de prioriterte handlingene å lage målrettede kommunikasjons- og formidlingstiltak med formål å øke bevisstheten omkring fremmede arter. Prosjektet «*Fremmede arter i nord-vest arktiske Russland – Informasjonskampanje for å hindre at reisende bringer med seg fremmede arter til Arktis*» er en direkte oppfølging av dette.

Prosjektet har fokusert på enkle tiltak som den reisende selv kan iverksette for å hindre at de tar med seg fremmede arter som blindpassasjerer på sin reise til Arktis. Et pilotprosjekt med Svalbard som case ble gjennomført i 2018-2019, og basert på erfaringer fra denne piloten ble kampanjen utvidet til nord-vest Russland i 2020-2021. Hovedbudskapet framkommer gjennom en animasjonsfilm på ca. 2 minutter. Filmen er laget i 2 versjoner, en engelsk og en russisk. Begge versjonene er teksten på 13 språk (engelsk, norsk, finsk, svensk, islandsk, grønlandsk, tysk, fransk, spansk, italiensk, russisk, mandarin og japansk). Filmen og videre informasjon finnes på prosjektets hjemmeside <https://www.stoparcticaliens.com/>. Informasjonskampanjen er spredd til de reisende via en rekke kanaler, bl.a. gjennom internett og sosiale media.

Animasjonsfilmen er bygget opp omkring en «grensevakt» (isbjørn) som passer på inngangen til Arktis og som møter tre ulike typer reisende (cruiseturist, backpacker, forsker/fastboende) som har kommet til Arktis med fly eller båt. Isbjørnen undersøker turistene for å finne blindpassasjerer på klær, utstyr eller i bagasjen. Fremmede arter er symbolisert gjennom frø, insekter og parasitter som potensielt kan etablere og spre seg i Arktis. Budskapet fra isbjørnen er at den enkelte kan gjøre noe selv (børst, støvsug og vask klær og utstyr) før avreise og ved ankomst for å beskytte det sårbare arktiske miljøet. I filmen snakker isbjørnen engelsk og russisk. Budskapet er spredd til reisende gjennom ulike russiske kanaler, direkte eller indirekte. Grunnet covid19-pandemien har det vært få reisende sammenliknet med situasjonen før pandemien, men vi har likevel forsøkt å nå så mange som mulig med et mål om at kampanjen skal være operativ og bærekraftig når pandemien tillater økt reiseaktivitet til nord-vest arktiske Russland.

Informasjonskampanjen i nord-vest arktiske Russland er finansiert av Klima- og miljødepartementet i Norge.

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## Acronyms

AECO	Association of Arctic Expedition Cruise Operators <a href="https://www.aeco.no/">https://www.aeco.no/</a>
ARIAS	Arctic Invasive Alien Species <a href="https://www.caff.is/invasive-species">https://www.caff.is/invasive-species</a>
CAFF	Conservation of Arctic Flora and Fauna <a href="https://www.caff.is/">https://www.caff.is/</a>
CBMP	Circumpolar Biodiversity Monitoring Programme <a href="https://www.caff.is/monitoring">https://www.caff.is/monitoring</a>
IAS	Invasive Alien Species
KLD	Ministry of Climate and Environment, Norway <a href="https://www.regjeringen.no/no/dep/kld">https://www.regjeringen.no/no/dep/kld</a>
NINA	Norwegian Institute for Nature Research <a href="https://www.nina.no/">https://www.nina.no/</a>
Nordregio	Nordic Council of Ministers – Research center <a href="https://www.nordregio.org">https://www.nordregio.org</a>
NPRA	National Park Russian Arctic <a href="http://www.rus-arc.ru">http://www.rus-arc.ru</a>
NTNU	The Norwegian University of Science and Technology <a href="https://www.ntnu.no/">https://www.ntnu.no/</a>
PAME	Protection of the Arctic Marine Environment <a href="https://www.pame.is/">https://www.pame.is/</a>
SMS	Governor of Svalbard <a href="https://www.sysselmesteren.no">https://www.sysselmesteren.no</a>

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## Foreword

As a direct follow-up to an initiative from the Arctic Council (CAFF/PAME) through the Arctic Invasive Alien Species Strategy and Action Plan (2017), we created an information campaign to prevent travellers from bringing stowaways (alien species) on their journeys to the Arctic. The first step in the campaign was focused on Svalbard as a pilot (Thomassen et al. 2019 <http://hdl.handle.net/11250/2633969>). Based on the pilot project, the next step was to bring the campaign to North-West Russian Arctic focusing on the National Park Russian Arctic (NPRA). The project «*Alien species in North-West Russian Arctic – Information campaign to prevent travellers bringing alien species to Arctic*» has been widely spread in the North-West Russia through, among other things, the internet and social media.

The project group consisted of Jørn Thomassen (project leader), Inga E. Bruteig, Jan Arne Stokmo and Kristine Bakke Westergaard, all NINA, Ivan Mizin and Artem Polikarpov, NPRA, Russia, Johanna Niemivuo-Lahti, Ministry of Agriculture and Forestry, Finland and Melanie Josefsson, Environmental Protection Agency, Sweden.

The information campaign is built upon an animated film (produced by Klipp og Lim, Trondheim) about the problems of alien species in the Arctic. The film is produced in 2 versions, one in English and one in Russian, both versions with subtitles in 13 languages. The film and further information can be found on the project's website <https://www.stoparcticaliens.com/>.

We would like to thank the Governor of Svalbard (SMS) and Association of Arctic Expedition Cruise Operators (AECO) who have been central to the success of the information campaign reaching out to the travellers.

Furthermore, we would like to thank the Ministry of Climate and Environment (KLD), Norway (Ingrid Lillehagen, Anne Berteig and Silje Dalehaug) who have believed that the information campaign should work and has funded the project.

Trondheim, February 2022

Jørn Thomassen  
(project leader)

# 1 Introduction

Arctic areas are exposed to an increasing influence from various sources that can negatively affect the environment and ecology and potentially destroy sustainable development. International cooperation, mainly through Conservation of Arctic Flora and Fauna (CAFF; <https://www.caff.is>) and Protection of the Arctic Marine Environment (PAME; <https://pame.is>) has focused on conservation of the Arctic environment, including measures to prevent alien species from being transported to, established and dispersed. For example, the Governor of Svalbard has focused on alien species through an action plan for alien species in Svalbard (Syssemmannen på Svalbard/Governor of Svalbard 2017).

There are several vectors for alien species to the Arctic, among other things summarized in Hendrichsen et al. (2014), Thomassen et al. (2017) and Wasowicz et al. (2019). Alien species are a serious threat to biodiversity, human health and economy globally, including the Arctic, where the environment is particularly vulnerable. Alien species are species that due to human activity has come to an area where they naturally do not belong. The total load of alien species in the Arctic is so far not of the same severity as in more temperate areas, but must be closely monitored, among other things, due to the possible consequences of various influence factors, in particular climate change. Particularly in marine and coastal (including fjords) ecosystems the risk for the introduction and establishment of alien species are high, but it is also important to focus on the risk in terrestrial and limnic ecosystems where it is likely easier to implement measures against the alien species.

It is not always easy to conclude why and how a new species has ended up in an area where it naturally does not belong, but ballast water, fouling on ships and marine litter are assessed as important vectors (dispersal paths) (Hendrichsen et al. 2014). Spreading via travellers by plane or boat also constitutes an important vector, e.g. it is documented by Ware et al. (2012) that each traveller flying to Longyearbyen had an average of 3.9 seeds in their footwear, with the highest incidence of shoes of those who had been in forest or mountain areas before departure. On behalf of the Norwegian Environment Agency, NINA carried out a project on alien species in 2017 with the aim of identifying and prioritizing existing and future mapping and monitoring of alien species in the Arctic, focusing on Svalbard and Jan Mayen (Thomassen et al. 2017). The Norwegian Institute of Marine Research, Akvaplan-niva, the Norwegian Polar Institute and NINA were key contributors to the project.

Under the auspices of CAFF/PAME, the Arctic Invasive Alien Species (ARIAS; <https://www.caff.is/invasive-species>) initiative is an important work in the field of alien species in the Arctic. ARIAS Strategy and Action Plan 2017 (CAFF & PAME 2017; <https://www.caff.is/strategies-series/415-arctic-invasive-alien-species-strategy-and-action-plan>) states that «*We have an unique opportunity in the Arctic. We can act now – decisively – to prevent and mitigate the adverse impacts of invasive alien species that plague much of the rest of the world*». Furthermore, the Circumpolar Biodiversity Monitoring Program (CBMP; <https://www.caff.is/monitoring>) states that alien species should be included in the monitoring of the Arctic through a focus on four main ecosystems: marine, coastal, aquatic, and terrestrial. Here, regional Arctic monitoring data will be compiled so that researchers, managers and decisionmakers early can discover and understand the reasons for long-term changes in Arctic ecosystems. Furthermore, some priority actions have been set up to prevent alien species from reaching and establishing themselves in the Arctic. One of the priority actions through the ARIAS work is targeted communication and dissemination measures aimed at raising awareness of alien species.

As a direct follow-up to the initiative from the Arctic Council (CAFF/PAME) through the Arctic Invasive Alien Species Strategy and Action Plan (2017), we created an information campaign to prevent travellers from bringing stowaways (alien species) on their journeys to the Arctic. The first step in the campaign was focused on Svalbard as a pilot (Thomassen et al. 2019 <http://hdl.handle.net/11250/2633969>). Based on the pilot project, the next step was to bring the campaign to North-West Russian Arctic focusing on the National Park Russian Arctic (NPRA).

The project «*Alien species in North-West Russian Arctic – Information campaign to prevent travellers bringing alien species to Arctic*» has been widely spread in the North-West Russia through the internet, social media and other channels.

We have focused on communication and dissemination of measures against alien species in the Arctic. The project is based on various categories of travellers to the North-West Russian Arctic: 1. The general public, travellers; 2. Management authorities; 3. Tourists and tour operators, travel agencies and airlines; 4. Companies with activities in the Russian Arctic.

We have used various information platforms to inform travellers about the problem of bringing and establishing alien species in the Arctic and about the personal responsibilities of travellers in this context. The main product in the project is an animated film (2 minutes) that tells how travellers easily can help preventing alien species not to follow them as stowaways on their journey to Arctic areas.

The information platforms can typically be screens in the seatbacks in planes, information screens on cruise ships, information screens in Arctic destinations, tourist offices and information roll-ups on widely used starting points for hiking, as well as social media and through travel agencies and the web pages of Arctic tour operators where travellers book their travels.

We have used the same project group as in the pilot project supplemented by central resource persons from the National Park Russian Arctic (**Table 1**).

**Table 1.** *The project group for the information campaign on alien species in the North-West Russian Arctic.*

Name	Institution
Jørn Thomassen (project leader)	Norwegian Institute for Nature Research
Inga E. Bruteig	Norwegian Institute for Nature Research
Jan Arne Stokmo	Norwegian Institute for Nature Research
Kristine Bakke Westergaard	Norwegian Institute for Nature Research
Ivan Mizin	National Park Russian Arctic
Artem Polikarpov	National Park Russian Arctic
Johanna Niemivuo-Lahti	Ministry of Agriculture and Forestry, Finland
Melanie Josefsson	Environmental Protection Agency, Sweden

The company Klipp og Lim represented by Lars Hegdal and Svein Erik Okstad has been responsible for the actual production of the animated film.

The information campaign in North-West Russia is funded by the Ministry of Climate and Environment, Norway.

## 2 The animation film

Communication and dissemination measures must be target-specific and have a clear target group. In this project, we have made an animated film about the challenges of alien species to the Arctic. The target group is travellers to Arctic areas, and we want to use information channels that already exist.

Common for the information campaign is that the message should be simple, but informative. The information shall have great transfer value to other areas in the Arctic, but must be adapted to the individual area/location and the challenges that we face there.

### 2.1 The pilot project on Svalbard

The pilot project on Svalbard was conducted in 2018-2019, and based on experiences from the pilot the campaign was extended to North-West Russian Arctic in 2020-2022 (and to Iceland/Greenland the same years).

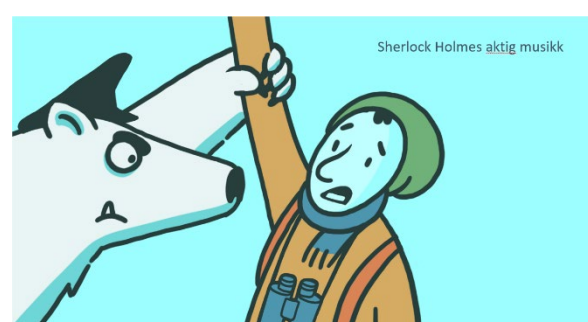
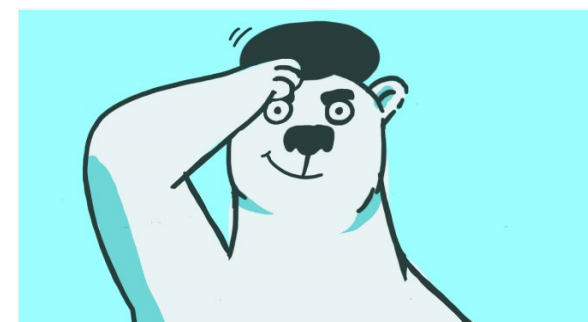
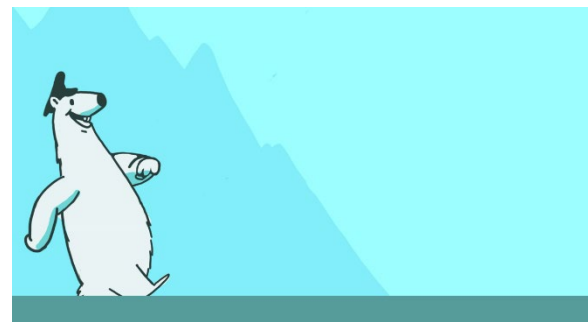
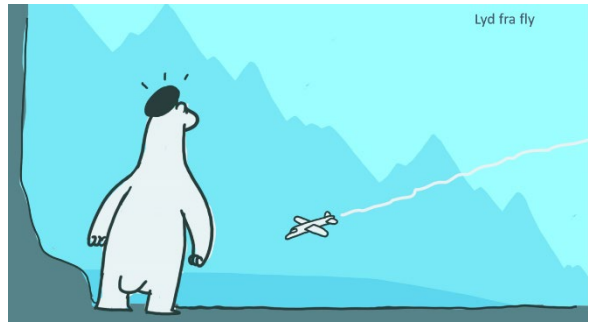
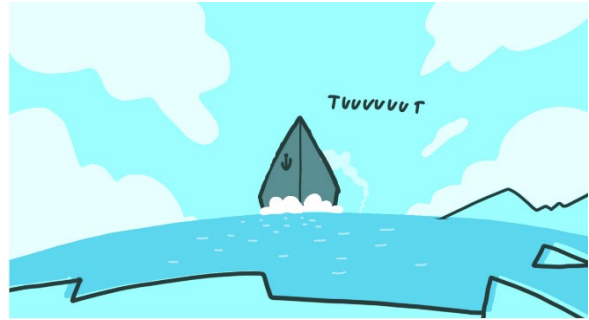
At the beginning of the pilot project, a brainstorming session was arranged internally at NINA with participants who had the expertise on the issues of alien species, dispersal paths and communication, as well as experience from Arctic regions. The brainstorming session was a creative process where a number of suggestions for the content and structure of the information campaign and the animated film were launched and discussed.

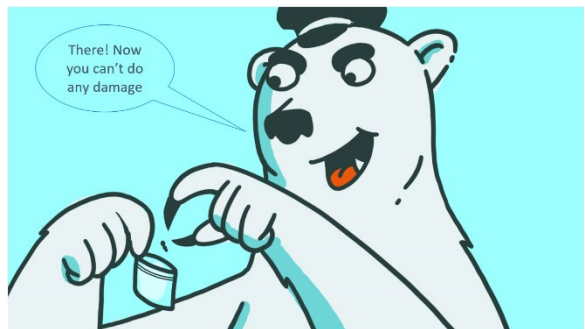
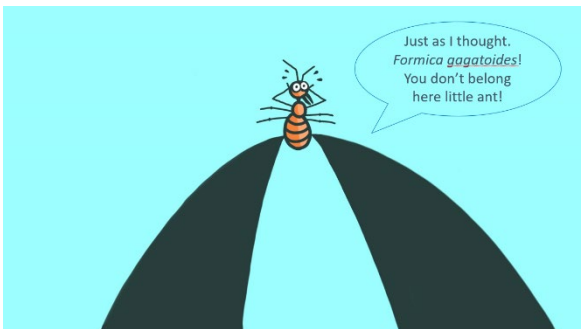
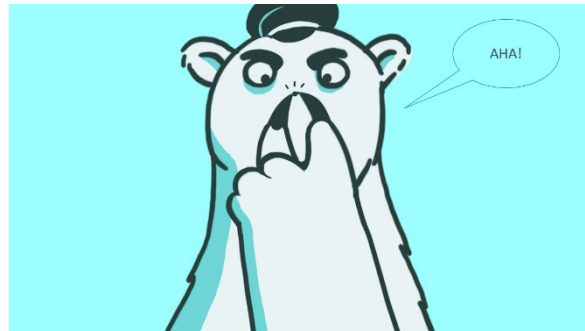
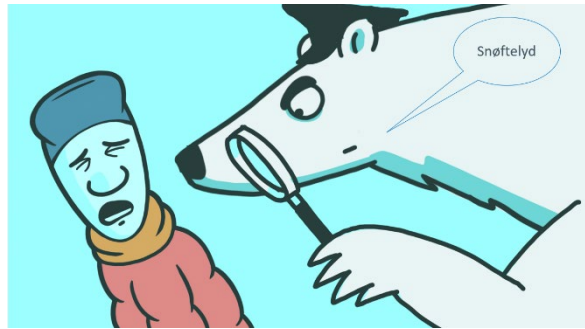
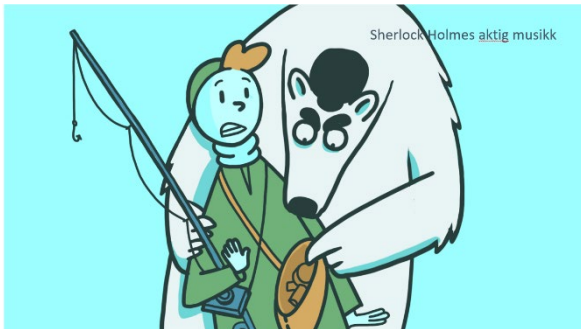
We concluded with an animation film built up around a "border guard" (polar bear) who guards the entrance to the Arctic and meets three different types of travellers (cruise tourist, backpacker, researcher/resident) who have come to the Arctic by plane or boat. The polar bear examines the tourists searching for stowaways (alien species) on clothing, equipment and in their luggage. Alien species are symbolized through seeds, insects and parasites that can potentially establish and spread in the Arctic. The message from the polar bear is that each individual can do simple measures (brush, Hoover and wash clothes and equipment) before departure and at arrival to protect the vulnerable Arctic environment. As a basis for the animated film, a storyboard was prepared that included the main stages of the animation and the story in the film. The film can be found on the projects home page <https://www.stoparcticaliens.com/>.

### 2.2 Storyboard




A visual storyboard, including text for the animated film, was completed at the end of 2018. The animation with speech (English) and subtitles was completed in early March 2019. The film was subtitled in 11 languages: English, Norwegian, Finnish, Swedish, German, French, Spanish, Italian, Russian, Mandarin and Japanese. **Figure 1** shows excerpts from the storyboard of the film.

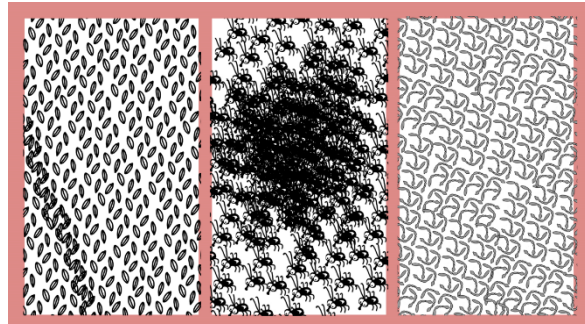






Small species can hitch a ride without our realising it. Climate change increases the chances that they might be able to establish themselves.

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**Figure 1.** Excerpts from the storyboard of the film. Source: Lars Hegdal, Klipp og Lim.

## 2.3 Speech and subtitles in the film

### 2.3.1 The pilot project

The speech in the pilot project on Svalbard was first made in Norwegian, and based on the Norwegian edition, the text was translated into English (John Linnell, NINA), which in turn was the basis for the translation to nine other subtitle languages: German: Berit Köhler (NINA), French: Anne Mathilde Thierry (NINA), Spanish: Graciela Rusch (NINA), Italian: Manuela Panzacchi (NINA), Russian: Jorunn Skjulestad (Governor of Svalbard), Mandarin: Xianwen Chen

(NINA) and Xi Chu (NTNU), Japanese: Sachiko Shin Halley (private consultant), Finnish: Johanna Niemivuo-Lahti (project group) and Swedish: Melanie Josefsson (project group).

### 2.3.2 Expansion to Russia

Based on the experiences from the pilot project we adapted the information campaign to be implemented in North-west Russian Arctic with focus on National Park Russian Arctic (**Figure 2**). National Park Russian Arctic (Национальный парк "Русская Арктика") is a national park of Russia, which was established in June 2009. It was expanded in 2016, and covers a large and remote area of the Arctic Ocean, the northern part of Novaya Zemlya (Severny Island), and Franz Josef Land.



**Figure 2.** Geographical location of National Park Russian Arctic (source NPRA).

The Governor of Svalbard gave us invaluable help by translating the projects home page into Russian as well as translating the speech of the polar bear in the film into Russian. The Trondheim based company Klipp og Lim made a new version of the film where the polar bear speaks Russian.

### 2.3.3 Expansion to Iceland and Greenland

As a follow up of the pilot project the information campaign has also been extended to Iceland and Greenland (funded by the Nordic Council of Ministers through Nordregio) (**Figure 3**). Two new subtitles in Icelandic (Pawel Wasowicz) and Greenlandic (Peter S. Olsen) were consequently added to the subtitles in the film.



**Figure 3.** Iceland and Greenland (source <https://www.beautifulworld.com/north-america/the-arctic-circle/>).

### 3 Dissemination of the information campaign

The information campaign has a short and message that all travellers to the Arctic can contribute not to bring alien species as stowaways on their journeys. The measure is to brush, Hoover and wash bags, backpacks, clothes, shoes, and other equipment before leaving home. The animation film and information can be found on the project's website <https://www.stoparcticaliens.com/>.

The information campaign was released synchronously from NINA and NPRA on 20. April 2021.

#### 3.1 Distribution via the internet

At the same time as the campaign was released, press releases with the message and the animated film were posted on a number of websites and on social media such as Facebook, Twitter and Instagram (**Table 2**): *“This year, a major information campaign is launched in north-western Russia with the goal of preventing the spread of alien species to Russian parts of the Arctic. The researchers fear that seeds, insects and parasites will establish themselves in the vulnerable northern regions, asking travellers to take action”.*

**Table 2.** Publication of the information campaign on the internet after its release on 20. April 2021.

Source/institution	Links
<b>NINA</b> Also sent to The Barents observer, Fiskeavisen, Svalbardposten	<a href="https://www.nina.no/Aktuelt/article/norsk-russisk-samarbeid-skal-stanse-spredning-av-fremmede-arter-til-arktisk">https://www.nina.no/Aktuelt/article/norsk-russisk-samarbeid-skal-stanse-spredning-av-fremmede-arter-til-arktisk</a>
	<a href="https://www.nina.no/english/News/article/norwegian-russian-cooperation-aims-to-stop-the-spread-of-alien-species-to-the-arctic">https://www.nina.no/english/News/article/norwegian-russian-cooperation-aims-to-stop-the-spread-of-alien-species-to-the-arctic</a>
	<a href="#">Stop Arctic aliens - YouTube</a>
	<a href="https://storymaps.arcgis.com/.../783068901ddb43a18c88e3d7...">https://storymaps.arcgis.com/.../783068901ddb43a18c88e3d7...</a>
	NINA/NPRA: <a href="https://www.nina.no/.../norsk-russisk-samarbeid-skal...">https://www.nina.no/.../norsk-russisk-samarbeid-skal...</a> <a href="https://youtu.be/oghk2GRI5i8">https://youtu.be/oghk2GRI5i8</a>
<b>NPRA</b>	See below <a href="#">(20) Russian Arctic National Park   Facebook</a>
<b>The Governor of Svalbard</b>	<a href="#">Russland med i kampen mot fremmede arter i Arktis   Sysseimannen på Svalbard</a>
<b>AECO</b>	<a href="#">AECO   Association of Arctic Expedition Cruise Operators</a>
<b>Forskning.no</b>	<a href="#">Forsiden – forskning.no</a>
<b>Science Norway</b>	<a href="https://partner.sciencenorway.no/arctic-biodiversity-environment/norwegian-russian-cooperation-aims-to-stop-the-spread-of-alien-species-to-the-arctic/1852724">https://partner.sciencenorway.no/arctic-biodiversity-environment/norwegian-russian-cooperation-aims-to-stop-the-spread-of-alien-species-to-the-arctic/1852724</a>

The campaign was further spread to many Russian target groups (NPRA) via e-mail with the requests to take part in the distribution of the animated video clip and the information campaign, to post information on the project on these organization's websites and at their social media groups to the companies operating in the Russian Arctic and national parks and natural reserves:

#### 1) National parks and natural reserves located in the Russian Arctic:

- Federal State Budgetary Institution “Russian Arctic National Park”
- Federal State Budgetary Institution “National Park Beringia”
- Federal State Budgetary Institution “Nenetsky State Natural Reserve”
- Federal State Budgetary Institution “Joint Directorate of the Taimyr Natura Reserves”
- Federal State Budgetary Institution “Pasvik State Nature Reserve”
- Federal State Budgetary Institution “Lapland State Natural Biosphere Reserve”
- Federal State Budgetary Institution “Wrangel Island” State Reserve”
- Federal State Budgetary Institution “Kandalaksha State Nature Reserve”
- Federal State Budgetary Institution “Ust-Lensky State Natural Reserve”
- Federal State Budgetary Institution “Gydansky National Park”.

**2) Tour operators and travel agencies: companies operating in the Russian Arctic:**

- Arctic Russia Travel
- Aurora Expeditions
- Exodus travels
- Heritage Expeditions
- Lindblad expeditions
- Peregrine Adventures
- Polar Cruises
- Ponant
- Poseidon expeditions
- Quark expeditions
- Silversea
- Arctic Travel Company.

**3) Airlines:**

- Smartavia/Nordavia
- Naryan-Mar airlines
- Yamal Airlines
- Kosmos Airlines

**4) Companies operating in the Russian Arctic:**

- Gazpromneft-Yamal LLC (Limited Liability Company)
- Nenets Oil Company JSC (Public Joint Stock Company)
- Severneftegazprom JSC (Public Joint Stock Company)
- Severnaya nef't LLC (Limited Liability Company) is an associated company of Rosneft JSC (Public Joint Stock Company)
- Arcticgaz JSC (Public Joint Stock Company) is a joint venture of Novatek PAO (Public Joint Stock Company) and Gazpromneft JSC (Public Joint Stock Company)
- Atomflot FSUE ([Federal state unitary enterprise](#))
- Northern Department of Hydrometeorology and Environmental Monitoring FSBI (Federal State Budgetary Institution)
- Joint Stock Company NSC ARKHANGELSK
- Seversalmaz JSC (Public Joint Stock Company)
- AGD Diamonds ([joint stock company](#))
- Arctic Consulting Service CJSC (Closed Joint Stock Company)

In April 2021 NPRA spread the press release of the project on the NPRA web site; NPRA social networks groups (VK – V Kontakte; Facebook). List of Russian media outlets to which the press release was sent:

- Barents Press
- Consulate of Norway in Arkhangelsk
- Tourist Information Centre of Arkhangelsk Region
- Regnum News Agency
- News Agency Lenta RU
- TASS News Agency
- IA Dvina
- Argumenty i Fakty
- Rossiyskaya gazeta
- News Agency Izvestia
- Press Service of Ministry of Natural Resources and Environment of Russia
- IA Region 29
- The magazine Ecology of Pomorye
- Russian Geographical Society
- Hydrometeorological Center of the Arkhangelsk Region.

Related to the NINA/NPRA project in northwest Russia, AECO and NINA (mainly with focus on Iceland and Greenland and Arctic in general) organized a webinar about alien species in the Arctic (3. June 2021 at 17:00 – 18:30). The question was: How can travellers help protect the Arctic environment from the impact of alien species? This webinar gave an update on the current research on alien species found in the Arctic and how they are affecting local ecosystems. Speakers also focused on how travellers and the travel industry can play a part in stopping non-native species from getting a free passage to the Arctic, with examples from the expedition cruise industry. Program and registration was available here: <https://www.aeco.no/events/stopping-arctic-alien-species-travel-industry-perspectives/>. About 60 persons attended the webinar globally.

## **3.2 Spreading to travellers**

The main target group for the information campaign is the travellers to Arctic destinations. The long-term goal is that travellers should be reached before travelling to the Arctic so that they individually can carry out simple measures such as brushing, hoovering and washing clothes and equipment. This presupposes the spread of the film and the message through tour operators, travel agencies and airlines on their home pages and when the journey to the Arctic is booked and/or confirmed by the operators.



## 4 Evaluation

The visitors of NPRA have seen the video film and some of the employees of NPRA have given the visitors of the Arctic territories short lectures with the information regarding the project on board of the touristic and scientific vessels, which were heading to NPRA in 2021. NPRA has also asked the representatives of the companies (which were mentioned above) to continue to support the project (to spread the information regarding the project and to provide the tourists and the staff of these companies with a chance to watch the video film) next year (2022).

### 4.1 Notes on the COVID-19 pandemic

**2020:** The project has been completed according to the planned implementation plan except for the start-up meeting, which was carried out via video on 27 April 2020 (due to the COVID-19 restrictions). All activities in 2020 were prepared for the implementation of the information campaign in northwest Russia in 2021 and the project is on track. Comments from NPRA about the corona situation: *“The number of tourists who have visited the special protected natural areas located in the Russian Arctic have dwindled in 2020 if compared to previous years. For example in 2020 none of the tourists have visited the territory of NPRA due to corona pandemic. Otherwise we think that the corona pandemic hasn’t yet affected the project.”*

**2021:** Comments from NPRA about the corona situation: *Of course the COVID-19 pandemic has also affected the project so far in 2021, because fewer tourists have visited the Arctic territories in Russian Arctic if compared to pre-pandemic years. But if we compare the number of tourists in the Russian Arctic in 2020 and 2021, the situation got better. For example about 500 tourists have visited the territory of NPRA during this summer touristic field season. Last year (2020) there were no tourists at all, only a few scientific expeditions heading to the Arctic. And the spread of the information campaign on the project is also related with the number of visitors of the Arctic territories.*

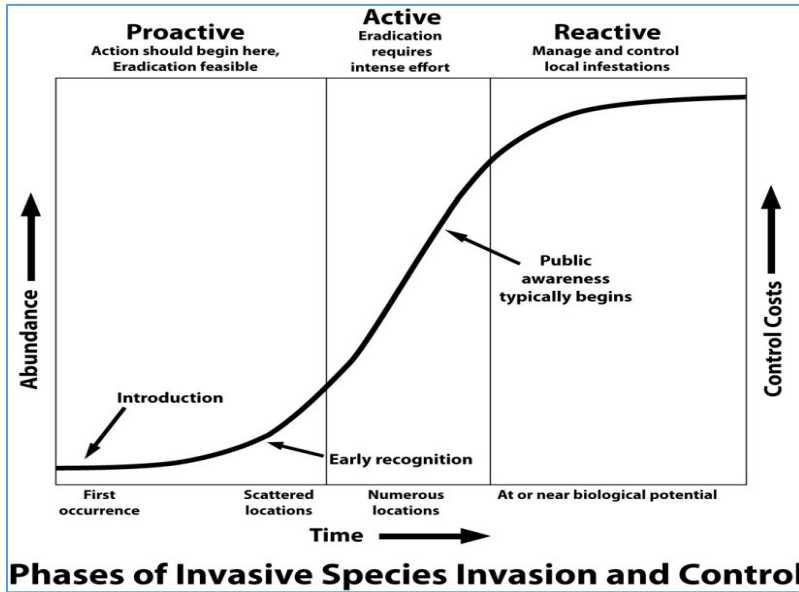
### 4.2 Numbers of travellers who have seen the film/information campaign

The information campaign was spread directly and indirectly through many channels on the internet and social media, but also through a number of other channels, particularly in Russia (see Chapter 3.1). Due to the COVID-19 pandemic, the number of travellers to north-west Russia have been significantly lower than before the pandemic. We have no exact figures on how many travellers the information campaign have reached, but the campaign is ready for further spread in 2022.

### 4.3 Conclusions

Regardless of whether we relate to the Arctic or other areas of the globe, an early detection of unwanted alien species will be important to avoid importing, spreading and establishing.

Measures to prevent alien species from establishing and spreading should consequently start as early as possible, preferably before the travellers reach the Arctic. Here, information campaigns will be an important tool for educating different actors and travellers about actions they can take. Early detection of alien species is an important step after the establishment/spread and is also optimal for both ecological and economic considerations (**Figure 4**).



**Figure 4.** Phases of alien species introduction (source: Bean 2015).

Despite the COVID-19 pandemic, we believe that the information campaign has been successful and reached many important target groups for travellers in the North-West Russian Arctic. The tourism operators we have been in contact with have intentions to continue the implementation of the campaign in 2022, so that the message *brush, vacuum and wash* clothes and equipment before departure to the Arctic will be communicated further and hopefully become a regular routine and be sustainable in the future.

We have also expanded the campaign to Iceland and Greenland (funded by the Nordic Council og Ministers) and expect that 2022 will be important in the implementation and spreading to the travellers. Here too, the COVID-19 pandemic has led to strong restrictions for travellers to the Arctic, but the campaign is ready for spread when travelling activities increase again. The information product must be circumpolar adapted to the individual destination and tourism operators.

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*The Norwegian Institute for Nature Research, NINA, is an independent foundation focusing on environmental research, emphasizing the interaction between human society, natural resources and biodiversity.*

*NINA was established in 1988. The headquarters are located in Trondheim, with branches in Tromsø, Lillehammer, Bergen and Oslo. In addition, NINA owns and runs the aquatic research station for wild fish at lms in Rogaland and the arctic fox breeding center at Oppdal.*

*NINA's activities include research, environmental impact assessments, environmental monitoring, counselling and evaluation. NINA's scientists come from a wide range of disciplinary backgrounds that include biologists, geographers, geneticists, social scientists, sociologists and more. We have a broad-based expertise on the genetic, population, species, ecosystem and landscape level, in terrestrial, freshwater and coastal marine ecosystems.*

ISSN: 1504-3312  
ISBN: 978-82-426-4880-8

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