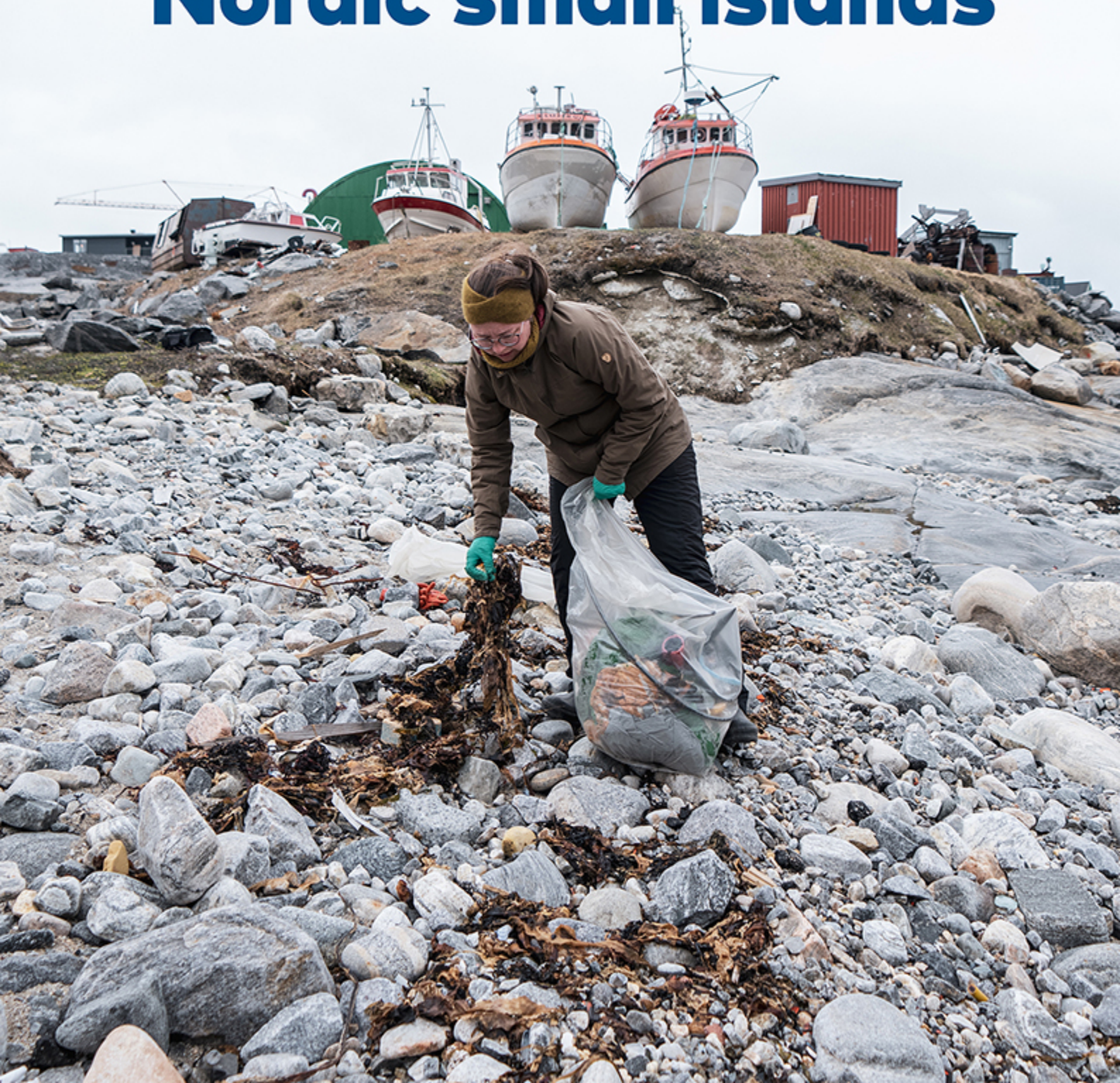
Nordic Council of Ministers

Marine litter in Nordic small islands



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Summary

Plastic pollution in the world's oceans is one of modern times biggest challenges. Plastic waste and microplastics respect no boundaries and can travel long distances with oceans currents. Marine plastics and litter have shown to have a significantly negative ecological impact on marine wildlife. Oceans surrounding the Nordics are no exception where the Nordic small island states are often the most vulnerable with vast coastal areas and limited populations.

NGOs and volunteers all over the Nordics are fighting marine litter through organised clean-up actions. The Nordic Coastal Clean-up (NCC) initiative is in that regard a project that uses the Nordic cooperation method with focus on knowledge, information and experience sharing. The project Marine litter in the Nordic small island states (NGO tilltak för rening av stränder och kustar) was designed to assist NGOs in the Nordic small states of the Åland Islands, Greenland, Iceland, and the Faroe Islands in their participation of combating marine litter.

All the island states, including the more populated ones that are a part of the Nordic Coastal Clean-up share challenges in their coastal clean-up projects where some are however unique to each state. Travelling long distances to often hard to reach rural areas and cooperation with local authorities are common challenges as well as the lack of access to funds where the smaller NGOs and initiatives struggle more with this.

With the above challenges in mind, there is an evident need to establish a platform to assist smaller NGOs and initiatives in their clean-up work. Continuing work between the NGOs in all the Nordic countries through the Nordic Coastal Clean-up project is shown to be effective and necessary. Governmental involvement through acknowledgement and funding is necessary for the Nordic network and cooperation to reach its full potential. A shared view is evident among the small island states that work through networking, co-working and sharing of information is both motivating and informative for all involved opening future possibilities.

The following report contains an overview of the project Marine litter in Nordic small island states and the Nordic Coastal Clean-up project giving an insight to the interconnectedness between Nordic states working with marine litter. The main part of the report consists of extensive information collected from the four small island states to facilitate an exchange of knowledge between them. The information was collected during a workshop held in the Faroe Islands 7th September 2018 and an online workshop held in May 2020 with a few online meetings and e-mail correspondence. The main aim of the workshops was to facilitate cooperation between the small island states by facilitating experience and knowledge sharing. The workshops also aimed to look at the challenges faced by the small island states and put forward short- and long-term solutions to the main challenges.

Resumé

Plastforurening i havet er en af de største udfordringer i vores tid. Plastaffald og mikroplast kan rejse med havstrømme over lange afstande og har vist sig at have betydelige negative miljømæssige påvirkninger på havmiljøet. Havet omkring Norden er ingen undtagelse hvor de mindre øer er ofte mere sårbare over for klimaforandringer med sine brede strander og lave indbyggertal.

NGOer og frivillige over hele Norden bekæmper plastaffald i havet med organiseret oprensningsaktioner. Nordic Coastal Clean-up er et projekt der bruger den nordiske samarbejdsmetode med fokus på viden, informationer og formidling af erfaring. Projektet Marine litter in the Nordic small island states ved de mindre nordiske øer var designet for at støtte NGOer på Ålandsøerne, Grønland, Island og Færøerne for at samles til en fælles front mod affald i havet.

De små øer har mange fælles udfordringer men også nogle unikke hver til sig. Lange rejser til ofte fjerntliggende områder og samarbejde med de lokale myndigheder er de generale udfordringer samt mangel på finansiering, det gælder især for de mindre NGOer.

I forhold til de udfordringer er der en åbenbar behøv for at etablere en platform for at assistere mindre NGOer og andre initiativer i deres oprensnings projekter. Fortsat samarbejde mellem NGOerne i de nordiske lande gennem det Nordic Coastal Clean-up projekt, viser sig at være både effektivt og nødvendigt projekt. Regeringens deltagelse igennem anerkendelse og finansiering af initiativerne er nødvendig for at opnå det fulde potentiale. Med fælles syn, godt netværk og deling af informationer kan alle parter blive både motiveret og informeret og derfor skabe muligheder i fremtiden.

Denne rapport indeholder en kort oversigt af projektet Marine litter in Nordic small island states og det Nordic Coastal Clean-up projekt med indblik til det nordiske samarbejde mod havaffald. Hoveddelen af rapporten består af omfattende informationer, som var indsamlet i de fire små østater for at dele viden. Oplysningerne var indsamlet i en workshop, der blev afholdt på Færøerne den 7. september 2018, og en online workshop, der blev afholdt i maj 2020 med et par online-møder og e-mail korrespondance. Hovedformålet med workshopperne var at facilitere samarbejdet og styrke samarbejde mellem de små østater. Workshopperne havde også til formål at se på de udfordringer, som de små østater står overfor, og fremsætte både kortsigtede og langsigtede løsninger til de største udfordringer.

Preface

Throughout the years, the Nordic countries have established their successful partnership and cooperation on many projects that include environmental issues. The Nordic cooperation focuses on sharing knowledge, information and experience which is the key to its success and the countries joint approach on issues at the international and local level.[1]

The ocean connects the Nordic countries who are all dependent on its services for food, recreation, transport, climate regulations and many other issues. With the Arctic also being more vulnerable to the threats of climate change and marine litter the need for joint action and cooperation is vital. In that regard, small Nordic communities are essential linking the Nordic cooperation, and yet are they often most vulnerable due to their extensive and rural coastal areas where populations are limited making projects on marine litter more challenging.

Keeping the aforementioned in mind, the Nordic group for circular economy- NCE (within the Nordic Council of Ministers) initiated the project Marine litter in Nordic small island states (NGO tilltak för rening av stränder och kustar) to assist the smaller Nordic island nations. The project aim is to address the challenges faced by the Nordic small island states by contributing to work done across the Nordic region by strengthening and broadening the Nordic network and collaboration.

To conduct the project, two workshops were held. The first workshop was held in September 2018 with representatives working with marine litter in the Åland Islands, Greenland, Iceland, and the Faroe Islands. The main purpose of the workshop was to facilitate information and exchange knowledge as well as to identify challenges that the Nordic small islands face when working with marine litter clean-ups. The second workshop was held in May 2020 through on-line meetings and e-mail correspondence with participants as a result of cancellations due to the Covid-19 pandemic. The main purpose of the workshop was to further facilitate information and exchange updated knowledge from 2018.

The report was reviewed by the Nordic group on small communities under the Nordic group for the circular economy- NCE. Assistance with the project preparations of this report has been done by Lise Kielty Gulbrandsen at Hold Norge Rent, Birna Heide Reynisdóttir at Arctic Marine Conservation Crew and Kristján Geir Gunnarsson at Landvernd. Lise, Birna and Kristján wish to thank all those who participated in the project for their time and input.

1. Nordic Council of Ministers, 2017.

1. Introduction

Plastic is everywhere. The material is cheap, lightweight, durable, strong, and easy to mould into any form. Plastics can be found in clothes, cars, houses, and everything in between but it is not made from renewable resources and does not biodegrade. A staggering 9 billion tons have been produced since production began in the 1950's, of which only 9% have been recycled. Plastic pollution has become one of modern times biggest problems where it accumulates in nature with a negative environmental impact polluting soil, fresh water and oceans affecting wildlife. Today, 300 million tons of plastic waste is produced each year globally with 13 million tons ending up in our ocean. Acknowledgements followed by research, improved waste management and new policies are a few necessary steps at a governmental level. With an increasing awareness on this issue and marine litter in the past few years, volunteers, NGOs and other efforts have started to clean up in their neighbourhoods, coastlines or elsewhere where litter is to be found. Such organized clean-ups are an important part of the active measure needed to be taken against marine litter as the projects increase environmental awareness and help gather data about the scale and source of marine litter as well as monitoring results of cleaning actions.[2]

In an effort to tackle this issue of marine litter, the Nordic Ministers of the Environment have put forward joint plans and actions including the Nordic programme to reduce the environmental impact of plastic that was signed on 2nd of May 2017 (the first Nordic Coastal Clean-up day). The programme acknowledged the serious negative impact of marine litter and microplastics. It addressed a long-term vision in multiple strategic areas, including objective measures on the prevention of plastic waste, tackling marine plastic debris and microplastics in the environment, improve recycling, increase research and more.[3]

In the most recent Programme for Nordic Co-operation on the Environment and Climate for the years 2019-2024 issued in 2018, the ministers continue to focus on cooperation on policy, sustainable development and implementation of international agreements and goals, circular economy and preventive measures on plastics and microplastics in the marine environments. Chapter six of the plan is specifically dedicated to oceans and coastal areas. Objectives in chapter six include a step up in preventive actions and research into the fight against marine litter entering the ocean and focus on the blue economy.[4]

Other Nordic projects focusing on marine litter and pollution are the Clean Nordic Oceans and the Nordic Coastal Clean-up initiative. Clean Nordic Oceans is a co-working platform to reduce the risk of ghost fishing and marine litter from lost fishing gear.[5] The Nordic Coastal Clean-up initiative is where Nordic NGOs work together on coastal clean-ups and collect data on clean-ups in the Nordics.[6]

2. UNEP, 2016.
3. Nordic Council of Ministers, 2017.
4. Nordic Council of Ministers, 2018.
5. Nordic Council of Ministers, 2020.
6. Nordic Council of Ministers, 2020.

2. Marine litter in Nordic small island states

2.1. The project

In the spring of 2017, the Nordic Coastal Clean-up was initiated where NGOs in Iceland, Norway, Sweden, Finland, and Denmark carried out beach clean-ups simultaneously. Åland Islands, Faroe Islands and Greenland joined the project in 2018. To assist the smaller nations the small community group under HKP (now the Nordic group for circular economy- NCE) initiated the project Marine litter in Nordic small island states (NGO tilltak för rening av stränder och kustar). The project addresses marine debris and plastic pollution in the Nordic island states of Greenland, Iceland, the Faroe Islands and the Åland Islands where their small island communities with extensive coastal area and limited population can make coastal clean-up projects very challenging. The project was split into two stages. The first stage of the project and its centre piece was a workshop in Faroe Islands followed by a report on the workshop's findings. A video conference or a closing workshop in Iceland was meant to follow which got cancelled due to the Covid-19 pandemic and was replaced by a few on-line meetings and e-mail correspondence. This report is the projects final product.

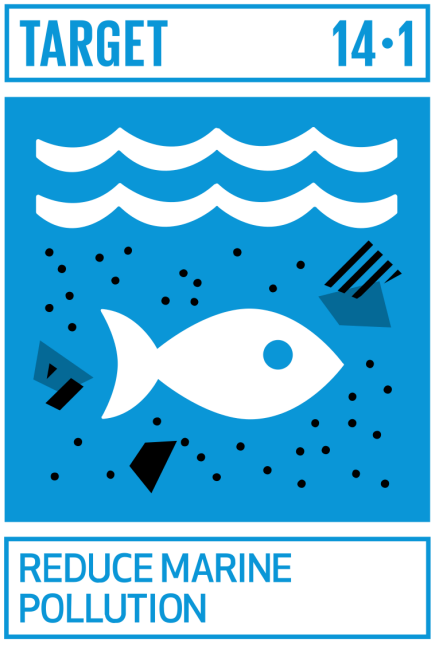
The project takes note of United Nation's sustainable development goals, specifically with target 14.1 under goal 14 regarding Life under water. Nordic Co-operation and the Nordic Ministers of the Environment programmes and action plans relate to the climate and ocean health.[7]

Target 14.1:

By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.

Indicator 14.1.1:

Index of coastal eutrophication and floating debris density.



7. United Nations, n.d.

3. Nordic Coastal Clean-up

Nordic Coastal Clean-up is a cooperative project between NGO´s in the Nordic countries that work on coastal clean-ups in their countries. The project was launched on 2nd of May 2017 when NGOs in Norway, Sweden, Denmark, Finland and Iceland simultaneously cleaned beaches on the same day. Greenland, Faroe Islands and Åland Islands joined in 2018. The Nordic Coastal Clean-up day is held on the first Saturday in May each year.

The NGOs participating in the project are Hold Norge Rent, Håll Sverige Rent, Hold Danmark Rent, Pidä Saaristo Siistinä ry, CSR Grønland, Ålands Natur og Miljö and Ringrás (Faroe Islands). In Iceland, the project has been managed by Landvernd, Blái herinn and Arctic Marine Conservation Crew.

The projects aim is to promote preventive measures towards marine litter in the Nordics through awareness, knowledge gaining and sharing and mobilising volunteers to clean up their coastline, waterways, and lakes of litter. The project emphasises on beach monitoring and data collection where reference beaches are monitored using a Nordic coastal clean-up protocol to follow litter trends.

One of the goals of Nordic Coastal Clean-up is to motivate and organize clean-up events and highlight ongoing projects. These volunteer projects have shown to be an effective way in the fight against marine litter. Not only in the physical removal of litter but the equally important and valuable data that is being collected during these projects. The Nordic countries have set a goal to gather quality data on the status of marine debris in the Nordics to actively find the best preventive measures. Participants also gain first-hand experience and knowledge of the problem that waste has on their environment, increasing awareness of the general public. People are therefore more likely to adopt environmentally friendly lifestyle changes and pressure local and national governments to implement improvements.

Data is collected on 10x100 meter areas of beach using a Nordic protocol based on OSPAR and Ocean Conservancy data collection protocol. The Nordic protocol has fewer categories and is designed to Nordic needs.

A report on the project findings in 2017 and 2018 was published in 2020 in the Nordic Coastal Clean-up policy brief. The project findings reported the need to further identify the origin and cause of marine litter in the Nordics so preventive measures can be implemented. The report emphasised the importance of the reference beach monitoring for quality data collection as well as collaboration between all parties of interest.

The report concluded eleven recommendations based on the Nordic Coastal Clean-ups results.

1. Ensure long-term financing of the Nordic Coastal Clean-up project with two main objectives:
    - Secure coordination and cooperation with regards to work on marine litter in the Nordic countries.
    - Reference beach monitoring in the Nordic region as part of the preventive work on marine litter.

2. National commitments to ensure sufficient funding for both voluntary and professional clean-ups in all Nordic countries.
3. Development and implementation of national strategies to ensure the execution of the UN vision for zero plastic waste in the ocean including specific regional and national goals.
4. A coordinated and aligned Nordic effort to implement a binding international agreement on marine plastic pollution ahead of UNEA 5 in 2021.
5. Implementation requirements for national and municipal litter strategies in accordance with the EU Waste Framework Directive.
6. A joint Nordic initiative to put adequate waste facilities in place for all types of waste in all Nordic harbours.
7. Support the introduction of a no-special-fee system in Nordic harbours in line with the EU proposal including both ship waste, end of life fishing gear and bycatch litter.
8. Set specific national goals for the reduction and phasing out of single-use plastics including an accordance with the EU Single-Use Plastics Directive.
9. Introduction of universal marking requirements for fishing gear used in the Nordic countries as well as a coordinated Nordic effort to introduce international marking requirements for fishing gear.
10. Extend producer responsibility in accordance with the EU Waste Framework Directive and Single-Use Plastics Directive.
11. Implement joint learning resources on littering throughout the Nordics.[8]

Figure 1: Poster for the Nordic Coastal Clean-up day 2019.

8. Nordic Council of Ministers, 2020.

4. Workshop in the Faroe Islands 7th September 2018

A full-day workshop was held at the Nordic House in Tórshavn, Faroe Islands on September 7th, 2018. The workshop was held adjacent to an annual NCC meeting. The workshop was intended to be an arena for inspiration, learning and sharing. Its purpose was to facilitate the sharing of experiences, information, and knowledge and to identify the challenges the Nordic NGOs have been facing during their work on coastal clean-ups in their countries. Additionally, one aim of the workshop was to consider and discuss possible short- and long-term solutions to identified challenges.

Figure 2: Participants from the workshop in the Faroe Islands in 2018.

4.1. Participants

To fully utilise the workshop, representatives from each small island nation and their appropriate NGO with regards to marine litter were invited to attend. Lise Kielty Gulbrandsen from Hold Norge Rent led the workshop and attends the workshop as a leader of the project. Kine Martinussen wrote the minutes. Other representatives from Hold Norge Rent were there to assist and oversee the workshop. Unfortunately, due to lack of human resources, representatives from CSR Grønland could not attend the workshop.

The workshop participants were:

- Malin Jacob. Ocean and international programs manager at Hold Norge Rent.
- Kine Martinussen. Communications manager at Hold Norge Rent.
- Lise Keilty Gulbrandsen. Managing director and project manager for Nordic Coastal Clean-up, Hold Norge Rent.
- Sofia Enholm. Project coordinator for Städa Åland and membership officer at Ålands Natur & Miljö.
- Ingmar á Løgmansbø. Initiator and volunteer coordinator of Ringrás.
- Sigríður Bylgja Sigurjónsdóttir. Project manager for the Blue Flag and Keep Iceland Clean at Landvernd.

4.2. Workshop Design

Prior to the workshop taking place, an invitation was sent to all participants with all necessary information regarding the project as well as a draft agenda for the workshop. The workshop was split into 5 sessions beginning with an introduction and presentation from the participants in an opening session. Following that began a comprehensive session where all participants were asked to share their experience and knowledge on services, issues, and projects in their communities regarding marine pollution and clean-ups. The next session aimed to identify the challenges that these NGOs face when working with marine litter. Following a session on evident challenges, session 4 aimed to discuss possible short- and long-term solutions to the main challenges identified. Finally, the workshop was concluded by presenting a summary for the workshop.

4.2.1. Session 1: Opening

The first session started with introductions and presentations of the participants. The groups expectations from the workshop were the following:

- Hopes for knowledge sharing, inspiration, networking, and learning from each other by sharing difficulties and problems, ideas, and advice on how to address the work and solve evident challenges.
- Gain insight into how the other NGOs from the Nordic small island states work and gain perspective and insight on how to overcome challenges.
- Learn from each other's failures and successes as well as contributing to the development of the work being done across the Nordic region.
- Strengthen and broaden the Nordic network and collaboration.

4.2.2. Session 2: Experience exchange

The NGOs were asked to answer questions about services, issues, and projects in their country from the following list during the workshop.

- Waste management services
- Private waste management companies
- Wastewater and sewage treatment
- Waste facilities in keys/harbours
- Landfills
- Incinerators
- Producer responsibility schemes
- Deposit return schemes
- Recycling in households
- Recycling in commercial sector
- Fishing for litter
- Approximate number of volunteers taking part in clean-ups
- Approximate litter collected during 2017/2018
- Sea floor clean-ups
- Clean-ups along rivers and lakes
- Clean-ups using boats to transport volunteers and or collected litter
- Main industries
- Polluters pay principle
- Laws on littering
- Responsibility for cleaning up litter on land
- Responsibility for cleaning up litter along the coast
- NGOs working against marine litter
- National/local efforts or measures to reduce/prevent littering
- Number of reference beaches in Nordic Coastal Clean-up 2017/2018/2019/2020
- Information on NGOs

4.2.3. Session 3: Challenges

The participants of the workshop were asked to consider and present the main challenges that NGOs experience within their islands when working with marine litter clean-ups.

4.2.4. Session 4: Solutions

Considering the challenges presented in session 3, the workshop aimed to consider and discuss possible short- and long-term solutions to the challenges these small island states face.

4.2.5. Session 5: Summary of the workshop.

The participants agreed that this network is much needed. The work of coastal clean-ups is challenging, and the workshop gave the opportunity to discuss some of these challenges such as the necessity to access funds and other resources. The issue of littering is vast and complex, and it is essential to have NGOs dedicated to the task of solving the problem. NGO driven activities have made Nordic societies more aware of the problem of marine litter both on Nordic shores as well as across the world. All participants agreed that having met up in the workshop to discuss the issue of plastic pollution, the sharing of stories, methods and organizing of clean-up activities was inspiring and very helpful. It has furthered the skills they have to work with, saving both money and time.

5. Online workshop in May 2020

The second part of the project took some changes due to unforeseeable circumstances. A second workshop in Iceland had been planned to take place during the Nordic Coastal Clean-ups annual meeting and participation in the Plastics in the Arctic symposium in April 2020. The symposium was postponed due to the Covid-19 pandemic and consequently the second workshop in Iceland got cancelled. As a result, participants were instead invited to take part in a few online meetings and e-mail correspondence. Participants were invited to answer an updated questionnaire from the workshop in the Faroe Islands since 2018.

5.1. Participants

The workshop was a mere continuation of the previous workshop in the Faroe Islands where representatives from all the same countries were invited to attend and participate in the workshop. Birna Heide Reynisdóttir was the moderator of the online meetings and e-mail correspondence. Birna also wrote the minutes of the meetings. Unlike the workshop in the Faroe Islands, Ivinnguaq, a representative from CSR Grønland was able to participate and take part in the conversation as well as provide information useful for the exchange of knowledge between the Nordic islands.

The workshop participants were:

- Linda Eriksson. Project coordinator of Städa Åland at Ålands Natur & Miljö.
- Ingmar á Løgmansbø. Initiator and volunteer coordinator of Ringrás.
- Birna Heide Reynisdóttir with Arctic Marine Conservation Crew in Iceland.
- Ivinnguaq Kristiansen. Project and communication employee at CSR Grønland.

All participants agreed on the positive aspects of the Nordic Small Islands state Marine litter project and their participation with the NCC network where networking and the sharing of information has helped the local projects along. The countries share many challenges, but some are unique to each country. The challenges include accessibility to locations, funds, and volunteers where the size of each country and population, infrastructures and policy evidently varies.

6. Small island nations knowledge exchange

In this section, the man results from the workshops in both 2018 and 2020 are presented. As previously stated, one of the many aims of this project was to facilitate information and exchange knowledge between the small island states as well as being an arena for inspiration and learning. The chapter is intended to fulfil those aims.

It must be noted that the results shown in the following section are only put together to get an overview of similarities and dissimilarities of systems and challenges the different island states have and is a part of the projects sharing of information and learning from each other.

6.1. A collaborative network is inspiring

Awareness of the problem with marine litter on the Nordic shores as well as the world has been increasing substantially in the Nordics. This increase can be linked to NGO driven activities in the last few years. As stated earlier in this report, the Nordic small island states face several challenges when it comes to clean-up activities and projects such as this one allows them to discuss and facilitate encouragement to combat those challenges. Other initiatives such as the Nordic Coastal Clean-up also allow those island states to collaborate and share resources, knowledge, experiences, and ideas.

Participants in the workshop in the Faroe Islands all shared the common view that the platform was helpful and motivating. Iceland in that regard learned how technical difficulties evident in Iceland have been solved elsewhere and could save a lot of time if done in Iceland.

The platform also helped motivate Sofia from the Åland Islands and helped with arguments on the matter. The Åland Islands are small so inspiration is well received especially since only one individual was working on matters related to marine litter in 2018.

Ingmar from the Faroe Islands was also inspired for example by how the membership model in Iceland is used and could be applied to Ringrás and how a website could be beneficiary to the NGO. The need for this kind of network between the nations is therefore of high regards for the Faroe Islands.

6.2. Knowledge and experience exchange

6.2.1. Waste management

1. Waste management services

Faroe Islands: There are two waste management systems. One by Tórshavn municipality, Kommunala brennistøðin, and one by an inter-municipal company called IRF, which handles the waste of all other municipalities (28 municipalities). Each has their own incinerator, in addition to landfills for non-combustible waste like asbestos. Kommunala brennistøðin handles the waste of 7.500 households, and IRF handles the waste of about 11.000 households. In addition, they both handle waste from institutions and companies.
IRF handled 41.922 tons of waste in 2019, which is 7.7% more than in 2018.

Åland Islands: Waste management services are handled by MISE (Ålands Miljöservice).

Iceland: Waste management in Iceland is split into landfills and incinerators where recycled items are sent abroad. Waste management is different between municipalities as they are responsible for providing different bins to the citizens and manage the waste. In some places there are companies serving the municipalities but in others the municipalities manage the waste themselves.

Greenland: The Government is responsible for the overall waste planning. However, waste management is a municipal matter. Municipalities largely decide for themselves how they will design their own waste system. Each municipality decides the layout of the local waste system and the waste regulations.

An overview of waste management services in Greenland.

Landfills/waste dumps in figures:

- Controlled landfills: 0.
- Partially controlled waste dumps: 3.
- Cleaning up of waste dumps: 19.
- Uncontrolled waste dumps: 51.

Receiving facilities of hazardous waste in Greenland:

- Receiving facilities: 29.
- No receiving facilities: 44.

Night soil facilities in Greenland:

- Well-functioning night soil facilities: 11.
- Partially well-functioning night soil facilities: 0.
- Not functioning night soil facilities: 62.

The waste in the incinerator plants are divided into these categories:

- Public cleaning
- Municipal waste
- Night soil
- Bulky waste
- Hazardous waste

2. Private waste management companies

Faroe Islands:

- P/f Førka is a private owned biogas plant. The operation started in 2020 and it receives biological waste from aquaculture and manure from agriculture.
- En-tek and Sp/f Vígdis then collect metal and ship it for recycling.
- Fa Endurvinn collects and ships metal and used trawls and seine nets for recycling.

Åland Islands: The only private waste management companies known are Ålands Renhållning Ab and Kuhlmans Åkeri

Iceland: There are approx. 13 private waste management companies that operate in the country, collecting waste and run drop-off centers. Additionally, municipalities have a licence to put trash in landfills or collect for recycling.

Greenland: There are no private waste management companies in Greenland.

3. Wastewater and sewage treatment

Faroe Islands: Sewage is treated in septic tanks. The effluent from septic tanks is led out to sea. In some places, this means the shortest distance to sea, right by the coast. In other places, long pipes lead the effluent into the tidal currents. This was meant to be done in all municipalities by 2015, as decided by the Faroese Parliament, but only a few have done so yet. As of 2016, 26 out of 30 municipalities did not fulfil the requirements for wastewater treatment and handling. The requirement to contain all wastewater in pipes was established in 1988, and the deadline for 2015 was set in 2009. In many cases, sewage effluent is lead directly into rivers and brooks.

Åland Islands: There are a couple of private companies that handle sewage from households not connected to the municipal system. Those companies bring the sewage to Lotsverket in Mariehamn. Ålandskomposten Ab collects the rest of the sewage from Lotsbroverket to their large compost plant.

Iceland: There are six wastewater and sewage treatments nationally. Municipalities in Iceland are responsible for building and maintaining wastewater systems in their area according to the Act on development and operation of sewage systems No. 9/2009. The systems should collect, clean, and discharge sewage in a safe and healthy manner for people and the environment according to regulation on Sewage and sewage treatment No. 798/1999. Septic tanks are by buildings that cannot connect to the local sewage system. A septic tank should be three chambers. The Environment Agency of Iceland and local public health authorities are responsible for monitoring

wastewater systems. The Urban wastewater treatment directive 91/271/EEC has been implemented in the regulation on Sewage and sewage treatment No. 798/1999.

There are 3 wastewater treatment facilities in Reykjavík with 3 mm filtering and fat traps, one in Hafnarfjörður, Borgarnes and Akranes and one is being built in Akureyri.

Greenland: In Greenland, wastewater can only be discharged into water courses, lakes, or the sea provided that the Ministry has given a permit to discharge. There are a series of conditions in the discharge permit that must be observed. A permit, for example contains conditions on the discharge quantity and composition, layout, internal control, cleaning measures and time limits.

4. Waste facilities in keys/harbours

Faroe Islands: The facilities in different harbours are not equal. The port of Tórshavn lists these waste handling services: Garbage removal, sludge collection and grey water/sewage collection. The port of Runavík only lists garbage disposal and in the port of Klaksvík, waste disposal services are available on request.

However, the government order on ship waste, which encompasses all ships in the Faroese sea area, states that all waste from ships must be collected and disposed of on land, with an exemption for food waste on ships below 400GT that are more than one nautical mile from land.

Outside of the Faroese sea area, the disposal of plastic waste from Faroese ships is prohibited. Dunnage, and other floating materials like packaging may be disposed of at sea, if the ship is 25 nautical miles (NM) from land. Other waste like food waste, paper, cloth, ceramics and so on, may be disposed of at sea when the ship is more than 12 NM from land. This may be lowered to 3 NM if the waste is put through a grinder with a maximum mesh size of 2.5 cm.

If the waste is mixed, the strictest rules, for the component of the waste with the most restrictions, apply.

VØRN, the fisheries monitoring authority, and the Faroese Maritime Authority are responsible for making sure ships bring their waste back to land according to the law.

The government order on harbour facilities for marine oil-, sewage- and general waste requires that all harbours and ports have facilities to accept oil residues, sewage, and general waste. The harbour authority is responsible for the subsequent proper disposal. Not establishing these facilities is punishable by fines or even prison time.

The government order on liquid waste from ships states that all ports and harbours must have sufficient facilities to handle hazardous liquid wastes from ships. These liquid waste systems are subject to the requirements stated in the Law on environmental protection. The Environmental Agency can require harbours to expand their capacity to accept such hazardous liquid waste.

Åland Islands: Waste facilities are available in some harbours if a harbour fee is paid.

Iceland: Harbours are eligible by law No. 33/2004 on Marine and Coastal antipollution measures to offer waste reception facilities and reception for hazardous waste.

5. Landfills

Faroe Islands: There are in total 8 approved landfills listed on the website of the Environmental Agency, and they are situated in:

- Bøur (x2)
- Junkarahagi and Nýggjheiðum in Kvívík (x2)
- Oyndarfjørður
- Sandarhagi
- Trøllavík
- Húsahaga

There are also other landfills that are either not listed on the EPA website, or are not in use anymore. IRF landfilled 5.198 tons of waste in 2019, which is -0.2% less than in 2018.

Åland Islands: Now there are no landfills in the Åland Islands after they have been removed.

Iceland: In Iceland, everything that is not recycled ends in landfills which is the most common way of the trash route.

Greenland: Landfills in most of the towns and villages in Greenland are not environmentally approved and are not operated in an environmentally friendly manner.

6. Incinerators

Faroe Islands: There are two incinerators: one in Sandvíkarhjalla, close to Tórshavn (Kommunala brennistøðin), and one in Leirvík (IRF).

IRF incinerated 24.589 tons in 2019, which is 12.9% more than in 2018.

Åland Islands: There are no incinerators in the Åland Islands.

Iceland: There is only one incinerator in Iceland. Kalka in Reykjanesbær, South West Iceland. Incinerators used to be more common but have been shut down due to pollution.

Greenland

The big cities:
In the six major cities incinerator plants were established between 1986 and 2004. The incinerator plants are not of the same type and vary in size. The incinerator plants in Sisimiut and Ilulissat do not have enough capacity. This means that combustible waste in Sisimiut and Ilulissat is permanently disposed at the waste dumps. The main part of the incinerator plants is dilapidated and some of them lack maintenance. This has led to downtime in operation of the plants with more following issues of waste management and the combusting of temporarily stored waste.

Medium-sized cities:
Incinerator plants have not been established in the "medium-sized" cities. Which

means that all combustible waste, including municipal waste is disposed in waste dumps. Therefore, most places do open burning of waste in waste dumps.

Settlements/villages:
The larger part of Greenland's settlements (approximately 80%) and the smaller cities have established small incinerator plants between 1995 and 2000. In 2014, 40 settlements had incinerator plants, but only 19 of these were in operation. The small incinerator plants that are in operation are dilapidated and lack maintenance.

6.2.2. Recycling

1. Deposit return schemes

Faroe Islands: Many plastic and glass bottles, as well as aluminium cans, can be returned in exchange for a deposit included in the price of the bottle/can. However, there are still many types of bottles that cannot be returned. The previous government started an undertaking to expand the deposit return scheme, but this has yet to be completed. This will make the Faroese deposit return scheme more like the Danish system, that was recently expanded to include juice- and smoothie bottles.

In 2019, 11.308.783 bottles were sold under the deposit return system, of which 91% were returned. This leaves 1.050.676 bottles not returned in 2019.

Åland Islands: There are deposit return schemes for plastic bottles and aluminium cans. Some stores also collect fabrics.

Iceland: In Iceland, there are deposit return schemes for soda and alcoholic beverage packaging such as plastic bottles, glass bottles and aluminium cans.

Greenland: Nuuk Imeq is the largest beer bottling and soft drink producer in Greenland. It is only plastic bottles and beer bottles that are produced by Nuuk Imeq that can be returned by the consumer and 97 % of all bottles return to Nuuk Imeq. The consumer gets 2 DKK in return for one bottle. Foreign bottles cannot be returned and therefore are discarded as household waste.

Qalut Vonin is the supplier of fishing and trawling materials to the Greenland fishing industry. Used fishing nets can be returned to Qalut Vonin for a credit note of 250 DKK if the liners have been removed from the net.

2. Recycling in households

Faroe Islands: Source sorting includes paper and cardboard in a white bag/green bin, hazardous waste in a designated red bag, and then everything else that is not hazardous or currently recyclable. This usually encompasses food waste and plastic packaging. The red bag for hazardous waste that IRF uses also accepts the following:

- Lightbulbs
- Batteries
- Small electronics

Åland Islands: Glass, milk cartons etc., cardboard, metal, aluminium, plastics, compost, and flammable materials are recycled in households in Åland Islands.

Iceland: Recycling in households is different between municipalities. Most households have assorted paper/cardboard, plastic, metals, and general waste bins outside buildings, but in smaller communities the citizens take their trash to recycling points. The capital area offers bins for households where they can sort paper or cardboard, plastic, metal, and a bin for general waste. Akureyri, the largest city in the north, Skagafjörður and Snæfellsbær additionally offers a sorting bin for organic waste to households in their municipalities.

Greenland: Greenland does not have waste sorting in households yet. Everything is disposed and the waste sorting happens in the waste centers or the incinerator plants.

3. Recycling in commercial sector

Faroe Islands: Metal, certain plastics, glass etc. can and is meant to be delivered to municipal recycling centers. The possibility of recycling glass is very recent. However, materials like glass jars and metal cans that must be sorted at the recycling centers sometimes end up in the incineration bag from households. IRF recycled 12.135 tons in 2019, which is in increase of 1.7%. In absolute terms, 29% of waste handled by IRF was recycled.

Åland Islands: It is voluntary for the commercial sector to recycle in the Åland Islands.

Iceland: It is mandatory for the commercial sector to recycle in Reykjavík.

Greenland: The commercial sector pays to get rid of their waste to the incinerator plants. There is not much recycling in the commercial industry other than what the companies are focusing on in their CSR work. The incinerator plants have the main responsibility to sort the waste and recycle what can be recycled. But waste that can be recycled often gets shipped to Denmark where they are then recycled.

CSR Greenland's circular economy project in partnership with the municipality of Sermersoog has mapped and analysed the potentials for the commercial sector for recycling, reuse, and reduce. The two main industries, the fishing and construction industry have a big potential to participate in the circular economy. The partners in the project have done workshops with CEOs and other decision makers in Greenland to present the results of the study.

6.2.3. Clean-ups and fishing for litter

1. Fishing for litter

Faroe Islands: Fishing for litter is currently conducted in the Faroe Islands to a limited extent on a voluntary basis. Certain ships and ports participate, or more specifically, the ports of Leirvík and Runavík. This effort was restarted in 2017, after a pilot project in 2008.

Åland Islands: The situation on fishing for litter in the Åland Islands is unknown.

Iceland: A kayak club in Reykjavík has been fishing for litter in recent years.

Greenland: There are 5 initiatives evident in Greenland regarding fishing for litter:

- KNAPK
- The Greenland Institute of Natural Resources
- The municipality of Sermersooq
- ESANI A/S

Figure 3: A local clean-up group remove a fishing net of a beach in the Westfjords of Iceland. (Photo: Kristín Einarsdóttir).

2. Approximate number of volunteers taking part in clean-ups

Faroe Islands:
Nordic Coastal Clean-up monitoring clean-ups: 100 – 400.

Clean the Faroes (CTF): 1.500 – 2.000.

Other municipal clean-ups: An estimated number is between 1000 and 2000.

Åland Islands: Volunteers taking part in clean-ups for 2019: 361.

Iceland: There are over 500 volunteers that have taken part in clean-ups in Iceland.

Greenland: Greenland usually has approximately 400 - 600 participants each year in Nuuk. Other cities and settlements usually have approximately 100 - 200 participants in each place.

It is then estimated to be around 1.000 - 2.000 participants in clean-ups every year.

Greenland is seeing a rise in numbers of volunteers doing clean-ups by themselves as soon as the snow starts to melt.

3. Approximate litter collected 2017/2018/2019

Faroe Islands:

Irregular clean-ups in 2017/2018: 1.000 – 2.000 kg.

Ringrás beach clean-up in 2017: 20.000 kg.

Clean the Faroes clean-up: 22.100 kg (2018), 28200 kg (2019).

Åland Islands: 103 smaller trash bags and 196 bigger garbage bags as well as 217 kg of bigger pieces of waste collected in 2019.

Iceland: An estimated number for litter collected is approximately 80 tons in 2017/2018 and around 115 tons in 2019.

Greenland: Data on collected litter in Greenland is unknown. In Nuuk, collected litter can be measured in weight where in other cities and settlements the incinerator plants do not have the necessary equipment to weigh the collected litter. In some smaller cities they count how many bags of litter have been collected.

4. Number of reference beaches in Nordic Coastal Clean-up 2017/2018/2019/2020

Faroe Islands: No data is available on the number of reference beaches in the Faroe Islands. However, the trash collected in NCC reference beaches has been measured: 1.500 kg (2017), 1.070 kg (2018), 2.161 kg (2019), 570 kg (2020).

Åland Islands: Number of reference beaches: 3

Iceland: Number of reference beaches: 3

Greenland: In 2019 Greenland did one reference beach clean-up in Nuuk as a test. Plans for 2020 included spreading a guide for beach monitoring with a necessary datasheet across Greenland and organise more reference beaches.

5. Sea floor clean-ups

Faroe Islands: CTF clean-up also includes some sea floor clean-ups in harbours. In connection with World Ocean Day 2017, divers cleaned Vágsbotn, a part of the harbour in Tórshavn. During World clean-up day 2018 and as part of the Clean the Faroes campaign, divers cleaned another part of the Tórshavn harbour. Sea floor clean-ups were also part of CTF2019.

Åland Islands: In 2019 there were no sea floor clean-ups in the Åland Islands.

Iceland: One sea floor clean-up has been organized in Iceland.

Greenland: In recent years on Greenland's clean-up day, there have been divers that clean up the sea floor in Nuuk harbour. The area is small, and the only sea floor clean-up activity Greenland has had. Other sea floor clean-ups usually happen as independent studies from the scientists or is done by science students. On some occasions a fund or municipality funds such an activity.

6. Lake and river clean-ups

Faroe Islands: Ringrás has conducted clean-ups along the largest lake in the Faroe Islands, Leitisvatn. The first clean-up for Ringrás was at Leitisvatn. Additionally, clean-ups for monitoring have been conducted along rivers, specifically in Sandavágur. However, this waste was unfortunately mixed with the waste from the beach that the river leads to. A large clean-up was conducted at an old dump site by the Breiðá river in Fuglafjørður during CTF2018. Some rivers are known to be polluted, but clean-ups have not been conducted yet.

Åland Islands: About 20 lake and river clean-ups have been conducted.

Iceland: None that is known of.

Greenland: The municipalities clean up the ditches in the cities but not the rivers and lakes.

7. Clean-ups using boats to transport volunteers and/or collected litter

Faroe Islands: During CTF2018, volunteers were sailed out to clean a remote beach on the Island of Nólsoy. The site, called Hósmøl, collects a lot of flotsam. Both the volunteers and the waste were sailed back on a large and fast RIB boat. During CTF2019, catamaran boats from the aquaculture company Bakkafrost helped transport waste removed from a stretch of coast.

Ringrás has been planning a clean-up of the remote beach Víkasandur/Viðvík on the island of Vágar, which would require a boat. Ringrás had arranged for a boat to sail the volunteers there and bring tons of waste back, but the landowners would not allow the operation to take place.

Åland Islands: One clean-up using boats was organized in 2019.

Iceland: Two clean-ups using boats have been organized in Iceland.

Greenland: The tourism industry is considering using boats to transport tourists and travellers and offer clean-ups as an activity. CSR Greenland has been contacted by a union of cruise ships that wanted to transport volunteers to a specific area for a clean-up. CSR Greenland has also spoken to operators in Nuuk where an opportunity for collaboration is evident. It is therefore likely that clean-ups using boats will increase in the future.

Figure 4: Marine litter collected during a clean-up at the ''Great Fish Day festival'' in North Iceland 2019. (Photo: Birna Heide Reynisdóttir).

8. Main industries

Faroe Islands: Fishing, aquaculture, and tourism/service industry.

Åland Islands: Shipping, farming, fishing, food, and tourism industry.

Iceland: Fishing and tourism industry as well as aluminium smelters.

Greenland: Fishing, wholesale, retail, and construction industry.

6.2.4. Responsibility and laws on littering

1. Producer responsibility schemes

Faroe Islands: Producer responsibility schemes are unknown.

Åland Islands: Producer responsibility schemes are unknown.

Iceland: Producer responsibility schemes are unknown.

Greenland: Advertising in print in Greenland is taxed and both hybrid and electric cars were taxed after 19th of November 2019.

2. Polluter pays principle

Faroe Islands: Both the government order on Waste and the Law on Environmental protection say that polluters shall be fined, and the fine can be raised or substituted with prison, depending on the severity of the environmental damage, and whether financial gain (including savings) was intended by the polluting violation. The fine also considers the intended savings or earnings from the violation. Earnings can also be seized.

Åland Islands: There is a polluter pays principle evident in the Åland Islands.

Iceland: Law for waste treatment (The Waste Management Act, No. 55/2003)

states that producers are responsible to reuse and/or treat their waste even if it has been transported to private or public sector. The government runs a recycling fund that collects recycling fees on all products imported to Iceland for private or commercial use and from all products produced in Iceland (producer´s liability).

Greenland: The one that causes pollution or creates a risk of pollution of the air, water, ice, or land must take the necessary measures to effectively prevent or avert the effects of the pollution. In addition, the previous state must be restored.

The law does not allow to give fines to polluters. The government can only charge a fee to cover the costs incurred by the authorities in administering each case.

3. Laws on littering

Faroe Islands: Littering is illegal according to the government order on Waste, in which paragraph 10 states that:

"Everyone is required to use the municipal waste system, or other waste handling option specified by the municipality. It is not allowed to throw or leave waste, including derelict vehicles, shipwrecks, fish entrails, fulmar feathers and so on, laying in the outfields, by the coast, in the sea, by the road or elsewhere."

This government order encompasses all waste that is not governed by other superseding legislation.

The law on environmental protection also states that:

"Nothing that can pollute water can be discharged into rivers, brooks, lakes, coasts or the Faroese sea area, nor stored so close to these that there is a danger of spills into these. However, exemptions may be given for wastewater."

This law encompasses all activities from which liquid, solid, gaseous substances, vibrations, radiation, and noise can cause pollution of the air, earth, rivers, lakes, or the Faroese sea area.

Åland Islands: According to the laws, littering is forbidden.

Iceland: Waste Management Act, No. 55/2003, state that:

"Littering is forbidden and that all waste should be treated according to type and transported to the relevant facilities.''

Greenland: The law (Inatsisartutlov nr. 9 af 22. november 2011 om beskyttelse af miljøet) applies to the land territory and land-based sea pollution.

The purpose of the law is to protect nature and the environment so that societal development can take place on a sustainable basis in respect for human living conditions and for the conservation of animal and plant life.

The law endeavour:

1. To prevent and fight pollution of air, water, ice, mountains, and land.
2. To fight noise pollution.
3. To protect the health of the society.
4. To provide the basis for planning and acting against pollution.
5. To limit the use and waste of resources.
6. To promote recycling and to limit issues of waste disposal.

4. Responsibility for cleaning up litter on land

Faroe Islands: The government order on waste states that when it is not possible to determine who is responsible for waste that is lying around, or otherwise has not been disposed of properly according to the order mentioned above, it is the responsibility of the municipality to dispose of it:

However, if it is possible to determine who is responsible, the municipality can order them to properly sort and dispose of their waste, including setting a deadline. If this is not followed, the municipality must dispose of the waste on account of whoever is responsible.

Åland Islands: Owner of the litter/area is responsible for cleaning up their litter.

Iceland: Unfortunately, in Iceland, not many parties of interest seem to hold the responsibility as litter on land is not in accordance to the above mentioned law. No waste would end up as litter if everyone obeyed these laws, but these laws do not state who is responsible for fulfilling it.

Greenland: In Greenland there is a legislation on the disposal of waste that has the purpose to keep outdoor areas clean. The legislation states that every house owner, company, harbours, and institutions have a responsibility to regularly clean up their surroundings (25 meters from the house or the midsection from houses next door). This includes playing grounds and similar facilities in the surroundings.

Citizens have a responsibility to dispose their waste the right way in the open land. If the citizens own a cottage in the open land, they must:

- Keep the surroundings of the cottage clean and tidy
- Not dispose of waste in nature
- Remember to take their waste back to their home address

Public cleaning:
Every spring when the ice and snow has thawed all the municipalities must start a public cleaning of every city and settlement. Every citizen has a responsibility to participate. It is up to every municipality to decide how the cleaning should be done. The municipalities must announce how and when the public cleaning will happen.

The waste that is collected from the public cleaning must be placed on the roadsides or in a waste container. The municipality will then pick up the waste.

5. Responsibility for cleaning up litter along the coast

Faroe Islands: As the earlier mentioned order also includes the coast, municipalities are responsible for improperly disposed coastal litter, where the responsible party cannot be determined. VØRN also takes part in this.

Åland Islands: The situation on responsibility for cleaning up litter along the coast is unknown.

Iceland: Responsibility for cleaning up litter along the coast is not quite clear according to Icelandic law.

Greenland: The municipality of Qeqqata has, with the support from Miljøfonden completed a project on cleaning up waste along the coastline in Sisimiut and in the UNESCO-area. It is the employees from the municipality that have cleaned up the coastlines in Sisimiut.

6.2.5. NGOs and local or national efforts to combat littering

1. NGOs working against marine litter

Faroe Islands:

- Ringrás
- Rudda Føroyar (Clean the Faroes)
- FNU (advocacy and campaigning)

Åland Islands:

- Ålands natur och miljö r.f.
- Lions frejorna.

Ålands Natur och Miljö r.f. (The Åland society for Nature and Environment) is a non-profit, non-governmental organisation promoting sustainable development on the Åland islands.

The organisation wants to see Åland as a sustainable society, at the latest in 2051. To reach this goal, all parties of interest must work together continuously. There are about 1.200 members in the organization, which gives the organisation a strong mandate to influence policymakers and the society overall where education, actions, excursions, and eco-labelling are a few of the things the organisation is working with.

Addressing litter as an environmental problem is new to the organization but the project Städa Åland has been working with it since 2019.

Iceland:

- Landvernd - The Icelandic Environment association. Awareness raising campaigns against littering and organises clean-ups.
- Blái herinn - The Blue Army of Iceland. Organises beach clean-ups.

Greenland:

- WWF
- CSR Greenland

The NGOs in Greenland mainly focus on children and young people. This is due to high numbers of neglect and abuse of children. The focus of the NGOs varies but their target group is the same.

Other NGOs have a focus on human rights, children's rights and rights for persons with disabilities etc.

2. National/local efforts or measures to reduce/prevent littering

Faroe Islands:

- Marine litter monitoring by Ringrás
- Clean the Faroes
- Annual municipal clean-ups

Many municipalities have started having annual Environmental weeks with various outreach and educational programs. This is especially extensive in Torshavn municipality.

The catering company Gist &Vist has started using a deposit-refund system with reusable cups for beverages at music festivals and other large events.

The previous government suggested 11 measures to limit plastic pollution:

1. Expand the deposit return system.
2. Increase the recycling of plastic from industry and households.
3. Formulation of collaborative action plans to limit plastic pollution from industry, agriculture, the fishing industry, and tourism.
4. Informational campaigns on plastic pollution.
5. Decrease the use of plastic bags, for example, by setting a bag fee.
6. Ban shotgun wads made from plastic.
7. Ban or limit the use of single-use plastics like utensils, straws, plates, cotton buds, balloons.
8. Ban cosmetics with microbeads of plastic.
9. Establish a government order on the management and maintenance of artificial turf.
10. Provide financial support for ships or harbours that handle waste, that has been fished from the sea. Currently, ships might be penalized with fees for this.
11. Use biodegradable detonating cord or prevent their spread in nature.

However, most of these measures have not been implemented.

Åland Islands:

- NGOs
- MISE
- Government of Åland

Iceland:

A five-year governmental action plan to tackle plastic pollution named Úr viðjum Plastsins was issued in 2020. Measures included funding to NGOs who organise coastal clean-ups.

Awareness raising campaigns by Sorpa bs., waste management company owned by municipalities.

Awareness raising campaigns by Landvernd, Iceland's largest environmental NGO.

Clean-ups in 2020 have been few due to Covid-19. The Environment Agency of Iceland also monitors six OSPAR beaches in the country.

The Blue Army is an NGO that has focused on beach clean-ups, motivation, and environmental awareness in Iceland for 25 years. Blái herinn frequently collaborates

with other organisations, companies, and municipalities on their projects. In 2019 roughly 56.8 tons of litter was collected in the organisation's numerous projects. Projects include collaborations with the embassies of the US and EU, Dive.is, World Clean-up Day, Nordic Coastal Clean-up Day and more.

Worldwide Friends is an Icelandic volunteer organisation that organises environmental projects in Iceland. Since 2003 over 19.000 volunteers have participated in the organisation's projects. Beach clean-up projects around the country are now the organisation's focus.

Other initiatives:

- **Göngufélag Suðurfjarða**
- **Hreinni Hornstrandir**
- Veraldarvinir
- Ocean missions
- Plokkarar
- Sea Shepherd Iceland
- SEEDS
- **Selasetrið**
- **Snæfellsnes**
- **Umhverfishópur Kaldrananeshrepps**
- **Umhverfissamtök Austur-Skaftafellssýslu**
- **Vinir Kolgrafavíkur**

Greenland: Together with the municipalities, the Government of Greenland is working on optimizing solutions for the incineration, disposal, sorting, and recycling of waste. Over several years, the Government of Greenland has been preparing a comprehensive waste management plan to coordinate these efforts.

6.3. Planning a Coastal Clean-up – Useful information

1. Planning your own Coastal Clean-up

For those who wish to participate in clean-up projects in their countries or perhaps while visiting other places are encouraged to join local clean-ups or organizing their own.

During the Covid-19 pandemic current disease prevention guidelines must be respected.

2. What to keep in mind when planning your own beach clean-up

The first step is to find a location that needs to be cleaned of litter. This can be a beach, lake, or any area in your neighbourhood. When choosing a location, it is important to think of safety, accessibility, and services on location such as toilets that are also important if many volunteers gather. Make sure you have knowledge on whether the area or land is private, public, or perhaps protected permanently or temporarily by law. Get landowner or local authorities' permission to conduct the clean-up. Locations vary and have different difficulty factors. Keep in mind how the clean-up will match different age groups as some places are easy to clean and access while others are more difficult meaning that not all clean-ups are suited for everyone. Recruiting volunteers can involve inviting friends, family, or co-workers to participate in a clean-up or advertise a larger venue on a bigger scale, locally or on social media. Volunteers must be informed if they need to dress specifically and if they are required to bring bags and gloves for collecting debris, water and provisions or if that is provided by the organisers.

Data collection is recommended but not obligated. Organizers can access data sheets and register the waste data with their local environmental organization or waste data bank of their choosing. Data sheets can be filled in by volunteers or organisers during or after a clean-up. Organisers should find out beforehand how to correctly dispose of waste collected during the clean-up from the area and do so responsibly. Monitoring of the weather forecast and a first aid kit on location is recommended.

During clean-up remember to have fun, enjoy the outdoors and good company. Document the event with pictures and share on social media. This could encourage more volunteers and further clean-up activities.

Please register clean-ups at the Nordic Coastal Clean-up initiative and participate in the data collection.

7. Challenges facing Nordic small island states

The small island states share many of the same challenges regarding marine litter and coastal clean-ups where some are however unique to some states. The workshop in the Faroe Islands identified the following common challenges that the Nordic NGOs face with their clean-up projects:

- Need for transport to remote areas and the need to cover large distances.
- Lack of funding and/or access to funding.
- Hotspots for waste accumulation.
- Grey zone of responsibility for marine litter.
- Close relations and high degree of transparency in small communities.
- Landowners: Scepticism about outsiders entering their lands and cleaning up litter.
- Safety issues: Terrain, topography, weather, heavy/unmanageable waste, hazardous waste, demanding work, diving for waste etc.
- Organizing and implementing clean-ups is time consuming and costly.
- Municipalities often do not have a person or persons dedicated to environmental matters making collaboration with municipalities challenging.
- Lack of manpower and access to necessary tools, machinery, and vehicles.
- Waste management.
- Female dominated field.
- Changing mindsets, habits, traditions etc.
- Prevention.

The participants further discussed whether the problem of cleaning up of marine litter should be left to NGOs to solve. The challenges are enormous, and the NGOs lack the necessary funding as well as the manpower. The NGOs have taken on this task on behalf of society, but the task is not an NGO responsibility. If Nordic NGOs are to play a significant role in mobilising volunteers and organising clean-ups, they must receive the necessary resources to do this work.

8. Solutions to main challenges

How do we meet the most overwhelming challenges of the small island states? This chapter presents some of the solutions and ideas on how to meet the most overwhelming challenges the small island states face.

8.1. Transport to remote areas and the need to cover large distance

NGOs are forced to spend too much time and resources on finding ways to finance the transport of volunteers as well as getting hold of the necessary resources to recover, collect, and transport waste. In the long run, the NGOs cannot rely on charity, networking etc. nor the willingness of connections to get access to the necessary funds, equipment, and vehicles.

Solutions:
Long term agreements and partnerships with municipalities, waste management companies, industry etc. that would ensure easy access to transport such as cars, trucks, boats, cranes, excavators, containers and as well as any funding for volunteer transport in private cars, hired busses and boats could completely change the capacity of these projects.

8.2. Funding

Organizing and implementing marine litter clean-ups based on volunteer activities is time consuming and costly. Getting hold of the necessary funding also takes a lot of time and hard work. Limited or no access to the necessary funding for these projects might well eliminate them.

Solutions:
Each Nordic small island state needs a clean-up organization or clean-up campaign dedicated to working against marine littering with guaranteed funding. Long-term funding from municipalities or the government is key to enable local and national clean-ups, national mobilization, awareness raising and prevention work. Funding from the Nordic Council of Ministers is further needed for further Nordic collaboration, data collection, knowledge sharing etc.

8.3. Litter hotspots

Effective and cost-efficient coastal clean-ups rely on accurate information about where marine litter accumulates as well as information about the amount and type of litter accumulated. Litter hotspots can be determined based on local knowledge of where litter accumulates, surveying on the ground and from the air, mapping of ocean currents and/or based on information about the formation and character of the coastline.

Solutions:

- A Nordic map of litter hotspots.
- A Nordic model to predict prevalence of litter.

8.4. Litter monitoring

Clean-ups are important both as an awareness raising activity and as an important contribution to cleaning up the litter accumulating along our shores and on the sea floor. However, prevention is far more important, and to prevent litter from entering our waterways and oceans, we need more knowledge about the sources and causes of marine litter.

Solutions:

- Annual monitoring of reference beaches according to the Nordic protocol.
- Data collection based on citizen science.
- OSPAR beaches.
- Survey the Faroe Islands and the Åland Islands to determine if discarded boats are a pollution problem. In Norway approximately 5 000 boats get discarded every year.

8.5. Grey zone of responsibility

The polluter pays principle does not apply to voluntary clean-ups, and the cost of transport and collection can drive volunteers, municipalities etc. away from taking responsibility for participating in and/or organizing clean-ups.

Solutions:

- Governments and municipalities must enforce the polluter pays principle and follow up breaches of the principle.
- The authorities must ensure that littering violations both at sea and on land are investigated and do not go unpunished.

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Links and further reading

The following list includes a non-comprehensive collection of links and other materials. The list may be useful for the small island communities and their work with marine pollution and clean-ups.

Nordic Council of Ministers (2021): *Nordic Coastal Cleanup.* https://nordiccoastalcleanup.com/

Landvernd (n.d.): *Keep Iceland Clean.* https://landvernd.is/hreinsumisland/

SEEDS Iceland (n.d.): *SEEDS Iceland.* https://www.seeds.is/

Blue Army of Iceland (n.d.): *Blue Army of Iceland.* https://blaiherinn.is/

Clean Seas (n.d.): *Clean Seas: turn the tide on plastic.* http://www.cleanseas.org/

Städa Åland (n.d.): *Städa Åland.* https://stadaaland.ax/

Hold Norge Rent (n.d.): *Hold Norge Rent.* https://holdnorgerent.no/

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