Arctic Marine Litter Project

Knowing the sources to work on solutions

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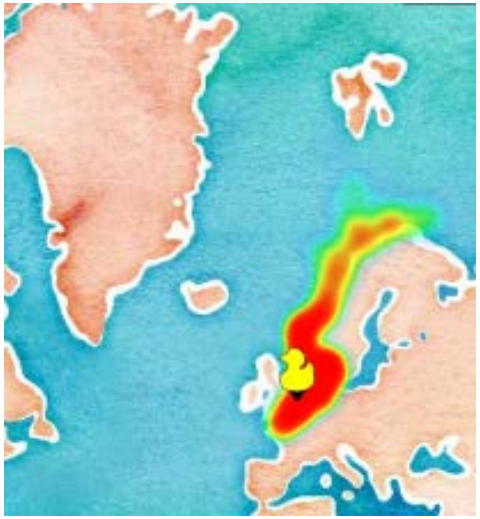
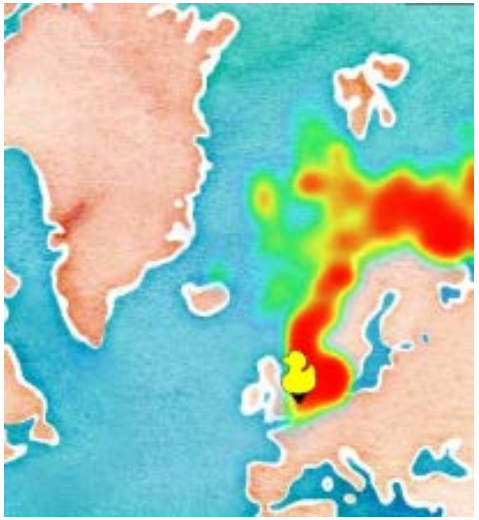
Plastic litter can travel to the Arctic within 3 years

4 months

1 year



2 years, 4 months



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Source: www.plasticadrift.org

How can we stop the influx of litter?

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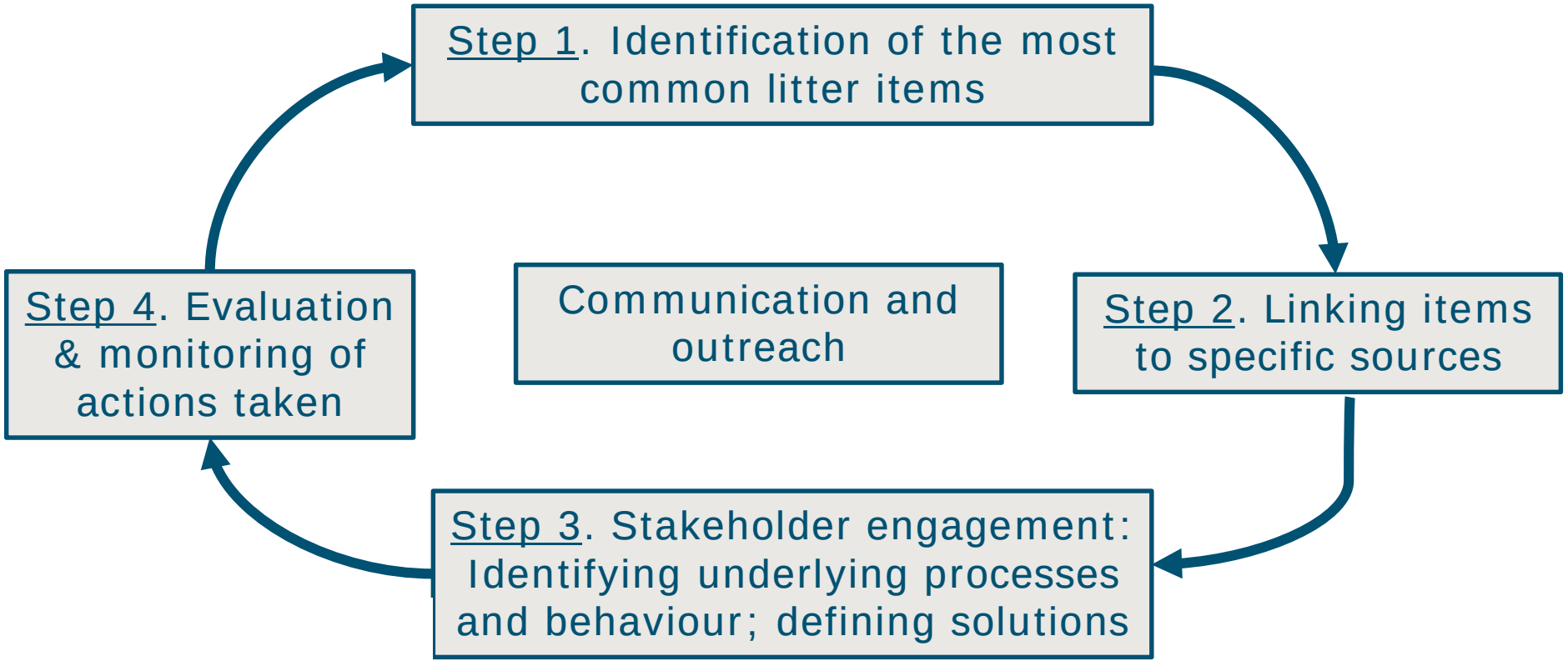
The Arctic Marine Litter project approach: focus on prevention



A collective effort

Project partners:

- Wageningen University & Research, SALT, Norwegian Polar Institute, University of Tromsø

Collaborating with:

- Oceanwide Expeditions, Prosjekt Isfjorden, Sysselmannen, Jan Mayen station, Avfallsmottaket Longyearbyen, University of the Westfjords & a lot of volunteers!

Funding by:

- Dutch Ministry of Foreign Affairs & Infrastructure and the Environment, Svalbard Environmental Fund, Dolfinarium

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“Knowing the sources to work on solutions”

Project aims:

1. Deeper knowledge into the main litter items in the European Arctic: their origin, stakeholders, behaviour and underlying processes;
2. Input and support for Arctic policy initiatives (e.g. PAME/OSPAR);
3. Strengthening existing fisheries litter initiatives or initiating new ones;
4. Communications and outreach

Gaining insight into beach litter using the OSPAR method

- In the NE Atlantic, OSPAR data is the most detailed data available
- OSPAR methodology effective to identify trends in the main categories
- OSPAR data does, however, not distinguish between:
    - Specific sources (e.g. type of fisheries)
    - ‘State of the litter item’ (e.g. worn, cut, origin)
    - Underlying processes and behaviour why litter ended up in sea

-> Our approach: additional analysis of the main litter categories

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Step 1: identifying the most common litter items

100 metres

- Focus: Jan Mayen and Svalbard
- Litter collected at 15x 100m stretches:
- During 3 Oceanwide cruises & by Prosjekt Isfjorden
- Analysis carried out by project staff
- 5.676 items analysed and categorised

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Main litter categories based on 5767 items analysed in 2017

#	Litter type	Share
1	All unidentifiable pieces	60%
2	Nets and pieces of nets	7%
3	Caps/lids	6%
4	Strapping band	5%
5	String and chord	3%
6	Industrial packaging/sheeting	3%
7	Floats/buoys	2%
8	Plastic bottles and containers	2%
9	Plastic bags	2%
10	Cotton bud sticks	1%
	Other items	9%

Nets and pieces of net (7%)

#	Litter type	Share
1	All unidentifiable pieces	60%
2	**Nets and pieces of nets**	**7%**
3	Caps/lids	6%
4	Strapping band	5%
5	String and chord	3%
6	Industrial packaging/sheeting	3%
7	Floats/buoys	2%
8	Plastic bottles and containers	2%
9	Plastic bags	2%
10	Cotton bud sticks	1%
	Other items	9%

All cleanup litter 2017: weight of fishing nets

Fishing nets

7,000 kilos, 35%

Other items

13,000 kilos, 65%

Fishing net analysis: first results

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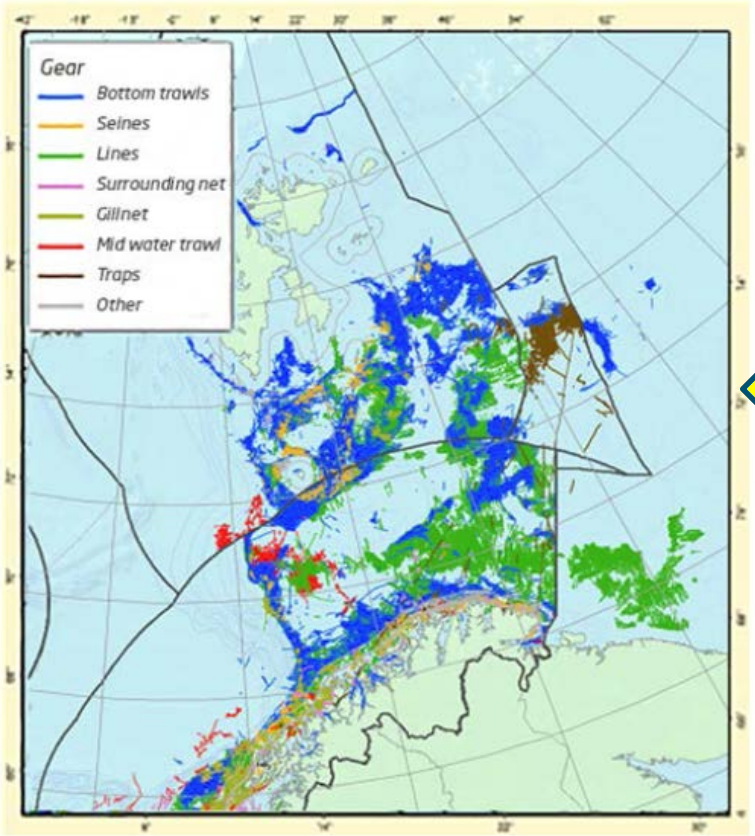
43 nets (2000 kilos) analysed:

- Average size: 25m2
- Average age: 0-5 years
- Most mesh sizes: 120 & 150mm
- None of the nets were full nets, all were parts of nets
- Almost all parts have been cut out of full nets probably due to replacement with new parts
- Intentionally discarded?

Next step: linking net types to specific fisheries



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3. Caps and lids (5%)

#	Litter type	Share
1	All unidentifiable pieces	56%
2	Nets and pieces of nets	6%
3	**Caps / lids**	**5%**
4	Strapping band	4%
5	String and chord	3%
6	Industrial packaging/sheeting	3%
7	Floats/buoys	2%
8	Plastic bottles and containers	2%
9	Plastic bags	2%
10	Cotton bud sticks	1%
	Other items	16%

Caps & lids analysis

Over 2500 caps collected and analysed:

- Collected at Jan Mayen & Svalbard
- Indicators for the origin of litter
- Identification: type & category
- Similar analysis carried out in The NL
- Tool for education and awareness

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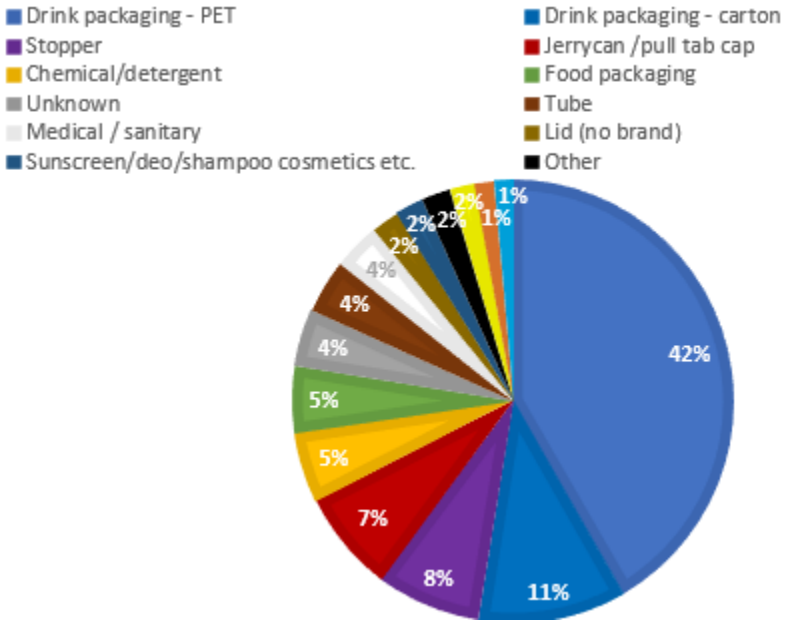
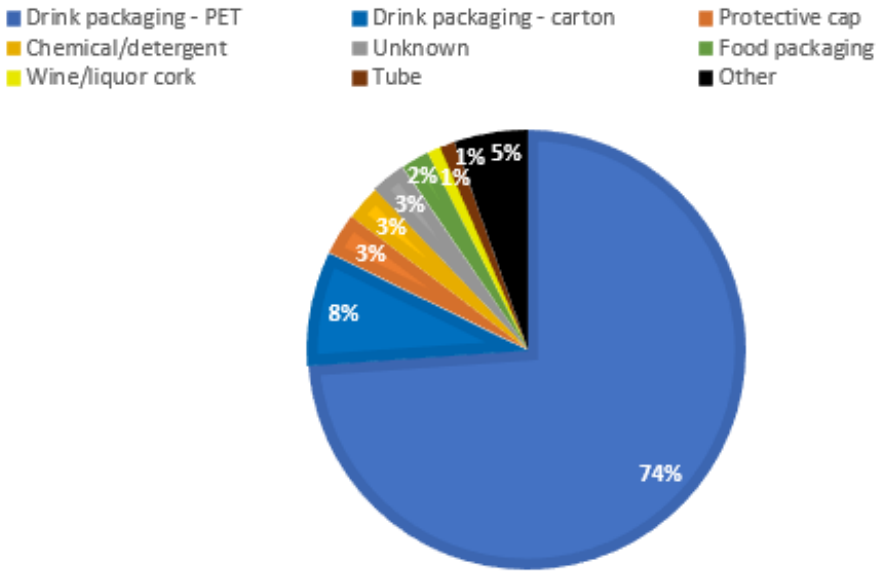
Types of caps: first results



Jan Mayen



Svalbard

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Distribution countries of caps collected at Svalbard

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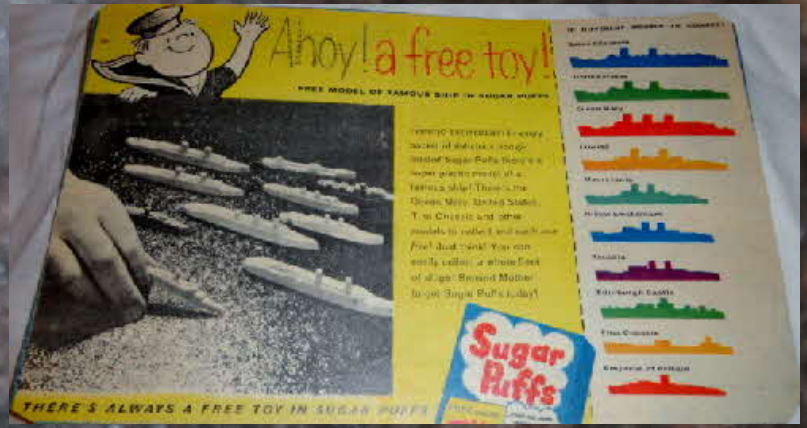
“Nevalyashka” doll

Issued in the 60s/70s in the Soviet Union



Issued in the UK in 1958


DFO LOB REPLACEMENT No 569114
Engine oil containers and drums <50 cm
Engine oil containers and drums > 50 cm
Jerry cans (square plastic containers with handle)
Injection gun containers
Other bottles, containers and drums
Crates
Car parts
Caps/lids
Cigarette lighters
Pens
packets and lolly sticks
party poppers
Cups
Cutlery/tra

Svalbard

Jan Mayen

Greenland

Iceland

Canada

Ireland

United Kingdom

Denmark

Germany

Poland

Belarus

Ukraine

France

Austria

Romania

Kazakhstan

Actions planned for 2018-2020 (1)

Step 3: Engagement with key stakeholders

Workshops: Longyearbyen 2018 & Arctic Frontiers conference 2019:

- Defining the exact sources
- Identifying reasons why litter items end up in the sea
- Identifying possible solutions
- Supporting stakeholders in taking action

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Actions planned for 2018-2020 (2)

- Further engagement with OSPAR, PAME, ICES, EU, and other projects
- Further collaboration with partners in Norway, Iceland, Russia and possibly Greenland
- Chemical analysis of unidentified pieces of plastic to define the category involved (e.g. food/jerrycans/etc)
- Communication and awareness (newspapers, TV/Radio, conferences)
- Step 4. Evaluation & monitoring of actions taken

The future is here...

Contact

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