



Task 2.1.1 Development of baselines of marine litter - Identification of top litter items in the Baltic Sea region

Hanna Haaksi

Helsinki Commission (HELCOM)

Introduction

This document presents the top litter items identified for the Baltic Sea region as a whole as well as at a sub-basin level. The lists are prepared based on data available as provided by countries. Top litter items are calculated using the rank method.

Available data

Monitoring of beach litter in the Baltic Sea area is carried out in Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland and Sweden. In six countries monitoring started in 2012, in five of them data were collected in the period 2012-2016. In Denmark and Poland monitoring started in 2015 (see Table 1 and Figure 1). Further detailed information on the beaches considered in the report is included in Annex 1.

Country	Monitoring period	Number of monitoring sections	Length of monitored section	Beach types (number)	Frequency of monitoring per year	Seasons (total number of visits)	Marine litter items categorization
Denmark	2015 - 2016	3	100	reference (rural) (3)	3(4)	spring (6), summer (6), autumn (6), winter (1)	TG ML Master list
Estonia	2012 - 2016	10	300, 350, 400, 500, 600, 800, 2500, 3000	peri-urban (5), urban (1), rural (4)	3	spring (32), summer (42), autumn (32)	MARLIN/UNEP/IOC
Finland	2012 - 2016	12	100, 110, 152, 320, 326	peri-urban (3), urban (5), rural (4)	3	spring (45), summer (42), autumn (42)	MARLIN/UNEP
Germany	2012 - 2016	26	100	reference (11), urban (1), rural (14)	4	spring (96), summer (102), autumn (101), winter (79)	OSPAR Guideline for Monitoring Marine Litter on the Beaches, with slight adaptations
Latvia	2012 - 2016	42	100	urban (12), rural (18), peri-urban (5), periurban(rural) (4), rural/remote (3)	1	summer (175)	MARLIN/UNEP

Lithuania	2012 - 2013	4	100	urban (1) rural (1) semi-urban (1) touristic (1)	4	spring (8), summer (8), autumn (8), winter (8)	
Poland	2015 - 2016	15	1000	urban (7), rural (8)	4	spring (30), summer (30), autumn (30), winter (30)	TG ML Master list
Sweden	2012 - 2016	10	100	peri-urban(6), rural (4)	3	spring (37), summer (37), autumn (39)	MARLIN/ UNEP

Table 1. Summary of available national beach litter monitoring data: spatial, temporal and categorization method used.

The number of monitored beaches (stations) varies by country. The smallest number of beaches is monitored in Denmark (3) and Lithuania (4), while the largest number of monitored beaches is in Latvia (42). The main types of monitored beaches are urban and rural ones, but in some countries reference beaches (where the anthropogenic impact is minimal) as well as peri-urban beaches are monitored. The length of the monitored beaches ranges from 100 to 3000m, being 100m the most common length used (in five countries). In four countries, monitoring is conducted three times a year (spring, summer and autumn). In the case of Denmark, only one survey was conducted in winter time. In Germany and Poland regular monitoring is conducted in the four seasons of the year. In Latvia, monitoring is carried out only in the summer season.

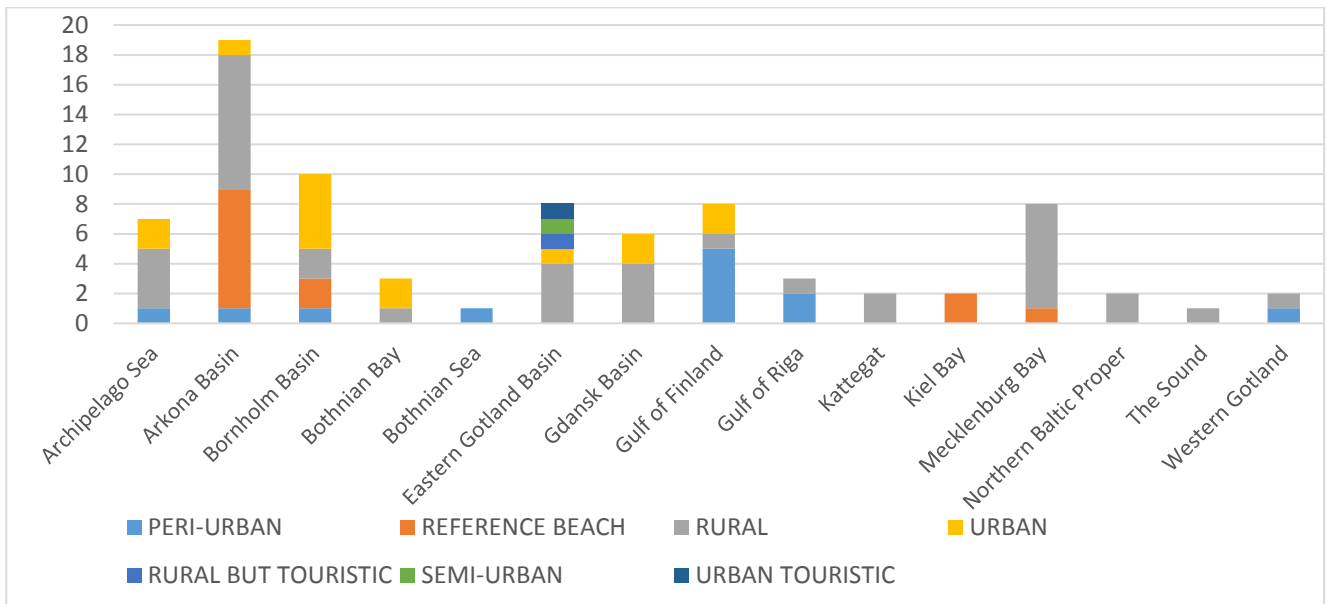


Figure 1. Beaches included in the report by sub-basin.

The monitored litter is assigned to eight main material categories: artificial polymer materials, rubber, cloth/textile, paper/cardboard, processed/worked wood, metal, glass/ceramics and unclassified. Some countries have identified two additional categories: food waste and chemicals such as e.g. paraffin, wax, oil or tar. The categorization of individual litter items is conducted according to different methodologies and protocols (UNEP 2009, OSPAR 2010, JRC 2013, MARLIN 2013) depending on the countries. Task Group Master List (TG ML) (JRC 2013) is used in Denmark and Poland, the MARLIN / UNEP classification methodology is used in four countries: Estonia, Finland, Latvia and Sweden, whereas Germany use the OSPAR methodology and protocol.

Method used to calculate top litter items lists: the rank method

The rank method is based on total amounts of pieces of litter. Items are not counted per meters nor square meters, but only in total amounts of pieces. All beaches, all seasons and all monitored years are included. These vary by country. The use of the rank method gives the opportunity to study which the most commonly found items on the beaches are.

Top litter item lists are obtained based on data provided by countries (see Table 1). Data has been provided by Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland and Sweden. Data provided by Latvia was not used due to its lack of representativity (Latvia conducts only one assessment per year, per beach).

To achieve the goal of having one regional top litter item list, some grouping/harmonization of litter item categories among coding lists was required at the end of the analysis process. The grouping/harmonization is presented in Table 2, where the word in capital letters refers to the type of material the litter item is made of (see Table 3). For further identification of the categories include under each harmonized category see Annex 2-4.

Harmonized category	Categories included
ARTPOLY: Bottles and containers	G8, G7, PL02, 4, PL03, G16, G9
ARTPOLY: Cigarette butts and remains.	G27, PL11, 64
ARTPOLY: Cotton bud sticks and sanitary waste	OT02, G95, 102
ARTPOLY: Derelict fishing gear, entangled rope	33, 35, PL20, G43, G53
ARTPOLY: Drinking related items such as cups, caps, lids, six-pack rings	G20, PL01, PL05, 15, 21, G33, G21, G23, 4
ARTPOLY: Foamed plastic items, such as foam, insulation, sponges, packaging	FP04, G73, FP01, 45
ARTPOLY: Food related items, such as containers, lolly sticks, wrappers, packets	G30, G31, PL06, 6, G10, FP02, 19
ARTPOLY: Industrial packaging, such as sheeting and strapping bands	G67, PL21, 39, PL16, 40, G87
ARTPOLY: Lighters	G26, PL10
ARTPOLY: Plastic and polystyrene pieces 0-50 cm	G76, G79, G78, G75, PL24, 46, G82, 117, FP05, G77
ARTPOLY: Plastic bags of different size and color	G3, PL07, 3, G4, 2
ARTPOLY: Polystyrene items	G124, 48
ARTPOLY: Single-use cutlery and straws	G34, G35, PL04, 22
ARTPOLY: String and ropes of different size	G50, G49, PL19, 32, PL18
ARTPOLY: Toys and other free time related play items	PL08, G32, 20
CHEM: Paraffin/wax	G213
FOOD: Food waste	OR03
GLASS: Construction materials, such as brick, cements, pipes, leca-beans, foamed glass	G204, 94, GC01
GLASS: Bottles and jars of different sizes	G200, GC02, 91, G201
GLASS: Glass and ceramic fragments of different sizes and other glass items	G208, 93, GC07
METAL: Drinking related cans	G175, ME03, 78
METAL: Drinking related items such as bottle caps, lids, pull tabs	G178, ME02, 77, G177, 77
METAL: Foil wrappers and pieces of metal	81, ME06, G177, 89, ME10, ME08
PAPER: Drinking, smoking and eating related paper and cardboard, such as cups, trays, wrappers, cigarette packs	G152, PC03
PAPER: Paper and cardboard items and pieces of different size	G156, PC01, PC02, PC05, G158, 67
RUBBER: Balloons and balloon related items	RB01, 49, G125
RUBBER: Pieces of rubber	53
TEXTILE: String and ropes of different size	G142, CL04
TEXTILE: Textile and cloth items, such clothes, shoes, towels, and other cloth/textile items	CL06, CL01, 59, 54, G137, CL03
WOOD: cork material	WD01, G159

Harmonized category	Categories included
WOOD: Food related items such as ice-cream sticks, chips forks, chop sticks and tooth picks	WD03
WOOD: Processed wood and pieces of processed wood of different sizes	G171, WD04, 74, G173, G171, WD06, G172

Table 2. Grouping/harmonisation of categories according to the different coding lists used by HELCOM countries.

Code	Type of material
ARTPOLY	Artificial polymer materials
CHEM	Chemicals
FOOD	Food waste
GLASS	Glass/ceramics
METAL	Metal
PAPER	Paper/cardboard
RUBBER	Rubber
TEXTILE	Cloth/textile
UNDEF	Undefined
WOOD	Processed/worked wood

Table 3. Codes of the type of material of litter items.

Regional top litter items

The regional top litter item –list (Table 4) is conducted using the ranking method as advised by the HELCOM EN-Marine Litter ([memo of the on-line meeting held on 11 October 2017](#)). All data provided by countries, excluding Latvia, is used in the analysis. Each beach litter survey was analyzed, giving each survey its own individual top litter item list.

For each survey a separate top 20 list was ranked with the following method: the most common litter item (highest in number) received a rank value of 20, the second most common litter item received the rank value of 19, and so on until reaching rank value 1. Ties were given the same rank value, e.g. 20, 20, 20, 19, 18, 18, 17, 16, 15, 15, 15,...1.

After ranking of each survey, all rank values were counted together giving each litter category a rank sum. Subsequently, the rank sums were ordered, where the item receiving the highest rank sum is the most common litter item. This was done separately for each methodology (UNEP, OSPAR, TG ML) and separately for each beach type (rural, urban and peri-urban). These individual lists were in the end pulled together by harmonizing categories according to Table 2.

The percentage of litter items surveyed is around 20% less in rural beaches compared to urban and peri-urban beaches (see Table 4). The Baltic Sea regional top 20 litter items by type of beach are shown in Table 5 and Figure 2. It is noticeable that many of the items found are related to eating, drinking or smoking activities. Plastic pieces of different sizes can also be found on all beach types, being the most commonly found litter item at rural and at peri-urban beaches, and the second one at urban beaches.

Type of beach	Total amount of litter items	% of all litter at beaches
RURAL	54421	60,72
URBAN	55622	79,19
PERI-URBAN	14439	78,05

Table 4. Amount of litter items surveyed by type of beach and percentage of top litter items of total litter surveyed.

Rank value	Rural beach	Urban beach	Peri-urban
1	ARTPOLY: Plastic and polystyrene pieces 0-50 cm	ARTPOLY: Drinking related items such as cups, caps, lids, 6-pack rings	ARTPOLY: Plastic and polystyrene pieces 0-50 cm
2	ARTPOLY: Food related items, such as containers, lolly sticks, wrappers, packets	ARTPOLY: Plastic and polystyrene pieces 0-50 cm	ARTPOLY: Food related items, such as containers, lolly sticks, wrappers, packets
3	ARTPOLY: Drinking related items such as cups, caps, lids, six-pack rings	ARTPOLY: Cigarette butts and remains.	ARTPOLY: Cigarette butts and remains.
4	ARTPOLY: Plastic bags of different size and color	ARTPOLY: Food related items, such as containers, lolly sticks, wrappers, packets	ARTPOLY: Drinking related items such as cups, caps, lids, six-pack rings
5	ARTPOLY: Bottles and containers	PAPER: Paper and cardboard items and pieces of different size	ARTPOLY: Plastic bags of different size and color
6	ARTPOLY: String and ropes of different size	METAL: Drinking related items such as bottle caps, lids, pull tabs	ARTPOLY: Single-use cutlery and straws
7	ARTPOLY: Cigarette butts and remains.	ARTPOLY: Plastic bags of different size and colour	METAL: Drinking related items such as bottle caps, lids, pull tabs
8	GLASS: Glass and ceramic fragments of different sizes	ARTPOLY: Single-use cutlery and straws	GLASS: Glass and ceramic fragments of different sizes and other glass items
9	ARTPOLY: Industrial packaging, such as sheeting and strapping bands	ARTPOLY: Bottles and containers	METAL: Foil wrappers and pieces of metal
10	WOOD: Processed wood and pieces of processed wood of different sizes	METAL: Drinking related cans	ARTPOLY: String and ropes of different size
11	RUBBER: Balloons and balloon related items	WOOD: Processed wood and pieces of processed wood of different sizes	ARTPOLY: Foamed plastic items, such as foam, insulation, sponges, packaging
12	GLASS: Bottles and jars of different sizes	TEXTILE: Textile and cloth items, such clothes, shoes, towels, and other cloth/textile items	WOOD: Processed wood and pieces of processed wood of different sizes
13	ARTPOLY: Foamed plastic items, such as foam, insulation, sponges, packaging	METAL: Foil wrappers and pieces of metal	METAL: Drinking related cans
14	PAPER: Paper and cardboard items and pieces of different size	PAPER: Drinking, smoking and eating related paper and cardboard, such as cups, trays, wrappers, cigarette packs	PAPER: Drinking, smoking and eating related paper and cardboard, such as cups, trays, wrappers, cigarette packs
15	ARTPOLY: Single-use cutlery and straws	GLASS: Glass and ceramic fragments of different sizes and other glass items	PAPER: Paper and cardboard items and pieces of different size
16	ARTPOLY: Polystyrene items	ARTPOLY: String and ropes of different size	ARTPOLY: Bottles and containers
17	METAL: Drinking related items such as bottle caps, lids, pull tabs	GLASS: Bottles and jars of different sizes	GLASS: Bottles and jars of different sizes
18	METAL: Drinking related cans	ARTPOLY: Toys and other free time related play items	FOOD: Food waste
19	RUBBER: Other rubber pieces [53]	ARTPOLY: Derelict fishing gear, entangled rope	METAL: Other
20	PAPER: Drinking and eating related paper and cardboard, such as cups, trays, wrappers	ARTPOLY: Industrial packaging, such as sheeting and strapping bands	ARTPOLY: Industrial packaging, such as sheeting and strapping bands

Table 5. Baltic Sea regional top 20 litter items by type of beach.

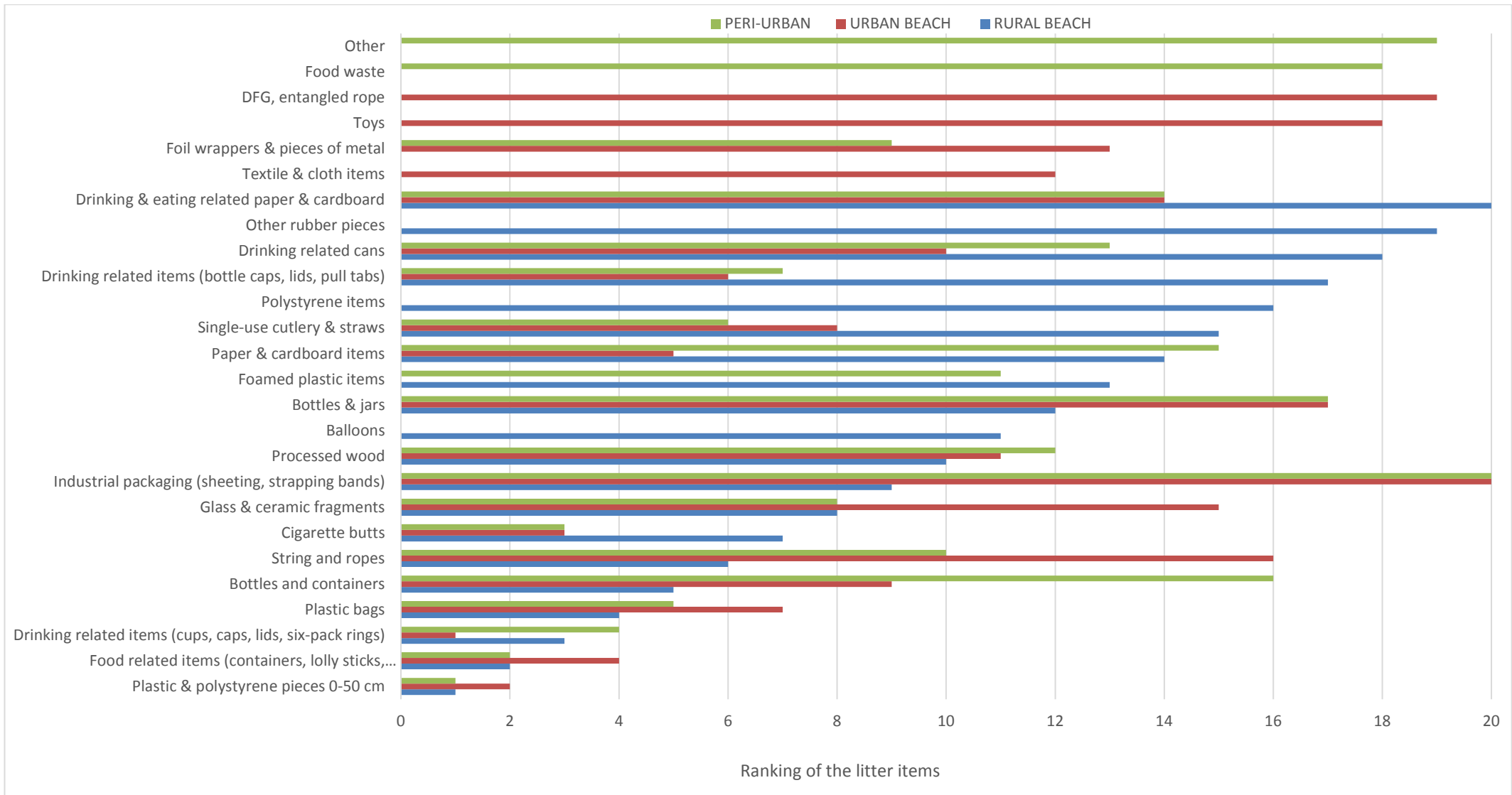


Figure 2. Visualisation of the Baltic Sea regional top 20 litter items by type of beach.

It is to point out that there are 26 different litter items categories found on the three different types of beaches considered, of which 15 appear in the three top litter items lists.

Sub-basin top litter items lists

The same ranking method was used to calculate the sub-basin top litter items (see Table 7). The percentage of how much the top litter item –list counts of the total litter items varies from 65 to 100 %, being the average percentage 85,99% (see Table 6).

Sub-basin	Sum of items of the top litter items lists	Total amount of litter items	% of all litter at beaches
Northern Baltic Proper	521	621	83,90
Gdansk Basin	5957	8452	70,48
Western Gotland	2345	2650	88,491
The Sound	807	807	100
Gulf of Riga	2269	2493	91,02
Gulf of Finland	10619	12482	85,07
Archipelago Sea	12460	14435	86,32
Bothnian Bay	1080	1215	88,89
Bothnian Sea	1764	1842	95,77
Kiel Bay	4847	5563	87,13
Bay of Mecklenburg	4130	4811	85,85
Kattegat	816	1008	80,95
Bornholm Basin	24931	31152	80,03
Arkona Basin	24678	29389	83,97
Eastern Gotland Basin	10680	13018	82,04

Table 6. Amount of litter items surveyed by sub-basin.

Northern Baltic proper	
1	ARTPOLY: Bottles and containers
2	ARTPOLY: Drinking related items such as cups, caps, lids, six-pack rings
3	ARTPOLY: Plastic bags of different size and color
4	ARTPOLY: Cigarette butts and remains.
5	ARTPOLY: Plastic and polystyrene pieces 0-50 cm
6	GLASS: Bottles and jars of different sizes
7	ARTPOLY: Industrial packaging, such as sheeting and strapping bands
8	GLASS: Glass and ceramic fragments of different sizes and other glass items
9	METAL: Drinking related items such as bottle caps, lids, pull tabs
10	ARTPOLY: Food related items, such as containers, lolly sticks, wrappers, packets
11	WOOD: Processed wood and pieces of processed wood of different sizes
12	METAL: Foil wrappers and pieces of metal
13	RUBBER: Balloons and balloon related items
14	PAPER: Paper and cardboard items and pieces of different size
15	ARTPOLY: Foamed plastic items, such as foam, insulation, sponges, packaging
15	ARTPOLY: Cotton bud sticks and sanitary waste
16	ARTPOLY: String and ropes of different size
16	METAL: Drinking related cans
16	FOOD: Food waste
17	ARTPOLY: Lighters
18	ARTPOLY: Toys and other free time related play items
19	TEXTILE: Textile and cloth items, such clothes, shoes, towels, and other cloth/textile items
20	GLASS: Light globes/bulbs
Gdansk Basin	
1	ARTPOLY: Bottles and containers
2	ARTPOLY: Plastic and polystyrene pieces 0-50 cm
3	GLASS: Bottles and jars of different sizes
4	ARTPOLY: Food related items, such as containers, lolly sticks, wrappers, packets
5	ARTPOLY: Drinking related items such as cups, caps, lids, six-pack rings
6	ARTPOLY: Derelict fishing gear, entangled rope
7	METAL: Drinking related cans
8	ARTPOLY: Plastic bags of different size and color
9	ARTPOLY: String and ropes of different size
10	ARTPOLY: Single-use cutlery and straws
11	METAL: Drinking related items such as bottle caps, lids, pull tabs
12	ARTPOLY: Pens and pen lids

13	ARTPOLY: Cigarette butts and remains.
13	WOOD: Processed wood and pieces of processed wood of different sizes
14	PAPER: Paper and cardboard items and pieces of different size
15	TEXTILE: String and ropes of different size
16	PAPER: Drinking, smoking and eating related paper and cardboard, such as cups, trays, wrappers, cigarette packs
17	RUBBER: Tires and belts
18	TEXTILE: Textile and cloth items, such clothes, shoes, towels, and other cloth/textile items
19	GLASS: Construction materials, such as brick, cements, pipes, leca-beans, foamed glass
20	METAL: Foil wrappers and pieces of metal
Western Gotland	
1	ARTPOLY: Plastic and polystyrene pieces 0-50 cm
2	ARTPOLY: Food related items, such as containers, lolly sticks, wrappers, packets
3	ARTPOLY: Single-use cutlery and straws
4	ARTPOLY: Drinking related items such as cups, caps, lids, six-pack rings
5	METAL: Foil wrappers and pieces of metal
6	PAPER: Paper and cardboard items and pieces of different size
7	ARTPOLY: Plastic bags of different size and color
8	METAL: Drinking related items such as bottle caps, lids, pull tabs
9	FOOD: Food waste
10	WOOD: Food related items such as ice-cream sticks, chips forks, chop sticks and tooth picks
11	ARTPOLY: Cigarette butts and remains.
12	ARTPOLY: Bottles and containers
13	WOOD: Processed wood and pieces of processed wood of different sizes
14	ARTPOLY: String and ropes of different size
15	GLASS: Glass and ceramic fragments of different sizes and other glass items
16	RUBBER: Balloons and balloon related items
17	TEXTILE: Textile and cloth items, such clothes, shoes, towels, and other cloth/textile items
17	TEXTILE: String and ropes of different size
18	PAPER: Drinking, smoking and eating related paper and cardboard, such as cups, trays, wrappers, cigarette packs
19	ARTPOLY: Baskets, crates and trays [PL13]
20	ARTPOLY: Toys and other free time related play items
The Sound	
1	ARTPOLY: Plastic and polystyrene pieces 0-50 cm
2	ARTPOLY: String and ropes of different size
3	ARTPOLY: Plastic bags of different size and color

4	ARTPOLY: Drinking related items such as cups, caps, lids, six-pack rings
5	ARTPOLY: Foamed plastic items, such as foam, insulation, sponges, packaging
6	ARTPOLY: Bottles and containers
7	ARTPOLY: Single-use cutlery and straws
8	ARTPOLY: Food related items, such as containers, lolly sticks, wrappers, packets
9	PAPER: Paper and cardboard items and pieces of different size
10	WOOD: Processed wood and pieces of processed wood of different sizes
11	TEXTILE: Textile and cloth items, such clothes, shoes, towels, and other cloth/textile items
12	GLASS: Bottles and jars of different sizes
13	ARTPOLY: Industrial packaging, such as sheeting and strapping bands
14	METAL: Dispensable grill [ME11]
15	ARTPOLY: Fibreglass fragments [PL22]
16	GLASS: Glass and ceramic fragments of different sizes and other glass items
16	METAL: Drinking related cans
16	METAL: Drinking related items such as bottle caps, lids, pull tabs
17	TEXTILE: String and ropes of different size
18	RUBBER: Balloons and balloon related items
19	RUBBER:Tyres [RB04]
20	ARTPOLY: Cigarette butts and remains.
20	ARTPOLY: Gloves [PL09]
20	ARTPOLY: Plastic bouys [PL14]
20	METAL: Fishing related (sinkers, lures, hooks, traps and pots) [ME07]
20	METAL: Foil wrappers and pieces of metal
20	ARTPOLY: Cotton bud sticks and sanitary waste
20	RUBBER:Condoms [RB07]
20	RUBBER: Footwear (flip-flops) [RB02]
20	RUBBER:Rubber bands [RB06]
20	WOOD: cork material
Gulf of Riga	
1	ARTPOLY: Plastic bags of different size and color
2	GLASS: Glass and ceramic fragments of different sizes and other glass items
3	ARTPOLY: Drinking related items such as cups, caps, lids, six-pack rings
4	ARTPOLY: Food related items, such as containers, lolly sticks, wrappers, packets
5	METAL: Drinking related items such as bottle caps, lids, pull tabs
6	ARTPOLY: Cigarette butts and remains.
7	PAPER: Paper and cardboard items and pieces of different size

8	ARTPOLY: Bottles and containers
9	ARTPOLY: Foamed plastic items, such as foam, insulation, sponges, packaging
10	GLASS: Bottles and jars of different sizes
11	METAL: Foil wrappers and pieces of metal
12	PAPER: Drinking, smoking and eating related paper and cardboard, such as cups, trays, wrappers, cigarette packs
13	ARTPOLY: Plastic and polystyrene pieces 0-50 cm
14	GLASS: Construction materials, such as brick, cements, pipes, leca-beans, foamed glass
15	ARTPOLY: Industrial packaging, such as sheeting and strapping bands
16	ARTPOLY: Single-use cutlery and straws
17	METAL: Drinking related cans
18	WOOD: Processed wood and pieces of processed wood of different sizes
19	ARTPOLY: Cotton bud sticks and sanitary waste
20	TEXTILE: Textile and cloth items, such clothes, shoes, towels, and other cloth/textile items
Gulf of Finland	
1	ARTPOLY: Cigarette butts and remains.
2	ARTPOLY: Plastic and polystyrene pieces 0-50 cm
3	ARTPOLY: Food related items, such as containers, lolly sticks, wrappers, packets
4	ARTPOLY: Drinking related items such as cups, caps, lids, six-pack rings
5	ARTPOLY: Plastic bags of different size and color
6	ARTPOLY: Bottles and containers
7	ARTPOLY: Foamed plastic items, such as foam, insulation, sponges, packaging
8	GLASS: Glass and ceramic fragments of different sizes and other glass items
9	PAPER: Drinking, smoking and eating related paper and cardboard, such as cups, trays, wrappers, cigarette packs
10	METAL: Foil wrappers and pieces of metal
11	WOOD: Processed wood and pieces of processed wood of different sizes
12	ARTPOLY: Single-use cutlery and straws
13	METAL: Drinking related items such as bottle caps, lids, pull tabs
14	PAPER: Paper and cardboard items and pieces of different size
15	METAL: Drinking related cans
16	ARTPOLY: Industrial packaging, such as sheeting and strapping bands
17	ARTPOLY: String and ropes of different size
18	ARTPOLY: Toys and other free time related play items
19	TEXTILE: Textile and cloth items, such clothes, shoes, towels, and other cloth/textile items
20	RUBBER: Balloons and balloon related items
Archipelago Sea	

1	ARTPOLY: Plastic and polystyrene pieces 0-50 cm
2	PAPER: Paper and cardboard items and pieces of different size
3	ARTPOLY: Drinking related items such as cups, caps, lids, six-pack rings
4	ARTPOLY: Food related items, such as containers, lolly sticks, wrappers, packets
5	ARTPOLY: Plastic bags of different size and color
6	ARTPOLY: Cigarette butts and remains.
7	ARTPOLY: Single-use cutlery and straws
8	ARTPOLY: String and ropes of different size
9	ARTPOLY: Foamed plastic items, such as foam, insulation, sponges, packaging
9	WOOD: Processed wood and pieces of processed wood of different sizes
10	METAL: Drinking related items such as bottle caps, lids, pull tabs
11	GLASS: Glass and ceramic fragments of different sizes and other glass items
12	METAL: Foil wrappers and pieces of metal
13	PAPER: Drinking, smoking and eating related paper and cardboard, such as cups, trays, wrappers, cigarette packs
14	FOOD: Food waste
15	ARTPOLY: Industrial packaging, such as sheeting and strapping bands
16	TEXTILE: Textile and cloth items, such clothes, shoes, towels, and other cloth/textile items
17	RUBBER: Balloons and balloon related items
18	ARTPOLY: Bottles and containers
19	ARTPOLY: Toys and other free time related play items
20	TEXTILE: String and ropes of different size
Bothnian Bay	
1	PAPER: Paper and cardboard items and pieces of different size
2	ARTPOLY: Plastic and polystyrene pieces 0-50 cm
3	ARTPOLY: Food related items, such as containers, lolly sticks, wrappers, packets
4	WOOD: Processed wood and pieces of processed wood of different sizes
5	ARTPOLY: String and ropes of different size
6	ARTPOLY: Drinking related items such as cups, caps, lids, six-pack rings
7	ARTPOLY: Cigarette butts and remains.
8	PAPER: Drinking, smoking and eating related paper and cardboard, such as cups, trays, wrappers, cigarette packs
9	METAL: Foil wrappers and pieces of metal
10	ARTPOLY: Toys and other free time related play items
11	FOOD: Food waste
12	ARTPOLY: Plastic bags of different size and color
13	PAPER: Tubes for firework [PC04]

14	ARTPOLY: Single-use cutlery and straws
15	OTHER: Other (specify) [OT05]
16	METAL: Drinking related items such as bottle caps, lids, pull tabs
17	GLASS: Bottles and jars of different sizes
17	TEXTILE: Textile and cloth items, such clothes, shoes, towels, and other cloth/textile items
18	ARTPOLY: Bottles and containers
18	GLASS: Glass and ceramic fragments of different sizes and other glass items
19	ARTPOLY: Foamed plastic items, such as foam, insulation, sponges, packaging
20	ORGANIC: Snus [OR01]
Bothnian Sea	
1	ARTPOLY: Plastic and polystyrene pieces 0-50 cm
2	ARTPOLY: Drinking related items such as cups, caps, lids, six-pack rings
3	METAL: Foil wrappers and pieces of metal
4	PAPER: Paper and cardboard items and pieces of different size
5	ARTPOLY: String and ropes of different size
6	ARTPOLY: Cigarette butts and remains.
7	ARTPOLY: Single-use cutlery and straws
8	WOOD: Food related items such as ice-cream sticks, chips forks, chop sticks and tooth picks
8	TEXTILE: Textile and cloth items, such clothes, shoes, towels, and other cloth/textile items
9	ARTPOLY: Food related items, such as containers, lolly sticks, wrappers, packets
10	WOOD: Processed wood and pieces of processed wood of different sizes
11	METAL: Drinking related items such as bottle caps, lids, pull tabs
12	ARTPOLY: Plastic bags of different size and color
13	FOOD: Food waste
14	METAL: Drinking related cans
15	ARTPOLY: Cotton bud sticks and sanitary waste
16	METAL: Dispensable grill [ME11]
16	ORGANIC: Snus [OR01]
17	PAPER: Drinking, smoking and eating related paper and cardboard, such as cups, trays, wrappers, cigarette packs
18	ARTPOLY: Toys and other free time related play items
18	TEXTILE: String and ropes of different size
19	ARTPOLY: Bottles and containers
19	OTHER: Other (specify) [OT05]
20	RUBBER: Rubber bands [RB06]
Kiel Bay	
1	ARTPOLY: Plastic and polystyrene pieces 0-50 cm

2	ARTPOLY: Drinking related items such as cups, caps, lids, six-pack rings
3	ARTPOLY: Food related items, such as containers, lolly sticks, wrappers, packets
4	ARTPOLY: Industrial packaging, such as sheeting and strapping bands
5	GLASS: Glass and ceramic fragments of different sizes and other glass items
6	ARTPOLY: Cigarette butts and remains.
7	ARTPOLY: String and ropes of different size
8	RUBBER: Balloons and balloon related items
9	WOOD: Processed wood and pieces of processed wood of different sizes
10	PAPER: Paper and cardboard items and pieces of different size
11	ARTPOLY: Foamed plastic items, such as foam, insulation, sponges, packaging
12	ARTPOLY: Plastic bags of different size and color
13	ARTPOLY: Shotgun cartridges [43]
14	ARTPOLY: Derelict fishing gear, entangled rope
15	ARTPOLY: Single-use cutlery and straws
16	ARTPOLY: Polystyrene items
17	METAL: Foil wrappers and pieces of metal
18	RUBBER: Pieces of rubber
19	ARTPOLY: Cotton bud sticks and sanitary waste
20	METAL: Drinking related items such as bottle caps, lids, pull tabs
Bay of Mecklenburg	
1	ARTPOLY: Plastic and polystyrene pieces 0-50 cm
2	ARTPOLY: Food related items, such as containers, lolly sticks, wrappers, packets
3	ARTPOLY: Cigarette butts and remains.
4	ARTPOLY: Drinking related items such as cups, caps, lids, six-pack rings
5	GLASS: Glass and ceramic fragments of different sizes and other glass items
6	RUBBER: Balloons and balloon related items
7	PAPER: Paper and cardboard items and pieces of different size
8	METAL: Foil wrappers and pieces of metal
9	METAL: Drinking related items such as bottle caps, lids, pull tabs
10	ARTPOLY: Foamed plastic items, such as foam, insulation, sponges, packaging
11	ARTPOLY: Plastic bags of different size and color
12	GLASS: Construction materials, such as brick, cements, pipes, leca-beans, foamed glass
13	GLASS: Bottles and jars of different sizes
14	ARTPOLY: String and ropes of different size
15	ARTPOLY: Polystyrene items
16	WOOD: Processed wood and pieces of processed wood of different sizes

17	TEXTILE: Textile and cloth items, such clothes, shoes, towels, and other cloth/textile items
18	ARTPOLY: Bottles and containers
19	ARTPOLY: Single-use cutlery and straws
20	ARTPOLY: Toys and other free time related play items
Kattegat	
1	ARTPOLY: Plastic and polystyrene pieces 0-50 cm
2	ARTPOLY: Food related items, such as containers, lolly sticks, wrappers, packets
3	WOOD: Processed wood and pieces of processed wood of different sizes
4	ARTPOLY: String and ropes of different size
5	ARTPOLY: Drinking related items such as cups, caps, lids, six-pack rings
6	PAPER: Paper and cardboard items and pieces of different size
7	TEXTILE: Textile and cloth items, such clothes, shoes, towels, and other cloth/textile items
8	ARTPOLY: Bottles and containers
9	ARTPOLY: Plastic bags of different size and color
9	METAL: Drinking related cans
9	ARTPOLY: Industrial packaging, such as sheeting and strapping bands
10	ARTPOLY: Foamed plastic items, such as foam, insulation, sponges, packaging
11	Plastic: Shotgun cartridges[G70]
12	ARTPOLY: Cigarette butts and remains.
13	TEXTILE: String and ropes of different size
14	WOOD: Food related items such as ice-cream sticks, chips forks, chop sticks and tooth picks
15	Plastic: Tobacco pouches / plastic cigarette box packaging [G25]
16	OTHER: Other (specify) [OT05]
17	ARTPOLY: Baskets, crates and trays [PL13]
18	ARTPOLY: Cotton bud sticks and sanitary waste
19	ARTPOLY: Single-use cutlery and straws
19	ORGANIC: Snus [OR01]
20	WOOD: Cork material
Bornholm Basin	
1	ARTPOLY: Drinking related items such as cups, caps, lids, six-pack rings
2	ARTPOLY: Plastic and polystyrene pieces 0-50 cm
3	ARTPOLY: Bottles and containers
4	ARTPOLY: Cigarette butts and remains.
5	ARTPOLY: Food related items, such as containers, lolly sticks, wrappers, packets
6	WOOD: Processed wood and pieces of processed wood of different sizes
7	ARTPOLY: Plastic bags of different size and color

8	ARTPOLY: Single-use cutlery and straws
9	ARTPOLY: String and ropes of different size
10	METAL: Drinking related items such as bottle caps, lids, pull tabs
11	METAL: Drinking related cans
12	PAPER: Paper and cardboard items and pieces of different size
13	ARTPOLY: Industrial packaging, such as sheeting and strapping bands
14	TEXTILE: Textile and cloth items, such clothes, shoes, towels, and other cloth/textile items
15	ARTPOLY: Polystyrene items
16	ARTPOLY: Toys and other free time related play items
17	METAL: Foil wrappers and pieces of metal
18	ARTPOLY: Lighters
19	PAPER: Drinking, smoking and eating related paper and cardboard, such as cups, trays, wrappers, cigarette packs
20	ARTPOLY: Cotton bud sticks and sanitary waste
Arkona Basin	
1	ARTPOLY: Plastic and polystyrene pieces 0-50 cm
2	ARTPOLY: Drinking related items such as cups, caps, lids, six-pack rings
3	ARTPOLY: Plastic bags of different size and color
4	ARTPOLY: Food related items, such as containers, lolly sticks, wrappers, packets
5	ARTPOLY: Bottles and containers
6	ARTPOLY: String and ropes of different size
7	WOOD: Processed wood and pieces of processed wood of different sizes
8	ARTPOLY: Industrial packaging, such as sheeting and strapping bands
9	RUBBER: Balloons and balloon related items
10	ARTPOLY: Foamed plastic items, such as foam, insulation, sponges, packaging
11	GLASS: Glass and ceramic fragments of different sizes and other glass items
12	GLASS: Bottles and jars of different sizes
13	ARTPOLY: Cigarette butts and remains.
14	ARTPOLY: Single-use cutlery and straws
15	METAL: Drinking related cans
16	RUBBER: Pieces of rubber
17	TEXTILE: Textile and cloth items, such clothes, shoes, towels, and other cloth/textile items
18	PAPER: Paper and cardboard items and pieces of different size
19	GLASS: Construction materials, such as brick, cements, pipes, leca-beans, foamed glass
20	CHEM: Paraffin/wax
Eastern Gotland Basin	
1	ARTPOLY: Drinking related items such as cups, caps, lids, six-pack rings

2	ARTPOLY: Plastic and polystyrene pieces 0-50 cm
3	ARTPOLY: String and ropes of different size
4	ARTPOLY: Food related items, such as containers, lolly sticks, wrappers, packets
5	ARTPOLY: Bottles and containers
6	ARTPOLY: Cigarette butts and remains.
7	ARTPOLY: Plastic bags of different size and color
8	TEXTILE: Textile and cloth items, such clothes, shoes, towels, and other cloth/textile items
9	ARTPOLY: Derelict fishing gear, entangled rope
10	METAL: Drinking related cans
11	METAL: Drinking related items such as bottle caps, lids, pull tabs
12	GLASS: Bottles and jars of different sizes
13	GLASS: Glass and ceramic fragments of different sizes and other glass items
14	WOOD: Processed wood and pieces of processed wood of different sizes
15	METAL: Foil wrappers and pieces of metal
16	TEXTILE: String and ropes of different size
17	ARTPOLY: Industrial packaging, such as sheeting and strapping bands
18	RUBBER: Pieces of rubber
19	RUBBER: Balloons and balloon related items
20	ARTPOLY: Single-use cutlery and straws

Table 7. Top litter items according to Baltic Sea sub-basins.

As in the case of the results found at regional level, also at sub-basin level many of the items are related to eating, drinking and smoking activities – these items can be found at each sub-basin top litter item list. The total rank of these items, which relates to eating, drinking and smoking varies slightly depending on the sub-basin. In Table 7 some litter items have not been harmonized (highlighted in yellow), as the item does not fit into the harmonized category (see Table 2) and were singular cases. Pieces of plastic of different size can be found at all sub-basin top litter item -lists, at many being the most common litter item. Plastic bags are also found at all sub-basin top litter item –lists (see also Table 8).

	N. Baltic Proper	Gdansk Basin	W. Gotland	The Sound	Gulf of Riga	Gulf of Finland	Archipelago Sea	Both. Bay	Bothnian Sea	Kiel Bay	Bay of Mecklenburg	Kattegat	Bornholm Basin	Arkona Basin	E. Gotland Basin
Balloons	13		16	18		20	17			8	6			9	19
Bottles & jars	6	3		12	10			17			13			12	12
Bottles and containers	1	1	12	6	8	6	18	18	19		18	8	3	5	5
Cigarette butts	4	13	11	20	6	1	6	7	6	6	3	12	4	13	6
Cotton bud sticks & sanitary waste	15			20	19				15	19		18	20		
DFG, entangled rope		6								14					9
Drinking, smoking & eating related paper & cardboard		16	18		12	9	13	8	17				19		
Drinking related cans	16	7		16	17	15			14			9	11	15	10
Drinking related items (bottle caps, lids, pull tabs)	9	11	8	16	5	13	10	16	11	20	9		10		11
Drinking related items (cups, caps, lids, six-pack rings)	2	5	4	4	3	4	3	6	2	2	4	5	1	2	1
Foamed plastic items	15			5	9	7	9	19		11	10	10		10	
Foil wrappers & pieces of metal	12	20	5	20	11	10	12	9	3	17	8		17		15
Food related items (containers, lolly sticks, wrappers, packets)	10	4	2	8	4	3	4	3	9		2	2	5		4
Food related items (ice-cream sticks, chips forks, chop sticks, tooth pick)			10						8	3		14		4	
Food waste	16		9				14	11	13						
Glass & ceramic fragments	8		15	16	2	8	11	18		5	5			11	13
Industrial packaging (sheeting, strapping bands)	7			13	15	16	15			4		9	13	8	17
Lighters	17												18		
Other								15	19			16			
Other rubber pieces															18
Paper & cardboard items	14	14	6	9	7	14	2	1	4	10	7	6	12	18	
Plastic bags	3	8	7	3	1	5	5	12	12	12	11	9	7	3	7
Plastic & polystyrene pieces 0-50 cm	5	2	1	1	13	2	1	2	1	1	1	1	2	1	2
Polystyrene items										16	15		15		
Processed wood	11	13	13	10	18	11	9	4	10	9	16	3	6	7	14
Single-use cutlery & straws		10	3	7	16	12	7	14	7	15	19	19	8	14	20
Plastic string and ropes	16	9	14	2		17	8	5	5	7	14	4	9	6	3
Textile string and ropes		15		17											16
Textile & cloth items	19	18	17	11	20	19	16	17	8		17	7	14	17	8
Toys	18		20			18	19	10	18		20		16		
Construction materials (brick, cements, pipes)		19			14						12			19	
Paraffin/wax														20	

Table 8. Compilation of top litter 20 items

An interesting single item that can be found at 60% of sub-basin top litter item -lists are balloons and balloon related items that are to be attached to the balloon. Industrial packaging related items such as sheeting, strapping bands and masking tape can be found at 73% of all sub-basins. Derelict fishing gear can be found within the Eastern Gotland Bay, Gdansk Bay and Kiel Bay top litter item -lists.

Discussion

The results found indicate that many of the litter items come from eating, drinking and smoking related activities. Many of these activities are conducted while moving from one place to another (take away – lifestyle) or when spending spare time close by the sea or river.

The commonness of these eating, drinking and smoking related items may suggest that these items are abandoned on the environment as such, or they are not properly handled being drifted by wind, waterways, rain or animals further from trash collection.

The commonness of plastic litter and especially the commonness of plastic pieces and plastic packaging, suggests that the use of plastic in different items is usual. Worldwide production of plastics in 2015 was 322 million tonnes. Approximately 40 % of the plastic produced is used in packaging (Plastics Europe, 2016). Plastic degrades slowly, ultraviolet radiation and mechanical wear and tear speeds the process, but the speed varies much. Plastic partially degrades to microlitter, but never degrades completely.

Many of the actions that could contribute to the reduction of the litter present on the beaches in the Baltic Sea are already included in the HELCOM Regional Action Plan for Marine Litter (RAP ML). Below are described suggestions for further action deriving from this report, linked to specific actions in the [RAP ML](#).

Trash collection systems are needed in all areas in which people move around or spend time, including the most rural areas into which people are guided to, such as national parks. It is encouraged that in these wide trash collection systems, recycling is taken into account making it possible to recycle most of the litter and by doing that also supporting circular economy efforts. Actions RL1, RL2, RL3, RL4 and RL5 in the action plan are in line with this suggestion, therefore their implementation is encouraged.

Educational efforts and campaigns against marine littering are a vital part of tackling the problem. The educational efforts and campaigns should be aimed at a wide variety of age groups from the general public. It is also suggested that these campaigns are spread to more deeper and wider areas than just coastal areas, especially to areas which are located by rivers and lakes, as rivers act as litter pathways. Some of these needs are addressed in actions RE1, RE2 and RE3 of the action plan, as well as voluntary national actions N1-N4.

As the results show that much of the litter comes from eating, drinking and smoking related activities it is suggested to identify the options to address these key waste items, including deposit schemes and extended producer responsibility. This would be in line with action RL11 of the Action Plan.

As balloons as a single item occur at 60% of sub-basin top litter item lists, it is suggested to conduct actions aiming at preventing the release of balloons on land and on the sea. To support this it is encouraged to conduct a case study on how common the release of balloons is at cruise ships in the Baltic Sea, especially from those ships just visiting the Baltic Sea region.

The presence of plastic bags in all sub-basins of the Baltic Sea points out the need to implement action RL10 of the Action Plan.

Plastic pieces of different size in the marine environment are a major problem. Many of the pieces derive from bigger litter items, such as plastic bags, bottles, food containers, etc. Many may also come from expanded polystyrene (EPS) based items used in different industrial sections (construction, fishing, material

production). It is suggested that much effort is paid to action RL9 in the Action Plan, to tackle the issue of plastic pieces.

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Annex 1 Names/code of the beaches included in the report

Sub-Basin	Type of beach	Beach name/code
Archipelago Sea	PERI-URBAN	MUSTFINN
	RURAL	UTÖ
		BJÖRKÖ
		ÖRÖ
	URBAN	KAARINA
URBAN	TURKU	
Arkona Basin	PERI-URBAN	NYBROSTRAND
	REFERENCE BEACH	BUG_SW_01
		HIDDENS_GEL_01
		HIDDENS_NBE_01
		NOBBIN_HG_01
		STUBBEN_KNG_01
		VILM_WS_01
		ZINGST_KIR_01
		ZINGST_WAS_01
	RURAL	BINZ_SO_01
		GLOWE_KH_01
		GÖHREN_NP_01
		KLZICKER_OL_01
		LUBMIN_FRS_01
		SELLIN_GR_01
		VARNKEVZ_HL_01
		KOFOEDS ENGE
	POMLENAKKE	
	URBAN	MUKRAN_FH_01
	Bornholm Basin	PERI-URBAN
REFERENCE BEACH		GWOIE_HF_01
		USEDOM_PE_01
RURAL		KOLOBRZEG
		USTKA
URBAN		DARLOWO
		DZIWNOW
		MIELNO
		SWINOUJSCIE
TRZEBIATOW		
Bothnian Bay	RURAL	STORSAND
	URBAN	KALAJOKI
		KOKKOLA
Bothnian Sea	PERI-URBAN	RULLSAND
Eastern Gotland Basin	RURAL	OHESSAARE
		SJAUSTER
		CHOCZEWO
		SMOLDZINO
	RURAL BUT TOURISTIC	KARKLE
SEMI-URBAN	NIEMERSETA	

	URBAN	MELNRAGE/KLAIPEDA
	URBAN TOURISTIC	PALANGA
Gdansk Basin	RURAL	HEL (I)
		HEL (II)
		KRYNICA MORSKA
		STEGNA
	URBAN	GDANSK
		GDYNIA
Gulf of Finland	PERI-URBAN	KOTKA OUTER
		KOTKA INNER
		KOLGA-AABLA
		NOVA
		VIIMSI
	URBAN	SAKA
		HELSINKI
		LOKSA
Gulf of Riga	PERI-URBAN	ORISSAARE
		VALGERANNA
	RURAL	METSAPOOLE
Kattegat	RURAL	RISO
		SUDDE STRAND /BJÖRKÄNGS HAVSBAD
Kiel Bay	REFERENCE BEACH	FEHM_GRÜ_01
		FEHM_WAL_01
Mecklenburg Bay	REFERENCE BEACH	DARSS_MÜL_01
Mecklenburg Bay	RURAL	BOIENSDFW_ZP_01
		KÄGSDF_RS_01
		POEL_GOL_01
		ROSENHGN_HBÄ_01
		STEINBECK_KLH_01
		TARNEWZ_HUK_01
		WIESCHENDF_HUK_02
Northern Baltic Proper	RURAL	KALESTE
		NÄTTARÖ
The Sound	RURAL	JÄRAVALLEN/SJÖÄNGARNA
Western Gotland	PERI-URBAN	TOFTA
	RURAL	KÅREHAMN STRAND/SKANVIKEN

Annex 2 - UNEP/MARLIN codes for litter items found on Baltic beaches

CODE	ITEM EXPLANATION
PL01	ARTPOLY: Bottle caps and lids
PL02	ARTPOLY: Bottles < 2 L
PL03	ARTPOLY: Bottles, drums, jerry cans and buckets > 2 L
PL04	ARTPOLY: Knives, forks, spoons, straws, stirrers, (cutlery)
PL05	ARTPOLY: Drink package rings, six-pack rings, ring carriers
PL06	ARTPOLY: Food containers, candy wrappers
PL07	ARTPOLY: plastic bags (opaque and ear)
PL08	ARTPOLY: Toys and party poppers
PL09	ARTPOLY: Gloves
PL10	ARTPOLY: Cigarette lighters
PL11	ARTPOLY: CIGARETTE REMAINS
PL12	ARTPOLY: Syringes
PL13	ARTPOLY: Baskets, crates and trays
PL14	ARTPOLY: astic bouys
PL15	ARTPOLY: Mesh bags (vegetable, oyster nets and mussel bags)
PL16	ARTPOLY: Sheeting (tarpaulin or other woven plastic bags, palette wrap)
PL17	ARTPOLY: Fishing gear (lures, traps and pots)
PL18	ARTPOLY: Monofilament line
PL19	ARTPOLY: Rope
PL20	ARTPOLY: Fishing net
PL21	ARTPOLY: Strapping
PL22	ARTPOLY: Fibreglass fragments
PL23	ARTPOLY: Resin pellets
PL24	ARTPOLY: Other (specify)
FP01	ARTPOLY: Foam sponge
FP02	ARTPOLY: Cups and food packs
FO03	ARTPOLY: Foam buoys
FP04	ARTPOLY: Foam (insulation and packaging)
FP05	ARTPOLY: Other (specify)
CL01	TEXTILE: clothing, shoes, hats and towels
CL02	TEXTILE: Backpacks and bags
CL03	TEXTILE: Canvas, sailoth, and sacking (hessian)
CL04	TEXTILE: Rope and string
CL05	TEXTILE: Carpet and furnishing
CL06	TEXTILE: Other (specify)

GC01	GLASS: Construction material (brick, cement, pipes)
GC02	GLASS: Bottles and jars
GC03	GLASS: Tableware (plates and cups)
GC04	GLASS: Light globes/bulbs
GC05	GLASS: Fluorescent light tubes
GC06	GLASS: Glass buoys
GC07	GLASS: Glass or ceramic fragments
GC08	GLASS: Other (specify)
ME01	METAL: Tableware (plates, cups and cutlery)
ME02	METAL: Bottles caps, lids and pull tabs
ME03	METAL: Aluminium drink cans
ME04	METAL: Other cans (< 4 L)
ME05	METAL: Gas bottles, drums and buckets (> 4 L)
ME06	METAL: Foil wrappers ME
ME07	METAL: Fishing related (sinkers, lures, hooks, traps and pots)
ME08	METAL: Fragments
ME09	METAL: Wire, wire mesh and barbed wire
ME10	METAL: Other (specify)
PC01	PAPER: Paper (including newspapers and magazines)
PC02	PAPER: Cardboard boxes and fragments
PC03	PAPER: Cups, food trays, food wrappers, cigarette packs, drink containers
PC04	PAPER: Tubes for firework
PC05	PAPER: Other (specify)
RB01	RUBBER: Balloons, balls and toys
RB02	RUBBER:Footwear (flip-flops)
RB03	RUBBER:Gloves
RB04	RUBBER:Tyres
RB05	RUBBER: Inner tubes and rubber sheet
RB06	RUBBER:Rubber bands
RB07	RUBBER:Condoms
RB08	RUBBER:Other (specify)
WD01	WOOD: Corks
WD02	WOOD: Fishing traps and pots
WD03	WOOD: Ice-cream sticks, chip forks, chopsticks and toothpicks
WD04	WOOD: Processed timber and pallet crates
WD05	WOOD: Matches and fireworks
WD06	WOOD: Other (specify)

OT01	OTHER: Paraffin or wax
OT02	OTHER: Sanitary (nappies, cotton buds, tampon applicators, toothbrushes)
OT03	OTHER: Appliances and Electronics
OT04	OTHER: Batteries (torch type)
OT05	OTHER: Other (specify)
OR01	ORGANIC: Snus
OR02	ORGANIC: Feces (excrement)
OR03	ORGANIC: Fruit, food, pastry, candy and ice cream
OR04	ORGANIC: Other (specify)

Annex 3 - OSPAR codes for litter items found on Baltic beaches

CODE	ITEM EXPLANATION
1	ARTPOLY: 4/6-pack yokes
2	ARTPOLY: Bags (e.g. shopping)
3	ARTPOLY: Small plastic bags, e.g., freezer bags
112	ARTPOLY: Plastic bag ends
4	ARTPOLY: Drinks (bottles, containers and drums)
5	ARTPOLY: Cleaner (bottles, containers and drums)
6	ARTPOLY: Food containers incl. fast food containers
7	ARTPOLY: Cosmetics (bottles e.g. sun lotion, shampoo)
8	ARTPOLY: Engine oil containers and drums < 50 cm
9	ARTPOLY: Engine oil containers and drums > 50 cm
10	ARTPOLY: Jerry cans (square plastic containers with handle)
11	ARTPOLY: Injection gun containers
12	ARTPOLY: Other bottles, containers and drums
13	ARTPOLY: Crates
14	ARTPOLY: Car parts
15	ARTPOLY: Caps/lids
16	ARTPOLY: Cigarette lighters
17	ARTPOLY: Pens
18	ARTPOLY: Combs/hair brushes
19	ARTPOLY: Crisp/sweet packets and lolly sticks
20	ARTPOLY: Toys poppers
21	ARTPOLY: Cups
22	ARTPOLY: Cutlery/trays/straws
23	ARTPOLY: Fertiliser/animal feed bags
24	ARTPOLY: Mesh vegetable bags
25	ARTPOLY: Gloves (typical washing up gloves)
113	ARTPOLY: Gloves (industrial/professional gloves)
30	ARTPOLY: Plastic sheeting from mussel culture (Tahitians)
31	ARTPOLY: Rope (diameter more than 1 cm)
32	ARTPOLY: String and cord (diameter less than 1 cm)
115	ARTPOLY: Nets and pieces of net < 50 cm
116	ARTPOLY: Nets and pieces of net > 50 cm
33	ARTPOLY: Tangled nets/cord/rope and string
34	ARTPOLY: Fish boxes
35	ARTPOLY: Fishing line (angling)
36	ARTPOLY: Light sticks (tubes with fluid)
37	ARTPOLY: Floats/Buoys
38	ARTPOLY: Buckets
39	ARTPOLY: Strapping bands
40	ARTPOLY: Industrial packaging, plastic sheeting
41	ARTPOLY: Fibre glass
42	ARTPOLY: Hard hats
43	ARTPOLY: Shotgun cartridges
44	ARTPOLY: Shoes/sandals
45	ARTPOLY: Foam sponge
117	ARTPOLY: Plastic/polystyrene pieces 0 - 2,5 cm
46	ARTPOLY: Plastic/polystyrene pieces 2,5 cm > < 50 cm
47	ARTPOLY: Plastic/polystyrene pieces > 50 cm
48	ARTPOLY: Other plastic/polystyrene items
49	RUBBER: Balloons, including plastic valves, ribbons, strings etc.
50	RUBBER: Boots
52	RUBBER: Tyres and belts

53	RUBBER: Other rubber pieces
54	TEXTILE: Clothing
55	TEXTILE: Furnishing
56	TEXTILE: Sacking
57	TEXTILE: Shoes (leather)
59	TEXTILE: Other textiles
60	PAPER: Bags
61	PAPER: Cardboard
1118	PAPER: Cartons e.g. tetrapak (milk)
62	PAPER: Cartons e.g. tetrapak (other)
63	PAPER: Cigarette packets
64	ARTPOLY: Cigarette butts
65	PAPER: Cups
66	PAPER: Newspapers
67	PAPER: Other paper items
68	WOOD: Corks
69	WOOD: Pallets
70	WOOD: Crates
119	WOOD: Fish boxes
72	WOOD: Ice lolly sticks/chip forks
73	WOOD: Paint brushes
74	WOOD: Other wood < 50 cm
75	WOOD: Other wood > 50 cm
76	METAL: Aerosol/Spray cans
77	METAL: Bottle caps
78	METAL: Drink cans
120	METAL: Disposable BBQ's
79	METAL: Electric appliances
80	METAL: Fishing weights
81	METAL: Foil wrappers
82	METAL: Food cans
83	METAL: Industrial scrap
86	METAL: Paint tins
88	METAL: Wire, wire mesh, barbed wire
89	METAL: Other metal pieces < 50 cm
90	METAL: Other metal pieces > 50 cm
91	GLASS: Bottles
92	GLASS: Light bulbs/tubes
93	GLASS: Other glass items
94	GLASS: Construction material e.g. tiles
96	GLASS: Other ceramic/pottery items
97	RUBBER: Condoms
98	ARTPOLY: Cotton bud sticks
99	ARTPOLY: Sanitary towels/panty liners/backing strips
100	TEXTILE: Tampons and tampon applicators
101	ARTPOLY: Toilet fresheners
102	UNDEF: Other sanitary items
103	ARTPOLY: Containers/tubes
104	ARTPOLY: Syringes
105	UNDEF: Other medical items (swabs, bandaging etc.)
121	ARTPOLY: Bagged dog faeces
108	CHEM: Paraffin or wax pieces
109	CHEM: Paraffin or wax pieces
110	CHEM: Paraffin or wax pieces
111	CHEM: other pollutants

Annex 4 – TG ML codes for litter items found on Baltic beaches

CODE	ITEM EXPLANATION
G1	Plastic: 4/6-pack yokes, six-pack rings
G3	Plastic: Shopping Bags incl. Pieces
G4	Plastic: Small plastic bags, e.g. freezer bags incl. Pieces
G5	Plastic: Plastic bags collective role; what remains from rip-off plastic bags
G7	Plastic: Drink bottles <=0.5l
G8	Plastic: Drink bottles >0.5l
G9	Plastic: Cleaner bottles & containers
G10	Plastic: Food containers incl. fast food containers
G11	Plastic: Beach use related cosmetic bottles and containers, e.g. Sunblocks
G12	Plastic: Other cosmetics bottles & containers
G13	Plastic: Other bottles & containers (drums)
G14	Plastic: Engine oil bottles & containers <50 cm
G15	Plastic: Engine oil bottles & containers > 50 cm
G16	Plastic: Jerry cans (square plastic containers with handle)
G17	Plastic: Injection gun containers
G18	Plastic: Crates and containers / baskets
G19	Plastic: Car parts
G20	Plastic: Caps & lids
G21	Plastic: Plastic caps/lids drinks
G22	Plastic: Plastic caps/lids chemicals, detergents (non-food)
G23	Plastic: Plastic caps/lids unidentified
G24	Plastic: Plastic rings from bottle caps/lids
G25	Plastic: Tobacco pouches / plastic cigarette box packaging
G26	Plastic: Cigarette lighters
G27	Plastic: Cigarette butts and filters
G28	Plastic: Pens and pen lids
G29	Plastic: Combs/hair brushes/sunglasses
G30	Plastic: Crisps packets/sweets wrappers
G31	Plastic: Lolly sticks
G30, G31	Plastic: Crisps packets/sweets wrappers. Lolly sticks
G32	Plastic: Toys and party poppers
G33	Plastic: Cups and cup lids
G34	Plastic: Cutlery and trays
G35	Plastic: Straws and stirrers
G34, G35	Plastic: Cutlery and trays. Straws and stirrers
G36	Plastic: Fertiliser/animal feed bags

G37	Plastic: Mesh vegetable bags
G40	Plastic: Gloves (washing up)
G41	Plastic: Gloves (industrial/professional rubber gloves)
G42	Plastic: Crab/lobster pots and tops
G43	Plastic: Tags (fishing and industry)
G44	Plastic: Octopus pots (plastic)
G45	Plastic: Mussels nets, Oyster nets
G46	Plastic: Oyster trays (round from oyster cultures)
G47	Plastic: Plastic sheeting from mussel culture (Tahitians)
G49	Plastic: Rope (diameter more than 1cm)
G50	Plastic: String and cord (diameter less than 1cm)
G52	Plastic: Nets and pieces of net
G53	Plastic: Nets and pieces of net < 50 cm
G54	Plastic: Nets and pieces of net > 50 cm
G56	Plastic: Tangled nets/cord
G57	Plastic: Fish boxes - plastic
G58	Plastic: Fish boxes - expanded polystyrene
G59	Plastic: Fishing line/monofilament (angling)
G60	Plastic: Light sticks (tubes with fluid) incl. Packaging
G62	Plastic: Floats for fishing nets
G63	Plastic: Buoys
G64	Plastic: Fenders
G65	Plastic: Buckets
G66	Plastic: Strapping bands
G67	Plastic: Sheets, industrial packaging, plastic sheeting
G68	Plastic: Fibre glass/fragments
G69	Plastic: Hard hats/Helmets
G70	Plastic: Shotgun cartridges
G71	Plastic: Shoes/sandals
G72	Plastic: Traffic cones
G73	Plastic: Foam sponge
G75	Plastic: Plastic/polystyrene pieces 0-2.5cm
G76	Plastic: Plastic/polystyrene pieces 2.5 cm > < 50cm
G77	Plastic: Plastic/polystyrene pieces > 50 cm
G78	Plastic: Plastic pieces 0-2.5 cm
G79	Plastic: Plastic pieces 2.5 > < 50 cm
G80	Plastic: Plastic pieces > 50 cm
G82	Plastic: Polystyrene pieces 2.5 cm > < 50 cm

G83	Plastic: Polystyrene pieces > 50 cm
G84	Plastic: CD, CD-box
G85	Plastic: Salt packaging
G86	Plastic: Fin trees (from fins for scuba diving)
G87	Plastic: Masking tape
G88	Plastic: Telephone (incl. parts)
G89	Plastic: plastic construction waste
G90	Plastic: Plastic flower pots
G91	Plastic: Biomass holder from sewage treatment plants
G92	Plastic: Bait containers/packaging
G93	Plastic: Cable ties
G95	Plastic: Cotton bud sticks
G96	Plastic: Sanitary towels/panty liners/backing strips
G97	Plastic: Toilet fresheners
G98	Plastic: Diapers/nappies
G99	Plastic: Syringes/needles
G100	Plastic: Medical/Pharmaceuticals containers/tubes
G101	Plastic: Dog feces bag
G102	Plastic: Flip-flops
G124	Plastic: Other plastic/polystyrene items (identifiable)
G125	Rubber: Balloons and balloon sticks
G126	Rubber: Balls
G127	Rubber: Rubber boots
G128	Rubber: Tyres and belts
G129	Rubber: Inner-tubes and rubber sheet
G130	Rubber: Wheels
G131	Rubber: Rubber bands (small, for kitchen/household/post use)
G132	Rubber: Bobbins (fishing)
G133	Rubber: Condoms (incl. packaging)
G134	Rubber: Other rubber pieces
G137	Cloth/textile: Clothing / rags (clothing, hats, towels)
G138	Cloth/textile: Shoes and sandals (e.g. Leather, cloth)
G139	Cloth/textile: Backpacks & bags
G140	Cloth/textile: Sacking (hessian)
G141	Cloth/textile: Carpet & Furnishing
G142	Cloth/textile: Rope, string and nets
G143	Cloth/textile: Sails, canvas

G144	Cloth/textile: Tampons and tampon applicators
G145	Cloth/textile: Other textiles (incl. rags)
G147	Paper/Cardboard: Paper bags
G148	Paper/Cardboard: Cardboard (boxes & fragments)
G150	Paper/Cardboard: Cartons/Tetrapack milk
G151	Paper/Cardboard: Cartons/Tetrapack (others)
G152	Paper/Cardboard: Cigarette packets
G153	Paper/Cardboard: Cups, food trays, food wrappers, drink containers
G154	Paper/Cardboard: Newspapers & magazines
G155	Paper/Cardboard: Tubes for fireworks
G156	Paper/Cardboard: Paper fragments
G158	Paper/Cardboard: Other paper items
G159	Processed/worked wood: Corks
G160	Processed/worked wood: Pallets
G161	Processed/worked wood: Processed timber
G162	Processed/worked wood: Crates
G163	Processed/worked wood: Crab/lobster pots
G164	Processed/worked wood: Fish boxes
G165	Processed/worked wood: Ice-cream sticks, chip forks, chopsticks & toothpicks
G166	Processed/worked wood: Paint brushes
G167	Processed/worked wood: Matches & fireworks
G171	Processed/worked wood: Other wood < 50 cm
G172	Processed/worked wood: Other wood > 50 cm
G173	Processed/worked wood: Other (specify)
G174	Metal: Aerosol/Spray cans industry
G175	Metal: Cans (beverage)
G176	Metal: Cans (food)
G177	Metal: Foil wrappers, aluminum foil
G178	Metal: Bottle caps, lids & pull tabs
G179	Metal: Disposable BBQ's
G180	Metal: Appliances (refrigerators, washers, etc.)
G181	Metal: Tableware (plates, cups & cutlery)
G182	Metal: Fishing related (weights, sinkers, lures, hooks)
G184	Metal: Lobster/crab pots
G186	Metal: Industrial scrap
G187	Metal: Drums, e.g. Oil
G188	Metal: Other cans (< 4 L)
G189	Metal: Gas bottles, drums & buckets (> 4 L)

G190	Metal: Paint tin
G191	Metal: Wire, wire mesh, barbed wire
G193	Metal: Car parts / batteries
G194	Metal: Cables
G195	Metal: Household Batteries
G197	Metal: Other
G198	Metal: Other metal pieces < 50 cm
G199	Metal: Other metal pieces > 50 cm
G200	Glass/ceramics: Bottles incl. Pieces
G201	Glass/ceramics: Jars incl. Pieces
G202	Glass/ceramics: Light bulbs
G203	Glass/ceramics: Tableware (plates & cups)
G204	Glass/ceramics: Construction material (brick, cement, pipes)
G205	Glass/ceramics: Fluorescent light tubes
G206	Glass/ceramics: Glass buoys
G207	Glass/ceramics: Octopus pots
G208	Glass/ceramics: Glass or ceramic fragments > 2.5 cm
G209	Glass/ceramics: Large glass objects
G210	Glass/ceramics: Other glass items
G211	Unidentified: Other medical items (swabs, bandaging, adhesive plaster etc.)
G212	Slack/Coal
G213	Chemicals: Paraffin/Wax
G214	Chemicals: Oil/Tar
G215	Food waste: Food waste (galley waste)
G216	unidentified: various rubbish (worked wood, metal parts)
G217	unidentified: Other (glass, metal, tar)<5mm