

**SA Säästva Eesti Instituut/ Stockholm Environment Institute Tallinn Centre,  
Estonian Marine Institute of Tartu University and  
Marine Systems Institute at Tallinn University of Technology**

**Estonian Marine Strategy's Programme of Measures**  
*Draft proposal*

**Chapter NEW MEASURES**

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## CONTENTS

<b>INTRODUCTION</b> .....	<b>3</b>
<b>NEW MEASURES</b> .....	<b>4</b>
<b>BIOLOGICAL DIVERSITY D1</b> .....	<b>4</b>
1. Establishing a network of protected marine areas in Estonia`s economic zone	4
2. Adoption and implementation of the ringed seal protection plan .....	6
3. Developing regional aquaculture programmes to control a possible environmental pressure .....	7
<b>NON-INDIGENOUS SPECIES D2</b> .....	<b>9</b>
4. Awareness building about non-indigenous species to control their invasion .....	9
5. Ratification of the international Ballast Water Management Convention (BWMC) and facilitating its implementation by involvement in the planned regional information system and implementation thereof. ....	10
<b>FISHERIES D3</b> .....	<b>11</b>
6. Development of regional catch limitations and updating commercial fish size limits	11
7. Facilitation of realisation of low-value fish .....	12
8. Adjusting catching capacity to meet the conditions of good environmental status.....	13
9. Improving the marking system of fishing gear in order to better control fishing and prevent abandonment of fishing gear. ....	14
<b>EUTROPHICATION D5</b> .....	<b>16</b>
10. Facilitation of introduction environmentally sustainable ship fuels.....	16
11. Reduction of dumping of untreated wastewater directly into marine waters, including ensuring wastewater intake from cruise ships in ports .....	17
12. Additional nutrient, hazardous substance and litter inflow reduction from stormwater directly to the sea – the construction of stormwater drainage and treatment systems .....	19
<b>ALTERATION OF HYDROLOGY CONDITIONS D7</b> .....	<b>21</b>
13. Establishment of restrictions on vessel traffic in case of impact caused by ship-generated waves	21
<b>CONTAMINANTS IN WATER D8</b> .....	<b>22</b>
14. Improving the capability of marine pollution control to respond to emergencies and environmental pollution at sea.....	22
15. Control of environmental risks accompanying bunkering operations at sea .....	25
<b>CONTAMINANTS IN FOOD D9</b> .....	<b>26</b>
<b>MARINE LITTER D10</b> .....	<b>27</b>
16. Analysis of organisation of marine litter reception, including abandoned fishing gear, in ports and preparing an action plan.....	27
17. Information dissemination about the marine litter problem and prevention of plastic package inputs to the sea.....	28
18. Addressing the topic of marine litter in the National Waste Management Plan and waste management plans of local authorities in the coastal area.....	29
<b>MARINE NOISE AND ENERGY D11</b> .....	<b>31</b>
19. Establishment of an impulsive sound register.....	31

## INTRODUCTION

According to Article 13 of the Marine Strategy Framework Directive (MSFD), the Member States shall identify the measures which need to be taken in order to achieve or maintain good environmental status in the Estonian marine area. Article 5 states that the Member States shall develop a programme of measures by 2015 at the latest and the programme has to enter into operation by 2016 at the latest.

The objective of this work is to prepare a programme of measures that complies with the requirements of the MSFD to achieve good environmental status of the Estonian marine area and conduct its cost-benefit and socio-economic analysis. The work is carried out with the support of the programme “Integrated Marine and Inland Water Management” of the European Economic Area Financial Mechanism 2009–2014.

This document is the **chapter of new measures** of the marine programme of measures, i.e. an extract from the full programme of measures.

The full document of the programme of measures includes an introduction, a description of how the programme is prepared, the environmental pressures in the Estonian marine area, the targets of good environmental status, the existing and new measures and the cost-benefit and socio-economic analysis of the programme of measures. The measures of the programme of measures have been described based on the suggestions and report forms of the European Commission.<sup>1</sup>

The measures presented in the marine programme of measures are based largely on the existing legislation and international agreements. The European Union Water Framework Directive, Fisheries Policy, Bird and Nature Directives, Protected Marine Areas Directive, Maritime Spatial Planning Directive, Directives on the environmental impact assessment and strategic environmental assessment are some of these policies and directives.

The new measures presented in the Marine Strategy’s programme of measures are necessary because the existing measures that have been applied through various regulations do not allow achieving the targets of the marine area good environmental status (GES). MSFD specifies two categories of new measures: 2.a. measures that build on the existing legislation but specify or strengthen their requirements to achieve GES; 2.b. measures that are completely new and cause a new legislative act to be adopted or some other regulatory or economic measures.

The new measures have been presented by marine specialists, whereas the need for these measures and their more detailed content have been consulted with the experts of the field. During this publication process, we expect to collect feedback and proposals about the new measures.

We are waiting for your proposals!

Please send written proposals to [kulli.putmaker@seit.ee](mailto:kulli.putmaker@seit.ee).

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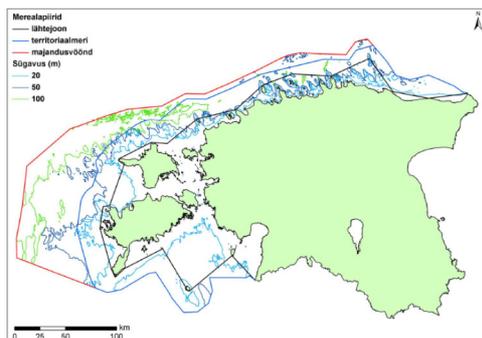
<sup>1</sup> Programmes of measures under the Marine Strategy Framework Directive. *Recommendations for implementation and reporting*. (Final version, 25 November 2014). Recommendation. MSFD Guidance Document 10, <https://circabc.europa.eu/d/a/workspace/SpacesStore/0ee797dd-d92c-4d7c-a9f9-5dff36d2065/GD10%20-%20MSFD%20recommendations%20on%20measures%20and%20exceptions%20-%20final.pdf>

## NEW MEASURES

### BIOLOGICAL DIVERSITY D1

Full name of measure	<b>1. Establishing a network of protected marine areas in Estonia`s economic zone</b>
Short name of measure	<b>Protected marine areas</b>
Objective of measure (awareness of problem)	Currently, there are no protected marine areas outside the territorial sea in the Estonia`s economic zone. The objective of the measure is to establish a functioning and efficient network of protected marine areas in Estonia`s economic zone (i.e. outside territorial sea) to ensure sustainable use of the sea.
Targets that the measure helps to achieve	<p><b>1.1. The range of all key species matches their natural range:</b></p> <ul style="list-style-type: none"> <li>- maintaining the current level of phytobenthic key species;</li> <li>- maintaining the grey seal range at the 2012 level (entire Estonia`s marine area, 36,000 km<sup>2</sup>);</li> <li>- achieving the historic range of ringed seals.</li> </ul> <p><b>1.2. The abundance of key species communities is at the level that ensures long-term preservation of populations:</b></p> <ul style="list-style-type: none"> <li>- maintaining the population of grey seals at the level of 2012 (the abundance greater than 3,600).</li> </ul> <p><b>1.3. The parameters of demecological and autecological key species are at the level that ensure long-term preservation of their populations.</b></p> <p><b>1.4. The distribution of important habitats does not decline so as to threaten the sustainability of the habitat:</b></p> <ul style="list-style-type: none"> <li>- maintaining the distribution of the phytobenthic key species` habitat.</li> </ul> <p><b>1.5. The condition of important habitats does not decline so as to threaten the sustainability of the habitat:</b></p> <ul style="list-style-type: none"> <li>- maintaining the extent of the phytobenthic key species` habitat.</li> </ul> <p><b>1.6. The status of important habitats ensures existence of diverse natural communities.</b></p> <p><b>1.7. The structure of the ecosystem is undisturbed and ensures sustainability of ecosystem services:</b></p> <ul style="list-style-type: none"> <li>- maintaining the morphometric structure of fish populations (reference year level 2012).</li> </ul>
Significant pressure that the measure influences (MSFD, Annex III, Table 2)	<ul style="list-style-type: none"> <li>1.1. Smothering</li> <li>1.2. Sealing</li> <li>2.1. Siltation</li> <li>2.2. Abrasion</li> <li>2.3. Selective extraction</li> <li>3.1. Underwater noise</li> <li>3.2. Marine litter</li> <li>4.1. Changes in thermal regime</li> <li>4.2. Changes in salinity regime</li> <li>5.1. Systematic release of synthetic and biologically active substances in water bodies</li> </ul>

	<p>5.2. Introduction of non-synthetic substances and compounds into water bodies</p> <p>5.3. Introduction of radionuclides into water bodies</p> <p>6.1. Introduction of other solid, liquefied or gas substances into water</p> <p>7.1. Inputs of fertilisers and other nitrogen and phosphorous-rich substances</p> <p>7.2. Inputs of organic matter</p> <p>8.1. Introduction of microbial pathogens into water bodies</p> <p>8.2. Introduction of non-indigenous species and translocation</p> <p>8.3. Selective extraction of species</p>
<b>Description of measure (required activities)</b>	<p>A network of protected marine areas is established in Estonia`s economic zone based on the previous and new proposals and management plans are prepared for protected areas (including reduction of pressures to achieve the relevant targets).</p> <p>Activities:</p> <ol style="list-style-type: none"> <li>1. An analysis of the existing inventories and modelling results.</li> <li>2. Conducting additional studies (modelling and fieldwork in chosen regions).</li> <li>3. Preparing a proposal on the location of protected areas and protection objectives (together with protection objectives and measures).</li> <li>4. Approving of management plans (<b>two potential areas: west to Vilsandi, north-west to Hiiumaa – shallower areas</b>)</li> <li>5. Management of protected area(s): marking on marine maps, periodical status assessment (monitoring once every 6 years).</li> <li>6. Arranging seminars/presentations/information days and conducting radio/TV interviews to inform the public.</li> <li>7. Ensuring supervision on the protected areas (regional and taking into account the particular pressure that threatens the area).</li> </ol>
<b>Type of measure</b>	Administrative (policy; organisation, coordination)
<b>Responsible authority (legislative and executive)</b>	Ministry of the Environment/Environmental Board
<b>Financing opportunities</b>	Under planning
<b>Timeframe</b>	2016–2020
<b>Indicators</b>	<ul style="list-style-type: none"> <li>- The number of areas taken under protection: at least 2 areas</li> <li>- The area/ratio of the protected marine area taken under protection in the entire economic zone</li> <li>- The ratio of the area of valuable marine habitats taken under protection to the total habitat area in the economic zone/entire Estonian marine area</li> </ul>



Estonia's economic zone – the area between the red and blue lines.

<b>Full name of measure</b>	<b>2. Adoption and implementation of the ringed seal protection plan</b>
<b>Short name of measure</b>	<b>The ringed seal protection plan</b>
<b>Objective of measure (awareness of problem)</b>	The objective of the measures is to ensure preservation and growth of the ringed seal population in the Estonian marine area. For that purpose, it is necessary to adopt and implement the ringed seal protection plan, which has not yet been adopted.
<b>Targets that the measure helps to achieve</b>	<b>1.1. The range of species – the range of all key species matches their natural range:</b> - achieving the historic range of the ringed seal (beginning of the 20th century).
<b>Significant pressure that the measure influences</b>	3.1. Underwater noise 3.2. Marine litter 4.1. Changes in the thermal regime 4.2. Changes in salinity regime 8.3. Selective extraction of species
<b>Description of measure (required activities)</b>	The protection plan of the ringed seal is adopted and implemented. Activities: 1. An analysis of the prepared plan 2. Publication 3. Adoption 4. Implementation: Protection of the habitats necessary for the ringed seal according to the protection plan and establishment of special protected areas, reduction of by-catches of fisheries and poaching, supervision over the protected areas when ringed seals use the habitat most intensively. 5. Informing of the public about the ringed seal biology: popular science books, radio/TV shows etc.
<b>Type of measure</b>	Administrative (policy; organisation, coordination)
<b>Responsible authority (legislative and executive)</b>	Ministry of the Environment/Environmental Board
<b>Financing opportunities</b>	Under planning
<b>Timeframe</b>	2016–2020
<b>Indicators</b>	- The size of the ringed seal population

	- The range of the ringed seal
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<b>Full name of measure</b>	<b>3. Developing regional aquaculture programmes to control a possible environmental pressure</b>
<b>Short name of measure</b>	<b>Aquaculture</b>
<b>Objective of measure (awareness of problem)</b>	EU economic blue growth strategy specifies offshore agriculture development as one main growth area in near future. In the Baltic Sea, which is characterised by eutrophication, nutrient neutral or nutrient negative aquaculture should be preferred. The objective of the measure is to create <b>regional</b> aquaculture plans that would include suggestions and restrictions based on the regional specifics of aquaculture species and forms.
<b>Targets that the measure helps to achieve</b>	<p><b>1.1. The range of all key species matches their natural range:</b></p> <ul style="list-style-type: none"> <li>- maintaining the range of the level of phytobenthic key species;</li> <li>- maintaining the grey seal range at the level of 2012 (the entire Estonian marine area, 36,000 km<sup>2</sup>);</li> <li>- achieving the historic range of ringed seals (the beginning of 20th century).</li> </ul> <p><b>1.2. The abundance of key species` populations is at the level that ensures long-term preservation of the populations:</b></p> <ul style="list-style-type: none"> <li>- maintaining the size of the grey seal population at the level of 2012 (the abundance greater than 3,600).</li> </ul> <p><b>1.3. The parameters of demecological and autecological key species` populations are at the level that ensure long-term preservation of their populations.</b></p> <p><b>1.4. The distribution of important habitats does not decline so as to threaten the sustainability of the habitat:</b></p> <ul style="list-style-type: none"> <li>- maintaining the distribution level of the phytobenthic key species` habitat.</li> </ul> <p><b>1.5. The extent of important habitats does not decline so as to threaten the sustainability of the habitat:</b></p> <ul style="list-style-type: none"> <li>- maintaining the extent of the phytobenthic key species` habitat.</li> </ul> <p><b>1.6. The status of most important habitats ensures existence of diverse natural communities.</b></p> <p><b>1.7. The structure of the ecosystem is undisturbed and ensures sustainability of ecosystem services:</b></p> <ul style="list-style-type: none"> <li>- maintaining the morphometric structure of fish populations (reference year 2012).</li> </ul>
<b>Significant pressure that the measure influences</b>	<p>2.3. Selective extraction of species</p> <p>7.1. Inputs of fertilisers and other nitrogen and phosphorous-rich substances</p> <p>7.2. Inputs of organic matter</p> <p>8.2. Introduction of non-indigenous species and translocations</p> <p>8.3. Selective extraction of species</p>

<b>Description of measure (required activities)</b>	<p>Creating conditions for sustainable growth of aquaculture, spatial planning of aquaculture, prevention of conflicts between aquaculture and the environment by preparing regional plans.</p> <p>Activities:</p> <ol style="list-style-type: none"> <li>1. At regional level, studies are carried out on the opportunities of aquaculture species and forms and the potential environmental impact.</li> <li>2. Regional aquaculture plans are prepared that propose nutrient neutral or nutrient negative solutions.</li> <li>3. Environmental impact assessment/strategic environmental assessments.</li> <li>4. Approving of plans.</li> <li>5. Seminars/presentations/information days/radio/TV interviews on aquaculture.</li> </ol>
<b>Type of measure</b>	Informative (policy; organisation, coordination)
<b>Responsible authority (legislative and executive)</b>	Ministry of Agriculture and Ministry of the Environment/Environmental Board (a link to the Ministry of the Interior through marine areas planning)
<b>Financing opportunities</b>	Under planning
<b>Timeframe</b>	2016–2020
<b>Indicators</b>	<ul style="list-style-type: none"> <li>- The number of implemented plans</li> <li>- The volume of aquaculture</li> </ul>

## NON-INDIGENOUS SPECIES D2

<b>Full name of measure</b>	<b>4. Awareness building about non-indigenous species to control their invasion</b>
<b>Short name of measure</b>	<b>Non-indigenous species</b>
<b>Objective of measure (awareness of problem)</b>	Transfer of non-indigenous species occurs often without people knowing about it. The reason is that people know little about this topic. Such transfer may occur during several activities (shipping, fishing, tourism etc.) The risks of random invasion can be reduced with an extensive informative campaign. A systemic informative campaign of wide interest groups (professional and recreational fishermen, producers of aquaculture products, nature protectors, owners of ships and other water craft, local authorities etc.) about invasion of non-indigenous species, their spreading routes and risks with the aim of reducing further invasion risks and impacts of non-indigenous species.
<b>Targets that the measure helps to achieve</b>	<b>2.1. No new non-indigenous species are added by primary invasion.</b> <b>2.2. Non-indigenous species do not threaten local species, communities and long-term preservation of ecosystems:</b> biological pollution level (BPL index, sensu Olenin <i>et al.</i> 2007) <1
<b>Significant pressure that the measure influences</b>	8.2. Introduction of non-indigenous species and translocation
<b>Description of measure (required activities)</b>	Activities: 1. Collecting and systematising information (altogether 5 collections of information (á 1 a year). 2. Forwarding information to the public and interest groups: a) publications/informative flyers (2,000 pcs. a year), b) seminars/presentations/informative days for the sectors (altogether 15, á 3 a year) c) radio/TV interviews/social media (altogether 10, á 2 a year).
<b>Type of measure</b>	Informative (training)
<b>Responsible authority (legislative and executive)</b>	The Estonian Marine Institute of Tartu University (TÜ Eesti Mereinstituut) is responsible for collecting and systematising information.
<b>Financing opportunities</b>	Environmental Investment Centre
<b>Timeframe</b>	The activity takes place every year (2016–2020)
<b>Indicators</b>	- The number of publications/informative flyers - The number of seminars/presentations - The number of television/radio interviews

<b>Full name of measure</b>	<b>5. Ratification of the international Ballast Water Management Convention (BWMC) and facilitating its implementation by involvement in the planned regional information system and implementation thereof.</b>
<b>Short name of measure</b>	<b>Implementation of the Ballast Water Convention</b>
<b>Objective of measure (awareness of problem)</b>	Shipping is the most important transfer route for non-indigenous species in the Baltic Sea (including Estonian marine areas). Non-indigenous species that invade with ship ballast water (both water as well as sediments) pose the highest risk. The measure is necessary for the ratification and implementation of the international Ballast Water Management Convention to reduce the risk of invasion of new non-indigenous species in the Baltic Sea and globally.
<b>Targets that the measure helps to achieve</b>	<b>2.1. No new non-indigenous species are added by primary invasion.</b> <b>2.2. Non-indigenous species do not threaten local species, communities and long-term preservation of ecosystems:</b> - biological pollution level (BPL index, sensu Olenin <i>et al.</i> 2007) <1
<b>Significant pressure that the measure influences</b>	8.2. Introduction of non-indigenous species and translocation
<b>Description of measure (required activities)</b>	Activities: 1. Ratification and implementation of the international Ballast Water Management Convention, which was adopted in 2004, in Estonia in cooperation with other Baltic Sea HELCOM and IMO countries. 2. Participation in the planned regional information system that includes collection of relevant information during port studies, monitoring (early warning system) and risk assessment to facilitate implementation of the convention. Collecting and forwarding data regarding Estonia to HELCOM. 3. Establishment of a system of reasoned exceptions A-3 and exclusions A-4. 4. Participation in the ballast water working group of HELCOM; 4. Ensuring monitoring of non-indigenous species and biological monitoring of ports in accordance with the requirements and organisation/ensuring/specification of control and supervision.
<b>Type of measure</b>	Administrative (regulatory)
<b>Responsible authority (legislative and executive)</b>	Ministry of the Environment
<b>Financing opportunities</b>	State budget, Environmental Investment Centre
<b>Timeframe</b>	2018–2020
<b>Indicators</b>	- Ratification and implementation of the BWMC (done/not done) - Forwarding data to the common system (submitted/not submitted)

	<ul style="list-style-type: none"> <li>- Establishment of exceptions and exclusions basis and method (done/not done)</li> <li>- Criteria based on which the system is amended (done/not done). The monitoring results confirm that no non-indigenous species are transferred through ship ballast water.</li> <li>- Supervision confirms that the established requirements are fulfilled.</li> </ul>
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## FISHERIES D3

<b>Full name of measure</b>	<b>6. Development of regional catch limitations and updating commercial fish size limits</b>
<b>Short name of measure</b>	<b>Catch limitations</b>
<b>Objective of measure (awareness of problem)</b>	The objective of the measure is to reduce the impact of the fishing effort on the size, gender and age distribution of fish populations in regions that are relevant for the reproduction of fish stocks. Monitoring results and recent research show that a large part of fish generations is often caught before they have become adult and that larger fish may be especially important to ensure the reproduction of fish populations. In order to achieve it, the current limit sizes will be reviewed and, if necessary, new limit sizes will be established. The measure is necessary because in case of some fish species (e.g. the zander) a significant change in the fish life cycle (population reduction) has been detected.
<b>Targets that the measure helps to achieve</b>	<p><b>3.1. The fishing pressure on the most important fish populations does not threaten the long-term preservation of their populations:</b></p> <ul style="list-style-type: none"> <li>- to keep fish populations within safe limits and for their long-term preservation, the pressure from fishing is regulated by the annual quota imposed by the European Commission that ensures use of fish stocks at FMSY and below it by 2020.</li> </ul> <p><b>3.2. The reproduction capability of the most important fish populations is ensured.</b></p> <p><b>3.3. The age and size distribution of industrial fish populations ensures long-term preservation of the populations.</b></p>
<b>Significant pressure that the measure influences</b>	8.3. Selective extraction of species, including random non-target catch (e.g. as a result of professional and recreational fishing).
<b>Description of measure (required activities)</b>	<p>Activities:</p> <ol style="list-style-type: none"> <li>1. Fish populations are determined for which GES the measure is necessary.</li> <li>2. Identification of fish populations that require protection by imposing catch limitations and related ecologically and biologically important regions and periods.</li> <li>3. Temporary catch limitations are established on the ecologically and biologically important regions of fish populations (primarily to protect fish that are on spawning grounds and are on their way to their spawning grounds).</li> </ol>

	<ol style="list-style-type: none"> <li>4. The established size limitations on the caught industrial fish are assessed by fish species and, if necessary, new limit sizes will be established.</li> <li>5. Developing a draft measure (together with the implementation plan).</li> <li>6. Informing and approval by interest groups (2–3 meetings with the interest groups of the relevant regions).</li> <li>7. Adoption of the draft measure (together with the implementation plan).</li> <li>8. Supervision.</li> </ol>
<b>Type of measure</b>	Administrative (regulatory)
<b>Responsible authority (legislative and executive)</b>	Ministry of the Environment, Environmental Investment Centre
<b>Financing opportunities</b>	Under planning
<b>Timeframe</b>	2016–2020
<b>Indicators</b>	<p>MSFD target 3.1, 3.2, 3.3 and 1.7 GES descriptors</p> <ul style="list-style-type: none"> <li>- Mean maximum length (MMLI) across all fish species in monitoring catches</li> </ul>

<b>Full name of measure</b>	<b>7. Facilitation of realisation of low-value fish</b>
<b>Short name of measure</b>	<b>Use of low-value fish</b>
<b>Objective of measure (awareness of problem)</b>	<p>The objective of the measure is to optimise better use of industrial catches. Until now, by-catch during industrial fishing has been low-value (e.g. non-indigenous species, three-spined stickleback, fish that has lost their commercial value due to damage or parasites) has been more a source of cost than income. This has supported rejecting of by-caught dead fish that is an important pressure on young fish and several industrially infrequently used species.</p> <p>The measure is necessary to facilitate use of such raw material and reduce the pressure on fish due to rejecting. In addition, the measure should restrict releasing back to the natural environment of by-caught non-indigenous species (especially invasive non-indigenous species).</p> <p>The measure should be implemented in a way that enables entrepreneurs to reduce additional expenditures due to handling of non-indigenous species (utilisation of not targeted low-value or commercially not suitable non-indigenous species (fish, shellfish etc.).</p>
<b>Targets that the measure helps to achieve</b>	<p><b>3.1. The fishing pressure on the most important fish populations does not threaten long-term preservation of their populations:</b></p> <ul style="list-style-type: none"> <li>- to keep fish populations within safe limits and to ensure their long-term preservation, the pressure from fishing is regulated by the annual quota imposed by the European Commission that ensures use of fish stocks at FMSY and below it by 2020.</li> </ul>

	<p><b>3.2. The reproduction capability of the most important fish populations is ensured.</b></p> <p><b>3.3. The age and size distribution of industrial fish populations ensures long-term preservation of the populations.</b></p>
<b>Significant pressure that the measure influences</b>	<p>8.2. Introduction of non-indigenous species and translocation.</p> <p>8.3. Selective extraction of species, including non-target random catch (e.g. due to professional and recreational fishing).</p>
<b>Description of measure (required activities)</b>	<p>Activities:</p> <ol style="list-style-type: none"> <li>1. Developing regulations and aids (benefits, start-up aid, research and development activity) would enable to use low-value fish that has been caught as by-catch or residues of fish processing industry that are considered waste.</li> <li>2. Determining the ratio of valuable fish in industrial catches.</li> <li>3. Determining the optimal use of low-value fish (fish meal, export etc.)</li> <li>4. Coordination with interest groups (2–3 meetings with the region`s interest groups).</li> <li>5. Development of a draft measure (together with an implementation plan).</li> <li>6. Informing and approval by interest groups (2–3 meetings with the region`s interest groups).</li> <li>7. Adoption of the draft measure.</li> <li>8. Administration of the measure.</li> </ol>
<b>Type of measure</b>	Economic (regulatory; research and development)
<b>Responsible authority (legislative and executive)</b>	Ministry of Agriculture, Ministry of the Environment
<b>Financing opportunities</b>	Under planning
<b>Timeframe</b>	2016–2020
<b>Indicators</b>	MSFD target 2.2, 3.1, 3.3 and 1.7 GES descriptors

<b>Full name of measure</b>	<b>8. Adjusting catching capacity to meet the conditions of good environmental status</b>
<b>Short name of measure</b>	<b>Optimising catching capacities</b>
<b>Objective of measure (awareness of problem)</b>	The objective of the measure is to reduce the fishing pressure on fish populations. The status of fish stocks indicates the need for this measure because fish stocks do not often meet good environmental status (see e.g. Martin, G. (toim) 2012 „Eesti mereala hea keskkonnaseisundi indikaatorid ja keskkonناسihtide kogum“, Eesti Mereintituut, Tallinn).

<b>Targets that the measure helps to achieve</b>	<p><b>3.1. The fishing pressure on the most important fish populations does not threaten the long-term preservation of their populations:</b></p> <ul style="list-style-type: none"> <li>- to keep fish populations within safe limits and ensure their long-term preservation, the pressure from fishing is regulated by the annual quota imposed by the European Commission that ensures use of fish stocks at FMSY and below it by 2020.</li> </ul> <p><b>3.2. The reproduction capability of the most important fish populations is ensured.</b></p> <p><b>3.3. The age and size distribution of industrial fish populations ensures long-term preservation of the populations.</b></p>
<b>Significant pressure that the measure influences</b>	8.3. Selective extraction of species, including non-target random catch (e.g. due to professional and recreational fishing).
<b>Description of measure (required activities)</b>	<p>Activities:</p> <ol style="list-style-type: none"> <li>1. Adjusting the existing fishing capability to meet the GES conditions (the limit number of professional gear by counties that is adopted annually with a regulation of the government).</li> <li>2. Fish populations are identified whose GES the measure is intended to ensure.</li> <li>3. Development of a draft measure (together with an implementation plan).</li> <li>4. Informing and approval by interest groups (2–3 meetings with the interest groups of the relevant regions).</li> <li>5. Adoption of the draft measure (together with the implementation plan).</li> <li>6. Supervision.</li> </ol>
<b>Type of measure</b>	Administrative (regulatory)
<b>Responsible authority (legislative and executive)</b>	Ministry of the Environment, Environmental Inspectorate, Ministry of Agriculture
<b>Financing opportunities</b>	Under planning
<b>Timeframe</b>	2016–2020
<b>Indicators</b>	MSFD target 3.1, 3.2, 3.3 and 1.7 descriptors.
<b>Full name of measure</b>	<b>9. Improving the marking system of fishing gear in order to better control fishing and prevent abandonment of fishing gear.</b>
<b>Short name of measure</b>	<b>Marking fishing gear</b>
<b>Objective of measure (awareness of problem)</b>	<p>The objective of the measure is to update the marking system of fishing gear so that all gear used for fishing can be individually linked to the relevant fishing authorisation. This measure deals mainly with the gear used for professional and industrial fishing and for recreational fishing used in accordance with the fishing card.</p> <p>The measure helps to reduce the possibility that more gear is put into water than is allowed under catching limitations. This enables reduce</p>

	<p>fishing pressure on fish populations. The measure also helps reduce the impact of abandoned gear on the marine environment (see measure “Preparing an action plan to improve control over fishing gear and clean the sea of abandoned fishing gear”), because marking gear individually would improve notifying about lost gear, finding and removal thereof from the marine environment.</p> <p>Development of the system would help equip all gear that is listed on fishing authorisations issued with individual markings. This means that under an appropriate authorisation that determines the allowed amount of gear the owner of the authorisation is given markings that must always be attached to the particular gear when the gear is put into water.</p>
<b>Targets that the measure helps to achieve</b>	<p><b>3.1. The fishing pressure on the most important fish populations does not threaten the long-term preservation of their populations:</b></p> <ul style="list-style-type: none"> <li>- to keep fish populations within safe limits and ensure their long-term preservation, the pressure from fishing is regulated by the annual quota imposed by the European Commission that ensures use of fish stocks at FMSY and below it by 2020.</li> </ul> <p><b>3.3. The age and size distribution of industrial fish populations ensures long-term preservation of the populations.</b></p> <p><b>1.7. The structure of the ecosystem:</b></p> <ul style="list-style-type: none"> <li>- maintaining the morphometric structure of fish populations (reference year 2012)</li> </ul> <p><b>10.1. Harmfulness of litter in the marine and coastal environment</b></p> <ul style="list-style-type: none"> <li>- a declining trend characterises marine litter amounts on the sea bottom. (Reference year 2016).</li> </ul> <p><b>10.2. Deviations in marine biota status and habitat condition caused by marine litter are insignificant.</b></p>
<b>Significant pressure that the measure influences</b>	<p>8.3. Selective extraction of species, including non-target random catch (e.g. due to professional and recreational fishing).</p> <p>3.2. Marine litter</p>
<b>Description of measure (required activities)</b>	<p>Activities:</p> <ol style="list-style-type: none"> <li>1. Developing and testing of the relevant marking method.</li> <li>2. Coordination with interest groups (2–3 meetings with regional interest groups).</li> <li>3. Developing a draft measure (together with an implementation plan).</li> <li>4. Informing of and approval by interest groups (2–3 meetings with the interest groups of the relevant regions).</li> <li>5. Adoption of the draft measure.</li> <li>6. Implementation of the measure (public procurement of markings, issuing of markings).</li> <li>7. Supervision.</li> </ol>
<b>Type of measure</b>	Administrative (legislative; economic; organisation, coordination)
<b>Responsible authority (legislative and executive)</b>	Environmental Inspectorate, Ministry of the Environment, Ministry of Agriculture

<b>Financing opportunities</b>	Under planning
<b>Timeframe</b>	Development of an aid/benefits system for 2016–2020, establishment of infrastructure, partial implementation
<b>Indicators</b>	MSFD target 3.1, 3.3, 1.7, 10.1 and 10.2 GES descriptors - The number of gear permit issued in a year - The number of unique markings issued in a year - The number of gear that carries a marking abandoned and found in the sea in a year

## EUTROPHICATION D5

<b>Full name of measure</b>	<b>10. Facilitation of introduction environmentally sustainable ship fuels</b>
<b>Short name of measure</b>	<b>LNG as ship fuel</b>
<b>Objective of measure (awareness of problem)</b>	Liquefied natural gas is a much more environmentally sustainable ship fuel than traditional fuels. Using LNG is one option to reduce the amount of nitrogen deposited from air into the sea. Therefore, the transfer of ships to liquefied natural gas has been approved internationally. This can happen when new ships are built to use liquefied natural gas and when the fuel system of the existing ships is rebuilt. The objective of the measure is to restrict air pollution originating from vessel traffic so that the content of nutrients in the water column would not increase or cause direct or indirect negative impact on the marine ecosystem and biological diversity.
<b>Targets that the measure contributes to</b>	<b>5.1. The content of nutrients in the water column does not increase or cause a direct or indirect negative impact on the ecosystem and biological diversity</b> – achieving GES of the Baltic Sea by 2021 depends on it. To achieve this objective, it is intended to reduce input of nutrients from land and air by 1800 tons of nitrogen and 320 tons of phosphorous. <sup>2</sup> Achieving eutrophication indicators of offshore targets (HELCOM HOD 39/2012): - winter DIN: the Gulf of Finland – 3.8 $\mu\text{mol L}^{-1}$ ; the Gulf of Riga – 5.2 $\mu\text{mol L}^{-1}$ ; - winter DIP: the Gulf of Finland – 0.59 $\mu\text{mol L}^{-1}$ , the Gulf of Riga – 0.41 $\mu\text{mol L}^{-1}$ . <sup>3</sup>  <b>5.2. The interim targets of nutrient enrichment direct impact have been achieved in terms of water transparency (Secchi depth) as well as reduced content of chlorophyll-<math>\alpha</math>.</b> Eutrophication indicators of offshore targets (HELCOM HOD 39/2012): - summer chlorophyll- $\alpha$ content: the Gulf of Finland – 2.0 $\mu\text{g m}^{-3}$ , the Gulf of Riga – 2.7 $\mu\text{g m}^{-3}$ ;

<sup>2</sup> <http://helcom.fi/baltic-sea-action-plan/nutrient-reduction-scheme/targets>

<sup>3</sup> <http://helcom.fi/Lists/Publications/BSEP143.pdf>

	- summer Secchi depth: the Gulf of Finland – 5.5 m, the Gulf of Riga – 5.0 m. <sup>4</sup>
<b>Significant pressure that the measure influences</b>	5.2. Introduction of non-synthetic substances and compounds into water body. 6.1. Introduction of other solid, liquid or gas substances in water.
<b>Description of measure (required activities)</b>	Activities: 1. Facilitation of using liquefied natural gas as ship fuel and gradual increasing of using it (starting from passenger ships) in the Baltic Sea region. 2. Establishment of state support systems and benefits: a) to build infrastructure (piping system, terminals etc.) so that sufficient amount of liquefied natural gas is ensured in the operational region of ships; b) to build ships that use liquefied natural gas and rebuild and operate the existing ships.
<b>Type of measure</b>	Economic and constructional (regulatory)
<b>Responsible authority (legislative and executive)</b>	Ministry of the Environment, Ministry of Economic Affairs and Communications
<b>Financing opportunities</b>	Under planning
<b>Timeframe</b>	2016–2020
<b>Indicators</b>	- The number of vessels registered in Estonia that use liquefied natural gas as fuel - Using liquefied natural gas in shipping (tons in year)

<b>Full name of measure</b>	<b>11. Reduction of dumping of untreated wastewater directly into marine waters, including ensuring wastewater intake from cruise ships in ports</b>
<b>Short name of measure</b>	<b>Reduction of dumping untreated wastewater from ships into the sea</b>
<b>Objective of measure (awareness of problem)</b>	In all ports that offer port services for a fee must be ensured the option to empty ships of wastewater (toilet septic tanks etc.), including large cruise ships. Access to the service enables to avoid polluting sea with organic matter, synthetic washing agents (detergents), infectious microbes and litter thrown into ship toilets, including toiletries, due to non-compliant handling of wastewater. In addition, the measure helps to reduce marine litter amounts (D10) and limits contamination with hazardous substances (D8), because ship wastewater usually includes also chemicals (washing agents etc.) used in

<sup>4</sup> <http://helcom.fi/Lists/Publications/BSEP143.pdf>

	<p>shipping and utilised solid items (toiletries etc.) in addition to nutrients and organic matter that increase eutrophication. Hence, stopping input of wastewater from ships to the sea helps reduce littering and polluting the sea with synthetic substances.</p> <p>Currently, there are no technical facilities to receive wastewater from large ships. Tallinn wastewater treatment system may require improvement.</p>
<b>Targets that the measure helps to achieve</b>	<p><b>5.1. The content of nutrients in the water column does not increase or cause direct or indirect negative impact on the ecosystem and biological diversity</b> – achieving the Baltic Sea GES by 2021 depends on it. To achieve this objective, it is foreseen to reduce the input of nutrients from land and air altogether by 1,800 tons N and 320 tons P.<sup>5</sup></p> <p>Achieving eutrophication indicators of offshore targets (HELCOM HOD 39/2012):</p> <ul style="list-style-type: none"> <li>- winter DIN: the Gulf of Finland – 3.8 <math>\mu\text{mol L}^{-1}</math>; the Gulf of Riga – 5.2 <math>\mu\text{mol L}^{-1}</math>;</li> <li>- winter DIP: the Gulf of Finland – 0.59 <math>\mu\text{mol L}^{-1}</math>, the Gulf of Riga – 0.41 <math>\mu\text{mol L}^{-1}</math>.<sup>6</sup></li> </ul> <p><b>5.2. The interim targets of nutrient enrichment direct impact have been achieved in terms of water transparency (Secchi depth) as well as reduced content of chlorophyll-<math>\alpha</math>.</b> Eutrophication indicators of offshore targets (HELCOM HOD 39/2012):</p> <ul style="list-style-type: none"> <li>- summer chlorophyll-a content: the Gulf of Finland – 2.0 <math>\mu\text{g m}^{-3}</math>, the Gulf of Riga 2.7 <math>\mu\text{g m}^{-3}</math>;</li> <li>- summer Secchi depth: the Gulf of Finland – 5.5 m, the Gulf of Riga – 5.0 m.<sup>7</sup></li> </ul>
<b>Significant pressure that the measure influences</b>	<p>3.2. Marine litter</p> <p>5.1. Systematic release of synthetic and biologically active substances in water bodies</p> <p>5.2. Introduction of non-synthetic substances and compounds into water bodies</p> <p>6.1. Introduction of other solid, liquefied or gas substances in water</p> <p>7.1. Inputs of fertilisers and other nitrogen and phosphorous-rich substances</p> <p>7.2. Inputs of organic matter</p> <p>8.1. Introduction of microbial pathogens in water bodies</p>
<b>Description of measure (required activities)</b>	<p>Activities:</p> <ol style="list-style-type: none"> <li>1. In all ports that offer port services for a fee, an option of emptying ships of wastewater (toilet septic tanks etc.), including large cruise ships, is ensured.</li> <li>2. Developing state aids for obtaining and installation of wastewater reception or wastewater cleaning equipment in ports used for different ships.</li> <li>3. Coordination of directing wastewater to local sewage plants treating wastewater.</li> </ol>
<b>Type of measure</b>	Administrative (regulatory; economic)
<b>Responsible authority</b>	Ministry of the Environment/Ministry of Economic Affairs and Communications and applying ports/wastewater treating plants

<sup>5</sup> <http://helcom.fi/baltic-sea-action-plan/nutrient-reduction-scheme/targets>

<sup>6</sup> <http://helcom.fi/Lists/Publications/BSEP143.pdf>

<sup>7</sup> <http://helcom.fi/Lists/Publications/BSEP143.pdf>

(legislative and executive)	
Financing opportunities	Under planning
Timeframe	2016–2020
Indicators	<ul style="list-style-type: none"> <li>- The number of ships emptied of wastewater in Estonian ports</li> <li>- The amount of wastewater received from ships in Estonia (m<sup>3</sup> or tons in a year)</li> </ul>

Full name of measure	<b>12. Additional nutrient, hazardous substance and litter inflow reduction from stormwater directly to the sea – the construction of stormwater drainage and treatment systems</b>
Short name of measure	<b>Treatment of stormwater before release into sea</b>
Objective of measure (awareness of problem)	The measure enables to reduce contamination with organic matter (including oil products), nitrogen, phosphorous, synthetic and bioactive substances, microbiological pollution and litter by stormwater from land to sea.
Targets that the measure helps to achieve	<p><b>5.1. The content of nutrients in the water column does not increase or cause direct or indirect negative impact on the ecosystem and biological diversity</b> – achieving the Baltic Sea GES by 2021 depends on it. To achieve this objective, it is foreseen to reduce the input of nutrients from land and air by 1,800 tons N and 320 tons P<sup>8</sup>.</p> <p>Achieving eutrophication indicators of offshore targets (HELCOM HOD 39/2012):</p> <ul style="list-style-type: none"> <li>- winter DIN: the Gulf of Finland – 3.8 µmol L<sup>-1</sup>; the Gulf of Riga – 5.2 µmol L<sup>-1</sup>;</li> <li>- winter DIP: the Gulf of Finland – 0.59 µmol L<sup>-1</sup>, the Gulf of Riga – 0.41 µmol L<sup>-1</sup>.<sup>9</sup></li> </ul> <p><b>5.2. The interim targets of nutrient enrichment direct impact have been achieved in terms of water transparency (Secchi depth) as well as reduced content of chlorophyll-<i>a</i>.</b> Eutrophication indicators of offshore targets (HELCOM HOD 39/2012):</p> <ul style="list-style-type: none"> <li>- summer chlorophyll-<i>a</i> content: the Gulf of Finland – 2.0 µg m<sup>-3</sup>, the Gulf of Riga – 2.7 µg m<sup>-3</sup>;</li> <li>- summer Secchi depth: the Gulf of Finland – 5.5 m, the Gulf of Riga – 5.0 m.<sup>10</sup></li> </ul> <p><b>10.1. Harmfulness of litter in the marine and coastal environment</b></p> <ul style="list-style-type: none"> <li>- a declining trend characterises marine litter amounts on the sea bottom. Reference year 2016.</li> </ul>

<sup>8</sup> <http://helcom.fi/baltic-sea-action-plan/nutrient-reduction-scheme/targets>

<sup>9</sup> <http://helcom.fi/Lists/Publications/BSEP143.pdf>

<sup>10</sup> <http://helcom.fi/Lists/Publications/BSEP143.pdf>

<b>Significant pressure that the measure influences</b>	<p>3.2. Marine litter</p> <p>5.1. Systematic release of synthetic and biologically active substances in water bodies</p> <p>5.2. Introduction of non-synthetic substances and compounds into water bodies</p> <p>6.1. Introduction of other solid, liquefied or gas substances in water</p> <p>7.1. Inputs of fertilisers and other nitrogen and phosphorous-rich substances</p> <p>7.2. Inputs of organic matter</p> <p>8.1. Introduction of microbial pathogens in water bodies</p>
<b>Description of measure (required activities)</b>	<p>Activities:</p> <ol style="list-style-type: none"> <li>1. Mapping stormwater drainage outlets that enter the sea (local authorities are responsible).</li> <li>2. In order to develop new regulations (not yet available), it is necessary to assess/study how stormwater inlets influence loads.</li> <li>3. Checking the water quality of the existing stormwater inlets (to identify input of illegal faecal water into stormwater drainage); it is the responsibility of local authorities.</li> <li>4. Taking into account other countries' experience to find the most suitable and economical method to deal with stormwater and flush water.</li> <li>5. Reviewing of design norms and conditions from stormwater aspect (seepage area/strip requirement etc.); local authorities are responsible.</li> <li>6. State aids to construct stormwater infrastructure and facilitation of implementation of ecological solutions (for example, financing from green funds).</li> <li>7. Construction of new infrastructure – collection pipes, trenches, seepage areas, stormwater filters, oil collectors, marshes, cascades etc.; local authorities are responsible.</li> <li>8. Improving supervision.</li> </ol>
<b>Type of measure</b>	Constructional, informative, legislative (economic; technical)
<b>Responsible authority (legislative and executive)</b>	Ministry of the Environment, applying local authorities
<b>Financing opportunities</b>	Under planning
<b>Timeframe</b>	2016–2020
<b>Indicators</b>	<ul style="list-style-type: none"> <li>- The number of stormwater treatment facilities (technical, ecological) in the counties that are in the catchment area</li> <li>- The amount of treated stormwater</li> </ul>

## ALTERATION OF HYDROLOGY CONDITIONS D7

<b>Full name of measure</b>	<b>13. Establishment of restrictions on vessel traffic in case of impact caused by ship-generated waves</b>
<b>Short name of measure</b>	<b>Control of impact by ship-generated waves</b>
<b>Objective of measure (awareness of problem)</b>	The measure foresees imposition of limitations on vessel traffic in case of impact (erosion) on the coast, constructions thereon and other uses of the sea. From the wave-generation aspect, the attention is primarily on the restrictions on vessel traffic in coastal sea.
<b>Targets that the measure helps to achieve</b>	<b>7.2. Impact of permanent hydrographic changes:</b> - the spatial scope of significantly affected areas does not increase by 2020.
<b>Significant pressure that the measure influences</b>	2.2. Abrasion 3.1. Underwater noise
<b>Description of measure (required activities)</b>	Establishment of restrictions on ship traffic (if necessary, on speed) in certain areas if regular ship traffic causes permanent hydrographic changes (coast erosion) due to waves or has a negative impact on other uses of the sea (recreation).
<b>Type of measure</b>	Administrative (legislative)
<b>Responsible authority (legislative and executive)</b>	Ministry of the Environment
<b>Financing opportunities</b>	Under planning
<b>Timeframe</b>	2016–2020
<b>Indicators</b>	- The extent of erosion caused by ship traffic that has been confirmed  - The number of dangerous incidents with holiday-makers at sea due to ship-generated waves in a year

## CONTAMINANTS IN WATER D8

<b>Full name of measure</b>	<b>14. Improving the capability of marine pollution control to respond to emergencies and environmental pollution at sea</b>
<b>Short name of measure</b>	<b>Improving marine pollution control capability</b>
<b>Objective of measure (awareness of problem)</b>	<p>Marine and coastal pollution has been assessed as a high-risk emergency in the Estonian marine area. Currently there is no capability to efficiently respond to larger (thousands of tons) accidents in Estonia.<sup>11</sup> Although present capability enables detecting marine pollutions and liquidate smaller ones, it is not possible to identify and bring to justice all ships that cause pollution. The objective of the measure is to ensure quick detection and liquidation of marine pollution caused by ships and at the same time preventing situations where offshore pollution reaches the coastal sea and the coast. If marine pollution occurs, the goal is to ensure that the person that caused pollution is identified and brought to justice. It must also be ensured that pollution that occurred under the jurisdiction of the state does not expand to jurisdiction of another state.</p> <p>The Ministry of the Interior has prepared the Interior Safety Development Plan 2015–2020 where an important sub-objective is “Ensuring efficient rescue capability” and one of the four instruments is “Ensuring rescue capability when responding to environmental accidents, including at sea”.</p>
<b>Targets that the measure helps to achieve</b>	<p><b>8.2. Impact of contaminants:</b></p> <ul style="list-style-type: none"> <li>- the number of birds that have died due to oil pollution does not grow compared to 2010–2012.</li> </ul>
<b>Significant pressure that the measure influences</b>	<p>5. Contamination with hazardous substances:</p> <p>5.1. Release of synthetic and biologically active substances in water bodies</p> <p>5.2. Introduction of non-synthetic substances and compounds into water bodies</p> <p>5.3. Introduction of radionuclides into water bodies</p>
<b>Description of measure (required activities)</b>	<p>Activities:</p> <p>Activities of policy instrument 4 “Ensuring rescue capability to respond to environmental accidents” of the Interior Security Development Plan. The following activities (1–8) belong to pollution control capability at sea:</p> <ol style="list-style-type: none"> <li>1. The gaps in the pollution control capability are mapped (Police and Border Guard Board and Rescue Board)</li> <li>2. Sufficient frequency of monitoring flights are ensured for quick detection of pollution at sea (Police and Border Guard Board)<sup>12</sup></li> <li>3. Pollution control and collection capability is updated (Police and Border Guard Board and Maritime Administration)</li> </ol>

<sup>11</sup> Interior Security Development Plan 2015–2020, page 58. Interior Security Development Plan 2015+4 “Efficient Rescue Capability Programme”. Objective 2 of using EU resources in 2014–2020 is “Growth of capability to respond to emergencies caused by climate change and extensive pollution”; *Explanation: improving activities that increase response to climate change by improving risk prevention and management and improving capability to respond to emergencies caused by climate change and extensive pollution*; 8.2. Improving readiness to respond to environmental emergencies;

<sup>12</sup> Interior Security Development Plan, page 58: throughout a year at least three patrols in a week and at least 800 days at sea a year for ship patrols.

	<p>4. In case of pollution, response capability by Rescue Board, Environmental Inspectorate, local authorities and volunteers is ensured</p> <p>5. If necessary, the Police and Border Guard Board renews cooperation agreements with neighbouring countries and private companies</p> <p>6. The Rescue Board ensures involvement of volunteers in case of coastal pollution</p> <p>7. The Police and Border Guard Board prepares an analysis about involvement of volunteers in marine pollution clean-up</p> <p>8. Additional marine pollution control vehicles will be obtained: multifunctional pollution control ship and monitoring plane<sup>13</sup></p> <p>To support the Interior Security Development Plan instruments, the following activities are planned:</p> <p>9. A regulation is prepared about ports` pollution prevention activities (the regulation, which is being drafted, addresses the content of ports` pollution control plan and pollution control equipment; it is also planned to amend the regulation that governs bunkering because it should be more effective in ensuring fulfilment of environmental requirements and creating conditions that help avoid pollution due to bunkering.</p> <p>10. The basis of training and assessment of competence of persons (port, volunteers etc.) that are responsible for pollution control are developed with the aim of ensuring that there are trainers with the same level of competence in the country that meet IMO requirements and that help ensure a more efficient and coordinated pollution control in ports, among volunteers etc.</p> <p>11. In case of marine pollution, identification and bringing to justice of the person responsible for pollution is improved by taking necessary samples as evidence.</p> <p>12. An <b>instruction and method</b> have to be developed for procedural acts in case of already existing pollution to determine the size of the polluted area.</p>
<b>Type of measure</b>	Administrative (regulatory, technical)
<b>Responsible authority (legislative and executive)</b>	Ministry of the Environment; Environmental Inspectorate; Ministry of the Interior
<b>Financing opportunities</b>	The cost of this measure reflects the cost of activities (9–12), i.e. analyses, training and instruction materials. In case of the Interior Security Development Plan investments (activity 8): Cohesion Fund financing 85%, € 24,400,000; state budget financing 15% € 4,305,882; total cost of investment measure is € 28,705,882
<b>Timeframe</b>	2016–2023 Procurement of a pollution control ship and monitoring plane in 2015. The Police and Border Guard Board starts using them in 2018. Drafting the regulation and training 2016–2020
<b>Indicators</b>	Maintenance of quick detection and liquidation capability of pollution originating from ships at 2.4 km <sup>2</sup> within 24 hours. Once the ship has arrived in 2018, the response capability of the Police and Border Guard Board will

<sup>13</sup> The public procurement will be declared in 2015 and a contract will be made. The Police and Border Guard Board will start using the ship and the plane in 2018.

	<p>remain the same, i.e. 1.2 km<sup>2</sup> within 24 hours. The speed of detection and clean-up of pollution will increase.</p> <p>The Maritime Administration ensures an additional capability of 1.2 km<sup>2</sup> within 24 hours. Consequently, the response capability of the entire country is 2.4 km<sup>2</sup> (within 24h).<sup>14</sup></p>
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<sup>14</sup> When the multifunctional pollution control ship, which was completed in 2012, was taken into use, the capability to respond to pollution accidents grew from 0.6 km<sup>2</sup> to 1.2 km<sup>2</sup> (the total capability of the country is 2.4 km<sup>2</sup> within 24h). This is 44% of HELCOM suggested pollution control response capability, or 4.5 km<sup>2</sup> within 24h.

<b>Full name of measure</b>	<b>15. Control of environmental risks accompanying bunkering operations at sea</b>
<b>Short name of measure</b>	<b>Control of bunkering environmental risks</b>
<b>Objective of measure (awareness of problem)</b>	The objective of the measure is to make bunkering safer for the environment and assign responsibility more efficiently. In Estonia, bunkering operations are mainly conducted at sea, by utilising the ship-to-ship method. In 2014, there were three pollution incidents related to bunkering operations at sea (supplying ships with fuel). In two cases, pollution reached the coast and caused damage to the coastal area that belongs to a nature protection area. Pollution clean-up caused additional costs for the local authority and other authorities and companies that were involved in the clean-up operation.
<b>Targets that the measure helps to achieve</b>	<b>8.2. Impact of contaminants:</b> - the number of birds that have died due to oil pollution does not grow compared to 2010–2012. (additional target: the number of pollution incidents is reduced )
<b>Significant pressure that the measure influences</b>	5. Contamination with hazardous substances: 5.1. Release of synthetic and biologically active substances in water bodies 5.2. Introduction of non-synthetic substances and compounds into water bodies 5.3. Introduction of radionuclides into water bodies 6. Systematic and/or intentional release of substances into the environment
<b>Description of measure (required activities)</b>	Activities: 1. In the first stage, the necessary legal basis will be established that helps make bunkering at sea safer for the environment, check ships and apply responsibilities. (Outcome: amendment of the regulation about reloading of oil and oil products from a ship to a ship). 2. Amending the marine information system with the new bunkering application. 3. An <b>instruction and method</b> to perform procedural acts are developed to determine the size of the polluted area in case of marine pollution. 4. A monitoring plan to check bunkering ships for the implementation of the regulation is prepared. 5. In the second stage, developing a plan of bringing bunkering to ports, including preparing a socio-economic assessment and cost-benefit analysis and developing transition measures. 6. Drafting new regulations that regulate bunkering only in ports while taking into account international experience.
<b>Type of measure</b>	Administrative (regulatory, investment into IT / software developments, technical)
<b>Responsible authority (legislative and executive)</b>	Ministry of the Environment; Ministry of Economic Affairs and Communications; Environmental Inspectorate The implementing authority is SA Keskkonnainvesteeringute Keskus
<b>Financing opportunities</b>	Stage 1. The costs of creating an operational marine information system of the bunkering application that operates through the Internet are covered by the Ministry of the Environment budget of 2016.

	Stage 2. An action plan of bringing bunkering into ports and conducting necessary analyses.
<b>Timeframe</b>	1. 2015–2016 2. 2016–2020
<b>Indicators</b>	The number of oil pollution cases due to bunkering.

## CONTAMINANTS IN FOOD D9

New measures are not necessary.

## MARINE LITTER D10

Full name of measure	<b>16. Analysis of organisation of marine litter reception, including abandoned fishing gear, in ports and preparing an action plan</b>
Short name of measure	<b>Action plan on marine litter reception</b>
Objective of measure (awareness of problem)	<p>The general objective of the measure is to reduce marine littering by arranging a reception system of litter, including abandoned fishing gear, caught from the sea.</p> <p>To develop a reception system that would motivate giving over of marine litter, an analysis will be conducted to find the best solution for the collection and giving over in ports of anthropogenic litter and litter that is found from the sea. The analysis would enable to prepare an action plan for receipt of marine litter in ports.</p> <p>Marine litter caught in fishing gear or other domestic waste on board is released into the sea because fishing vessels and other ships are not motivated to give litter over in ports. No system exists to receive this type of litter free of charge or for a fee in ports. Marine litter includes also abandoned fishing gear that as marine litter could be given over in ports.</p> <p>Developing a common reception system of marine litter in ports would ensure a full implementation of HELCOM recommendation 28E/10.</p>
Targets that the measure helps to achieve	<p><b>10.1. Harmfulness of litter in the marine and coastal environment</b></p> <p>Microlitter: a declining trend characterises marine litter amounts in the water column, sea bottom and coastal area. (Reference year 2016)</p> <p><b>10.2. Deviations caused by marine litter in the condition of marine biota and habitat quality are insignificant</b></p>
Significant pressure that the measure influences	<p>3.2. Marine litter</p> <p>5.1. Release of synthetic and biologically active substances into water bodies</p> <p>5.2. Introduction of non-synthetic substances and compounds in water bodies</p> <p>6.1. Introduction of other solid, liquefied or gas substances in water</p>
Description of measure (required activities)	<p>Activities:</p> <ol style="list-style-type: none"> <li>1. Organisation of a pilot project of the marine litter reception system in selected ports which results are taken into account when the analysis is prepared;</li> <li>2. An analysis of developing a marine litter reception system that facilitates collection of marine litter and giving over in ports, which also includes an economic analysis of the reception system to find the best financing solution;</li> <li>3. Preparing a further action plan based on the analysis results;</li> <li>4. If necessary, amendments to legislative acts;</li> <li>5. Implementation of the reception and handling system of fishing gear, including supporting investments into relevant handling technologies.</li> </ol>

<b>Type of measure</b>	Administrative (legislative drafting, organisation, coordination), economic
<b>Responsible authority (legislative and executive)</b>	Ministry of the Environment, Environmental Board, Ministry of Economic Affairs and Communications
<b>Financing opportunities</b>	Under planning
<b>Timeframe</b>	2016–2020
<b>Indicators</b>	<ul style="list-style-type: none"> <li>- The pilot project has been conducted</li> <li>- An analysis has been prepared</li> <li>- An action plan has been prepared</li> </ul>

<b>Full name of measure</b>	<b>17. Information dissemination about the marine litter problem and prevention of plastic package inputs to the sea</b>
<b>Short name of measure</b>	<b>Information dissemination and preventive activity related to marine litter</b>
<b>Objective of measure (awareness of problem)</b>	<p>The objective of the measure is to inform society about the problems related to marine litter and marine littering and environmental risks to prevent input of litter to the sea.</p> <p>The source of marine litter is mainly human activity in the coastal areas. Marine litter includes mainly plastic and plastic package waste, including beverage bottles and plastic bags. Plastic packages do not degrade well in the marine environment. Plastic packages find their way to the marine biota habitat and food chain posing a threat to their health and life. There are not enough waste bins on beaches and people leave their litter on the beach. People`s awareness should be improved by environmental educational events. It is necessary to cooperate with various parties to find the best solutions of preventing input of litter to the sea, at the same time disseminating information that describes the dangers of marine litter.</p>
<b>Targets that the measure helps to achieve</b>	<p><b>10.1. Harmfulness of litter in the marine and coastal environment</b></p> <ul style="list-style-type: none"> <li>- coastal litter: the target is to reduce the main elements that belong under coastal litter against the reference year 2016.</li> <li>- microlitter: a declining trend characterises the amount of litter in the water column, sea bottom and coastal area. (Reference year 2016)</li> </ul> <p><b>10.2. Deviations caused by marine litter in the marine biota condition and habitat quality are insignificant</b></p>
<b>Significant pressure that the measure influences</b>	<p>3.2. Marine litter</p> <p>5.1. Release of synthetic and biologically active substances into water bodies</p> <p>5.2. Introduction of non-synthetic substances and compounds in water bodies</p> <p>6.1. Introduction of other solid, liquefied or gas substances in water</p>

<b>Description of measure (required activities)</b>	<p>Activities:</p> <ol style="list-style-type: none"> <li>1. Organisation of information campaigns (commercials, posters) about marine litter</li> <li>2. Organisation of environmental educational events about marine litter</li> <li>3. Preparing training plans on the topic of marine litter and preparing training materials</li> <li>4. Adding marine litter topic to educational and waste management training programmes (supplementing curricula at the school and university level);</li> <li>5. Promoting cooperation between different related parties.</li> <li>6. Activities to reduce the consumption of lightweight plastic bags, which will be clear in 2016 when Estonia transposes Directive (EU) 2015/720 of the European Parliament and of the Council as regards reducing of the consumption of plastic bags.</li> </ol>
<b>Type of measure</b>	Educational, administrative (organisation, coordination)
<b>Responsible authority (legislative and executive)</b>	Ministry of the Environment, Environmental Board, Ministry of Education and Research, local authorities
<b>Financing opportunities</b>	Under planning
<b>Timeframe</b>	2016–2020
<b>Indicators</b>	<ul style="list-style-type: none"> <li>- The number of informative and educational events (information days, training etc.) addressing the topics of marine litter and marine littering in a year</li> <li>- The spectrum of plastic waste in the water column and the amount per marine water unit of volume.</li> </ul>

<b>Full name of measure</b>	<b>18. Addressing the topic of marine litter in the National Waste Management Plan and waste management plans of local authorities in the coastal area</b>
<b>Short name of measure</b>	<b>Marine litter chapter of the Waste Management Plan</b>
<b>Objective of measure (awareness of problem)</b>	<p>The objective of the measure is to supplement the National Waste Management Plan 2014–2020 with a chapter about generation of marine litter, and, if necessary, amend also the waste management plans of local authorities in the coastal area and consider marine litter as an integral part of the waste management plan in the waste management plans of the following periods.</p> <p>The general objectives of marine litter reduction and prevention should be set in the National Waste Management Plan. The local authorities have an important role in reducing and preventing marine litter because a large amount of marine litter is input to the sea from the beach regions and with flowing water. Therefore, it is important that the local authorities` waste management</p>

	plans set more precise requirements to fulfil the general objectives set down in the National Waste Management Plan.
<b>Targets that the measure helps to achieve</b>	<p><b>10.1. Harmfulness of litter in the marine and coastal environment</b></p> <ul style="list-style-type: none"> <li>- a declining trend characterises litter amounts in the water column, sea bottom and coastal area. (Reference year 2016)</li> </ul> <p><b>10.2. Deviations caused by marine litter in the condition of marine biota and quality of habitat are insignificant</b></p>
<b>Significant pressure that the measure influences</b>	<p>3.2. Marine litter</p> <p>5.1. Release of synthetic and biologically active substances into water bodies</p> <p>5.2. Introduction of non-synthetic substances and compounds in water bodies</p> <p>6.1. Introduction of other solid, liquefied or gas substances in water</p>
<b>Description of measure (required activities)</b>	<p>Activities:</p> <ol style="list-style-type: none"> <li>1. Amendment of the Waste Act to deal with marine litter in the relevant development plan and local authorities' waste plans</li> <li>2. Amending the National Waste Management Plan and the local authorities' waste management plans</li> <li>3. Preparing instructional materials of possible local authorities measures</li> <li>4. Training local authorities</li> </ol>
<b>Type of measure</b>	Administrative (legislative, organisation, coordination), economic
<b>Responsible authority (legislative and executive)</b>	Ministry of the Environment, Environmental Board?, local authorities
<b>Financing opportunities</b>	Under planning
<b>Timeframe</b>	2016–2020
<b>Indicators</b>	<ul style="list-style-type: none"> <li>- The National Waste Management Plan has been improved</li> <li>- The number of local authorities that have added a marine litter chapter to their waste management plan</li> </ul>

## MARINE NOISE AND ENERGY D11

<b>Full name of measure</b>	<b>19. Establishment of an impulsive sound register</b>
<b>Short name of measure</b>	<b>Establishment of an impulsive sound register</b>
<b>Objective of measure (awareness of problem)</b>	<p>Introduction of energy, including underwater noise, into the environment is at a level that does not damage the marine environment.</p> <p>As there is not enough information about the impact of constant underwater noise (especially caused by ships) and cumulative brief sounds in the marine environment it is not possible to decide currently the value of the level of good environmental status. There were no measurements and studies on this topic in the Estonian marine area. However, in 2014, underwater noise measuring was conducted in four point in the Estonian marine area (project BIAS).</p> <p>To create an impulsive sound register, the level of noise should be measured directly at measuring stations and derived from the model that is used to interpolate or extrapolate the areas between the stations.</p> <p>Activities which noise level is assessed: pile-driving, explosions, use of low frequency sonars. The number of days in a year the reference level of noise for a certain area (e.g. 20x20 km) is assessed.</p>
<b>Targets that the measure helps to achieve</b>	<p><b>11.1 High, low and medium frequency impulsive sounds do not cause significant negative deviations in the marine biota habitat quality.</b></p> <p><b>11.2 A constant low frequency sound does not cause significant negative deviations in the marine biota habitat quality.</b></p>
<b>Significant pressure that the measure influences</b>	3.1. Underwater noise
<b>Description of measure (required activities)</b>	<p>Activities:</p> <ol style="list-style-type: none"> <li>1. Measuring impulsive sounds.</li> <li>2. Establishment of an impulsive sounds register.</li> <li>3. Collection of data about activities that cause impulsive sounds and noise levels into the permits database.</li> <li>4. Organisation of administrative responsibility of underwater noise.</li> </ol>
<b>Type of measure</b>	Legislative, organisation, coordination
<b>Responsible authority (legislative and executive)</b>	<p>Ministry of the Environment, Ministry of Economic Affairs and Communications</p> <p>Currently, underwater noise is not the responsibility of the Environmental Inspectorate because it is the responsibility of the Health Board. The Environmental Inspectorate checks construction in the sea – during the nature conservation limitation period etc. Hence, the persons that are responsible for underwater noise and their area of responsibility should be reviewed and specified.</p>
<b>Financing opportunities</b>	Under planning
<b>Timeframe</b>	2016–2020
<b>Indicators</b>	<ul style="list-style-type: none"> <li>- Frequency and extent of strong and brief sounds</li> <li>- The trend in the constant low frequency noise level</li> </ul>