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National Strategy for the Prevention of and Response to Environmental Damage extending to 2035

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National Strategy for the Prevention of and Response to Environmental Damage extending to 2035

Mikko Simola

Ministry of the Interior Helsinki 2023

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National Strategy for the Prevention of and Response to Environmental Damage extending to 2035

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Abstract

The main objective of the strategy is to guide and support authorities' preparedness work in relation to pollution events occurring both now and in the future. The strategy has been prepared through broad-based collaboration with key actors with a basis on the operating environment.

The strategy's vision is based on Finland being a leading expert and frontrunner in marine pollution response in the Baltic Sea region – a country which invests steadily in marine pollution prevention and response and in the development and maintenance of response preparedness. This requires that the resources of the actors involved in this work are sufficient for effectively managing the entire process. The work as a whole must be well planned, with clear instructions provided and clear assignment of different responsibilities.

The strategy supports the authorities in their preparedness work, sets requirements for operational planning and demonstrates the country's resolve to support resource planning. The actors have their own responsibility to carry out their obligations and implement the strategy within their own preparedness work. The authorities responsible are tasked with coordinating the activities in such a way that the response operations initiated in the event of marine pollution lead to a common objective. The performance requirements for pollution response efforts must be based on national, regional and local risk assessments of oil and chemical spills. Monitoring of strategy implementation is handled by the National Advisory Board for Prevention of Marine Oil and Chemical Damage, which is appointed by the Ministry of the Interior.

Keywords maritime safety, strategies, environmental damages, Baltic Sea, precautionary measures, marine pollution response

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Ympäristövahinkojen torjunnan kansallinen strategia vuoteen 2035

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Tekijä/t	Mikko Simola		
Yhteisötekijä	Sisäministeriö, öljy- ja aluskemikaalivahinkojen torjunnan valtakunnallinen neuvottelukunta		
Kieli	englanti	Sivumäärä	24

Tiivistelmä

Strategian päätavoitteena on ohjata viranomaisten varautumista nykyisten ja tulevien ympäristövahinkojen varalle. Strategia on valmisteltu toimintaympäristöön perustuen laajapohjaisessa yhteistyössä keskeisten toimijoiden kanssa.

Strategian visiona on, että Suomi on johtava Itämeren alueen ympäristövahinkojen torjuntaosaaja ja suunnannäyttävä, joka panostaa pitkäjänteisesti ympäristövahinkojen ennaltaehkäisyyn sekä torjuntavalmiuden kehittämiseen ja ylläpitoon. Tämä edellyttää, että toimintaan osallistuvien tahojen resurssit ovat riittävät koko tapahtumaketjun hoitamiseen. Kokonaisuuden tulee olla hyvin suunniteltu, ohjeistettu ja selkeästi vastuutettu.

Strategia tukee viranomaisia varautumisessa, asettaa vaatimuksia toiminnan suunnittelulle ja osoittaa kansallisen tahtotilan resurssien suunnittelun tueksi. Toimijoilla on omat vastuunsa toimeenpanna velvoitteensa ja jalkauttaa strategia omaan varautumissuunnitteluunsa. Vastuuviranomaisten tehtävänä on toiminnan yhteensovittaminen siten, että ympäristövahinkotilanteessa toiminta palvelee yhteisen tavoitteen saavuttamista. Ympäristövahinkojen torjunnan suorituskyvyn tulee perustua valtakunnallisiin, alueellisiin ja paikallisiin öljy- ja kemikaalivahinkojen riskiarvioihin. Tämän strategian toimeenpanon seurantatehtävää suorittaa sisäministeriön asettama öljy- ja aluskemikaalivahinkojen torjunnan valtakunnallinen neuvottelukunta.

Asiasanat meriturvallisuus, strategiat, ympäristövahingot, Itämeri, varautuminen, ympäristövahinkojen torjunta

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Nationell strategi för bekämpning av miljöskador fram till 2035

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Referat

Huvudmålet med strategin är att styra myndigheternas beredskap inför nuvarande och kommande miljöskador. Strategin har beretts utifrån verksamhetsmiljön i ett brett samarbete med centrala aktörer.

Strategins vision är att Finland är en ledande expert på bekämpning av miljöskador i Östersjöområdet och en vägvisare som satsar långsiktigt på att förebygga miljöskador samt på att utveckla och upprätthålla bekämpningsberedskapen. Detta förutsätter att de aktörer som deltar i verksamheten har tillräckliga resurser för att sköta hela händelsekedjan. Helheten ska vara välplanerad, instruerad och ansvarsfördelningen ska vara tydlig.

Strategin stöder myndigheterna i beredskapen, ställer krav på planeringen av verksamheten och visar den nationella visionen som stöd för planeringen av resurserna. Aktörerna har sina egna ansvar att verkställa sina skyldigheter och förankra strategin i sin egen beredskapsplanering. De ansvariga myndigheternas uppgift är att samordna verksamheten så att den i en miljöskadesituationen främjar uppnåendet av det gemensamma målet. Prestationsförmågan vid bekämpningen av miljöskador ska grunda sig på riksomfattande, regionala och lokala riskbedömningar av olje- och kemikalieskador. Uppföljningen av strategins genomförande sköts av en riksomfattande delegation för bekämpning av olje- och fartygskemikalieolyckor som tillsatts av inrikesministeriet.

Nyckelord sjösäkerhet, strategier, miljöskador, Östersjön, föregripande, bekämpning av miljöskador

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PREFACE

The Baltic Sea and the inland water areas of Finland are unique natural environments that must be protected from both long-term environmental problems and sudden pollution. Finland aspires to be a leading expert and frontrunner in responding to marine pollution in the Baltic Sea region – a country which invests steadily in oil and HNS (Hazardous and Noxious Substances) spill prevention and the development and maintenance of response preparedness.

This new strategy supports the authorities in their preparedness work, sets requirements for operational planning and demonstrates the country's resolve to support resource planning. All actors have their own responsibility to carry out their obligations and implement the strategy within their own preparedness work. The authorities responsible are tasked with coordinating the activities in such a way that the operations initiated in the event of marine pollution all work towards a common objective. Monitoring of strategy implementation is handled by the National Advisory Board for the Prevention of and Response to Oil and Chemical Spills from Ships, which is appointed by the Ministry of the Interior.

The strategy has been prepared through broad-based collaboration with key actors. In addition to the Ministry of the Interior, Ministry of the Environment, and Ministry of Defence, participants have included other authorities, businesses and organisations which are involved in marine pollution prevention and response. The importance and topicality of the strategy is emphasised by the ongoing changes to the operating environment seen in 2022 and the present period: maritime transport is undergoing major changes in order to reduce environmental discharges. We are also seeing changes in the vessel traffic in our sea area. Furthermore, the risks associated with winter navigation must be taken into account when developing marine pollution response preparedness.

The main objective of this strategy is to guide the authorities' preparedness work in relation to marine pollution occurring both now and in the future. Special attention should be paid to the clarity and coordination of the tasks of the authorities and the various actors involved. At the same time, it is important to ensure that the human and financial resources are sufficient for carrying out the tasks.

If we succeed, we will secure the vitality of our valuable and diverse aquatic environment into the future.

16 February 2023

Krista Mikkonen
Minister of the Interior

1 Vision

Finland is a leading expert and frontrunner in marine pollution response in the Baltic Sea region – a country which invests steadily in marine pollution prevention and response and in the development and maintenance of response preparedness. The resources of the actors involved in this work are sufficient for effectively managing the entire process. The work as a whole is well planned, with clear instructions provided and clear assignment of different responsibilities.

2 Introduction

The Baltic Sea is an important source of livelihoods and recreation for many people, but it is also strained by various discharges and maritime use. Much has already been done to improve environmental conditions in the Baltic Sea, but the situation is improving only slowly, and with delay. The objective is to continue this upward trajectory and prevent it from weakening. In addition, the inland water areas of Finland are globally unique areas which are sensitive to pollution. For this reason, it is also important to be prepared for major pollution events. Preparedness alone, however, is not always enough. Accidents can happen. It is therefore important to maintain operational readiness for pollution response and to mitigate the environmental damages.

The Security Strategy for Society (Government Resolution of 2 Nov 2017) harmonises the national principles on preparedness and steers the preparedness work of different administrative branches. The aim is to prevent, respond to, and limit the damage caused by oil spills on land and at sea; discharges of other hazardous and harmful substances and other ship-related environmental incidents. In addition, the Security Strategy for Society states that Finland must maintain a good level of pollution response. The National Strategy for the Prevention of and Response to Environmental Damage contributes to the implementation of the 2017 Security Strategy for Society.

The probability of large-scale pollution incident is low, but its consequences can be large. Within this strategy document, pollution refers to a sudden event (accident or incident) in which a substance harmful to the environment (usually oil or some other chemical) has leaked into the environment, or could potentially do so, in such a way that it causes danger or harm to the environment or human health. Pollution incidents can also have significant economic and socio-economic impacts.

In addition to the authorities, various institutions, private operators and voluntary organisations participate in pollution response. Successful response measures require close cooperation and coordination of activities. Having a shared situational picture is a prerequisite for planning long-term activities, and lack of information or an inadequate situational picture must not slow down the implementation of response measures. The preparation of this strategy included organising a workshop on the operating environment for the different actors involved. The observations and views shared in the workshop were utilised in the strategy's description of the operating environment.

In Finland, the polluter is responsible for the response and restoration costs of a pollution incident in accordance with the 'polluter pays' principle. Nevertheless, the authorities must have the required level of preparedness and the up-to-date plans and operational readiness needed for minimising the harmful impacts of the pollution incident.

The aim of this strategy is to guide the preparedness of authorities, but attention must also be paid in advance to clarifying and coordinating the tasks of the authorities and other actors involved. In addition, preparedness cannot be achieved if resources are insufficient, so sufficient funding must be ensured.

One of the key research needs at present is to gain better understanding of the behaviour of low-sulphur fuel oils and the response options for these substances. It is also important to shape a clear picture of the financial resources used for preparedness and to actively assess and make use of different financial instruments. Preparedness must be based on maintaining and developing the national capacity for meeting the challenges presented in the strategy.

3 The operating environment in 2035

New fuels and types of cargo present new challenges for the actors responsible for preparing response measures.

Although the development of more environmentally friendly fuels is under way, the use of fossil fuels will continue for some time.

The Baltic Sea is one of the busiest sea areas in the world. In addition, there is a high-level of intersecting passenger traffic. The combination of large tankers and narrow waterways creates a particular need for safe navigation in the northern Baltic Sea. As much as 90% of Finland's exports and 80% of its imports are transported by sea. Every year, approximately 20 million passengers travel between Finnish and foreign ports. The impacts of an oil or HNS (Hazardous and Noxious Substances) spill could be extremely harmful.

The Finnish Environment Institute report "Environmental Damage in Finland in 2013–2019" shows that approximately 90% of marine pollution is caused by oil spills, while the rest is mostly caused by industrial chemicals. Incidents most often involve navigating vessels or cargo operations, where they mainly result from technical faults or human error. Every year, there were between 7 and 13 detected oil discharges for which the polluter remained unidentified. Discharges of this kind were much less common for other chemicals: only five occurred during the whole period under review. In addition, oil spills in particular result in large amounts of contaminated soil. The overall strain on waste management operations has been low. During the period under review, there were only three potentially significant environmental incidents, as defined in the Environmental Liability Directive.

In land areas, oil and chemical incidents occur for reasons such as overfilling of tanks, leakage from underground oil tanks, heavy rainfall and meltwater, or accidents during transport. Rapid action is needed to prevent oil from spreading into the groundwater. Even a small leak can cause significant damage.

It should be noted that the majority of new ships currently under construction run on fossil fuels. Although the development of more environmentally friendly solutions is under way, the change is not rapid. In this context, it should also be noted that there are still several ports operating in the Gulf of Finland that have been constructed for oil transport.

It is estimated that by 2035 only one in seven merchant vessels will be using new, non-mineral oil based fuels. The new fuels for maritime transport look likely to be methanol, ammonia and hydrogen. Of these, ammonia and hydrogen are both substances which, in the event of an incident, would be almost impossible to recover, as they are lighter than air and thus rise into the atmosphere when released. In addition to these fuels, different battery solutions are becoming more common, especially for short sea shipping. As for nuclear-powered vessels, it is possible that a few will be built, but we are not likely to see a significant increase in their numbers.

In addition to the introduction of completely new types of fuel, the use of low-sulphur fuels is also on the increase in maritime traffic. An amendment has been added to the International Maritime Organisation's MARPOL Convention which limits the sulphur content of fuels. A limit of 0.1% was introduced in the Baltic Sea at the beginning of 2015, followed by a global limit of 0.5% in 2020. As yet, there is little research data on the behaviour of low-sulphur fuels when released into the sea. A few low-sulphur fuels were studied in the IMAROS (Improving response capacities and understanding the environmental impacts of new generation low-sulphur MARine fuel Oil Spills) project (2020–2022). During the experiments, it was found that the behaviour of low-sulphur fuels in the marine environment differs from that of conventional marine fuel oils. It was also found that the fuel characteristics of different manufacturers and even different batches of the same manufacturer differ significantly. In terms of response operations, one challenge is that many low-sulphur oils have a solidification point close to +30°C. At lower temperatures, these oils are therefore no longer in liquid form, and thus traditional response methods are not effective.

New fuels and types of cargo present new challenges for the various actors responsible for preparing environmental response measures. The control methods used do not work in exactly the same way with all substances. The challenges relate to mechanical recovery, in-situ burning and the use of dispersants as response method.

The winter conditions in Finnish sea areas vary considerably. In the Bay of Bothnia, the sea freezes for at least part of the year, but conditions in the Gulf of Finland and the Archipelago Sea are more varied. Harsh winter ice conditions will continue to occur in Finland's southern sea areas, albeit perhaps less frequently than before. When assessing the risks for winter navigation, it should be noted that merchant vessels arriving in the Baltic Sea region from third countries do not necessarily have the kind of experience of winter conditions possessed by EU operators. In addition, it should be noted that the vessels in question are not ice-reinforced in the same way as vessels which have been built for icy conditions and have operated mainly in the Gulf of Finland. Marine traffic will continue to be busy in the Baltic Sea area. However, it is not yet possible to predict

exactly what the impact will be on the ships in use, given the requirements for reducing environmental discharges and political decisions that must be made, especially with regard to the type of energy used.

Alongside fossil fuel-related hazards, there is a general need to build preparedness also for marine pollution caused by new types of fuel and cargo. Under no circumstances, however, can we discard preparedness for response to fossil fuel-related incidents, nor can we reduce the resources for this work.

When examining the operating environment and response measures, it should be noted that research and development provides the basis for up-to-date knowledge-based management, forecasting of preparedness requirements, planning and development. In a changing operating environment, the foundation for operational development is formed from analysed data on changes in the performance, competence needs, safe working methods and equipment for marine pollution response. In order to make knowledge management more systematic, it is necessary to have a nationally centralised research, development and analysis structure.

Digitalisation and automation are strongly on the rise in maritime transport. At the same time, the increase in ships' level of automation brings with it a need to be able to observe their operating environment more comprehensively through a shared situation picture. The smart waterways currently under development, however, will support monitoring and increase maritime safety.

4 Objectives of the pollution response

The main objective of pollution response is to minimise environmental impacts.

Pollution prevention, response and follow-up measures form a well-planned operational structure which is developed through close cooperation.

Investments must be made in preparedness for incidents involving non-mineral oil products at all times of the year, including winter.

The key objectives of environmental protection work include pollution prevention and pollution response. This is implemented through the maintenance and development of response preparedness. The spill of oil or other harmful substances into the environment can cause harm to nature and humans and can incur high economic costs. As a rule, the environmental impacts of the incident depend on the size of the discharge, the properties of the substance released into the environment, how the substance spreads, and the areas of nature exposed to it. Seasons and weather conditions have a major impact on the extent of environmental pollution.

The choices made on response strategy, methods and measures influence the consequences of the pollution. The primary objective of response measures is to prevent the adverse effects of spills on the environment, minimise the harm caused by the response measures themselves, and enable ecosystems to recover to their pre-incident state. Thus, the main objective of response measures is to minimise discharges and their harmful environmental impacts. The costs of response measures must be proportionate to the economic and environmental values at stake. The measures must be carried out in such a way that it is not then unnecessarily difficult to return the natural environment to its pre-incident state.

The most effective response is to prevent leakages from the damaged vessel. It is also possible to try to stabilize the vessel by transferring cargo or fuel. If necessary, the damaged vessel can be moved to a safe haven. In a vessel incident, efforts should be made to prevent the spread of spill to coastal and shore areas. If deployed quickly enough, booms can effectively contain or at least significantly slow down the spread of a harmful substance.

The measures taken within the first few days have a significant impact on the end result. Effective open sea response significantly reduces the need for response measures along the coast and on the shore. Recovering discharges in the open sea also significantly reduces the duration of the response, and thus also the total costs. The long-term nature of on-shore response and clean-up coupled with its labour-intensiveness and demanding logistics lead to significant increases in response costs and negative changes in the state of the marine environment.

The 'operating environment' section of this strategy contains forecasts for the cargoes that will be transported and fuels that will be used in the coming years. Successful response measures require that those involved have both response equipment suitable for recovering new types of fuels as well as the capability to perform recovery operations also in winter. Achieving the objectives set will not be possible in the coming years without significant investments in response equipment. Indeed, the set national objective is that the authorities would have the ability to respond to the most common hazardous and harmful substances used and transported in the Baltic Sea region, most of which are likely to be mineral-based oil products.

The aim of the response to a major oil spill in the open sea is to slow down the drifting of the oil slick to the coast and shoreline. If it is not possible to stop the oil slick, it should be diverted towards the areas where the environmental impact would be lowest. Open sea oil recovery is an effective method for protecting the environment. When carried out with response vessels, it is also cost-effective.

The Finnish coastline is very diverse, including for example both large, unified areas of open sea and dense archipelagos. The typical scenario is that any discharge would reach the coast and the shore quite quickly. The objective of coastal response is to locate the slicks and estimate their extent as quickly as possible. Based on this data, a plan can be formed for preventing the discharge from reaching the shore. In the early stages of response to an incident, rapid acquisition of key information and effective cooperation between the various actors involved are two core requirements for success. Effective coastal response, meanwhile, requires sufficient preparedness for initiating response measures.

The measures used to respond to pollution in inland water areas are broadly the same as those used in coastal areas within an archipelago. For inland water areas, preventing the spill from reaching the shore requires rapid access to the site of the incident and prompt first-response measures. In addition, Finland has the capacity for treating contaminated animals, which mostly consist of different bird species. The operating method used in Finland is to catch, treat and then release as many contaminated birds as possible.

The target for oil spill response is that, in each of our sea areas, there would be capacity for dealing with the full emptying of two cargo tanks of the largest oil tankers operating in each sea area – as a result of the tanker either running aground or colliding with another vessel. This analogy shall remain the same in the coming years, and thus the concrete targets for response measures must be updated according to the changing maritime transport environment. Currently, the target state for the open sea area of the Gulf of Finland and the northern Baltic Sea is to have the capacity to bring under control an oil spill of 30,000 m³ within three days. In other sea areas, the regional target is 5,000 m³. In the Lake Saimaa area, the target is 300 m³. This does not mean, however, that it must be possible to remove all harmful substances from the environment within the target timeframe.

For the response measures to succeed, it is important that the authorities are informed of the spill at an early stage so that the necessary measures can be initiated to limit and contain it. If the spill takes place from a vessel into the sea, the main objective is to contain the discharge within the vicinity of the vessel and prevent it from spreading. If the discharge takes place from the land into the sea, the main focus is on limiting its spread, locating it, stopping it, and recovering it.

The aim of pollution response on land is to quickly identify the cause and location of the discharge and the substances involved so that the resources required can be focused on the incident area. Through information acquisition and cooperation between authorities, assessment can be made of the potential threats to soil or water in the event of the discharge spreading. Even a small leak can cause significant and long-term damage to, for example, groundwater areas or surface water areas used for domestic water supply.

Moving forward, the authorities' resources for responding to marine pollution must be maintained at a level that corresponds to the risks. Sufficient preparedness always requires systematic and long-term investments in both personnel and equipment.

The use and storage of the authorities' response equipment must be planned in such a way that regional consolidation of equipment can be achieved without delay in the event of an incident. In addition to ensuring response preparedness in their own areas, the authorities must also be prepared to support activities outside their main areas of operation.

Finland has limited resources for responding to a major oil spill. Changes in the funding of response preparedness threaten to weaken the maintenance and development of national response preparedness. Ministries must ensure that the budget guarantees the national preparedness of the actors involved. Operators benefiting from maritime transport should cover at least some of the costs of preparedness.

5 Achievement of objectives

The performance requirements for pollution response are based on national, regional and local risk assessments of oil and chemical spills.

The core requirements for successful response measures include a shared, up-to-date situation picture, consistent management models and readiness of response equipment.

Competence is developed through cooperation that includes both the private and public sectors and across the boundaries between municipalities, wellbeing services counties and internationally.

The objective is for Finland to be prepared for effective pollution response through up-to-date and consistent risk assessments and plans at the local, regional and national level. These plans define both inter-authority cooperation and cooperation with other actors, thus forming the basis for efficient management of pollution response. The required response preparedness is determined based on the risk assessments. This preparedness includes readiness of equipment, competence of personnel, training and exercises. The equipment must be suitable for the response task, sufficient in quantity, and continuously ready for use.

The national contingency plan for marine pollution response is drawn up in accordance with the International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC). It is complemented by regional and local plans as well as the plans of each authority and actor involved in the response measures at the different stages of the incident response. In addition to the operative task, the plans take into account supportive activities, such as legal support, financial management, logistics and communications. Furthermore, these plans and preparedness ensure the accessibility and usability of environmental expertise and take into account the added value that can be provided by the private sector and voluntary organisations during acute incidents.

The roles and responsibilities of the various authorities and actors are set out clearly and are based on legislation, agreements and plans. Regional and local cooperation is actively promoted through regional cooperation groups, the work of which involves all authorities, institutions and other actors involved in the marine pollution response in each particular

region. Regional coordination is ensured through cooperation and joint planning between the different actors involved. The National Advisory Board for the Prevention of and Response to Oil and Chemical Spills, which is appointed by the Ministry of the Interior, steers the activities of regional cooperation groups.

The legislation related to pollution prevention and response and its implementation has been organised in a clear manner. Clear explanations and definitions have been given for the links between the different response phases, the transitions from one to the next, and the responsibilities relating to each one. The transition from an acute response situation to post-spill response is smooth and there is a clear division of responsibilities for these measures.

The situation centres of the rescue services operate in cooperation with the Maritime Rescue Coordination Command Centres, and they have effective operating procedures and information systems for maintaining and sharing the situation picture and for managing pollution incidents. Without exception, all extensive containment and response measures in maritime areas, on land and in inland water areas require broad cooperation between authorities.

Estimating the extent of oiled waste in an incident is a very challenging task. The larger the area to which the oil spreads, the greater the amount of waste. Estimates made in various projects indicate that the quantity of heavily contaminated oily waste cleaned on the shore is 10–20 times the amount of actual oil that reaches the shore. It can be concluded from these calculations that doubling the contaminated shore area also approximately doubles the amount of oil spill waste. In addition, the further the oil spreads along the coastal area and onto the shore, the longer the duration of the oil spill response, the lower the concentrations of oil spill waste collected from the coast and shore, and the greater the loss of oil through sinking, evaporation or absorption into the soil.

The costs increase in proportion to the duration and extent of the pollution response. During the early stages of response activities, the response vessels incur significant costs, but the longer and slower coastal response measures and shoreline clean up require significantly more human resources, logistics, and waste management resources. The spread of oil along the coast and onto the shores also increases the number of contaminated animals. Estimates made in Finland indicate that it costs ten times more to recover a litre of oil from the shore than from the sea.

Achieving the objectives set requires continuous development of the response equipment. Stored response equipment must be kept in working order, and it must also be ensured that the equipment can deal with new types of maritime fuels. Funding must be secured for equipment investments, but sufficient resources must also be reserved

for personnel training. Preparedness must pay particular attention to the development of capacity for responding to chemical spills from ships. It is also important to develop response equipment suitable for winter conditions, as there is currently very little of this available at the national level and through international assistance. The authorities' annual budgets do not allow development and new acquisitions of response vessels: separate funding is therefore required. The development and acquisition of vessels and equipment for open sea response involves making expensive, long-term decisions. This should be taken into account by ensuring in advance that there is sufficient separate funding allocated.

In order to gain a better overview of the different fuels in use, further studies must be carried out on the behaviour of the substances and the suitability of the response equipment for recovering these substances. It is also expected that new types of mechanical recovery devices will come onto the market. It is important for Finnish authorities to ensure the procurement of these devices in order to secure effective pollution response within our sensitive environment.

6 A clear division of official responsibilities forms the backbone for effective cooperation

The condition for success: seamless cooperation throughout the whole process, from preparedness to response and the final processing of waste.

The duties and participation of authorities and other actors involved in marine pollution prevention and response are clearly defined in law.

The Ministry of the Interior directs, guides and monitors the response to oil and chemical spills from ships. The Finnish Border Guard handles rescue operations for any oil and chemical spills from ships which take place in Finland's territorial waters or exclusive economic zone, and it also coordinates preparedness for such operations. Rescue services are responsible for response actions in their own land and water areas and in the vicinity of the coast. The Ministry of the Environment is responsible for the overall steering, monitoring and development of post-spill response. Where needed, the municipality is responsible for post-spill response in its area. Other actors involved in marine pollution preparedness and response include the Finnish Defence Forces, the Finnish Environment Institute, the Finnish Transport and Communications Agency Traficom, Metsähallitus, the ELY Centres, and private companies with which the Border Guard has signed a service agreement. In addition, various voluntary actors also play an important role. The response to an extensive oil or chemical spill from vessels also requires international cooperation. Arrangements for such cooperation are detailed in various international agreements.

Effective pollution response requires a capacity to act quickly. Rapid initiation of the response operation significantly reduces the pollution incurred and the operation's total costs. When there is coordinated cooperation between and clear management of the actors involved in responding to oil and chemical spills from ships, this promotes the effectiveness and cost-effectiveness of the response. Cooperation in preparedness development is carried out widely at different levels within operations, joint exercises and round table meetings, within the National Advisory Board for the Prevention of and Response to Oil and Chemical Spills from Ships, and in regional cooperation groups.

In Finland, open-sea oil spill response preparedness is based on multi-purpose, state-owned vessels, some of which are also equipped to respond to chemical spills from ships. Improvements are being made in regional response preparedness, geographical coverage, and capacity for rapid response initiation through the use of preparedness agreements for vessels capable of responding to oil spills.

Each rescue department's fleet of boats must be suitable for the department's response tasks within their entire area of responsibility. The authorities responsible must jointly ensure the availability of sufficient quantities of boom equipment and any other equipment required for oil spill response. In preparation work, it should be noted that some oil products call for either different response equipment or equipment that can be adapted.

The quantity, range and condition of the equipment must be maintained through continuous maintenance and systematic replacement purchases. The cost-effectiveness of the development and maintenance of response preparedness is ensured through the use of multi-purpose vessels equipped for marine pollution response, shared national response equipment, and jointly coordinated procurements by the authorities. Regional cooperation groups assess the adequacy and suitability of regional response equipment based on regional risk assessments. National preparations and arrangements for rescue services are carried out by the Ministry of the Interior, which coordinates the activities of different ministries and sectors in the provision of rescue services.

Cooperation between the authorities responsible for pollution response promote the cost-effectiveness of this work. These efforts cover areas such as joint development projects, procurements, cross-compatibility of the authorities' management systems, and versatility of response equipment. Cooperation is also being developed with private actors and organisations.

International cooperation plays an important role in developing response preparedness for oil and chemical spills from vessels. When a request for assistance arrives, Finland strives to participate in the prevention and response work within the neighbouring country's territory as quickly as possible. In addition, Finland is ready to receive international assistance when needed.

Agreements have been made on international cooperation in marine pollution prevention and response through global, regional and bilateral agreements. Finland participates actively in the development of international cooperation. The development of response preparedness throughout the Baltic Sea region also improves our national preparedness. Furthermore, Finland is an active participant in the work of the European Maritime Safety Agency (EMSA) towards developing response preparedness in the Baltic Sea region.

International and national exercises must promote marine pollution prevention and response as a whole. It is challenging to run an exercise that covers all the different areas of response work. The authorities must ensure that each area of response work is taken into account in the plans so that the measures can be implemented and the methods practised in a way that facilitates the development and maintenance of safe and effective response measures. Other authorities may include their own exercise sections as part of the exercises of the authorities responsible. Preparedness for long-term activities is also an important part of exercise activities.

The Finnish authorities are obliged to assist the Åland authorities if the county government so requests. When providing assistance, the Åland Islands' demilitarised status and legislation are taken into account.

The Emergency Services Academy Finland is also responsible for providing training in pollution response to the rescue services while the Border and Coast Guard Academy provides training to Border Guard staff. Other actors must also be provided with opportunities to participate in organised training events. Rescue departments are responsible for training contract fire brigades and part-time personnel.

The development needs for pollution response as well as any follow-up measures are assessed through cooperation between authorities, as are the impacts of changes in the operating environment on the risk of pollution. Within the framework of the cooperation structures, the necessary development measures are planned and preparations are made for exercise activities that serve the response situation as a whole. Coordination of activities ensures appropriate and effective pollution response and follow-up measures. Pollution-related waste management must also be taken into account within the follow-up measures.

Major accidents incur high costs. The best course of action in such circumstances is to assign responsibility for recovery of costs incurred to a single party. As the ministry responsible for rescue operations, the Ministry of the Interior is also responsible for creating operating models for the recovery of costs in order to implement the polluter pays principle. The Ministry of the Environment supports planning in its own areas of responsibility. The full recovery of costs can take several years, so it is important that costs can initially be reimbursed to the actors involved from sources such as the Finnish state budget.

7 Implementation and monitoring

The National Advisory Board for the Prevention of Oil and Vessel Chemical Damage, appointed by the Ministry of the Interior, organises the implementation and monitoring of this strategy. The duties of the Advisory Board include:

- drawing up an implementation plan on the basis of the strategic policies;
- monitoring strategy implementation;
- coordination of national training and exercises;
- making proposals, where needed, for updates to the strategy; and
- setting up any needed thematic sub-groups to support strategy implementation.

In its work, the Advisory Board may make use of the concrete action proposals received during the strategy's consultation stage. If necessary, this strategy may be updated before 2035. The decision to initiate the updating process is made by the Ministry of the Interior based on the proposal made of the Advisory Board. A comprehensive report on marine pollution prevention and response in Finland will be prepared in 2028 as a mid-term review of the strategy.

The implementation of the strategy is actively monitored. Various measures and indicators can be used to support the monitoring work. The use of these is agreed upon by the National Advisory Board as part of the monitoring process.



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