

Authority Services

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Swedish Environmental Protection Agency
Åsa Blomster
Åsa.Blomster@naturvardsverket.se
registrator@naturvardsverket.se

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Finland's response to the notification in accordance with Article 10 of the Protocol on Strategic Environmental Assessment in a transboundary context regarding important water issues identified in the Bothnian Bay, Sweden for the Bothnian Bay River Basin Management Plan for 2027-2033

The Finnish Environment Institute acknowledges that Finland has received the notification from Sweden on 13 February 2025 in accordance with Article 10 of the Protocol on Strategic Environmental Assessment in a Transboundary Context (SEA Protocol) regarding important water issues identified in the Bothnian Bay, Sweden for the Bothnian Bay River Basin Management Plan for 2027-2033.

The Bothnian Bay River Basin Management Plan for 2027-2033 is being prepared in Sweden. The river basin management work is carried out in a six-year period. At the end of each management period, a river basin management plan for all water bodies, a programme of measures and environmental quality standards for the next management period will be decided. A work programme has been prepared for the preparation of the Bothnian Bay River Basin Management Plan. The work programme is the basis for the preparation of the management plan and its action programme and for the environmental assessment procedure (SEA).

Consultation in Finland

In accordance with Section 10 a (912/2022), Subsection 1 of the Finnish Act on the Assessment of the Effects of Certain Plans and Programmes on the Environment (252/2017), the Finnish Environment Institute is responsible for the information and consultation tasks related to the environmental assessment of the plan or programme of the other state. The Swedish Environmental Protection Agency (Naturvårdsverket) requested information on whether Finland intends to participate in the further process regarding the environmental assessment and comments on important water issues, priorities, and contributions to the continued work.

The public and the authorities were given the opportunity to comment on the consultation documents from 7 March to 10 April 2025, which were available on the website of Finland's environmental administration and on the website of lausuntopalvelu.fi. Statements were also asked from relevant stakeholders.



Remarks received during the consultation

The Finnish Environment Institute has prepared an English summary of the 12 statements received in Finland. The original statements in Finnish or Swedish, which are enclosed to this letter, need to be examined and taken into consideration in the SEA.

Regional Council of Lapland

Relationship to regional land use planning and maritime spatial planning

Regional planning

The general land use in Lapland is currently defined in the Regional Land Use Plan for Northern Lapland 2040 and the Regional Land Use Plans of Rovaniemi and Eastern Lapland, Fell Lapland and Western Lapland. The valid phased regional plans include the Regional Land Use Plan for Wind Energy in the Sea and Coastal Areas of Lapland, the Phased Regional Land Use Plan for Rovaniemi, the Partial Repeal of the Regional Nuclear Power Plan for the Kemi-Tornio Area and the Regional Nuclear Power Plan for the Kemi-Tornio Area, the Phased Regional Plan for the Sokli Mining Project and the Phased Regional Plan for the Suhanko Mining Project.

On 2 December 2024, the Regional Council of Lapland decided to start the preparation of the phased regional land use plan for security and transport for Lapland 2050, to announce the preparation of the phased regional land use plan and to submit the participation and assessment scheme of the phased regional land use plan for public consultation. The phased regional land use plan for security and transport for Lapland 2050 was announced on 24 January 2025. The aim of the phased regional land use plan is to update the existing regional plans due to the geopolitical situation and to respond to changes in the operational environment, especially in the transport system and security. The Phased Regional Land Use Plan may also address other needs that arise during the planning process.

In Lapland, in the Kemijoki River Basin Management Area, there are also three mining projects pending: the Ikkari Mining Project Regional Development Plan, the Rajapalo River Mining Project Regional Development Plan and the Sakatti Mining Project Regional Development Plan.

In regional land use planning in Lapland, river basin management is considered to the extent required by the general nature of a regional land use plan, taking into account the specific needs arising from the conditions of the region. The objectives of river basin management have been taken into account in the latest subregional regional land use plans of Lapland as part of the description of the current state of the area and the setting of objectives, as well as through the assessment of the effects of the regional land use plan on surface water and groundwater and the plan's relationship with the objectives of river basin management planning. The regional land use plan, together with its plan provisions, guides more detailed land use planning, such as general land use planning.

Maritime spatial planning

The Finnish Marine Spatial Plan 2030 entered into force on 15 December 2020. The Marine Spatial Plan is a strategic vision for the sustainable use of the marine area and the promotion of good environmental status of the marine environment, developed together with stakeholders. Together with other coastal counties, the Regional Council of Lapland is responsible for marine



spatial planning in Finland's northern planning area (Northern Bothnian Sea, Kvarken and Bothnian Sea). Major changes in the operational environment have made it necessary to revise the maritime spatial plan. The aim is to revise the marine spatial plan between 2024 and 2027. The timing has been coordinated with the updates of the river basin and marine management plans to ensure that the maritime spatial plan has the most up-to-date information on the state of the marine area and the associated water ecosystems.

The view of the Regional Council of Lapland

The Gulf of Bothnia is a shared sea area between Finland and Sweden and is affected by measures taken in the catchment areas of both Finland and Sweden. The northern regions of Finland and Sweden have recently been the focus of international attention, and the regions have many common features, such as hydropower production, mineral resources, potential for green transition industries, and a fragile northern nature that is vulnerable to the effects of climate change. Maritime activities also affect waters shared by Finland and Sweden, such as the Tornio River. A good example of this is the development of offshore wind energy in the Gulf of Bothnia, where the cumulative effects on migratory fish in the River Tornio, for example, are still unclear. For these reasons, the Regional Council of Lapland considers it important for Finland to participate in the SEA process.

The Regional Council of Lapland has the following views on the work programme, especially with regard to important water issues and priorities:

Industrial transition and social change in the Baltic Sea (Chapter 3.1):

The chapter has explained in detail the possible mechanisms of the impact of green transition investments on river basin management in the Bothnian Bay Water District and has also opened up the role of the River Basin Management Authority in this issue. The work of the River Basin Management Authority in relation to the NAP plan for hydropower has been opened up. Similar phenomena have also occurred in Finnish Lapland. As in Finland's river basin management plans, this document emphasises the role of municipalities in planning and requires operators, together with municipalities and authorities, to develop a comprehensive picture of the cumulative effects of future changes and to plan and implement measures to prevent an overall increase in pressure on the waters concerned. In a statement to the ELY Centre of Lapland in 2024, the Regional Council of Lapland pointed out that considering river basin management in planning could be facilitated by compiling relevant information on the status of the water body, river basin management objectives and potential risk factors and making it easily accessible to those responsible for planning. Information on the resilience of surface water and groundwater to different pressures is also needed to assess overall impacts. We repeat this view for the present document and add that, as the projects are separate and located in large catchments, special coordination measures are needed to manage cumulative impacts.

Good knowledge about our waters is an important basis for making the right decisions (chapter 3.2) and highlighting the social importance of water (chapter 3.3):

The chapters highlight the inadequacy of data for assessing water status and impacts on water. According to the consultation document, water monitoring is inadequate throughout the country. It also emphasises the need to assess the economic impact of implementing the Water Management Action Programme in order to highlight the societal importance of water. The Regional Council of Lapland emphasises the importance of clean water for, among other things,



security of supply, especially now that the northernmost parts of Europe are at the centre of geopolitics and calls for sufficient basic information to be obtained in order to implement river basin management and to take into account the importance of clean water for security of supply.

Emphasis on cooperation and interaction (chapter 3.4):

The chapter identifies national and international cooperation partners that have an interface with the river basin management work of the Bothnian Bay Water District. The Regional Council of Lapland considers the cooperation and coordination work with the Finnish bodies mentioned above to be important and thanks the Swedish authorities for this interaction. The Regional Council of Lapland also considers it important to cooperate with international authorities, for example in managing the cumulative effects of green transition projects in the Bothnian Bay catchment area. As a good example, the Regional Council of Lapland would like to highlight the official forum 'Landsöverskridande digitalt möte om havsbaserad vindkraft - Bottniska viken', run by Länsstyrelsen Västernorrland, which is developing a map of offshore wind energy in the Gulf of Bothnia and exchanging information on permitting. Similar forums should be organised for other green transition investments.

Materials and support to enhance the implementation of measures (chapter 3.5):

The chapter presents a range of materials and support measures for implementing river basin management. The Regional Council of Lapland highlights the lack of information on the impact of offshore wind energy on migratory fish in the River Tornio. The potential impacts of offshore wind energy development are within the Bothnian Bay Water District's River basin management area, and it would be important to provide means to avoid adverse impacts or improve conditions for migratory fish in the sea. The Regional Council of Lapland requests that consideration be given to the significant cultural and economic importance of Tornio River salmon in the Tornio Valley, the Bothnian Bay and the wider Baltic Sea.

River basin management in a changing climate (Chapter 3.6):

Finnish Lapland and the Swedish Bothnian Bay Water District area and its (aquatic) nature are particularly vulnerable to the effects of climate change due to their northern location and biogeographical characteristics. The Arctic regions are warming about four times faster than the global average. The Regional Council of Lapland considers the summary presented in this chapter to be a good starting point for considering climate change in the River Basin Management Plan. The Regional Council of Lapland also believes that the effects of climate change should also be addressed in more detail in the River Basin Management Plans as part of the status assessment and the setting of environmental objectives. The Regional Council of Lapland highlights the lack of information on the impact of offshore wind energy on migratory fish in the River Tornio. The potential impacts of offshore wind power development are within the Bothnian Bay Water District's River basin management area, and it would be important to provide means to avoid adverse impacts or improve conditions for migratory fish in the sea. The Regional Council of Lapland requests that consideration be given to the significant cultural and economic importance of Tornio River salmon in the Tornio Valley, the Bothnian Bay and the wider Baltic Sea.

The Regional Council of Lapland also wishes to draw attention to the pressures arising from the need to mitigate climate change and the pressures arising from the need to ensure material and energy self-sufficiency. This includes the Green Transition projects mentioned above. In Finnish



Lapland there are four operating mines, three mines are planned to be closed, and five mines are in various stages of planning/permitting. In addition, several pumping stations are planned around Kemijärvi and possibly along the main channel of River Kemijoki, which flows into the Bothnian Bay. Further information on the combined effects of these projects on surface and groundwater is needed and should be taken into account in water management planning. A knowledge base on the impacts and carrying capacity of water bodies could greatly assist the coordination required in planning.

Natural Resources Institute Finland

According to the Natural Resources Institute Finland, it is important to consider water bodies as a whole in river basin management, taking into account the different types of water bodies, their improvement needs and interconnections. It is essential to involve all actors causing pressures and users of ecosystem services in water management. Permitting procedures, such as new or renewed permits for industrial projects, should take into account the overall situation of the water body or river basin. For example, significant hydropower generation, which is important for power regulation, requires long-term and comprehensive measures to restore the natural cycle, especially for migratory fish, and monitoring of the impact of these measures not only within the river basin but also in a wider context. In addition, it is important to remember that river regulation causes ecological damage not only in the river itself, but also in the river basins and catchments. Water status is also significantly affected by diffuse and point sources of pollution, such as urban waste and rainwater run-off, agriculture and forestry. These sources of pollution need to be tackled at source. As the climate changes, extreme weather events are predicted to become more frequent, which may contribute to water pollution.

Watershed-based planning is a key part of water management, and it is positive that a planning platform has been introduced to support this. The pressures on water bodies are largely determined by catchment actions and there is room for improvement. In order to achieve a more natural state of water bodies, it is important to continue the restoration of old log driving routes and dams, and attention should also be paid to smaller structures that impede fish migration and other movements, such as culverts. The removal of these barriers and the naturalisation of the riverbeds will contribute to the well-being of the ecosystem as a whole and, in particular, to the recovery of fish populations. The vegetation surrounding the bank is also an essential factor to consider, as shading vegetation protects shallow waters from temperature fluctuations. When assessing the impact of water management, both biodiversity and the state of aquatic ecosystems must be considered, taking into account both endangered and common species to prevent species decline. The EU Restoration Regulation, adopted in 2024, will set binding targets for Member States to restore ecosystems, habitats and species.

The Natural Resources Institute Finland stresses that the measures outlined above should be accompanied by measurement-based information on the status of surface and groundwater bodies in the river basin district. For the shared Swedish and Finnish river basins, it is important to develop and harmonize environmental monitoring between the two countries. In Sweden, measures taken in the river basin district of the Bothnian Sea region also affect the status of Finnish river basins, and vice versa.

In the marine area and the Tornio River, for example, harmonization of the criteria for water body assessment and a transboundary assessment of the overall impact of environmental



measures on the whole river basin is desirable. This approach aims to obtain a realistic overall picture and improve the effectiveness of the measures. The Tornio River is connected to the Kalix River, so the analysis should take this into account and, where appropriate, consider these rivers as a whole. The rivers flow into the Bothnian Sea, and the border between Finland and Sweden in the Bothnian Sea is a line drawn in the water.

Monitoring and managing coastal fish stocks, particularly Vendace (*Coregonus albula*), Whitefish (*Coregonus lavaretus*), Sea-run brown trout (*Salmo trutta m. trutta*), and Salmon (*Salmo salar*), requires cooperative structures to assess the status of these stocks and regulate fishing on a stock-specific basis, transcending ecologically artificial limits. The construction of new wind farms is one form of human activity in the marine area that may impact fish and other biota well beyond the construction area. Assessing the impact of such activities requires broad and multifaceted cooperation across national borders. Therefore, the assessment of the status of the river basin should comprehensively consider aquatic organisms and their food web from inland waters to the coastal zone, integrating these assessments with catchment measures and environmental monitoring.

The status of water bodies is the sum of many different factors, including flow regulation, catchment management measures, discharges from industry (including mining), urban run-off and agriculture, and extreme events, which are becoming more frequent as a result of climate change. There is a strong link between the status of water bodies and the potential for fish stocks to thrive. Removing barriers to migration and restoring catchments will help fish populations recover. Understanding the food web - from inland to coastal areas - is important to assess the impact of water management on fish stocks and to prevent species decline.

Water management requires a wide range of actors to work together - including permitting authorities, research, water user groups and governments. Especially in transboundary water bodies, such as the Tornio River and the Bothnian Sea, there is a need for common approaches and harmonised environmental monitoring between Finland and Sweden. In the management of transboundary fish stocks, it is important to establish cooperation structures that take into account both the habitat of the species in the river and at sea and the impact on the whole catchment area, and that allow for joint regulation of fisheries.

Federation of Water Protection Associations in Finland

The development of monitoring and its harmonisation, so that the status of water and environmental problems can be reliably assessed, should be further emphasised in the plan. Cooperation between neighbouring countries in the border area is also important for monitoring water status, especially in the event of possible exceptional floods. This issue has recently been raised in the public debate in Finland. In the River Basin Management Plan for the Bothnian Sea, cooperation in potential crisis situations was poorly considered. Good practices in monitoring and surveillance between countries have also been adopted. This will enable international, national and water user cooperation between different actors to improve water management. In the Bothnian Sea, international cooperation will become more important as the sea area will be subject to many new pressures (e.g. wind power). A wide range of cooperation actors has been considered in the plan.

The Swedish Bothnian Bay River Basin Management Plan 2027-2033 is comprehensive and well prepared, but its implementation will require significant resources and cooperation between different actors. Managing the effects of climate change and dealing with historical environmental damage are particularly challenging, but the plan provides a good basis for improving river basin management and promoting sustainable development.



The plan has emphasised issues that will become more important in the future. With regard to industrial change, the plan emphasises the importance of water management in the context of industrial transition and societal change, which is important for managing environmental impacts. This implies a careful assessment and analysis of the water protection aspects of the different projects. From a water protection perspective, new projects must not be implemented in a way that does not fully meet water protection criteria. The use of best available techniques can prevent projects from having an impact on water.

It is great that Sweden has decided to implement a national hydropower inspection plan, where all hydropower plants will be inspected to ensure that their operation meets modern environmental requirements. Indeed, the environmental impact of hydropower has been identified as a key issue in the Bothnian Bay River Basin Management Plan. Hopefully, the values of aquatic nature will be strong enough to prevail in this competition. In principle, the situation in Ostrobothnia should be easier than in Sweden, where the power plants are very large and indeed account for a large proportion of the country's electricity production. In Ostrobothnia, most of the hydropower plants are small and of little importance for national electricity production. However, the importance of Swedish hydropower plants for electricity production must also be assessed in terms of water management, as technical solutions and know-how have developed significantly over the decades. Awareness of the negative effects of hydropower on aquatic ecosystems has also become an increasingly important part of the social policy debate.

For drinking water, the new Drinking Water Directive has to be taken into account. This has also been taken into account in the plan in a fairly comprehensive way. The new Drinking Water Directive and the associated risk management measures are central to assessing the implementation of water protection as part of society's water supply. The emphasis in the Drinking Water Directive is on ensuring the quality and sufficiency of drinking water, which is an important element. In this context, the importance of natural water quality as a source of domestic water in the event of a potential crisis should also be taken into account. This underlines the importance of monitoring data. Crisis awareness from a drinking water/risk management perspective should also be part of the River Basin Management Plan for the Bothnian Bay.

The development of monitoring and its harmonisation, so that the status of water and environmental problems can be reliably assessed, should be further emphasised in the plan. Cooperation between neighbouring countries in the border area is also important for monitoring water status, especially in the event of possible exceptional floods. This issue has recently been raised in the public debate in Finland. In the Bothnian Bay River Basin Management Plan, cooperation in potential crisis situations and times was poorly taken into account. Good practices in monitoring and surveillance between countries have also been adopted. This will enable international, national and water user cooperation between different actors to improve water management. In the Bothnian Sea region, international cooperation will become even more important as there are many new pressures on the sea area (e.g. wind power). The plan was comprehensive in its coverage of cooperation actors.

In particular, the applicant has asked for comments on the social importance of water. Water is a vital resource that affects many aspects of society. We focus on health and well-being and ecosystems. Clean water is essential for human health and well-being. It is essential for maintaining hygiene and preventing disease. The use of water for recreation also contributes to people's well-being and creates the conditions for a wide range of leisure activities. It has been shown that simply spending time near clean water improves people's well-being and health.



Pollutants released into the environment through mine water, industrial water and municipal wastewater can also pose a risk to human health. To prevent these impacts, the best available technology should be used and, wherever possible, closed-loop facilities should be planned for various projects to ensure that environmental health is not compromised. River basins, when left in their natural state, provide many recreational opportunities.

Water sustains biodiversity and ecosystem services that are important to both nature and people. The degradation of one part of an ecosystem is reflected in the state of the whole ecosystem. A water ecosystem begins on land. Activities on land have a direct impact on the water body. Drainage in the catchment areas of rivers flowing into the Bothnian Sea and intensive agricultural and forestry practices are putting increasing pressure on fresh water and marine ecosystems. Even the previously clean Gulf of Bothnia now suffers from extensive blooms of blue-green algae and fish populations are threatened. In the low-salinity Gulf of Bothnia, the range of many species is already disrupted at Kvarken, and only a few survive in the entire Bothnian Bay, where unique habitats and endemic species have developed. This increases the vulnerability of the marine area. Fish stocks and migratory routes in the sea, which is important for commercial fishing, have been altered by climate change, freshening waters and heavy pollution. Well-functioning ecosystems and clean water bodies are more resilient to pressures such as climate change and water use. Monitoring the effects of climate change and planning for adaptation are highlighted in the plan, which also addresses the impact of climate change on marine management. More information on the region's marine environment is needed as a basis for monitoring the effects of climate change and planning adaptation measures. The indicators used in water management should be such that they can be fully applied in the Bothnian Bay as well.

For example, the impacts of increased food production and warming waters in the Bothnian Bay area have been considered, but less attention has been given to how water protection can be improved in this context. Climate change and global developments, as well as measures to mitigate climate warming and halt biodiversity loss, will affect agricultural activities in the coming years. These changes should be taken into account proactively in order to minimise the environmental impact of agriculture on water protection. For example, the EU's biodiversity strategy and climate targets have both positive and negative impacts on food production. It should be noted that Finland and Sweden are committed to the EU Biodiversity Strategy target of halting and reversing the loss of biodiversity by 2030. The impact of food production on water bodies and the decline or loss of biodiversity is visible locally in food production areas. In the Bothnian Bay area, even small increases in agricultural nutrient loads affect the ecosystem, which is home to sensitive species.

Federation of Finnish Fisheries Associations

Water management measures on the Swedish side have a major impact on the state of fish stocks in the Bothnian Sea and, for example, in the case of salmon, in the Baltic Sea as a whole. From this point of view, we consider it useful for Finland to participate in the SEA process and to try to contribute to achieving and maintaining the best possible status of the waters on the Swedish side as well.

The work programme has taken good account of water quality challenges and priorities. Good water quality and functioning migration routes past large power plants and smaller migration barriers are a necessity for fish stocks, which we want to emphasise in the coming planning period.



With regard to water quality and the accumulation of environmental toxins in fish, such as dioxins, PCB and PFAS, we propose to pay particular attention to river basins with a long industrial history. The impact of industrial projects on bottom sediments in these areas should be taken into account in order to minimise the re-entry of hazardous compounds into the cycle and their uptake by humans and animals through the food chain.

Finnish Sámi Museum Foundation

The Swedish Bothnian Water District is located in the Sámi area (Sápmi) on the Swedish side and borders on Sápmi on the Norwegian and Finnish sides. The consultation document mentions cooperation partners such as kayakers but does not mention the Sámi people or their representative organisations. In the preparation of the Bothnian river basin management plan for years 2027-2033, the Sámi communities in the area, such as the Swedish Sámi Parliament, the Swedish Sámi museums and the Sámi villages in the area, should be consulted and involved. On the Finnish side of the state border of the River Basin Management Area, there are nationally significant landscape areas. If the planned measures have an impact on these landscape areas, the relevant Finnish regional museums must be consulted.

Government of Åland

The Government of Åland does not give a statement as the distance Åland and the Gulf of Bothnia is long, and there is nothing in the work programme that would adversely affect Ålands territorial waters.

Ministry of Social Affairs and Health, Ministry of Agriculture and Forestry, Ministry of Transport and Communications, Finnish Safety and Chemicals Agency, Reindeer Herders' Association and Regional Council of Southwest Finland did not have any comment on the matter.

Participation in the transboundary SEA procedure

Based on the received statements and reflecting its own views, the Finnish Environment Institute states that Finland intends to participate in the transboundary SEA procedure of the Bothnian Bay River Basin Management Plan for 2027-2033.

Conclusions

The Finnish Environment Institute considers that it is important to examine and assess all the remarks mentioned in the comments. Based on the response received during the consultation, the consultation documents are mainly comprehensive. The statements given focused, in particular, on ecosystems and ecosystem services, migratory fish, such as salmon, and the use of natural resources, including wind power and hydropower. They also highlighted the role and importance of cooperation and coordination between Finland and Sweden on river basin management issues.

The Bothnian Bay River Basin Management Plan may have transboundary impacts, particularly on Finnish ecosystems and migratory fish. The impact of the river basin management plan for Finnish ecosystems and migratory fish should be assessed. The effects of the river basin



management measures in the Bothnian Bay Water District on the water statuses of both shared water bodies and Finnish water bodies must be assessed.

An assessment of the impacts on ecosystem services is also needed. For example, the effects of the plan on drinking water quality and recreational use of water bodies should be assessed. As the river basin management plan area is located in the north, it is necessary to assess the impact of the plan on Sámi people and their culture and livelihood.

To conclude, the Finnish Environment Institute requests that the SEA will provide a transboundary impact assessment with a specific regard for the provided statements to the extent possible.



Head of Services

Jenni Juslén

Senior Officer,
Point of Contact to the Espoo Convention and
the SEA Protocol

Wilma Poutanen

This document has been electronically signed. The electronic signatures can be verified from the register office of the Finnish Environment Institute.

Appendices

Received statements in Finland

For information

Ministry for the Foreign Affairs
Ministry of the Environment
Regional Council of Lapland
Natural Resources Institute Finland
Federation of Water Protection Associations in Finland
Federation of Finnish Fisheries Associations
Sámi Museum Foundation
Government of Åland
Ministry of Social Affairs and Health
Ministry of Agriculture and Forestry
Ministry of Transport and Communications
Finnish Safety and Chemicals Agency
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