



NEW ACTION: Adaptation of the fisheries sector to climate change in MSP

Short description

The new action focuses on how the Finnish MSP Plan can consider the impact of climate change on the fisheries sector. The challenge is approached by engaging the fisheries sector into evaluating the impacts based on climate change modelling results and then integrating this information into the MSP planning process.

Project partner(s) responsible for the preparation of the new action

FI RCSW

Action typology

(iii) Process-related practice (i.e. creation of working groups, consultation, workshops)

(v) analysis

Topics addressed

B. Climate change adaptation - B.3 Anticipation of climate change-related effects.

C. Sustainable sea-food production - C.1 Sustainable fisheries: sustainable fisheries management, including area and time-based measures.

Geographical scope

National, including the three planning areas. The Åland Islands has jurisdiction of their own MSP and is responsible for preparing its own plan and is not covered in this new action.



Sectors/Activity involved

Fishing

How does the new action support the Green Deal in MSP

In the Finnish Maritime Spatial Plan 2030, climate change adaptation (B) as a concept is not used or the topic widely considered. To fill this overall gap, new actions on climate change adaptation from the viewpoints of all marine sectors and marine nature are needed. In this new action the focus is on commercial fishing, which the Finnish MSP Plan identifies as a key sector in sustainable sea-food production (D.) and aims to support its vitality and longevity. **The impact assessment of the plan showed that this objective was not reached as it was estimated that the vitality of the fishing sector was not going to improve once the MSP Plan has been implemented. Fishing was the only sector this conclusion applied to. Therefore, new actions are required for MSP to better consider sustainable fisheries (C.1.) in the future. To make sustainable long term planning decisions, the impacts of climate change, among other factors, will have on the fish stock and professional fishing need to be considered.**

The new action focuses on the future of sustainable fisheries (C.1.), especially from the perspective of the sector's climate change adaptation (B.3.). It develops an approach that can aid MSP in anticipating and considering the impacts of climate change on the sector. The need for action in Finland is emphasized by the lack of a sectoral national strategy on the topic. Although the focus is on one sector, many of the general principles identified in the development and implementation of the new action can also be applied to other sectors and the environment. This will support the consideration of climate change adaptation in MSP more widely.

The new action aims to improve the interaction between MSP planners and the fisheries sector and enrich the knowledge base on the impacts of climate change on professional fishing. **Through the engagement of the commercial fishers, especially the local scale actors, in all planning areas the action aims to improve the representation of the sector and their capacity to impact the planning of the sea areas. Therefore, the action supports the consideration of a fair and just transition in MSP.** Scientific information on climate change is used to engage MSP planners and fishers and their representatives in discussion about the future of the sector. As climate change will likely affect the fish stocks at the Baltic Sea, there is a need to evaluate how fisheries can adapt to these changes. In addition, the identification of the data and knowledge gaps related to the topic will aid in directing resources to these questions in the future. To make an impact on how the MSP process and the resulting plan considers the future of sustainable fishing, the new action looks at how the collected information and the lessons learned can be utilized by MSP planners in their work and decision-making.

Governance context

The MSP authorities in Finland, including the Ministry of Environment and the eight coastal regional councils, are the key actors responsible for the implementation of the new action. These actors have the most expertise on the content of the MSP Plan and its estimated impacts on commercial fishing. Based on this expertise they can evaluate what information is required for the plan to better promote sustainable fishing. They therefore need to be engaged in the new action from the beginning, starting with the involvement in the preparation of the workshops and their objectives. This is followed by active participation in the workshops and data collection, and the analysis of the results and their integration to process of preparing the updated MSP Plan.

Other stakeholders to be involved in the new action

For a successful implementation of the new action, the following stakeholders need to be involved:



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- ✓ The fishing sector, including fishers and the organizations that represent them, is the main actor that needs to be engaged in the new action. The local scale coastal fishers are the ones most impacted by both climate change and other changes happening at seas. Providing these actors with the opportunity to impact the content of the MSP Plan is important for its capacity to support sustainable fishing.
- ✓ National research institutions with expertise on climate change, fishing, and fish stocks provide information on how the climate will change and how it will likely affect the sector in the future. This will form the basis for the discussions with the fishing sector on the possible future changes. The engagement of experts into the workshop is beneficial as they can comment on possible questions and share their knowledge with the participants.
- ✓ National level authorities and other organizations were engaged into the process in the national level workshop. Their involvement was important in forming an overview of how climate change is or should be considered from the perspective of fishing. In addition, these stakeholders are part of the target audience for the results of the new action, in addition to the MSP planners.

Description of the new action

The first step of the new action is the preparatory work that is required before the engagement of the stakeholders in the workshops. Once the gap regarding sustainable fisheries and climate change in the Finnish MSP plan had been identified, the new action was developed in collaboration with the Finnish MSP authorities. The MSP Planners provided local knowledge on actors and topics relevant for their region and on how we should approach the gap so that the collected information would support the preparation of the upcoming MSP Plan.

The modelling results on climate change were provided by experts from the Finnish Environment Institute. The information consisted of multiple variables such as water temperature, ice conditions and salinity. From these variables the most important ones were selected with the aid of experts on fish stocks and fishing from the Natural Resources Institute Finland. In the workshop, the information would be printed on paper maps and to make this approach feasible three of the most important variables were selected based on the area where the workshop was held. In addition, a suitable spatial and temporal scale for presenting the information needed to be defined.

The work started with a national workshop, where participants representing national organizations related to fishing discussed the impacts of climate change on the sector. Representatives from the Finnish Ministry of Agriculture and Forestry, the Federation of Finnish Fisheries Associations and the Finnish Federation for Recreational Fishing attended the event. The aim was to clarify the current situation and identify the broader trends related to the topic. For example, what has already been done, what is the current knowledge base and what needs to be done next. The information gained from the workshop was utilized in the designing of the following regional events.

To reach the local fishers, the workshops were organized in all sea areas. This would enable the collection of local knowledge matching the spatial scale of working environment of the fishers. Working at this scale can cause challenges in reaching the local stakeholders. To improve the chances of successfully reaching the stakeholders, the regional councils and the local fisheries representatives aided in the identification of potential participants for their areas and the

communication related to the events. The aim was also to reach a representative group of stakeholders and enhance their capacity to influence the planning process.

The second step is the implementation of the workshops. During the project period one national and six regional workshops were organized. As climate change alone was not seen as a sufficient topic to raise the interest of stakeholders, the workshops were organized as parts of events related to either the future development of sustainable fishing or offshore wind energy development in the sea area. As there were multiple workshops, the structure and content of the workshop were improved based on experiences from the previous workshops.

The workshops started with a presentation on how fishing and climate change adaptation is currently considered in the Finnish MSP Plan. This was followed by a presentation by the experts from the Natural Resources Institute Finland on the impacts of climate change on fish stocks. The aim of the presentations was to introduce the stakeholders to the topic and the objectives of the work. This was followed by group work where the goal was to identify what are main concerns of the fisheries related to the impacts of climate change and how will the areas that are used for fishing change in the future. To aid the discussion, the results of climate change modelling were printed on maps showing the current and future (year 2100) state and the change rate of variables relevant for the region. The discussion was then continued by evaluating how significant of a challenge climate change poses for fishing and how it compares to the other challenges faced by the sector. To finalize the workshop, the stakeholders were asked to evaluate whether there is a need for more information on climate change and if there is, what kind of information is needed. In addition to scientific and expert knowledge, the possible sources of information include the local stakeholders' knowledge.

The last step of the new activity is the analysis of the collected results and the integration of the gained knowledge into the MSP process. The main objective is that the MSP Planners will evaluate based on the collected information how the MSP Plan can contribute to the vitality of the sector. During this work the planners need to consider issues such as:

- ✓ The MSP process needs to consider which general principles can be compiled from local scale observations and how can they be integrated into the national MSP process in a way that is impactful. The planners also need to consider the other more binding planning and guiding tools related to fishing and their relationship to MSP.
- ✓ A suitable timeframe for considering climate change in MSP needs to be identified. For the fishing sector, looking many decades into the future can be less relevant and instead it may be more appropriate to focus on pressures faced by the industry in the upcoming five years. The MSP planners need to consider how pressures functioning in such different temporal scale are considered in the MSP Plan.
- ✓ How should the MSP process be designed so that it will create sufficient information to support sustainable planning decisions that consider the future of marine activities. The new action has shown that the MSP process and cooperation of actors in multiple occasions is important for the success of the resulting MSP Plan. Additionally, the planners need to consider how local knowledge from the fishers is combined with scientific and expert knowledge to reach the best possible result.
- ✓ The MSP Plan identifies significant areas for fishing. As they are likely to change, the planners need to consider



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how can the future potential be shown on the plan map using a strategic map marking.

- ✓ The Finnish MSP plan has been prepared in three parts in three planning areas. The planners need to collaborate to bring together knowledge from all areas. Due to the geographical location and size of Finland, observations made in different parts of the coast can be used to evaluate the future changes in other parts of the country. For example, the decreasing of ice coverage will happen first in the south of Finland and these experiences can be benefited from in the more northern planning area. In addition to planning their own area, the planners need to reach common planning decision at the national level.
- ✓ Finally, the MSP planners need to consider how the collaboration with the fisheries sector will continue and what actions and forms of communication are still needed. For example, there is a need to consider how the objectives of the fishing sector are reconciled with the future objectives and adaptation measures concerning other activities at sea. Additionally, out of all the maritime sectors, the planners have least experience in engaging with the fisheries and aquaculture sectors. For efficient collaboration, additional effort is required to increase the sectors trust in the MSP process.

Possible challenges/risks related to the new action

Getting local fishers to participate in the workshops can be challenging. The issues discussed need to be relevant for them and match the challenges they are facing, i.e. they need to be motivated to participate. This can also support building stakeholder trust in MSP which can lead to higher motivation to participate. In addition, practical challenges such as finding a suitable time when fishers are not at sea, reaching the fishers when communicating about the event and finding the most suitable location for the events need to be considered. As presented by the new action, engaging organization representing the interests of the fishing sector can aid in overcoming these obstacles.

Based on the experiences gained from implementing the new action, focusing on long term challenges such as climate change can be difficult for the fishers when they are currently facing other urgent challenges in their everyday work. In these cases, the fishers can be more motivated to focus on these topics instead. Although, the action showed that the impacts of climate change have already been noticed by the fishers. Regardless, the methodology is limited when it comes to the variety of topics that will affect the future of professional fishing.

The information on climate change that is used to guide the discussions with needs to be carefully designed. First, when looking at climate change, the focus is usually on certain snapshot of time, in this case how the sea will change during an approximately 80 year period between the years 2005-2015 and 2090-2099. Choosing a time in the future which can be easily comprehended and matches the development needs of the sector is important. In addition, information on the rate of change between the snapshots is needed. Secondly, the variables that the discussion is built around needs to be carefully defined. For example, should the focus be on changes in water temperature, salinity, or yearly ice cover. These variables should also be presented in a way that can be meaningfully interpreted by the fishers. In this case, average values for ten year periods were used for the current (2005-2015) and future (2090-2099) situation. Additionally, this information should be supported by expert information on how the changes in these variables affect certain fish species: i.e., what level of change is significant for fishing. Finally, the scale at which information is presented on climate

change defines the spatial precision of the information that can be collected. The selected scale should match the objectives set for the work.

Gaps or elements that the new action does not consider

During the designing and implementation of the new action a few elements were identified that could be improved in the future.

- ✓ Recreational fishing is responsible for producing a significant share (~70 %) of the local fish consumed in Finland. For the action to consider all aspects of fishing more comprehensively, stakeholders representing recreational fishing should be involved.
- ✓ There are multiple other issues that affect the future of professional fishing such as the changes in the ways that sea areas are used especially as the result of the development of permanent infrastructure (for example offshore wind farms), shortage in new fishers, the management of species harmful to the sector, and development of value chains for different fish species. Therefore, further actions that focus on these factors are needed to form an a more comprehensive overview of the future of fishing.
- ✓ The fishing sector was not included in the development of the methodology of the new action. As there were multiple events it was possible to collect feedback on the selected approach from the participants and make improvements for the next event. In any case, co-designing of the methodology in advance would be beneficial.

Replicability /Elements which can be capitalised

The designed new action included the following elements that could be capitalised in other contexts.

- ✓ Taking advantage of the results of climate change modelling to discuss the impacts on fisheries or other sectors can be applied in any context where such data is available. The experiences learned from implementing the new action can aid in defining the type of information that would best serve the purpose. For example, how to choose a suitable spatial and temporal scale to support the discussions.
- ✓ The new action highlights that how the MSP planning processes is implemented is important. The new action shows how the planning decisions are built on information collected from multiple areas and how by repeating certain actions the gained knowledge can be deepened.
- ✓ The approach presented in the new action serves the need to support regionally and locally relevant issues in MSP. It is crucial that the information supporting decision-making is collected from all regions and areas equally. This process supports a fair and just transition and increases the likelihood that each of the regions is willing to commit to the objectives set in the MSP plan.
- ✓ The way the fishing sector was engaged and provided with an opportunity to influence the planning process could also be applied elsewhere as an approach to enhance the consideration of topics related to fair and just transition within the MSP process.

In principle, a similar action could be implemented in any other context. The national context of MSP, the existing relationships between authorities and the fisheries sector and the availability and characteristics of data on climate change are all issues that need to be considered if the action is to be replicated elsewhere.