Natural resources and bioeconomy studies 47/2025

Shifts in small-case fishing in Åland

An overview of changes in regulations, catches and livelihoods between 2008 and 2025

Kristina Svels, Viktor Eriksson, Linda Sundström and Pekka Salmi

Luke

Natural resources and bioeconomy studies 47/2025

Shifts in small-case fishing in Åland

An overview of changes in regulations, catches and livelihoods between 2008 and 2025

Kristina Svels, Viktor Eriksson, Linda Sundström and Pekka Salmi

Natural Resources Institute Finland 2025

Ålands landskapsregering

Referencing instructions:

Svels, K., Eriksson, V., Sundström, L. & Salmi, P. 2025. Shifts in small-scale fishing in Åland : An overview of changes in regulations, catches and livelihoods between 2008 and 2025. Natural Resources and Bioeconomy Studies 47/2025. Natural Resources Institute Finland. Helsinki. 64 p.

Kristina Svels ORCID ID, https://orcid.org/0000-0002-5805-5624

Translations of this report are also available in Finnish and Swedish

Muuttuneet olosuhteet Ahvenanmaan pienimuotoisessa kalastuksessa : Yleiskatsaus sääntelyn, saaliiden ja toimeentulomahdollisuuksien muutoksiin vuosina 2008–2025. Luonnonvara- ja biotalouden tutkimus 55/2025. http://urn.fi/URN:ISBN:978-952-419-083-1.

Ändrade förhållanden för det småskaliga fisket på Åland : En översikt över förändringar i regelverk, fångster och försörjningsmöjligheter mellan 2008 och 2025. Forskning i naturresurser och bioekonomi 56/2025. http://urn.fi/URN:ISBN:978-952-419-084-8.

Luke

ISBN 978-952-419-075-6 (Online)
ISSN 2342-7639 (Online)
URN http://urn.fi/URN:ISBN:978-952-419-075-6

Authors: Kristina Svels, Viktor Eriksson, Linda Sundström and Pekka Salmi
Publisher: Natural Resources Institute Finland (Luke), Helsinki 2025
Year of publication: 2025
Cover picture: Therese Andersson

Abstract

Kristina Svels[1], Viktor Eriksson[2], Linda Sundström[2] and Pekka Salmi[1]

[1] Natural Resources Institute Finland (Luke)
[2] Government of Åland, Fisheries Agency

Almost two decades have passed since Erik Neuman wrote the report "Fishing and Fisheries Management in the Åland Archipelago" (2007). However, since 2007 many economic, societal and environmental changes have taken place, motivating a new report to be compiled that examines, not only the commercial fisheries sector, but also addresses issues related to recreational, household, and tourism fishing. Data is compiled from structured interviews, Q-method analysis, work-shops, document analysis and a survey to water-owners.

The report provides an overview of key topics including the structure and governance of the Ålandic fisheries sector and regulation of small-scale fisheries. It presents major species such as perch, pike-perch, herring, whitefish, salmon, and cod and analyses quotas, fish stock monitoring and user rights. The report looks at the roles, challenges and opportunities for a broad fisheries sector, highlighting a decline in commercial fishing and the increasing complexity of fishery management and water ownership. Issues with grey seals and cormorants are discussed from an Ålandic perspective. Based on the findings, this report proposes several recommendations for the Government of Åland to consider, including strategic planning and policy development; collaboration and stakeholder engagement; fisheries management and conservation; and support for commercial fishers, economic development, and market expansion.

The results show that Åland's fisheries sector, deeply rooted in the islands' cultural heritage, faces growing challenges from environmental pressures, regulatory changes, and societal shifts making it harder for commercial fishers to maintain their livelihoods. The decline in the number of commercial fishers has also weakened traditional practices and knowledge. Issues like eutrophication, water conservation, and increasing seal and cormorant populations add further strain on all fishers. The absence of a comprehensive fisheries strategy highlights the need for long-term, integrated solutions.

Despite this, opportunities for fishers remain. While some collaboration exists, such as between water commons on licenses, environmental projects via the Fisheries Local Action Group and Leader program, and recent government initiatives on recreational fisheries, a broader and stronger cooperation is needed. Addressing the challenges requires not only policy adjustments but also a renewed recognition of the social and cultural value of the broader fisheries sector. By fostering co-creative governance and strengthening the fishers' representation in decision-making on the Ålandic national level, the sector can ensure the resilience of its fishers and safeguard its fisheries cultural and economic future.

This report is written within the realm of the Horizon Europe "Socio-economic Empowerment of coastal communities as users of the sea to ensure sustainable coastal development" (EmpowerUs) project 2022–2025.

Keywords: Åland, commercial fishing, household fishing, recrerational fishing, tourism fishing, water ownership, water commons, owner-based resource management, cultural heritage

Contents

1. Introduction

Our society is undergoing major changes due to severe shifts in the climate affecting both our ecosystems and biodiversity, and, in the long run, those people living by the sea and depending on natural resources for their livelihoods. Amid constant change, one of the sectors impacted is the fishing industry, which faces significant challenges and transformations.

Almost two decades have passed since Erik Neuman wrote the report *Fishing and Fisheries Management in the Åland Archipelago* (*Fiske och fiskeriförvaltning i Ålands skärgård,* Neuman 2007), which focuses on fishing sector issues and management in the Åland archipelago region. Since then, many changes have taken place, prompting us to compile a new report that highlights the complexity of fisheries governance and fisheries management in the Ålandic waters. This report is meant to serve as a valuable knowledge base for all stakeholders engaged in the Ålandic fisheries sector. The report provides an overview of the challenges facing local fishing, particularly with regard to governance systems, ecological changes, climate impact, and the management of fish stocks. In his report, as well as emphasising the need for sustainable fishing practices to protect marine resources and biodiversity, Neuman addresses how fishing in the archipelago is an important part of the local economy and culture. He also discusses how various stakeholders, including fishers and authorities, can collaborate to ensure a long-term balance between fishing and environmental protection.

Today, many issues remain relevant, such as the unchanged historical background and water ownership structures, though the latter now face new challenges and concerns. However, the content of the report needs to be updated and amended due to the curves and paths society has taken during the past 18 years since the Neuman report was published. Thus, we ask ourselves "**What has taken place within the Ålandic fisheries sector during this time and what might the explanations be?**"

Within the realm of the Horizon Europe EmpowerUs project, and as a part of its pilot "The Ålandic Fisheries Appeal" this report "Shifts in small-scale fishing in Åland – An overview of changes in regulations, catches and livelihoods between 2008 and 2025" (*Förändringar i småskaligt fiske på Åland – En översikt av regelverk, fångster och försörjning mellan 2008 och 2025*) studies the capture fisheries sector.

2. Methods

This report utilizes a mixed methods approach to analyse governance structures, practices, and policies related to the fisheries sector on the Åland Islands. The methodology is based on both qualitative and quantitative data collected through primary and secondary sources, ensuring a robust and multi-faceted perspective. These methodologies ensure a participatory and inclusive approach, incorporating voices and experiences from a broad range of actors, while aligning with the objectives of community empowerment and collaborative governance.

2.1. Primary data

This report outlines several key methods of primary data collection that form part of the EmpowerUs project methodology: structured interviews, workshops and the Q-method. This combination of methods has facilitated the analyses of discourses, governance structures and practices related to the fisheries sector on the Åland Islands.

2.1.1. Structured interviews (2022 and 2024)

To set the scene of the Ålandic state of fisheries and identifying discourses important for the whole sector, thirteen structured interviews were conducted in 2022 with experts from various stakeholder groups. These included representatives from government agencies, community associations, the fisheries sector, municipalities, and the environmental sector. These interviews identified governance challenges and facilitated a detailed mapping of stakeholder dynamics and policy implementation processes alongside raising the present state of discourses on nature- and water preservation and community engagement in sustainability initiatives.

In 2024, seven in-depth interviews were conducted, six with commercial fishers and one with a household fisher, all of which were actively engaged in small-scale fisheries and specialised in herring fisheries. The interviews provided qualitative insights into the practical challenges faced in daily operations as well as governance-related issues including licensing, zoning, compliance, and lived experiences of fishers and their interactions with governing bodies.

2.1.2. EmpowerUs workshops (2023)

Two participatory workshops were held: workshop 1 on 31 May 2023 and workshop 2 on 28 November 2023. All in all, these sessions brought together 17 stakeholders from the fisheries sector, regional authorities, NGOs and community representatives. While the first workshop enabled discussions on future scenarios, challenges and possibilities for the fisheries sector in Åland, the second workshop started the pilot design by building upon the results initiated during the first workshop. Both workshops enabled co-creation of actionable recommendations to improve governance and resource management.

2.1.3. Q-method analysis (2023)

Q-methodology is a hybrid research technique that identifies shared perspectives by having participants rank statements (during an interview session) which are then analysed using factor analysis. The technique is widely used in social sciences to explore subjective viewpoints on complex issues. In the eight Q interviews in Åland, the issues raised were justice, distribution of natural resources, and decision-making related to the coast, sea, and environment (Appendix 1.). The Ålandic results are becoming a part of a complete analysis of inclusive methods used in the EmpowerUs project to investigate how different 'users of the sea' groups think about particular issues.

2.1.4. Survey of the local owner-based fisheries management systems (2024)

An online survey was conducted to examine the perceptions, challenges, and practices on fisheries governance, water ownership and access to fisheries waters, fisheries resources and regulations, and the complexity of boundaries, the effect of the greay seal population, and their practical implications for the fisheries sector. Participants (N=38) included representatives from statutory shareholders' associations (water commons) and the response rate was 29%.

2.2. Secondary data

2.2.1. Literature and document analysis

The review incorporated a wide range of secondary data, e.g. academic literature, policy documents, and program reports relevant to water and fisheries governance in Åland. These sources provided the foundation for contextual understanding and helped identify key themes, challenges, and opportunities in managing small-scale fisheries and the impact of water commons within communities. The policy documents included legislation, provincial government guidelines, programs for sustainable fisheries and water management and reports covering the fisheries sector.

The literature study began with a review of the Neuman's fisheries report (2007), which provides an in-depth look at the Åland fisheries governance system and the status of fish stocks. The report highlights key ecological data, exploring the impact of environmental factors on fish populations. Additionally, the report is essential for understanding the balance between economic activities such as fish farming and the environmental status of water resources. To ensure the health of these crucial aquatic ecosystems, it calls for the continued monitoring and management of both wild and farmed fish populations. Neuman's study underscores the importance of fisheries in Åland's economy, particularly in fish farming, which was the region's largest export industry in 2007.

The next step of the review was compiling the desk-top literature review materials in a Governance Audit Report (Flannery, Murthag & Miller et al. 2022) which forms a key foundation of this report analysis.

2.2.2. Statistics and cartographic information

Statistical data used from Åland Statistics and Research Bureau (ÅSUB *Ålands statistik- och utredningsbyrå*) was demographic, economic, and ecological data relevant to fisheries and water resource management.

Maps illustrating water ownership, governance boundaries, and special zones designated for commercial fishing were provided through the provincial government of Ålands GPS data base from the national Land Survey Agency on Åland.

2.3. Supplementary data collection (2024 and 2025)

To ensure comprehensiveness and to fill data gaps, two supplementary interviews with informants from the Fisheries Agency and the Åland Fishers' Association were conducted in 2024 and 2025. New litterature and publications from 2025 were added into the analysis.

3. An insight into Ålandic society and its fisheries sector

This report aims to highlight the struggles, trends and possibilities within the fisheries sector in Åland (**Figure 1**) over the last two decades. During this time, significant sectoral and societal developments have occurred, and it is increasingly difficult to keep an overview. Indeed, when societal changes occur gradually over time, there is a risk that shifting baselines and norms obscure even significant trends over the long-term.

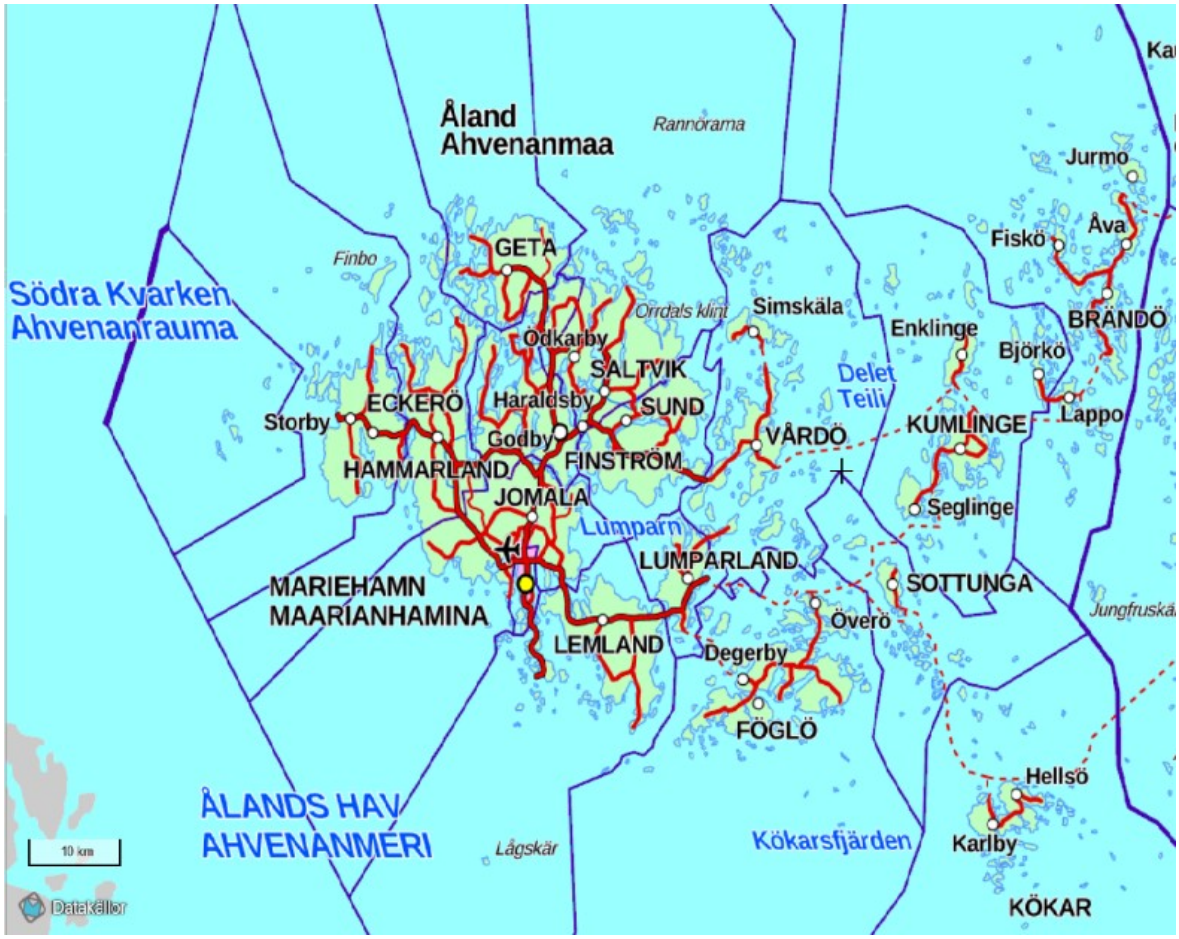

Figure 1. Åland Islands. Source: National Land survey, Finland, 2025.

3.1. A society in change

As observed in many other parts of the world, Ålandic society shows similar demographical trends of urbanization. During recent decades, Åland has experienced a net influx which compensates for a downward trend in the birth rate, resulting in net growth to have been continuous in Åland since 1970. In 2007–2023, the population increased by 3,388 people or well over 10% (ÅSUB 2023a). Regions with a significant growth are the city of Mariehamn and the municipalities closest to the capital. However, this can only be partially attributed to migration from peripheral regions to urban areas; rather, it primarily indicates that most newcomers to Åland choose to settle in urban areas.

The population of Åland is ageing, and in 2007–2023, the 65+ age group increased by over 50%. In 2023, this age group was the second largest segment of the population and in the majority in many rural areas (ÅSUB 2023b). This trend is also reflected in the ageing small-scale fisheries sector.

Migration movements and urbanization, especially by the younger section of the population, leads to a shift of power when land and water rights are inherited or bought. Today, it is not uncommon for individuals who hold a significant share in jointly or privately owned waters to live outside Åland. As a result, despite being water owners, they remain outside direct involvement in local communities. This contrasts with the situation in 1956, when fisheries legislation was enacted to establish guidelines for water management, thereby shaping the rights and responsibilities of water owners today, despite the considerable societal changes that have occurred since then.

3.2. A traditional fisheries region

Åland has a long-standing tradition as a fishing community, deeply embedded in its maritime culture and coastal way of life. For centuries, small-scale fisheries have been vital to local livelihoods, with fishers adapting traditional methods, such as trap-net fishing and gillnetting, to the region's brackish waters and seasonal changes. Historically, the small-scale fishery culture was often complemented by small-scale farming for food security.

Beyond its economic role, fishing holds a significant cultural value in Åland. Generations have passed down fishing traditions, local knowledge, and community-based practices, shaping the region's strong maritime heritage (Storå 2003). This legacy is reflected in local events, museums, and narratives that highlight the central role of fisheries in Ålandic identity.

3.3. A well-integrated yet challenged fisheries sector

The coastal small-scale fisheries sector has shown a dramatic decline in catches and numbers of fisher families, and this causes great concern among stakeholders. However, it is difficult to see any social movements or structural changes being made to support and make the sector more resilient and viable as a whole.

With regard to providing parts of food security and contributing to sustainability, the small-scale fishers are considered important both locally and internationally while at the same time being culturally relevant. However, they face an increasingly narrow and operationally challenging ground. Stricter governance and administrative demands, changing quotas, increasing seal and cormorant populations and access to water are all factors where neither the individual fisher nor the sector have control. Nevertheless, each of these issues significantly affect the fisheries sector.

With a collective turnover of over €95 million (Landsbygd Ax 2023), the fish farming sector is the most economically significant part of the Ålandic fisheries sectors. As previously mentioned, though this report will not go into depth regarding the fish farming sector, despite the numerous synergies between the fish farming and the small-scale fisheries.IIt is important to highlight that the fish farming sector supports the small-scale fisheries, for example, with necessary infrastructure to get the catch of wild fish transported to the market and a supply of crushed ice, which is vital to sell the catch.

3.4. Quality of the Ålandic waters

All the fisheries sectors have one very distinct thing in common: they all depend on a healthy ocean to thrive. Unfortunately, no coastal waters around Åland achieve a higher status than moderate when judged by the standards set by the EU water framework directive (European Parliament & Council of the European Union 2000). In addition, some bay areas are in a poor state (Åland Government 2020, p. 21). Since these inner water areas serve as important spawning areas for many species of fish, it is vital for the future fisheries in Åland that their ecological status is improved and maintained at a high level. In some areas, there are positive signals, and yet an increase in water quality takes a long time in the Baltic Sea to improve, and any measures implemented may take decades to produce noticeable effects.

Growing concern over the decline in biodiversity, environmental degradation and climate change also manifests itself in different demands of nature protection both internationally and regionally. Ensuring this occurs fairly within the complex landscape of ocean governance in Åland, it remains a major challenge that still needs to be addressed. A survey conducted in 2024 on the socio-economic effects of marine protected areas (Ekologigruppen 2024) shows that there is a public will to protect nature yet concerns regarding the recognition of various local contexts have been raised, such as fishing and hunting rights for the local communities and a distrust towards the government.

3.5. Statutory duties of the Governmental Fisheries Agency

3.5.1. Fish monitoring and state-conducted test fishing

To monitor the fish populations, the governmental Fisheries Agency in Åland conducts annual sample fishing in three locations: mainly perch (*Percha fluviatilis*), pike-perch (*Sander lucioperca*), and cyprinids. In 1976, monitoring started in an area called Finbo, northwest of the Åland mainland. In the Finbo area, from that time, different nets were tested and examined and from 1991, the same was done also in Lumparn, a central water area of the Åland mainland (**Figure 1**). As a result, the standardized method using the Nordic coastal nets was implemented as a practice: 2002 in Finbo and 2010 in Lumparn. From 2003, another area was incorporated as an eastern reference to Finbo, the Kumlinge archipelago, which is in the eastern part of the Åland archipelago[1] (**Figure 1**).

Following the EU-wide ban on fishing eastern Baltic cod (*Gadus morhua*) under Regulation (EU) 2019/1838, a project started in 2020 to gather yearly data about cod in the Åland Sea (Raitaniemi & Leskelä 2021). The initiative was motivated by reports indicating that cod in the Åland Sea was in very good condition and that there was a lack of scientific data covering this area.

[1] Finbo is a reference area for the nuclear powerplant Forsmark in Sweden. Finbo and Kumlinge are also part of an international network under HELCOM, the FISH-PRO III. These areas are focused on monitoring perch and cyprinids, while monitoring in the Lumparn area is focused on pike-perch.

Since 2009, different samplings for important fish species have been conducted using different methods. Pike (*Esox lucius*) is an important species for recreational fishing and tourism. In Åland, there have been two studies conducted to gather more information about pike fishing. To assess the effects of the catch and release fishing practice tagging was conducted between 2005–2006 (Ådjers 2008). Between 2009–2012, the tagging of pike was continued, catches were monitored until 2017 and the results presented a year later (Ådjers 2018). During 2019–2020, the Fisheries Agency was a part of County administrative board of Stockholm's project ReFisk 2.0. The target species was pike, and the goal was to develop a standardised method for monitoring and assessing the effects of protected areas on the population (ÅLR 2018/2416).

Since 2022, the Fisheries Agency has been a part of a fisheries data collecting network on herring (*Clupea harengus*). The data is gathered using coastal survey nets, which is a method used in the late seventies, and the monitored area is the eastern coast of Sweden and Åland. The Fisheries Agency collected numerical data for the Swedish University of Agriculture (SLU) and the aim is to compare the results over a 40-year period and study how the herring population in these areas has developed (Bergström et al. 2023).

As part of a scientific salmon fishing initiative in 2024, the Ministry of Agriculture and Forestry in Finland, together with the Government of Åland, the Natural Resources Institute Finland, and commercial fishers, collected scale samples from Atlantic salmon (*Salmo salar*) for genetic analysis. Commercial fishers from Åland participated in the data collection, and the samples were coordinated through the Fisheries agency. (Ministry of Agriculture and Forestry 2024a, 2025).

The purpose of the study was to map migration patterns and gather additional data on situations where salmon from endangered river stocks in Sweden were landed within Finnish fisheries. The results showed that only a small number of salmon caught during the scientific salmon fishing in 2024 originated from endangered river stocks.

Currently, there is no standardized monitoring for European whitefish (*Coregonus* sp.) in Åland in 2025. The restocking facility in Guttorp, the Åland fish conservation centre (*Ålands fiskevårdscentrum*), oversees the catches yearly when collecting roe from wild fish populations. Data is collected for a number of individuals and amount of roe. European whitefish seems to be declining around Åland and a monitoring program could be a good management practise for the species.

Local fishermen have played an important role throughout the monitoring efforts and projects. In activities involving gillnets, the Fisheries Agency collaborates with several commercial fishermen in the data collection. Additionally, the sampling for the ReFisk 2.0 project was conducted with the help of interested anglers and fishing guides.

3.5.2. Monitored fish populations

For the archipelago region between Sweden and Finland, coastal fish monitoring in three locations over a time series covering 9-20 years and ending in 2002 revealed long-term trends and community development for fish populations, where significant increasing trends were observed for perch and roach catches. Both temperature and eutrophication increased leading up to and during the period, and they are both possible explanations to the changes in the fish community (Ådjers et al. 2006).

Since 2002, the catches of perch and cyprinids in Åland have been stable and no major shifts in the fish communities have occurred. In 2025, there are very few trends in the parameters that are measured, which means that the fish community is stable. In Finbo, the monitored perch population shows good recruitment and survival, and the population is considered strong. Though the cyprinid population is also big, this is probably due to the area being an enclosed archipelago and nutrient rich. For Kumlinge, the recruitment of perch is good; however, survival is low, resulting in a decrease in large perch (over 25 cm). Predator pressures are likely reasons for this decrease and will be further examined in 2025. Pike-perch in the Lumparn area also shows good recruitment but adult pike-perch are considered to have a high mortality. Although fishing pressure and predation are a probable reason, the monitoring methods are also targeted for recruitment and can have an effect on the results.[2]

The Natural Resources Institute Finland (Luke) releases yearly result reports (Raitaniemi & Leskelä 2021, 2022, 2023, 2024) where results are compared between the Åland Sea and the rest of the Baltic, showing differences in condition and growth. Results from the sampling of cod in the Åland Sea confirm reports about the condition and abundance of fish (Raitaniemi & Leskelä 2024). The results show that the cod in Ålandic waters grow well, and that the population is in good condition. Similar results are shown for cod caught on the Swedish side of the Åland Sea. They also show that the cod caught there grows bigger and older than cod in the southern Baltic (Heimbrand et al. 2023).

The results for herring from 2022 show that catches along the Swedish coast were noticeably smaller than the historical results, especially for larger herring, despite the results from the sample site in north-western Åland having similar results as the historic data, also for larger herring. Although herring is decreasing in the coastal areas around Åland, the results from this report are positive for herring in Ålandic waters (Bergström et al. 2023). Despite this, this report is only based on results from one year and highlights the importance of continuous monitoring. The fisheries Agency have continued with the same method and have been gathering data on herring.

For pike, the results from the tagging experiment indicated that they are a stationary fish, and the same individual was caught within a small radius. It also showed a good survival of pike through catch-and-release practices, which have become popular in recreational fisheries. ReFisk 2.0 revealed positive results on the number of pike and the size in areas that were protected from fishing (Walve et al. 2018). The project resulted in suggestions for new protected areas along the Swedish east coast by the Swedish Agency for Marine and Water management (SwAM). The results from Åland followed the results in Sweden: also, in the Ålandic waters there were more and bigger pikes in areas that were protected from fishing (Kullman 2020).

[2] More information on test fishing in Åland by the Fisheries Agency can be found at https://www.regeringen.ax/miljo-natur/fiske-fiskar/provfisken

4. Governance structures, power relations and challenges

4.1. Multi-level governance of small-scale fisheries in Åland

The fisheries sector is the cornerstone of the Ålandic intangible heritage and archipelago culture. Along with the continuation of the traditions and the livelihood, structures of influence and power have also intertwined during centuries and have a significant effect still today. The fisheries governance structure has become increasingly multi-levelled in structure and the position of commercial fisheries changed remarkably after Finland joined the EU in 1995. Since Åland is an autonomous region with its own government and parliament, before this change, the fishers had mostly been dependent on local and regional institutions. Still, all business related to internal affairs fall under the competence of the Åland parliament and Åland has had its own fishing legislation since 1956. Although this legislation highlights the influence of local water owners in fisheries management, it is seen as requiring partial updates.

After 1995, fisheries in Åland became increasingly steered by international agreements and centrally made decisions along with the EU Common Fisheries Policy (CFP), which sets the framework for regulating and supporting commercial fishing. The main fisheries policy plan for Åland is outlined in the Finnish operational programme of the European Maritime Fisheries and Aquaculture Fund (EMFAF) for 2021–2027.

The structure of the Ålandic fisheries governance system is outlined in **Figure 2**.

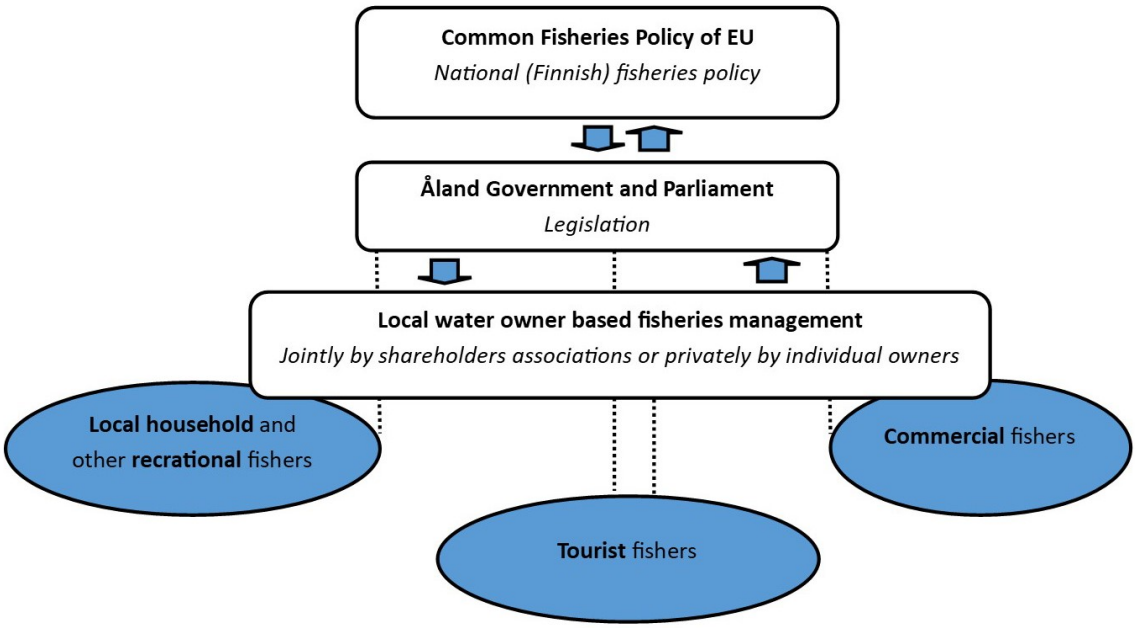

Figure 2. Institutional levels and main user groups in the Åland fisheries sector.

Despite the shift of power to the upper levels of governance, the local decision-making is of substantial importance for the Åland fisheries sector. Indeed, local decision-making remains crucial for the Åland fisheries sector regardless of the shift of authority toward higher levels

of governance. Not only do local water owners retain significant control over access and use of water areas but they also form the foundation of fisheries management in the region, playing a key role in shaping sustainable fisheries practices and governance from the ground up. The structures and functions of the local water-owner-based fisheries management system in Åland are described in more detail in the section **Complexity of water ownership and owner-based fisheries management.**

4.2. Quotas and evolution of catch

4.2.1. Quotas

With reference to the management of target fish species, the Åland small-scale fisheries sector has been categorised into the following: 1) fishing for quota species, and 2) fishing for non-quota species (ÅSUB 2019). The latter species are managed on the basis of provincial fisheries legislation, but the national quotas of the Baltic herring, sprat, Baltic salmon, and cod are determined at the EU level. For the Ålandic fisheries sector the annual fishing quotas are negotiated between the provincial government and the Finnish Ministry of Agriculture and Forestry. A ruling of the Supreme Court in Finland gave the Ministry the right to distribute the quotas set by the EU if an agreement could not be reached through negotiations between Finnish and Ålandic political and government officials (HD 2017).

In order for Finland to be able to redistribute the EU quotas to individual fishers, something that is not done in Åland (ÅSUB 2019), a part of the national quotas had to be assigned to Åland. For this reason, Åland was granted a fixed allocation of the Finnish quota in 2017 (**Table 1**). It is worth mentioning that cod is not part of this allocation although a vast majority of the test fishing of cod is conducted by Ålandic fishers.[3] Recently, in 2024, the salmon quota was temporarily allocated as research fishing quotas to individual fishers.

Table 1. The fixed Ålandic quota shares of the total Finnish fishing quotas (Source: ÅSUB 2019, Original source: Finnish Ministry of Agriculture and Forestry).

	Ålandic % of the Finnish quota 2019
Herring, Bothnian Sea	5.8667%
Herring, Gulf of Finland and central Baltic Sea	15.1506%
Sprat, all Baltic Sea	8.6000%
Baltic Salmon, central Baltic Sea	8.3640%

The quota system means that the main power to manage these fish species has been moved from the local and regional levels up to the international level, beyond the local water owners' realm. On the other hand, management of fishing regarding other fish species, such as pike-perch, pike, perch and European whitefish is still in the responsibility of provincial government of Åland, through legislation and its implementation, and the local water owners – either by their associations or individual water owners.

[3] Cod is a quota species in the Baltic Sea; however, it is not part of the fixed Finnish quota allocation for Åland.

4.2.2. The big Ålandic four

This section focuses on changes in the landings of perch, pike-perch, Baltic salmon, European whitefish, as well as Baltic herring and cod, which are the most important target species for the Ålandic small-scale fisheries (**Figure 3**). The pike, which Neuman included in his report 2007, is omitted here, as it currently holds a marginal role in Åland's commercial fisheries total catch. There is also no catch data for recreational fisheries, where pike is a major target species.

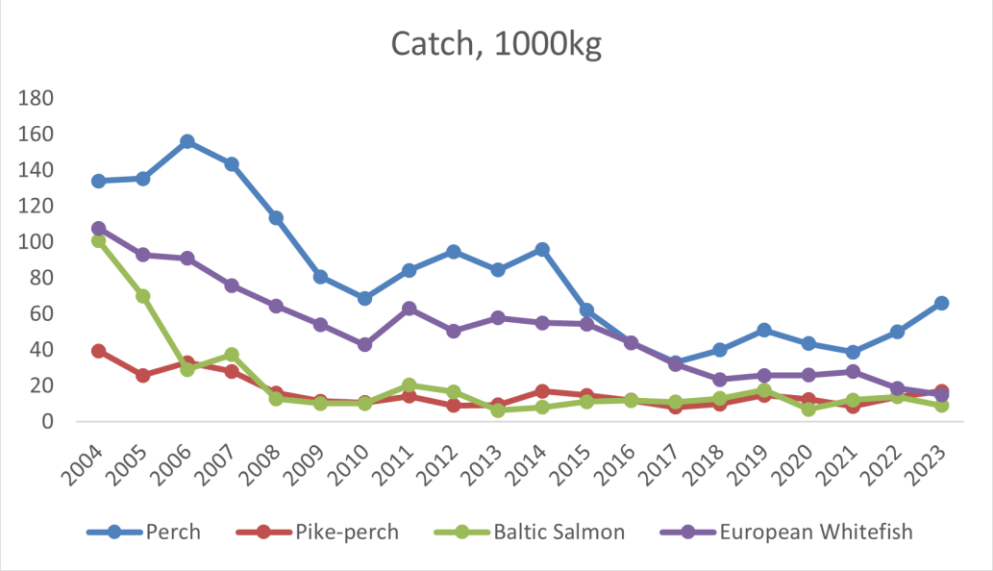

Figure 3. Changes in perch, pike-perch, Baltic salmon and European whitefish landings in Åland in 2004–2023.[4] Source: ÅSUB yearbooks 2006 to 2024.

Perch, European whitefish and pike-perch

According to Neuman (2007), in 2005, perch was the most important fish species for the coastal fishery by quantity, while the catch of European whitefish doubled the monetary value of the perch landings. Since then, the catches of perch and whitefish have decreased. However, perch catches turned upwards after 2021 (**Figure 3**). The interviewed small-scale fishers typically described a dramatic downward trend of the European whitefish population in their fishing areas. Fishers mentioned that the major reason for the decrease in the whitefish population is the increased seal population as today the seals also occupy shallower water areas closer to the shore. The decrease in stocking whitefish fingerlings was also mentioned in the interviews as contributing to the downward trend. This problematic situation is confirmed by the fact that sea-spawning European whitefish is listed as 'vulnerable' in HELCOM's red list of species (HELCOM 2019). Statistics from the Natural Resource Institute Finland on seal and cormorant damages show that European whitefish represent the highest losses judged by value in the whole Finnish coastal region, emphasising the impact from seals on the whitefish fisheries (Söderkultalahti & Rahikainen 2025).

[4] Although the report focuses on the years 2008–2025, the years 2004–2007 are included in catch statistics due to significant changes observed during this period in some species. The earlier years were incorporated to highlight key developments in the context of a long-term comparison.

The deterioration of the Baltic Sea water quality and its effects on fish stocks and fishing activities was also named as contributing to the decrease of fish catches. Recently, the nutrient contents especially in the inner archipelago of Åland have increased (Pettersen 2024). However, the perch stocks are often seen as good, and the interviewed fishers said that perch populations fluctuate in a normal way. When sold as whole, the price of perch is relatively low, but today many fishers process the perch: they sell the fillets to gain an added value of the catch. Thus, for many fishers, perch has become economically very important followed by pike-perch as the second most valuable species in the coastal fisheries in Åland (ÅSUB yearbook 2024b, p. 94), as both perch and pike-perch are a highly valued species with high demand on the local market.

When quota restrictions increased for salmon fisheries, pike-perch increased in importance for the coastal fleet and catches increased dramatically in the early 1990s. Since then, catches have decreased and levelled out. Pike-perch is primarily fished in the waters around Lumparn, where the provincial government issues commercial fishing rights. To lessen some of the fishing pressure and protect the pike-perch stocks, restrictions in mesh size and the number of gillnets has been in force since 2002, along with a ban on fishing during the spawning time in June since 2006, and the minimum landing size increased from 37cm to 40cm from 1.1.2025 (ÅLR 2024/1015).

Salmon

During the end of the 1990s and early 2000s, there were heated political discussions between Åland and Finland regarding both the salmon quota connected fishing regulations and the ban on driftnets (Yle 2004). Changes in the Baltic salmon catch is largely connected to EU regulations (Salmi & Salmi 2005) and a result of negotiations with the state of Finland over how the EU fisheries quotas should be divided, described later in the section **Multi-level governance of small-scale fisheries in Åland**. At the peak of Ålandic salmon fishing, in the 1980s and 1990s, over 30% of the total salmon catch in Finland was fished by Ålandic fishers[5]. In 1997, a management plan to protect Baltic salmon was implemented (Salmi 2005) which caused the state of Finland to institute regulations regarding open sea fishing which was primarily done by Ålandic fishers; this included a ban on fishing in most of May. The majority of Ålandic salmon fishing is conducted during the spring season and was therefore severely challenged. Also, the increasing seal impact on the salmon fisheries reduced catches and weakened the Ålandic position in the quota negotiations (ÅLR 2/2004). This resulted in a lower quota than the Ålandic fishers and politicians deemed fair.

Quotas for salmon in the Baltic Sea have decreased significantly in recent decades following a downward trend in the fish population. The quota for Åland is within the current framework in 2025, set to 750 salmon in total for the commercial fisheries, compared to 20,000–45,000 salmon being caught yearly in the 1980s and 1990s (Luke statistics on fishing).

From the beginning of 2008, drift net fishing was banned in the Baltic Sea (Council Regulation (EC) No 2187/2005) and was followed by another steep fall in salmon catches (**Figure 3**). This regulation hampered or discontinued many Ålandic fishers' livelihoods. Fishers interviewed commented that although they continued with anchored nets and also testing

[5] According to a written statement and debate in the parliament of Åland (ÅLR 2/2005).

pontoon traps, they did not function as well due to the strong currents and deep waters around Åland.

Herring

For centuries, fishing for Baltic herring has been the cornerstone of the livelihood and cultural heritage for people on the Åland Islands but today its significance has decreased. The small-scale fishers target Baltic herring and sprat with gill nets, operating closer to the islands, while the large-scale fishers use trawlers on the open sea. The increase in catches in 2014 (**Figure 4**) occurred because two new trawling vessels started to harvest Baltic herring and sprat, which is linked to the decline in cod catches in the southern Baltic (ÅSUB 2019), as shown in **Figure 4**. As of 2025, there is one trawling vessel registered in Åland left that fishes for Baltic herring and sprat. Although the fishing activities of this vessel are performed within the quota allocated to Åland, it does not necessarily operate within Ålandic waters nor land the catch in Åland.

Every year, there is enough of the quota reserved to meet the needs of the small-scale herring fishers that fish with gill nets; the amount is usually between 10–30 tons (Karlsson 2024). In the interviews, some gill net fishers commented that the state of the herring stocks seems positive, yet individual fish are small. Indeed, the fishers would like more fish to grow bigger in order to reach the size required for fillets and smoking.

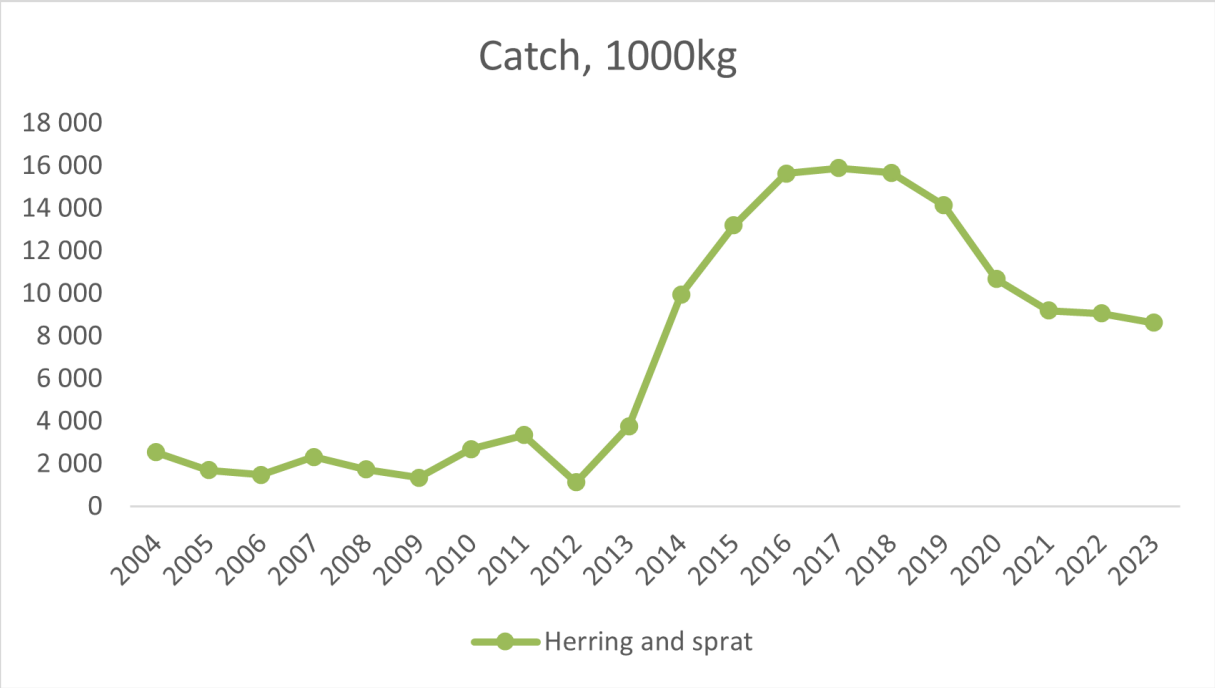

Figure 4. Changes in Baltic herring and sprat landings in Åland in 2004–2023. Source: ÅSUB yearbooks 2006–2024.

Marketing of herring was mentioned as a challenge by the interviewed fishers. These obstacles arise due to the lack of buyers and an inability to attain an internationally acclaimed sustainability certificate, e.g. from the Marine Stewardship Council (MSC), that is required by buyers if the catch is exported outside the Åland Islands. Located just south of the International Council for the Exploration of the Sea (ICES) region 30–31, Ålandic small-scale herring fishing was not considered to be a part of the appointed Finnish herring MSC certification for

herring fished in the Bothnian Sea. A challenge for certification is that Åland fishers operate in ICES regions 25–29 and 32 where the population has been in a worse state and jointly fished by Russian trawlers, who do not report data on catches.

Due to the relatively low landings by small-scale fishers of herring in Åland, there is no processing infrastructure for herring, e.g. such as filleting machinery. For such an investment to be viable, the landings should markedly increase, or the investments should be subsidized.

Cod

During 2006–2016, the vast majority of the Ålandic cod catches have been fished in the southern parts of the Baltic Sea and have not been landed in Åland. Changes in the quota set by the EU and increased competition in the south made this fishing unprofitable short after the peak in catches in 2012 (**Figure 5**). The correlation with herring fishing is due to this change. In 2014, two Ålandic vessels that previously had been fishing for cod changed their trawl fishing operation towards Baltic herring and sprat. During the period 2020-2025, cod have only been landed by a small number of fishers involved in the scientific initiative and all catches have been landed on Åland.

Testimonies from commercial small-scale fishers who use gill nets show that the cod stocks are strong in the deeper waters around Åland, and fishers see no reason for the general ban of the species. To secure the future of small-scale cod fisheries, the interviewees recommend keeping a trawling ban on cod while increasing and securing the coastal gill net fishery. As the decision about its continuance is made annually, research fishing is not seen as a sustainable long-term solution, which makes investments and income projections difficult to plan.

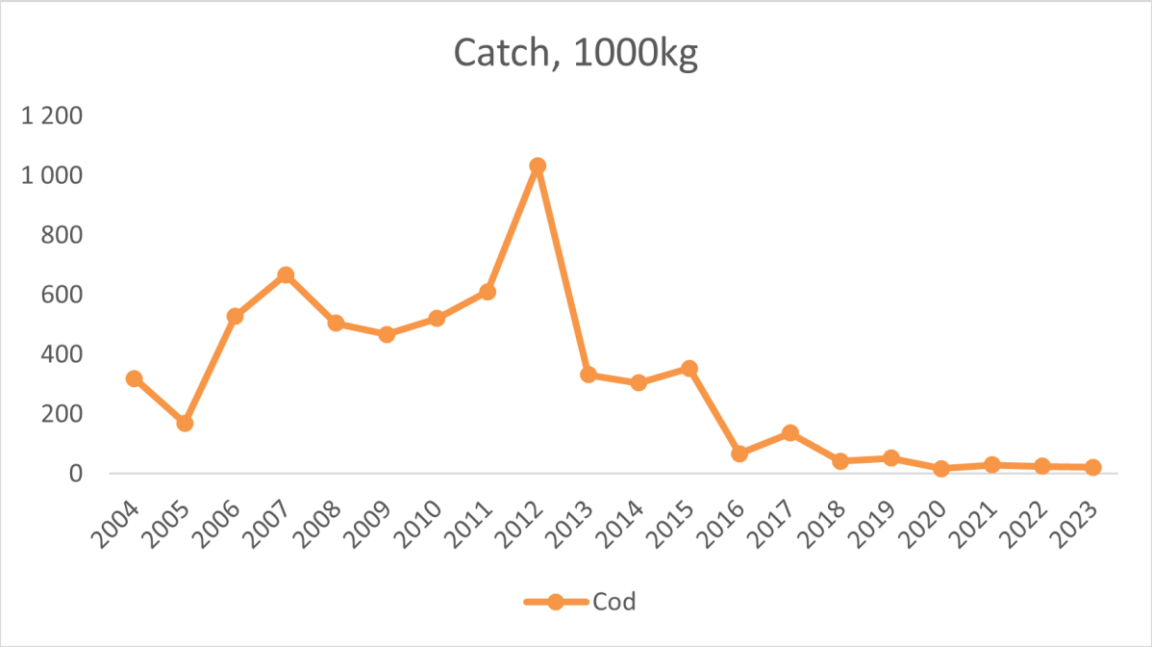

Figure 5. Changes in cod landings in Åland in 2004–2023. Source: ÅSUB yearbooks 2006–2024.

Undervalued fish species

Beside the above-mentioned fish species, there have been a number of investigations in regard to undervalued fish species such as bream and other carp species, also called cyprinids. It is known that the eutrophication of the Baltic Sea has made these species more common (Ådjers et al. 2006). The promise of the increased utilization of these species is that it could reduce the nutrient load in the sea, although this effect can be proved more concretely in lake areas. At the same time, new fishing strategies support fishing livelihoods and diversify the supply of local fish products for consumers. However, in Åland it has been difficult to get the necessary investments for the machinery to process these species. The retail price on carp species is low so in order to make it economically viable, the volumes need to be fairly high or supported by other means, e.g. environmental benefits. It should be noted that the fisheries legislation (ÅLR 1956) for Åland protects one of the most important carp species, the bream (§25), for example, by setting a quite large minimum landing size (§31) 42 cm for this species. Thus, legislation may complicate the use of the undervalued carp fish species.

5. Positions of user groups and other stakeholders

The strong age-old heritage of utilizing fish resources in Åland waters for subsistence and as a tradable commodity is still alive in the cultures of *commercial and recreational fishing*, the later including the so-called *household* fishing and other recreational fishers (**Figure 2**). Typically, household fishers use gill nets and to some extent other passive gear such as trap nets and long-lines and consume the catch in their family circles. A substantial proportion of local water owners do not fish – their decision-making power is tied to ownership of water, not to being a fisher. However, among the water owning fishers, the local household fishers form the most notable user group, although there are also recreational and *sport fishers* who use rod fishing methods. Thus, the household fishers' interests are usually appreciated at the local level fisheries management.

5.1. Commercial fishers

5.1.1. Characteristics of commercial fishers in Åland

The criteria for who is considered a commercial fisher, and in what degree it is fulfilled, has changed over the years between Finland and Åland, but also within Åland itself. This discussion still continues between governmental officials and the fisheries stakeholders. In the report by Neuman (2007), there were only two official fisheries categories established based on their income from fisheries: 1) professional fishers, with at least 50%, and 2) side-line fishers, with at least 20% of their total earnings. Before 2009, there was no requirement to registering as a commercial fisher, which made the occupation less bureaucratic, but at the same time made it difficult to determine how many individuals occasionally conducted fishing activities and sold their catch.

In the regulation on the profession, updated in 2025 (ÅLR 1995:44), commercial fishers are categorised in three groups, in this report called 1) professional fishers, 2) sideline fishers and 3) other commercial fishers. The first group require a fishing income of a minimum of €5,000, accounting for at least 30% of the total income or €10,000 in income from fisheries. For the second group, the sideliners' must have an income of €2,500, making up 15–29% of their total income. The third group, classified as other commercial fishers, does not require any income. However, since registration is mandatory for selling fish, people who occasionally sell surplus catch fall into this group. Most of the fishers are small entrepreneurs operating on a family basis. Because of the seasonal nature of the fishing livelihood, all fishers independent of group, typically combine fishing income with other sources of income.

Table 2. Number of registered Ålandic commercial fishers according to group. Source: Åland Fisheries Agency 2025.

	Fisher group		
	Professional	Sideline	Other commercial
Requirements	Required minimum fisheries income €10,000 or €5,000 constituting 30% of the total earnings	Required minimum fisheries income €2,500 constituting 15–29% of total earnings	No income from fisheries required, 0–14% of total earnings
Number of fishers Feb. 2025 (total 189)	28	7	154

Support and development of the fishing livelihoods is mostly in the hands of the Åland provincial government through the EMFAF programme. Tax-subsidies, e.g. subsidies for fuel, are regulated by the state of Finland, since taxation is not under the competence of the Ålandic provincial government. However, this support is limited to the professional fishers.

5.1.2. An attempt to define small-scale fisheries in Åland

Although there is no universal accepted definition of commercial small-scale fisheries, definitions often consider the length of the boat (less than 12 metres in the EU) and gear types (not using towed gear) (Pasqual-Fernández et al. 2020). Similar to other Finnish coastal areas, the majority of Ålandic fishers and vessels are small-scale operators. In Åland, small-scale fishers often own multiple boats for various purposes, with the median size of commercial fishing vessels registered at 6.27 m. Only one vessel, the only trawler in Åland, exceeds 12 m (Åland Fisheries Agency 2025). The report therefore concludes that commercial fishing in Åland waters can be considered as small-scale fishing except for trawl fishing for Baltic herring and sprat by one vessel. Most of the Ålandic fishers operate single-handedly with small boats and use gill nets and other passive gear.

Until the mid-2010, the cod fisheries could be considered large scale but have since then declined. Since 2020, the cod fishery has been marginal, performing as a research fishery close to shore with smaller boats. Though the salmon fisheries in the 1980s and 1990s were primarily viewed as large-scale open sea fishing, today, salmon fishing has likewise become marginal and smaller in scale.

5.1.3. Radical decline in the number of commercial fishers

In 2010, the number of registered commercial fishers increased remarkably (**Figure 6**) when registration became a compulsory requirement for selling fish (ÅSUB 2019). Following this, the total number of fishers in Åland has declined.[6]

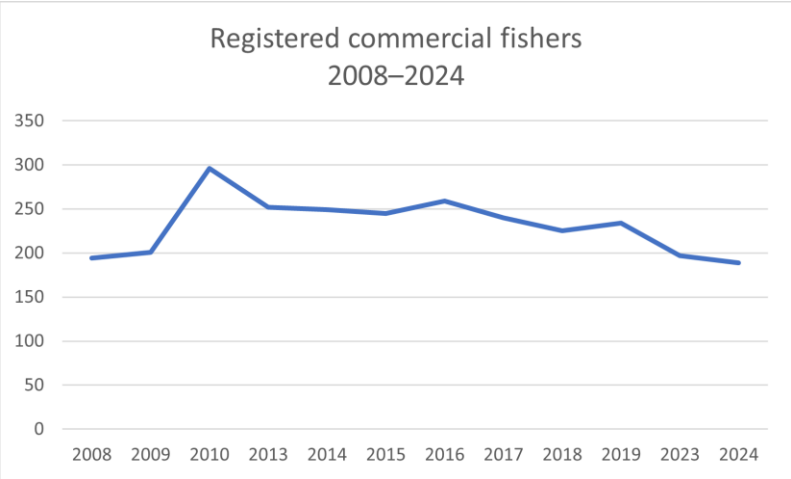

Figure 6. Changes in the number of registered commercial fishers in Åland in 2006–2024. Sources: Neumann 2007, Fiskeribyrån 2025.

[6] In 2006 (Neuman 2007), there were 90 professional fishers who earned at least 50% of their income from fisheries, compared to 28 fishers in 2025, who earned at least 30%. Of these 28, three worked on the only trawling vessel registered in Åland.

In 2017, the average age of the registered fishers was 51.8 years and of all registered fishers, 5.5% were women (ÅSUB 2019).

A geographical comparison reveals dramatic spatial changes in the Ålandic commercial fisheries during the scope of this report (**Figure 7**). Although the definition of the groups within commercial fishers, and consequently the statistics are not fully comparable over time, the downward trend is most obvious in the archipelago municipalities Brändö, Kumlinge, Vårdö, Föglö, Kökar and Sottunga. Within this area, in 2006, commercial fisheries accounted for 86 registered fishers who received at least 20% of their total income from fishing (Neuman 2007). During the past twenty years, this number has dropped to five fishers, who earned at least 15% of their yearly income from fishing in 2025 (Fiskeribyrån 2025).

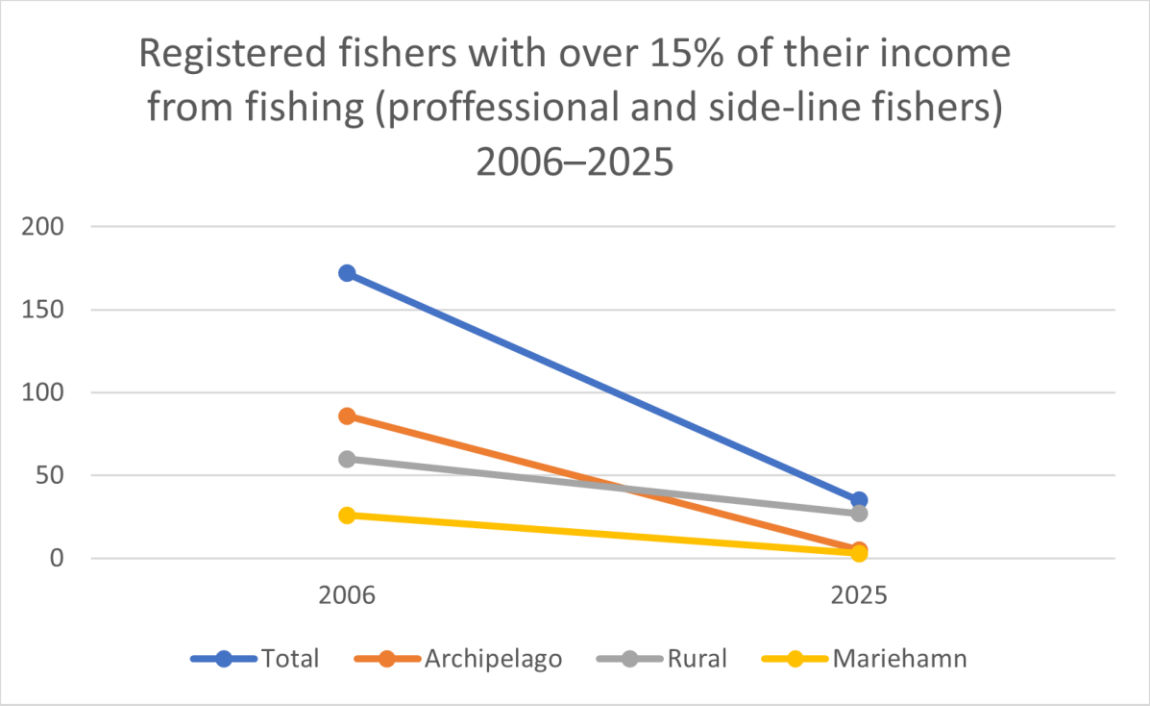

Figure 7. Changes in the number of registered fishers with over 15% of their income from fishing in Åland in 2006–2024.

Changes in Mariehamn is equally significant, though they begin from a much lower baseline. In the rural areas, the changes are much less dramatic, even if there is a clear downward trend. **Figure 8** illustrates the regions where the fishers have been registered.

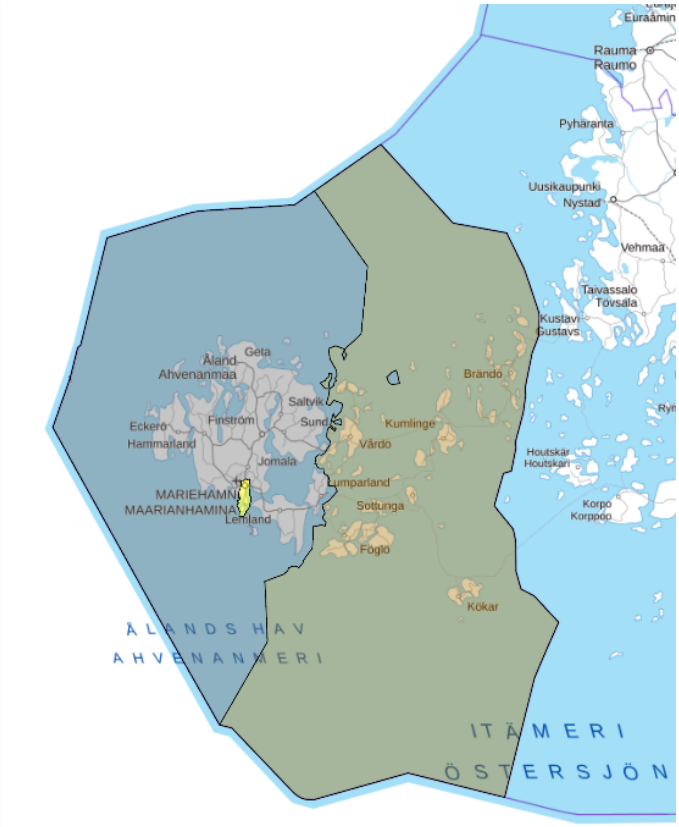

Figure 8. Regions where the fishers have been registered. Yellow = Archipelago, Grey = Rural, and Bright yellow = Mariehamn municipality. Source: National Land Survey of Finland.

5.2. Other fisher groups

5.2.1. Recreational fishers

Ever since before the Neuman report (2007), there has been a lack of statistical data of the Ålandic recreational fisheries, which makes it difficult to evaluate the recreational fisheries catches and its impact on fish populations.

In recent years, the statistical bureau of Åland (ÅSUB) has conducted surveys, indicating that 44% of Åland residents engage in fishing in some form during their leisure time (ÅSUB 2021, p. 32). This shows a slight decrease from Neuman's (2007) study, showing that 55% of the estate owners outside the capital Mariehamn, and 45% of the inhabitants of Mariehamn fish. However, these participation levels are still high compared to mainland Finland where overall one third of the population engages in fishing (Luke 2022). In most other countries, the participation levels are substantially lower (Arlinghaus et al. 2019). Many people fish during their stay in second homes[7] and vacation rentals, using both gill nets and fishing rods. Because the availability of fish species is typically seasonal, recreational fishers are often generalists and change their strategies according to the time and place.

[7] In total, there are over 7,590 second homes in Åland (Tilastokeskus 2022) owned by Ålanders and foreigners, often with an Ålandic family tie and homestead right.

Fish stocking and spawning area preservation, conducted by the water owners or the provincial government, primarily benefit recreational fishing and both household fisheries and tourist fisheries. For example, fishing for sea trout is entirely dependent on fish stocking, as there is not a strong natural sea trout population in Åland (Sivén 2021).

5.2.2. Household fishers as part of recreational fishers' group

Although there is no clear definition of the term household fishing, it is generally regarded distinct from other recreational fisheries in the sense that it is primarily conducted for subsistence. Some household fishers also belong to the commercial fishers' group 3 and occasionally sell the surplus of their catch. Household fishing is protected in the fisheries legislation of Åland as it is mandatory for water owners to grant permission for household fishing to permanent residents of the village where the water is located, once important for survival (ÅLR 1956 §3). Some household fishing is conducted on public waters, mainly for Baltic salmon, and there are restrictions in gear to separate it from commercial fisheries (ÅLR 1995:44 §2).

The extent of household fisheries remains uncertain, as the number of household fishers in Åland is currently unknown and should be examined.

5.2.3. Tourist fishers

The third, and a most recently established fisheries group, is that of tourist fishers. Visiting fishers and developed fishing activities lengthen Åland's tourist season, which otherwise would be limited more to the summer months (Neuman 2007). In 2023, the total number of guest nights in Åland accumulated to 421.000, excluding private cottages and some smaller facilities (ÅSUB 2024c). There are no figures on how many are frequented by fishers.

When visiting Åland, the tourist fishers typically use rod fishing methods, such as trolling. Many stay overnight in cottages with fishing opportunities, yet fishers also travel directly to Åland by using their own boats.

Tourist fishers are neither water owners nor members of the local communities, and therefore they stay outside the realm of local water owners' associations. Nevertheless, they are dependent on the availability of local fishing licenses. There is a wide variation in the ease of obtaining licenses for tourist fishers. However, more often, visitors have to purchase licenses from water owners in the areas they want to fish in, which can be a challenging task for non-locals lacking local knowledge. These issues are discussed further in section 6.4. **Trials for recreational, household and tourist fisheries.**

There is a semi-structured group called the *Fisheries Network* which is managed by the Ålandic tourism organization *Visit Åland* and who meet occasionally to coordinate fishing tourism with a focus on marketing. Fishing guides in Åland have come together to form Ålands organized fishing guides registered association (*Ålands organiserade fiskeguider r.f.*).

5.3. Other stakeholders

Parallel to, and within the fisheries policies, environmental issues and institutions strongly affect the state of fisheries in Åland. Many waters are restricted or excluded from commercial fishing, either because of decisions made by water owners or as nature protected areas set by

the Ålandic provincial government. However, it is worth noting that many protected areas allow fishing with different sets of restrictions on gear and time. A pertinent struggle between fishing opportunities and the animals feeding on fish, namely *seals and cormorants*, highlights the need for coherence between fisheries and environmental governance sectors, described in the **Seal and cormorant conflict** section.

In Åland, the number of non-governmental organizations connected to the fisheries sector is limited. Among the more active and influential organisations is the Åland Fisheries Local Action Group (FLAG) (*Ålands Fiskeleader*), funded through the EMFAF community-led local development (CLLD) strategy and the government of Åland (Svels & Thuesen 2024, Salmi et al. 2022). The Ålandic FLAGs cover the entire province and prioritise strategic goals such as the environment, knowledge, and experiences. Within the Åland FLAG, one of the eleven groups in Finland, environmental issues have been a primary focus. This contrasts with most other FLAGs, where community-based projects primarily emphasize the development of the fishing livelihood (Salmi & Svels 2023). The funding framework allows organizations to apply for support, as the FLAG itself does not typically initiate or lead projects. Since funding related to fisheries projects is open to all organizations, a larger share of project applications and funding has been directed toward water-owning associations and recreational fisheries actors, which are significantly more numerous and active than the representatives of commercial fisheries.

In Åland, commercial fishers promote their interests through an organization called the Åland Fishers' Association (*Ålands Fiskare*). The organisation receives funding from the government of Åland through the organisation Åland's agricultural society (*Ålands hushållningssällskap*) and has a part time operations manager. The allocation of public funding is justified by the need for an interest organisation that can function as a reference group in relation to new laws and regulations that affect the fisheries sector. It is likewise beneficial to have an association that can manage and initiate projects that benefit the sector as a collective recipient. While the number of members in the Åland Fishers' Association has varied slightly over the years, it has remained relatively stable overall. In 2008, there were 81 members in the organization and 90 in 2025. Since there is also a possibility to be a supporting member, not all members are active fishers. Through the years, the association has taken part in and initiated several projects focused on revitalizing the small-scale fisheries sector. The scopes have varied from technological efforts such as seal deterrents and the trial of new fishing gear to cultural heritage, like the restoration of traditional fisheries lighthouses for navigation. More details are shown in **Appendix 2**.

Informal fisheries governance structures in Åland can be found both in private networks but also in the official context within the municipalities, and social contexts, e.g. village shops and coffee shops. Fisheries, environment, and nature challenges are debated widely in traditional media, but lately also in social media. On the one hand, local media has a strong influencing power and societal control on decision-making in Åland, whereas social media is part of the new, both formal and informal, influencing tools.

6. Challenges and opportunities for commercial fishers in Åland

This section is based on stakeholder interviews and a survey to shareholders' associations conducted in 2024. The increasingly difficult conditions depend on a wide range of challenges, for example, EU bureaucracy, seals and cormorants, fishing opportunities and access to water areas, water quality, knowledge gaps, environmental licensing, categorisation of fishers, profitability, access to water areas, education, life mode, and fishing strategies.

However, there are also opportunities that could make it possible to preserve the threatened small-scale fisheries sector, for example, processing into added value, lifting the cultural heritage and focusing on tourism in relation to fisheries.

6.1. Issues impacting the day-to-day operations of commercial fishers

The formerly rather free fisheries occupation changed around 1995, with the introduction of EU membership. Commercial fishers witnessed an increase of regulations, monitoring, and bureaucratic tasks affecting their livelihood (**Appendix 2**.). Consequently, the imposed tasks have narrowed the freedom and attractiveness of their occupation, and more is being added, e.g. the recently updated European fisheries control regulation (Regulation (EU) 2023/2842). Typically, the multiple challenges are beyond the powers of commercial fishers. The situation appears to be more problematic than that described by Neuman (2007) already 18 years ago. For example, many Ålandic fishers consider the drift net ban made in the Baltic Sea in 2008 unjust, as it destroyed the salmon fisheries. The intervention was not compensated for, neither in money nor in salmon quotas, and alternative methods to drift nets (anchored nets, pontoon trap nets) are not perceived to be nearly as functional in the Åland setting. Though the ban was justified by the protection of porpoises, this species has not often been encountered in the Åland archipelago.

As in the beginning of the 21st century, the issues caused by seals and cormorants continue to be the primary threats to the small-scale commercial fisheries future livelihoods, and their impact has only intensified over time (see **Struggles affecting the life mode of commercial fishers** section).

Another challenging issue has been the limited availability of sufficiently large commercial fishing areas, which may result from the centrally imposed fishing restrictions, bureaucracy, or the difficulty in securing adequate water areas for rent. In general, water areas are available for a small number of commercial fishers. Though private water ownership may be a challenge for wider access to those waters, fishing waters that the Åland provincial government lets out to the commercial fishers helps the situation. In one of the interviews, a fisher noted that fishers need rather large fishing water areas for rotation, because one cannot fish profitably in the same place for many days in a row. Moreover, opportunities for moving to another place are needed also when the seals arrive and take the fish from the nets. Unfortunately, the future availability of sufficient water areas for commercial fishing is not self-evident. Due to closures of fishing opportunities in new areas, fishers have witnessed increased pressures. These closure initiatives are generally driven by the goal of nature protection. One

fisher also noted that the total banning of commercial salmon fisheries has been urged by the Swedish sport fishers.

Another issue seen as a challenge is the weakening quality of waters, eutrophication in particular. On the other hand, one fisher noticed a turn back for the better in the condition of the seabed.

As the situations change in time and between locations, the growing regulation and restrictions are often based on incomplete or outdated knowledge. One fisher in an interview highlighted the paradox of strong cod stocks in the Åland Sea and the closure of commercial cod fisheries. He noted that due to the fact that fish swim in the water, their abundance is not easy to observe, especially when the fishing is closed.

In recent years, there have been heated debates about the Baltic herring and salmon quotas, as well as on herring trawling, mainly generated from Sweden. This has led to noticeable effects in Åland, including some stakeholders hoping for a ban or reduction of herring trawling and salmon fishing (Ålands radio 2021, 2024). Fishers are concerned about the decline in demand of Baltic herring, especially among younger generations. Recently, the herring gill net fishers have faced difficulties in finding a buyer, especially for larger quantities. One fisher commented on the possibility to fish more herring in Åland and sell the catches to mainland Finland. However, one issue is that Baltic herring gillnet fisheries lack environmental accreditation, such as MSC certification, which is granted to trawl and trap net fisheries for herring in the Bothnian Sea (see also, the **Herring** section) and that environmental accreditation is often required by retailers. The same fisher noted that the certification process is expensive and unaffordable for individual small-scale fishers. Another obstacle is the changed consumer demand, together with a lack of machinery. Though older generations are used to purchasing herring as whole, most consumers today wish the herring to be filleted. When the trawlers stopped landing herring in Åland, the filleting factories were closed, so in order to process gill net caught herring there is a need for machine processing.

Fishers encounter challenges in the strict categorisation of commercial fishers. In Åland, due to reduced quotas, commercial salmon fisheries have been restricted to fishers classified as professional fishers in recent years. However, if fishers did not take part in the short, normally two weeks, salmon season during the previous year, e.g. due to other jobs, there would be a risk of falling out of this category for the coming years. As a result of the reduced fishing activity, the fisher may have risked losing their status within the professional salmon fishers category, prompting a shift toward targeting less profitable species. Since the change in legislation in 2024, the last two years should now be considered when determining the categories (ÅLR 1995:44), which partly released the pressure on the fishers. In general, it was noted by the fishers that the steep reduction of salmon quotas, and the consequent reduction of fishing income, have pushed many fishers out of the professional category.

Several factors challenge the profitability of small-scale fisheries. The interviewed fishers claimed that the costs of fishing have increased much more than their income. There is an inherent uncertainty embedded in the fishing livelihood due to the unpredictability of fish catches, yet also due to governance. An extreme example of this is the Baltic salmon fisheries in Åland which have often had to wait until the beginning of the fishing season to receive information about their quotas, or even if they are permitted to fish at all. This added unpredictability complicates the planning of livelihood strategies and makes investments difficult.

To improve profitability, some fishers suggest that fish stocks should be enhanced by stocking more fish fingerlings.

A few Ålandic small-scale fishers have been formally educated in fisheries, where they found the current situation unfortunate as training opportunities, including training openings in the Swedish language, have been reduced in Finland. Due to several issues, Ålandic fishers would not currently recommend their occupation to their children. Still, they find the development of commercial fisheries frustrating and hope that new and younger fishers will urgently be recruited. Additionally, fishers find it difficult to accept that while living on an island in the Baltic Sea, they are unable to fish and would, for example, have to eat imported Norwegian salmon instead of locally caught fresh fish. Naturally, fishing and consuming local fish is considered an integral part of living in the Åland Islands.

6.2. Struggles affecting the life mode of commercial fishers

For small-scale fishers, fishing is not just a profession but a way of life, what Thomas Højrup (2013) refers to as a life mode in his analysis of life situations (*livsformsanalys*), which also included an examination of fishers. It shapes the fishers' daily existence through their connection to work, culture, and the larger social structures around them. Most fishers have grown up fishing with their family members and inherited the equipment and knowledge. Indeed, they like the freedom of the occupation and being out in the nature. Fishing was still described as a "fantastic occupation" by the interviewees who also felt that commercial small-scale fisheries provide the local community with fresh fish, economic activities and heritage. Although their livelihood is supported by, for instance, investment subsidies and seal compensation payments, one interviewed fisher highlighted that new entrants cannot receive similar support for the generational shift or initial investments as is provided in agriculture.

Compared to many other self-employed people, small-scale fishers often receive a smaller income per hour (Salmi 2005). Ålandic fishers' income is typically a combination of various fishing strategies: target species, locations and fishing gear operated in their specific season. Almost all fisher households receive income also from other sources. In fact, combining income sources, pluriactivity, has been characteristic for small-scale fisheries in Finland (Salmi 2005). Many interviewed fishers said that one cannot cope by solely relying on an income from fishing; one also needs another job to survive. Consequently, fishers often look for alternative work during the winter, outside the main fishing seasons. Additionally, some fishers also receive a pension due to their age.

6.3. Prospects for commercial fishers

By concentrating more on getting added value by processing and selling their products directly to consumers and restaurants, the fishers in Åland have started to compensate for the reduced landings and profitability, for example, fishers may sell their own production of processed fish, e.g. in fish marketing events. Especially, the filleting of perch is profitable, and this strategy has become important for many fishers. Some, however, criticize the strict official rules that have become applied on fishers' own processing facilities. The officially stipulated improvements have necessitated big investments, resulting in profitability challenges or ending the small-scale fishing livelihood.

In one interview, a fisher highlighted Baltic herring fisheries as a key component of the Ålandic cultural heritage. This, along with other key elements of the living fisheries heritage, could strengthen the fishing livelihood by investigating deeper connections to the sector as potential tourism opportunities. Moreover, tourism could be enhanced by involving tourists in providing culinary experiences that involve catching, preparing and eating local fish meals. The Ålandic fisheries heritage has been revived, for instance, through new constructions of fisheries cabins in a modern style, making the local traditional small-scale fishers' way of life more visible. However, the number of traditional fisheries cabins in the Ålandic archipelago, mentioned in the fisheries legislation (ÅLR 1956 §9), is unknown and it is likely that very few of the old cabins are currently in use by the fishers.

6.4. Trials for recreational, household and tourist fisheries.

Both the embeddedness of fisheries in the cultural history of Åland and the wealth of fishing waters have contributed to a high level of participation in recreational fishing activities. Recreational fishers partly target the same fish species as the commercial fishers. In 2007, the Ålandic recreational fishers' main target species species were perch, pike, European whitefish, flounder, Baltic herring, trout and pike-perch (Neuman 2007). Currently, the most important species for recreational and tourist fishers are pike, perch, sea trout and Baltic salmon, all fished with rod fishing methods (Sivén 2021). The household fishers primarily use gill nets and the target species are the same as described by Neuman (2007), except for the flounder, one of the most iconic fish species of the Åland Islands. Its population has declined and has become practically 'invisible' to recreational fishers and commercial fishers alike. Unfortunately, once a staple in Ålandic households, smoked flounder, is now more of a memory than a reality (Joki-nen 2020).

The popular norm in rod fishing for pike, which is the most popular form of recreational fishing, is to practice voluntary catch-and-release. According to Neuman (2007), nearly 90% of the pikes were released by the fishing tourists, which lessens the impact on the pike populations compared to if all catch were kept. Consequently, to strengthen the pike populations, the Åland provincial government and EMFAF, through Fisheries Leader Åland have funded several actions with reference to their importance for tourist fishing (Ålandstidning 2024, www. leader.ax/fiskeleader/). This is being done, for instance, by improving spawning areas, raising the minimum size for allowed catch and generally promoting the retention of a limited number of landed fish. In early 2025 a working group was assigned by the provincial government of Åland to suggest measures necessary to strengthen Åland as a recreational fishing destination (Ålands Radio 2025).

For a long time, the number of recreational fishers who use gill nets and other passive fishing methods has been decreasing in Finland (Pellikka et al. 2021), and this trend is also familiar in the Åland fisheries, and, for instance, mentioned in the stakeholder interviews.

According to the survey with shareholders' associations (also named as water commons), it is clear that water owners use their fishing rights in various degrees. Some specifically mention that household fishers do not have to pay a fishing fee to fish, while other associations necessitate a fishing fee for everyone. Gill net fishing is typically not allowed when buying licenses for recreational fishing that are for tourist fishers or local rod fishers. Instead, gillnetting licences are reserved for people who live locally, have shares in water associations or have permanent second homes in the area where they want to fish. For the less experienced

household fisher, a key challenge lies in understanding the fisheries sector, including how to fish, obtain licenses and access water, and understanding other interwoven aspects of the Ålandic fisheries traditions.

Not only does the societal importance of fisheries lie in the continuation of community heritage and enjoyment of fishing, both as activity and food, but it is also important in its significant contribution to Åland's economy and tourist business. Since the 1950s, Åland has attracted tourist fishers from abroad (Neuman 2007) and where the combination of cabin rental and fishing opportunities started in the 1970s (Eklund 2024). In 2023, tourists visiting Åland, with fishing as the main reason for visiting, was the highest spending tourist segment (ÅSUB 2024a, p. 86), with an estimation of generating approximately €11 million yearly (Sivén 2021).

Fishing licenses for tourist fishers usually cover the area of one water shareholders' associations, but there are also some joint license areas as a result of water owners' co-operation. Tourist fishers can purchase fishing licenses through different online sales sites, via local shops or directly from the water owners. Fishing guides and accommodation providers also sell fishing licenses. When purchasing the licenses, fishers are (usually) informed about the borders of the allowed fishing area. However, one third of the water owners' associations who answered the survey claimed that they have a problem with illegal fishing taking place in their area. The situation today is similar to what is described in the Neuman report (2007). In interviews conducted in 2006, some tourism entrepreneurs commented that the allowed fishing areas for tourists are sometimes too small, which increases the risk of crossing the property boundaries on the water.

Testimonies from the fisheries sector suggest that the monitoring of tourism fisheries should be increased and that some form of licensing system should be implemented for commercial fishing guides. Since the regulations were considered "too weak" to deal with the problem, the need to clarify the mandate of monitoring and hindering illegal fishing was also mentioned. There were also concerns that unregulated fishing tourism could get a bad reputation and lead to access to less water areas if not conducted in co-operation with water owners.

Currently, some areas show a relatively large sale of licenses for recreational fishing, suggesting that the fishing pressure in these areas is quite high. In Neuman's surveys (2007), most of the respondents did not consider that any user group would engage in excessive fishing. Fishing tourists were most commonly identified by those who believed there was excessive fishing pressure.

7. Complexity of water ownership and owner-based fisheries management

7.1. Local governance and ownership models

Traditionally, Finnish coastal and inland waters have been under private ownership and associated with the possession of village land. This was codified already in a statute of the year 1766 when Finland was a part of Sweden (Eklund 1994, Svels & Åkerlund 2018). Also, in the fisheries governance of Åland, this basic rule remains: all archipelago waters are in private or common ownership while the deeper waters are public and managed by the Åland provincial government. The total water area for Åland is 1.1738.300 hectares (ÅSUB 2024b). As shown in **Table 3**, nearly 39% falls within private ownership, encompassing the vast majority of the coastal areas.

In Åland, there are three structural types of owner-based fisheries management: 1) private waters owned by individuals, associations, or companies; 2) common waters shared by villages or multiple owners and managed collectively by a statutory shareholders' (fishery) association and 3) public waters managed by authorities.

Representing the second water-ownership group, the shareholders' associations form the most important local fisheries management and provide invaluable support to the community in terms of maintaining fishing activities. For example, the association often uses the fishing license income in stocking fish fingerlings.

Villages form a traditional areal scope of the associations. The water owners, who are also shareholders in the association, often enjoy limited fishing rights and a right to take part in joint decision-making. All water owners, however, do not have any personal interest in fisheries, but many of the active decision makers, like those who participate in the meetings, are local household fishers.

The Åland provincial government manages its own waters and sells fishing licenses for local commercial and recreational fishers. Though the municipalities take part in some shareholders' associations' meetings, it is not on an active basis. In general, the municipalities in Åland show low interest in taking part in decision-making regarding the fisheries sector and water owning and they do not normally incorporate the fisheries sector in their strategical long-term planning.

The average size of the water areas in joint ownership is substantially larger than that of the privately owned areas (**Table 3**). While most water areas in joint ownership have not been organized into shareholders' associations, water owners in the largest water areas have usually formed such associations. Unfortunately, several organized shareholders' associations have faced difficulties in finding motivated people to take part in the local fisheries management.

Table 3. Numbers and sizes of water areas managed by statutory shareholders' associations (joint ownership) and private owners. Source: National Land Survey of Finland 2025.

	N=	ha	Average ha
Water areas in **joint ownership**	491	307 317	626
Organized with contact person	77	154 729	2 009
Organized, no contact person	23	52 742	2 293
Not organized	391	99 846	255
Privately owned water areas*	574	147 030	256
Åland Government's share of privately owned waters	55	53 252	968
Total	1 065	454 347	427

* Including governmentally owned waters

The structures of the diversely owned water estates are complicated. Especially, in rural areas closer to the main island, the sizes of the managed areas are small, but they are typically larger in the outer archipelago (**Figure 9**). In addition to the village waters, there is a large number of small-sized privately owned waters (**Table 3**).

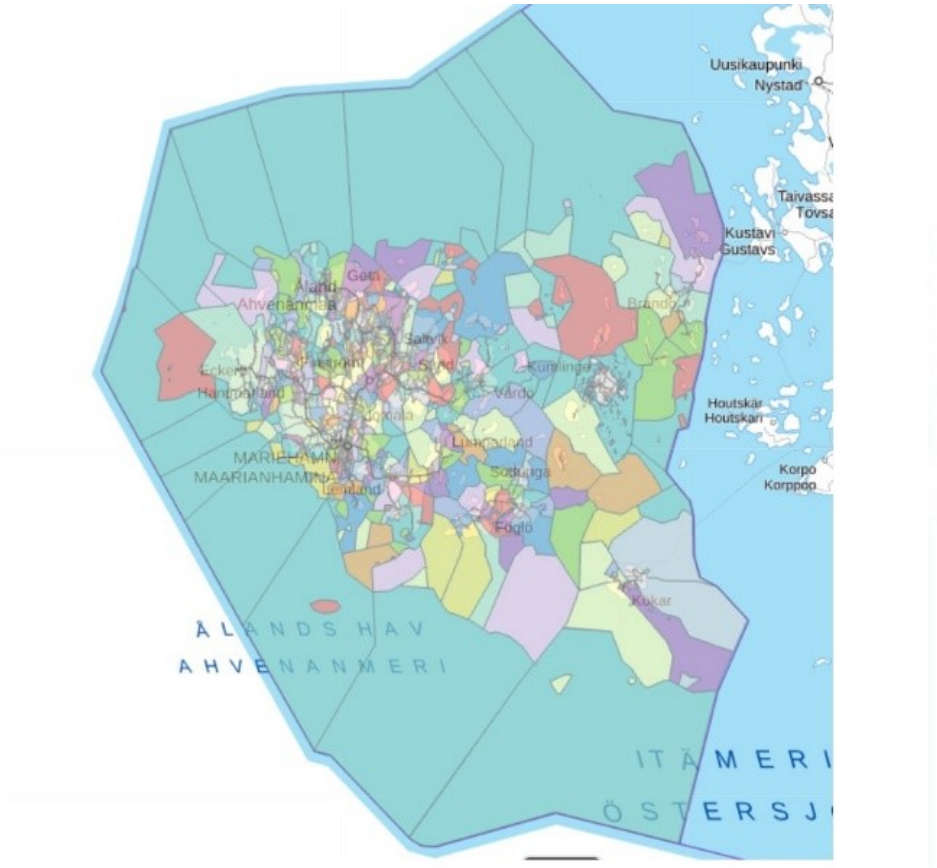

Figure 9. The spatial complexity of the local fisheries management system illustrated by the distribution of Ålandic villages where one or several statutory shareholders' association (commons) exist. The different colours represent the village areas. Source: National Land Survey of Finland 2025.

7.2. Fishing rights

In Åland, the fish populations are not privately or publicly owned. Individual fishers may have the fishing right through water ownership, but only a small part of the water ownership is in the possession of those with a close tie to the fisheries sector. Water owners usually possess land by the shore. Organizations can also own water areas or their shares. Since ownership of land and water is restricted by the homestead act of Åland (ÅLR 1991), water owners are, with exceptions, permanent inhabitants of Åland.

The Åland fisheries legislation entails that the fishing right belongs to the water owner (ÅLR 1956 §1). As noted, ownership entails not only the right to fish (use right) but also the right to make decisions (management right). However, neither the use rights nor the management rights are exclusive: they are subordinate and framed by fisheries legislation (ÅLR 1956) and policies by the provincial government in Åland, for example, regarding landing sizes and permitted gear.

Within the realm of privately owned water areas, commercial fishers may apply for fishing licenses to use specific water areas possessed by the Åland provincial government.

The power position of local water owners has remained remarkably stronger in Åland than in other parts of Finland, where the fishing rights, especially for recreational rod fishers, are secured by legislation. The nationwide access right for rod fishers in Finland, excluding the Åland Islands, has largely overridden local water owners' opportunities to decide about the access of rod fishers in their waters (Finlex 2015 §7). Moreover, the access of commercial fishers to the privately owned fishing waters is also better secured in Finnish legislation.

7.3. Local owner-based fisheries management in practice

This section enlightens the function of the local owner-based fisheries management in Åland on the basis of a questionnaire survey conducted in 2024 and other material available. The survey was answered by representatives of the shareholders' associations. In order to detect possible differences in answers in relation to the size of the water area owned, we divided the material in two groups: 1) smaller areas (N=17), association managing water area less than 1,000 ha, and 2) larger areas (N=14), association managing water area larger than 1,000 ha. Differences between the answers given by smaller and larger shareholders' associations were significant only regarding questions on monitoring and challenges (**Figure 12**). In other themes, the differences between the groups were marginal.

7.4. Supply of use rights

There is a remarkable variety between the water owners' associations' willingness to supply fishing opportunities for commercial or recreational user groups. Access to sufficient fishing waters has been a challenge for the archipelago fishing livelihood (EMFF 2015). Also, in Neuman's study (2007) it was noted that commercial fishers have faced challenges in gaining access to wide enough fishing areas in some locations. In our survey, less than half of the respondents stated that their association allows commercial fishing in their area (**Figure 10**).

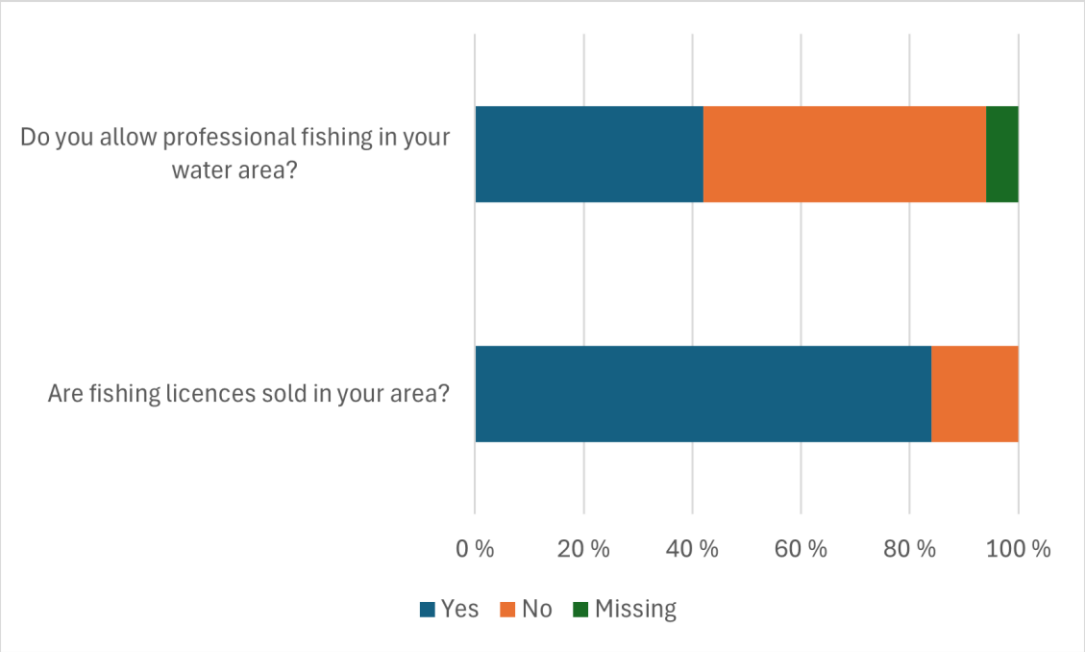

Figure 10. Shareholders' associations' answers to questions on the supply of use rights for fisher groups.

Most shareholders' associations sell fishing licences, which may be sold to non-local (tourist) fishers, locals without water ownership and part-time dwellers. The limited sizes of the water area may often become a challenge, not only for commercial fishing but also for recreational and tourist fisheries. In some areas, to make non-local sport fishers' access easier, wider rod fishing license areas have been developed jointly by several fishery associations. One example of this is Eckerö, where there is a joint license, the Eckerö license (*Eckerökortet*), covering waters of six shareholders' associations. While these joint license areas help in their local contexts, many tourist entrepreneurs would still prefer to provide wider fishing areas for their guests.

7.5. Management of fish stocks

Only 16% of the associations had applied stricter rules for minimum landing size or daily catch than demanded by the law (**Figure 11**). The stricter rules were more common among associations covering small areas. When asked if they have protected areas within their waters, e.g. in order to protect spawning fish, 87% answered positively. On average, 42% saw a need for more counselling about fisheries management activities and 48% agreed that increased counselling could lead to more active fisheries management in the respondents' water areas.

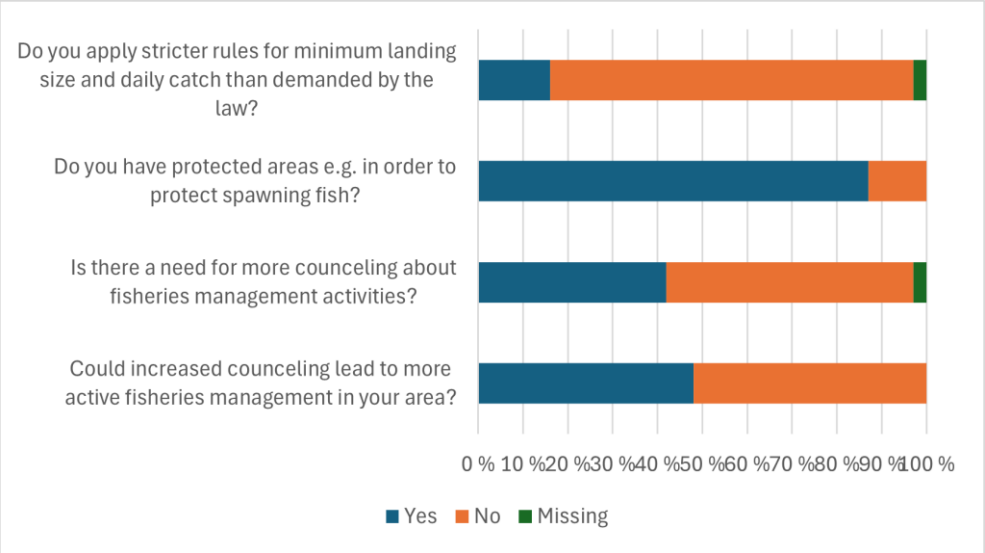

Figure 11. Shareholders' associations' responses to questions on fisheries management.

7.6. Problems and monitoring

When asked about illegal fishing, approximately one third of the water owners confirmed that it is a problem (**Figure 12**). In associations that manage large water areas, illegal fishing was considered a problem more frequently (50%) than among smaller associations (24%). One possible reason for the occurrence of perceived illegal fishing is that sport- and tourist fishers operating on the basis of small areas and fragmented licenses have difficulties avoiding crossing fishery associations' geographical boundaries while fishing and that it is more difficult to monitor a large area.

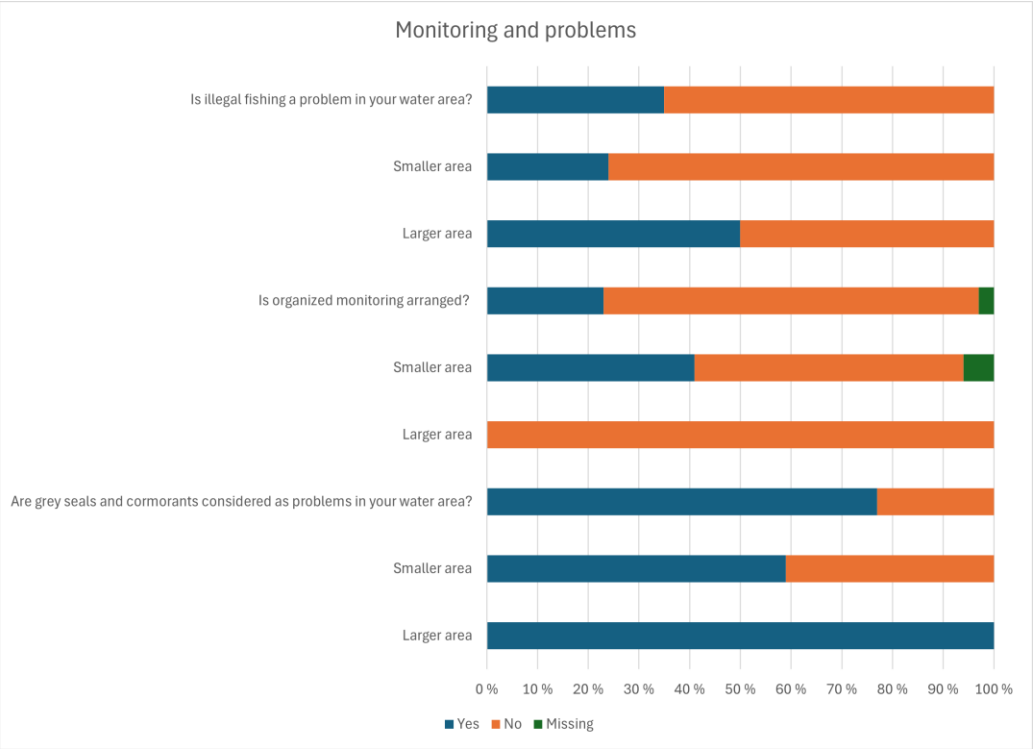

Figure 12. Monitoring water areas and challenges identified by the shareholders' associations.

The associations were also asked if fisheries monitoring is organized in their waters, to which 23% answered positively. However, none of the larger shareholders' associations had organized monitoring. Challenges created by grey seals and cormorants was also a topic to which 77% answered that fish-eating animals were considered a problem. In the larger areas, all respondents answered positively to the question.

7.7. Collaboration

On average, 39% of the shareholders' associations co-operate with other fishery associations or other water owners. This may include the selling of fishing licences, conservation efforts and stocking of fingerlings. When asked about openness for more collaboration, 39% stated yes (**Figure 13**). However, it is noteworthy that 42% of the respondents did not answer this question.

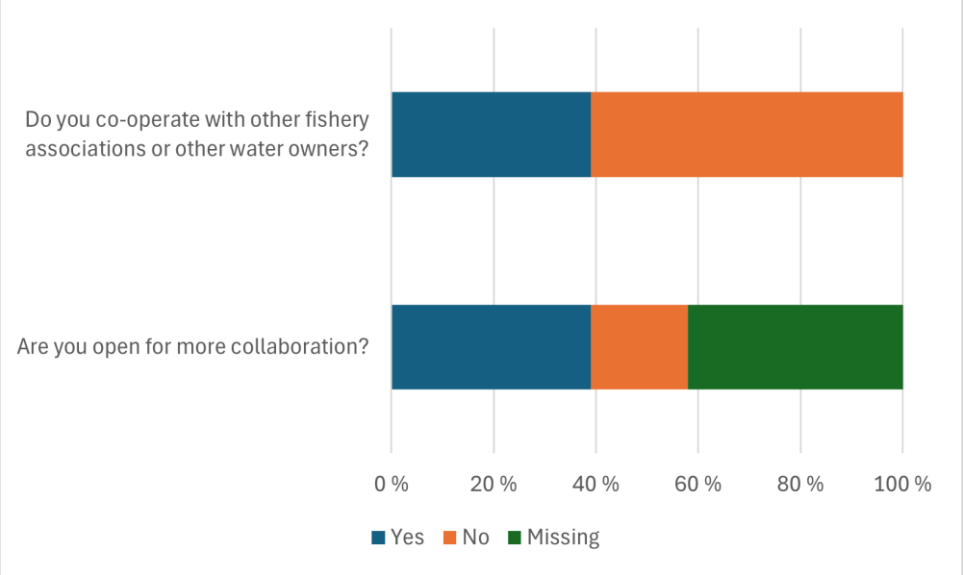

Figure 13. Shareholders' associations' answers to questions on collaboration.

8. Seal and cormorant conflict

8.1. Navigate marine mammal conflicts in coastal fisheries

Fisheries stakeholders widely consider problems caused by the grey seal as a major challenge for small-scale fishers, and one which hinders the progress of the Åland fisheries sector. This is similar with the situation in other parts in the Baltic Sea of coastal Finland and Sweden (Svels et al. 2019). Figure 14 shows the distribution of grey seal colonies in 2024, where it is evident that the extent around Åland is significant.

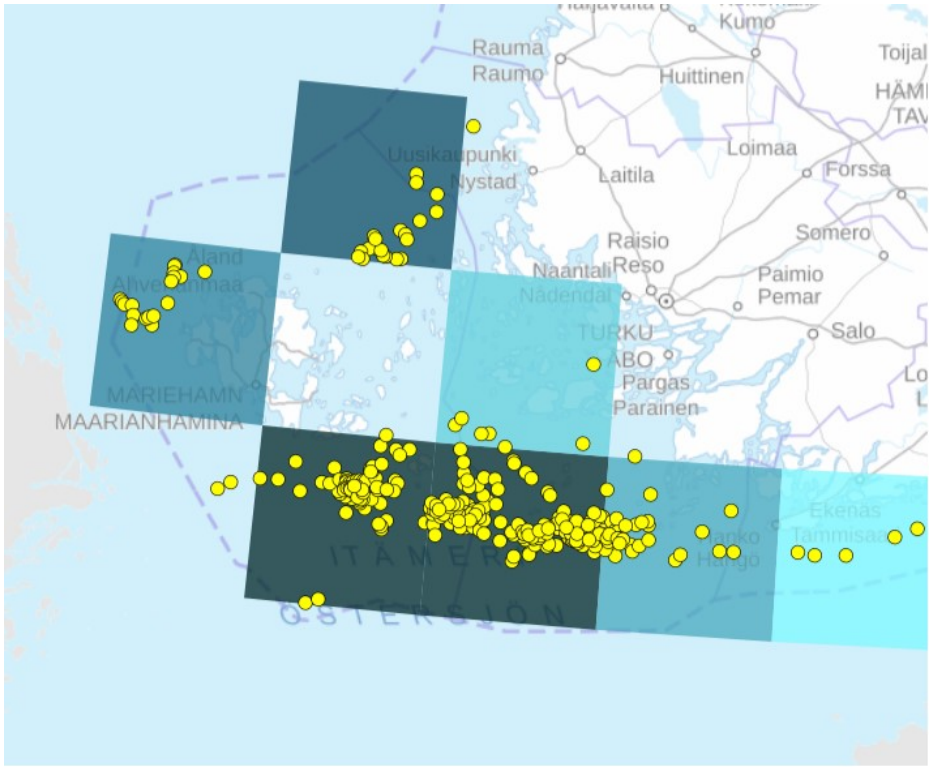

Figure 14. Concentration of grey seals and islands where colonies were observed during the moulting census 2024. The number of grey seals in the south-west of Finland including Åland has more than doubled since 2007. Source: LUKE map service.

Seals cause direct and indirect losses and extra workload for the fishers, e.g. by taking or damaging fish near the gear, destroying nets, scaring fish from the fishing grounds and making some fishing grounds inaccessible all together. Concerns are also being raised as to how the coastal fish populations and spawning areas are affected by seal predation. Anecdotal evidence suggests that grey seals have started following the boats of tourist fishing guides and other rod fishers, causing a new set of problems in areas previously unaffected by the seals directly.

Environmental agreements and EU directives affect fisheries governance, especially in relation to opportunities for mitigating the severe effects of grey seals and cormorants on the fishing livelihood (Svels et al. 2025). When it comes to the governance of seals in the Baltic Sea, the Helsinki commission (HELCOM) is very influential and acts as a coordinator for the management and monitoring of marine mammals in the Baltic Sea. The recommendations set out and ratified by the member states of HELCOM is that the seal population should increase by

7% yearly until the carrying capacity is reached, expand to all suitable breeding habitats and attain a health status that secures their continued existence (HELCOM 2023, Suuronen et al. 2023).

Other policies and laws that directly affect the management of seals and cormorants in Åland are the EU Habitats Directive (Council Directive 92/43/EEC), EU Marine Strategy Framework Directive (Directive 2008/56/EC) and the EU Birds Directive (Directive 2009/147/EC). Åland is not a contracting party in either HELCOM or the EU, so influence has to be coordinated with the state of Finland.

8.2. Mitigating conflicts

Solving the seal and cormorant conflicts is particularly challenging due to the rapid growth of both populations (Hermann et al. 2018, Suuronen et al. 2023), the different protection schemes mentioned above, the ban of trade in seal products (Regulation (EU) 2015/1775), and the skills and requirements necessary for the seal hunt (Svels et al. 2022). The seal induced problems for fisheries was considered significant already at the turn of the millennia when the hunt was re-introduced (Neuman 2007), and many attempts to offer relief for fishers have been made during the years without a breakthrough. Since then, the seal population around Åland has more than doubled (**Figure 15**).

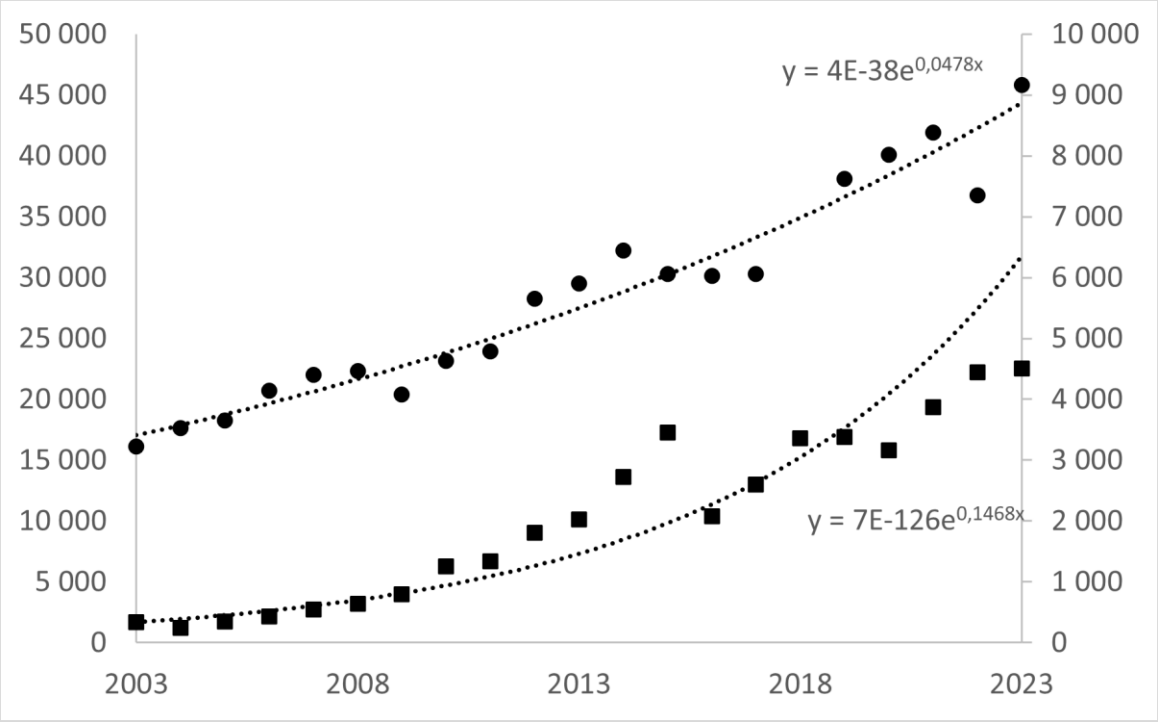

Figure 15. Number of grey seals counted in joint inventories in 2003–2023 in the entire Baltic Sea (dots) and in southern Baltic only (squares). The dotted lines show the exponential regression. Source: Suuronen et al. 2023 with additionally data from 2022 and 2023.

New technologies may help part of the fishers to continue their livelihood, but they are not a singular solution and also demand subsidies. Though areas that are made seal free with the use of either acoustic devices or nets have been shown to work in both Finland and Sweden (Lehtonen et al. 2023), these methods have not yet been tested in Åland. This can offer partial relief and protect especially important areas, but due to its high cost, demands such as

electricity supply and its impact on other users of the sea, it is not a universal solution that can be broadly implemented.

Results from the survey with the water owners show that 77% consider grey seals and cormorants to be a problem and welcome more coordinated efforts to relieve their impact on fish stocks and fishing (**Figure 12**).

The grey seals in Finland are concentrated in the south-west of the coastal regions, and the archipelago of Åland is a core area for the species in the entire Baltic Sea region (**Figure 14**). In the interviews, commercial fishers often commented on the losses that seals and cormorants had caused to their livelihood. One fisher noted that the seals have induced problems already since the late 1980s. Regarding the effects on fish stocks, fishers stress that it is not only a question of seals and cormorants eating large amounts of fish: the seals also hamper fish reproduction, e.g. when eating European whitefish in their spawning areas. To help mitigate this problem, fishers called for hunting bounties for seals and cormorants and found the compensation payment they receive from tolerating the seal- and cormorant-induced losses as very positive.

As a means to coping with the seal and cormorant induced damages caused to small-scale fishers, professional fishers can apply yearly for a tolerance payment funded by the EMFAF programme. This payment is 15% of of the yearly catch value from passive fishing gear and cannot exceed €7,000. The payment is not based on actual reported losses. Rather, it is defined by an average total loss of catches due to seals and cormorant and is based on data provided by the Natural Resources Institute Finland (Luke). There are also projects that have focused on utilizing the seal as a resource and hunter education to increase hunters' willingness to hunt grey seals (Archipelago pares 2025).

In early 2024, the EU commission announced that an extensive fitness check would be performed regarding the trade ban on seal products. During the negotiations for the 2025 fishing quotas with the EU fisheries ministers, the Swedish delegation supported by Finland and Estonia, presented a letter where the effects of grey seals and cormorants must be addressed and the trade ban revised.[8] The outcome of this is not known at the time of writing this report.

8.3. Hunting

Concerning regulations on hunting and derogations from the protection regimes, it is within the mandate of the Åland provincial government to decide on its implementation. An example of this is Åland's policy in implementing the EU Bird directive in granting derogation permits for protective hunting of the cormorant which has been more liberal and less bureaucratic than in other parts of Finland.

When the right to hunt seals as a protective and controlled measure was introduced in Åland at the turn of the millennium, it was only granted to help fishers cope with the problems induced by seals and as a possible income. However, the lack of hunting time for the fishers quickly emerged, hence the fishers asked for the hunt to be set free, which happened in

[8] https://data.consilium.europa.eu/doc/document/ST-14552-2024-INIT/en/pdf

2008. Today, the controlled hunting of seals and cormorants takes place on the hunters' own initiative and no personal permits or applications are required. Even with this quite liberal regulation on hunting, the total annual quota for Åland has never been close to being filled (**Figure 16**). The reason for this is partly that the seal hunt is time consuming and demands boats, fuel and hunting skills. Additionally, skilled hunters can only make use of a certain number of seals in their own household and are prohibited to sell any part of the seals due to the EU ban on seal products (Regulation (EU) 2015/1775.

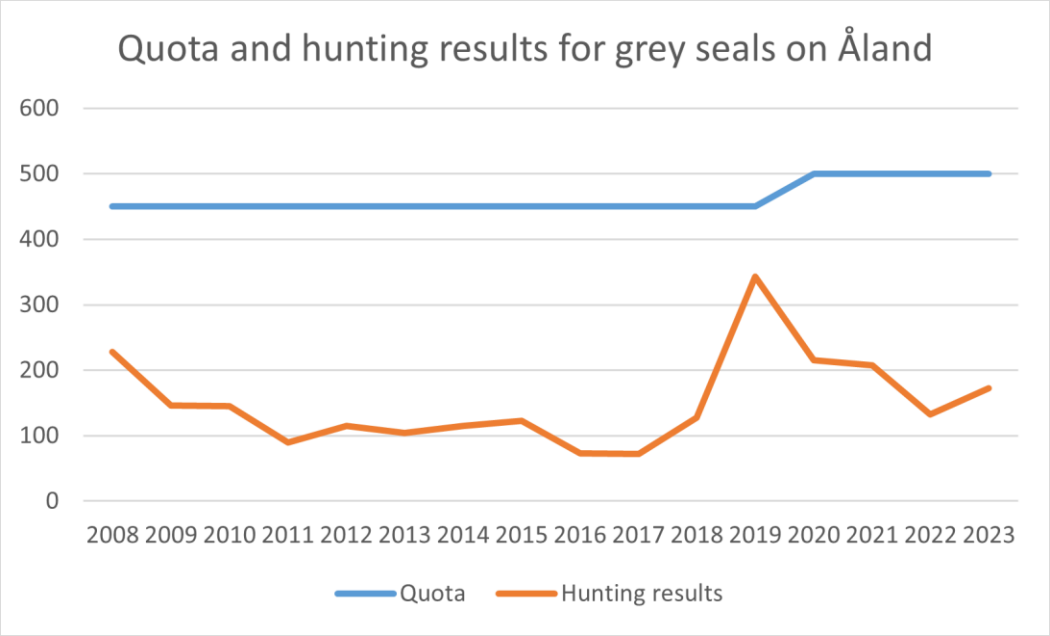

Figure 16. Quota and hunting results for grey seals in Åland in 2008–2023. Source: Forestry Agency, the hunting administration at the Government of Åland 2024.

Another source of conflict is the cormorant which affects the fish stocks and fish behaviour, breaks fishers' nets or damages the fish. Though the exact economic effects of the cormorants on commercial fisheries are difficult to estimate, the negative consequences are clear (Svels et al. 2019). Unlike the seal, which is not easily seen, the cormorants are visible, with effects noticed and discussed by wider groups of people, such as second homeowners, household- and recreational fishers.

Figure 17 illustrates the utilization of the cormorant quota. In 2019, the quota was raised as hunting activities increased in popularity and initiatives to coordinate hunting took place among hunters (Appendix 2.) led to a higher number of cormorants. Since the peak, it has varied during the years without any known reason.

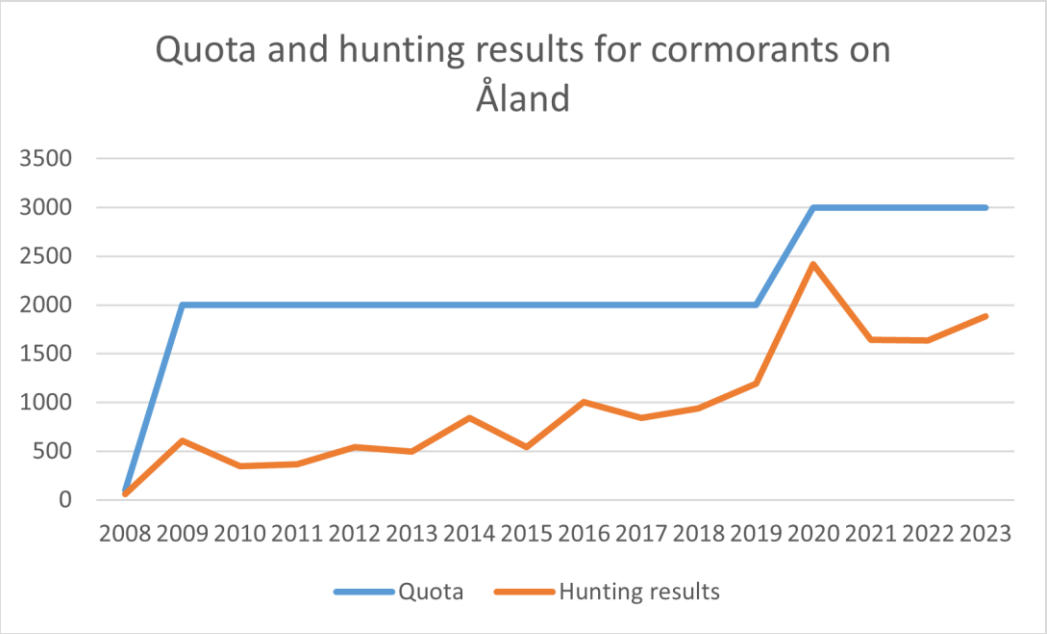

Figure 17. Quota and hunting results for cormorants in Åland in 2008–2023. Source: Forestry Agency, the hunting administration at the Government of Åland 2024.

8.4. Management plans

In 2007, a management plan for grey seals was introduced in Åland (ÅLR 2007), developed through collaboration between the hunting-, fisheries- and environmental agencies within the Åland provincial government. The plan stresses the need to strike a balance between seal conservation, the conflicts with fisheries and fish farming and the utilisation of the seal as a resource. Since the plan was introduced, the number of seals has more than doubled (see **Figure 15**) and the utilization of the seal as a resource and conflict mitigation measure has been hindered by the before mentioned EU ban on seal products. Consequently, this causes the plan to be outdated and in need of an update.

In 2025, a management plan for the ringed seal in Ålandic territory is being drafted.[9] This is being conducted by the Environmental Agency at the Åland provincial government with the aim to protect the ringed seals in Ålandic waters.

In mainland Finland, a new management plan both for grey- and ringed seals was implemented in 2024 which seeks to strike a balance between conservation and conflict mitigation (Ministry of Agriculture and Forestry 2024b). This plan highlights the need to make the hunting of grey seals more accessible while maintaining that no additional protection measures are required. However, continued, thorough monitoring is necessary to ensure the vitality of the grey seal in Finland. The plan also emphasises that Finland should work for a derogation of the EU trade ban on seal products. Regarding ringed seals, although the plan recognises that the species requires conservational efforts in the south of Finland, no new protected areas are necessary for seals (Ministry of Agriculture and Forestry 2024b, p. 20). Measures to ease the effects on fisheries such as controlled hunting can be issued also for ringed seals in the northern part of the Baltic Sea. However, populations should be closely monitored to

[9] The finalised plan had not yet been published at the time of writing this report.

maintain a good status. Both the Finnish management plan and the draft plan for Åland emphasise that the main threat to the ringed seal is climate change and the decreased ice cover in the Baltic Sea.

Although both seal species are protected by various regulations and are not classified as huntable game *per se*, legal and policy matters concerning the grey seal have so far been the responsibility for the Hunting Agency, while the Environmental Agency oversees those related to the ringed seal.

Even though a management plan for cormorants in Åland was implemented in 2007, it is widely considered outdated and not used or distributed other than as a reference in the yearly decision allowing hunting of the species (ÅLR 2024/2304).

9. Discussion

Fishing, hunting, recreational boating and general coastal living is part of an important intangible cultural heritage for Ålanders. However, fewer people than ever take their sustenance from the sea. The work and life mode associated with fishing (Højrup 2013, Salmi 2005), once an integral part of daily life in Åland, has become increasingly distant. This downward trend has decreased the understanding and support for the fisheries occupation. Nonetheless, many Ålanders are worried that the fishers' way of life and their know-how, rooted in lifetime experiences, are being lost due to the broad societal changes and environmental pressures described in this report. These impediments highlight the need to explore new strategies and courses of action for preserving and strengthening the cultural heritage and economic opportunities and benefits provided by the Ålandic fisheries.

According to Neuman (2007), 18 years ago, the Ålandic fisheries-related conflicts were perceived by the people living outside the capital Mariehamn as significant, with the following breakdown of conflicts between fishers and water owners (29%), fishers and nature conservation (26%), fishers and authorities (22%), between fishers (13%) and between fishers and non-fishers (11%). Based on interviews, the background work for this report also reached all the aforementioned groups, and it is notable that the 'conflicting' parties remain the same, with an apparently equal distribution. However, as this report demonstrates, the position of Ålandic commercial fishers has shifted, especially in relation to higher levels of governance, with fishing opportunities becoming more limited and regulated by broader fisheries and environmental policies.

Ålandic fisheries are regulated by multilevel governance systems: EU regulations (e.g. CFP statutes on seals and cormorants), Finnish legislation (e.g. fishing quotas), and Ålandic legislation (e.g. minimum landing size and gear restrictions). Since Neuman's report (2007), the EU legislation and regulations have become stricter, resulting in increased monitoring and bureaucracy. Today, conflicts in Åland are evident regarding EU directives, such as the drift net ban, seal trade ban, and the Finnish state's legislation with imposed EU quotas. One source of the tensions lies in the regulation of salmon fishing, particularly the ban on driftnets and the allocation of the salmon quota, which has been perceived as unjust.

The Government of Åland and its Fisheries Agency (*Fiskeribyrån*) aims to enhance the competitiveness and profitability of fisheries livelihoods, while also promoting activities that ensure ecological and social sustainability of the sector.

During the work with this report, several independent views on the fisheries law from 1956 have been presented and a common view is that the legislation could be modernized and improved. However, despite the existence of the Ålandic policy documents related to the fisheries sector outline trends and conditions, there are no comprehensive strategic plans that define the society's goals, actions, and solutions to address the significant decline of professional fisheries, particularly small-scale coastal fisheries. Moreover, fisheries issues are in general not mentioned in municipalities' strategic plans. Indeed, few municipalities provide facilities that fishers can use for ice production, cooling or freezing and provide fishers access to wharfs and shores.

As the primary local power rests within the water owners' associations and the annual general assembly meetings, there is no self-determining mandate for the fishers *per se* to define their

line of work. Decisions regarding access to water are within that forum taken jointly by the water owners (shareholders), of whom not all have a background in the fisheries sector. Presently, commercial fishers are seldom shareholders of the jointly owned waters or even live near their fishing grounds. Consequently, their power position in the water shareholders' associations is often modest.

This local owner-based system supports the use of water areas only to a limited extent. On the one hand, there are large water areas without organized licensing or rental of waters, while on the other, certain fisher groups, such as local household fishers, have greater access to commonly owned waters than others. However, there are also other common interests between fishers and water owners. These include addressing the negative impacts of eutrophication, declining fish stocks and losses caused by seal- and cormorant. Since its consequences are broad and opportunities for mitigating the impacts are limited, the seal- and cormorant-induced problems can be considered as the foremost problem challenging the Ålandic fisheries sector.

Various stakeholders consider it unlikely for the fisheries sector to participate in what is perceived as a bureaucratic administration and decision-making. However, in Åland there is a flexible and open channel for communication between the grass-root level and the governmental authorities and politicians, creating favourable opportunities for collaborative governance. In 2025, a workgroup for recreational fisheries development, composed of fisheries stakeholders, was formed by the Minister of Trade and Environment at the Government of Åland. The idea of promoting a certain part of the fisheries sector could be broadened also for discussing the severe challenging the Ålandic commercial fisheries are fronting as well. It is, however, important that these efforts aim to achieve a long-term commitment and do not end up being workgroups with short mandates instead of becoming integral parts of the decision-making processes. Though a broad stakeholder engagement is critical to ensure a fair and transparent governance, it is also a way to detect worrying signs at an early stage. Nonetheless, engagement must also be carefully designed so it does not become a burden for participants.

Fisheries Local Action Groups (FLAGs) have been able to support those opportunities for the recovery of commercial small-scale fisheries in many parts of Finland (Salmi & Svels 2023). The Ålandic FLAG also has the potential to support the development of local commercial fisheries through projects partly funded by the EU. However, in 2025, the capacity of the Ålandic FLAG is limited in such a way that it cannot grant support to business operators such as individual fishers. For this purpose, there is a need to strengthen the representation and position of the commercial fishers' interest group in a way that fishers' needs and contributions would be taken aboard. The FLAG can also support collaboration between fisheries and other sectors to create economic opportunities, for instance, by integrating commercial fisheries with tourism services providers. In particular, there is a need for more collaboration in generating and testing activities that mitigate the seal and cormorant induced losses, intensifying Baltic herring (gill net) fisheries by supporting the certification and machinery investments, using more undervalued fish species, and combining commercial fishing with heritage/ culinary tourism. As active fishing methods have considerably fewer problems with seals, the previously very important archipelago trawling for Baltic herring (Storå 2012) might also be considered if possibilities to land and process locally for human consumption were available (Svels et al. 2025).

In the entire Baltic Sea, eutrophication is problematic and has visible effects on the Åland Islands. It is evident, however, that eutrophication and other environmental changes in the sea affect fish populations and fishing activities. The landings of many previously economically important fish species have declined. This is partly due to the regulation of fisheries and fishers' limited access to water areas but also to declines in fish stocks. Indeed, it is not straightforward to understand the changes in fish stocks or their fishability.

Spawning grounds for fish are overrun by filamentous algae that thrive in the nutrient rich waters and suffocates the seabed. This, in combination with predation, means that fish stocks and local fish populations have a difficult time recovering even if fishing by humans is stopped altogether or becomes highly restricted. However, there are areas where fish thrive and, in these areas, conflicts are likely to occur when the competition for the resource intensifies. In some cases, this has resulted in people being restricted from fishing when private water owners become more protective about their resources.

As Åland's archipelago experiences an ageing and, in some areas, declining population resulting in a more urbanized society in the growing centres, there may be a need to redefine the term "household fishers" in the Fisheries Legislation (1956), particularly in relation to their fishing rights and the distinction between household fishers and commercial fishers. In addition, the more recent term "small-scale fishers" seems to need a common definition for the Ålandic situation in order for it to be used for governance purposes by authorities and other involved stakeholders that influence and are influenced by the fisheries sector. In addition to clarifying the terms, decision makers need more information about the various fisher groups. Regarding the Ålandic household subsistence, recreational fisheries and fishing tourism, there are significant gaps in data.

Ålandic small-scale fishers combine seasonal fishing strategies with other sources of income. Most have needed pluriactive combinations of fishing and alternative revenues to secure the necessary flexibility for an economically sustainable livelihood. Fishers find problems in the system of statutory commercial fisher categorization, which includes and excludes fishers from subsidies and fishing opportunities. As a 100% fishing income is rarely an option and the level of fishing income may vary substantially between the years, the system should maintain fishers' opportunities for economic flexibility and resilience. Increased bureaucracy, as presented in this report, is making fishing less attractive as a part of a diversified, pluriactive way of life.

As this report describes, as with many small-scale fisheries regions, Åland faces a variety of challenges, many of which are common for both the user groups in the fisheries sector and for the water owners. However, increasing interest in sustainable environmental care, blue economy initiatives, and local food movements present opportunities for the revitalization of the commercial small-scale fisheries. This necessitates a broad understanding of the consumer benefits of commercial fisheries, the importance of a clean environment, a living archipelago culture, and directed policy measures towards supporting the fisheries sector and enhancing its resilience (Salmi et al. 2024). Parallel to enhancing the archipelago livelihoods and culture, fish production's role in providing food security for the society should also be considered in the Ålandic fisheries and environmental policies (Setälä et al. 2024).

10. Recommendations

Based on the findings in this report, we present the following recommendations on specific areas for the government to focus on: strategic planning and policy development; collaboration and stakeholder engagement; fisheries management and conservation; and support for commercial fishers, economic development and market expansion.

Strategic planning and policy development

- The Government of Åland should lead an inclusive process to develop a strategic vision aimed at revitalizing and promoting sustainable commercial fisheries. This process should actively involve a broad range of stakeholders.
- The Government of Åland should consider reforming fisheries legislation to ensure better alignment with contemporary needs, conditions, and challenges within the fisheries sector.
- The knowledge base concerning the fisheries sector should be strengthened through systematic data collection and analysis, in order to provide a more robust foundation for evidence-based policymaking and decision-making.
- A more consistent and mutual understanding of concepts and definitions related to the fisheries sector should be promoted, and their application should be clearly communicated to ensure that decisions are interpreted uniformly by all parties and achieve the intended outcomes.

Collaboration and stakeholder engagement

- Cooperation among various fisheries stakeholders—including professional fishers, recreational anglers, tourism operators, and authorities—should be promoted in order to strengthen the fisheries sector and its long-term vision.
- Formal communication channels between waterowners and authorities should be encouraged to facilitate the achievement of conservation goals and ensure compliance with reporting requirements set out in relevant EU regulations on biodiversity and nature restoration.

Fisheries management and conservation

- To reduce losses in the fishing industry caused by seals and cormorants, political measures should be taken, such as revising the ban on the trade of seal products and the Birds Directive, with the aim of enabling the sustainable use of a natural resource for economic benefit.
- New technologies and methods should be explored and implemented, such as seal deterrent techniques and seal-free fishing zones, in order to mitigate the negative impact of predators on fisheries.
- Local waterowners should be encouraged to manage their water areas more comprehensively and be motivated to permit commercial fishing where it can be sustainably expanded or introduced, with the aim of ensuring professional fishers' access to fishing waters.
- Efforts to restore marine habitats should be expanded, and fish should be restocked where it is deemed ecologically appropriate, to ensure healthy stocks and ecosystems.

This can be promoted by communicating funding opportunities from Åland's Fisheries Leader program and other funding sources.
- The possibility of including voluntarily protected areas designated by waterowners as so-called "Other Effective Area-Based Conservation Measures" (OECMs) should be investigated, with the aim of granting these areas official status within the framework of marine protected areas.
- Fisheries management should be integrated into Åland's broader societal environmental protection goals, in order to achieve more flexible and locally accepted integration.

Support for commercial fishers

- Professional fishers should be guaranteed safe and sustainable working conditions, with the aim of making the profession an attractive option for young people considering their career paths.
- Small-scale fishers should receive financial and technical support to facilitate their adaptation to challenges such as declining fish stocks, stricter regulatory requirements, and changing market conditions.
- Opportunities for financial support, particularly concerning initial investments during generational transitions, should be explored in order to ensure that younger individuals can establish themselves in the fishing profession.
- Value-added processing, direct sales, and marketing of fish products should be encouraged by society at large, with the aim of improving the economic viability of small-scale fisheries.
- In public procurement, local options should be prioritised and promoted to encourage fish consumption and ensure an economic foundation for investments, especially concerning underutilised species.

Economic development and market expansion

- The Government of Åland should support the development of coastal herring fisheries by facilitating the introduction of a certification system and encouraging investments in processing equipment, with the aim of enhancing the sector's competitiveness and sustainability.
- The integration of commercial fisheries with cultural heritage and culinary tourism should be strengthened in order to generate new synergies among the various stakeholders.
- The economic sustainability of the Ålandic fisheries sector should be promoted by recognising the importance of combining various seasonal fishing strategies and occupational diversification, with the aim of fostering resilience and diversification within the sector.

11. Conclusions

Since the publication of the Neuman report 18 years ago, many of the issues it raised remain relevant today. However, due to the social and environmental shifts that have taken place over this period, the content of the report now requires updating and revision.

Åland's fisheries sector, deeply tied to the region's cultural heritage, have faced significant challenges due to environmental pressures, regulatory changes, and shifting societal dynamics. The decline in the number of people relying on fishing has led to a disconnection from traditional practices and knowledge. Despite this, there is concern over the loss of these vital skills. Opportunities and motivation for collaboration between stakeholders exist, particularly through the creation of workgroups for fisheries development by the government and the project initiatives funded by the Fisheries Local Action Group and rural Leader program.

Environmental issues, such as eutrophication, water conservation and challenges posed by seal and cormorant populations, add further strain to the fisheries. Furthermore, the lack of comprehensive strategic plans for the fisheries sector underscores the need for long-term, integrated solutions.

Revitalizing Åland's small-scale fisheries calls for a delicate balance between ecological sustainability, safeguarding cultural heritage, and the realities of regulatory frameworks. In recent years, stricter regulations and accelerating environmental degradation have placed growing pressure on the sector, making it increasingly difficult for fishers to preserve their livelihood. Addressing these challenges requires not only policy adjustments but also a renewed recognition of the social and cultural value of small-scale fishing in the region. By fostering collaborative governance and strengthening small-scale fishers' representation in decision-making on a national level in Åland, the sector can ensure the resilience of its fishers and safeguard its cultural and economic future.

Acknowledgement

We would like to extend our sincere gratitude to all those who have contributed to the development of this report. First and foremost, we are deeply grateful to all Ålandic fishers, local water owners' associations, the Fisheries Leader Action Group and Rural Leader program, municipalities representatives, NGOs and other local stakeholders connected to the fisheries sector in one way or other, and who generously shared their knowledge, experiences, and insights. Your contributions were invaluable in understanding the complexities, opportunities and challenges for Åland's fisheries sector and its cultural significance.

Special thanks go to public officials and experts within the Åland Government and the Ålandic branch of the Land Survey of Finland for their continued support and collaboration throughout this research. We would also like to acknowledge the researchers and experts whose work provided essential background and guidance, particularly the colleagues of the EmpowerUs project[10]. Their scholarly contributions helped us in reflecting and analysing the difficult circumstances that coastal communities all over Europe are facing during these challenging times.

[10] The EmpowerUs project "Socio-economic Empowerment of coastal communities as users of the sea to ensure sustainable coastal development" was funded by the Horizon Europe program, within the topic: HORIZON-CL6-2021-COMMUNITIES-01-04, Research and Innovation Action (RIA). It operated in October 2022–September 2025, coordinated by Nordland Research Institute, Norway, with a consortium consisting of 16 partners from 9 countries. EmpowerUs's aim was to support the resilience of coastal communities in becoming more environmentally, economically and socially sustainable.

References

Arlinghaus, R., Abbott, J.K., Fenichel, E.P., Carpenter, S.R., Hunt, L.M., Alós, J., Klefoth, T., Cooke, S.J., Hilborn, R., Jensen, O.P., Wilberg, M.J., Post, J.R. & Manfredo, M.J. 2019. Governing the recreational dimension of global fisheries. PNAS Nexus 116(12): 5213. https://www.pnas.org/doi/full/10.1073/pnas.1902796116

Bergström, L., Svahn, E. & Adill, A. 2023. Provfiske efter strömming i södra Bottenhavet – översikt av äldre studier och återbesök 2022. Aqua notes 2023:1. Uppsala: Institutionen för akvatiska resurser. https://doi.org/10.54612/a.6rd1p380jp

Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitat directive). http://data.europa.eu/eli/dir/1992/43/2013-07-01

Council Regulation (EC) No 2187/2005 for the conservation of fishery resources through technical measures in the Baltic Sea, the Belts and the Sound, amending Regulation (EC) No 1434/98 and repealing Regulation (EC) No 88/98. http://data.europa.eu/eli/reg/2005/2187/oj

Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive). http://data.europa.eu/eli/dir/2008/56/oj

Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (Bird directive). http://data.europa.eu/eli/dir/2009/-147/oj

Eklund, E. 1994. Kustfiskare och kustfiske i Finland under den industriella epoken: Studier i en yrkesgrupps yttre villkor, sociala skiktning och organisation 1860–1970. Doctoral Thesis, Swedish School of Social Science, Research institute, Helsinki University.

Eklund, E. 2024. En by i förändring Daniel Danielssons berättelse om hur ”det andra” Bamböle byggdes. ISBN 978-952-94-8850-6. Nordprint, Helsingfors.

Ekologigruppen 2024. Socioekonomisk analys Åland. https://www.regeringen.ax/sites/default/files/attachments/page/Resultat_Socioekonomisk%20analys_Aland_2024.pdf

European Parliament & Council of the European Union 2000. Directive 2000/60/EC establishing a framework for Community action in the field of water policy. Official Journal of the European Communities, L 327, 1–73. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32000L0060

Finlex 2015. Lag om fiske 379/2015. https://www.finlex.fi/sv/laki/ajantasa/2015/20150379

Flannery, W., Murtagh, B., Miller, A., Antonova, A., Hadjimichael, M., Svels, K., Salmi, P., Eriksson, V., Daae Steiro, V.M., Buschmann Ekeland, C., Gómez Mestres, S., Patraca Dibildox, B. & Pulgar Corrotea, M. 2023. Socio-economic Empowerment of coastal communities as users of the sea to ensure sustainable coastal development. https://cdn.sanity.io/files/h1zicdt6/production/03939af12560b955002175053d7067d7b2b456e4.pdf

HD 2017. Åland - Självstyrelse - Behörighetskonflikt - Fiske - Fiskekvot - Europeiska unionens regelverk HD:2017:47. https://www.finlex.fi/sv/oikeus/kko/kko/-2017/20170047

Heimbrand, Y., Larsson, S., Landfors, F. & Bergström, U. 2023. Beståndsstatus för torsk i Ålands hav 2022. SLU Aqua 2023.5.4-12.

HELCOM 2019. HELCOM Red List Species Information Sheets (SIS) Fish. https://helcom.fi/wp-content/uploads/2019/08/HELCOM-RedList-All-SIS_Fish.pdf

HELCOM 2023. Distribution of Baltic seals – grey seals. HELCOM core indicator report ISSN 2343-2543. https://indicators.helcom.fi/wp-content/uploads/2023/04/Distribution-of-Baltic-Seals-Grey-seals_Final_October_2023.pdf

Hermann, C., Bregnballe, T., Larsson, K., Leivits, M. & Rusanen, P. 2018. Population Development of Baltic Bird Species: Great Cormorant (*Phalacrocorax carbo sinensis*). HELCOM. https://helcom.fi/wp-content/uploads/2020/06/BSEFS-Population-development-of-the-Great-Cormorant.pdf

Højrup, T. 2013. Life Mode Analysis – the coming in to being. SAXO-Institute, University of Copenhagen. https://lifemodes.ku.dk/about/Life_Mode_Analysis_-_the_coming_into_-being.pdf

Jokinen, H. 2020. Population dynamics of flounders in the northern Baltic Sea – declines, cryptic species and environmental drivers. Doctoral Thesis, Faculty of Biological and Environmental Sciences, Helsinki University. https://helda.helsinki.fi/bitstreams/04685-bdc-a2d9-4038-be43-82bb9f2fc17d/download

Karlsson, T. 2024. Structured interview with Senior Advisor Tom Karlsson, at the Government of Åland Fisheries Agency. 3.12.2024.

Landsbygd AX 2023. Landsbygdsnäringarna på Åland. https://landsbygd.ax/wp-content/uploads/2023/06/Landsbygdsnaringen-i-siffror-2023.pdf

Lehtonen, E., Lehmonen, R. & Suuronen, P. 2023. Potential of creating seal-free fishing areas with seal deterrents. Fisheries Research 264: 106736. https://doi.org/10.1016/j.fishres.2023.106736

Luke statistics on fishing. https://statdb.luke.fi/PxWeb/pxweb/sv/LUKE/LUKE__06%20Kala%20ja%20riista__02%20Rakenne%20ja%20tuotanto__02%20Kaupallinen%20kalastus%20merella/4_meri_saalis.px/table/tableViewLayout2/?rxid=dc711a9e-de6d-454b-82c2-74ff79a3a5e0

Luke 2022. Vapaa-ajankalastus 2022. https://www.luke.fi/fi/tilastot/vapaaajankalastus/vapaaajankalastus-2022

Ministry of Agriculture and Forestry 2024a. Regleringen av laxfisket i Bottniska viken ska säkerställa ett hållbart fiske. https://mmm.fi/-/pohjanlahden-lohenkalastuksen-saatelykestavan-kalastuksen-turvaamiseksi?languageId=sv_SE

Ministry of Agriculture and Forestry 2024b. Förvaltningsplan för Östersjöns sälstammar 2024:23. https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/165787/MMM_2024_23.pdf?sequence-=1&isAllowed=y

Ministry of Agriculture and Forestry 2025. Resultaten av det vetenskapliga laxfisket stöder beslutet att tillåta kustfiske i Finland. https://mmm.fi/sv/-/resultaten-av-det-vetenskapliga-laxfisket-stoder-beslutet-att-tillata-kustfiske-i-finland

Neumann, A. 2007. Fiske och fiskeriförvaltning i Ålands skärgård. Åländsk utredningsserie 2007:1.

Kullman, A. 2020. Nu provfiskas gädda i sex åländska vikar. Nya Åland 4 april 2020.

Pascual-Fernandez, J., Pita, C. & Bavinck, M. 2020. Small-scale fisheries take centre-stage in Europe (once again). In: Pascual-Fernandez, J., Pita, C. & Bavinck, M. (Ed.). Small-Scale Fisheries in Europe: Status, resilience and governance. Springer, MARE Publication Series 23: 1–22.

Pellikka, J., Pokki, H. & Moilanen, P. 2021. Vapaa-ajankalastuksen virkistysarvo ja vetovoimatekijät. Luonnonvara- ja biotalouden tutkimus 60/2021. Luonnonvarakeskus. Helsinki. 40 pp. https://jukuri.luke.fi/bitstream/handle/10024/547781/luke-luobio_60_2021.pdf?sequence=7&isAllowed=y

Pettersen, S. 2024. Förändringar i fisksamhället längs en skärgårdsgradient på NV Åland - en uppföljningsstudie. Forskningsrapporter från Husö biologiska station 168: 1–39. ISSN 0787-5460 ISBN 978-952- 12-4350-9. https://www.doria.fi/bitstream/handle/10024/-188484/Rapport%20168%20%28Online-%29.pdf?sequence=1&isAllowed=y

Raitaniemi, J. & Leskelä, A. 2021. Report on scientific cod fishing and monitoring in 2020 in Åland, Finland. Natural resources and bioeconomy studies 69/2021. Natural Resources Institute Finland. Helsinki. 16 pp.

Raitaniemi, J. & Leskelä, A. 2022. Report on scientific cod fishing and monitoring in 2021 in Åland, Finland. Natural resources and bioeconomy studies 87/2022. Natural Resources Institute Finland. Helsinki. 18 pp.

Raitaniemi, J. & Leskelä, A. 2023. Report on scientific cod fishing and monitoring in 2022 in Åland, Finland. Natural resources and bioeconomy studies 121/2023. Natural Resources Institute Finland. Helsinki. 18 pp.

Raitaniemi, J. & Leskelä, A. 2024. Report on scientific cod fishing and monitoring in 2023 in Åland, Finland. Natural Resources and Bioeconomy Studies 111/2024. Natural Resources Institute Finland. Helsinki. 20 pp.

Regulation (EU) 2015/1775 of the European Parliament and of the Council of 6 October 2015 amending Regulation (EC) No 1007/2009 on trade in seal products and repealing Commission Regulation (EU) No 737/2010. http://data.europa.eu/eli/reg/2015/1775/oj

Regulation (EU) 2019/1838 of 30 October 2019 fixing for 2020 the fishing opportunities for certain fish stocks and groups of fish stocks applicable in the Baltic Sea and amending Regulation (EU) 2019/124 as regards certain fishing opportunities in other waters. http://data.europa.eu/eli/reg/2019/1838/oj

Regulation (EU) 2023/2842 of the European Parliament and of the Council of 22 November 2023 amending Council Regulation (EC) No 1224/2009, and amending Council Regulations (EC) No 1967/2006 and (EC) No 1005/2008 and Regulations (EU) 2016/1139, (EU) 2017/2403 and (EU) 2019/473 of the European Parliament and of the Council as regards fisheries control.

Salmi, J. & Salmi, P. 2005. Governance of the Baltic Salmon fishery – Fisher's views. https://www.ices.dk/sites/pub/CM%20Doccuments/2005/V/V2905.pdf

Salmi, P. 2005. Rural Pluriactivity as a Coping Strategy in Small-Scale Fisheries. Sociologia Ruralis 45(1–2): 22–36. http://data.europa.eu/eli/reg/2023/2842/oj

Salmi, P., Linke, S., Siegrist, N., Svels, K. 2022. A new hope for small-scale fisheries through local action groups? Comparing Finnish and Swedish experiences. Maritime Studies 21: 309–323. https://doi.org/10.1007/s40152-022-00269-y

Salmi, P., Setälä, J. & Saarni, K. 2024. Rediscovery of small-scale fisheries in the era of crises. Maritime Studies 23: 19. https://doi.org/10.1007/s40152-024-00360-6

Salmi, P. & Svels, K. 2023. Fisheries local action group managers as reflexive practitioners: The enhancement of projects and networks and the renewal of the Finnish fishing livelihood. Sociologia Ruralis 2023: 1–20. https://doi.org/10.1111/soru.12454

Setälä, J., Saarni, K., Airaksinen, S., Niukko, J. & Vielma, J. 2024. Suomen kalatalouden huoltovarmuusselvitys. Luonnonvara- ja biotalouden tutkimus 71/2024. Natural Resources Institute Finland. Helsinki. 83 pp. https://jukuri.luke.fi/bitstream/handle/-10024/555218/luke-luobio_71_2024.pdf?sequence=1&isAllowed=y

Sivén, C. 2021. The importance of sea trout in Åland Islands - Economic and natural values. Bachelor's thesis, Bioeconomy, Novia, Raseborg.

Storå, N. 2012. Havets silver - Åländskt trålfiske. Ålands landskapsregering.

Storå, N. 2003. Fiskets Åland och fiskarkulturen. ISBN 10:9529848129 / ISBN 13:9789529848126. Ålands Kulturstiftelse, Mariehamn

Svels, K. & Aagard Thuesen, A. 2024. Input legitimacy of bottom-up fishery governance: Lessons from community-led local development in two Nordic EU countries. Sociologia Ruralis 2024: 1–25. https://doi.org/10.1111/soru.12479

Svels, K., Salmi, P., Mellanoura, J. & Niukko, J. 2019. The impacts of seals and cormorants experienced by Baltic Sea commercial fishers. Natural resources and bioeconomy studies 77/2019. Natural Resources Institute Finland. Helsinki. http://urn.fi/URN:ISBN:978-952-326-854-8

Svels, K., Salmi, P., Suuronen, P., Coelho, N.F., Waldo, Å., Königson, S., Lunneryd, S.-G., Eriksson, V., Vetemaa, M., Lehtonen, L., Dyrendom Graugaard, N. & Johansson, M. 2022. Mitigating a social conflict between seal, conservation and fisheries in the Baltic Sea: multilevel and synergistic approaches. TemaNord 2022:569. http://dx.doi.org/10.6027/temanord2022-569

Svels, K., Salmi, P., Coelho, N.F., Eriksson, V., Königson, S., Lehtonen, E., Lunneryd, S.-G., Suuronen, P., Vetemaa, M. & Waldo, Å. 2025. Struggling towards co-existence of the Baltic Sea coastal fisheries and the grey seal. Maritime Studies 24(1). https://doi.org/10.1007/s40152-024-00393-x

Svels, K. & Åkerlund, U. 2018. The commons and emergent land in Kvarken Archipelago, Finland: governing an expanding recreational resource. Fennia International Journal of Geography 2: 154–167. https://dx.doi.org/10.11143/fennia.69022

Suuronen, P., Lunneryd, S.-G., Königson, S., Coelho, N.F., Waldo, Å., Eriksson, V., Svels, K., Lehtonen, E., Psuty, I. & Vetemaa, M. 2023. Reassessing the management criteria of growing seal populations: The case of Baltic grey seal and coastal fishery. Marine Policy 155: 105684, https://doi.org/10.1016/j.marpol.2023.105684

Söderkultalahti, P. & Rahikainen, M. 2025. Hylkeiden ja merimetsojen aiheuttamat saalisvahingot 2023. Natural resources and bioeconomy studies 12/2025. Natural Resources Institute Finland. Helsinki. http://urn.fi/URN:ISBN:978-952-419-018-3

Walve, J., Rolff, C. & Tidlund, A. 2018. Svealandskusten 2018. Stockholms universitets Östersjöcentrum. https://www.diva-portal.org/smash/get/diva-2:1274818/FULLTEXT01.pdf

Ådjers, K. 2008. Catch & release på Åland. Fiskeritidskrift för Finland 2: 15–17. https://www.regeringen.ax/sites/default/files/attachments/page/catch-and-release-2008.pdf

Ådjers, K., Appelberg, M., Eschbaum, R., Lappalainen, A., Minde, A., Repečka, R. & Thoresson, G. 2006. Trends in coastal fish stocks of the Baltic Sea. Boreal Environment Research 11: 13–25.

Ådjers, K. 2018. Undersökningar på gädda på Åland 2009–2018. Ålands landskapsregering. https://www.regeringen.ax/sites/default/files/attachments/page/undersokningar_av_gadda_pa_aland_2009_2018_bb_0.pdf

ÅLR 1956. *Landskapslag (1956:39) om fiske i landskapet Åland.* https://www.regeringen.ax/alandsk-lagstiftning/alex/195639ÅLR 1991. Självstyrelselag 1991:71 för Åland. https://www.regeringen.ax/alandsk-lagstiftning/alex/199171

ÅLR 1995. Landskapsförordning (1995:44) om yrkesfiske (1996/32). https://www.regeringen.ax/alandsk-lagstiftning/alex/199544

ÅLR 2004. Svar på spörsmål. Landskapsstyrelsens åtgärder inom havsfisket spörsmål 2/2003–2004. https://www.lagtinget.ax/dokument/landskapsregeringens-svar-s-2-2003-2004-6827

ÅLR 1995:44. Landskapsförordning (1995:44) om yrkesfiske (1996/32)

ÅLR 2007. Förvaltningsplan för gråsälen på Åland. https://docplayer.se/13445688-Forvaltningsplan-for-grasalen-pa-aland.html-#google_vignette

ÅLR 2018/2416. Deltagande samarbetspartner i fiskevårdsprojektet ReFisk 2.0. https://www.regeringen.ax/sites/default/files/attachments/protocol/nr2-enskild-n3_1.pdf

ÅLR 2024/1015. Fastställande av regleringsåtgärder för gösbestånden på Åland under perioden 2024–2026. https://www.regeringen.ax/sites/default/files/attachments/protocol/nr2-2024-enskild-n3.pdf

ÅLR 2024/2304. Riktlinjer för skyddsjakt på storskarv år 2024, riktlinjer för skyddsjakt på gråsäl år 2024. https://www.-regeringen.ax/sites/default/files/attachments/protocol/nr1-2024-enskild-n4a.pdf

Åland Fisheries Agency 2025. eKake-register analysis 10.2.2025, vessel data and registered commercial fishers in Åland.

Åland Government 2020. Åtgärdsprogram för grundvatten, sjöar och kustvatten 2022–2027. https://www.regeringen.ax/sites/default/files/attachments/guidedocument/3-vattenatgardsprogram_remiss_2020_0.pdf

Ålandstidning 2024. Gäddan ska räddas. https://www.alandstidningen.ax/nyheter/gaddan-ska-raddas-miljon-och-ekonomin

ÅSUB 2019. Fiskerinäringens betydelse för samhällsekonomin på Åland, Rapport 2019:8.

ÅSUB 2021. Ålänningarnas kultur- och fritidsvanor 2020 Med Coronaperspektiv, Rapport 2021:6. https://www.asub.ax/sites/default/files/reports/alanningarnas_kultur-och-_fritidsvanor_2020_0.pdf

ÅSUB 2023a. Befolkning 1910–2023 efter kommun och år. https://pxweb.asub.ax/PXWeb/-pxweb/sv/Statistik/Statistik__BE__Befolkningens%20storlek%20och%20struktur/-BE004.px/?rxid=73467f4e-1abe-46c7-bfa5-fd9478249d17

ÅSUB 2023b. Befolkning – Befolkningens storlek och struktur. https://www.asub.ax/sv/befolkning-befolkningens-storlek-och-struktur

ÅSUB 2024a. Turismens samhällsekonomiska betydelse för Åland 2023, Rapport 2024:4. https://www.asub.ax/sites/default/files/media/document/Turismens%20Samh%C3%-A4llsekonomiska%20Betydelse%20f%C3%B6r%20%C3%85land%202023_1.pdf

ÅSUB 2024b. Statistik årsbok för Åland. https://www.asub.ax/-sites/default/files/media/document/Statitisk%20%C3%A5rsbok%20f%C3%B6r%20%-C3%85land%202024_5.pdf

ÅSUB 2024c. Turiststatistik 2023 (2024:1). ISSN 1455-3147 (print) ISSN 2737-078X (online) 2023. https://www.asub.ax/sites/default/files/media/-document/Tursiststatistik%202023.pdf

ÅSUB yearbooks 2006–2024. Retrieved from https://www.asub.ax/sv/tidigare-statistiska-arsbocker

Other sources consulted

Archipelago Pares 2020. Ståtar, späck och skrävlor. https://aprf.ax/saljakt

Archipelago Pares 2021. Sälen en egensinnig råvara. https://aprf.ax/saljakt

Karlsson, T. 2024. Structured interview with Senior Advisor Tom Karlsson, at the Government of Åland Fisheries Agency. 3.12.2024.

Luke online map service. https://luonnonvaratieto.luke.fi/kartat?panel=0&lang=en

Yle 2024. Laxkrig hotar mellan Åland och riket. https://yle.fi/a/7-71044. Released 21.4.2004.

Ålands Radio 2021. Hållbart initiativ (HI) vill att förbud mot storskaligt trålfiske utreds. https://alandsradio.ax/nyheter/hi-vill-forbud-mot-storskaligt-tralfiske-utreds. Released 30.1.2021.

Ålands Radio 2024. ”Finskt fulfiske” – svensk organisation rasar mot vetenskapligt laxfiske kring Åland. https://alandsradio.ax/nyheter/finskt-fulfiske-svensk-organisation-rasar-mot-vetenskapligt-laxfiske-kring-aland. Released 17.5.2024.

Ålands Radio 2025. Arbetsgrupp ska stärka Åland som destination för fritidsfiske. https://alandsradio.ax/nyheter/arbetsgrupp-ska-starka-aland-som-destination-for-fritidsfiske. Released 17.1.2025.

Appendices

Appendix 1.

Q-statements for TCL Åland analysis

1. My stakes/rights in the environment are recognized.
2. The historic and cultural links between my community and the sea are recognised by the broader society.
3. All economic sectors in our community are valued equally.
4. Minorities are considered a significant resource to the local community.
5. I have the opportunity to participate meaningfully in environmental decision-making.
6. I know who to contact when conflicts of interest occur in relation to decision-making processes.
7. Conflicts between different users of the sea are solved fairly when they arise.
8. My identity does not prevent my participation in local decision-making.
9. The impacts of environmental management decisions are fairly disturbed.
10. The benefits of Blue Growth/coastal economy have been shared fairly across communities.
11. Blue Growth also benefits vulnerable groups (health/poverty/insecurity).
12. Life is better in the city-centres (well-being).

Appendix 2.

Åland's fisheries, its management, regulations and bureaucracy between 2008 and 2025 (May)

Year	EU legislation, governance structure and change	Public discussion on fisheries	Other important events	Salmon quotas
2008	- The EU bans drift net fishing, affecting salmon fishing. - A closed season for pike-perch during spawning (25 May–5 July) is introduced (in force 2025).	- A significant decline in pike stocks concerns many sport fishers.	- Push up traps for salmon fishing is tested in "project nr 3" hosted by the Åland Fishers' Association. - An investigation into creating seal free areas is done by the Åland Fishers' Association; it is, however, not launched due in part because of a lack of funding opportunities. - The "From sea to plate" project is ongoing, hosted by the Åland Fishers' Association.	2008-2016, the Ålandic quota was a part of the Finnish national quota and subject to yearly negotiation, hence difficult to identify the allocation to Ålandic fishers.
2009	- Registration to the proffesional fishers register becomes mandatory in order to comply with EU regulation 1224/2009 art 55 which forbids all sales from recreational fishing. The regulation as a whole has a marked impact on the governance of commercial fishing.		- A pike tagging project is launched between the Fisheries Bureau and the most active fishing guide to study migration patterns and recapture rates in 'catch and release' fishing.	
2010			- Two Åland-based vessels conduct offshore fishing in the southern Baltic Sea for herring, salmon, cod, and sprat. Most of the cod is landed in Poland, and despite only two vessels being involved, in 2010, they accounted for 93% of the total volume and 72% of the total value of all Åland catches. - A new project "project nr 4" regarding tests on seal safe gears is launched and hosted by the Åland Fishers' Association. - A new strategy for Leader Fisheries Local Action group (FLAG) is developed. - Significant improvements are made in the fisheries harbour Korrvik in Mariehamn which is hosted by the Åland Fishers' Association and open to all commercial fishers. This is in order to meet new regulations on processing facilities.	
2011	- The minimum size for pike is increased from 42 cm to 55 cm. - Implementation regulation 404/2011 enters into force		- The report on the pike tagging project is published. Silver of the Ocean (*Havets silver*), a documentation on the trawl fishing for herring in Åland from the 1950s–2000s is made and results exhibited in Eckerö Hunting and Fishing Museum in 2012, and also published.	

Year	EU legislation, governance structure and change	Public discussion on fisheries	Other important events	Salmon quotas
2012			- Feasibility study for the MSC certification of a mixed coastal fishery targeting whitefish, perch, pike, and pike-perch (Åland Fishers' Association). - WWF appoint a red light to wild European whitefish.	
2013			- A project hosted by the Åland Fishers' Association investigates the possibilities to enhance the future of coastal fisheries in Åland by the MSC certification, traceability in the commercial fisheries and investigation regarding exports of Baltic Herring in 2013–2015	
2014			- An investigation on sustainable sport fishing is conducted. - Two new trawlers are registered in Åland, significantly increasing the catches of herring and sprat. - A magazine about fish and fisheries in Åland is distributed to promote local fish as a food resource	
2015	- The EU marine and fisheries fund (EMFF) programme for 2014-2020 is implemented, including a new fish farming strategy.		- The Åland Fishers' Association takes part in the development of the small-scale fisheries producers' organisation led by the Stockholm fish auction (*Stockholms fiskeauktion*).	
2016	- The Government of Åland sends a letter to the state of Finland and demands that the ban on driftnets is lifted at least close to the shoreline out to 4nm. Representatives from Finland do not adhere, and Finland's position remains to uphold the ban on driftnets.		- Study on the future financing of fisheries conservation in Åland and the potential introduction of a fisheries conservation fee. - The Åland Fishers' Association and Ålands' Fishfarming Association takes part in a project to investigate the possibility of fishing stickleback as a nutrient compensation scheme in the waters around Åland.	
2017	- First year with the new quota system in place.	- Extensive discussion, both on traditional and social media, on illegal fishing due to violations by well-known sport fishing YouTube film making profiles.	- A fisheries conservation project (*Projekt Fiskevård*) is launched in Åland (2017–2020). - A sustainable food strategy, Åland's Sustainable Food Strategy (*Ålands hållbara livsmedelsstrategi*) is developed which includes fish farming and capture fisheries.	2,073 pcs
2018		- Ongoing discussion about illegal fishing from the previous year.		1,970 pcs
2019	- A general ban on cod fishing in the eastern stock.			2,130 pcs
2020	- Scientific fishing for cod begins, aiming to investigate whether cod in the Åland Sea constitutes a separate stock.			1,320 pcs

Year	EU legislation, governance structure and change	Public discussion on fisheries	Other important events	Salmon quotas
2021	- Scientific cod fishing continues.			2,042 pcs
2022	- A new fish farming strategy for 2021-2030 is implemented.			2,045 pcs
2023	- The principles for the EMFAF programme 2021-2027 are approved. During this period, Åland is part of the Finnish programme and does not have its own budget. - Updated fisheries control regulation 2842/2023 enters into force and will be implemented step by step over the next years with e.g. mandatory digital and satellite reporting for the entire fishing fleet and stricter margins of tolerance.			2,045 pcs
2024	- The EU bans salmon fishing due to a declining population. Finland and Åland launch a scientific fishing project to determine whether salmon caught along the Finnish coast originate from the Ljungan River (Sweden). The scientific fisheries project receives heavy criticism from the EU and Sweden. - Changes in the classification of commercial fishers.	- Intense debate on herring fishing, with significant differences in opinion between Finland and Sweden. Åland is caught in the middle with divided views.	- Scientific salmon- and cod fishing was deemed illegal by the regional veterinarian in Åland, who cited animal ethics regulations in research. Mainland veterinarians from the Finnish Food Authority disagree on the ethical issues on the practices of scientific fisheries.	- No quota, only research fishery permissions with specific regulations. Maximum 90 salmon per boat and 14 vessels from Åland permitted to take part.
2025	- Changes in the classification of commercial fishers.		- Proposal to prohibit trawling within 12 nm in the parliament. - The EmpowerUs partnership with the Eckerö Hunting and Fishing Museum resulted in an exhibition on herring fisheries, both historical and contemporary.	752 pcs

Appendix 3.

Changes in Åland's seal and cormorant situation, legislation and governance between 2008 and 2024

Year	Seal hunt	Cormorant hunt	EU legislation, governance structure and changes	Other important events	Tolerance payment
2008	- Protective hunting allowed since 1999, requires application.	- Allowed for professional fishers, first year permitted, only allowed in autumn.	- Compensation for seal damage was reintroduced in 2007, and 2008 was the first "normal" payment year / Cormorant hunting permitted for professional fishers to test how it is received by the EU and the public.	- Before 2008, a conference on seal issues was held in Åland 2002, and push-up traps were tested for salmon fishing. - The SEAL OFF project was planned, and seal deterrents were tested in professional fishing during 2008.	€149,377
2009	- Protective hunting allowed, requires application.	- Self-initiated protective hunting allowed for professional fishers and protected sites in spring, other hunting only in autumn.	- A seal trade ban introduced, with an exemption for "marine resource management". - Protective hunting on cormorants introduced with an annual decision determining guidelines and reasons for hunting.	- Continued trials with push-up traps in salmon fishing.	€150,000
2010	- Protective hunting allowed, requires an application.	- Protective hunting on own initiative.			€140,000
2011					€140,000
2012				- The project on push-up traps concluded.	€130,000
2013					€120,000
2014					€120,000
2015			- Exemption for marine resource management removed after a WTO ruling; all trade in seal products banned in the EU. - The application requirement for seal hunting removed, and all with hunting rights may hunt grey seals. - Reporting obligation, quotas, and guidelines set annually regulate hunting.		€72,399
2016	- General protective hunting no longer requires an application, only. hunting rights				€71,437
2017					€62,015
2018					€73,764
2019				- *Skarvsmällen*, a joint cormorant hunt around Åland, was organized for the first time through a Facebook initiative; continuing annually since then.	€85,240
2020				- Archipelago Pares rf launch-ed the project "Seals, blubber and flippers" (*Skåtar, späck och skrävlor*) and published a booklet on seal hunting. - The cormorant quota was increased from 2,000 to 3,000 due to high interest.	€73,764

Year	Seal hunt	Cormorant hunt	EU legislation, governance structure and changes	Other important events	Tolerance payment
2021				- The “Seals, blubber and flippers” (*Sålar, späck och skrävlor*) project organized courses on seal utilization.	€85,240
2022				- Archipelago Pares published the booklet "*The Seal – A Stubborn Resource*".	€81,195
2023					€89,796
2024			- The EU launches a revision of the seal trade ban.		€106,513

You can find us online

luke.fi

Natural Resources Institute Finland (Luke), Latokartanonkaari 9, 00790 Helsinki, Finland