

Documenting the Undocumented: The Case for Integrating Local Water Ownership Into Marine Governance in Åland

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Abstract

Efforts to protect marine and coastal environments in Åland, Finland, increasingly emphasise integrating local water ownership into formal governance. This study examines how such integration can be strengthened, particularly in contexts where privately owned coastal waters and established management traditions are highly significant. By using Avelino’s empowerment framework, with a mixed-methods approach, the study addresses two questions: What approaches can be employed to identify biologically valuable marine areas in Åland that are not currently recognised or justified by the government? And what evidence-based recommendations can be formulated to support durable and reciprocal communication between governmental authorities and water owners in Åland? Findings show that despite Åland’s small-scale society and proximity between administrative institutions and citizens, systematic dialogue, co-creation, and data sharing remain limited. Many water owners actively restrict fishing rights to protect spawning habitats, creating ecologically important areas that remain largely undocumented in official frameworks. Challenges include outdated legislation, fragmented institutional structures, unclear enforcement responsibilities, and uneven power relations. Strong community engagement through commoning, active water shareholders’ associations, and rich local traditional knowledge offer important capacities for more collaborative governance. Strengthening Åland’s water governance requires transparent data systems, formal recognition of locally enforced conservation practices, accessible legal guidance, and stable funding for monitoring and restoration. Water ownership alone does not ensure effective management; inclusive governance and mechanisms linking local ecological management to social or economic benefits are essential. Supporting local management can help mobilise areas beyond government and reach future conservation goals.

Keywords

Åland; commoning; empowerment; small-scale fisheries; water ownership

1. The Future of Fisheries in Åland Relies on Active Local Water Owners

Efforts to protect marine and coastal environments increasingly call for the integration of local traditional knowledge into formal governance systems. This article draws on a case study experience, referred to as the Transition Coastal Lab, from the Horizon Europe EmpowerUs project (2022–2025) in Åland, an autonomous region in Finland (Figure 1). A Transition Coastal Lab is a co-creation platform grounded in living lab and transdisciplinary approaches, where multiple actors (e.g., researchers, policymakers, and local communities) collaborate to address coastal sustainability challenges.

This case advances the empowerment discourse in relation to commoning theories by examining collective water ownership and its implications for fisheries management. It further explores inclusive methodologies aimed at bridging the gap between institutional frameworks and statutory Water Shareholders' Associations (WSAs; Ålands landskapsregering, 1956; Jord- och skogsbruksministeriet, 1989). Furthermore, it supports local communities in fostering empowerment for the future of the Ålandic commercial small-scale fisheries (SSF) sector.

The SSF sector currently presents a twofold challenge. In 2025, the economic turnover from SSF in Åland was €0.9 million (Personal communication, Special Fisheries Advisor Niklas Ulenius, Government of Åland Fisheries Agency, 2025). This represents only a small fraction of Åland's total GDP, which amounted to €1,549 million in 2024 (Ålands statistik- och utredningsbyrå, 2025). It is important to note that this turnover is the price the small-scale fishers receive for their catch, not reflecting the added value of the fish being sold in local restaurants and shops to consumers.

Beyond its economic role, SSF still holds a significant cultural value in Åland. Generations have passed down fishing traditions, local traditional knowledge, and community-based practices, shaping the region's strong maritime heritage (Storå, 2003). Åland's SSF communities are deeply embedded in its maritime culture and coastal way of life. For centuries, SSF 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 (Neumann, 2007). Historically, the fishing was often complemented by small-scale farming for food security and income throughout the seasons.

Fisheries management and water ownership constitute a complex system of public and private resource management, which is further described in Section 4. Water ownership is widely spread among the citizens in Åland; however, competing everyday priorities among water owners result in limited and selective engagement with water management. The awareness of rights and responsibilities attached to the ownership is also modest. Nonetheless, one essential responsibility for both land and water owners is the sustainable management of these resources. For water owners, this primarily means the management of their marine possession, that is, the waters under their ownership, and participating in determining the most effective management practices (Ålands landskapsregering, 1956).

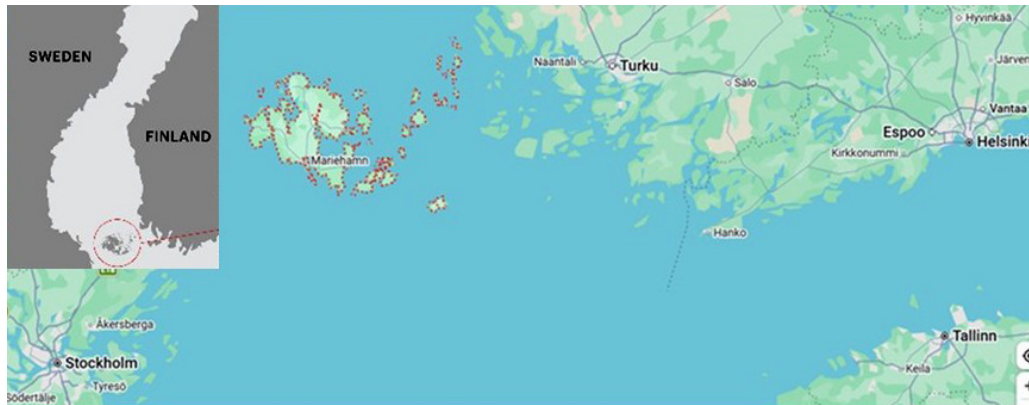


Figure 1. Åland Islands (marked in red) situated in the Baltic Sea between Finland and Sweden. Source: Google (n.d.).

Simultaneously, ensuring robust implementation of climate and biodiversity measures in Åland, as a part of the Republic of Finland, is emphasised by major institutions such as the European Union (EU). One key measure determining the future of the European environment is the EU Biodiversity Strategy (European Commission, 2020), which sets the EU's timeline for nature restoration and for the member states to achieve set goals by 2030 and 2050. Restored areas should expand the Natura 2000 network and form ecological corridors, prioritising habitats and species listed in the Habitats Directive (Council Directive 92/43/EEC of 21 May 1992, 1992), Birds Directive (Directive 2009/147/EC of the European Parliament and of the Council of 30 November, 2009), and the national red list. The Nature Restoration Law (Regulation (EU) 2024/1991 of the European Parliament and of the Council of 24 June 2024, 2024) requires restoration measures to be put in place covering at least 20% of the EU's land and sea areas by 2030 and all ecosystems needing restoration by 2050. Finland's compliance with the EU directives also puts pressure on the autonomous region of Åland, especially due to its vast marine territory and its own legislative rights on matters regarding environment and fishing (Ålands landskapsregering, 2026; Justitieministeriet, 1991).

Achieving these measures necessitates public involvement, requiring trust, resources, access to official and local traditional knowledge, and credibility of results. Åland hosts unique ecosystems and currently protects 2.4% of land and 3.4% of its marine areas under various officially recognised regimes, as outlined in the Government of Åland's strategy for nature conservation and restoration in Åland 2026–2030 (Ålands landskapsregering, 2026): national nature protected areas, the Natura 2000 network of protected areas, Important Bird and Biodiversity Areas (IBAs), Ramsar site wetlands designated under the Ramsar Convention (United Nations Educational, Scientific and Cultural Organization, 1971), Marine Protected Areas under the HELCOM convention (Helsinki Convention; Baltic Marine Environment Protection Commission, 1992), seal protection zones, and private conservation initiatives.

The desired outcomes, set by EU Biodiversity Strategy, cannot be expected to occur automatically. This study was motivated by the need to better understand how legislation, information-gathering and information-sharing mechanisms, and coordination among regional administrative units influence conservation governance. Attention is also needed on the role of meaningful and active stakeholder engagement, which may be critical for the effective implementation of management and protection measures. If stakeholders feel excluded from the process, trust will be hard to establish, which makes long-term commitments or formal protection schemes unlikely. The integration of local protection schemes

into formal governance processes remains a critical challenge. Without effective mechanisms for identifying, collecting, and incorporating local knowledge and initiatives, ecologically valuable areas may be overlooked in conservation and management decisions. To ensure stronger engagement between public authorities and water owners for effective marine protection and restoration, we pose the following research questions:

RQ1: What approaches can be employed to identify biologically valuable marine areas in Åland that are not currently recognised or justified by the government?

RQ2: What evidence-based recommendations can be formulated to support durable and reciprocal communication between governmental authorities and water owners in Åland?

Following the introduction, which outlines the future of Åland's fisheries sector and its key challenges, Section 2 describes the methodological approach of the study. Section 3 presents empowerment as the guiding conceptual framework, while Section 4 introduces the Ålandic water ownership system and fisheries management. The subsequent sections present the study's findings, followed by a discussion and concluding remarks.

2. Methods: Innovative Aspects of Documenting the Undocumented—From Survey to Map

To illustrate the importance of local protection efforts that remain unrecognised by government authorities, referred to here as undocumented, and to emphasise the critical role of local knowledge in understanding and managing Ålandic waters, this article draws on three sources of data collection and compilation carried out during the EmpowerUs project. These three sources are: a governance audit combining interviews and document analysis, a survey among WSAs, and the mapping-based visualisation of protective measures.

2.1. Governance Audit

To set the scene of the Ålandic state of fisheries, a governance audit (Flannery et al., 2023), including a literature review and structured interviews, was carried out to identify discourses important for the whole sector and to identify key themes, challenges, and opportunities in managing SSF and the impact of the water commons. The structured interviews ($N = 13$) were conducted in 2022 with experts from various stakeholder groups, including representatives from government agencies, community associations, the fisheries sector, municipalities, and the environmental sector. The literature 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.

2.2. Stakeholder Survey

In addition, an online stakeholder survey (Svels et al., 2025) among the WSAs was conducted to assess protective measures, strategies, commitments, and water owners' collaboration in and between WSAs. Contact information of respondents was primarily sourced from the registry of the Fisheries Agency (the Regional Government of Åland's archives), targeting individuals previously engaged in administrative and fisheries managerial processes (e.g., fish fry distribution or consultations). However, limitations emerged due

to the incomplete nature of these registries, particularly regarding non-registered private water commons. The lack of contact information constituted a result in its own right, as contacts with the WSAs remained poorly organised by the regional administration.

The water owners' survey aimed at examining water ownership, water owners' involvement in water protection measures, their 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 grey seal population, and their practical implications for the fisheries sector. The survey was distributed to 129 recipients. Among WSA representatives the response rate was 29% ($N = 38$). Given the limited sample size and response rate, these figures should be interpreted as indicative of the responding associations only, and not as representative of all Ålandic water owners.

2.3. Visualisation Through Mapping

To get an overview of the extent and locations of the areas with restricted fishing as a protective measure, a mapping analysis of online sales platforms for recreational fishing licenses was conducted in 2024. The sales platforms used were iFiske (www.ifiske.ax), Kalakortti (www.kalakortti.com), and the tourism organisation Visit Åland's general platform called Fiskekarta över Åland (fiskekarta.visitaland.com/en).

3. Empowerment as the Theoretical Concept

To explore how water owners could be more closely integrated into the Åland fisheries governance system and administration, and how “unrecognised” local knowledge of water resources could be more effectively incorporated into management processes, we adopt the concept of empowerment, as defined by Avelino (2017), as our theoretical framework.

Avelino (2017) defines empowerment as the process through which actors gain the capacity to mobilise resources and institutions to achieve a goal. Empowerment depends on material assets, knowledge, social relations, and institutional conditions, and power dynamics and governance structures shape who can act and how. Agency is understood as the capacity of actors, individuals or collectives, to intentionally mobilise resources, knowledge, and networks to pursue transformative change within socio-technical systems (Avelino, 2017). The empowerment process includes actors gaining (a) access to resources and institutions, (b) strategies to mobilise them, and (c) the willingness to do so (Avelino, 2017, p. 516; Avelino et al., 2020).

Avelino (2017) defines resources as persons, assets, materials, or capital, including human, mental, monetary, artifactual, and natural resources (Avelino et al., 2020; Avelino & Rotmans, 2009). The second and third components of empowerment, Avelino describes as psychological empowerment, a process in which actors gain or lose a sense of impact, competence, meaning, and choice. These notions serve to understand the psychological processes and underlying interpretative mechanisms through which actors become empowered (or not) to contribute to sustainability transitions in the context of this article (Avelino, 2017, p. 517; Avelino et al., 2020).

The three components of empowerment, as defined by Avelino, are reflected by the participatory processes initiated in the EmpowerUs project's living lab approach, which covers the whole area of the Åland Islands.

4. Water Ownership and Fisheries Management in Åland

The fisheries sector in Åland is facing considerable pressure with regulatory tightening efforts, declining catches, and worsening economic viability for many local fishers, driven by management changes, environmental pressures, and market challenges. The SSF sector remains culturally and locally important but faces structural threats that require coordinated management, economic support, and measures addressing environmental conflicts (Neumann, 2007; Svells et al., 2025). Ensuring healthy water areas is essential for protecting fishers' livelihoods and maintaining the resilience of the local SSF, their long-lasting cultural heritage, and traditions.

Of Åland's total area of 13,324 km², 88% is water area, amounting to 11,742 km² (Ålands statistik- och utredningsbyrå, 2020). The water areas are divided into three main types of ownership: private, common, and public (Table 1). Nearly 39% falls within private ownership, encompassing most of the coastal areas. The ownership structure division was codified already in a statute of the year 1766, where ownership of water areas was laid down for Finland and Åland as part of Sweden according to the unit of assessed land (Eklund, 1994; Svells & Åkerlund, 2018).

To understand water ownership and fisheries management in Åland, it is necessary to consider the historical development of common resource governance. Prior to the Great Partition of 1734, a land consolidation reform designed to reduce fragmented farmland, codifying the traditional system for dividing village land and agricultural strips among farmers, emerged land typically belonged to shared ownership units known as *samfällighet* (commons), which often included several villages. Rights to these commons varied across contexts. In some cases, all members used the land collectively for grazing or meadows, while in others, only individual shareholders with adjacent private land exercised use rights. During the Great Partition, land was redistributed according to village taxation units. This process was based on *mantal* (a unit of land assessment; Jutikkala, 1978, p. 93) and was historically a very important way of sharing essential resources like fish and pasture in the archipelago. In Åland, villages still form the basis of the traditional spatial context of current common ownership. Landowners holding a *mantal*, a unit that reflects the productive value of the land, typically retain water rights, with their share proportional to the size of their *mantal*. The water owners, who are also shareholders in the WSA, thereby enjoy access to water and fishing rights on an area wider than their own waters, and a right to take part in joint decision-making of the association.

Currently, waters in the inner archipelago are in private or common ownership and often connected to village borders and ownership of land, while deeper waters further out from the shores are in public ownership and managed by the Åland government. The government manages its own waters and sells fishing licenses to local commercial and recreational fishers. While the municipalities take part in some WSAs' 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 ownership, and they do not normally incorporate the fisheries sector in their strategic long-term planning.

Water owners possess the right to use their water resources; however, they also carry the responsibility of water management. Neither of these claims and duties is exclusive, and they are regulated differently, mainly by the Fisheries Law of Åland (Ålands landskapsregering, 1956), Fisheries Implementation Regulation (Ålands landskapsregering, 1957), and the Law on Implementation of the Common Fisheries Policy in Åland

Table 1. Numbers and sizes of water areas managed by statutory WSA (joint ownership) and private owners.

	N	Ha	Average ha
Water areas in joint ownership	491	307,317	626
Organised, with contact person*	77	154,729	2,009
Organised, no contact person*	23	52,742	2,293
Not organised	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

Notes: * Statutory WSAs; ** including government-owned coastal waters. Source: National Land Survey of Finland, Åland office (2025) personal communication, June 2025.

(Ålands landskapsregering, 2015). These laws require water owners to manage their waters sustainably as well as safeguard fish stocks, and stipulate which mandates on fisheries rights' restrictions the water owners must enforce.

Åland's complex fisheries governance (Figure 2) has become increasingly multi-levelled, especially after Finland joined the EU in 1995. Before this shift, fishers were primarily dependent on local and regional institutions, reflecting Åland's autonomous status and long-standing fishing legislation from 1956. Since 1995, fisheries governance in Åland has been increasingly shaped by international agreements and EU-level decisions, particularly through the Common Fisheries Policy. Currently, Åland's main fisheries policy direction is set within Finland's operational programme for the European Maritime, Fisheries and Aquaculture Fund for 2021–2027.

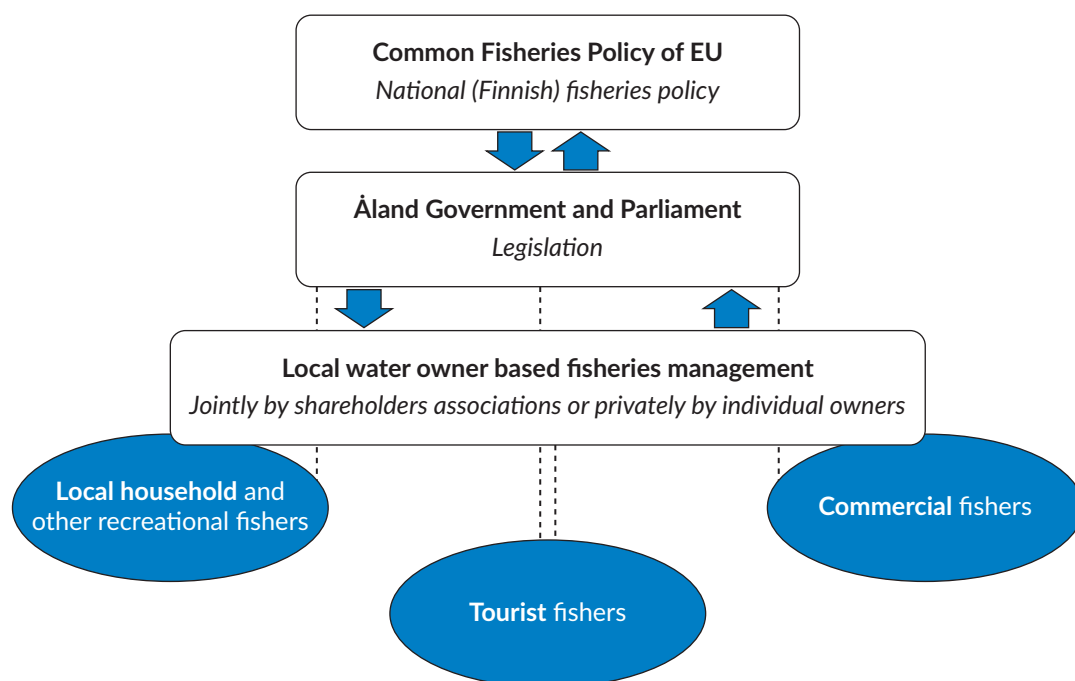


Figure 2. Institutional levels and the positions of user groups in the Åland fisheries sector. Source: Svells et al. (2025).

Despite a shift of power to upper levels of governance, local decision-making is of substantial importance for Åland's fisheries sector. Not only do WSAs and 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 current governance model faces a challenge due to the vast number of individual private water owners and the limited accessibility of their contact information despite transparency mechanisms. These constraints hinder effective interaction between private water owners and governmental agencies. Despite the relatively small society with proximity between the administration and the public, there are few formal channels, other than formal hearings and official statements, between water owners and the commercial fishers' organisation Ålands fiskare r.f. on one side, and the government on the other.

This elevation of power has also had consequences on fish management, as different fishing activities and species of fish present in the same waters are subject to different governance systems. As an example, herring (*Clupea harrengus membras*) and sprat (*Sprattus sprattus*) are quota species within the EU framework and can be found in all coastal waters around Åland. The predatory fish species northern pike (*Esox lucius*) and perch (*Perca fluviatilis*) are not managed under international quotas and are also found in all coastal waters around Åland. These four have a predator-prey relationship and interact readily in the marine ecosystem, but the management of pike and perch can be the mandate of one singular water owner, whereas management for herring and sprat is the mandate of the Council of European Fisheries Ministers. The same is true for fishing activities. A person fishing for subsistence and household consumption operates within the legal framework of Åland. Meanwhile, a person fishing the same waters in a similar manner for commercial reasons is incorporated within a legal framework primarily set by the EU through the Common Fisheries Policy and its national implementation.

Understanding and navigating these different forms of governance can be a difficult task for experts and challenging for local water owners. With the added demands of restoration and protection of biodiversity, this can be disempowering without proper guidance and transparent channels of communication.

5. Empowerment-Related Findings Obtained From Three Supporting Methodological Approaches

5.1. Governance Audit and Interviews

From an empowerment standpoint (Avelino, 2017), the story of acquiring and governing water rights in Åland can be read as multi-layered complexity over access to resources, agency for transformative action, and the presence of enabling structures. The findings from the governance audit (Flannery et al., 2023), including interviews and document analysis, demonstrate that the position of empowerment on its own is not merely an individual or collective capacity in Åland, but a process shaped by institutional arrangements, knowledge flows, and socio-economic practices.

5.1.1. Access to Water

There are thousands of water owners in Åland, collectively owning over 1,065 water estates of the 11,742 km² of water. To identify the exact number of water owners and determine ownership structures of each estate would require an extensive and costly review of the land survey registry, which, in its current form, is not sufficiently or transparently documented. The Right of Domicile Act (*hembygdsrätt*), as a gatekeeper to land and water ownership in Åland, enables those who meet residency criteria to own land and water property (possession of *mantal*), and thereby determine who can claim control over resources (Ålands landskapsregering, 1991, §6–10). Water rights can be inherited by direct heirs regardless of their place of residence, meaning that many individuals who own water rights in Åland are not necessarily local residents.

The rules regarding water ownership restrict market transactions and limit the market to Ålandic residents with a right of domicile. Land purchases are not always transferred with the accompanying water rights (*mantal*) connected to the estate. This means that one can own land without the right to water. There are, however, examples of WSAs with multiple shareholders who each own small shares in the common waters, corresponding to the property shares of their house plot that grants them access to fishing and a right to participate in the management of the waters. Altogether, this can make decision-making difficult in cases where all water owners must be informed or consent, e.g., regarding restrictions on fishing rights. The WSAs provide formal arenas for collective decision-making; however, membership is conditional on the *mantal* of each water owner. The associations are formally open to all shareholders, yet participation patterns exhibit gender- and age-related differences, with greater engagement observed among men and older individuals compared to women and younger adults. Although most of the WSAs remain deeply engaged in maintaining the ecological status of the waters, many individual water owners treat water management as a secondary activity, which risks limiting sustained engagement. Agency can therefore be regarded as unevenly distributed within Ålandic water governance. Many of the active WSA members, who participate in WSA meetings, are local household fishers. However, not all water owners have a personal interest in fisheries.

The composition of WSAs' steering bodies is often homogeneous (Flannery et al., 2023). Mostly men take part in the decision-making and activities within the WSAs, although both men and women possess a significant share of the waters. The more dominant group, middle-aged men and older, often represent long-term experience in nature conservation; however, this produces asymmetries in representation that narrow the range of perspectives shaping the decisions of the WSAs (Flannery et al., 2023). Power relations demonstrated by age, gender, and socio-economic status shape whose knowledge counts and whose interests are prioritised (Nightingale, 2019).

The non-water owners' (NWO) fishing rights are circumscribed to public waters or licensed private water areas. They are excluded from formal management fora and decision-making despite being entitled to customary subsistence fishing in village waters and fishing with herring nets (*skötar*) in municipality waters (Ålands landskapsregering, 1956, §3). While NWOs remain excluded, ownership of water resources confers multiple forms of access to water and agency that can be mobilised for empowerment. These include direct rule-making authority at the local level, the capacity to implement protective measures, and stronger claims than NWOs possess in regulatory negotiations. Ownership also generates social and symbolic capital, status, water management identity, and place-based knowledge, which can catalyse collective action, e.g., protection of water ecosystems and fish populations. However, the social asymmetries between the

heterogeneous composition of the WSAs and the NWOs reduce the collective capacity of water governance and weaken the intergenerational transfer of knowledge and management practices.

Empowerment also depends on access to relevant knowledge and the capacity to interpret it. Åland's fisheries governance and dispersed administrative responsibilities between environmental and fisheries administration create an information gap for water owners (Svels et al., 2025) where numerous laws and regulations apply; however, no single, accessible advisory pathway is in place. Scientific monitoring is carried out, largely by governmental actors, yet social-scientific analysis and locally tailored interpretation are limited. Consequently, water owners and WSAs struggle to translate environmental data into actionable management measures and often rely on best practices from Finland and Sweden. This dependence on external templates weakens local epistemic authority and constrains context-sensitive management. There is, however, added value in the presence of a locally located academic research station in Åland, Husö Biological Station, as it contributes to disseminating knowledge on marine ecosystems and the ecological conditions shaping coastal fish populations and marine ecosystems.

The institutional landscape consisting of fisheries legislation, unclear enforcement capacity by the government, and diverse regulations in water areas, both enables and restricts empowerment. The, to some extent, outdated fisheries law (Ålands landskapsregering, 1956) and limited organised monitoring of waters (Svels et al., 2025) shift the burden of evidence and legal action collectively from the administration onto private water owners. This places unrealistic demands on the WSAs and their collective capacity to protect spawning areas or enforce restrictions and access. At the same time, informal protective measures enacted by the associations demonstrate strong local initiative. The lack of formal recognition by the government of the WSAs' protective measures and documentation of these measures limits their durability and broader legitimacy. The patchwork of competences across agencies produces a governance architecture that is fragmented rather than enabling, hence reducing transparency and complicating coordinated action.

5.1.2. Strategies for Mobilisation

From an Avelino (2017) empowerment perspective, mobilisation strategies must balance immediate incentives with the capacity for transformative action in processes.

The findings reveal that the Ålandic fisheries communities display empowering strategies through the WSAs' resources and legitimacy, combined with investments in learning and networking, that enable sustained water management in a long-term perspective. Networking between the associations is currently in its infancy stage and can still be enhanced. Some WSAs have consolidated into larger units that, for example, issue recreational fisheries licenses across their shared water areas. Although discussions have been held regarding introducing a region-wide fisheries license, covering all Åland, it appears that the various WSAs are not ready to take this step, which would widen their accessible areas, providing a more attractive basis for visiting fishers.

Water ownership in Åland grants access to a resource that is economically marginal for most water owners. Because ownership rarely generates significant income on an individual level, collective restoration and water management projects through the WSAs create the platform for non-economic activities. The complex water ownership situation depresses property values relatively, which in turn reduces the economic attractiveness of water assets. Additionally, smaller public and EU funding channels (e.g., funding

through Leader Åland and its Fisheries Leader group) become decisive resources that enable increased local actions in water-related matters.

Efforts to mobilise private water owners for long-term conservation are constrained by bureaucratic and legal frameworks. The water owner has the right to designate protected areas through a notification to the regional government in Åland. However, the absence of clearly established procedures makes the process difficult for water owners to navigate, which likely contributes to the low number of officially designated protected areas within privately owned water areas. Following consultations with legal experts (Personal communication, Sanna Karlsson and Emelia Josefsson, Government of Åland, 2025), it was concluded that legislative updates are needed to improve clarity, consistency, and long-term stability for the private protection processes. The following key points were identified:

- Fishery associations and joint property units can legally establish fishing restrictions under §27 without requiring prior approval from the regional government (Ålands landskapsregering, 1956, §27). Such protections may also be seasonal (e.g., during spawning periods). However, to be formally recognised, the protected area must under §5 be mapped, delineated in the field according to regulations, and reported to the regional government within 30 days (Ålands landskapsregering, 1957, §5).
- Areas protected under §27 are legally enforceable, and violations constitute criminal offences subject to fines and police action (Ålands landskapsregering, 1956, §27). Enforcement outside these defined areas (e.g., illegal fishing or unclear “otherwise protected” zones) remains legally ambiguous and requires further clarification.
- Nature conservation legislation provides an alternative framework for protection, typically for permanent or long-term conservation rather than seasonal measures. However, legislative gaps have been identified, including weak coordination between fisheries and environmental laws, unclear rules for revoking protection decisions, and outdated enforcement provisions.

5.1.3. Willingness to Act

According to Avelino's (2017) empowerment lens, willingness to act emerges where resources, perceived benefits, and enabling institutions align. Motivation to mobilise is shaped by immediate incentives, long-term visions, social recognition, and the capacity to translate knowledge into action.

The WSAs in Åland occupy an identity grey zone: They are formal profit-driven NGOs, however not categorised as business operations (Ålands landskapsregering, 1956; Jord- och skogsbruksministeriet, 1989). They treat conservation as a public good when actively sustaining fish populations and ecosystems, yet they also invest in private infrastructure and shoreline maintenance that can restrict access to water for some user groups aiming to profit from the water resources (e.g., recreational fisheries' entrepreneurs). This hybrid identity affects incentives: Actions that immediately produce visible, local private benefits, e.g., investments in piers and exclusive stocking of fish, are easier to justify than measures whose benefits are diffuse or long-term.

In the Ålandic waters in general, large water assets held by private and public owners commonly yield limited monetary return. To compensate, some owners and WSAs derive income from fisheries licences and the tourism sector. Still, this form of income is not applicable in all areas. In the past, large water areas in the

outer archipelago formed sources of wealth and food security where fishing for herring and seal hunting were important. At present, these areas function as involuntary nature reserves due to their remoteness and a natural absence of species that normally attract fishing tourists and other recreational fishers. These areas are generally quite shallow with submerged rocks, meaning that trawling with large vessels is unfeasible. Furthermore, the large population of grey seals makes fishing with gill nets very challenging, and fishing trips to these areas bring a high economic risk for small-scale fishers.

As fish populations are migratory, some shorter range and some longer, perceptions of benefit and sacrifice vary with ecological context. Empowerment in the local context, therefore, depends on clarifying who benefits from conservation of fish populations and waters, and who sacrifices in the cause of upholding ecosystems, e.g., by restricting their own fishing rights for the benefit and the well-being of a larger area. Conservation efforts are also shaped by top-down governance, while ecological collaboration between the administration and private water owners remains strong. A key conservation actor in the Ålandic context is the Fish Conservation Centre Gutterorp, a unit operated by the regional government, that works closely with WSAs, co-creating a sustainable context for local fish populations. The centre ensures sustainable fish stocks through restocking of, e.g., trout, pike, and whitefish, and performs other restoration efforts locally.

5.2. Water Ownership Survey

The second method used, an online survey aimed at revealing the access to water resources, the mobilisation strategies, and the water owners' willingness to act by the WSAs, indicates empowerment by a strong engagement through local traditional knowledge in water conservation within the responding WSAs.

In the survey (Figure 3), when asked if the associations have protected areas within their waters, e.g., to protect spawning fish populations, 87% answered affirmatively, showing a willingness to act while having protected their institutional resources. Further, only 16% of the associations had applied stricter rules for the minimum landing size of fish, or daily catch, than demanded by the law. The stricter rules were more common among associations covering small areas than larger areas. As shown, only a minority engage in stronger mobilisation by establishing strategies that go beyond legal requirements. Those who did demonstrate active use of organisational power were also the WSAs for smaller water areas.

On average, 42% of the WSAs saw a need for more counselling about fisheries management activities, and 48% agreed that increased counselling could lead to more active fisheries management within the respondents' water areas. The WSAs generally perceived constraints in cognitive resources, e.g., demand for advice and building on knowledge.

When asked their opinion on illegal fishing, approximately one-third of the WSAs confirmed that it constituted a problem (Figure 4). Within WSAs that manage large water areas (>1,000 ha), illegal fishing was considered a problem more frequently (50%) than among smaller (<1,000 ha) WSAs (24%). The WSAs showed that access to crucial management resources was limited, especially within the larger water areas.

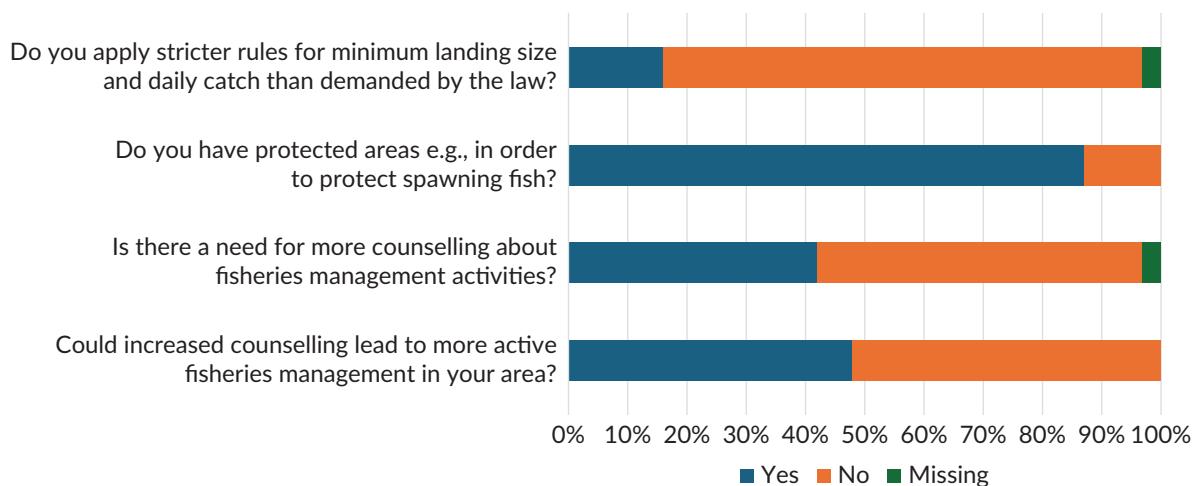


Figure 3. WSAs' responses to questions on fisheries management.

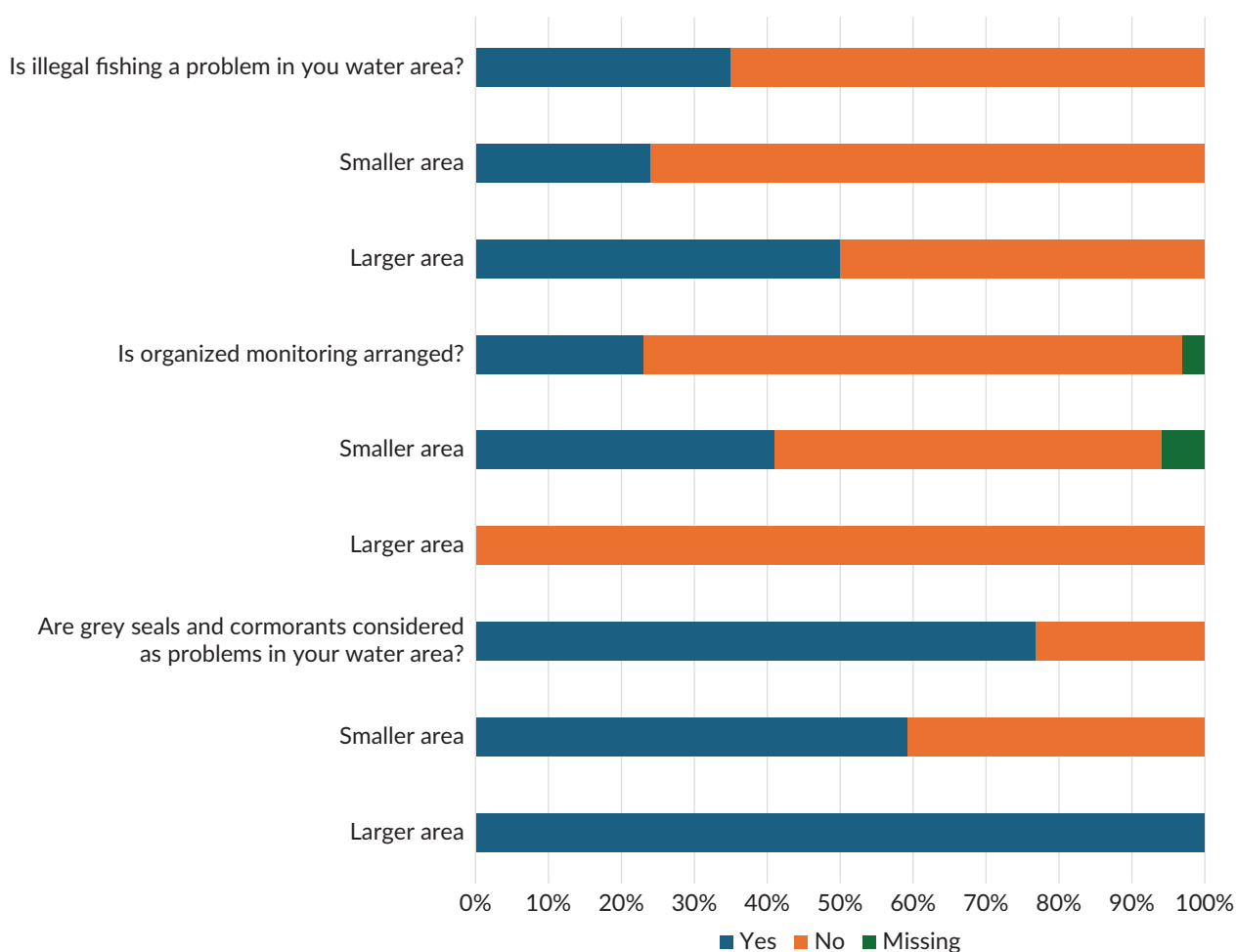


Figure 4. WSAs' responses to questions on monitoring and problems. Small areas are < 1,000 hectares and large areas > 1,000 hectares.

The WSAs were also asked if fisheries monitoring is organised in their waters, to which 23% answered affirmatively. However, none of the larger WSAs had organised monitoring. While some associations employ mobilisation strategies (e.g., monitoring), the overall level was low, especially where illegal fishing pressure was the highest.

Challenges created by grey seals and cormorants were a topic to which 77% answered that these predators were considered a problem. In the larger areas, all respondents answered favourably. Awareness of problems, e.g., predator species, reflects a willingness to act, although this willingness has not yet consistently translated into concrete regional enforcement, mainly due to EU regulation (Regulation of 6 October 2015, 2015) imposing a trade ban on seal products which broadly prohibits placing seal products on the EU market, including private sales. Lastly, 39% of the WSAs co-operated with other fishery associations or other water owners (Figure 5). Cooperation may include, e.g., selling of fishing licenses, conservation efforts, and stocking of fingerlings. Although collaboration can expand the associations' resource base, the fact that only 39% engaged in cooperation means that access to these resources remains uneven. When asked about openness for more collaboration, 39% expressed a positive response. However, it is noteworthy that 42% of the respondents did not answer this question. Cooperation acts as a strategic mobilisation tool, but ambivalence or lack of engagement among many respondents, especially the larger WSAs not answering the question, displays a lack of decisiveness or a reluctant approach to collectively build capacity between water owners.

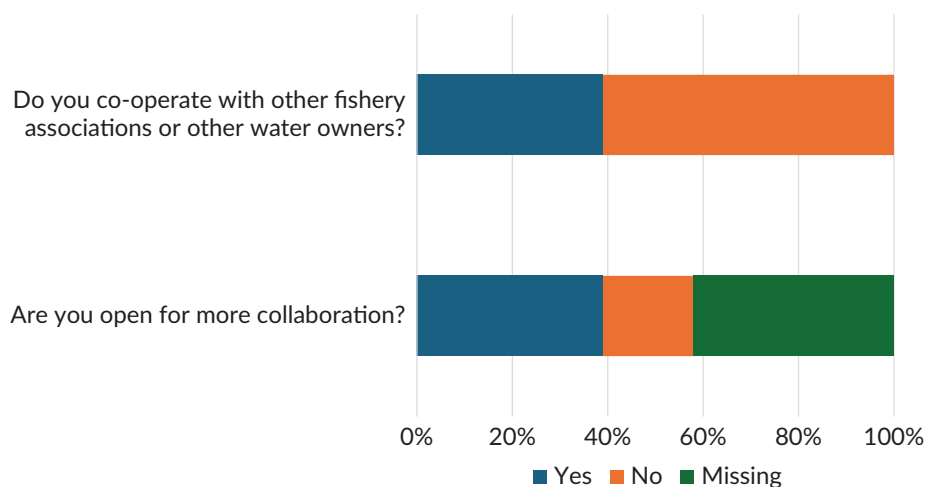


Figure 5. WSAs' responses to questions on collaboration.

5.3. Mapping Undocumented Protected Areas

Finally, online sales platforms were used, where both private and public water managers display the availability of their fishing licenses, thereby also providing insight into the access to or exclusion from their waters. The data used in this article should not be considered exhaustive, as there are many water owners who reserve fishing rights exclusively for the WSA members and have other informal methods of distributing fishing rights than using online platforms. Therefore, they also use other means of informing about their water areas, e.g., about restrictions or closures. The e-platforms are primarily for recreational fishing purposes; however, since January 2026, coastal areas in Åland allocated to small-scale commercial fishing and governed by public authorities are also provided through one of these arrangements, the iFiske platform.

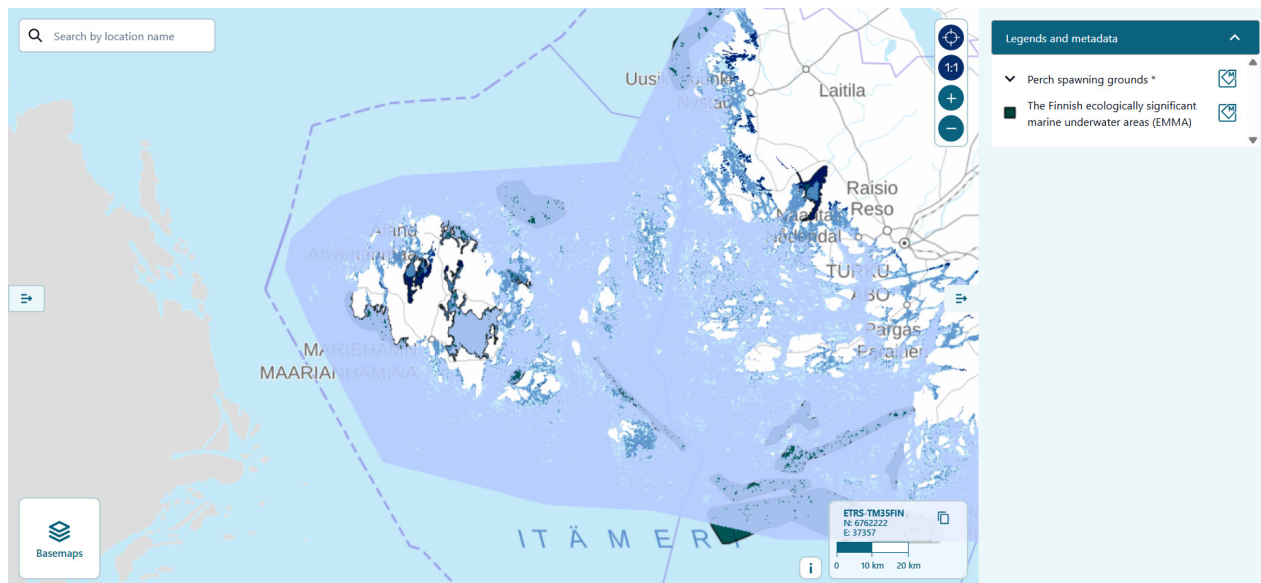


Figure 7. The VELMU database of underwater marine biodiversity depicts modelled spawning grounds for perch (*Perca fluviatilis*) and EMMA areas around Åland. The two layers overlap, showing EMMA areas as polygons and spawning areas in shades of blue. Darker colours indicate a higher potential for valuable spawning grounds and marine ecological values. Source: Syke, 2025.

6. (Dis)Empowerment in Åland: In Need of Trust and Collaborative Governance

Despite Åland's geographically small-scale society and the proximity between public authorities and private water owners, this study indicates that current governance arrangements provide limited institutional access for continuous, structured engagement for blue economy stakeholders, especially in water conservation activities. The lack of accessible channels, beyond formal hearing procedures and the requirements for official statements, limits private water owners, WSAs, or other local fisheries stakeholders from routinely participating with fisheries administrations in water-restoration tasks. As a result, this contributes to a widening gap between the parties involved.

While the fisheries authority remains comparatively active in restoration, the absence of systematic co-creation, dialogue, data-sharing, and joint planning contributes to fragmented local traditional knowledge and an incomplete mapping of protected or ecologically significant areas. This limited access is intensified by uncertainties in mandates and enforcement responsibilities, e.g., monitoring to ensure that fishing boundaries on the water are being followed. This further weakens the institutional interface between the regional administration and local actors.

Further, access to waters and knowledge resources is unevenly distributed. Many of Åland's most vulnerable and biodiversity-rich marine areas are located within privately owned coastal waters, spaces that are historically exposed and currently pressured by anthropogenic activities. Yet, as reflected in the findings, outreach to owners is hindered by an incomplete and costly-to-navigate land and water registry. In several areas, individuals hold small water shares, each with a formal say in management. However, many are unfamiliar with their rights and obligations that come with common ownership under both Finnish and Ålandic fisheries legislation. There are even cases where individuals are unaware that they own water property, as they have to be active and get in contact with the land survey registry in order to find

information, e.g., when property is inherited, bought, or otherwise shifts ownership. Moreover, population mobility and seasonal residency patterns dilute the continuity of local traditional knowledge, even as some areas retain generational practices that remain visible and effective. These situations create a mosaic of the grassroots situation in which essential knowledge for conservation is at once present, at risk, and simultaneously insufficiently integrated into formal decision-making.

Addressing these access challenges requires strategies to mobilise resources and institutions that are both pragmatic and context-sensitive. First, the findings highlight the need for more transparent systems for data collection and validation to better incorporate undocumented practices, such as the restoration of spawning areas and rivers, into national and EU governance frameworks. Based on this observation, we suggest that existing local and traditional knowledge should be recognised and formalised, and that management practices that have proven effective over time should be systematically documented to facilitate their inclusion in decision-making processes. Further, our findings also point to the need for institutional and legal reform, where existing instruments are no longer fit for purpose. One evident example is the recreational, tourism-driven fisheries activities that have expanded beyond what the law anticipated in 1956. Evidence of these acts is seen, for instance, in the survey results where roughly one third of WSAs report experiencing unlawful fishing within their water areas. During stakeholder interviews, as part of the governance audit for the EmpowerUs project, it became clear that many feel the laws are unclear concerning discouraging this type of unlawful recreational fishing. As a result, perceived unlawful fishing influences both water owners and tourism entrepreneurs. Clarifying control mandates, procedures, and penalties while updating the fisheries law to reflect contemporary ecological and social realities would increase both legitimacy and effectiveness for an emerging blue economy and empower both the water owners and the users.

Through legal frameworks already in place, protective instruments can be implemented strategically to safeguard critical spawning habitats and fulfil the commitments required by the nature restoration law in the EU. However, the instruments must be designed with attention to distributional effects. Imposing new regulations could shift the local decision-making power entirely to the government level and be perceived as disempowering the local water owners, rather than empowering them. Economic compensation mechanisms to the local communities could mitigate such concerns in specific cases, but limited public funds make a governmental compensation-based approach unrealistic. Consequently, protection and restoration solutions should be tailored to local conditions. In some areas, increasing restrictions may be essential to sustain fish stocks and biodiversity; in others, targeted measures, trusting local traditional knowledge, and improved practices may be sufficient. Comprehensive scientific monitoring across all coastal waters is seen as impractical by the government. However, social control, a behaviour that by tradition has been applied within the Ålandic context, should be strengthened and acknowledged by the administration.

Realising these strategies ultimately depends on the willingness to mobilise among both authorities and water owners. Readiness for collective instruments by the WSAs, such as region-wide (pan-Ålandic) fishing licensing, remains currently limited. Where owners lack clarity about their rights and duties, or where they experience weak enforcement against unlawful recreational fishing, engagement and rule-following behaviour may decline. Migration dynamics and the growth of second-home ownership can further reduce place-based management norms, particularly when owners are not embedded in the rural archipelago communities. Paradoxically, under current conditions, decision-making power can be shifted away from those very communities.

For the reasons stated above, empowerment strategies should weave together a time perspective covering an extended period. In the short term, targeted incentives, e.g., grants, pilot projects, and locally significant benefits that can lower participation costs in water protection activities within the culturally embedded fisheries traditions, would benefit from being supported by public funding. In the longer term, the institutional reforms that broaden access to the resources, e.g., clearer communication channels and more easily reachable registries, would reduce friction and uncertainty among water owners and fisheries stakeholders.

7. Conclusion

Åland's water ownership regime reflects a complex and contested governance field where empowerment requires aligning water resource ownership, knowledge systems, and institutions to enable a broader set of stakeholders to exercise meaningful agency over the waters, a resource central to local livelihoods and traditional fisheries culture.

A more inclusive governance approach for Ålandic waters would recognise the diversity of fisheries stakeholders, including private water owners, commercial fishers, residents, and visitors, e.g., seasonal homeowners and tourists, who all create possibilities and contribute to the future of a sustainable blue economy. Meanwhile, achieving effective biodiversity outcomes requires a meaningful integration of diverse and equitable participation, which is based, in the Ålandic case, on local traditional knowledge. While EU policy frameworks increasingly call for such inclusive outcomes, real progress depends on reliability between parties, and on establishing transparent participatory mechanisms. Yet, embedding local practices into institutional decision-making implies formalising the locally protected areas that previously have not been recognised.

While WSAs in Åland illustrate high levels of engagement in common water conservation activities, the value of embedding local traditional knowledge in regional strategies, such as Åland's contribution to the EU Biodiversity Strategy for 2030, still needs to be more clearly highlighted, as ownership alone does not ensure sustainable water management. As a result of the EmpowerUs project's activities, the project circulated an informational leaflet to all Ålandic households ($N = 15,750$) outlining water ownership, related rights, and obligations. A public water ownership seminar was also held as part of the campaign (26th of May 2025).

Empowering and supporting local water management activities offers a promising opportunity for managing ecologically valuable areas. To succeed, however, coordination and communication between authorities and local water owners in Åland should be strengthened. Bridging this institutional distance is essential for establishing a long-term, durable, and effective governance model for Åland's coastal waters.

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Conflict of Interests

The authors declare no conflict of interests.

References

- Ålands landskapsregering. (1956). *Landskapslag (1956:39) om fiske i landskapet Åland*. <https://www.regeringen.ax/alandsk-lagstiftning/alex/195639>
- Ålands landskapsregering. (1957). *Landskapsförordning (1957:35) angående verkställighet och tillämpning av landskapslagen om fiske*. <https://www.regeringen.ax/alandsk-lagstiftning/alex/195735>
- Ålands landskapsregering. (1991). *Självstyrelselag (1991:71) för Åland*. <https://www.regeringen.ax/alandsk-lagstiftning/alex/199171>
- Ålands landskapsregering. (2015). *Landskapslag (2015:49) om verkställighet av den gemensamma fiskeripolitiken inom den Europeiska unionen*. <https://www.regeringen.ax/alandsk-lagstiftning/alex/201549>
- Ålands landskapsregering. (2025). *GIS visualization of fishing areas in Åland* [Data set].
- Ålands landskapsregering. (2026). *Naturskydd 2026–2030: Landskapsregeringens strategi för naturskydd och restaurering på Åland* (ÅLR 2024/6433). https://www.regeringen.ax/sites/default/files/attachments/page/Strategi_naturskydd_och_restaurering_Aland_2026-2030_040626.pdf
- Ålands statistik- och utredningsbyrå. (2020). *Arealen 1.1.2020*. <https://www.asub.ax/sv/statistik/arealen-112020>
- Ålands statistik- och utredningsbyrå. (2025). *Nationalräkenskaper*. <https://www.asub.ax/sv/statistik/nationalrakenskaper>
- Avelino, F. (2017). Power in sustainability transitions: Analysing power and (dis)empowerment in transformative change towards sustainability. *Environmental Policy and Governance*, 27(6), 505–520. <https://doi.org/10.1002/eet.1777>
- Avelino, F., Dumitru, A., Cipolla, C., Kunze, I., & Wittmayer, J. (2020). Translocal empowerment in transformative social innovation networks. *European Planning Studies*, 28(5), 955–977. <https://doi.org/10.1080/09654313.2019.1578339>
- Avelino, F., & Rotmans, J. (2009). Power in transition. An interdisciplinary framework to study power in relation to structural change. *European Journal of Social Theory*, 12(4), 543–569. <https://doi.org/10.1177/1368431009349830>
- Baltic Marine Environment Protection Commission. (1992). *Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992 (Helsinki Convention)*. https://helcom.fi/wp-content/uploads/2026/10/Helsinki-Convention-1992_with-2022-amendments.pdf
- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. (1992). *Official Journal of the European Union*, L 206. <http://data.europa.eu/eli/dir/1992/43/2013-07-01>
- Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds. (2009). *Official Journal of the European Union*, L 20. <http://data.europa.eu/eli/dir/2009/147/oj>
- Eklöf, J., Hansen, J. P., Klemens Eriksson, B., Östman, Ö., Austin, Å. N., Yanos, C., Fredriksson, R., Bergström, U., & Andersson, H. C. (2023). Effects of seasonal spawning closures on pike (*Esox lucius* L.) and perch (*Perca fluviatilis* L.) catches and coastal food webs in the western Baltic Sea. *Fisheries Research*, 263, Article 106674. <https://doi.org/10.1016/j.fishres.2023.106674>

- Eklund, E. (1994). *Kustfiskare och kustfiske i Finland under den industriella epoken: Studier i en yrkesgrupps yttre villkor, sociala skiktning och organisation 1860–1970* [Unpublished doctoral dissertation]. University of Helsinki.
- European Commission. (2020). *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: EU Biodiversity Strategy for 2030: Bringing nature back into our lives* (COM(2020)380 final). <https://data.consilium.europa.eu/doc/document/ST-8219-2020-INIT/en/pdf>
- Flannery, W., Murtagh, B., Miller, A., Antonova, A. S., Hadjimichael, M., Svells, K., Salmi, P., Eriksson, V., Steiro, V. M. D., Ekeland, C. M., Gómez, S., Patraca, B., & Pulgar, M. (2023). *Socio-economic empowerment of coastal communities as users of the sea to ensure sustainable coastal development*. EmpowerUs. <https://cdn.sanity.io/files/h1zicdt6/production/b6bb01fa60f3704de3cfa8f23dee3d1cc6033ac.pdf>
- Google. (n.d.). Åland Islands. <https://maps.app.goo.gl/4CpnKdYRkzHVjTT78>
- iFiske Åland. (n.d.). Start. <http://www.ifiske.ax>
- Jord- och skogsbruksministeriet. (1989). *Lag om samfälligheter*. <https://www.finlex.fi/sv/lagstiftning/1989/758>
- Justitieministeriet. (1991). *Självstyrelselag för Åland*. <https://www.finlex.fi/sv/lagstiftning/1991/1144>
- Jutikkala, E. (1978). Finland, daughter of the sea. *Scandinavian Economic History Review*, 26(1), 92–94. <https://doi.org/10.1080/03585522.1978.10407900>
- Kalakortti. (n.d.). *Kalastuslupien nettikauppa*. <http://www.kalakortti.com>
- Neumann, A. (2007). *Fiske och fiskeriförvaltning i Ålands skärgård*. Ålands landskapsregering.
- Nightingale, A. J. (2019). Commoning for inclusion? Political communities, commons, exclusion, property and socio-natural becomings. *International Journal of the Commons*, 13(1), 16–35. <https://doi.org/10.18352/ijc.927>
- 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. (2015). *Official Journal of the European Union*, L 262. <http://data.europa.eu/eli/reg/2015/1775/oj>
- Regulation (EU) 2024/1991 of the European Parliament and of the Council of 24 June 2024 on nature restoration and amending Regulation (EU) 2022/869. (2024). *Official Journal of the European Union*, L 2024/1991. <http://data.europa.eu/eli/reg/2024/1991/oj>
- Storå, N. (2003). *Fiskets Åland och fiskarkulturen*. Ålands Kulturstiftelse.
- Svells, K., & Åkerlund, U. (2018). The commons and emergent land in Kvarken Archipelago, Finland: Governing an expanding recreational resource. *Fennia – International Journal of Geography*, 196(2), 154–167. <https://doi.org/10.11143/fennia.69022>
- Svells, 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. <https://urn.fi/URN:ISBN:978-952-419-075-6>
- United Nations Educational, Scientific and Cultural Organization. (1971). *Convention on Wetlands of International Importance especially as Waterfowl Habitat, 1971*. <https://treaties.un.org/doc/Publication/UNTS/Volume%20996/volume-996-I-14583-English.pdf>
- Syke. (2025). *Vedenalaisen meriluonnon karttapalvelu* [Data set]. <https://velmu.syke.fi>
- Visit Åland. (n.d.). *Fishing map of Åland*. <https://fiskekarta.visitaland.com/en>

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