

CoolBlue

Community Ocean Farms



Local Business Clusters

D3.1

Regulatory assessment and policy
recommendations targeting relevant authorities
and institutions in each pilot region



Funded by
the European Union



About this deliverable

Work Package: 3

Deliverable Ref.: 3.1

Deliverable Type: R - Report

Dissemination Level: PU - Public

Due Date: 31.01.2024

Submission Date: 15.04.2024

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Key Words: ecosystem restoration, seaweed, algae, integrated multi-trophic aquaculture, regenerative aquaculture, aquaculture production systems, environment, fisheries and aquaculture interactions, community-led local development (CLLD), marine protected areas (MPAs), business models



Note: Funded by the European Union under Grant Agreement ID 101112747 (COOL BLUE). Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.

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Introduction

COOL BLUE is a Horizon Europe Coordination & Support Action under the EU Mission: Restore our oceans and waters by 2030. The overall objective of the project is to assess the feasibility of community-driven regenerative ocean farming (also known as restorative ocean farming or regenerative aquaculture) across social, ecological and economic indicators. To achieve this, the project partners will conduct market analyses, engage stakeholders, develop a manifesto, educational materials, conduct regulatory and socioeconomic assessments, identify regenerative species for cultivation or restoration, culminating in a strategic development plan for replication across Europe.

Background

Deliverable D3.1 – Regulatory assessment and policy recommendations targeting relevant authorities and institutions in each pilot region

Deliverable Number	D3.1	Lead Beneficiary	3. UGOT
Deliverable Name	Regulatory assessment and policy recommendations targeting relevant authorities and institutions in each pilot region		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	10	Work Package No	WP3

Description
Regulatory assessment and policy recommendations targeting relevant authorities and institutions in each pilot region

Purpose of this document

The purpose of this regulatory assessment is to evaluate the barriers and enablers relevant to regenerative aquaculture in Denmark, Sweden and Finland from an administrative perspective. The intention is to elucidate governance processes for innovative uses of marine space, identifying gaps and formulating recommendations to streamline and accelerate the roll-out of regenerative aquaculture in European waters. In doing so, the hope is that regenerative aquaculture can then make a significant contribution to the EU Mission: Restore our oceans and waters by 2030. This document should raise awareness among public authorities and provide a basis for transnational comparison and harmonisation of maritime licensing and regulatory processes.



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Executive Summary

The following document refers to the Horizon Europe Coordination & Support Action “*COOL BLUE: Community Ocean Farms and Local Business Clusters*” which started in April 2023. The objective of the project is to assess the feasibility of regenerative ocean farming (i.e. cultivation of zero-input species such as seaweeds and shellfish) and its potential contribution to the European Union’s Mission:Ocean to restore European oceans and waters by 2030. The following output refers specifically to Specific Objective (SO) #3: *Identify challenges and barriers, including legislative, regulatory and standard related issues, to the implementation of regenerative ocean farming and propose possible solutions*. The resulting deliverable comprises D3.1: *Regulatory assessment and policy recommendations targeting relevant authorities and institutions in each pilot region*. The methodology comprised a template, provided by colleagues at the University of Gothenburg (UGOT) which was sent to COOL BLUE partners to fill out and send back. Furthermore, material was collected through literature searches, reviewing data on national authorities’ rules and legislations, instructions, and permit processes. This data was complemented with results from interviews from representatives from authorities and stakeholders in Sweden. The results were collected, a SWOT analysis conducted in line with the OECD best practice principles for regulatory impact analysis, conclusions drawn and recommendations formulated to streamline the regulatory process for regenerative ocean farming in Denmark, Sweden and Finland.

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Introduction

The world faces a significant challenge in providing enough food for its growing population. While the ocean covers over 70 percent of our planet's surface, merely 5-6 percent of the total food production originates from it. Addressing this challenge requires a shift in today's consumption patterns towards incorporating more 'blue proteins' from lower trophic levels of the food pyramid, such as oysters, mussels, and algae. Furthermore, there's a pressing need to bolster local food production. Looking ahead, the future demands marine food production that aligns with active restoration efforts aimed at degraded ocean ecosystems. This approach recognizes humans as integral components of nature, embedded within an intricate and interdependent web of relationships. Here, regenerative ocean farming could play a significant role, which can be defined as the cultivation of edible aquatic species in such a way that the farming has an overall net positive impact on the surrounding marine ecosystems, according to the COOL BLUE Regenerative ocean farming manifesto (project deliverable 2.2).

One type of regenerative ocean farming is the concept of Blue community gardens, where people come together to collectively farm and manage a small-scale regenerative ocean farm, primarily aimed at achieving self-sufficiency but not limited to this purpose. The Danish organization Havhøst have been working with implementation of this concept for more than ten years and they have built a network of blue community-based farms across the country. While the interest of this concept has been shown to be large also in Sweden and Finland, there are several obstacles and challenges when it comes to establishing farms and the permit application process for starting a blue community garden vastly differs between the three countries, Denmark (adapted to small-scale), Finland (not adapted to regenerative species) and Sweden (very complex). Despite mounting evidence¹ of zero-input, regenerative aquaculture as a net contributor to biodiversity and water quality, all aquaculture generally face strict regulation. This is partly attributed to the over-proliferation of fish farms in the 1990s and, more recently, to the rising demand for marine space. The regulatory landscape has

¹ New study confirms seaweed and mussel farms improve biodiversity and abundance of marine life, The Fish Site 25.12.2023 <https://thefishsite.com/articles/new-study-confirms-seaweed-and-mussel-farms-improve-biodiversity-and-abundance-of-marine-life>



become further complicated by European legislation, such as the Water Framework Directive and the Marine Strategy Framework Directive. While well-intended, these directives have added another layer of complexity to regulatory processes.

The following document refers to the Horizon Europe Coordination & Support Action “COOL BLUE: Community Ocean Farms and Local Business Clusters” which started in April 2023. The objective of the project is to assess the feasibility of regenerative ocean farming (i.e. cultivation of zero-input species such as seaweeds and shellfish) and its potential contribution to the European Union’s Mission:Ocean to restore European oceans and waters by 2030. The following output refers specifically to Specific Objective (SO) #3: Identify challenges and barriers, including legislative, regulatory and standard related issues, to the implementation of regenerative ocean farming and propose possible solutions. This report reviews, maps, and compares the local and national rules and regulations surrounding small-scale regenerative ocean farms in Denmark, Sweden and Finland while identifying barriers and providing policy recommendations for accelerating small scale regenerative ocean farms with a true sustainability focus.



Methodology

The material for this report is collected through literature searches, reviewing data on national authorities' rules and legislation and permit processes. This data is complemented with results from interviews with various authorities and stakeholders (see table of informants) in Sweden, which has the most comprehensive and complicated permit process. "Blue Community gardens" is a relatively new concept in Europe, hence research data on the topic is limited. There are some reports and student essays on blue community gardens from recent years (Bodin, 2021, Axelsson, 2022).

Informant/Authority	
A	Dr. Public law, environmental and maritime law. School of Business, Economics and Law, University of Gothenburg
B	Master Planner, Site Development & Social Sustainability. Urban Environment Administration, Gothenburg
C	Coordinator, Urban Farming, City of Gothenburg
D	Senior advisor, Marine Environment Unit. Swedish Agency for Marine and Water Management
E	Water Conservation Officer, Administrative county board, Västra Götaland
F	Environmental Strategist and Marine Biologist, Department of Environmental Strategy and Monitoring, City of Helsingborg.
G	Sustainability strategist, Tjörn Municipality

Table 1. Authorities, municipalities and other stakeholders represented in the qualitative interviews.

Data on regulatory information (e.g. authorities, processes, links to webpages) was collected from each country using a Microsoft Excel template file (see Annex 2). The results were collected and evaluated through a SWOT analysis in line with the OECD best practice principles for regulatory impact analysis², as follows:

1. Consultations and stakeholder engagement

Use inputs from all potentially affected stakeholders as well as other relevant experts in all stages of the RIA process.

² Best practice principles for regulatory impact analysis, OECD Library
<https://www.oecd-ilibrary.org/sites/663f08d9-en/index.html?itemId=/content/component/663f08d9-en>



The regulatory assessment template was distributed and filled in by COOL BLUE partners Havhøst (HAV), Aktion Österbotten (AÖ) and University of Gothenburg (UGOT).

2. Problem definition

Describe assessment of the nature and extent of the problem to be addressed by the regulatory proposal, preferably in quantitative terms.

There is no dedicated process for the regulation regenerative ocean farms in Sweden or Finland. Depending on the country in question, new farmers have to obtain licensing, permissions or assessments from multiple governmental institutions. In Sweden, the process of regulating new site establishment is generally overly complex, fragmented, unclear, and inconsistent. In Finland the permits and regulatory processes are not at all adapted to regenerative ocean farming. The closest or most relevant regulatory process is taken from commercial aquaculture such as salmonid farming, which requires significant time and capital investment, while displaying very different requirements and impacts. As a result, setting up Blue community gardens and small scale regenerative ocean farms involves heavy administrative burdens, long permit application processes, hindering potential new businesses and adding unnecessary extra tasks for authorities

3. Objective

Clearly state the policy objective(s) and goal(s) of the regulatory proposal.

The specific objective of the COOL BLUE regulatory assessment is to identify challenges and barriers, including legislative, regulatory and standard related issues, to the implementation of regenerative ocean farming and propose possible solutions.

4. Description of the regulatory proposal

Describe the existing regulatory framework, the proposed draft, identify administrative bodies and institutions responsible for drafting, implementing and enforcing the proposal, outline the enforcement regime and proposed strategy for ensuring compliance.



Regulation of aquaculture is conducted primarily at the national level. As a result, each European Member State has its own set of rules and regulations relating to the establishment of new aquaculture sites. The proposed draft (i.e. policy recommendations) includes a step-by-step set of recommendations through which the regulatory process for community scale regenerative ocean farming can be streamlined and therefore accelerated over the short- to medium term. The administrative bodies and institutions responsible for drafting, implementing and enforcing the proposed recommendations are listed in Annex 4 (for Sweden, Denmark and Finland respectively). The enforcement regime and proposed strategy for ensuring compliance are outlined in policy recommendations 1-6.

5. Identification of alternatives

List the practical alternatives, including any non-regulatory approaches considered as potential solution of the identified problem.

1. **Non-commercial cultivation:** Civil society groups, as in the case of Havhøst (HAV) in Denmark, can circumvent certain regulation such as food safety laws through the establishment of non-commercial associations, whereby the members take responsibility themselves for any risks associated with the cultivation, consumption or utilisation of regenerative species. Non-commercial cultivation sights could also be administrered by local authorities, giving access to farming slots provided by the municipality which administers the permits and helps to monitor the farming sites (exemplified by community based gardens for land-based systems in e.g. Sweden.
2. **“Guerilla” sea gardening:** Practical alternatives include so-called “guerrilla sea gardening”, where citizens simply take regeneration of their local spaces into their own hands, without seeking permission. This approach has had significant success in land-based initiatives (e.g. the UK-based Incredible Edible or Transition Town Network initiatives). A similar measure was demonstrated to instigate rapid, progressive regulatory measures as in the case of the Danish “hobby gardening” registration form



(Annex 3) after Havhøst started selling kits for small scale farming (10 m ropes) leading to a large amount of applications for the authorities to handle. This example simultaneously reduces the administrative burden on authorities while streamlining the regulatory process for citizens.

6. Analysis of benefit and costs

Clearly outline the benefits and costs expected from alternatives identified in previous steps.

Benefits include a much faster regulatory process for both regulators and citizens. Decreasing the time and capital investment for starting up regenerative aquaculture ventures will alleviate risks associated with starting up new activities and businesses, thus increasing the attractiveness of such ventures to practitioners and investors.

Costs include the initial investment of time and effort to bring national authorities and regulators to the table to co-develop and agree on a more coherent and streamlined regulatory workflow, either at the national or ideally at the transnational level. Once the workflow is in place, costs should be significantly lower and the process significantly more streamlined than the status quo.

7. Identification of the preferred solution

Outline how and in what ways the identified regulatory proposal is superior to the alternatives that were considered.

The identified regulatory proposal is deemed to be superior to the alternatives considered (non-commercial cultivation and guerrilla sea gardening) because non-commercial cultivation automatically excludes new business – and therefore employment and economic growth – opportunities, of which there could be many provided by the wide spectrum of regenerative aquaculture, be it in service sectors or other industry catalysts such as research and education. In terms of guerrilla tactics, a dedicated, transnational approach will avoid hasty, reactionary regulatory measures which do not align with other Member States. It is also less likely to result in use conflicts or other risks.



8. Setting out the monitoring and evaluation framework

Describe how performance of the regulation will be evaluated and anticipate the necessary data requirements.

The performance of the regulation will be evaluated via a combination of quantitative and qualitative key performance indicators (KPIs) across economic, social and ecological parameters to give an overall performance “score” as follows:

Quantitative:

1. Staff time and human resources within regulatory bodies
2. # Licences issued
3. Size of farm sites (e.g. #hectares)
4. # Businesses registered (incl. spin-offs, service sectors and other value chain actors)
5. # Jobs created (incl. spin-offs, service sectors and other value chain actors)
6. # Training opportunities
7. Local tax revenues
8. Local health statistics (e.g. hospital admissions, mental health)
9. Biodiversity impact (e.g. #species per m²; abundance of species per m²)
10. Water quality parameters (pH, turbidity, oxygen, nutrient levels, carbon storage, contaminant levels, frequency of harmful algae blooms/HABs)
11. Environmental impacts (e.g. benthic shading, marine litter, pollution)

Qualitative:

1. Social acceptance (e.g. through surveys and interviews)
2. Experiential or anecdotal reports (i.e. what works well, what doesn't work)



SWOT Analysis

Strengths

The current regulatory system provides a high level of detail such as Environmental Impact Assessments (EIAs) prior to deployment.

Weaknesses

The current regulatory system hinders the progress of new business ventures as well as non-commercial community based initiatives through overly bureaucratic and fragmented procedures.

Opportunities

The current regulatory system can be improved through the development of a streamlined, dedicated licensing process for zero-input, specifically tailored for regenerative aquaculture, as long as certain standard requirements are fulfilled (e.g. farm size, farm design, equipment, species etc.)

Threats

The rigidity of the current regulatory system hinders European economic progress and competitiveness, where opportunities provided by regenerative aquaculture, as seen elsewhere in e.g. China or Japan, are rendered economically unviable due to an expensive, lengthy licensing process which the majority of businesses cannot afford. With conventional industries such as fishing in decline, the current regulatory system restricts exploration of new, climate-compatible and nature-positive avenues for economic growth.



Results & Conclusions

The regulatory process – Mapping in Sweden, Denmark and Finland

Sweden: The application process for establishing regenerative aquaculture is complex and involves the participation of numerous diverse authorities and agencies, such as the Swedish Agency for Marine and Water Management, the Swedish Board of Agriculture, the Municipality, the County Administrative Board, the Swedish Food Agency and others. Navigating the regulatory framework for establishing a farm in Sweden can prove challenging due to the complexity inherent in discerning the sequential order of permit applications, estimating the duration of the process, and assessing associated costs. The absence of formal coordination among various authorities results in a lack of clarity regarding their roles and procedures, impeding their ability to effectively assist individuals seeking to establish a farm. Here inspiration could be taken from Norway, where applicants typically submit their requests for a cultivation license to the county municipality, which then assumes responsibility for coordinating the different components of the application process.

Denmark: There are several different permits available depending on the size and area of use of the farm. There are specific cultivation permits available for "hobby farming," and efforts are underway to develop a specific educational platform license. The simplified permits process and support structures which includes financial assistance and aid with permit applications for individuals interested in initiating farm operations has facilitated and played a significant role in the creation of numerous community-based small-scale farms throughout the country.



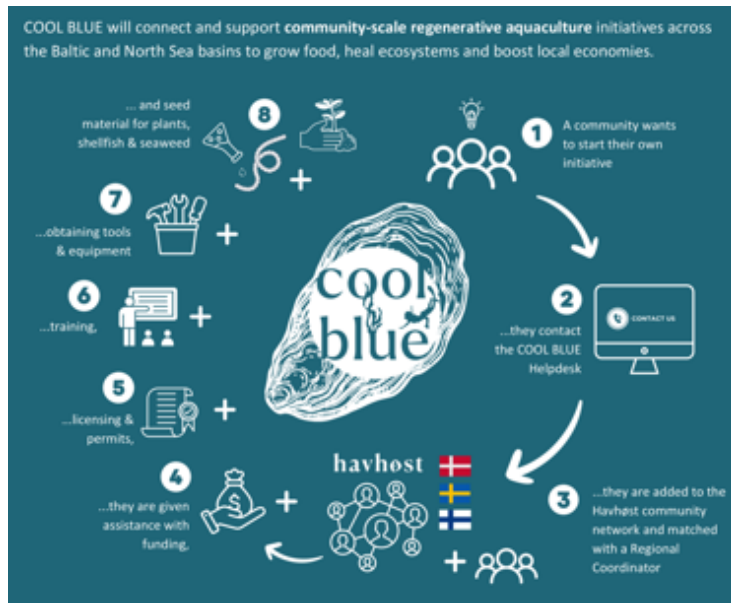


Figure 1: Screenshot from the first brochure developed in the COOL BLUE project, showing the various types of support offered by the consortium to communities, including advice on licensing and permitting

Finland: The regulatory framework for regenerative ocean farming in Finland is currently underdeveloped and does not cater to regenerative species, their impacts, or associated practices. This deficiency is largely attributed to the absence of historical engagement with such practices and the only applicable existing permit processes are tailored to accommodate fish aquaculture. Within the Cool Blue Finland has recently initiated investigations into the feasibility of cultivating duck mussels in the Baltic Sea. Since this is a novel endeavor with no prior cultivation, there are currently no specific authorities dedicated to handling such processes. However, in the below report and assessment of authorities listed in Annex 4, examples of agencies that could potentially be involved in such cases in the future have been identified.

The regulatory process – interviews with Swedish authorities and stakeholders

Permit application processes for small-scale regenerative ocean farming and blue community gardens vary significantly between Denmark, Finland, and Sweden. Denmark's process is adapted to small-scale operations, while Finland's is not adapted, and



Sweden's is very complex. In Sweden, the current permit processes do not accommodate non-commercial or small-scale farming, nor do they address the diversity of potential species that could be farmed. Challenges highlighted by informants include lengthy and costly processes due to lack of customization, as well as difficulties navigating bureaucratic procedures. Below follows a summary of the qualitative interviews (see Annex 1 for more detail).

1. There's a consensus among informants about the need for adaptation and simplification of permit processes to better correspond to the scale and environmental impacts of farming activities.
2. However, concerns exist about potential risks and the necessity of maintaining control for sustainability.
3. The current legislation in Sweden primarily focuses on fish and shellfish farming, neglecting other species like algae.
4. Adaptation of legislation is needed to accommodate varying scales and species diversity, while also ensuring environmental sustainability.
5. Collaboration among stakeholders is essential for promoting local and sustainable food production and increasing ocean awareness.
6. Incorporating training programs into permit processes could mitigate risks associated with novel farming activities and increase their success.



Policy Recommendations

Based on the above assessment and analysis, the following step-by-step set of policy recommendations have been formulated with a view to accelerating the alleviation of regulatory barriers to regenerative ocean farming in Europe in the short- to medium term.

1. Establish dedicated, (trans)national licensing and monitoring framework

As proven by the Danish example, a dedicated and adapted process for regenerative ocean farming – managed by a single authority rather than multiple institutions – can provide a “lean”, workable regulatory process which maintains transparency and traceability to enable monitoring and evaluation, while removing hurdles for both regulators and citizens.

Nominee(s): European Union e.g. DG MARE, Member States and proponents of regenerative ocean farming e.g. Havhøst

2. Develop standard definitions for regenerative ocean farming

Create standard definitions for regenerative farming (e.g. the use of local species expected to have a net positive effect on the surrounding ecosystem and biotope). This should include e.g. maximum farm size, risk and impact assessment methodologies, equipment used, species, scope of activities, monitoring protocols, market entry points, health & safety protocols etc.

Nominee(s): Proponents of regenerative ocean farming e.g. Havhøst (Den), Aktion Österbotten (Fin), Nationellt kompetenscentrum för vattenbruk (Swe)

3. Adaptation of the legislation and permit processes that it better reflects

- a.) the scale of the farm (i.e small scale/large scale)
- b.) the purpose of the farm (e.g. self-catering/commercial)



- c.) non-traditional regenerative species (i.e algae, tunicates, and non-traditional mollusks e.g. duck mussels)

Nominee(s): National authorities, Proponents of regenerative ocean farming e.g. Havhøst (Den), Aktion Österbotten (Fin), Nationellt kompetenscentrum för vattenbruk (Swe)

4. Link permits to mandatory training programs (onsite and/or online training) for decreasing risks and increased quality.

This should be combined with providing the license holder with clear instructions of the requirements for maintaining the farm and sustaining the permit. This could include a Before-after-control-impact (BACI).

Nominee(s): Proponents of regenerative ocean farming e.g. Havhøst (Den), Aktion Österbotten (Fin), Nationellt kompetenscentrum för vattenbruk (Swe)

5. Extend the regulatory assessment to further European Member States

Continue to conduct regulatory assessments in additional Member States in order to obtain an EU-wide overview of the status quo, collecting good practice examples and case studies of streamlined regulatory processes. For example, the current assessment may be combined with the EU4Algae licensing toolkit³ which is mapping regulatory processes in European Member States.

Nominee(s): Proponents of regenerative ocean farming e.g. Havhøst

6. Invite Member State administrative institutions to an intergovernmental consultation on regenerative ocean farming.

Bringing responsible authorities and regulators from Member States (e.g. starting with Denmark, Sweden and

³ EU4Algae Licensing Toolkit https://maritime-forum.ec.europa.eu/theme/blue-economy-and-fisheries/blue-economy/eu4algae_en



Finland) around the table to share experiences and align efforts will allow them to assess the evidence put forward from recommendations 1 & 7 in order to make informed, joint decisions while voicing any specific concerns such as uneven territorial development.

Nominee(s): European Union, e.g. DG MARE



Reference list

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For more references see: Summary of permit processes, Denmark, Sweden, Finland (Annex 4)



Annex I: Swedish Regulatory Ecosystem

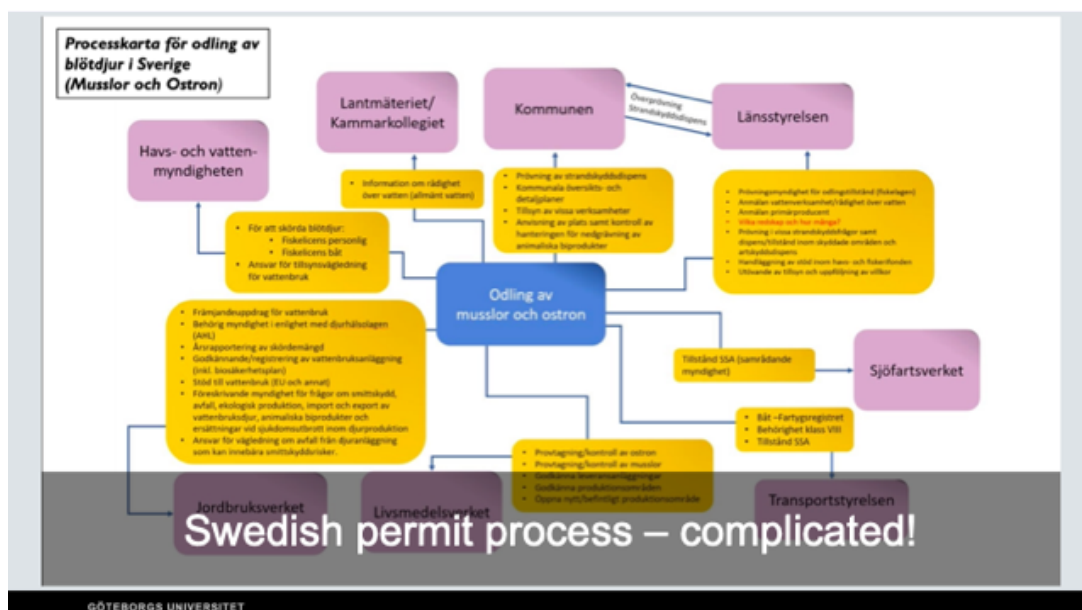


Figure 1: Screenshot of a presentation given by Swedish project partners (UGOT) showing the Swedish regulatory ecosystem for their blue community garden “Flytevi” at the COOL BLUE regional kick-off meeting in Gothenburg, November 2023

The permit application process for starting a small-scale regenerative ocean farm and blue community garden vastly differs between the three countries, Denmark (adapted to small-scale), Finland (not adapted) and Sweden (very complex). The below data is the result of qualitative interviews with key persons involved in permit application processes from Swedish authorities, as well as stakeholders and experts (see table of informants).

Informant/Authority	
A	Dr. Public law, environmental and maritime law. School of Business, Economics and Law, University of Gothenburg
B	Master Planner, Site Development & Social Sustainability. Urban Environment Administration, Gothenburg
C	Coordinator, Urban Farming, City of Gothenburg
D	Senior advisor, Marine Environment Unit. Swedish Agency for Marine and Water Management
E	Water Conservation Officer, Administrative county board, Västra Götaland
F	Environmental Strategist and Marine Biologist, Department of Environmental Strategy and Monitoring, City of Helsingborg.
G	Sustainability strategist, Tjörn Municipality

Table 1. Authorities, municipalities and other stakeholders represented in the qualitative interviews.

The permit processes in Sweden do not currently accommodate non-commercial or small-scale farming, nor do they address the diversity of potential species that could be farmed. Informant A mentions that the permit processes are basically the same whether it is a commercial farm producing hundreds of tons per year, versus a 10-meter mussel rope. This becomes problematic because they have different purposes and thus completely different conditions for managing the processes. Which informants G and F highlight as demanding and complicated to navigate the bureaucracy, or if you are not used to writing application processes.

Informant A believes that the permit processes are costly and take a long time because there is a lack of customization. Which informant B also relates to through a practical example: The permit process that needed to be done for the very small-scale pedagogical platform in Frihamnen in Gothenburg harbour was very extensive, given the amount of biomass produced, a hobby farming permit, could be a solution for this (Informant B).

An adaptation and simplified permit process thus appears as a need in the result, where the permits can correspond to the scale to better represent environmental benefits and impacts. However, there is a contradiction here from informant A, who is a little more skeptical about adaptation: Should a difference be made? Are the risks so much less? As I said, invasive species or the spread of disease ... there is clearly some difference, but even when it's on a small scale, the risk is there, and you can't just skip that step (Informant A). Based on the latter quote, it is possible to draw links to the fact that the permit processes are needed to maintain control and ensure sustainability, so that the marine environment is not negatively affected. For example, informant E highlights that they currently have quite large problems with large mussel farms not being managed properly: [...] mussels are filtering, but they also leave waste, and that has an impact on the bottom environment below. But then, if the farms are not managed so that the lines wear out, very large quantities of mussels fall off, it becomes an obstacle for shipping and recreational boats and so on. [...] if there is a lot of waste in the water, it becomes a very big problem. And it's the same thing that can happen with algae cultivation if you don't have a good enough overview of all the



lines and buoys. That they drift around or that they grow on very large amounts of algae that are not taken care of. Then there will also be eutrophication and it will remain in the sea." (Informant E).

The quotes above can be interpreted as meaning that the permits themselves are important, but that the processes surrounding them could be adapted and updated. This can be linked to lock-in mechanisms involving institutional and political factors in the socio-technical landscape (Geels, 2019). Where existing regulations and processes are rather designed for largescale, commercial activities and their associated problems such as waste and eutrophication. The issues that permit aim to control may not be relevant to other farming techniques where other social values play a greater role. The basis for the authorization processes is given by the legislation in Sweden. Most informants unanimously emphasize that when the legislation was designed, only fish and shellfish were included, as they did not consider other species.

According to informant A, it is only in the last decade that the interest in algae farming has become more prevalent. Thus, according to informant F, algae, for example, end up in a gray area where it is not clear which applications are required, which informant A again highlights: "[...] Other species such as sea cucumbers end up nowhere. What can be problematic with a further establishment of blue community gardens is thus that it is likely that different species will be mixed within the allotment, where some want to grow oysters, other algae, and so on. This means that there is different legislation to deal with for each species and different application processes, which informant E describes in the following quote: A major problem is that the legislation is not adapted to the fact that we should have this type of farming. But when it was written, no one thought that you could grow algae, sole or sea urchins and so on. Now so many different things have come up and there is a review of it. They are trying to ... well, find out how we could rewrite this, so that it becomes easier (Informant E). This resonates with the ideas that Geels (2019), for example, mentions that local initiatives for sustainability are often hindered during the first phase, by existing governance systems. Since the permit processes are linked to legislation and policy documents, these thus constitute institutional rules. Which is part of the socio-technical landscape and in this case affects the establishment of marine allotments with resistance. This constitutes a need to adapt



the legislation both to varying scales and levels, but also for a diversity of species to make it easier for different actors to drive transition initiatives. As several informants also pointed out, for example: "[...] I think that there are a few different legal constructions that need to be resolved and perhaps also get a certain type of adaptation in the legislation" (informant A). At the same time, it is very important to maintain control to ensure that the initiatives have a positive effect on the environment. Another challenge related to scale is the economic aspect and possible resources, informant G mentions the following: But I also think that scale is a problem. So the big, difficult problems are very large-scale. But take any municipality that wants to promote locally produced food, for example. Then you are also quite limited by the fact that you need to do procurement in a certain way, that you get prices down when you procure on a large scale (Informant G). Which can be interpreted as being fully in line with Geel's (2019) claim that green niche innovations tend to be more expensive than the established system, as it does not yet show any economic benefits or incentives for generating on a small scale. This can be linked to the regime level where policy makers and politicians can be seen to maintain and shape the dominant institutional norms by setting conditions and priorities in the most economically favorable way in the short term for various reasons. This leads to the next area where different resources can be seen as a condition that both enables and hinders the establishment of blue community garden.

Small scale farms and Blue community gardens can contribute to local and sustainable food production, with the idea that people can easily grow their own food and 'open their eyes' to a greater diversity of raw materials from the sea. It also has the potential to increase ocean awareness and ocean literacy in society, which can contribute to more sustainable behaviors and a greater commitment and interest in the state of the ocean. The range of stakeholders for the concept of blue community gardens is large, from the public to the private sector, as well as education and academic actors. The collaboration of these actors can create different values for the benefit of society, such as access to new knowledge, improved relationships and reduced environmental impact, as well as the potential for commercial collaborations in the blue economy.

Sufficient knowledge is necessary for starting up activities and structures that might be novel to the user and that is difficult to



monitor due to its remote distance and sometimes harsh conditions. Thus, linking permits to training programs (onsite and/or online training) before establishment would decrease risks in terms of pollution or lost gear could not only increase the success of the farm.



Annex 3: Danish “Hobby Gardening” Registration Form



Ministeriet for Fødevarer,
Landbrug og Fiskeri
Fiskeristyrelsen

REGISTRERING AF ET HOBBYOPDRÆTSANLÆG¹

til Fiskerikontrollen i *vælg afdeling* for året *vælg år*

Ansøgers navn, adresse, telefonnr. og mail:	Forbeholdt Fiskeristyrelsen
<i>Navn</i> <i>Gade og nr.</i> <i>Postnr. og by</i> <i>Telefonnummer</i> <i>E-mail adresse</i>	Sagsnr.: <i>sagsnr.</i> Registreringsnr.: <i>Registreringsnr.</i> Modtaget d. <i>vælg dato</i>

¹ § 11 i Bekendtgørelse nr. 1466 af 24. juni 2021 om opdræt af muslinger og østers i vandløjen

Vigtig information:

- Hobbyopdrætsanlægget må ikke opstilles, før du har modtaget et registreringsnummer fra Fiskeristyrelsen.
- Enhvert hobbyopdræts redskab skal, på et synligt sted over vandet, være forsynet med et forsynligt, fastgjort, gult mærke med registreringsnummer, navn og adresse på brugeren. Bogstaver og tal skal være 1 cm høje.
- Hvis der anvendes stager eller pæle, skal mærket placeres mindst 1,2 m over vandet.
- Der kan kun registreres ét hobbyopdrætsanlæg pr. person.
- Hobbyopdræt må kun foregå ved fangst af naturligt forekommende yngel af hjemmehørende arter.
- De liner som anvendes til yngelopsamling, må tilsammen være maksimalt 10 meter lange.
- Der må ikke anvendes foder eller kemikalier i anlægget.

Farven i firkantede svarer til afdelingernes kontrol-område på kortet, som findes på bagsiden af dette tilmeldingsskema.

■ **Afdelingen i Frederikshavn**
Sandholm 10, 9900 Frederikshavn

■ **Afdelingen i Nykebjerg Mors**
N.A. Christensensvej 40, 7900 Nykebjerg Mors

■ **Afdelingen i Hvide Sande**
Vesterhavsvvej 302, 6830 Nørre Nebel

■ **Afdelingen i Ringsted**
Frejssvej 1, 4100 Ringsted
Ringsted modtager alle tilmeldinger fra følgende afdelinger i Inspektorat Øst:

- Afdelingen i Randers**
Haraldsvej 60, 2. sal, 8960 Randers SØ.
- Afdelingen i Kolding**
Eltangvej 230, 6000 Kolding
- Afdelingen i Rønne**
Munch Petersens Vej 8, 3700 Rønne

Arter der dyrkes i hobbyopdrætsanlægget:

☐ Blåmusling

☐ Østers

☐ Andet. Art: *navngiv art*

Områdenummeret aflæses på kortet, som findes på bagsiden af dette ansøgningsskema.

Figure 2: Screenshot of the Danish Coastal Authority "hobby gardening" registration form

Annex 4: Regional Regulatory Assessments

User guide

Type of farm	Application & permission	Authority	Cost	Processing time	Duration
Examples of farms: Alt. 1. Small farm growing algae in specified municipality/region Alt. 2. Small farm growing mussels Alt 3. Small farm growing mussels to sell Alt. 4. Small farm growing 'novel food' Alt. 5. Large-scale (specify size) farm growing algae and mussels for consumers	Correct term/phrase of required application or permission	Which authority gives permission or requires a registration or application	Approx. application or registration fees etc. that might depend on what region the farm is located and if located in protected area	Approx. time to get permissions or confirmations	For how long the permissions are valid

SWEDEN:

Type of farm	Application & permission	Authority	Cost	Processing time	Duration	Apply here	Information
Alt. 1 Algodling i Malmö med kriterier: <0,3ha, innanför skyddat område, utan anläggning av brygga nytt livsmedel Ulva intestinalis.	Rådighet över vattnet	Kammarkollegiet	n.a.			https://www.kammarkollegiet.se/om-oss/kammarkollegiets-uppgifter/foretrada-allmant-vattenomrade	
	Dispens från Malmö stad/Kommunen OM innaför strandskyddat område.	Malmö kommun	4600			https://sjalvservice.malmo.se/oversikt/overview/448	
	Dispens för strandskyddet	Länsstyrelsen	2900			https://www.e-tjanster.lansstyrelsen.se/formservice/formDownload?serviceName=lst_cfd_multiserv_formhotell_tr&scriptcomponent.cmtagname=trex-lst-skyddade_omraden_dispens-cfd&service_name=skyddade_omraden_dispens	Om området är skyddat enligt miljöbalken (Ex. naturreservat, N2000, försvarsanläggningar etc). Kontakta kommun för att reda på om det gäller ditt område. Verkar inte gälla längs Malmö. Avgifter bestäms av regeringen. Finns en karta över strandskyddet på länsstyrelsen: https://ext-geoportal.lansstyrelsen.se/standard/?appid=d57b47acaf0447e5b46f6192420e6fff 2900 (endast för skyddade områden) + 415 (OM anläggning av brygga)
	Anmälan om vattenverksamhet.	Länsstyrelsen ELLER mark-och miljödomstolen	1660			https://www.e-tjanster.lansstyrelsen.se/formservice/formDownload?serviceName=lst_cfd_multiserv_formhotell_tr&scriptcomponent.cmtagname=trex-lst-anmalan_vattenverksamhet	Under 0,3 hektar: Anmälan om vattenverksamhet. Över 0,3 ha: Miljökonsekvensbeskrivning, teknisk beskrivning och anmälan som prövas av mark-och miljödomstolen. Prövning av anmälningspliktik vattenverksamhet kostar 1660. Samråd

						cfd&service_name=anmalan_vattenverksamhet&skip.login=yes	med länsstyrelse av planerad verksamhet: kostnadsfri.
Registrering av livsmedelsanläggning .	Länstyrelsen	Avgiftsfri				https://www.e-tjanster.lansstyrelsen.se/formservice/formDownload?serviceName=lst_cfd_multiserv_formhotell_tr&scriptcomponent.cmtagname=trex-lst-primarproduktion_livsmedel_foder-cfd&service_name=primarproduktion_livsmedel_foder	
Nya livsmedel måste ansökas om och godkännas.	Livsmedelsverket	Samrådsbegäran: grundavgift 4500 + 900/h				https://www.livsmedelsverket.se/foretagande-regler-kontroll/regler-for-livsmedelsforetag/nya-livsmedelsforetag/ansok-anmal-eller-begar-samrad-om-nya-livsmedel	1. Begäran om samråd om status 2. Ansökan om godkännande av nytt livsmedel, (3. anmälan om traditionellt livsmedel från tredje land).
Registrering av vattenbruksanläggning	Jordbruksverket	n.a.				https://jordbruksverket.se/e-tjanster-databaser-och-appar/e-tjanster-och-databaser-djur/registrering-och-godkannande-av-vattenbruksanlaggning	
Tillstånd för Sjösäkerhetsanordnings-märke(SSA)	Transportstyrelsen	Avgiftsfri				https://www.transportstyrelsen.se/sv/sjofart/sjotrafik-och-hamnar/farleder-och-hamnar/utmarkning-till-sjoss/Sjosakerhetsanordningar/Tillstand-for-SSA/	

	Registrera livsmedelsanläggning .	Malmö kommun	Registre ringsavgift: 1555. Timtaxa för livsmedelskontroll: 1555			https://sjalvservice.malmo.se/oversikt/overview/577	
	Certifierat kassaregister	Skatteverket	n.a.			https://skatteverket.se/foretag/drivforetag/kassaregister.4.121b82f011a74172e5880005263.html	
	Hygienkrav och märkning	Livsmedelsverket	n.a.				
	Spårbarhet	Livsmedelsverket	n.a.				
	Vägvisningsskylt	Trafikverk/kommun	870-5470			https://www.lansstyrelsen.se/skane/samhalle/trafik-och-infrastruktur/reklamskyltar-utmed-vag.html	Prövning hos länsstyrelsen enligt väglagen: 870 SEK, enligt lagen med särskilda bestämmelser om gatuhållning och skyltning: 4600 SEK, enligt båda: 5470 SEK
Alt. 2 Blötdjursodling i Göteborg med kriterier: <0,3 ha, enskilt vatten, anläggning av brygga, endast för privat bruk.	Rådighet över vattnet	Markägare eller Kommun					
	Bygglov från kommun	Göteborgs kommun	olika			https://etjanst-bygglov.goteborg.se/PBL	Finns olika avgifter, läs på: https://goteborg.se/wps/portal/start/bygga-bo-och-leva-hallbart/bygga-riva-och-forandra/avgifter-och-taxa-for-att-bygga/stadsbyggnadsnamndens-taxa . Bygglov behövs inte om brygga har mindre än 10 båtplatser.
	Tillstånd för vattenverksamhet.	Länsstyrelsen eller Mark- och miljödomstolen					Krävs tillstånd för vattenverksamhet OM det ska byggas/pålas etc. Tillståndet prövas av mark- och miljödomstolen. Kan vara så att vattenverksamheten måste åtminstone anmälas till länsstyrelsen (Om det är utan bygge), men lite oklart om det behövs varken anmälan eller

							tillstånd i detta fallet om det är en liten brygga/plattform.
	Odlingstillstånd	Länsstyrelsen			10 år		
	Sätta ut eller flytta fisk eller skaldjur	Länsstyrelsen					
	Förfrågan Nytt produktionsområde	Livsmedelsverket	Avgiftsfri			livsmedelsverket@slv.se	
	Registrering, godkännande och tillstånd för vattenbruksanläggning.	Jordbruksverket	12200 + 80/år	Upp till 7 månader		https://jordbruksverket.se/e-tjanster-databaser-och-appar/e-tjanster-och-databaser-djur/registrering-och-godkannande-av-vattenbruksanlaggning	En anläggning med vattenlevande djur är en vattenbruksanläggning. EU:s djurhälsoförfordning måste följas och registrering och i vissa fall godkännande krävs för att följa upp på djurhälsokontroll och hälsoövervakningar. Detta gäller förmodligen ej musslor/ostron då jordbruksverket säger att detta fall är undantagna kravet: "Även vattenbruksanläggningar som består av nätburar eller andra strukturer där tidigare vilda vattenlevande djur tillfälligt hålls i naturligt vatten, är undantagna från registreringskravet. Det gäller när de hålls i samma epidemiologiska enhet som de har fångats i, medan de väntar på skörd för livsmedel"
	Biosäkerhetsplan	Jordbruksverket					
	Utmärkningstillstånd	Transportstyrelsen					
	Anmäl som primärproducent	Livsmedelsverket					Oklart om detta gäller under 0,3ha

DENMARK:

Type of farm	Application & permission	Authority	Cost	Processing time	Duration	Apply here	Information
Alt. 1 Tangdyrkning i Kerteminde med kriterier: 2HA, åbent hav.	Placeringstilladelse og tilladelse til tangdyrkning	Kystdirektoratet	n.a.		10 år	https://kyst.dk/hav-og-anlaeg/anlaeg-og-aktiviteter-paa-soeterritoriet	Efter etablering af anlæg skal dokumentation tilsendes Kystdirektoratet (kdiakyst.dk), Søfartsstyrelsen (sfsadma.dk) og Geodatastyrelsen (gstagst.dk). Der skal deponeres et sikkerhedsbeløb på 50.000 på spærret konto

	Høringsparter	Kystdirektoratet					Kystdirektoratet sender høringer ud til følgende parter: Søfartsstyrelsen, Trafikstyrelsen, Miljøstyrelsen, Bolig- og Planstyrelsen, Fiskeristyrelsen, Forsvarsministeriets Ejendomsstyrelse, Slots- og Kulturstyrelsen, Relevante Museer, Berørte Kommune samt til orientering til Danmarks Naturfredningsforening, Dansk Ornitologisk Forening, Friluftsrådet, Fritidshusejernes Landsforening, EjendomDanmark og Geodatastyrelsen.

Alt. 2 Dyrkning af blåmuslinger i Ebeltoft havn med kriterier: platform 5x7m, med anløbsbro. Intet salg	Placeringsstilladelse	Kystdirektoratet	n.a		10 år	https://kyst.dk/hav-og-anlaeg/anlaeg-og-aktiviteter-paa-soeterterritoriet	Efter etablering af anlæg skal dokumentation tilsendes Kystdirektoratet (kdiakyst.dk), Søfartsstyrelsen (sfsadma.dk) og Geodatastyrelsen (gstagst.dk). Der skal deponeres et sikkerhedsbeløb på ~50.000 på spærret konto
	Dyrkningstilladelse for muslinger.	Fiskeristyrelsen			10 år	https://fiskeristyrelsen.dk/erhvervsfiskeri/saerlige-fiskerier/muslinger-og-oesters/opdraet-af-muslinger-og-oesters	Der er midlertidigt stop for udstedelse af nye tilladelser til muslingedyrkning. Der arbejdes på et nyt regelsæt for fremtidig dyrkning af muslinger.

	Høringsparter	Kystdirektoratet					Kystdirektoratet sender høringer ud til følgende parter: Søfartsstyrelsen, Trafikstyrelsen, Miljøstyrelsen, Bolig- og Planstyrelsen, Fiskeristyrelsen, Forsvarsministeriets Ejendomsstyrelse, Slots- og Kulturstyrelsen, Relevante Museer, Berørte Kommune samt til orientering til Danmarks Naturfredningsforening, Dansk Ornitologisk Forening, Friluftsrådet, Fritidshusejernes Landsforening, EjendomDanmark og Geodatastyrelsen.
Alt. 3 Kommerciel dyrkning af blåmuslinger med kriterier: lineanlæg 2HA, åbent hav, salg til restaurant m.m.							
	Placeringstilladelse	Kystdirektoratet	n.a		10 år	https://kyst.dk/hav-og-anlaeg/anlaeg-og-aktiviteter-paa-soeterterritoriet	

	Dyrkningstilladelse for muslinger.	Fiskeristyrelsen			10 år	https://fiskeristyrelsen.dk/erhvervsfiskeri/saerlige-fiskerier/muslinger-og-oesters/opdraet-af-muslinger-og-oesters	Der er midlertidigt stop for udstedelse af nye tilladelser til muslingedyrkning. Der arbejdes på et nyt regelsæt for fremtidig dyrkning af muslinger.
	Tilladelse til salg af muslinger	Fødevarestyrelsen	4000/høstperiode			https://foedevarestyrelsen.dk/kost-og-foedevarer/start-og-drift-af-foedevarevirksomhed/virksomhedstyper-hygieneregler/mindre-salgsaktiviteter/salg-til-andre-foedevarevirksomheder/muslinger-og-oesters	Kræver registrering i det centrale husdyrregister, CHR (chr.fvst.dk) Muslinger skal laboratorietestes for hver høstperiode.



	Høringsparter	Kystdirektoratet					Kystdirektoratet sender høringer ud til følgende parter: Søfartsstyrelsen, Trafikstyrelsen, Miljøstyrelsen, Bolig- og Planstyrelsen, Fiskeristyrelsen, Forsvarsministeriets Ejendomsstyrelse, Slots- og Kulturstyrelsen, Relevante Museer, Berørte Kommune samt til orientering til Danmarks Naturfredningsforening, Dansk Ornitologisk Forening, Friluftsrådet, Fritidshusejernes Landsforening, EjendomDanmark og Geodatastyrelsen.
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FINLAND:

Type of farm	Application & permission	Authority	Cost	Processing time	Duration	Apply here	Information	References	
dammmus selodling	tillstånd till vattenområdet	samfällighet /delägarlag			beror på storlek och stadgar		i samfällighetens stadgar finns oftast med vad styrelsen får besluta om och vilka beslut som kräver att stämman tar ställning till dem. Beslut kan även överlåtas till tredje part, t.ex fiskargille.	Österbottens Fiskarförbund - Vattenäggande (fishpoint.net)	
	byggnadstillstånd från kommunen	den berörda kommunen					Beroende av platsens klassificering och gällande planer.		
	Alternativ 1. en anmälan till vattenbruksregistret	NMT /ELY	kostnadsfri			Att anmäla sig i vattenbruksregistret - Suomi.fi	Anläggningar för vattenbruksdjur ska, förutom vissa undantag, anmälas till vattenbruksregistret. Alternativt ska anläggningen godkännas av Livsmedelsverket. För anläggningar där risken för djursjukdomar är liten räcker det med registrering. För anläggningar vars verksamhet förknippas med mer än ringa risk för djursjukdomar krävs Livsmedelsverkets godkännande.	Asiantuntijahaku (ahtp.fi)	
	Alternativ 2. Livsmedelsverkets godkännande krävs för anläggningar vilkas verksamhet	Livsmedelsverket					Tillstånd beviljas om de åtgärder som anges i beskrivningen av egenkontroll är tillräckliga för att upptäcka och övervaka djursjukdomar och för att förhindra eller minska risken för spridning av djursjukdomar, om verksamheten uppfyller kraven		

	förknippas med mer än ringa risk för djursjukdomar.						enligt 12 c § på att föra en förteckning och om verksamheten inte orsakar allvarlig risk för spridning av djursjukdomar till närbelägna djurhållningsenheter eller till frilevande fisk, kräftdjur och blötdjur		
	Miljötillstånd - vattenlaget, miljöskyddslagen	ELY - AVI	Regionförvaltningsverket tar ut en avgift av sökanden för behandlingen av ansökan. Avgiftens storlek bestäms i statsrådets förordning.		Verksamheten skall inledas inom fem år efter att tillståndet beviljats. Verksamhetsidkar en bör anmäla om verksamheten har upphört.		Om det inte är helt uppenbart om ett tillstånd behövs så är det bäst att kontakta tillsynsmyndigheten, dvs. den lokala närings-, trafik- och miljöcentralen (NTM-centralen) eller den kommunala miljöskyddsmyndigheten. De kan berätta om det krävs tillstånd och om ansökningsförfarandet. På begäran ger tillsynsmyndigheten ett utlåtande om behovet av tillstånd enligt vattenlagen och miljöskyddslagen. Om tillstånd krävs både enligt vattenlagen och miljöskyddslagen så räcker det med en ansökan till regionförvaltningsverket. Vanligen fattas ett beslut gällande ansökan och båda tillstånden ingår i beslutshandlingen.	En ansökan sänds till ELY-centralen och de avgör om det behövs ett miljötillstånd och ifall det behövs så skickas det vidare till AVI som utfärdar tillståndet/ Miljötillstånd (ymparisto.fi)	
	Novel food /nya livsmedel	EFSA/ livsmedelsverket				Summary of applications and notifications - European Commission (europa.eu)	https://www.ruokavirasto.fi/sv/livsmedel3/livsmedelsbranschen/ingredienser-och-innehall/nya-livsmedel/tillstand-som-ett-nytt-livsmedel-och-anmalningar-om-nya-livsmedel/ Consultation process on novel food status - European Commission (europa.eu) https://ec.europa.eu/food/food-feed-portal/screen/novel-food-catalogue/search	Enligt ansökningsförfarandet bedöms det nya livsmedlets säkerhet. Ansökan om godkännande görs i det elektroniska system som	

								finns på Europeiska kommissionens webbplats för nya livsmedel. Ansökan om godkännande ska bland annat omfatta en undersökning av det nya livsmedlets sammansättning och säkerhet. Säkerheten bedöms av EFSA, Europeiska myndigheten för livsmedelssäkerhet.	
	Anmälan om din primärproduktion	kommunala livsmedelstillsynen				Anmälan kan lämnas på en blankett som den egna kommunen tillhandahåller. Anmälan kan också vara fritt formulerad, om bara ovan nämnda uppgifter framgår av den. Anmälan ska lämnas till livsmedelstillsynsmyndigheten i den egna kommunen.	1) företagarens namn och kontaktuppgifter, företagarens företags- och organisationsnummer, lägenhetssignum eller kundbeteckning, eller om dessa saknas, personbeteckning, primärproduktionsställets namn och kontaktuppgifter, besöksadress och kommun där primärproduktionsstället finns, verksamhetens art och dess uppskattade omfattning, beräknad tidpunkt för inledande av verksamheten.	Primärproduktion - Livsmedelsverket (ruokavirasto.fi)	I sin anmälan ska företagaren lämna följande uppgifter (jord- och skogsbruksministeriets förordning om livsmedelshygien 318/2002 1. 2^s):

	If it will affect on traffic	Trafikledsverket/ väylävirasto/Finnish transport Infrastructure agency							
	Lämna en anmälan om registrerad livsmedelsverksamhet eller ansök om ett godkännande	kommunala livsmedelstillsynen/livsmedelsverket					Lämna en anmälan om registrerad livsmedelsverksamhet till livsmedelstillsynen i den kommun eller stad, inom vilkens område din livsmedelsverksamhet inleds. Blanketten för anmälan av registrerad livsmedelsverksamheten finner du på webbplatsen till livsmedelstillsynsenheten i den kommun där verksamheten bedrivs. Anmälan om registrerad livsmedelsverksamhet kan också lämnas på webben.		företagarens namn och kontaktuppgifter;
	Information som ska tillhandahållas om livsmedel	livsmedelsverket				sköts via egenkontrollplan och etiketter	Information som ska tillhandahållas om livsmedel - Livsmedelsverket (ruokavirasto.fi)		
	Ekologisk produktion av vattenbruksdjur						Ekologisk produktion av vattenbruksdjur avser i våra förhållanden närmast uppfödning av fisk och kräftor med ekologiska metoder. Produktionsvillkoren är utformade att gälla, förutom för fisk och skaldjur, även för blötdjur, tagghudingar och alger.	Finlands övervakningssystem saknar tillsvidare aktörer, som skulle utöva vattenbruk, såväl som särskilda nationella anvisningar för området i fråga.	



								I Europaparlamentets och rådets förordning 2018/848 har utfärdats produktionsvillkoren.	