



Legal regulation of aquaculture in the Baltic Sea region

Frameworks, practices and farmers' attitudes

Inga-Liisa Paavola, Unto Eskelinen, Hannes Veinla,
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Description

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Title Legal regulation of aquaculture in the Baltic Sea region - Frameworks, practices and farmers' attitudes		
Year 2013	Pages 27	ISBN 978-952-303-008-4
Abstract <p>The complexity and strictness of legal regulation have been identified as very significant obstacles of aquaculture activities in Europe. The European Union has launched political initiatives for reinforcement of aquaculture including measures to simplify licensing procedures. One task of Aquabest-project is to work for this EU-goal in the Baltic Sea region.</p> <p>This study highlights four dimensions of the regulation: the complexes of relevant laws, the procedures of environmental permitting, the terms of permits and the farmers' contributions to the licensing processes. The results are presented separately for Nordic countries (Denmark, Sweden, Finland and Åland) and for Baltic countries (Estonia and Latvia).</p> <p>The study is based on answers to questionnaires on the legal framework and permit procedure for aquaculture sent out to the countries where the authors were not based themselves. Levels of detail varied in the answers, why the choice to present results in a superficial manner was chosen.</p> <p>This study highlights four dimensions of the regulation: the complexes of relevant laws, the procedures of environmental permitting, the terms of permits and the farmers' contributions to the licensing processes. The results are presented separately for Nordic countries (Denmark, Sweden and Finland) and for Baltic countries (Estonia and Latvia).</p> <p>Challenges of the regulatory improvements are briefly discussed at the end of the report.</p>		
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1. Introduction

The complexity and strictness of legal regulation have been identified as very significant obstacles of aquaculture activities in Europe. According to EU Commission (2009) the stringent EU rules, particularly on environmental protection, generate competitive constraints vis-à-vis competitors in Asia or Latin America. The problems of heavy regulatory burden have been recognized also in administrations of single Member States of the Baltic Sea region (e.g. Finnish Council of State 2008, Swedish Board of Agriculture 2012).

The heaviness of administrative burden concerns also North-America. The diversity of rules has been described and analyzed by Wirth and Luzar (2000, 2001). Professionals interviewed by Stewart (2012) consider the permitting process decidedly the main roadblock of U.S. aquaculture. According to FAO the complex regulatory arrangements were inhibiting the industry's growth potential pursued in the Federal Aquaculture Development Strategy of Canada (FAO 2011).

In EU and North America the demand of fish products has increased simultaneously with the decline of aquaculture. This double impact has led to very rapid growth of fish import both in Europe and in the U.S. The share of imported fish is over 60 percent in Europe and over 80 percent in the U.S. Most of the imported fish is cultured.

The imbalance between aquaculture potential and the actual fish market has awakened the European Union to strong political initiatives for reinforcement of aquaculture. One of the key goals of the EU aquaculture strategy is to reduce the administrative burden by developing the EU policy of simplifying the legislative environment and by inviting Member States to take measures to facilitate business development and reduce the administrative burden deriving from national provisions, notably by simplifying licensing procedures for aquaculture (EU Commission 2009).

One way for regional realization of the EU level development goals are the macro-regional strategies. As first of them the EU Strategy for the Baltic Sea Region (EUSBSR) was adopted in 2009. One of the flagship projects of the EUSBSR is Aquabest which aims at reinforcing sustainable growth of aquaculture in the Baltic Sea region.

Aquabest identified four strategic level bottlenecks hindering the vitality and growth of aquaculture. One of those four was the complexity and burden of legal regulation. As the first steps Aquabest surveyed the region's stakeholders' attitudes towards aquaculture and the national sets of acts and degrees affecting to the permissibility of the industry. The results of these previous works have been reported by Eskelinen & al. (2012a, 2012b) and Paavola & al. (2012).

This report provides information of a more in-depth analysis of regulations, procedures, decision and stakeholders' contributions linked to the environmental licensing of aquaculture. Challenges of the regulatory improvements are briefly discussed at the end of the report.

2. Aquaculture legal framework and permit procedure in the Nordic countries

2.1. Complex of aquaculture legal framework in the Nordic countries

This section of the report discusses about the aquaculture legislation on the Nordic countries of Baltic Sea Region (BSR). With Nordic countries is here meant Finland, Åland (even though part of Finland, because of its partly own legislation treated as separate country), Sweden and Denmark.

From the regulative and legal point of view, in the Nordic countries term “aquaculture” usually covers all kinds of aquaculture (commercial) activities in all countries e.g. any type of farming of fish, other aquatic species and plants in marine or freshwater. Only few countries have detailed definition of aquaculture concept in legislation; the concept is defined in many different kinds of regulations.

Legislation concerning aquaculture in the Nordic countries is mainly national. However, EU environmental legislation has a certain impact on aquaculture practices. E.g. the directive 2000/60/EC establishing a framework for Community action in the field of water policy forms the starting point for the protection of water courses in the EU on which national water policy planning in EU Member States is based on. The Directive 2008/56/EC establishing a framework for community action in the field of marine environmental policy is being implemented at the moment in EU Member States, and it also affects the use of marine natural resources in the BSR. Additionally environmental assessment procedures governed by legislation implementing e.g. Directive 97/11/EC on the assessment of the effects of certain public and private projects on the environment may affect planning of aquaculture projects as well as e.g. the Natura 2000-framework (directive 92/43/EEC and directive 2009/147/EC).

The environmental legislation on aquaculture exists on two levels. Firstly, there are general legal acts that cover basically all types of economic activity and that you have to comply with. Secondly, there are specific legal acts for the various forms of aquaculture i.e. freshwater farming, marine farming or mussel farming. There is same two level position with legislation when it comes EU and national level regulations. There are some more common level EU level regulations that cover aquaculture, e.g. EIA regulations, and more detailed regulations in the national level, e.g. concerning permit procedures and permit thresholds.

In the Nordic countries aquaculture is regulated mainly by environmental protection legislation, which is usually covered by at least national Environmental Protection Act, Building Act and Water Act.

Major similarities of the aquaculture regulation in the Nordic countries are related to heaviness of administrative burden, especially within permit process, inflexibility of conditions and limits and uncertainty of getting the permit.

2.2. Aquaculture permit procedures in the Nordic countries

2.2.1. General overview of the legal framework of the permit systems in the Nordic countries and major similarities

In the Nordic countries basically all commercial aquaculture activities are subject to at least one environmental permit. Therefore it can be said that on the national level the environmental permit procedure constitutes an important part of the regulatory framework that aquaculture is subject to.

The permit procedure in all of the Nordic countries is a multi-stage process that is regulated in national the Environmental Protection Acts or Water Acts. In all of the Nordic countries the permit procedure goes as follows:

1. **Application:** The procedure starts with an application that is submitted to the permit authority. The application must include a report on the activity, its impact, the parties concerned as well as other relevant matters that are needed in the permit consideration.
2. **Opinions:** After the application is submitted, the authority in charge of the procedure needs to request opinions from various stakeholders, who are specified in the Acts.
3. **Complaints:** before passing a decision on a permit, the permit authority shall provide those whose rights or interests might be concerned (party concerned) with an opportunity to lodge a complaint regarding the matter. Persons other than parties concerned shall be provided with an opportunity to state their opinion.
4. **Publicizing the permit application:** The permit authority needs to publicize permit applications. Additionally, relevant authorities and those especially concerned by the application need to be notified separately.
5. **Permit decision:** Environmental permits are issued either until further notice or for a fixed period. The grounds and justification of the ruling shall be indicated in the permit decision. The decision must respond to separate demands made in opinions and complaints.
6. **Appeal:** A permit decision may be appealed to the court as laid down more specific in the Acts. The right to appeal pertains to persons whose rights or interests may be affected by the matter as well as certain authorities specified in Section 97 of the Environmental Protection Act.

Major similarities in the permit process are related to the length of the process, which are quite long in all of the Nordic countries (chart below).

	Appr. permit procedure length in practise	EIA etc. prolongs
Finland	10-12 months	1-6 months
Åland	15 months ¹	1-6 months
Denmark	6 months-several years	1-6 months
Sweden	6-12 months	1-6 months

2.2.2. Major differences and problems with the permit systems

Major differences in the permit systems are related to thresholds, possibilities to lighter procedure (e.g. announcement) and the possibility of tightened threshold (chart below).

	Threshold	Lightened process beneath threshold	Tightened threshold possible
Finland	2 tons production	No	No
Åland	20 tons production	Yes, below 1 ton production	Yes, over 25 ton production
Denmark	No	No	No
Sweden	40 tons feed	Yes	No

When it comes to permit processes in the Nordic countries, it could be considered, that one main reason of the weak performance is the heaviness of administrative burden, inflexibility of conditions and limits and uncertainty of getting the permit. The amount of work and costs by the producer during the permit process is great. There is huge uncertainty related to whether a permit will be granted or not. There might be limits of lengths of permit procedures in the law or code of conduct but however, they aren't obeyed.

¹ This number was calculated on 19 different successful cases between 2007 - 2011 and included fish farm-related matters such as biodiesel from fish trimmings and fish roe manufacturing. Without these two cases, the number was still 14,8. Smolt farming and winter storage was also included. In some instances a case has changed so much from the initial application that the date of the submission of the last supplementary information was chosen as the starting date of the case.

2.2.3. Available possible solutions

Based on the situation of permit processes in the Nordic countries, there could be seen some possible development ideas in order to lighten permit procedure burden. Firstly, lengthening the validity time of the permits would decrease the burden as the need for administrative processes would not occur as often. Secondly, related to the previous suggestion, also the shift from fixed-term permits towards indefinite validity of permits might help with the same problem. Secondly, the transition to electronic services in the permit process would streamline the process. What is more, better regulation relates to efforts to make administrative burden "lighter". This does not necessarily mean abandoning the permit system but making the existing permit system more flexible. This could be made e.g. limiting the need of reviewing the permits and possibly involve the use of register into the system. Registration system is based on self-reporting and self-management by the companies and the authority intervenes only in exceptional cases. Another of lightening is the use of sector-wide rules and standards instead of permits.

2.3. Aquaculture permit conditions and discretionary power of authorities in the Nordic countries

2.3.1. Major similarities with the permit conditions

In common, the features of permit conditions in the Nordic countries are quite similar. The permit conditions that were similar and were repeated in permits most often are dealing with the emission limit (total load), phosphorus and nitrogen, the allowed amount of water use, the place of inlet and outlet, the allowed amount and type of feed, the water monitoring requirements, the reporting requirements, the requirements for effluent water, handling of the waste, requirements for the plant constructions, the volume or area of the tanks/cages and reporting of exceptional cases (for example fish diseases or deaths).

2.3.2. The differences and problems with permit conditions

Only just some differences between the Nordic countries were seen in the permit conditions. There were some differences in the emission monitoring requirements. What is more, there seemed to be more flexibilities in the emission limits in permits in Denmark.

The problems of permit conditions deal with complexity of permit regulations, indirect permit regulations and the room for great extense consideration and interpretation of authority.

2.3.3. Available possible solutions

Firstly, one suggestion for the problems related permit conditions could be developing farmers' capacity in the preparation of applications. For example in Sweden the farmers' activity within the permit procedure and drafting the permit conditions has turned out to be a functioning system. Secondly, decreasing the complexity of permit regulations should be one answer. By this is meant elimination of

the indirect permit regulations where possible, focusing permit regulations on the factors most relevant for the type and size of farm in question (e.g. Biodiversity risks for small farms, nutrient load for large farms). Thirdly, binding regulations in certain areas could replace conditions, because with binding regulations the case based permit conditions consideration could be avoided.

2.4. Aquaculture land use plans and geographical location regulations in the Nordic countries

2.4.1. Major similarities, differences and problems

What is common to the Nordic countries when it comes to land use plans and geographical location regulations in aquaculture activities is case based evaluation of the location of the activity. This leads again into more uncertainty of launching the activity. There is often a need and condition of adopting a new land use plan or modification (see chart below) of the existing one obligatory condition to start aquaculture activity and this takes time.

	Adoption of a new detailed land use plan	Other land use requirements
Finland	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> The activity might require a permit for landscape use Where a building prohibition is in force for the purpose of drawing up a local detailed plan, or where it has been so ordered for the purpose of drawing up or amending a local master plan.
Åland	<ul style="list-style-type: none"> No Yes, if municipalities has made a "land use plan" also covering water areas 	<ul style="list-style-type: none"> The Water Act does contain requirements on location: An operation hazardous to water A special Fish Farming Decree : fish farm must be placed in an area that according to an official sea chart has certain depth "Stop section": water quality norms
Denmark	<ul style="list-style-type: none"> Yes Unless the activity is stated in an area especially planned for aquaculture. Significant modifications to existing aquaculture activities also require planning permission. 	<ul style="list-style-type: none"> A planning permission take care of exact location, logistic and landscape and nature considerations.
Sweden	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> The Environmental permit regulates requirements on location.

2.4.2. Available possible solutions

As a solution to uncertain land use regulations concerning aquaculture activities would be to develop spatial planning at sea areas with consequent lightening of case based permit consideration and administrative case by case burden. It would be also possible to develop land use planning in common into the direction that would support the aquaculture permit process.

3. Aquaculture legal framework and permit procedure in Estonia and Latvia

3.1. Complex of aquaculture legal framework

3.1.1. General overview of the legal framework

Land-use planning and building regulation

In Estonia land- use planning serves the dual purpose: setting up zoning requirements - leading land use purpose for different territories (residential, industrial, and agricultural) as well as more precise land-use and building requirements.

In Estonia in principle all activities must be in conformity with the land use plan. If not, the plan must be amended. Two types of plans might be relevant. First, a comprehensive plan and second a detailed plan. The comprehensive plan is more general and enforces general land – use requirements linked primarily with the zoning. In certain territories (with different leading purpose) the aquaculture farming might not be compatible with the existing comprehensive plan, the latter must be modified. Detailed plan might affect aquaculture farming more extensively, especially if it involves erection of construction works. In the latter case if the farm is not foreseen in the existing plan the plan must be amended. In the cases where preparation of a detailed plan is mandatory, the building design documentation shall be prepared strictly on the basis of adopted detailed plans. In both cases – comprehensive and detailed plan - the decision – making authority is Local Government. The provisions of the Estonian Planning Act are very general and leave a considerable room for discretion to the decision making authority – the Local Governments. However, in practice most of the requirements concern location of the activity and building rights, which in turn may affect the scale and potentially also the technology of the activity.

According to article 22 of the Building Act a building permit is required for the erection of a construction work. Construction works are divided into buildings and civil engineering works. Aquaculture activities may involve both. Building permit is issued on the basis of building design documents which in turn are prepared on the basis of detailed plan or comprehensive plan of the later is missing. Building permit is as a rule issued by local government. Article 3 of the Building Act sets up general requirements for construction works. Construction works shall be designed and built according to good building practices and pursuant to legislation concerning building work and building design documentation, and may not present a threat to the life, health or property of individuals or to the environment.

Building permit may provide for detailed requirements for construction work as such, environmental related requirements are usually set up in aquaculture (water) permit

In Latvia, if the aquaculture activity is not prescribed in the existing land use plan, it is obligatory to make a new or amend the existing land-use plan for this territory. In Latvia the main purpose of the land-use plan is zoning, division of territory according to the leading purpose of the land-use. The more precise requirements for land – use and especially building rights are stipulated in the central or regional legislation. The decision making authority is a regional government of the corresponding territory. Construction plan and building permit is not necessary for arranging a spaded pond without constructions for regulating water level if a quantity of a surface doesn't exceed 0,1 ha, but the intention has to be aligned with the building authority. For arranging of bigger pond or buildings - building permit is needed. Building permit is issued by the building authority of regional government of the corresponding territory. Building permit does not set up special requirements for aquaculture activities. If the location of the planned pond or building is in a protection zone of state protected cultural monument a permit of State inspection for heritage protection has to be received.

Nature protection law (Natura 2000)

In Estonia as regards aquaculture special requirements apply in the nature protection areas. These areas are divided into different zone, where restrictions to economic activities are of different stringency: in strict nature reserves and conservation zone of protected areas economic activities e.g. erection of new buildings and construction works are as a rule prohibited. Activities which may affect Natura area are as a rule subject to EIA (as described below)

In Latvia Nature protection areas, including all Natura 2000 sites are divided in several zones which have requirements of different strictness. There are zones where aquaculture activities might be prohibited at all. But there are also zones where these activities are in principle allowed if certain requirements are followed. If the aquaculture activity is located in Natura 2000 area a EIA and written permission of Nature Conservation Agency is required.

Veterinary requirements

In Estonia aquaculture activities are subject to the requirements established for prevention and control of animal diseases, animal product hygiene and guaranteeing the well-being of animals with the aim to protect human life and health, and animal health. In most cases the aquaculture activity should be registered in Veterinary and Food Board, which is also competent supervisory authority.

In Latvia All aquaculture activities are subject to requirements to control animal diseases and production hygiene as well. For commencing aquaculture activity a special permit from the Food and Veterinary Service is needed.

3.1.2. Major similarities and differences

In general the complex of aquaculture legal framework in Estonia and Latvia is similar.

In both countries there is a link with land-use planning. Aquaculture activity must be in compliance with the land-use plan, if not, the plan should be amended or a new plan prepared. The main difference between two systems lies in the fact that Latvian land-use planning system is concentrated on

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zoning and major land-use requirements stem from the legislation. In Estonia land-use planning serves the dual purpose: setting up zoning requirement - leading land use purpose for different territories (residential, industrial, and agricultural), as well as more precise land-use and building requirements

In both countries for major aquaculture activities building permit is need, which is issued by local authorities, and which set up requirements for building and construction works. However, in Latvia the building rules are set up not in the building permit itself, but in architectural and planning order. Neither Estonian Building permits nor Latvian orders do not specifically address the aquaculture technological and environmental requirement. There are no substantial differences in building regulation between Latvia and Estonia

In both countries nature protection legislation sets up significant restrictions as regards aquaculture activities, in certain zones of nature protection areas aquaculture might be completely forbidden. No significant difference between two systems, except of more precise regulation of Natura assessment in Latvia.

Stemming mainly from EU law both countries have introduced veterinary and food safety requirement for aquaculture activities supervised by special food and veterinary authority. Unlike in Estonia in Latvia a special permit for aquaculture is needed from Food and Veterinary Service.

3.1.3. Major problems and possible solutions

Due to the fact that one of the prerequisites of aquaculture farming on both countries is compliance with the land-use plan, one of the common problems is related to complexity and length of the land-use planning procedures,. However, major problems in this sphere are related to implementation not so much legal framework. Accordingly the main solution lies in better implementation practices, improvement of coordination between involved authorities and different planning levels.

Neither in Estonia nor in Latvia there specific type of planning, specifically oriented on aquaculture, does not exist. Such type of land-use planning, with special emphasis, might be useful, especially concerning marine areas.

According to the interviews of fish farmers one of their biggest concerns is incomprehensible and fragmented nature of food and veterinary legislation – which might need a sort of codification.

3.2. Aquaculture permit procedures

3.2.1. General overview of the legal framework of the permit systems

In Estonia the most relevant permit for aquaculture activities is the permit for special use of water. The permit is required when fish are farmed with more than 1 ton annually or effluent is directed to the recipient from the fish farm, regardless of the quantity of the pollutants in the effluent. Also, the national law requires the water permit for daily abstraction of 5m³ of groundwater or 30m² of surface water. If the permit is required for several reasons only one (cumulative) permit is issued. In addition a building permit may be required when starting with a new farm depending on the type of farm. The building permit cannot be applied for before the permit for special use of water is issued. The law exhaustively stipulates the information that is required in the aquaculture permit application. The length of the pro-

cedure for issuing the water permit is three months in practice. This is also the maximum length for permit procedures according to the law.

The permit procedure may be interrupted by an impact assessment if the activity may have a significant environmental impact (general criterion) or the activity, either alone or in conjunction with other activities may potentially significantly affect a Natura 2000 site (specific criterion). Both assessments are carried out in the same procedure (EIA procedure), although the requirements for the procedure vary to a certain extent according to the court practice (RKHKo 3-3-1-56-12 06.12.2012). The EIA may be automatic if the activity is enumerated in a certain list, which roughly corresponds to Annex I of the EIA Directive. However, the list is relevant only in exceptional cases for aquaculture activities. Normally, the initiation of the EIA proceedings is decided case-by-case by the issuer of the permit. The law specifically requires considering the need for EIA in case of construction of an intensive fish farm that uses at least 200 tons of feed a year but this does not mean that the necessity for EIA should not be considered when less feed is used. According to the court practice the threshold for the initiation of the assessment procedure is lower when the activity may significantly affect a Natura 2000 site. The permit proceedings are suspended during the EIA proceedings - after the EIA proceedings are completed the permit proceedings resume. Theoretically, the EIA could be initiated when applying for water permit and again when applying for the building permit. However, in principle impacts are not assessed if the issuer of the consent has enough information for decision-making and provided that impacts have been sufficiently assessed earlier. On average the EIA proceedings, once initiated, add about 6 months to the permit procedure. The decisions whether to initiate the EIA proceedings, including preliminary assessment, has to be taken within the time period for issuing the permit (3 months), i.e. there should not be an additional delay if EIA proceedings are not initiated.

Everyone can participate in the procedure for issuing a water permit and in the EIA procedure. Only persons whose rights or obligations are affected can participate in the building permit procedure. An appeal can be filed with the authority who issued the permit or with the administrative court for the protection of both procedural and substantive rights. Exhaustion of an administrative appeal is not a requirement for filing a complaint with a court. Administrative appeals are seldom made in Estonia. Environmental NGOs have special extensive standing rights in environmental matters before administrative courts. Moreover, the Supreme Court has developed a doctrine of 'real and significant contingency', which also expands the standing for individuals in environmental matters. However, the extent of standing on this basis is not clear because there are only a few relevant cases. An appeal does not suspend the effect of the permit automatically but such protection can be provided by the reviewing body. The length for administrative appeal is 10 days, which can be extended by additional 30 days. The length of court procedures depends on whether the court decisions are further appealed. The Estonian administrative court has three levels. Appeal to the second level is guaranteed, appeal to the third level requires leave by the court. The length of the review procedures take approximately one year provided that the decision of the first level is appealed but the Supreme Court does not grant the leave for review of the decision of the second level.

Latvia has no specific aquaculture permit. A permit for using water resources is necessary when 10m³ or more surface water or groundwater is abstracted per day. The permit is issued by a regional environmental board. Moreover, a building permit is required when the activity involves new constructions over certain size. Building permit has to be obtained before water permit. It takes 2 months to get the water and the issuing of building permit takes at least 1 month but it can take longer depending on the circumstances.

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Leaving aside the activities that correspond to Annex I of the EIA Directive an initial impact assessment has to be performed for certain intended activities in order to determine whether the activities require an impact assessment. The relevant activities are the installation of ponds for fish farming, the total area of which exceeds 10 hectares, the installation of fish farming complexes in natural reservoirs and watercourses. EIA is initiated by the person who wishes to carry out the aquaculture activity. The EIA has to be initiated as early as possible, that is in the planning stage before applying for a permit. In order to receive a permit the initiator shall submit a final EIA statement and an opinion by the competent authority regarding the final statement to the relevant State institution, local government or other institutions. This authority has to consider all relevant information and take a decision to accept or not accept an intended activity. The EIA procedure takes 40 days if there is a need for initial assessment but the EIA procedure is not initiated and 4 months when the EIA procedure is initiated.

If the intended activity may have a substantial impact on a Natura 2000 the impact of the intended activity on the site has to be assessed. The initiator asks the Environment State Bureau for requirements for EIA in Natura 2000 site. The bureau prepares the criteria for EIA and information about instances and authorities that have to be consulted. The final report has to include a separate section on the specific assessment. EIA proceedings take 9 months when the assessment includes impacts on a Natura 2000 site.

Everybody can participate in the EIA proceedings and water permit proceedings. In general, access to review is right based but in environmental matters *actio popularis* exists. The effect of the permit is, in principle, suspended during an administrative review. The effect of the permit is not automatically suspended in the court review in environmental matters but the court can provide such protection. Exhaustion of an administrative review is a prerequisite for filing a complaint with a court. There is no information available on the current length of the appeal procedure. According to a 2007 study on general issues of access to justice in environmental matters² the normal length of administrative appeal is 1 months but it can be extended to a year. The administrative court proceedings of the first two instances (out of three instances) take about 2 years on average.

3.2.2. Major similarities and differences with the permit systems

In principle the systems are quite similar: in both instances there is typically a need for a water permit and building permit if the activity involves construction works. However, there are also major differences. In Estonia, there is a special subtype of water permit for rearing fish. The threshold is 1 ton per year, however, even if this low threshold is not met the permit is required for directing effluent to the recipient regardless of the quantities of pollutants in the effluent. Effectively, this always necessitates the special water permit. Moreover, the water permit may also be required for other reasons, e.g. daily abstraction of groundwater of 5m³. In comparison, there is no special water permit for rearing fish in Latvia. The water permit is required for daily abstraction of water over 10m³. There are also differences in the sequence of applying for the permit. In Estonia, the water permit has to be applied for first and then the building permit while the reverse is true in Latvia. The length of the procedure for issuing the water permit is roughly the same: 3 months in Estonia and 2 months in Latvia.

² Inventory of EU Member States' measures on access to justice in environmental matters, Latvia. Milieu, 2007, available at: http://ec.europa.eu/environment/aarhus/study_access.htm (25.03.2013)

The EIA systems are also similar, no doubt because of the influence of EU law. As required by the EIA Directive the impact assessment is mandatory in certain cases (Annex I). However, aquaculture activities do not normally fall under Annex I and neither country has expanded the mandatory list with aquaculture activities. There seem to be important differences how the EIA is handled in other cases. In Estonia, the need for an EIA has to be assessed effectively every time a permit is applied for. Although a certain threshold criterion has been specified – use of at least 200 tons of feed a year – the threshold is not binding for the competent authority responsible for initiation of EIA. In contrast, the criteria set out in Latvian law seem to be binding, that is if the criteria are not met the EIA proceedings are not initiated. The relevant criteria is the installation of ponds for fish farming, the total area of which exceeds 10 hectares or the installation of fish farming complexes in natural reservoirs and water-courses. The law also appears to operate differently in regard to the procedure. In Estonia, the decision whether to initiate the EIA proceedings is taken by the issuer of the permit after receiving the application for the water permit. If the EIA is initiated then the permit procedure is suspended: i.e. there is a procedure within a procedure. In contrast, the request for initiation of EIA procedure in Latvia seems to be made before actual application for permit procedure and is essentially a separate procedure. The length of a general EIA procedure (as opposed to Natura 2000 assessment) appears to be longer in Estonia: 6 months compared with 4 month in Latvia. However, in Estonia the decision whether to initiate the procedure should not delay the permit procedure – the decision has to be taken within the time limits of procedure for issuing the permit - while in Latvia the deliberation whether to start an EIA procedure adds about 1 month to the length of the permit procedure even when the EIA procedure is not initiated.

The law also differs as regards assessing the impacts on Natura 2000 sites (so called Natura assessment). In Estonia, a potential significant impact to a Natura 2000 site triggers the initiation of the full EIA procedure. In essence, the requirement for such assessment is an alternative criterion for initiation of the EIA procedure. The law does not clearly differentiate between normal EIA and Natura assessment but the differences are emphasized in court practice, inter alia, the threshold criterion for Natura assessment is effectively lower. In Latvia, the potential impact on Natura site requires additional assessment in light of the criteria provided by the Environment State Bureau. A separate procedure seems to exist in cases where the thresholds for EIA procedure are not met but the activity nonetheless has an impact on the Natura 2000 site. The length of the impact assessment procedure is significantly longer in Latvia in case of Natura assessment: 9 months instead of the ordinary 4 months. In Estonia, the length of the impact assessment procedure appears to be the same regardless of the potential impacts to a Natura site.

The regulation on public participation appears to be very similar in both countries: it is based on popular participation, i.e. everybody can participate. Access to review procedure differs significantly. In Estonia, access to review is based on violation of subjective rights, in Latvia its based on *actio popularis*, i.e. everybody can ask for review. However, it should be noted that environmental NGOs have special extensive standing under Estonian law and that the Supreme Court does allow complaints based on contingency. In Latvia the administrative appeal must be exhausted before court review, in Estonia a complaint may be directly filed with the court. The effect of the permit is, in principle, suspended in administrative review procedure in Latvia but not in Estonia. In neither country is the effect suspended in court proceedings but the courts can provide for such an effect. The length of the review procedure appears to be about twice as long in Latvia than in Estonia, however, there is not enough specific and up to date available to make firm conclusions about the length of review proceedings.

3.2.3. Major problems and possible solutions

In both countries the aquaculture activities seem to have received limited attention from the legislator possibly because the aquaculture sector is currently of marginal importance. Consequently the respective legislation does not seem to cover all relevant aspects or is contradictory. For instance, in Estonia the respective water law regulates only fish farming, which requires creative application in case of grayfish farming. Also, the threshold criterion – 1 ton of fish per year – is rendered meaningless due to the alternative criterion: direction of effluent into environment from the fish farm. Likewise, the environmental permit system in Latvia seems to neglect specific aquaculture needs entirely. In order to promote aquaculture activities the needs of the aquaculture sector have to be considered carefully and the law adjusted accordingly. Perhaps most importantly, clear threshold criteria for permits regulating the environmental impacts of aquaculture activities need to be established. The thresholds should be high to cut the red tape but not so high as to result in significant adverse effects on the environment. The possibility of several layers of thresholds should be considered. The lower threshold level would result in a quicker and less through permit procedure or even just the obligation to register, while higher threshold levels relevant for intensive production would result in more thorough examination in a longer procedure.

EIA criteria for aquaculture activities differ significantly in Estonia and Latvia. In Estonia the main problem is the uncertainty whether the application results in a long and costly EIA procedure. Every aquaculture activity is potentially subject to the EIA proceedings and the criteria for the initiation of the EIA are ambiguous in law. In Latvia, the criteria for EIA are clear but they seem to be relevant only for certain types of farm. Consequently, the significant environmental impacts of other types of farms, e.g. sea cage farms, may not be subject to an assessment. As a solution the EIA criteria should be both comprehensive – encompassing all relevant aquaculture activities - and more specific ensuring that EIA proceedings are not initiated for low impact activities.

The main problem for Natura assessment in Estonia is that the threshold for assessment is low but exceeding the threshold will result in full EIA proceedings. In Latvia, the Natura assessment appears to be excessively long compared with a normal EIA proceedings. A potential solution would be introduction of a specific focused procedure with the fixed maximum length. One way to reduce the length of the procedure could be to reduce public participation requirements, such as the length of public display, considering that Natura 2000 sites do not normally affect individuals.

There appear to be no significant problems in regard to public participation. While the public participation appears to be very extensive it does not seem to cause any significant problems in practice. On the other hand extensive participatory rights ensure that all stakeholders are heard thus reducing the risk of appeals. There appear to be no significant problems with access to review procedure. While the access is wide, especially in Latvia, which could lead to delays there is no information of significant problems in practice.

3.3. Permit conditions and consideration

3.3.1. General overview of legal framework

In Estonia the aquaculture – related permits are given up to five years, in Latvia permits are termless, but with relatively easy options to recall or to change the conditions of the permit

The most common condition of Estonian aquaculture permits are the following:

- Information about allowable amounts and time for abstraction of water by water intakes and aquifer (per quarter and per year) and maintaining records of the abstracted water.
- The allowable volumes of pollutant in the effluent directed into the water body.
- Requirement for the monitoring of pollutants and the recipient of the pollutants.
- Requirements for submission of information
- Additional measures the effect of use of water on aquifer, water bodies and recipients and the terms for the application of measures
- Requirements for feeding-stuff, their types and quantities

In Latvia the permit seems not to be the primary instrument in setting the conditions for the activity, the permit determines mainly the amounts and conditions of water use, the quality control of effluent water and water bodies. Most of the environmental requirements of aquaculture activities are set in the legislation, and not in the permit.

Discretionary power of permit authority in Estonia is at least in theory very wide. It is another thing how this power is actually used. In practice it concerns mostly such permit conditions as requirement for the monitoring of pollutants and the recipient of the pollutants; additional measures the effect of use of water on aquifer, water bodies and recipients and the term for the application of measures and requirements for feeding-stuff, their types and quantities

In Latvia the discretion of permitting authority is very limited as primary environmental requirements of aquaculture activities are set in the legislation

Negotiations and site visits in Estonia - law on aquaculture permit is silent on the issue. In practice negotiations sometimes occur, that is when the pollution load proposed by the undertaker may lead to deterioration of water quality. Site visits are conducted when there is something new to see. Note that aquaculture permit is valid only for 5 years, which means that a lot of permit applications are for permit renewal. Note also that water permit is issued before building permit, so there may be nothing to visit yet.

In Latvia the site visits are obligatory and linked specifically with issuance of building permits.

In Estonia supervision is performed first, in the form of inspections by the supervisory authorities - either permit authority or Environmental Inspectorate. The permitting authority monitors also on the basis of monitoring data supplied by the operator. Sometimes control monitoring is performed at the expense of authorities. In addition Veterinary and Food Board is also competent to supervise. Unfortunately there is no sufficient coordination between these different supervisory authorities

In Latvia the primary supervisory authority is Food and Veterinary Service

3.3.2. Major similarities and differences

In case of permit conditions and permit consideration there are more differences than similarities between Estonian and Latvian system. Latvian permits are permanent, Estonian ones are for 5 years term

If in Estonia the primary role in setting conditions for aquaculture activities plays permit, in Latvia most of the conditions are set in legislation. Accordingly Estonian authorities have wide discretion and Latvian ones very restricted.

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In Estonia negotiations and site visits are not regulated in law, nevertheless in practice these sometimes take place. In Latvia the site visits are obligatory but linked specifically only with issuance of building permits.

In Latvia the supervisory function is concentrated in Food and Veterinary Service, in Estonia there are multiple competent authorities - permit authority, Environmental Inspectorate and Veterinary and Food Board.

3.3.3. Major problems and possible solutions

As regards permit term two options are available. First, extending of the permit term from current five years to a longer period and using more simple procedure for extending the validity of the permit in case when technological, spatial and environmental condition of the activity remain basically the same. Second, use termless permits, with relatively flexible opportunities for recalling the permit (in serious cases) orS changing permit conditions.

As regards fixing of conditions for the activity, from legal certainty point of view somewhat combination of Estonian and Latvian system would be favourable – fixing major conditions in the legislation but leaving authority more or less fixed room for discretion. In the framework of discretion more room for negotiation and site visits could probably be preferable

In case the supervisory function is shared by different authorities higher degree of coordination is essential

4. Farmer's attitudes and contribution to the environmental regulation and permitting

4.1. Background and approach

There is not much quantitative information of the entrepreneurs' contributions to the licensing processes in aquaculture, not at the national and even less at the international level. This information would be valuable for instance in assessing administrative burden and economic impacts of regulatory changes.

Aquabest-project carried out a mini-survey to get a grip of the farmers' contributions to the licensing processes. We were fully aware of the difficulty to get comparable information. Most farmers don't itemize permitting inputs in bookkeeping, and if it is done, the coverage and specifications vary. Therefore, the ambition level was set to get sophisticated 'order of magnitude' estimates of the farmers' inputs.

For the reasons explained above the prioritized method for data collection was a face-to-face group interview in which 3-5 experienced farmers, representing major production forms and extensive experience on permit processes, strive for a consensus opinion. This method was used in Finland and Aland. In Estonia, Latvia, Denmark and Sweden the questions were sent to equal amount of experienced farmers and the answers are presented as averages of the responses.

4.2. Entrepreneur's problems in applying different legislation areas

The farmers were asked to define on the basis of their own experience how general and serious different problems are in specified legislation areas (Table 1.). Both absolute and relative assessment was requested. The scale of the absolute was from 0 (no problems) to 10 (extreme problems).

Table 1. Evaluated legislation areas and the evaluation criteria.

Problem area	Legislation area				
	Tax	Accounting	Environmental	Employer	Veterinary and food
Clarity and intelligibility of the statutes					
Amount of regulation in relation to the experienced needs					
Availability of advice and binding preliminary decisions from authorities					
Speed and predictability of decision-making in the application of the laws					
Reconciliation with other legislations					
Possible consequences of incorrect application					

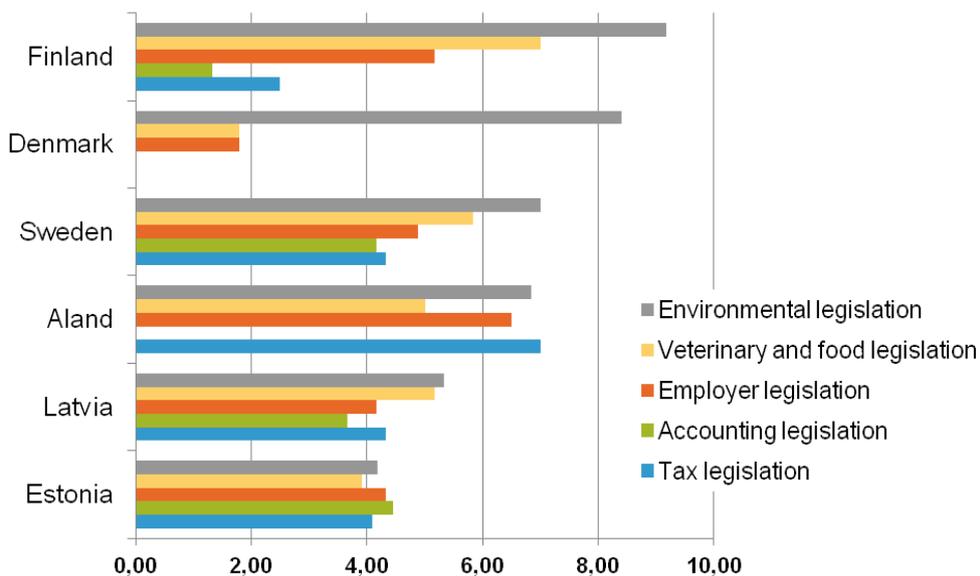


Figure 1. Entrepreneurs' problems in proper applying of different legislation areas

In four of the six countries the environmental legislation was considered the most complex legislation area (Figure 1.). This may be partly explained by the character of environmental cases. The norms have to be somewhat flexible for being applicable in all cases which often are unique. This easily leads to use of discretionary power and non-predictable decision-making. All in all, the environmental regulation seems to be a very big administrative burden to the entrepreneurs in most countries.

Legal regulation of aquaculture in the Baltic Sea region - Frameworks, practices and farmers' attitudes

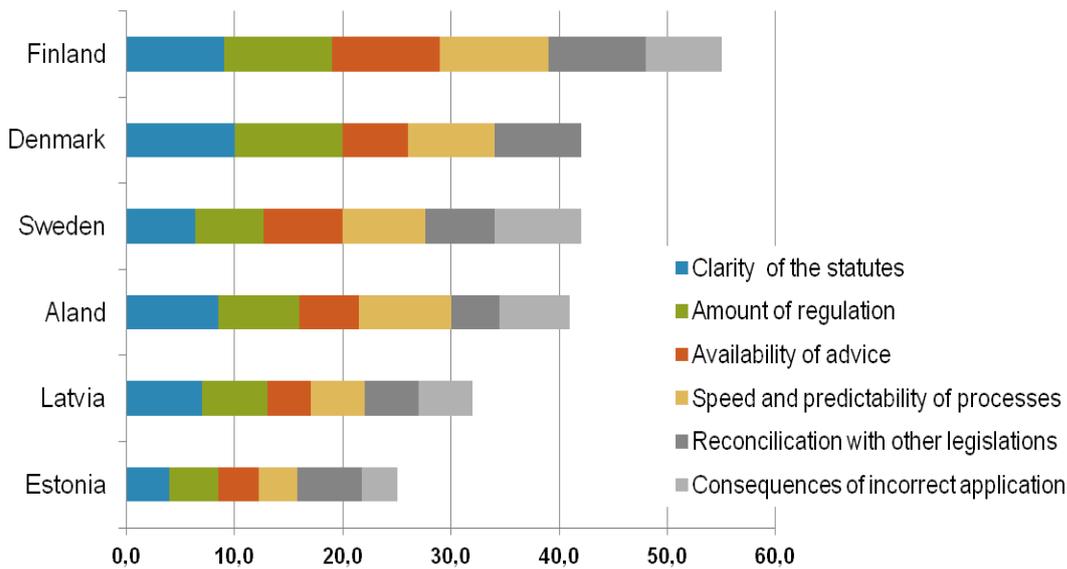


Figure 2. Breakdown of perceived problem areas in the environmental legislation. The x-axis shows cumulative sum of the subsets of problems.

The perceived reasons for the difficulties vary from country to country (figure 2.). Overregulation and unclear statutes as well as the complexity of the licensing processes are in most countries the biggest problems.

4.3. Producer's inputs in the environmental permitting processes

The farmers were asked to assess on the basis of real experienced cases the need of time, work and money in the different stages of single permitting process. The stages were the preparation of application, the permit consideration procedure and possible petition of appeal. Answers were requested for three typical cases, an easy one (the easiest decile), an average one and a very difficult one (the worst decile). The questions were:

- How much before the submission of the application the document preparation has to be started?
- How much enterprise's effective working time is needed in the different stages of the permitting process?
- How much expenses do the purchase of external services for different stages of the permitting process cause?

Table 2 shows the overall results. The need of all resources roughly doubles when moving from easy to average case and respectively from average to bad case. This indicates that remarkable savings in time and money can be achieved by streamlining of processes.

Table 2. Average resource inputs to environmental permitting cases of aquaculture in six Baltic Sea region states/territories (Estonia, Latvia, Denmark, Sweden, Finland and Åland).

Farmer's resource inputs		Easy case	Average case	Bad case
Time frame for preparation of application	months	2,3	3,8	8,6
Use of own work in the process	days	18	43	89
Expensed of external services	euro	8 535	17 286	46 735

The Nordic countries are an interesting group for a specific comparison. Denmark, Sweden and Finland have much in common in political history, legal systems, developmental stage and structure of the society. The general cost levels are very similar. Rainbow trout is the backbone of aquaculture in all three countries. According to farmers' opinion (see figure 1.) the environmental legislation is more troublesome to manage than other compared legislations or environmental legislations elsewhere. Breakdown of costs of a difficult/complex environmental permitting case in Finland, Sweden and Denmark is presented in table 3.

Table 3. Farmers' costs in a difficult/complex environmental permitting case in Nordic countries. The permit fees are not included.

Farmer's resource input	Finland	Sweden	Denmark
Own work in application phase *	9 000	9 000	4 500
Own work in permit consideration phase *	6 000	7 500	6 000
Own work in the petition of appeal *	24 000	7 500	2 250
External services in application phase	50 000	18 300	30 000
External services in permit consideration phase	15 000	16 700	13 400
External services in the petition of appeal	20 000	22 200	1 340
TOTAL	104 000	59 000	56 150

* Total salary and employer costs 300 euro / working day

The results of the table 3 are only approximate. In contrast to Sweden and Denmark, a group interview was used in Finland. In this method it is easier to find consensus near the upper end of opinions, thereby the result is higher than average. The small target group, of course, limits the generalization of results. Anyway, the results give the order of magnitude for the cost of a difficult/complex case.

4.4. Measures for reducing the burden of the permitting process

The farmers were asked to assess how effective the following changes could be in reducing the heaviness of the permit process in their country. They were requested to decide the four most important and the four next important ones of the following alternatives:

1. Reviewing of permit regulations and revisions of the permits of existing farm sites are carried through substantially lightened process
2. The validity of new permits and permit revision periods is regulated to be clearly longer than in the current situation
3. Raising the permit threshold – the limit production which exceeding causes the need of the environmental permit
4. Spatial planning – zoning reserved areas for aquaculture where farming, within total quota, is allowed without case based permit
5. Utilizing registration or notification process within small activities so that valid regulation and norms determine basic requirements for the activity
6. Lightening the permit procedure within cases where operator wants to centralize currently dispersed activities into one site
7. Simplifying permit decisions by deleting indirect permit conditions that complicate proper organizing of the activity
8. The industry itself creates the standard or norms that is pursued to be a base in determining the permit conditions
9. Changing the limits of nutrient loads to multiyear basis which enables buffering annual variation of conditions and easing the production management
10. Including all the agriculture to emission permission system and launching emission trading system
11. Introducing appeal permit to those whose interests are concerned for opportunity to lodge a complaint in the highest court
12. Introducing net load permit, that allows higher production when nutrients from the water body / Baltic Sea are removed or reused in the fish feed
13. Lightening the obligations concerning monitoring the activities for instance by combining different authority surveillances

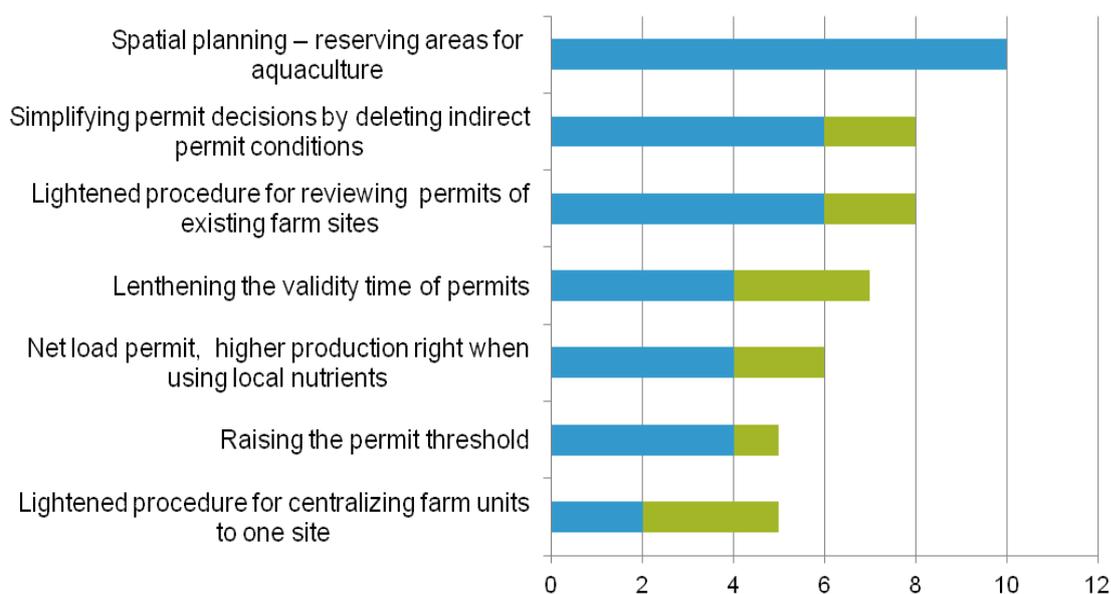


Figure 3. Seven most supported fish farmers' wishes (out of 13) for better aquaculture regulation in the six countries of the study. Inclusion in the top four priorities gives 2 points (blue bar) and to the next four gives 1 point (red bar).

The farmers' message for better spatial planning or better consideration of aquaculture in the plans is very strong. Five of the six responding farmer groups included it in the highest priority. The three next most supported development goal relate to smarter licensing procedures. All those three were also mentioned by five of the six responses but not exclusively in the highest priority.

5. Discussion

The legal regulation of aquaculture is complex especially what comes to environmental licensing. The producers perceive the the applying of environmental legislation more problematic than other legislation areas. Trials to pave the way for a more streamlined and more predictable regulation of aquaculture in the BSR are as challenging as they are necessary.

The dominance of environmental policy over the industrial policy was found in the stakeholder questionnaire (Eskelinen & al. 2012b). This seems to be case elsewhere as well. Wirth & Luzar (2001) describe the situation in U.S. "state agricultural development officials have formulated appealing development plans to attract the aquaculture industry. Meanwhile, state regulatory agencies have been re-writing and re-interpreting environmental legislation and regulations to protect important water and wildlife resources from potential negative environmental consequences."

Aquaculture is a new industry and according to Hahn (1990) in most cases new sources of pollution get regulated more stringently than existing sources. When regulator's options are low political or low economic price the choice is the low political price. Wirth & Luzar (1999) have observed that this is especially relevant to aquaculture.

What comes to the amount and stringency of regulation the societies always have two opposite pressures: the citizens' general worries of their living environment and consequently demand for stricter rules versus the governmental concerns of too complex, time-consuming and expensive administration. Cutting the red tape is hard. Wirth (2012) revisited the U.S. aquaculture regulatory climate after fifteen years of the first measure. Despite of aim to reduce regulation stringency very little progress was achieved.

The collected information of the permitting costs is narrow. Anyhow, the figures suggest that the costs can be high and have real effect on the economic competitiveness of the farms, especially when proportioned to the capacities and validity times of the permits. The issue is worth of deeper studies.

In the Baltic Sea region the illusion of a Norwegian style one-stop shop for aquaculture applications can be utopistic. The history of aquaculture in the Baltic Sea region is short. The activity is regulated by statutes given before the birth of the present-day aquaculture industry. There is definitely space for political innovations for more incentive, tailored and streamlinded regulation, without jeopardizing protection of environment. Success in this work is one of the key questions in ensuring continuation and competitiveness of the region's aquaculture.

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