



# Suitable localities for mussel farming in the County of Kalmar: results from the 2013 discussion meetings

Erik Olofsson, Amie Ringberg, Alexander Eriksson



Baltic Sea Region  
Programme 2007-2013

Part-financed by the European Union (European Regional Development Fund and European Neighbourhood and Partnership Instrument)

AQUABEST



AQUABEST 

Finnish Game and Fisheries Research Institute, Helsinki  
2013

ISBN 978-952-303-072-5

---

Reports from Aquabest project 12 / 2013

# **Suitable localities for mussel farming in the County Kalmar: results from the 2013 discussion meetings**

Erik Olofsson Torsta AB, Amie Ringberg, Alexander Eriksson  
Ecocom AB

---

## Description

<b>Authors</b> Amie Ringberg, Alexander Eriksson, Erik Olofsson		
<b>Title</b> Suitable localities for mussel farming in the County of Kalmar with respect to results from public meetings in 2013		
<b>Year</b> 2013	<b>Pages</b> 30	<b>ISBN</b> 978-952-303-072-5
<b>Abstract</b> Suitable localities for large-scale (> 10 hectares) mussel farms were evaluated at meetings in six coastal municipalities in the County of Kalmar, Sweden. The meetings addressed social, practical and economical issues with respect to 12 potential areas for mussel farming. The meetings were conducted to provide entrepreneurs and interested parties with information about future opportunities and to collect local knowledge about the suitability of the suggested areas. Of the 12 potential areas, 6 are recommended as possible areas for large-scale mussel farming based on the lack of conflicting interests and practical conditions.		
<b>Keywords</b> Mussel, conflicting interests, aquaculture, meetings		
<b>Publications Internet address</b> <a href="http://aquabestproject.eu/reports.aspx">http://aquabestproject.eu/reports.aspx</a>		
<b>Contact</b>		
<b>Additional information</b>		

## Contents

<b>Description</b>	<b>4</b>
<b>1. Introduction</b>	<b>6</b>
1.1. Background	6
1.2. Objective	6
<b>2. Planning and implementation of the meetings</b>	<b>8</b>
2.1. Organisations and people invited	8
2.2. Implementation of the meetings	9
<b>3. Opinions from the discussion meetings</b>	<b>11</b>
3.1. Västervik municipality	11
3.2. Oskarshamn municipality	11
3.3. Mönsterås municipality	11
3.4. Kalmar municipality	12
3.5. Borgholm municipality	12
3.6. Mörbylånga municipality	13
<b>4. Suitable localities for mussel farms</b>	<b>13</b>
4.1. Problems identified	13
4.2. The suitability of the localities for the experiments	13
<b>5. Proposed action</b>	<b>15</b>
<b>6. Need for environmental impact description (EID)</b>	<b>15</b>
<b>7. Discussion</b>	<b>16</b>
<b>8. References</b>	<b>18</b>
<b>9. Appendices</b>	<b>19</b>
<b>Appendix 1 – Media and advertising</b>	<b>20</b>
<b>Appendix 2 - Invitation to the meeting</b>	<b>22</b>
<b>Appendix 3 – Lists of participants, the discussion meetings</b>	<b>24</b>
<b>Appendix 4 – Licence application form</b>	<b>26</b>

## 1. Introduction

At the request of Ecocom AB, Torsta AB has prepared and held information and discussion meetings in the municipalities of Västervik, Oskarshamn, Mönsterås, Kalmar, Borgholm and Mörbylånga in the County of Kalmar in Sweden. The objective of the meetings was to inform the public of future plans for large-scale mussel farming along the County of Kalmar's coast, as well as to gain access to local knowledge of the conditions that may affect the opportunities for large-scale mussel farms in the relevant area. The meetings were held in June 2013 and were led by Amie Ringberg and Alexander Eriksson, Ecocom AB ([www.ecocom.se](http://www.ecocom.se)).

### 1.1. Background

AQUABEST is an EU-financed project whose objectives include demonstrating that aquaculture can actually be an environmentally "neutral" way of producing food. Fish farms are planned in Jämtland as part of the project. In order to prevent the fish farms from contributing a net supply of nutrients to the Baltic Sea, the project is being considered in parallel with the possibility of taking up nutrients by means of mussel farms. The mussel meat can then be used as fish food for the farms in Jämtland, thereby creating an environmentally neutral cycle which simultaneously creates conditions for entrepreneurship in the rural area.

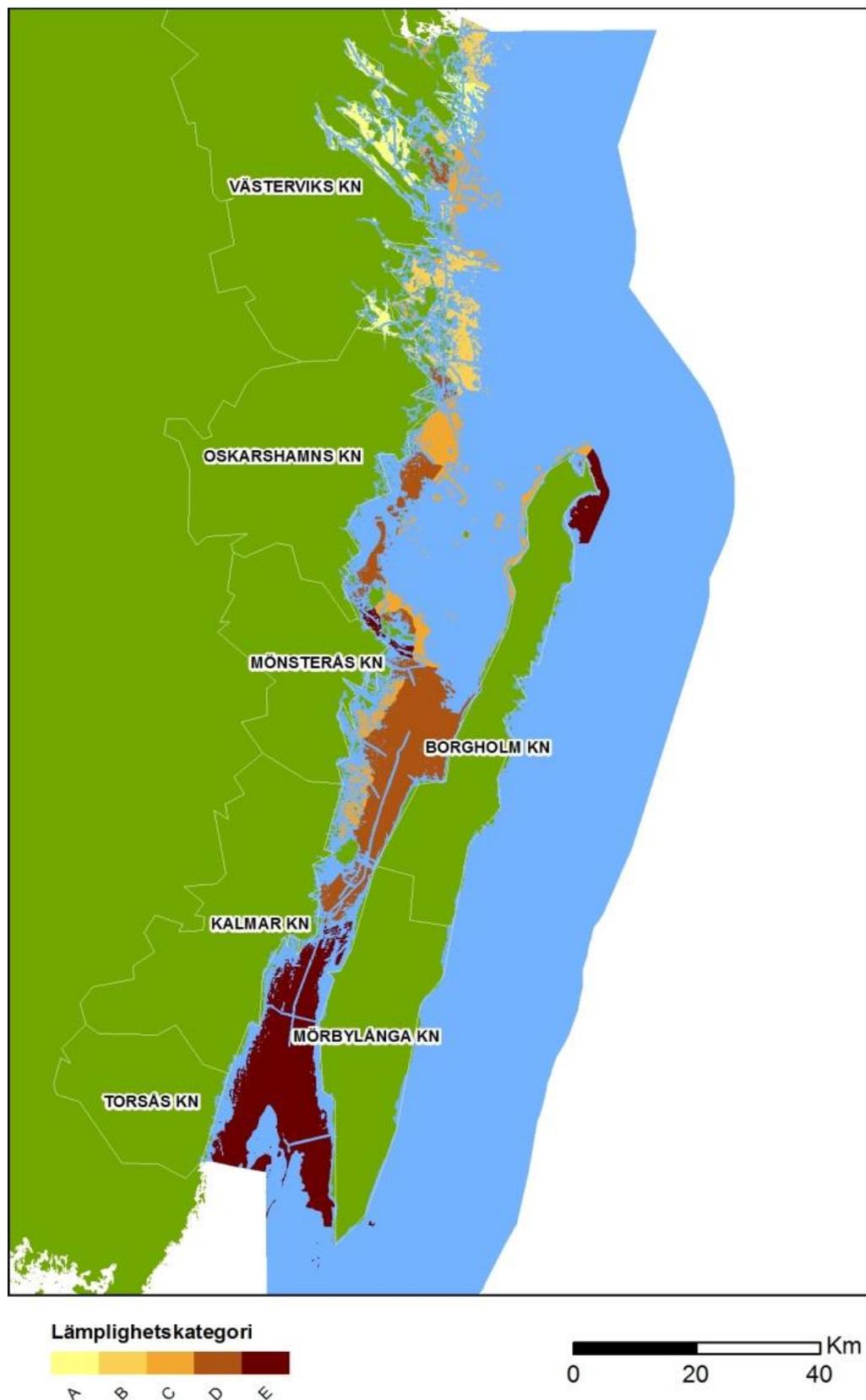
The part of the project that concerns mussel farms in the County of Kalmar is led by a work group with representatives of all municipalities involved in the County of Kalmar (Västervik, Oskarshamn, Mönsterås, Kalmar, Borgholm, Mörbylånga municipalities) together with a project manager from Torsta AB in Jämtland.

In 2012, a GIS spatial analysis was implemented to highlight the areas that are theoretically the most suitable for mussel farming along the County of Kalmar's coast (Andersson & Eriksson, 2012). The analysis was based on two main points: avoiding the areas with conflicting interests, and finding the areas that have the best farming conditions for mussels according to the existing knowledge basis. A map from the report is shown in Figure 1.

In 2013, the project has been developed through two sub-projects, of which this current report constitutes one, the other consisting of experimental farms at 1-3 localities within all of the municipalities concerned (see Figure 2). The result of the second the sub-project is shown in Nord (2013).

### 1.2. Objective

The objective of the meetings was to obtain knowledge that improves the possibility of prioritising the suitability of proposed mussel farm localities on the basis of practical and social conditions, and to inform entrepreneurs and interested parties of the opportunity of realising large-scale mussel farms for things such as food production in the Baltic Sea over the next few years.



**Figure 1.** Map from the 2012 GIS analysis. According to the analysis, suitability category E has the best conditions for mussel farming.

## 2. Planning and implementation of the meetings

To begin with, a target group analysis was implemented in which organisations, people concerned, interested parties and other important parties were charted. The initial strategy was to disseminate information on the planned discussion meetings to organisations and thereby reach out to individual people. The organisations that were contacted directly by telephone were asked to disseminate information about the meetings through their news channels/networks and websites. The County Administrative Board in the County of Kalmar, all relevant municipalities plus the Kalmarsund Commission provided information on the time and place of the discussion meetings on their respective websites.

In some cases, letters were sent by email instead (to fishermen, for example). Several people who had previously participated in the project, such as representatives of the municipalities, sponsors and some key persons, were also contacted directly by email. A total of 291 organisations/companies/people were contacted. Advertising also covered approximately 70 % of the areas that were relevant to the discussion meetings.

In addition to the abovementioned measures, landowners and people with water rights were also contacted through the municipality representative of each municipality for applicable confidentiality reasons. Editorials at several different newspapers were also contacted, which resulted in a certain amount of publicity (see Appendix 1).

### 2.1. Organisations and people invited

#### Organisations/associations, 112

LRF (direct contact via telephone as well as email)

The Public Employment Service (direct contact via telephone as well as email)

The County of Kalmar's County Administrative Board (direct contact via telephone as well as email)

Municipalities (direct contact via telephone as well as email)

Nature and rural associations (email)

Canoe clubs (email)

Road associations (email)

Boat clubs (email)

Diving clubs (email)

Sports fishing clubs (email)

Communal ownership associations (email)

The Association for the Promotion of Outdoor Life (email)

Bird clubs (email)

Local culture associations (email)

#### Companies/people, 179

Fishermen, companies 126 (letter)

Selected contact persons, 53 (email as well as letter)

#### Advertising

Advertising took place on one occasion prior to the planned meetings in the following printed media: Barometern, Östran, Ölandsbladet and Västervikstidningen.

## 2.2. Implementation of the meetings

A total of six meetings were held, one in each participating municipality. The meetings took around two hours and included two subsections: an information section on mussel farms and how large-scale mussel farming (> 10 hectares) may affect an area as well as a discussion section for discussing the locality of the experimental farm and its characteristics and options.

The information section of the meetings included the following subjects:

- Presentation of the project (AQUABEST as a whole and the year's share of the project in the County of Kalmar)
- The areas that are suitable for mussel farming according to the GIS analysis that was implemented during 2012
- Experimental localities during summer 2013 (according to the latest planning)
- Positive environmental impacts of mussel farms
- Need for fish foods in Sweden now and in the future
- Economic conditions for large-scale (~10 hectares) mussel farming at present
- Earlier attempts to farm mussels and known problems
- Innovative thinking and solutions to earlier problem
- Summary of positive and negative impacts of mussel farms

In the discussion sections of the meetings there were structured questions on the subjects listed below.

Following discussions based on questions there was a general discussion with the participants.

- Proximity to harbours or bridges that are big enough for the boats that are needed to handle the harvests from mussel farms as well as accessibility with good roads for the onward transportation of harvested mussels
- Characteristics of the bed at the experimental localities as well as the presence of mussels and barnacles
- The ice conditions at the experimental localities, drifting ice, etc.
- What the outdoor life is like in the area and how this could be affected by a mussel farm
- Nearby facilities for food production or other use for harvested mussels
- Miscellaneous

The presentation included a map showing all localities with experimental farms during summer 2013 (see Figure 2). The discussion section of the meetings discussed the localities in the relevant municipality in the first instance.



Figure 2. Localities with experimental farms which formed the basis for discussions regarding future large-scale farms at the meetings in the municipalities.

### 3. Opinions from the discussion meetings

Below follow opinions that were expressed during the discussion meetings. The discussion primarily concerned the localities at which experimental farms were positioned.

#### 3.1. Västervik municipality

At the meeting in Västervik municipality, the area east of Hasselö (in open waters) was emphasised as being suitable for mussel farming (locality A). Those participating in the meeting did not believe that there would be room for a large-scale mussel farm inshore from the island. Inshore, there is also an even greater conflict with things such as swimming and boating. The area east of the island also has the best conditions according to the GIS analysis. The east side of the island also has less tourism so the mussel farm would therefore disrupt the tourism industry to a lesser extent. In the area there are also professional fishermen who are interested in running a mussel farm, although probably on a smaller scale. There are many harbours in the area where farming tools and harvests can be salvaged. Transportation to Västervik harbour takes around 30 minutes. Hasselö is flat and covered in forest, which reduces the risk of interfering with the landscape.

Äskeskär was also mentioned as a conceivable area of interest. The fishermen are interested in further experimental farms under their own management and are wondering if there is an opportunity to borrow tools for an experimental farm, and would also like to have the opportunity of registering to implement more experimental farms.

#### 3.2. Oskarshamn municipality

At the meeting in Oskarshamn municipality, discussions were held primarily about the northernmost experimental farm (locality C) which is situated right outside Simpevarp (OKG, Oskarshamn's nuclear power station). One problem with this locality is that it is some distance to the nearest harbour. The harbour by OKG is nearby but the area is protected and not accessible without prior arrangement. The bed is probably of stone at point C. There is a high level of boat activity in the area during holiday periods but there are only a few permanent residents, for whom mussel farming is presumably not a problem where matters such as the landscape are concerned.

The area around Marsö (between Oskarshamn and Västervik) was also emphasised as a potential mussel farm locality at the meeting. The area by Marsö is a nature reserve (Misterhult) but this need not mean that a mussel farm is impossible since a farm could also be located outside the borders of the reserve. To avoid disruptions to outdoor life, the most suitable location for the farm would be in open waters, which constitute the least visited area for outdoor life activities. It is known that the area is rich in mussels, partly because of the mussel fouling on the fishing tools. In some periods there is a great deal of drifting ice in the area, although the conditions do vary greatly from year to year.

The people participating in the meeting knew nothing about point D, so it was not possible to obtain information concerning this locality at this meeting.

#### 3.3. Mönsterås municipality

At the meeting in Mönsterås municipality, the area around Svartö (close to localities E and F) was discussed in particular. By Svartö there is a large concrete bridge that can accommodate large boats. Södra Cell Mönsterås (the pulp mill) has a harbour and good communications (e.g. a rail connection). There is another harbour that may be of a suitable size in Sandvik on Öland.

Regarding the activity of boats, there is a smaller route for smaller boats between Mönsterås and Svartö. There is also a lane by the experimental localities (E and F), which may mean that establishing a mussel farm would disrupt the boat life to a certain extent. During summer, there is also a lot of traffic between Påskallavik and Runnö. These lanes are small and are not included in the GIS analysis. The islands in the area are flat, which reduces the risk of interference with the landscape. The islands mean that there are fewer places where you can see out onto the open sea, which means that establishing in open waters will have little effect on the landscape seen from the land.

It was pointed out that checks ought to take place to ensure that mussel farming does not take place close to the outlet from Södra Cell Mönsterås.

### 3.4. Kalmar municipality

In Kalmar municipality, it is primarily the water area outside Norra Hagby that is relevant (I). However, the harbour is too basic for boats of the size required to handle equipment and harvested mussels. The roads to the harbour are also inadequate. Other harbours that may be relevant to the salvage of harvested mussels are Kalmar harbour, Bergkvara harbour and possibly the harbour at Mörbylånga. If there are to be opportunities for food production in Kalmar, Kalmar harbour is very suitable for the unloading of harvested mussels. Previous attempts have also been made to farm mussels at locality I and there were no problems with barnacles at the time.

It may also be interesting to have an experimental farm slightly to the east of the Hossmoån estuary. Revsudden and Ölandsbron are discussed as localities that have good water circulation. There would be extensive visibility from the bridge at Ölandsbron (G). There would be an impact on the landscape but this need not be solely negative in that it could help to illustrate the work with developing mussel farming in the region. However, there is also extensive boat traffic in the area and a farm of around 10 hectares in size would be difficult to position without conflicts arising. At the meeting, it was pointed out that consultations ought to be held with nearby residents to discuss a suitable distance from the land. The opinion from the meeting was that the distance between land and mussel farm ought to be no less than 300 metres.

### 3.5. Borgholm municipality

At the meeting in Borgholm municipality, the experimental localities (J and K) were not considered to have enough potential for large-scale mussel farms for reasons such as water flows and tourism, etc. A proposal was put forward to examine the option of attaching mussel farms to the wind turbine foundations at the newly-constructed wind turbine in Kårehamn. The people participating in the meeting thought it would be interesting to know what the fouling would be like on the wind turbine foundations, but also thought that it ought to be possible to control fouling on dots.

It was emphasised that a mussel farm ought to be positioned a relatively long way from land to minimise the impact on the landscape and the tourism industry. The fact that the experimental farm just south of Bödabukten (K) is situated just outside the outlet from the purification plant plus the fact that there are also very extensive sand beds in the area were also discussed.

Grankullaviken (J) was named as an unsuitable place because there would not be enough room for a large-scale farm, or it would at least block large parts of other boat traffic in the area and have a fairly extensive impact on the landscape.

### 3.6. Mörbylånga municipality

At the meeting in Mörbylånga municipality, it was stated that the weather conditions are difficult on the eastern side of Öland and that the left side of Öland ought to be more interesting with regard to mussel farms, although a farm could possibly work on the eastern side if it were adequately anchored. The wind turbine at Kårehamn was mentioned as an option. The area by Degerhamn may be relevant with regard to the weather conditions. A new experimental farm outside Degerhamn was proposed.

## 4. Suitable localities for mussel farms

### 4.1. Problems identified

The weather conditions and floating ice are considered to be possible problems for mussel farms, mainly on the east coast of Öland. However, it was not possible to obtain any concrete information on matters such as floating ice for the majority of the localities discussed at the meetings because the conditions are very different from year to year. New mussel farm technology and its sensitivity to weather are being developed, however, and will not necessarily be a problem in the future.

The impact on the landscape may be a problem, particularly for farms of the size discussed, i.e. > 10 hectares. However, it is possible to work out how far buoys of a certain size will be visible from the mainland. The farm will be visible from a fair distance, i.e. from observation points that are high up, so mussel farms next to the areas with buildings at a high elevation need to be positioned further away from the land. However, the licence matters have caused fewer complications than anticipated since an environmental impact description is not needed for the localisation of mussel farms.

It is otherwise important to identify point sources for discharges/emissions in the proximity of potential farming localities.

### 4.2. The suitability of the localities for the experiments

Below follows a general report on the suitability of the localities for the experiments for the localisation of a large-scale farm (table 1). The assessment was based on a practical, social and economic perspective and ought to be supplemented with information on how successful the experimental farms have been at the relevant localities.

The assessment is based on whether there is information available to show that the localities are less suitable for large-scale mussel farming. Localities for which information regarding lack of suitability has not been forthcoming are seen as suitable until further notice.

**Table 1.** Suitability of experimental farms for the establishment of large-scale mussel farms (> 10 hectares)

ID	Municipality	Suitability	Comment
A	Västervik	High	No obvious conflicts.
B	Västervik	Low	Difficult to “fit in the farm”. Conflict with tourism, boating/swimming.
C	Oskarshamn	Low	Long distance to the nearest harbour (> 20 km). If the harbour by OKG can be used, the assessment will change, however.
D	Oskarshamn	-	The people participating in the meeting lacked the necessary knowledge of the locality, which meant that it was not possible to assess the suitability for establishing mussel farms.
E	Mönsterås	High	No obvious conflicts. Outlet from Södra Cell ought to be checked, however.
F	Mönsterås	High	No obvious conflicts. Outlet from Södra Cell ought to be checked, however.
G	Kalmar	Low	Obvious conflict with boat traffic as well as landscape.
H	Kalmar	High	No obvious conflicts.
I	Kalmar	High	No obvious conflicts.
J	Borgholm	Low	Difficult to “fit in the farm”. Conflict with tourism, boating/swimming.
K	Borgholm	Low	Lies close to the outlet from the treatment plant, as well as close to land. The impact can be reduced if localised further away from the land.
L	Mörbylånga	High	No obvious conflicts, although it was pointed out that severe weather conditions can occur on the eastern side of Öland.

## 5. Proposed action

Below follows actions that were proposed as a result of the meetings.

- A. Arrangement of study trip for interested entrepreneurs to existing mussel farms to provide a concrete understanding of which practical conditions are required. Destinations proposed were other mussel farms in Sweden or abroad, e.g. Lysekil, Åland or Denmark.
- B. Option of more experimental farms. It was said at several of the meetings that potential developers wanted to try several possible development areas and that the developers were wondering about different financing options as regards equipment or the loan of existing equipment.
- C. Better information on the economic conditions. Since the position on environmental compensation in Sweden is considered to be unclear, the main question was whether and when compensation could be received for the environmental service and<sup>1</sup> the manner in which information would reach the people participating in the meeting.
- D. Help with obtaining a licence/the application procedure. Many of those participating in meeting asked about such support provided that the finances added up.

## 6. Need for environmental impact description (EID)

One important matter as regards the establishment of mussel farms is which licences will be required prior to the establishment. Within the framework of the project, a smaller review has therefore taken place of the legislation in the area. Aquaculture such as fish and mussel farming comes under several legal enactments. However, many of these are not relevant to mussel farming. Table 2 shows the enactments that are relevant to mussel farming in the Baltic Sea.

Mussel farming is, as opposed to fish farms, not to be considered as an environmentally-hazardous operation in accordance with Chap. 9 of the Environmental Code (the County Administrative Board 2011a, the County Administrative Board 2011b, the Environmental Code 1998:808). However, a licence is required in accordance with the fisheries legislation (SFS 1994:1716) to set up a mussel farm. The licence is applied for from the County Administrative Board on forms (see valid form for the County of Kalmar in Appendix 4) and, provided the localisation is not planned within a protected area (such as a bank protection area, a Natura 2000 area or a nature reserve), no EID is required prior to establishment.

**Table 2.** Different enactments and their relevance to mussel farms in the Baltic Sea. The enactments often include mussels under the concept of *fish*.

Enactments that are relevant to mussel farming	Relevance to mussel farms in the Baltic Sea
Regulation 1994:1716	Concerns fishing and aquaculture. Requires licence for mussel farming (Section 16). Application for a licence is required. Form (see appendix 4).
The National Board of Fisheries' provisions	Deals with the laying out as well as the moving of fish. Only rele-

<sup>1</sup> It is assumed that this is what was intended ("och" may have been omitted from the Swedish; either that or the previous "och" is in the wrong place in the sentence).

(FIFS 2011:13)	vant when moving an existing farm.
The Swedish Board of Agriculture's provisions SJVFS 2011:34	Deals with fish farming, the moving of fish between fish farms, the slaughter of farmed fish as well as the laying out of aquaculture plants. As regards mussel farms in the Baltic Sea, this enactment is relevant primarily when it comes to the transportation of harvested mussels, the slaughter thereof and the laying out the farms.
The Epizootiology Act 1999:657	Regulates the prevention and combating of infectious animal diseases that are a danger to public health. A list of these diseases is in SJVFS 1999:102. There are no diseases on the list that affect mussels and the Act is therefore deemed to be irrelevant in this case.
The Swedish Board of Agriculture's provisions (SJVFS 1998:98)	Contains rules concerning the registration of and keeping a log in connection with mussel farms. It also prescribes a duty of notification, sampling and restrictions in the event of an increase in mortality or certain suspected infectious diseases (in an appendix to the provisions) in the farms or the farming area.
Chap. 2 of the Environmental Code (1998:808)	Contains general precautions that must be followed when establishing mussel farms
Chap. 11 of the Environmental Code (1998:808)	Deals with water activity. According to Section 11, mussel farming is subject to mandatory authorisation in accordance with the Environmental Code.
Chap. 7 of the Environmental Code (1998:808)	Deals with protection of the areas. If there is interest in setting up a mussel farm in a protected area (e.g. in a bank protection area or a Natura 2000 area), this enactment is relevant and may lead to something such as a N2000 review.

## 7. Discussion

At the meetings, the gatherings of people with local knowledge differed greatly. The number of people participating in the meetings varied between 3 and 10 people, some of whom had very good knowledge of the large areas while others participated on the basis of a general environmental interest and were lacking in special knowledge of the conditions in the area. However, there was substantial inter-

est and involvement at the meetings, and many of the people present were fishermen who were potentially interested in running mussel farms in the future.

The level of knowledge at the meetings was largely dependent on the participants, which meant that there was not always particularly good knowledge of the conditions at the experimental localities. Larger or smaller areas that could be suitable for setting up mussel farms were proposed in all municipalities. However, in this report we have focused on the possibility of setting up large-scale mussel farms, > 10 hectares.

The context in table 1 shows six localities that are slightly more suitable than others due to the fact that no conflicts have been noted near the locality. These are locality A in Västervik municipality, localities E and F in Mönsterås municipality, localities H and I in Kalmar municipality and locality L in Mörbylånga municipality.

In Oskarshamn, additional experimental farms could mean that it would be possible to identify more of the suitable areas. A discussion with OKG may also be held regarding the possibility of using the existing nearby harbour.

With regard to Borgholm municipality, there may well be possibilities of establishing mussel farms next to point K, but the locality ought then to be moved further out to sea to reduce the impact from the nearby outlet, as well as the impact on the perception of untouched sea from nearby tourist facilities. Many meeting participants also thought that sea-based wind power could be an option to anchor the farms. This could perhaps be particularly relevant to the eastern side of Öland where the weather conditions are severe. However, submersible farms and the development of other techniques could make it possible to farm mussels in localities that have extreme weather conditions.

To summarise, there appear to be far fewer problems concerning licences and the perceived impact of conflict between large-scale mussel farms and other interests than anticipated. For example, more residents, companies from the tourist industry and people who are active in associations were expected to participate in the meetings owing to uncertainty as regards the possibility of their activities in the area being negatively affected by large-scale mussel farming. However, it was felt that all meeting participants were positive towards the project and saw the opportunities of a better sea environment and more employment opportunities. No opposition to or anxiety concerning the establishment of large-scale mussel farms was identified at any of the meetings. However, opinions were brought up at one meeting saying that it is probably important to hold discussions with residents regarding the distance from the farm to land and to evaluate the visibility on clear days using actual-sized buoys, for example.

No environmental impact description is necessary to set up mussel farms, which considerably reduces the inputs towards a licence review. On the other hand, a licence is required, which is applied for on forms from the County Administrative Board and The National Board of Fisheries.

## 8. References

- Andersson, J., Eriksson, A. 2012. GIS-analys av lämpliga lokaler för musselodlingar längs Kalmar läns kust. [GIS analysis of suitable localities for mussel farms along the County of Kalmar's coast]. ISBN 978-951-776-922-8.
- Epizootilagen [The Epizootilology Act], 1999:657
- FIFS 2011:13. Fiskeriverkets föreskrifter om utsättning av fisk samt flyttning av fisk i andra fall än mellan fiskodlingar [The National Board of Fisheries' provisions on the laying out of fish as well as the moving of fish in cases other than between fish farms] ISSN 1102-6081
- Förordning (1994:1716) om fisket, vattenbruket och fiskerinäringen [Regulation (1994:1716) on fishing, aquaculture and the fishing industry]
- Länsstyrelsen 2011a. Etablering av musselodling i Hallands län – Möjligheter och förutsättningar. Länsstyrelsen i Hallands län [The County Administrative Board 2011a. Establishment of mussel farming in the County of Halland – Possibilities and Conditions. The County Administrative Board in the County of Halland]. ISSN 1101-1084
- Länsstyrelsen 2011b. Restriktioner vid nyttjande av marina substrat för biogasproduktion. Länsstyrelsen i Kalmar län [The County Administrative Board 2011b. Restrictions in the use of marine substrates for biogas production. The County Administrative Board in the County of Kalmar]. ISSN 0348-8748
- Miljöbalken [The Environmental Code], 1998:808
- Nord, M. 2013. Lämpliga lokaler för musselodling i Kalmar län med avseende på resultat från försöksodlingar under 2013. [Suitable localities for mussel farming in the County of Kalmar with regard to results from experimental farms during 2013.]
- Statens jordbruksverks föreskrifter (SJVFS 1998:98) om kontroll av vissa sjukdomar hos musslor [The Swedish Board of Agriculture's provisions (SJVFS 1998:98) on the control of certain diseases in mussels] ISSN 1102-0970
- SJVFS 2011:34 Statens jordbruksverks föreskrifter om ändring i Fiskeriverkets föreskrifter (FIFS 2011:12) om fiskodling och flyttning av fisk mellan fiskodlingar, slakt av odlad fisk samt utmärkning av vattenbruksanläggningar. [SJVFS 2011:34 The Swedish Board of Agriculture's provisions on the change to The National Board of Fisheries' provisions (FIFS 2011:12) on fish farming and the moving of fish between fish farms, the slaughter of farmed fish as well as the laying out of aquaculture plants] ISSN 1102
- SOU 2009:26. Det växande vattenbrukslandet. Betänkande av vattenbruksutredningen [SOU 2009:26. [The growing aquaculture country. Report on the aquaculture survey], ISBN 978-91-38-23166-1.
- Statens jordbruksverks föreskrifter (SJVFS 1998:98) om kontroll av vissa sjukdomar hos musslor [The Swedish Board of Agriculture's provisions (SJVFS 1998:98) on the control of certain diseases in mussels] ISSN 1102-0970

## **9. Appendices**

Appendix 1. Media and advertising

Appendix 2. Invitation to the meeting

Appendix 3. Lists of participants, the discussion meetings

Appendix 4. Licence application form

## Appendix 1 – Media and advertising

Articles in Barometern-OT.

BAROMETERN-OT • TO • torsdag 20 juni 2013 • 05 2013

Redgering: Tobias Eriksson

**SIDAN 2**

**Vi vill ha era tips!**  
 Ring 0491-575 20 eller mejla:  
 redaktionen@ot.se

# Musslor kan ge nya jobb

• – Musselodling i stor skala kan skapa väldigt mycket jobb framöver, säger Alexander Eriksson från Ecom AB som informerade intresserade i Figeholm.



**FIGEHOLM.** I år pågår ett stort musselodlingsprojekt längs Kalmar läns kust. Ecom sköter informationen om projektet och under onsdagskvällen var det Figeholms tur. - Vi sköter informationen på uppdrag av Kalmarsunds-kommissionen och syftet med projektet är att försöka kombinera hållbart vattenbruk med entreprenörskap i landsbygd, säger Alexander Eriksson.

*"I dag matar man fisk med fisk i fiskodlingarna och det är dumt."*  
 Alexander Eriksson, Ecom AB

Han berättar att musslorna är bra för miljön eftersom de reducerar mängden kväve och fosfor. Musslorna kan sedan användas till många olika saker men i det här projektet handlar det om att försöka göra fiskfoder av dem. - I dag matar man fisk med fisk i fiskodlingarna och det är dumt, säger han. Försöket pågår på flera ställen i länet och man har lagt ut bojar med trossar för att se var det finns riktigt gott om mussellarver. Ulf Ohlsson på Marsö var med på informationen och ville veta mer om musselodling: - Jag är ålfiskare men vet inte hur länge jag får hålla på med det, jag kan komma att behöva ett komplement.

**OLA ANTONSSON**  
 ola.antonsson@ot.se  
 0495-15342

# Storsatsning på musselodling planeras

**Målet är att ha minst en fullskalig musselodling i gång inom ett par år. För att hitta rätt plats genomför Kalmarsundskommissionen provodlingar på tolv olika platser.**

**KALMAR.** Strax före klockan 12.00 på torsdagen lät Hasse Engsvik sin lilla fiskebåt tuffa ut från Kullö. Bara några hundra meter bort, vid Gallbanken, ska en minimusselodling placeras ut. - Vi ska placera ut tolv sådana här mindre odlingar längs med kusten. I september kommer vi att ta upp dem, sedan ska vi utvärdera exakt var det kan vara lämpligt att satsa på en fullskalig odling, säger Susanna Minnhagen, sekreterare i Kalmarsundskommissionen.

**Fullskalig odling**  
 Testet med ett stort antal miniförsöksodlingar genomförs i samarbete med Aquabest och finansieras via EU-pengar och av fyra sponsorföretag, Länsförsäkringar i Kalmar, Eon, Södra Cell och SKB. - Målet är att inom några år ha minst en fullskalig odling i gång, de musslor den kommer att producera kommer att användas inom djurfoderindustrin. Vi ska ha ett flertal möten där både odlingar och förädlingen av musslor ska diskuteras under den närmaste tiden, fortsätter Susanna Minnhagen.

**Hitta rätt metod**  
 Det viktiga med testet denna gång är att hitta exakt rätt odlingsmetod och odlingsplats. - Vi har lärt oss mycket av de misslyckade odlingsförsök som gjorts tidigare, med resultaten från de små försöksodlingarna ska vi kunna lyckas även med fullskaliga musselodlingar, säger försöksledare Markus Nord.

**MATS ANDERSSON**  
 mats.andersson@barometern.se  
 0480-592 66



Försiktigt släpper Markus Nord, försöksledare, ned den lilla provmusselodlingen på den plats där den nu ska finnas fram till i höst.

FOTO: AMIE RINGBERG, ECCOM AB

Advert (approx. 70 % coverage in relevant municipalities)

**STORSKALIG MUSSELODLING  
LÄNGS KALMAR LÄNS KUST**

Delta i möte med information och diskussion om  
möjligheter och effekter! Läs mer på:  
[www.kalmarsundskommissionen.se/musselodling](http://www.kalmarsundskommissionen.se/musselodling)

 **Baltic Sea Region**  
Programme 2007-2013

 **KALMAR  
SUNDS  
KOMMISSIONEN**

**AQUABEST** 

## Appendix 2 - Invitation to the meeting

Invitation to the meeting that was sent out by email and post.



### Inbjudan till informationsmöte kring musselodlings- projekt längs Kalmar läns kust

Hej!

Ni är härmed inbjudna att delta på informations- och diskussionsmöten kring framtida storskalig musselodling längs Kalmar läns kust. Mötet är öppet för alla som vill ha mer information om vad storskaliga musselodlingar är, och hur anläggande av dessa kan påverka närområdet. Mötet är också för dig som har intresse av att driva en musselodling. Om Ni känner någon som boreller har verksamhet i de markerade odlingsslokaler på kartan nedan (tex permanent- och fritidshoende, fiskare, båtklubbar, hembygd sför- eningar etc som kan påverkas av en musselodling), får Ni gärna sprida den här mötesinbjudan vidare.

Under sommaren 2013 kommer tolv st lokaler längs Kalmar läns kust att fungera som försöksodlingar för odling av musslor (se karta). I framtiden finns det planer att anlägga minst en storskalig musselodling i länet med EU-finansiering från Baltic Sea Region Programme. Projektet syftar till att försöka ta fram miljövän- ligena sätt att producera livsmedel med hjälp av vattenbruk. Läs mer på projektet Aquabests hemsida: [www.aquabestproject.eu](http://www.aquabestproject.eu).

I juni kommer informations- och samrådsmöten om framtida storskalig musselodling att hållas i Kalmar-, Borgholm-, Mörbylånga-, Mönsterås-, Oskarshamn- och Västerviks kommuner, se tabellen nedan. Mötenas syfte är att informera om planerna att anlägga minst en storskalig musselodling längs Kalmar läns kust och hur en storskalig musselodling kan påverka ett område. Var denna storskaliga musselodling kommer att anläggas berordels på resultat från pågående försöksodlingar men även på berörda parter inställning. Det är därför viktigt att få information och reaktioner från närboende och berörda parter i ett tidigt skede. En storskalig musselodling (som är en framtida möjlighet på samtliga försökslokaler) är ett stort ingrepp och det är avgörande att berörda parter är positivt inställda.

#### Lokaler för informationsmöten, juni 2013

Kommun	Lokal	Tid och datum
Västervik	Naturum, Kulbacken, Västervik	tis 18/6 kl 18-20
Oskarshamn	Höganäslokalen, Vasagatan 4, Figeholm	ons 19/6 kl 18-20
Mönsterås	Lokal Skogen, Mönsterås bibliotek, N. Tingsga- tan 5, Mönsterås	tors 27/6 kl 18-20
Kalmar	Hagby N. fiskeläge, Hagby norra fiskeläge, Vassmolösa	mån 24/6 kl 18-20
Borgholm	Naturum trollslogen (grillstugan)	tis 25/6 kl 18-20
Mörbylånga	Lokal Vindöga, Hamngatan, Mörbylånga	ons 26/6 kl 18-20

Mer information om mötena finns på Kalmarsundskommisionens hemsida: [www.kalmarsundskommisionen.se](http://www.kalmarsundskommisionen.se)



För mer information, kontakta

Amie Ringberg  
Tel: 076-1750308  
e-post: amie@ecocom.se

Du kan även registrera dig på [www.kalmarsundskommissionen.se](http://www.kalmarsundskommissionen.se), "Intresseanmälan musselodling", för att få fortsatt löpande information om projektet.



● Försöksodling

## Appendix 3 – Lists of participants, the discussion meetings

### Västervik municipality

Name	Organisation
Amie Ringberg	Ecocom
Alexander Eriksson	Ecocom
Markus Nord	Naturum Västervik
Mattias Oskarsson	Private person
Gun Lindberg	Västervik municipality
Petter Ivarsson	
Ulf Andersson	

### Oskarshamn municipality

Name	Organisation
Amie Ringberg	Ecocom
Alexander Eriksson	Ecocom
Mats Ohlsson	Sole trader
Cecilia Ohlsson	Sole trader
Ulf Ohlsson	Professional fisherman
Lennart Nilsson	Municipality ecologist

### Mönsterås municipality

Name	Organisation
Amie Ringberg	Ecocom
Alexander Eriksson	Ecocom
Maria Persson	
Jens Nilsson	Mönsterås municipality
CG Kungberg	Svartö Byvårdsförening [Svartö Village Conservation Association]
Karin Lundmark	Svartö Byvårdsförening
Lars Ekdahl	Patabygdens samhällsförening [The Pata District Community Association]

### Kalmar municipality

Name	Organisation
Alexander Eriksson	Ecocom
Mats Lindahl	Interested party
Tomas Abrahamsson	Interested party
Kjell Hellkvist	Private person, experimental farm at Dunö
Weine Karlsson	Private person
Sofie Backman	Kalmar municipality

Borgholm municipality

Name	Organisation
Amie Ringberg	Ecocom
Alexander Eriksson	Ecocom
Berndt Svensson	
Göte Lindholm	Bödavindens kennel
Tommy Johansson	Industry and graffiti removal
Anders Andersson	
Christer Arvidsson	Professional fisherman
Håkan Andersson	Professional fisherman
Hans Arvidsson	Professional fisherman
Börje Arvidsson	
Roland Lilja	Rolo förvaltning AB
Gunilla Lilja	See above

Mörbylånga municipality

Name	Organisation
Amie Ringberg	Ecocom
Alexander Eriksson	Ecocom
Tobias Bäckstrand	Mörbylånga municipality
Stefan Nilsson	Borgholm municipality
Anders Petersson	

## Appendix 4 – Licence application form

# Ansökan om tillstånd för fisk- och kräftodling



Länsstyrelsen  
 Kalmar län

### Information

För att odla fisk krävs tillstånd av länsstyrelsen enligt förordningen (SFS 1994:1716) om fisket, vattenbruket och fiskerinäringen. Anmälan ska även göras hos berörd kommun om fiskodlingen omfattar max 20 ton per år.

För att anlägga och driva fiskodling som omfattar mer än 20 ton per år krävs dessutom tillstånd enligt miljöbalken. Kontakta Länsstyrelsen Kalmar län för tillstånd.

Som fiskodling räknas även odling av vissa kräftdjur, blåmusslor och ostron.

Länsstyrelsen prövar ansökan om tillstånd enligt Fiskeriverkets föreskrifter (FIFS 2001:3) om odling, utplantering och flyttning av fisk.

Genom tillståndsprövningen ska länsstyrelsen förhindra spridning av olämpliga arter eller stammar av fisk och av smittsamma sjukdomar. Vid prövning av din ansökan kontrollerar Länsstyrelsen även att fiskodlingen inte är störande för natur och miljö eller hinder för sjöfart eller för annat utnyttjande av vattnen.

Om fiskodlingen drabbas av sjukdomar finns det en risk att dessa sjukdomar sprider sig till vild fisk utanför odlingen. Länsstyrelsen är mycket restriktiv när det gäller odlingar av fisk i vattenområden som är reproduktions- eller uppväxtområden för värdefulla fiskarter som till exempel lax.

För att skydda värdefulla fiskbestånd från smittsamma sjukdomar kan Länsstyrelsen föreskriva att en odling ska anslutas till fiskhälsokontroll.

Fiskhälsokontrollen sköts av Fiskhälsan AB. Odlaren skriver kontrakt med Fiskhälsan AB som besöker odlingen varje år för att kontrollera att fisken är frisk. Företaget hjälper även till med att bekämpa fisksjukdomar vid behov. Anslutning till fiskhälsokontrollen är avgiftsbelagd.

Fiskhälsan AB indelar sättfiskodlingar i fem kategorier (I-V). Hälsokontrollen bedrivs enligt vilken kategori som odlingen placerats i. Kategoriseringen grundar sig på fem kriterier:

- Odlingens biologiska material: rom eller levande fisk, sjukdomsstatus etc.
- Tidigare hälsokontroll.
- Driftshygien: hygieniska rutiner, allmänna rutiner, personalens utbildning etc.
- Vattenförsörjning och vattenområde: mottagare för avloppsvatten, förekomst av vild fisk eller odlad fisk inom vattenområdet etc.
- Byggnadstekniska förutsättningar: god driftshygien, smittskyddssäkerhet etc.

Fiskhälsan AB ägs till lika delar av Vattenbrukarnas Riksförbund och Laxforskningsinstitutet och arbetar under tillsyn av Jordbruksverket. För mer information kontakta Fiskhälsan AB telefon 026-726 30 och fax 026-726 65.

### För mer information kontakta:

Länsstyrelsen 0480-820 00 vx

## Vår service

En ansökan kan ta upp till 6 månader att behandla. För att minimera handläggningstiden är det därför viktigt att din ansökan är så komplett som möjligt när du lämnar in den.

Länsstyrelsen fattar beslut i form av tillstånd eller avslag. Ett beslut om tillstånd gäller inte förrän det vunnit laga kraft. Laga kraft har ett beslut vunnit då tiden för överklagande gått ut och beslutet inte har överklagats.

Länsstyrelsens beslut kan överklagas till Fiskeriverket.

## Instruktioner

Ansök om tillstånd i god tid före den dag då du planerar att starta odlingen.

Fyll i blanketten så noggrant som möjligt. En förklaring till några av blankettens rubriker ges nedan.

**Odlingens Läge:** Fastighetsbeteckning består av både namn och nummer. För sjöar och vattendrag anges namnet enligt den topografiska kartan. För större sjöar anges dessutom det vedertagna namnet på vattenområdet.

**Vatten:** Om annan odling finns inom vattenområdet ska läget för den anges. För sjöar anges den odling som ligger närmast. För rinnande vatten anges den odling som ligger närmast uppströms respektive nedströms.

**Odlingens inriktning och vattenförsörjning:** Fyll i det alternativ som motsvarar din planerade odling. Recirkulerande system innebär att anläggningen är helt eller delvis sluten. Tråg avser enheter för uppfödning av yngel och småfisk.

**Odlingens omfattning och foderåtgång:** Med undantag av regnbåge (*Oncorhynchus mykiss* före detta *Salmo gairdneri*) anges både vilken art och vilken stam som planeras att odlas. För kräftodlingar anges om flodkräfta eller signalkräfta ska odlas.

**Beredning av fisk:** Ansökan om tillstånd för fisk- och kräftodling ersätter inte anmälan eller ansökan om tillstånd för fiskberedningsanläggning.

**Övriga upplysningar:** Här anges de övriga upplysningar som kan tänkas underlätta handläggningen av ärendet. Du kan till exempel beskriva odlingens tidigare historia och om odlingen tagits över efter annan person eller firma som har eller har haft tillstånd till odlingsverksamheten.

### Nödvändiga bilagor

Följande handlingar ska bifogas ansökan:

- karta som tydligt visar odlingens läge,
- produktionsplan,
- odlingens tekniska utformning,
- beskrivning av reningsteknik för odlingen,
- beskrivning av var och hur strupskäring och sköljning sker,
- beskrivning av avfallshantering,
- beskrivning av beredningsanläggningens utformning,
- beskrivning av reningsteknik för beredningsanläggningen och
- beskrivning av mark- och vattenanvändningen i närheten.

### Karta

Rita skalenligt in odlingens läge på en ekonomisk karta skala 1:10 000. För kassodlingar ska även förtöjningsanordningar, eventuella vinterlägen och eventuella vandringshinder för fisk i vattenområdet ritas in. Mark- och vattenanvändningens inverkan på fisk och fiske i närheten ska redovisas på kartan.

### Produktionsplan

Produktionsplanen ska visa hur odlingen ska bedrivas. Fiskens eller kräftornas ålder, vikt eller storlek och mängd vid insättning, utfiskning och övervintring ska anges. Fiskens ålder anges enligt följande: rom, yngel, 1-somrig (1-s), 1-årig (1-å) o.s.v.

### Odlingens tekniska utformning

För odling bestående av enbart kassar eller jorddammar räcker en skiss. För odlingar som inbegriper byggnader eller recirkulations-system ska konstruktionsritningar lämnas.

### Mark- och vattenanvändning i närheten

Endast inverkan på fisk och fiske ska redovisas.

### Ansökan skickas till:

Länsstyrelsen Kalmar län  
 891 86 Kalmar

### Information om personuppgiftslagen

Länsstyrelsen i Kalmar län registrerar och behandlar de personuppgifter som du lämnar till oss för att vi ska kunna hantera din ansökan på ett smidigt sätt och fullgöra våra arbetsuppgifter. Vi behandlar personuppgifterna enligt bestämmelserna i personuppgiftslagen (SFS 1998:204). Syftet med lagen är att skydda människor mot att deras personliga integritet kränks genom felaktig behandling av personuppgifter. Du har rätt att efter skriftlig ansökan få besked om hur dina personuppgifter behandlats. Upptäcker du felaktigheter är vi skyldiga att på din begäran rätta uppgifterna.



Länsstyrelsen  
 Kalmar län

**Ansökan om tillstånd  
 för fisk- och kräftodling**

Länsstyrelsen i Kalmar län  
 391 86 Kalmar

**Sökande**

Namn		Telefon	Mobiltelefon
Adress	Postnummer	Ort	
Kontaktperson		Telefon	Mobiltelefon

**Odlingens läge**

Var ska odlingen placeras?	Fastighetsbeteckning
Fastighetsägare	Kommun

**Vatten**

Vattnets namn (anges även för vatten som tar emot utsläpp från odling på land)		Vattensystem enligt SMHI
Fiskerättsägare		Finns fiodkräfta i vattensystemet?
Finns andra fisk- eller kräftodlingar i vattnet?	Om svaret är ja ange vem som är ägare	
Läge för annan närliggande odling		

**Odlingens inriktning och vattenförsörjning**

Alternativ 1 Odling i kassar <input type="checkbox"/>	Lägsta vattenföring under odlingssäsong för rinnande vatten (m <sup>3</sup> /s)	Total sjöyta för sjö (ha)
Vattendjup vid kassarna	Vattendjup från kassarnas botten till sjöbotten	Eget eller arrenderat vatten
Vem arrenderas vattnet av?		
Alternativ 2 Övervintring i kassar <input type="checkbox"/>	Flyttas kassar med övervintrande fisk?	Ange vart kassarna flyttas. Markeras även på karta
Vattendjup vid kassarna	Vattendjup från kassarnas botten till sjöbotten	Utfodring (kg)

Alternativ 3	Maximalt uttag av grundvatten (l/min)
Maximalt uttag av kommunalt vatten (l/min)	Maximalt uttag ur sjö eller rinnande vatten (l/min)
Lägsta vattenföring under odlingsäsong för rinnande vatten (m <sup>3</sup> /s)	Recirkulationsgrad för recirkulerande vatten (%)

### Odlingens omfattning och foderåtgång

Planerad tidpunkt för odlingsstart	Produktion av	Mängd fisk eller kräftdjur som maximalt avses hållas i odlingen (ton)
Art	Stam	Mängd (kg)
Antal bassänger	Yta bassänger (m <sup>2</sup> )	Volym bassänger (m <sup>3</sup> )
Antal jorddammar	Yta jorddammar (m <sup>2</sup> )	Volym jorddammar (m <sup>3</sup> )
Antal kassar	Yta kassar (m <sup>2</sup> )	Volym kassar (m <sup>3</sup> )
Antal tråg	Yta tråg (m <sup>2</sup> )	Volym tråg (m <sup>3</sup> )
Antal annan odlingsenhet	Yta annan odlingsenhet (m <sup>2</sup> )	Volym annan odlingsenhet (m <sup>3</sup> )
Typ av foder	Beräknad foderåtgång vid maximal produktion (ton/år)	

### Beredning av fisk

Ska fisk beredas?	Typ av beredning	Manuell eller maskinell rensning och filetering
Mängd fisk som avses beredas (ton/år)	Mängd fisk som maximalt avses att beredas (kg/dygn)	

### Fiskhälsokontroll

Ska odlingen anslutas till fiskhälsokontrollen?	Vilken kategori enligt Fiskhälsans indelning ska odlingen anslutas till?
---	--

### Övriga upplysningar


### Underskrift

Ort och datum	09-03-24	Namnförtydligande
Namnunderskrift		