

USER MANUAL

SWEEPNET

REVISION 5



AKVAGROUPTM
EGERSUND NET

THANK YOU FOR CHOOSING EGERSUND NET

Our mission is to deliver solutions and services that optimise production and contribute to sustainable, cost-effective and safe fish farms. We place great emphasis on fish welfare, operational performance and profitability for our customers in everything that we do.

A sweepnet is special equipment used to remove fish from the net. It can be manufactured in different sizes and with different types of materials, based on the purpose for which it is intended. Sweepnets are used, for example, for harvesting fish for slaughter, sampling when counting lice and for different types of treatments. Sweepnets can also be used for catching cleaner fish (this sweepnet is called Sperrenot).

Egersund Net is committed to producing high-quality, durable sweepnets, and we describe how they should be used in this user manual.

This user manual is designed to meet the requirements of Norwegian Standard 9415:2009 and the NYTEK regulations.

We keep our manuals as user-friendly as possible. To achieve this, we rely on your feedback and on our collaboration with you as a user of our products. We highly value every suggestion we receive, as it helps us deliver more effective and safer equipment. You are most welcome to contact us if you have any comments or suggestions for improvement.

The user manual for sweepnet is available on our website www.egersundnet.no, and on our online equipment log Net-Reg at www.net-reg.no.

Together, we can help ensure that fish farming is an eco-friendly, sustainable and growing industry that produces safe and healthy seafood for the global market.

Regards,
Egersund Net

CONTENT

1	INTRODUCTION	4
1.1	Symbol definitions	4
1.2	Contact information	4
1.3	Identification of sweepnet	4
1.4	Revision changes	4
2	SWEEPNET FOR HARVESTING FISH	5
2.1	Construction	5
2.2	Use of sweepnet for harvesting fish	8
3	SWEEPNET FOR TREATING FISH	10
3.1	Construction	10
3.2	Use of sweepnet for treating fish.....	10
4	SWEEPNET FOR SAMPLING OF FISH.....	12
4.1	Construction	12
4.2	Use of sweepnet for sampling fish	12
5	SPERRENOT - SWEEPNET FOR CATCHING CLEANER FISH	13
5.1	Construction	13
5.2	Use of sperrenot.....	13
6	RISK ASSESSMENT/SPECIAL ENVIRONMENTAL CONDITIONS.....	14
6.1	Risk assessment/special environmental conditions.....	14
7	MAINTENANCE	15
7.1	Maintenance	15
7.2	Checklist	15

1 INTRODUCTION

1.1 Symbol definitions



REQUIREMENT: This symbol is placed next to text describing requirements



NOTE: This symbol is placed next to text describing potential incidents and other aspects that you should be aware of



TIP: This symbol describes tips and advice in connection with the installation and handling of sweep nets



ESCAPE RISK: This symbol is placed next to text describing events and/or operations that may increase the risk of fish escaping

1.2 Contact information

If you have any questions about sweep nets, please feel free to contact us.

Delivery and visiting address:

Egersund Net AS

Svanavågveien 30

NO-4374 Egersund, Norway

Tel: +47 51 46 29 60

E-mail: post@egersundgroup.no

www.egersundnet.no

1.3 Identification of sweepnet

Each individual sweepnet has a unique production number. All information related to the production is recorded and archived with a reference to the production number.

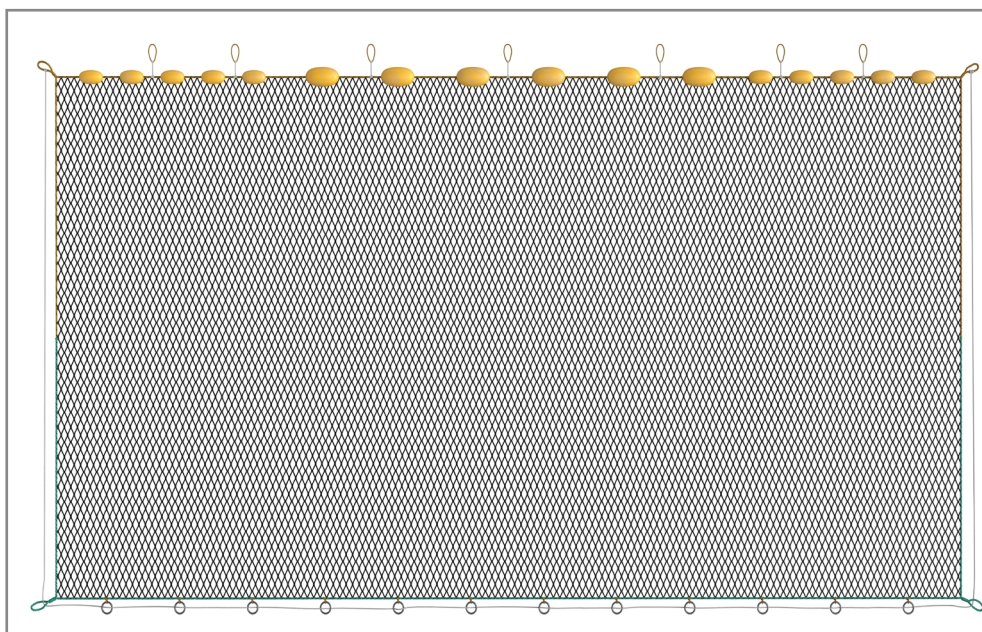
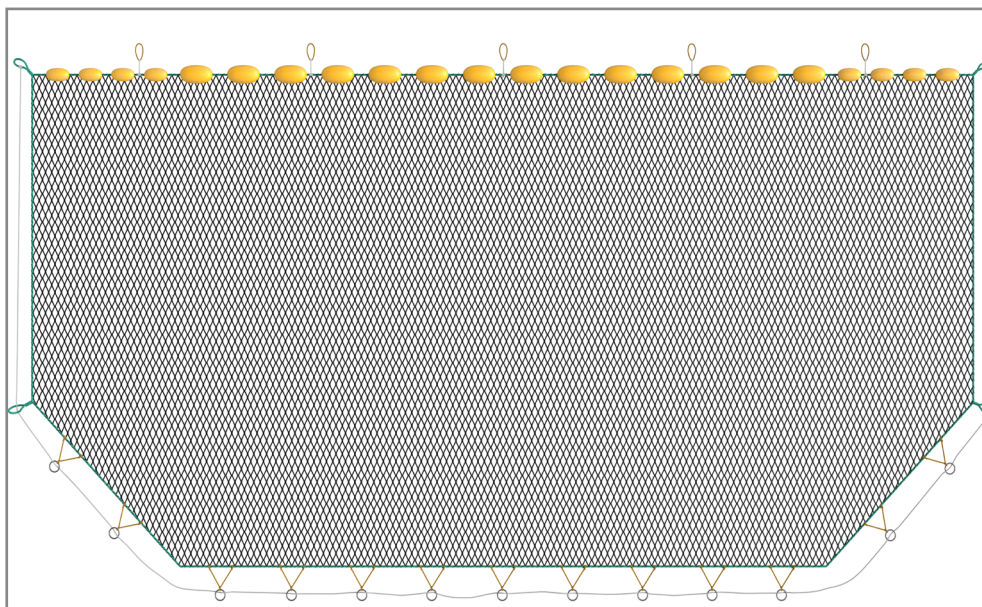
1.4 Revision changes

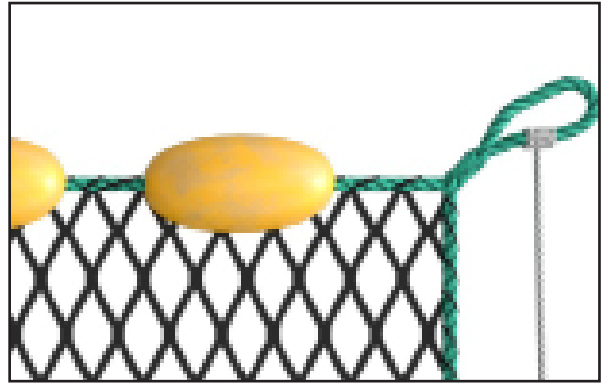
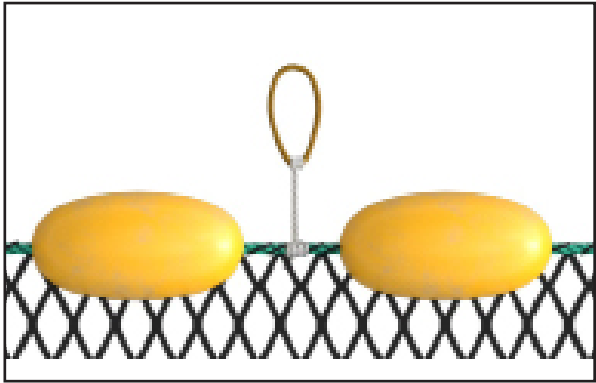
REV.NO	DATE	SCOPE	REFERENCE
5	31.01.2022	New chapter; Sweepnet for treatment of fish	Chapter 3
5	31.01.2022	New chapter; Sweepnet for sampling of fish	Chapter 4
5	31.01.2022	New chapter; Sweepnet for catching cleaner fish - Sperrenot	Chapter 5

2 SWEEPNET FOR HARVESTING FISH

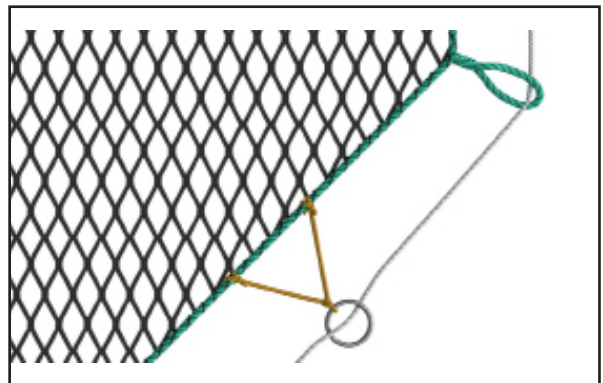
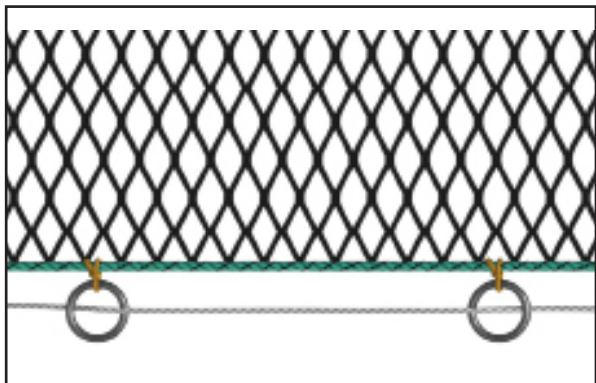
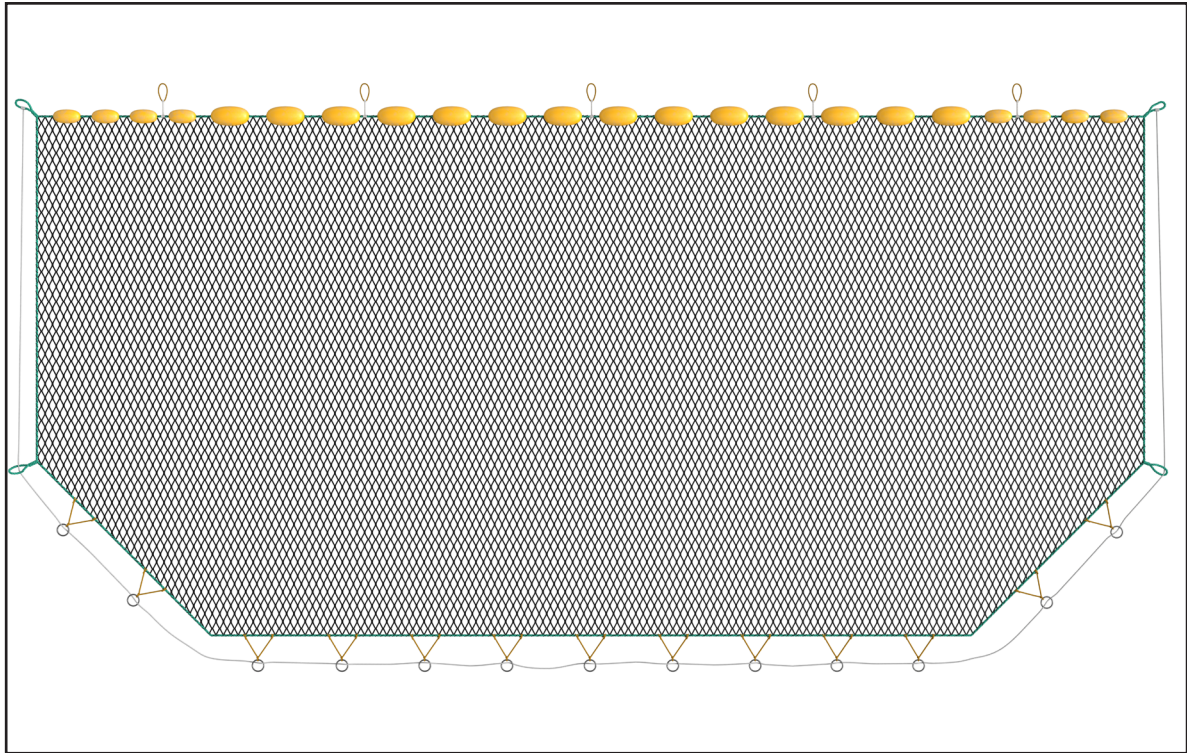
2.1 Construction

The illustrations below show examples of different types of sweepnets.





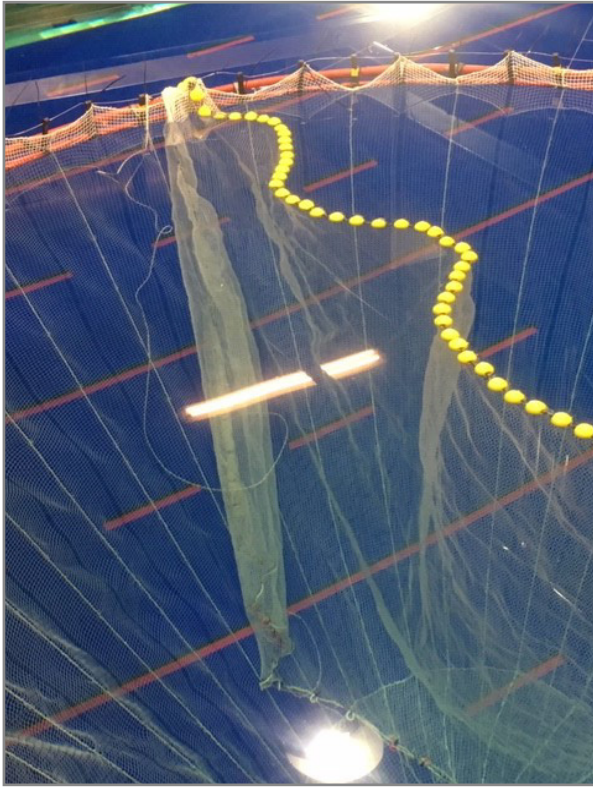
Crane loops along the top rope for handling the sweepnet. Loops at each end of the top rope, where a purse line can be attached.



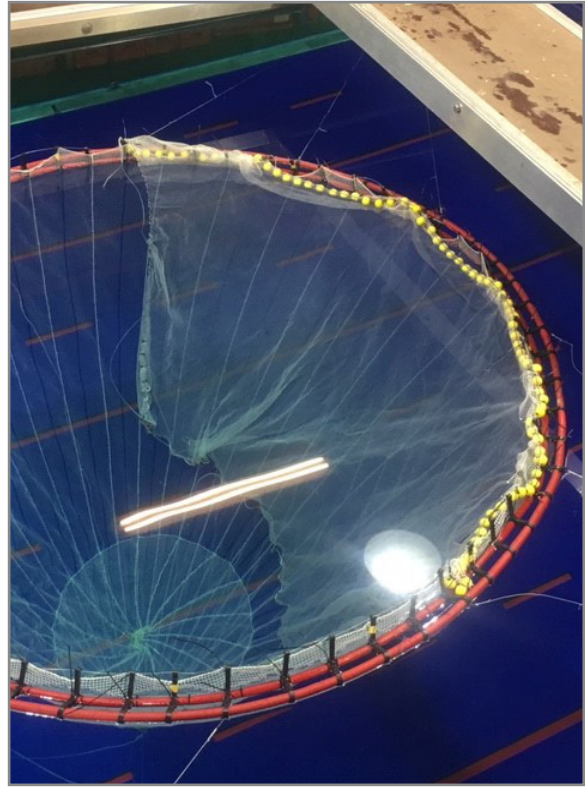
Purse rings can be fitted along the bottom. A purse line is threaded through these.

Cut corners at the bottom. Purse rings fitted in bridles – a purse line is threaded through these.

For cone-shaped nets (e.g. ENCC coned nets), we recommend using sweepnets with cut corners. This will ensure the sweepnet is better adapted to the net it will be used in.



*Sweepnet with square corners
(coned net, photo from test tank)*



*Sweepnet with cut corners
(coned net, photo from test tank)*

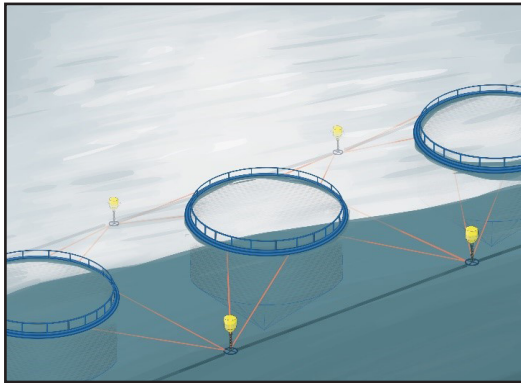
2.2 Use of sweepnet for harvesting fish



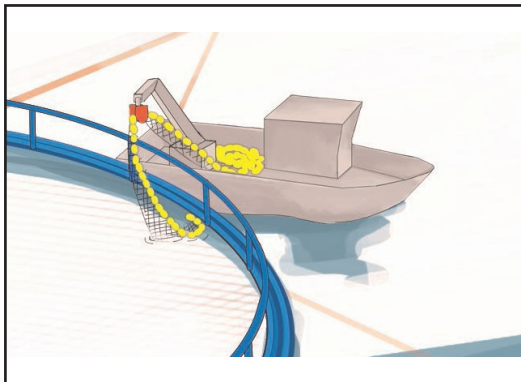
Before the operation begins, applicable procedures must be reviewed. The operations manager or personnel with the appropriate experience and competence must be responsible for the operation, and the various tasks must be assigned. The correct



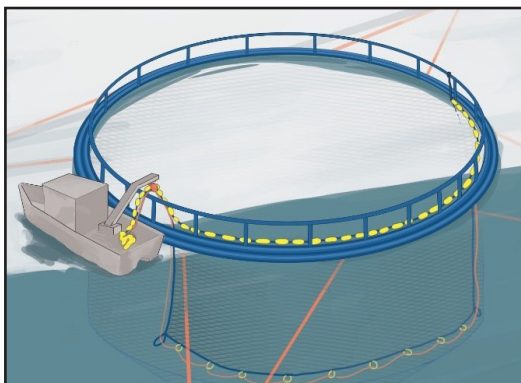
personal protective equipment must be worn, and the right type of lifting equipment must be used when using a crane. Additional equipment, such as cleaner-fish hides, must be removed or moved. Make sure that the sweepnet is intact and undamaged. If the centre weight under the net is to be removed, this must be done before the operation begins. If a bead line or ball line is to be used, this must be made ready in advance – see the Bead Line/Ball Line User Manual.



Wellboat placement depends on current conditions in the sea. The boat always lies between two moorings.

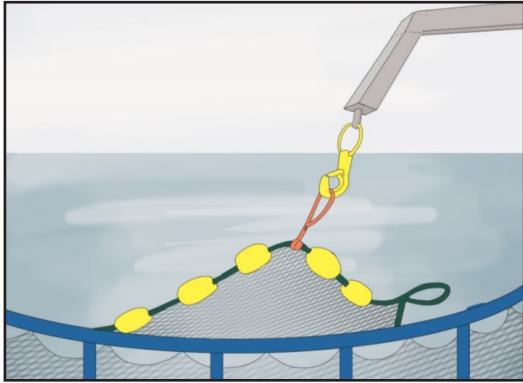


The sweepnet can be run out into the net through a block on the workboat.

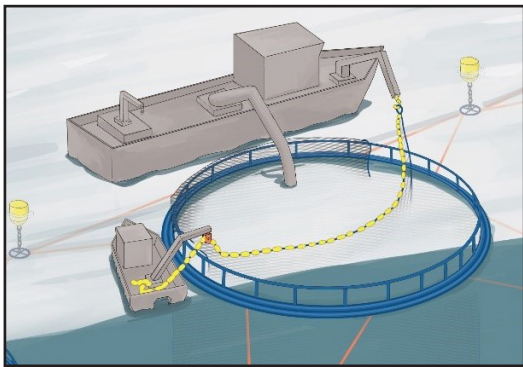


When harvesting fish, place the sweepnet around the pen, in a semicircle. The sweepnet should be arranged along the railing on the pen. The bottom is lowered down along the net wall to get depth in the catch.

When removing small quantities of fish (e.g. when sampling), the sweepnet can be used across just a small part of the pen.



When lifting the sweepnet, we recommend using crane loops fitted between floats along the top rope.



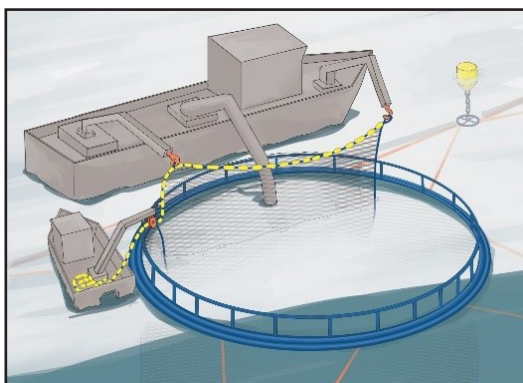
When starting to gather the sweepnet, start lifting the sides and bottom as well. The extent to which the sweepnet is gathered determines how many fish are captured in the catch.

The sides and bottom are hung over the railing so that the sweepnet forms a “bag”. This is done towards the side where the wellboat is positioned. In some cases, it is the wellboat itself that does the job of pulling the sweepnet towards the boat.



NOTE: Use caution during this part of the operation to prevent folds from forming in the netting where fish could be crushed.

As the fish are pumped aboard the wellboat, start to reduce the volume of the sweep net so that the remaining fish are brought closer together. This must be done as slowly as possible to ensure that the fish have sufficient volume and oxygen. In some cases, the oxygen level must be monitored (for example, during fish treatments) and extra oxygen added if needed. Lift the bottom via rings/bridles using a crane (or manually if the sweepnet is not too heavy). Use the purse line that is on the outer edge of the sweepnet.

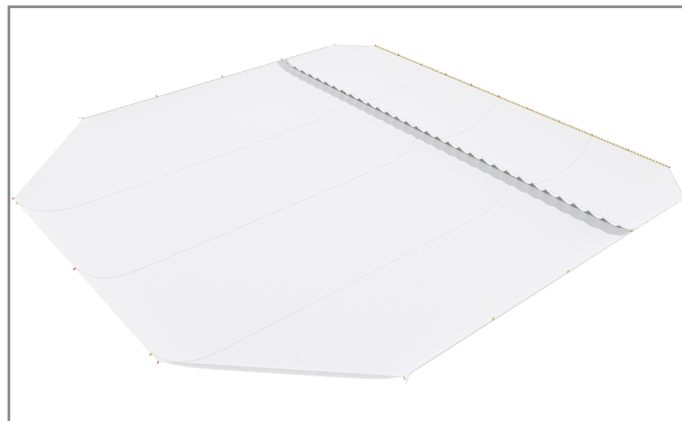


The float belt and sides at the end of the sweepnet can be lifted using a crane. The other end of the net is run back to the workboat through the block. The job of running the net back again also helps to “remove” excess netting.

3 SWEEPNET FOR TREATING FISH

3.1 Construction

A sweepnet for treating fish is called "Canada-net". It is produced in a way that all fish inside the net can be caught in the sweepnet - without the need to handle the net itself. This means, among other things, that it is not necessary to remove weight from distension system such as sinkertube or centre weight. The operation can therefore be performed in an efficient manner, and risk of fish escaping will be reduced. The sweepnet is produced with extra netting, to avoid fish from having too little space and being stressed. A sweepnet like this can be used in all type of nets.



3.2 Use of sweepnet for treating fish



Fish farmer must prepare procedures for the operation, and a team meeting with everyone involved must be held prior to the operation.

NOTE: Procedure must also be communicated to external personnel involved.

Person with experience and appropriate competence must be responsible for the operation, and the various tasks must be assigned. Operations manager must have the authority to make decisions during the operation, for example to abort if something unforeseen happens - such as high mortality of fish.



- Make sure to have the right treatment sweepnet with the right size in place, in accordance with the size of the net.
- Make sure that the treatment sweepnet is disinfected and has no damage. The sweepnet must be prepared to be put out in the net.
- Additional equipment must be removed or moved, this may apply to cleaner fish hides, top net and top net poles.

- Ball line/bead line which will be used, must be placed on the opposite side of where the work boat is located (for example a well boat performing treatment of the fish).
- Purse line through horizontal rope on the sweepnet is already in place. Other ropes being used for handling the sweepnet, must be prepared for use.

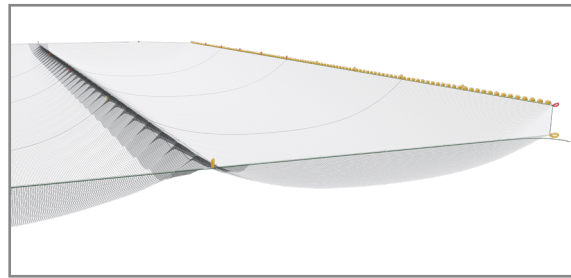
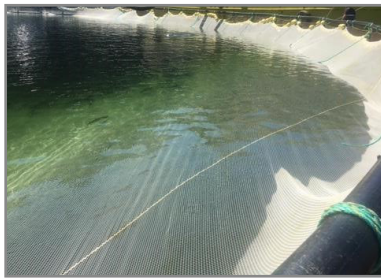


- Current conditions in the sea are crucial, both regarding placement of boat and for performing the operation.
- The right type of safety equipment must be used, and in connection with the use of crane, the right type of lifting equipment must be used.

- The sweepnet is gathered at the top, and cut ropes are mounted.
- The bottom of the sweepnet is taken in to the net first, through a block. It is important to hold the ropes in the sides of the sweepnet to each side - this is to prevent twists in the sweepnet.
- Ropes for pulling and purse line are prepared and attached to loops in the sweepnet (sides and bottom of the sweepnet). The top of the sweepnet is lifted into the net.
- Grab one end of the top, and pull this to one side. Then grab the other end of the top and pull this to the other side of the net.
- Cut ropes are cut continuously, and the sweepnet is attached to the railing on the pen using rings mounted along the top of the sweepnet. The sweepnet now hangs along the wall of the net, in a semicircle.



- The bottom is pulled over and up to the opposite side of the net using pulling ropes.
- NOTE! it is now important that the sides of the sweepnet is held into the sides of the net, so that all fish is gathered in the catch. Purse line thread through rings along the sides are used, and also ropes in the middle of the sides (90 degrees). Any slack in the netting can be distributed afterwards using these purse lines.



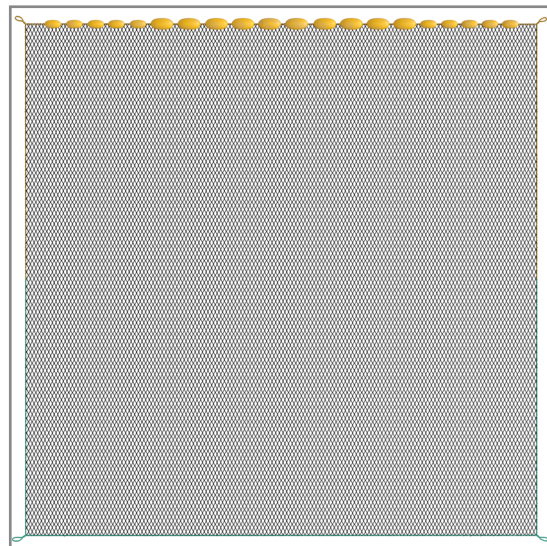
- Fish is lead to the upper part of the sweepnet (past the horizontal rope), using ball line/bead line. The horizontal rope is lifted up when desired amount of fish is located in the upper part of the sweepnet.
- It is important to pull the sweepnet up to the sides, to avoid a lot of netting in the same area - this is to prevent fish from being squeezed.
- The boat performing the treatment of fish, pumps it on board.
- When all fish is pumped on board the boat, the horizontal rope is lowered and the same procedure is repeated.



- A small sweepnet can be used to catch the fish inside the big sweepnet. The small sweepnet is then used instead of the horizontal rope.
- A ball line/bead line is used to minimize the volume in the sweepnet, and to lead the fish towards the top of the sweepnet and closer to the boat pumping it on board.
- When the operation is complete, the sweepnet must be checked and disinfected. A box with valve for draining can be used for disinfection and storage of the sweepnet.

4 SWEEPNET FOR SAMPLING OF FISH

4.1 Construction



The illustration above shows an example of a small sweepnet used for sampling of fish; counting lice, weighing fish etc. Nets like this can be produced in different sizes and with different specifications (loops, ropes etc.).

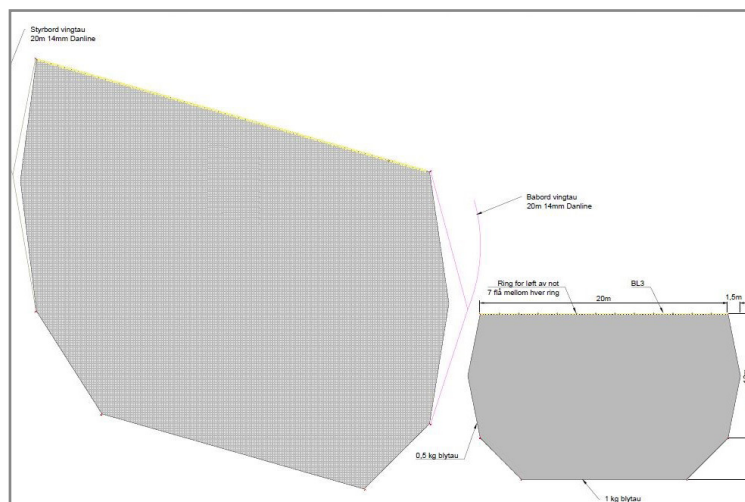
These sweepnets is often produced with netting and rope with low weight, they are then easier to handle.

4.2 Use of sampling net

- Sampling net is used in a small part of the net. Equipment which is needed (ex. crane on workboat), depends on the size of the sweepnet.
- It is smart to throw some feed into the sweepnet, to gather enough fish in the catch.
- The net is in the sea until wanted amount of fish is caught.
- A hand net can be used to get the fish onboard the boat.
- Make sure that the sweepnet does not get caught in the net, and that no fish is squeezed.

5 SPERRENOT - SWEEPNET FOR CATCHING CLEANER FISH

5.1 Construction



The illustration above shows example of a small sweepnet used to catch cleaner fish. The sweepnet is called Sperrenot. Such nets are usually made of netting with small meshes, and is often used for recapturing cleaner fish in advance of harvesting salmon or trout. This is to preserve the cleaner fish. Sperrenot can be produced in different sizes and with different specifications.

5.2 Use of sperrenot



Before the operation begins, applicable procedures must be reviewed. The operations manager or personnel with the appropriate experience and competence must be responsible for the operation, and the various tasks must be assigned. Additional equipment must be removed or moved.

- Feed into the cleaner fish hide, so that most fish gather there.
- Thread the net around the hide to catch the cleaner fish. Close the net in the top.
- If a ball line/bead line is used, you must make sure the net does not get stuck. See user manual for ball line/bead line for more information.
- Pay attention to the cleaner fish during the whole process, to avoid fish from being squeezed, and to maintain good fish welfare.
- For more information about use of sperrenot, see chapter 2.2.

6 RISK ASSESSMENT / SPECIAL ENVIRONMENTAL CONDITIONS

6.1 Risk assessment/special environmental conditions

- Sweepnets should only be used when weather and current conditions permit.
- If folds form in the netting during the operation, be sure to dry the netting. This is to ensure that fish are not crushed. You can use a net claw for drying.
- Approved lifting equipment must be used when lifting a sweepnet with a crane.
- The sweepnet must be removed from the net after use to avoid chafing on the net and damage to the sweepnet.
- If you notice that the fish are becoming stressed, consider interrupting the operation.

7 MAINTENANCE

7.1 Maintenance



When the sweepnet is not in use, it should be stored properly to avoid potential damage. We recommend using tanks/crates for storage, transport and disinfection. This will help prevent the net from being exposed to sunlight and extend its life. If a sweepnet needs to be repaired, it can be brought in for service at any Egersund Net service facility. This also applies if the sweepnet is to be discarded. It will then be handled in accordance with Egersund Net's waste management procedures.

The lifespan of a sweepnet depends on the way it is stored, used and maintained/inspected.

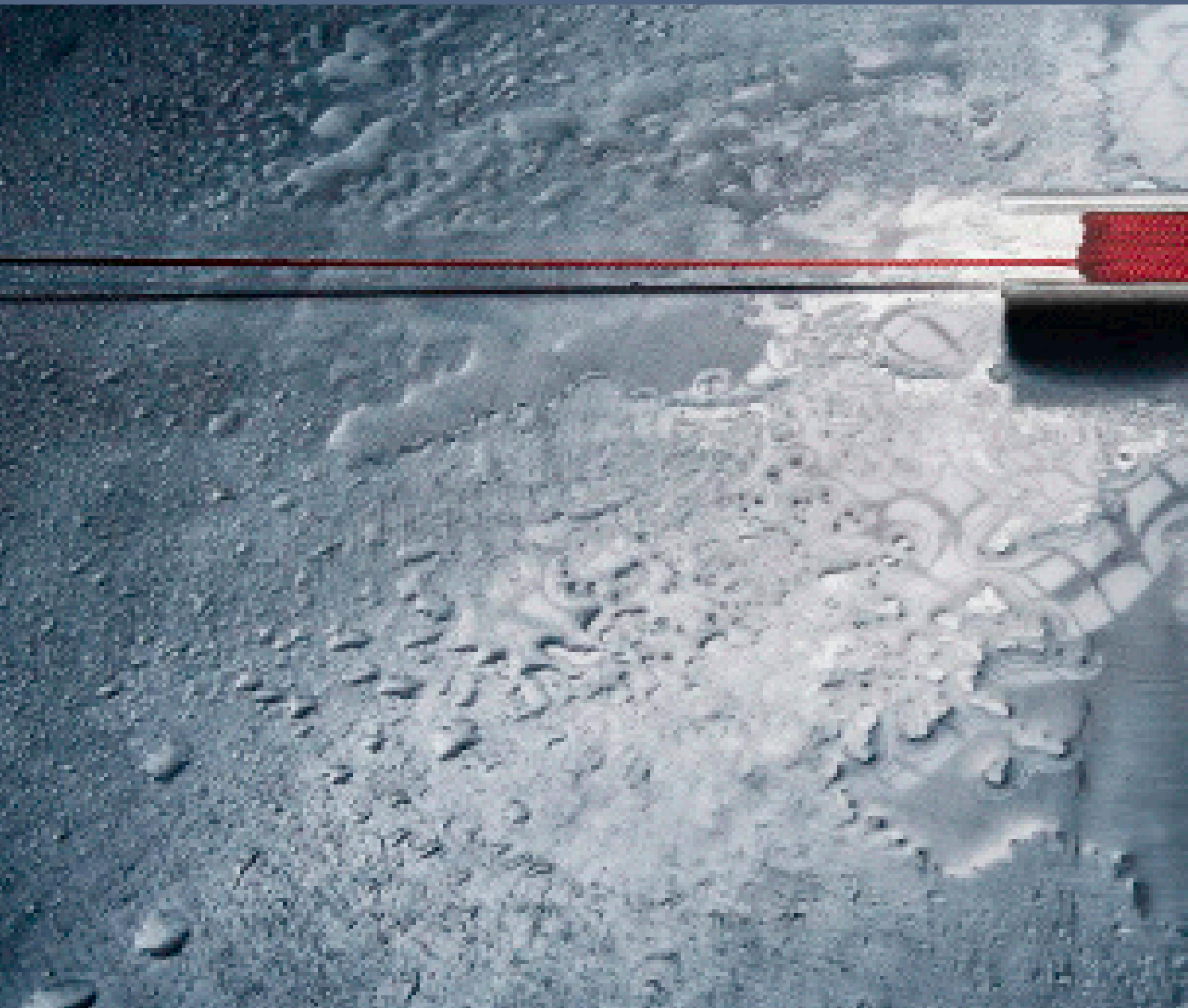
7.2 Checklist

Before the sweepnet is used, it must be checked to ensure that it has no damage that may cause damage or holes in the net.

Check the following points before use:



Checklist item	Scope
Components in sweepnet	Check that there is no wear and tear on ropes, loops or rings.
Sharpe edges	Check that there is no damage on components of the sweepnet that could cause holes in the net – such as rings, loops or lead rope.



AKVA GROUP™
EGERSUND NET