

**BSRAC technical workshop on
bycatch management and the reduction of discards
Hotel Svea, Simrishamn, 9th -10th February 2011
Administrative report (Pia Romare, Lund University)**

The workshop was attended by 56 participants from the countries of the Baltic Sea region. Among them was a broad number of stakeholders, scientists, fisheries managers and netmakers. The list of participants is annexed to the report.

The aim of the workshop was to brainstorm on the need to reduce cod discards through technical improvements to the trawl gear and to come up with some recommendations.

The meeting was opened by Reine J. Johansson, Chairman of the BS RAC Executive Committee who hoped for a final discussion in an open and free environment. He pointed out the need for a practical emphasis so that the workshop would end up with a set of recommendations.

The moderator Steve Karnicki, Honory chair of the BSRAC, led off by stating that there is now a roadmap from the European Commission. He said that it is very likely that in 2013 there will be a ban on discards in the Baltic and that we need to prepare for that. The goal is selective fishing with no discards, a good selectivity and a retained catchability and economy for the fishermen.

Steve Karnicki pointed out that this will have an effect on the whole chain of cod fisheries - from fishermen choosing their fishing ground and time, having a selective trawl gear, the handling of the gear to the handling of fish onboard and on landing.

A friends of the chair was agreed on to draft a set of recommendations on the basis of the discussions during the meeting and which would be presented to the meeting for adoption.

The workshop primarily discussed:

- Cod trawls
- The two cod ends Bacoma and T90 and how they may be improved
- If the handling of the net can be improved so as to avoid losing fish and avoid bycatch.

The workshop also discussed whether there is a need to increase the mesh size and if the industry can come up with some completely new gear.

At the workshop the following presentations were given:

”How we see the current situation regarding discards of cod in the Baltic, and possible ways to move to a minimization.”

by Daniel Valentinsson, Institute of Marine Research, Swedish Board of Fisheries.

Daniel Valentinsson demonstrated that there are large variations in discard among fishing trips. In order to understand this, there is a need for more complementary data from the fishing trips, i.e. area, time, total catch.

He informed the meeting that a consortium of four institutes would apply for the EU tender “Collaboration between the scientific community and the fishing sector to minimize discards in the Baltic cod fisheries.” There was a lot going on in connection with discards, and it was a challenge to develop a gear that was selective enough to eliminate discards.

”Selectivity problems in the Baltic Sea cod trawler fleet – again!”

by Vesa Tschernij, "South Baltic FLAG".

Vesa Tschernij gave a short history to the development of the Bacoma trawl. He presented a small scale study that he had carried out among local fishermen. It showed that selectivity of both Bacoma and T90 depends on catch size. He pointed out that we need to get a better picture of the selectivity problem. Is selectivity correlated to fishing area, vessel / fleet or codend design? The increased involvement of the fishermen in the work on selectivity and fishing gear had been a positive development.

”Unaccounted bycatch”

by Piotr Nowakowski, West Pomeranian University of Technology

Piotr Nowakowski described a study in which they could catch and count how much fish escaped during trawling and when lifting the trawl. This study showed that during boarding, 38 % of the total catch escaped. Survival of the fish depended on depth they have come up from, the season, and at what time of the boarding procedure they escape.

”Optimal harvesting of cod, focusing on exploitation patterns”

by Eskild Kirkegaard, Principal Adviser, DTU Aqua (National Institute of Aquatic Resources)

Eskild Kirkegaard showed that average cod discards in the Baltic are 6 % by weight. And that almost all discard consists of undersized fish. He described that today we have a sustainable fishery on the eastern cod stock, but not on the western stock, which is over-fished. He said that selective fishing is one way to deal with over-fishing, but asked if it is an optimal strategy in terms of yield to improve selectivity in the eastern stock.

In his opinion it is not good to be too selective and only catch the largest cod. If we want to keep the same yield – and keep fishing less on smaller fish – the result will be that we have to remove more of the large fish – the top predators – which will have a much larger impact on the ecosystem.

”T90 trawl gear for fishing Baltic cod: construction and results of first pilot sea trials”

by Waldemar Moderhak, Sea Fisheries Institute Gdynia.

Waldemar Moderhak described the development of the T90 trawl and gave an account of its characteristics. Their recently conducted trials had, among other things, shown that there is a correlation between twine thickness and length of cod that may escape from the T90. He highlighted the good selectivity of the trawl and reduced fuel consumption.

”What choice of materials can we make to solve some of the current problems?”

by Knud Carlsen, Carlsen Net.

Knud Carlsen pointed out that as long as you cannot control the net window of the Bacoma trawl during trawling, there will always be problems. He presented a totally new solution for selective panels, which he said are made of more flexible materials than netting. He pointed out that it is possible for the fishermen to reduce the mesh size in the trawl if they use the new grids with holes. The grids can be produced with a shape of the opening fitted exactly to the size of fish that you want to escape.

”Best available technology in trawl construction to ensure high selectivity and low costs”

by Ulrik Jes Hansen, Manager of CATch-Fish.

Ulrik Jes Hansen presented the *Baltic Energy Efficiency Project*. In this Danish project they had used surveillance cameras and fuel flow meters during testing of the trawling gear. With respect to fuel costs, one conclusion was that large savings could be achieved by changing doors and netting. He also pointed out that efficiency - both in terms of catches and selectivity - can be increased without there being technical regulation measures, documenting it by means of real-time video. –.

”Further thoughts and suggestions for improvements to gear selectivity”

by Tomas Nilsson, (fishing gear technologist), Donsö Fiskeredskap

Tomas Nilsson described his studies on how to improve the Bacoma trawl and concluded that the side panels of the trawl are an interesting area to explore and improve in order to achieve better selectivity.

Comments from the fishermen

The fishermen participating in the workshop agreed that discards were not a big problem in the Baltic Sea cod fishery. They all agreed that using side panels would be a good way to improve

selectivity.

Henrik Torkelsson, Sweden, said that when catches increase, the trawl selectivity is not good enough and there is a need for further development of the gear. In his opinion, the selective parts should be in the non-charged part of the net where it is slack and more flexible. He also wished for a development of fuel efficient, smooth operating gear.

Thomas Thomsen, Denmark, said that in his experience there was no big difference between a mesh size of 110 mm or 120 mm when fishing. So there is no need to increase the mesh size further. He also pointed out that each time the fishermen have to change gear, this costs a lot of money.

John Much, Germany, argued that no fisherman wants discards and that the fishermen should be given more responsibility. He gave an example whereby fishermen had voluntarily used a bigger mesh size in order to avoid bigger catches.

Further comments during the discussions:

Gear improvement:

The Bacoma trawl codend was reported to twirl and turn around, and meshes at the end of the codend tend to close. The behaviour of the trawl needs to be improved and various ideas were put forward on how to solve this.

The T90 trawl was said to lose efficiency. Some fishermen say that the mesh in T90 codend is changing in size after some time – they shrink. Others disagreed. It was suggested that data on the mesh size of an old and new T90 trawl should be compiled in order to get a clearer picture.

It was noted that the goal is not to increase, but to improve selectivity – a good selection is needed, but without losing the legal cod sizes – this means we need a sharper selection range.

Increase in mesh size and the question of developing new gear:

It was put forward that no further increase in mesh size is needed. Some felt that the mesh size today is too big. It was also said that there is a need to study whether there had been a change in selectivity since the introduction of the 120 mm mesh size.

It was suggested that we ask the industry to develop a new trawl concept where the selectivity is integrated. However, it was a lengthy and costly process to develop and design new gears. It was more realistic for the time being to focus on improvements to the current gears Bacoma and T90, given the current timeframe towards 2013.

Some speakers pointed out certain inconsistencies in the current regulation for technical measures for the fishery. These were highlighted in relation to practical use of the trawls.

The conclusions and recommendations adopted by the workshop work are annexed to this report.

**Conclusions and recommendations from the BSRAC
technical workshop on
bycatch management and the reduction of discards
9th -10th February 2011
Hotel Svea, Simrishamn, Sweden**

On 9th and 10th February 2011, the Baltic Sea RAC held a technical workshop on bycatch management and the reduction of discards. There was a series of presentations made by scientists, net makers and fishermen, followed by questions and answers and discussions between the participants and the presenters. The meeting agreed on the following:

1. The meeting recognised that in 2013 the introduction of a discard ban in the Baltic is likely to happen, as announced by the European Commission in its road map for the Baltic. This will impact the entire chain, starting from the port and including selectivity of the fishing gear, handling of the gear by the fishermen, as well as the use of the fish ashore after it has been landed.
2. The meeting took note that according to ICES estimates from 2010, discards of Baltic cod are in the order of 6% - 7% by weight of the total catch. Despite the fact that this is low compared to many other fisheries, there are possibilities to reduce this further.
3. The meeting agreed that cod discards in the Baltic should be avoided and pointed out that the present discarding of cod in the Baltic Sea is a result of existing regulations.
4. High grading is not perceived to be a problem in the Baltic, and discards apply almost entirely to undersized fish in relation to the current minimum landing size.
5. The meeting also recognised the responsibility of the fishermen, as well as fisheries administrations, to apply best practices in accordance with the recently adopted FAO guidelines on the management of bycatch and reducing discards.
6. Considering the likelihood of a discard ban by 2013, the meeting recommended setting a target for a maximum bycatch of undersized cod.

7. There is a need to further improve trawl selectivity i.e. by reducing the current selective range of the fishing gear, so as to avoid catching the undersized fish, whilst not losing the larger fish.
8. Any discussion on the need to further revise the current minimum mesh size should await the results of an impact assessment of the present rule.
9. According to the evidence presented at the workshop, T90 is demonstrating a sharper selective range than Bacoma.
10. The meeting encouraged further investigation into the development of fishing gear and recognised that any future development of the fishing gear should, in particular, focus on:
 - Improved selectivity
 - Ensuring high catchability
 - Reduced fuel consumption
 - Ensuring the high quality of the fish
 - Reduce the environmental impact
11. After extensive technical discussions, the meeting recommended the following areas of investigation for the improvement of the present trawls allowed in the Baltic:
 - Investigation of modifications to the trawl doors
 - Investigation of the use of new netting materials
 - Modification of the trawl construction
 - Data collection on wear and tear of the used gears
 - Improved selectivity of the final part of the codend
 - The escapement of fish during hauling which may cause an unaccounted mortality should be investigated, and solutions to minimise this should be sought.
12. In the case of the Bacoma trawls, the workshop recognised the area of possible improvements by investigating the use of a different type of selective panels and their location and size.
13. In the case of T90, an investigation into the impact of the use of different materials, the construction of the codend, as well as the number of meshes in the circumference of the cod end is recommended.
14. The workshop invites further research to explore new types of gear.

15. The workshop is of the opinion that further work to develop trawls can be best achieved through close cooperation between the industry and scientific institutions. In this connection, it welcomes the project tender recently launched by the European Commission and any other projects which may be developed.

16. The workshop has made a positive contribution to promoting dialogue between the industry, science and administration, and expresses its appreciation to the Baltic Sea RAC for organising it. The hope was expressed that the Baltic Sea RAC will follow up on this, and maintain this positive dialogue.

17. The workshop adopted these conclusions and recommendations on 10th February 2011.

PARTICIPANTS AT DISCARDS WORKSHOP

Name of Participant	Organisation	Email
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