



MariFish

MariFish Collaborative programme on reduction of bycatch and discards.

Progress report on collaboration agreed between Operators at Lyon, 28-29th October, 2008

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Strengthening the links between European marine fisheries
science and fisheries management
www.MariFish.net



1. Data compatibility (led by MI, Ireland)

Norman Graham reports; This issue is being fully dealt with under the auspices of the international working group which assembles to coordinate actions and delivery in respect of the European Data Collection regulations

2. Camera systems (led by Cefas, UK)

Grant Course and Andy Revill report: to date Cefas and Denmark have been carrying out sea trips to look at this issue. Both the Danes and British attended a conference in Maine (July 2009) in which part examined the use of camera technology to gather information on catches etc. Presentations at the conference were made by US, Canada, Denmark on using camera systems onboard commercial vessels. Contact was made with a Canadian supplier of the technology (Archipelago Marine). UK workers are to visit Denmark to examine their system more closely. Cefas is to pilot a second set of camera trials (this time under the FSP programme) using a newly built and 'home designed' portable camera system. Scottish workers are also to pilot the camera system (supplied by Archipelago Marine) on several vessels later this year / next year. The technology has considerable potential application in many fisheries

3. Collaboration on gear trials – cod avoidance

Andy Revill reports: A meeting was held in March in Alesund, Norway, under the auspices of the Fisheries Consultations between the European Commission and Norway. The aim of the meeting was to review all information on selection measures in trawl (and seine) nets and recommend the most appropriate selection measures. Delegates attended from UK, Sweden, Netherlands, Denmark, France, Norway and the Commission. Seven 'more selective' fishing gears were examined including: Eliminator, Orkney, and FRS belly panels which allowed cod to escape in the forward parts of the trawl; Dutch large beam trawl that allowed escapement through the upper part of the trawl; the Danish large square mesh that allowed escapement through the after parts; escapement under the raised footrope trawl; and the separator trawl which allows substantial proportion to escape by directing cod to larger mesh panels.

4. Electro-shrimp trials (led by ILVO, Belgium)

Hans Polet reports: some progress has been made: A common research and demonstration project has been set up, financed by the Dutch EFF. The electro-pulse trawl will be further developed and will be installed on board of a Dutch shrimp trawler for demonstration and optimization. A German visit to the Belgian vessel for a demonstration trip is scheduled for the summer 2009. A project summary report has been sent to the UK (Andy) and Denmark. Hans also added that he has recently obtained Dutch financing for a collaborative Dutch-Belgian project with important industry involvement.

5. Toolkit for Area VII Nephrops fishery (led by MI and BIM, Ireland)

Dominic Rihan reports: Items 5 and 9 are now redundant as the EU abandoned their original Maximum Allowable Bycatch Limit policy in Area VII Nephrops and Area IV beam trawls earlier this year. Therefore there is little point pursuing these issues. However, within the heading cod avoidance there is a need to expand on this given the introduction of the new days at sea regulations with special restrictions in Area Via. Dominic reports that he knows a number of



countries have been working on this including Ireland and it is of common interest to all. Dominic has available for circulation a couple of draft summaries on work BIM have completed this year on cod avoidance/Area VIa measures although he stresses these are drafts and would prefer them not to be widely circulated at this stage outside the immediate MariFish group. Please contact Dominic if you would like to receive copies of these reports.

6. T90 Developmental work (joint led by SFI, Poland and vTI, Germany)

Waldemar Moderhak reports: Collaboration in the frame of MariFish WP7, „Collaborative action No 6 - T90 Development work” is carried out by the Belgium, France, Germany, Norway and Poland. The aim of this collaboration is to exchange data and information on progress with T90 netting construction of the active gears.

The main works that have been done among the partners since the Lyon meeting 2008 are as follows:

(1) The T90 trawl for Baltic cod fishing has been designed in the SFI/MIR, Poland. In connection with financial problems it wasn't possible to order and then investigate the trawl gear. But the proposal was made to the vTI Institute, Germany to produce and study the Polish T90 trawl for cod on board of RV SOLEA.

(2) In late January IFREMER, France has turned to SFI/MIR, Poland with request of helping in designing of a total T90 bottom trawl for Nephrops fishing. IFREMER intends to use the trawl during investigation aimed at comparing the drag of the T90 trawl with existing standard bottom trawl with the same geometry. The France institute has sent to the SFI/MIR the scheme and technical parameters of the standard trawl that has to be used as a model of geometry for constructing appropriate T90 trawl.

The main technical parameters sent are as follows: • vertical opening of a headrope - 2 m, • distance between wings - about 20 m, • vertical belly opening - less than 2 m, • horizontal belly opening - about 7 m, • fishing speed - around 3 knots.

Based on passed details the T90 trawl for Nephrops fishing has been designed by Waldemar Moderhak with the help of SFI/MIR computer programmes. The trawl was given a working name “T90 trawl Ifremer-MIR/SFI”. The T90 trawl design was first checked on model (1:20 scale) in the flume tank and the study was made in Lorient by IFREMER. Based on flume tank tests it was proposed by France colleagues to change the construction of the last belly segment which aimed in improving its shape during towing.

Some indices obtained during model tests and then conducted theoretical calculations have showed that the drag of the T90 trawl gear with the same rigging as for standard trawl (weight, otter boards and floats) was about 15 % less then for initial (standard) trawl gear. But this reduction of the T90 gear drag in relation to standard gear must be higher if the rigging of the T90 trawl is properly changed adequately to the T90 belly drag decreasing.

The full scale comparable investigation of the two trawl gear (T90 and standard) was been planed for June 2009 and (probably) it is under way but no results have been received until now.



(3) The T90 technology, especially technology of codends and their protective properties were discussed during the work of the ICES Study Group (SGTCOD) on Codend Selectivity, focusing on Baltic Cod Selectivity. SGTCOD in Ancona was attended by 16 participants from 10 different nations mainly of the Baltic Sea States and also from Italy, Turkey, France, Norway and Spain. One person from European Commission (DG Mare) also joined the meeting. The presentations and discussions concentrated on showing the experiences of particular States in using T90 codend constructions.

(4) In personal communication with colleague from ILVO Belgium I was informed that they are preparing beam trawl with T90 netting, but no details were given.

(5) Future works in „Collaborative action” No 6, „T90 Development work” will concentrate on improvements each of the T90 trawl designed already, focusing on proper technical operation and selective properties, especially on reduction of bycatch and discards.

7. Discard utilisation, logbook analysis (led by Matis, Iceland)

Sveinn reports that: a one page summary has been posted on the MariFish website and he is willing to provide further details on the logbook analysis and act as an external advisor to others.

8. Purse Seine (led by IMR, Norway)

Terje Joergenson reports: Slipping of parts of / or the whole catch is frequent in the purse seine fisheries for pelagic species like mackerel (*Scomber scombrus* L.) and herring (*Clupea harengus*). Slipping takes place if the size and/or quality of the fish are considered unsatisfactory (high grading) or when catches are too large. Research suggests that mackerel crowded and later slipped suffer high mortality (60-80%).

To estimate the survival of herring slipped in the purse seine fishery, the Institute of Marine Research, Bergen in May 2009 carried out a new series of survival experiments using a similar methodology as previously used for mackerel. The experiments were made on board a chartered commercial purse seiner in the open waters of the North Sea. Purse seine caught herring were transferred via a transfer tunnel to large floating net-pens similar to those used in salmon farming. Care was taken not to severely crowd the fish before transfer to the net-pens. For the experimental groups crowding was simulated by restricting the volume of the cages by hoisting the bottom of the nets until the fish started to “boil” (show flash expansion behaviour). The net was then kept like this for a time similar to what takes place in the commercial fishery (10-15 min) before volume was restored to normal.

The net-pens were then left to drift freely for approximately a week and mortality observed. Physiological and environmental data were also collected, but has not yet been analysed. The May experiments showed about 2% mortality for the control cage, compared to 40-60% for the crowded fish. The data further indicated that mortality was proportional to degree of crowding. Due to poor weather, the number of replicates was too low to make strong inferences. New experiments are therefore planned for 2010. Our Danish and Swedish colleagues are informed of the results.

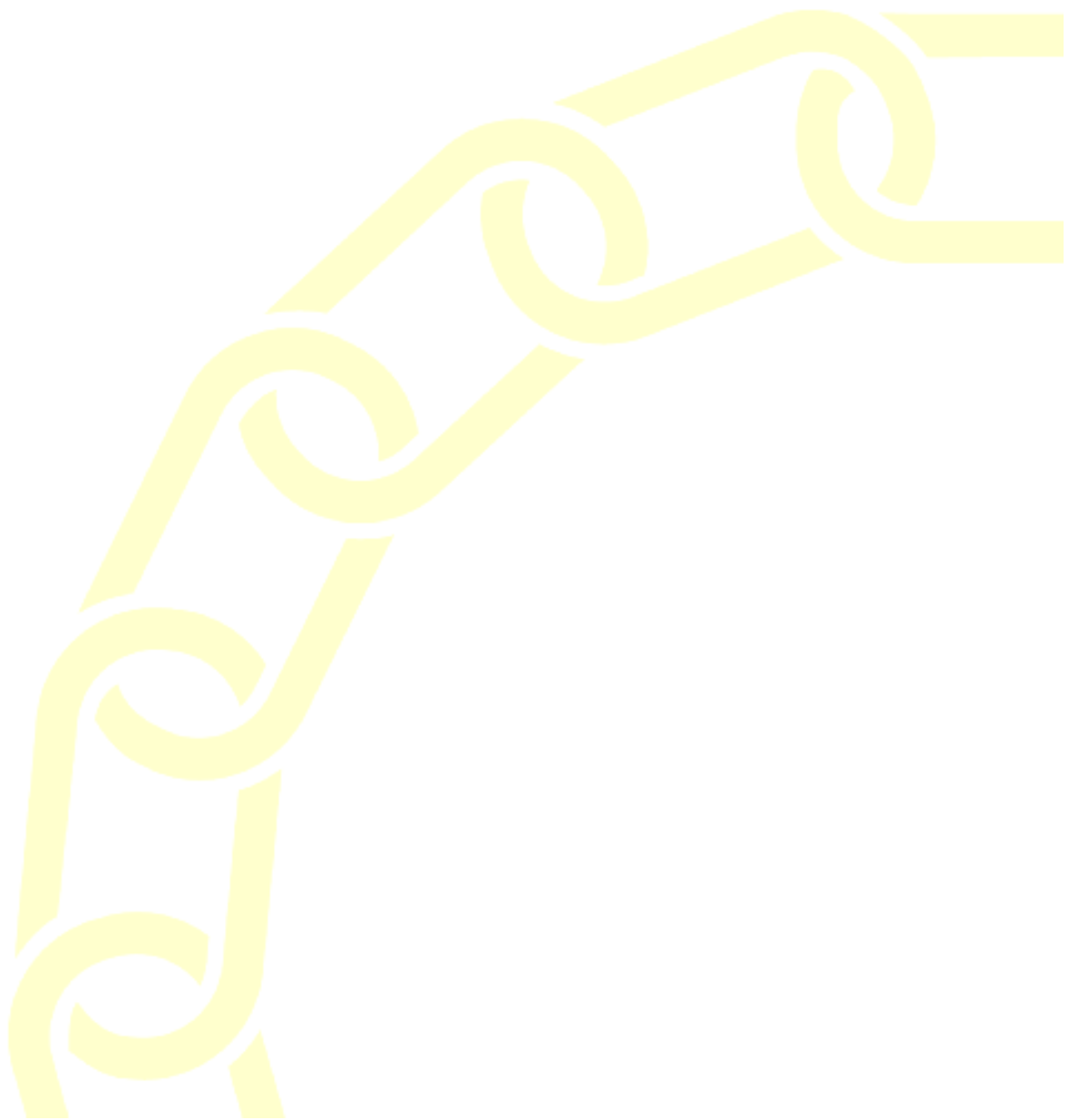
9. Technical Solutions to 15% Observer (led by BIM, Ireland)

Action redundant - see Action 5



10. Video Footage

Tom Rossiter reports that: SeaFish is working on this, but because of other priorities its delivery has been delayed.



An Extract from the MariFish Knowledge Management report by Alister Scott, that is relevant to the discards collaborative programme.

Cooperation around Discards

The aim of the meeting in Lyon on Discards was to facilitate cooperation between the partners in order that work on particular aspects of the discard challenge could go forward. There is always a danger, when a group of scientists is gathered, that they will focus on discussions of new research. The scientific community also often tends to privilege written knowledge over tacit knowledge – the latter being knowledge that people carry around in their heads. Yet the latter is crucial for learning and doing things – think about how much you could and could not write down about how to ride a bicycle! The central role of tacit knowledge in most human activities highlights the need for people to share their knowledge by doing things together.

In order to trigger a focus on the potential for cooperation around discards, Alister Scott presented some of these core concepts from KM, and then facilitated a series of brief, self-organising discussions in which people gathered around topics of shared interest and committed to doing various practical activities together. These included sharing boat time, networking PhD students, and working together to produce the information needed to hit an urgent policy deadline. Each group then reported back to the plenary briefly and the activities were noted. More than 10 cooperative activities were identified in a short space of time, and an amazing amount of energy and ‘buzz’ was created in the room.

The benefits of external facilitation include: the ability of the facilitator to ask simple questions without looking (too) stupid; a focus on practical outcomes around new forms of cooperation between people in the room; and participants were ‘given permission’ not to talk about new research or need to look cutting-edge.

What might have been missing was the capacity to follow up on, and support, the activities that participants committed to. For example, there are various straightforward knowledge management techniques that can help diverse and geographically scattered teams to work together more effectively. Given time, the consultants could share such knowledge with the coordinators of each activity, helping them to identify the knowledge contained in the network and to bring it together in useful ways.

