

GAP
Connecting Science
Stakeholders and Policy



Minutes Irish Sea herring workshop

Location: AFBI Newforge, 18a Newforge Lane, Belfast BT9 5PX, Northern Ireland

Date: 21 May 2013

Start time: 10 am

End time: 4 pm

More info: www.pelagic-rac.org / www.gap2.eu

Participants:

Pieter-Jan Schön (chair), Alan McCulla, Andrew Orr, Beatriz Roel, Cecil McCullough, Ciaran Kelly, Comgall Milligan, Dan McEvoy, Dankert Skagen, Eibhlin O'Sullivan, Giles Bartlett, John Ward, Judith Farrell, Marguerite Tarzia, Martin Gill, Maurice Clarke, Paddy Campbell, Sean O'Donoghue, Steven McCullough, Verena Ohms

(1) Opening of the meeting by the chairman, Pieter-Jan Schön

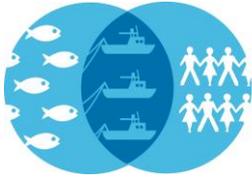
The chairman opened the meeting at 10.10 am and welcomed the participants. He thanked the Pelagic RAC and WWF UK for organizing the meeting. After that people got the chance to introduce themselves.

(2) Retrospect and outlook

The chairman pointed out that over the last year the process of developing a management plan for Irish Sea herring had been very slow, but that he was hoping to speed it up considerably over the coming months. He was glad to see so many scientists at the meeting and encouraged other participants to ask questions and use the experience of those who have previously been involved in developing management plans. He announced that the purpose of today's meeting would be to go through the current state of the fishery and after that listen to a presentation by Dankert Skagen on what could be done in terms of a management plan. At the end of the meeting the chairman wanted to have a timeline to complete the project.

Alan McCulla said that 10 months have passed since the first GAP2 workshop and he wanted to hear an explanation for this delay. The chairman explained that the reason for the delay was purely due to internal issues within the institute, but that things have improved and that he has more time available now to move on with this project. He also pointed out that the fishery has entered the MSC certification process and that no damage was done due to the delay.

Sean O'Donoghue said that the management plan will have to be submitted to the Pelagic RAC at least one week before its July meeting since the next opportunity would be in October which would be too late to get the plan evaluated in time. He emphasized the need



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of having the plan endorsed by the Pelagic RAC which has been waiting to receive a draft management plan for a long time and is expecting something as soon as possible. Therefore the deadline for submitting a draft management plan should be the 24th of June.

Alan McCulla agreed that the project has to be finished as soon as possible and certainly before December when the certification process is expected to be completed. He pointed out that the development of a long-term management plan started in 2010 and there is a lot of frustration that the process has not been finished yet.

Comgall Milligan also saw an urgent need for getting a management plan in place in order to receive the MSC certificate. Without such a certificate it will become more and more difficult to sell the fish.

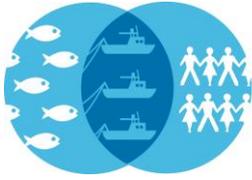
It was concluded that a draft management plan will have to be submitted to the Pelagic RAC on the 24th of June 2013.

(3) ICES advice for 2013

The chairman summarized the ICES advice for 2013 which is based on the MSY approach. For the first time there is an analytical assessment for this stock and SSB and recruitment have been increasing for a number of years while fishing mortality has been decreasing. SSB is highest since the 1970ies. There are at least two surveys: one acoustic survey which has shown a dramatic biomass increase from 2007 onwards and a herring larval survey which has pointed into the same direction last year. In previous years there was a discrepancy between the two surveys which was difficult to interpret. Overall the stock seems to be in a healthy state.

(4) Management plan (presentation by Dankert Skagen)

Dankert Skagen gave a general presentation regarding the ideas underlying a management plan for any fishery. He pointed out that each plan consists of two elements: a technical decision rule which decides what the TAC in a given year will be and a strategic decision which comprises the rule that leads to the technical decision. He pointed out that a management plan should be as reasonable as possible and enable sustainable fisheries. Within this framework there are many possibilities to design a plan that fulfils stakeholder



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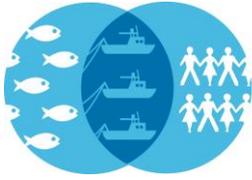
needs, such as stability, predictability and broad involvement in discussions. In general there are three main harvest rules in pelagic fisheries. F based rules keep fishing mortality at a feasible level above a certain trigger point and reduce mortality below this trigger. These only work well with a reliable analytical assessment. Harvest rate rules are comparable to F based rules, but set the TAC at a percentage of measured stock abundance and are easier to adapt to other measures than SSB in an analytical assessment. Thirdly, TAC type rules keep the TAC at a fixed number as long as there is no reason to change it. This rule can be useful when no analytical assessment is available, but requires strict monitoring of catches vs. TAC and one or more measures which indicate whether stock abundance changes. Dankert Skagen also said that every long-term management plan needs a revision clause that provides the legal opportunity to change the plan if necessary.

Sean O'Donoghue wanted to know whether Dankert Skagen has considered the possibility of having two trigger points in place for Irish Sea herring. Dankert Skagen replied that it might be possible to design a rule with a plateau and two break points: one at high SSB and one at low SSB as was done for blue whiting. While this would be worthwhile considering he also pointed out that the break points will have to be adapted to the dynamics and biology of the specific stock and the stakeholders' preferences. Technically it will not be a problem to have two break points, but stakeholders have to indicate whether they want this or not.

John Ward remarked that Irish Sea herring is a very small stock and hence possible TAC increases at high stock size would be relatively small too. Dankert Skagen replied that even a small increase in TAC might still be valuable for fishermen.

Beatriz Roel said that TACs will be variable when having two break points compared to only one lower break point. However, Dankert Skagen suggested adding stabilizers to the rule and thereby limiting TAC changes from one year to the next. A possible stabilizer which the EU favours very much is a 15% restriction on how much the TAC is allowed to vary. This reduces noise from the assessment, but can also have drawbacks at times when SSB increases or decreases very rapidly.

Giles Bartlett pointed out that MSC criteria stipulate the levels of F that should be targeted which he thought was around 25%. This should be taken into account. However, Dankert Skagen responded that other MSC criteria state that the exploitation level must never be higher than MSY. So, while there are certain standards given, the bottom line is that the fishery is arranged in a way that does not destroy the stock. He also noted that adequate infrastructure is very important, so that a management plan will not fail due to e.g. lacking surveys.



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Sean O'Donoghue remarked that while the Commission is very fond of the 15% stabilizer, this did not seem to work well in the case of blue whiting. He wondered whether the same would apply to Irish Sea herring.

Dankert Skagen said that that was possible, but that there might also be ways to modulate the rule in a way that it delivers the desired result. He explained that the 15% rule might have a lower bound too below which drastic measures have to be taken. The problem usually arises when the stock recovers and the TAC is following the increases too slowly. However, that could be modulated.

John Ward remarked that in reality the Commission often throws out the 15% rule when SSB is decreasing. Dankert Skagen said that below a certain SSB the 15% limit has to be thrown out, but that it comes back in when SSB increases again. Unfortunately, in such situations the increase is often too slow.

According to Comgall Milligan the TAC for Irish Sea herring is very small anyway and a 15% TAC decrease would be disastrous for the fishermen whereas a 15% increase would not be that much.

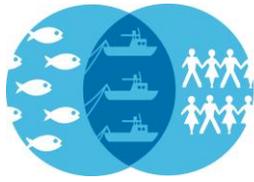
Dankert Skagen replied that having a stabilizer only when stock size decreases but not increases will result in asymmetry. It is difficult to design a rule that works perfectly under all circumstances.

Due to time constraints Andrew Orr argued for designing a simple management plan now and to get it implemented as quickly as possible.

Dankert Skagen explained that stakeholders have to agree on the kind of rule they would like to have and afterwards scientists can provide guidance and perform simulations. He wanted to know which criteria would be most important for stakeholders, e.g. stability.

Giles Bartlett wanted to know how the TAC had been set previously and the chairman explained that it was set based on average catches and as long as the TAC did not seem detrimental it was followed.

Alan McCulla remarked that one of the frustrations is the TAC being much lower now compared to times when stock size was much lower, but the TAC was nevertheless rather high. As stock size has steadily increased over years fishermen would like to catch some of the fish that they have saved in recent years.



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(5) Discussion

A discussion followed on the more specific issues to be taken into account for a management plan for Irish Sea herring. Dankert Skagen suggested designing a plan that takes recruitment regimes into account. A good rule should handle both high and low productivity.

The chairman summarized that during the last meeting different productivity regimes had been discussed too. Generally a positive stock-recruitment relationship is assumed, meaning that high SSB leads to high recruitment. However, there is a lag and sometimes recruitment is high even though SSB is relatively low. This strongly indicates different recruitment regimes which complicates developing a good harvest control rule. Therefore it was decided at the last meeting to ignore data before 1980.

Sean O'Donoghue wanted to know whether there could be a problem with the assessment model since he thought that taking out the high peak in the 1970ies should have an effect on the assessment which does not seem to be the case.

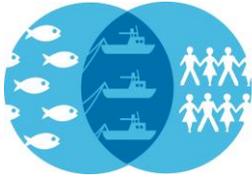
However, the chairman replied that this merely confirmed that the high peak in the 70ies was real and not due to errors in the past. Maurice Clarke agreed that the assessment seems to be very reliable.

The chairman furthermore explained that the high peak was never considered when calculating reference points. Therefore these will not change when taking out the high peak. It is also difficult to define a stock-recruit relationship because there are no data points for both low SSB and recruitment. Density dependency has not been detected either.

Beatriz Roel pointed out that the unreliability in recruitment might be due to mixture with Celtic Sea herring. Some of the recruits might in fact not be Irish Sea, but Celtic Sea herring.

Dankert Skagen said that it remains unclear whether SSB increases due to large recruitment or whether there is a large recruitment due to high SSB. Alan McCulla asked whether this suggested that SSB will decline when the stock gets too big and Dankert Skagen confirmed that this was a possibility. At the same time he emphasized the importance that external drivers might play as well, such as hydrography.

Ciaran Kelly considered it worthwhile to discuss productivity because simulations depend on stock-recruitment relationships which in case of Irish Sea herring does not seem to hold. He proposed a stock-recruitment relationship which has lots of uncertainty and to use the very best indicator and simulate the stock based on that.



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Alan McCulla argued that this uncertainty applies to all stocks in the Irish Sea. During the benchmark many data were provided and based on those a harvest control rate was developed. He worried that opening all discussions again will not lead to anything and only slow down the process further.

Dankert Skagen pointed out that it will never be possible to predict how recruitment will develop in the coming years, but that a good management plan should be able to handle different scenarios based on past observations.

According to the chairman the stock-recruitment relationship is one of the key factors when developing a long-term management plan, because the stock has to be kept at a safe biomass. In this stock two distinct productivity regimes can be identified and he proposed treating both separately within a management plan.

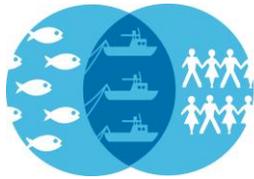
Sean O'Donoghue agreed to this proposal and added that the stock currently seems to be in a high productivity regime whereas in the 1980ies it was in a low regime. He also agreed on taking out the 1970ies.

The chairman also was of the opinion that the stock is in a high productivity regime. At the same time he noted that natural mortality has been adjusted during the benchmark as it seems to have increased for older ages. This resulted in scaling and influences the harvest control rule in a sense that fishing mortality should be reduced in order not to increase total mortality. It was furthermore pointed out that at some point yield per recruit does not increase anymore even if fishing effort is increased since recruitment could become impaired.

Andrew Orr argued that in recent years data collection has improved a lot and this should be fully used. He appealed to the participants to agree on a strategy and submit a management plan to the Pelagic RAC as soon as possible in order to get it approved and to review it in a few years.

Giles Bartlett wanted to know where the market for Irish Sea herring is and Comgall Milligan explained that it is mostly Poland and Germany. Fish without MSC certification can also be sold to Africa and Russia, but the problem with Irish Sea herring is that it has never been big enough and therefore the market is very limited. At this moment customers are reluctant to buy Irish Sea herring because the fishery does not have an MSC certificate yet.

Martin Gill from FCI pointed out that receiving MSC certification depends on the establishment of a management plan.



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The chairman said that if the management plan was going to have a fixed TAC this will have to be accepted by the stakeholders before submitting the plan to the Pelagic RAC. He suggested having a video conference to discuss the simulation results.

Sean O'Donoghue said that in order for stakeholders to make a decision of a preferred option they would have to see the results of more simulations than just a fixed TAC, so that they have something to compare a fixed TAC to. Ending up with a TAC of 4.500 tons would be unacceptable.

Alan McCulla agreed and remarked that he did not want to discuss the same things all over again in six months.

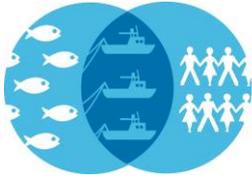
Maurice Clarke suggested having a two stage management plan in which a fixed TAC will be accepted in the short term while in the second stage of the plan extra effort will be put into developing a rule allowing a higher TAC. Another approach suggested by Maurice Clarke was to have phase one being to follow the ICES advice. There is a generic HCR behind the ICES advice, and following this in the management plan is by definition precautionary. Such an approach would ensure the plan became established quickly and would most likely satisfy MSC requirements.

Steven McCullough wanted to know where the number of 4.500 tons is coming from. He pointed out that more and more fish is observed at sea and that therefore fishermen do not want to have another cut.

Beatriz Roel explained that a simple rule, such as a fixed TAC, could be easily established. However, she proposed that the rule should be flexible enough to allow an increase in TAC when SSB is increasing and not only a decrease below a certain trigger point.

Comgall Milligan said that over the past years fishermen have been promised to receive a higher TAC, but while SSB keeps increasing the TAC has been cut instead. He therefore asked for a reasonable increase.

Giles Bartlett pointed out that the new ICES framework for data-limited stocks foresees an automatic catch reduction of 20% for data-limited stocks. However, Beatriz Roel explained that these are only guidelines for data-poor stocks and not at all helpful for Irish Sea herring which is not a data-poor stock. Giles Bartlett replied that there has to be a good reason to increase the TAC, but Beatriz Roel countered that there are very good reasons in this stock.



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Paddy Campbell concluded that it might be necessary to forego a lower TAC for a few years in order to get a higher TAC afterwards. Whatever would be decided, it had to happen quickly.

The chairman reminded the participants that in previous meetings there had been a preference for a fixed TAC. He has done some simulations, but did not have the figures available to present them.

Judith Farrell considered it impossible to decide something if no comparisons were available. The chairman replied that it will not be possible to run all simulations either. However, Sean O'Donoghue explained that it will not be necessary to look at all possible options, but to choose a few and run simulations on those under high and low recruitment regimes. He wanted to receive actual numbers before making a choice.

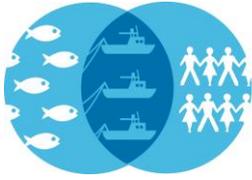
Dankert Skagen summarized that a few things will have to be done on the science side. At first the issue of high and low recruitment regimes has to be solved. After that simulations should be run on a few different options. He suggested exploring a TAC rule which increases when the stock gets big enough and to identify which breakpoints would be needed for that. As an alternative to compare the TAC rule to, he proposed a standard F rule with some sort of stabilizer. He predicted two time consuming issues: agreeing on the conditioning of the models which will also have to be accepted by external reviewers and presenting the results in an understandable way. Everything else he considered to be relatively easy.

Maurice Clarke agreed with Dankert Skagen and suggested to initially follow the ICES advice which might not be favourable in the first 1-2 years, but would allow time to work with Dankert Skagen on a better rule.

The chairman summarized that the meeting agreed to explore a fixed TAC rule taking into account productivity regimes and compare this to a simple F rule, maybe even the ICES MSY rule.

Sean O'Donoghue explained that the most important aspect for the industry would be to get some stability between 5000 and 6000 tons and all other industry representatives agreed.

The chairman added that preferably the management plan should also be less dependent on the assessment since assessments can be very noisy.



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Sean O'Donoghue wanted to have a precise time scale regarding when to discuss the first simulations results. Eibhlin O'Sullivan pointed out that only 3 weeks were left in order to submit something to the Pelagic RAC on time.

The chairman therefore suggested having a video conference on Tuesday, 18th of June at 11 am Amsterdam time to discuss the outcomes of the simulations.

(6) AOB

The chairman wanted to know whether current closures which have been introduced in the 1970ies should be addressed in the management plan and whether they should be left as they are or changed.

Comgall Milligan suggested leaving the Isle of Man closure as it is since herring from that area is usually not of a high quality and therefore not really interesting for the industry.

Alan McCulla said that the closure might be reduced, but changing it will take a lot of time again for negotiations and in turn slow down implementation of the management plan. Therefore he preferred letting it rest for now.

Sean O'Donoghue proposed adding a paragraph in the management plan that foresees a review of all closures once the technical measures are going to be reviewed.

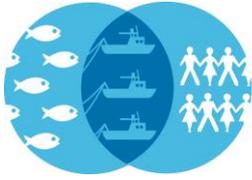
Alan McCulla mentioned the so-called traditional fishery which is outside the MSC process and wondered how this small scale fishery would be managed in the future.

Paddy Campbell explained that currently it gets a small quota from the UK quota and that it is not worthwhile to establish a separate assessment for this fishery.

Giles Bartlett wanted to know whether there are any issues with by-catch of cetaceans in the Irish Sea herring fishery, but Alan McCulla said that this fishery is very clean and that there is no by-catch.

Martin Gill explained that by-catch has to be recorded for MSC even if it is 0, but that by-catch provisions do not have to be part of the management plan.

Marguerite Tarzia thought that there were going to be observers on board to address these kinds of issues and it was confirmed by the industry that observers had indeed been on board.



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(7) End of meeting

The chairman closed the meeting at 2.30 pm and he and Alan McCulla thanked WWF UK and the Pelagic RAC for organizing the meeting.