



Benchmark of NW Herring by ICES Concludes Combined Assessment is Needed

ICES has conducted a benchmark of NW herring for 2014/15. The purpose of this is to update the assessment model used to give advice for the stock. This was done in conjunction with a benchmark of the VIaN herring. Both stocks had to be benchmarked together because they are assessed jointly by the same method, namely the summer acoustic survey in VIa and VIIbc.

The benchmark concluded that it was not possible to assess each stock separately, and instead they will be assessed together. That is not to say that ICES thinks the two stocks are the same, it is just not possible to differentiate them at present. It is hoped that, in time, the stocks can be separated again. It is now known that VIaS/VIIbc herring are found quite far north in summer. This means that the decision to do the acoustic survey in summer was a good one, because it can pick up the entire NW stock. The problem is that the NW stock is mixing with the west of Scotland stock, and both are being picked up in the survey. A method exists to segregate these fish in the survey. This method used samples that were obtained from the spawning grounds in the winter of 2014, from the MFVs *Pacelli* and *Olgarry*, the MFVs *Felucca* and *Vigilant* and the ring net fishermen in Inver Bay. These samples allowed scientists to identify the signature of NW herring in terms of fish and ear-bone shape in the summer acoustic survey, with a high degree of success. Unfortunately, the same degree of success was not obtained with picking up the Scottish herring in the same survey, and this was the reason why the stocks could not be separated. Another problem is that catches of herring in VIaN contain VIaS

fish. This means that the old VIaN assessment is no longer valid because it is taking VIaS fish and counting them as VIaN fish.

The benchmark group met in Dublin in February and developed a model for the combined VIaN and VIaS stocks. This model used updated natural mortality estimates that were borrowed from the North Sea multi-species model. This model predicts that there are a lot more predators of herring than previously thought. Though VIa is not necessarily similar to the North Sea, in this regard, it is likely that the predation on herring by fish, seals and mammals is higher than previously thought, and hence the North Sea data were used. This proved to be the undoing of the assessment, however. The North Sea data, provided by scientists in Denmark, was found to be erroneous. The error was found to upset the final model and hence the assessment fell apart. Efforts are being made to develop a new assessment model in time for the June ICES advice. This work will focus on finding a more stable assessment model for the combined stocks. This means that there will be no advice for either VIaN or VIaS/VIIbc herring in 2016, but instead there will be combined advice for VIa and VIIbc. This will provide many difficulties in setting fishing opportunities.

ICES Provides Advice On Options For A Long-Term Management Plan for Mackerel

In 2014, ICES received a request from the Coastal States on options for a new long-term management plan for mackerel. The previous management plan was only formally adopted in 2008, but since then the stock productivity and distribution has changed, so that there was an expectation after the benchmark assessment in February 2014 that this would affect the rates at which the stock could be sustainably exploited in the long term. However, at the same time as mackerel have become more abundant, their average weight for a given age has decreased. This meant that although the stock may be recently more productive in terms of numbers of recruits, the harvestable biomass of the stock has not increased accordingly as the individual fish are lighter.

ICES released its advice in February this year. In this advice, ICES stated that Blim (the biomass below which there is an increased risk of productivity impairment and which thus should be avoided with a high probability) should remain at 1.84Mt, corresponding with a Flim of 0.36 (the fishing mortality which would bring the stock to Blim). ICES also advised that Bpa should be revised upwards to 3.0Mt (this is the biomass level which is calculated based on Blim and the assessment uncertainty which, if avoided means that there will be a low risk of being at Blim). The increase in Bpa over the previous value is because the assessment uncertainty is now estimated to be greater than previously thought. The corresponding Fpa becomes 0.25. ICES estimates Fmsy to be 0.22. This is a change from the figure proposed after the benchmark and the change is due to the factoring in of the recent decrease in mean weights at age in the simulations.

ICES further advised that if it is assumed that the Btrigger point in the management plan remains unchanged at 2.2Mt, then the only target Fs for the management plan which are consistent with the PA are equal or less than 0.22. However, ICES also showed that if the Btrigger was increased that the target F could also be increased. For example, with a trigger at 3.0Mt you can sustainably fish at a target F up to 0.24.

ICES then went on to say that quota flexibility of 10 per cent made no significant impact to risk although it does change average yields slightly in the short and medium terms. ICES also showed that the combination of a TAC change limit (20 per cent) and an F deviation limit (10 per cent) was counterproductive with stability in TAC best achieved through the use of the TAC change limit only.

The Marine Institute was involved at all stages in the scientific work behind the ICES advice. The most recent round of Coastal States negotiations, which took place in the Faroes in March, failed to reach an agreement on the adoption of any of the options for a management plan.

Exploitation of blue whiting, compared with more traditional pelagic species such as mackerel and herring, is a relatively recent development but, since the 1970s, has rapidly become one of the major species for pelagic fleets in the northeast Atlantic. Blue whiting is described as a 'straddling stock' due to it being fished in the territorial waters of several different countries, referred to as the Coastal States and consisting of Iceland, the Faroe Islands, the Member States of the European Union and Norway. This situation has created considerable difficulties in the management of the stock.

Initially there was unfettered access to the fishery, and EU vessels were responsible for about 60 per cent of all blue whiting landings, but from 2000 onwards the EU imposed restrictions on its own fleets by setting autonomous TACs. However, the remaining Coastal States continued a free-for-all approach on the stock which was at the peak of its abundance and distribution during this period; it was apparent this strategy was employed to build up track record with which to negotiate share of the fishery as finally happened in 2005. The ultimate sharing arrangement of the TAC among the four Coastal States was:

- EU 30.50 per cent
- Faroe Islands 26.12 per cent
- Iceland 17.63 per cent
- Norway 25.75 per cent

Post 2005, the stock reduced in size and contracted to the core area of spawning and feeding in the EU waters west of Ireland. As a consequence, the pelagic fleets of Norway and Iceland were not able to catch their share of the overall TAC in their own waters and were thus very dependent on access arrangements between Iceland and the Faroe Islands, and Norway and the EU. Despite the outright opposition of the EU pelagic fishing industry and advice to the contrary, Norway was ceded access to EU waters for almost 70 per cent of its blue whiting quota.

The 2005 agreement has been in place for ten years and it was an objective of the EU Commission, fully supported by the pelagic industry, to review this sharing arrangement. The decision was based largely on the *Report from the NEAFC (North-East Atlantic Fisheries Commission) Working Group on Blue Whiting*, which provided the scientific background information regarding current extent and distribution of all stages of the blue whiting population. The logic which was applied to the Icelandic and Faroese claim for increased mackerel quota was intended to be similarly applied in this case i.e. those countries in whose territorial waters the bulk of the species is located are entitled to the major share.

However, the Coastal States failed to reach agreement on any revision of the sharing arrangement in 2014, but did accept a recommendation for a TAC for 2015 of 1,260,000t. in December. The EU Fisheries Council decided to continue with setting its quota at 30 per cent pending further negotiations, but Norway's response was to unilaterally declare its quota at 35 per cent of the total TAC i.e. an increase of 40 per cent on its previous 25.75 per cent.

This behaviour is both unjustified and irresponsible and an act of bad faith. The EU pelagic industry has and continues to advocate very strongly that the only response by the EU should be to demand from Norway a change to this course of action by bringing Norway's share in the TAC back to the 2005 level (25.75 per cent) and failing that, the EU must increase the EU's share from 30 per cent to 46.7 per cent of the TAC. This higher level is in line with the average catches in EU waters in the period of 2006-2012 as described in the NEAFC report.

Landing Obligation Poses Significant Challenge For The Irish Fishing Industry

Since January 1, 2015 all pelagic fisheries have been subject to the Landings Obligation (LO), as a result of the introduction of the "no discards" rule, introduced in the 2013 reformed Common Fisheries Policy (CFP). Pelagic fisheries were the first to come under this plan as, by and large, they are single species fisheries and thus present a relatively simple profile of quota, size, spatial and temporal restrictions wherein it is easy to monitor and enforce the regulations enforcing the LO.

Demersal or whitefish species are considerably more complicated and present a more complex problem to regulators, scientists and fishermen which will be applicable from January 1, 2016. Prior to the introduction of the LO, many regions and individual Member States were already working on reducing discards, mainly by developing targeted technical measures which could help reduce unwanted catches. There has also been considerable work carried out to quantify and provide an accurate baseline for the real extent of discards. Innovative surveys have looked at the economic feasibility of converting landed, unmarketable fish into bait for the shellfish industry and there is no doubt that there will be a number of similar solutions emerging over the coming years.

However, there is a real fear that implementation of the LO will have a serious effect on the economic viability of many vessels in the demersal sector and there must be pragmatic and workable solutions found in its implementation. Bord Iascaigh Mhara (BIM) and the Marine Institute have carried out an important analysis, titled *At Sea Simulation of the Landing Obligation on Irish Vessels*, in the Irish Sea and Celtic Sea to ascertain the real impact of the LO at operational level, with particular focus on the effect of choke species. Two vessels were chosen; one vessel (1), a 24m quad-rig trawler, targeting *Nephrops* and a second vessel (2), a 25m single-rig demersal trawler, targeting mixed whitefish species. The trial vessels were required to retain and land all catches of demersal species relevant to the LO, namely cod, haddock, whiting, saithe, Norway lobster, hake, common sole and plaice. Vessels fished their standard monthly quota allocation as normal but were required not to discard the species listed. Fishing was permitted to continue until the quota for the target stock(s) had been taken or the by-catch quota

allocations had been exhausted; catches of all TAC species were fully documented during the trial. There was a detailed economic assessment of all fishing activities carried out during the trial.

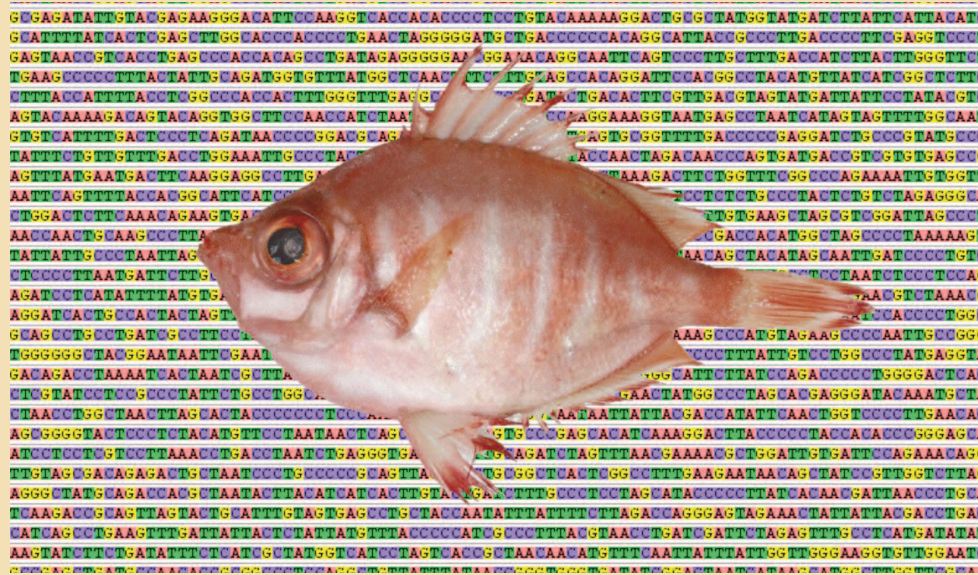
The trial for both vessels consisted of one month operating under LO conditions followed by one month when the skippers were requested to choose from a range of technical measures and/or adjust their fishing behaviour and tactics to reduce the level of unwanted catch as much as possible. Technical measures in the case of vessel (1) consisted of employment of a 300mm square mesh panel (SMP) and a coverless trawl plus, on occasion, a cod-end with larger mesh sizes. Vessel (2) primarily avoided areas where high concentrations of juvenile fish were likely, and employed a 90mm instead of an 80mm mesh cod-end when targeting whiting.

Haddock was the principal choke species encountered by both vessels over the course of the trial primarily due to the low monthly quota allowance, and the effect was greater for the mixed demersal whitefish trawler. A variety of impacts leading to a lowering of profitability for both vessels were recorded and several mitigating options that could be employed were identified, but the overall conclusions indicate that no single measure is likely to produce a comprehensive solution.

The Regional Western Waters Member States Group are in the process of developing discards plans for Western waters demersal fisheries. Their stated intention is to have these finalised by the end of May. It is of vital importance that any such plans take on board the very clear messages emanating from industry that the plans have to be workable on the fishing grounds and implemented on a phased basis. The emphasis in the discard plans has to be avoidance and minimisation.

KFO Supports Cutting-Edge Boarfish Genetic Study

Since it was initiated in 2010, the boarfish research project has significantly advanced our knowledge and understanding of this valuable species by being at the cutting edge of fisheries research. This has helped to ensure that the scientific basis of the assessment and management of this species has kept pace with the rapid development of the fishery. This is a rare phenomenon in fisheries science and is a credit to the industry's ongoing commitment to the research aspect of the fishery.



Despite this progress, a number of key research questions remain unanswered:

- (1) Are long term changes in abundance of boarfish the result of population expansion within the northeast Atlantic or immigration from other populations?
- (2) Are the distribution limits of the current stock management area the same as the biological and genetic population structure of the stock?
- (3) Is there fine-scale population structure within the current stock area and how does this relate to recruitment dynamics?

Answering these questions will further ensure that assessment and resulting management of boarfish is implemented on the correct scale and will be effective in ensuring the sustainability of the stock. In order to address these questions the KFO is collaborating with Dr Edward Farrell, who was awarded an IRC Government of Ireland Postdoctoral Fellowship to work with Dr Jens Carlsson at University College Dublin. Since October 2013, they have been studying the population structure of boarfish using state-of-the-art genetic techniques.

Every organism contains DNA, which is the genetic blueprint or code for that organism. This genetic code is responsible for the development and functioning of every cell in the organism's body. Subtle changes in the code can occur over time, which do not adversely affect the organism but may be passed on from generation to generation. These

changes can be used as tags known as genetic markers. If two populations of the same species are isolated from each other the changes in these markers may occur at different rates or in different ways, which enables us to tell the difference between and to detect movements between populations. This is a well-established science although genetic population studies on marine species, and in particular on pelagic fish species, have until recently been hampered by a number of factors.

The large population sizes and long-range movements of pelagic species such as boarfish, herring and horse mackerel make it necessary to analyse a large number of markers to accurately detect and quantify the genetic differences between populations. Historically this was a very time consuming, expensive and often unsuccessful process. However Dr Carlsson's research group in UCD are using cutting-edge techniques to develop a faster, cheaper and more reliable method for conducting genetic population studies in pelagic fish. The method has been tested on boarfish samples collected since 2010 and they are currently analysing the data so that it is ready for incorporation into the boarfish assessment at this years' WGWISE. The results are eagerly awaited and are sure to be of significant interest to all those concerned with both the science and catching of boarfish. Once this new method is validated it may also be applied to other species of significant interest to the Irish industry including VIa herring and western horse mackerel and will hopefully provide answers to some longstanding questions about stock identification.

DAMARA Project Makes Progress in Developing Model for Mixed Demersal Fisheries in the Celtic Sea

The DAMARA project is a science-industry approach to developing management plans for complex mixed demersal fisheries. The reformed Common Fisheries Policy (CFP) lays greater emphasis on a results-based approach with a move towards multi-annual plans. This provides challenges and opportunities for regional advisory groups and managers to identify and develop plans that are consistent with overall policy objectives but also support an economically viable and competitive fishing industry.

The North Western Waters Advisory Council (NWWAC) had identified the need for a management plan for the mixed whitefish fisheries in the Celtic Sea and together with support from the Marine Institute and through the GEPETO project, had developed the framework of a plan that is tailored to the needs and conditions of the Celtic Sea mixed whitefish fishery. The role of DAMARA is to provide fisheries stakeholders with a tool that will enable them to test various management options before they are adopted. It is aimed to provide the stakeholders with a better understanding of the consequences of the various management measures which might be adopted and their downstream consequences.

While the overarching objectives of the plan have been agreed by all the stakeholders, the question of how to implement it in practice is challenging. There are many options available to achieve the combined goals of biological and economic sustainability. These include technical measures, closed areas and seasons, and the allocation of fishing opportunities. Adjusting these with the aim of achieving Maximum Sustainable Yield (MSY) objectives will result in various changes in catches and fishing patterns and present a wide range of biological and economic consequences. However, identifying and quantifying the impact of various management options is a challenge and measures are often decided upon in a knowledge vacuum regarding their short and long term effects – from both a biological and economic perspective. The need for a process to quantify these outcomes to further aid the development of the NWW AC mixed fisheries plans was raised with the European Commission as it was considered to be of major importance in the continued development of the initiative. To overcome this "knowledge vacuum" and to assess the consequences and trade-offs of different management measures, the DAMARA project was funded by the Commission to provide a decision support tool (DST) that will enable all the stakeholders to understand the implications of different measures and allow them to describe the best approaches for meeting the goals of economic and biological sustainability. DAMARA is coordinated by the Marine Institute with partners from the UK, Spain, France, Belgium and the Netherlands. The core ethos of the project is to develop a tool that is designed around the needs of the stakeholders and therefore the process is heavily driven through stakeholder participation.

The DAMARA project has held two stakeholder workshops where it identified the types of management scenarios stakeholders may wish to consider and how the information should be presented. At this stage in the project, the modelling team have produced the core engine that will be used to develop the decision support tool. The next stage is to work on how the model should look and to design a system that is user-friendly to operate and to understand. It is therefore vital that work over the coming months is done in very close collaboration with the stakeholders to ensure the tool is fit for purpose. Anybody looking for further information on the project should contact Norman Graham at the Marine Institute.

Editorial

by Sean O'Donoghue

CHIEF EXECUTIVE, KFO



This time last year the final negotiations between the Coastal States of EU, Norway and the Faroe Islands had finally concluded with a five year agreement on management of mackerel stocks. Unfortunately my misgivings at the time for the future of agreements involving other pelagic species shared by the Coastal States have been proven correct with the deplorable breach of faith exhibited by Norway regarding its share of the blue whiting TAC.

The EU had indicated its intention to review the 2005 Coastal States agreement regarding sharing of the blue whiting TAC given that a considerable change in quantity and distribution of the stock has occurred since then. This updated information has been supplied by a Report from NEAFC on all life stages of blue whiting and its distribution (see page two) and we can draw a direct parallel between this scenario and that used to justify the actions of Iceland and the Faroe Islands when their outrageous claims for mackerel TACs were based on distribution of mackerel in their territorial waters. It seems the EU is unwilling to apply the same logic on behalf of its fishermen and, once more, we are left with a completely unsatisfactory situation in terms of shares. The EU must now follow through on its declared intention at the Coastal States meeting last

year
and

significantly
increase the EU
percentage share.

Getting the Omnibus Regulation over the line occupied all our energies for early 2015. This regulation was an effort to regularise the legal environment for all stakeholders, but particularly the fishing industry, in relation to the potential conflict between complying with the Landings Obligation and existing regulations such as Council Regulation (EC) No 850/98, usually referred to as the Technical Conservation Measures Regulation. Many of the potential pitfalls highlighted by industry have been addressed, but it remains to be seen how well interpretation on the ground works. All parties were adamant that only those clauses with a direct bearing on the smooth working of the Landings Obligation could be included which means there are still quite a number of technical measure issues to be dealt with.

The eagerly-awaited ICES benchmark of the NW herring (see page one) took place in February in



Dublin. The benchmark concluded it is not possible to analytically assess the VIaN, VIaS and VIIb stocks separately and that the combined analytical assessment reflects the dynamics and total herring population size within the area. This means the separate assessment for VIaS, VIIbc is no longer valid. In light of this we cannot accept a zero TAC for 2015 and this must be rectified for the autumn fisheries. I expect Minister Coveney to deliver on the declaration at December's Fisheries Council meeting in this regard.

The news that Donegal County Council intended granting planning permission to Bio-marine Ingredients Ireland Ltd. (BII) was greatly welcomed in the Killybegs area. This development signals the creation of 70 highly skilled new jobs in Killybegs, with an additional 50 jobs to be created during the construction phase. Converting fish into valuable, highly sought-after ingredients with global outlets, moves the entire Irish fishing industry onto a new level of sophistication. It is the "Intel" of fish processing and its development cannot be underestimated. However, the last minute lodgement of an appeal to An Bord Pleanála has been a disappointment and we are mystified that An Taisce could lend itself to such an ill-informed objection. The BII Ltd. development is completely in line with current environmental, socio-economic and sustainability thinking both here in Ireland and on the wider global stage, and complies with all aspirations to make the best possible use of a national resource. Hopefully, this matter will be resolved speedily and work will go ahead as scheduled.

KFO's partnership in three EU-funded projects continues successfully. ACRUNET is within a few months of its final meeting and will issue many of its planned deliverables over the coming weeks. Many of the partners have expressed an interest in applying for another round of funding as they feel this brown crab network has become a vital forum for the industry. MYFISH, the project that is working on building feasible options for the implementation of Maximum Sustainable Yield (MSY), is also making considerable headway. This is an area where the fishing industry can have a real say and make an impact. KFO has undertaken to give the feedback from fishermen to the MYFISH project to be included in its conclusions; contact this office to avail of the opportunity of having your voice heard.

The new Seafood Development Programme was launched on March 27, and we all welcome the planned budget of €241 million of EMFF funding to support our industry. The Producer Organisations will have a key role in the implementation of the new CFP which will be the framework supporting the Programme, however the funding being allocated for POs is totally inadequate. We urge Minister Coveney to re-assess this situation in the coming weeks to facilitate POs carrying out the groundwork needed to attain many of the aspirations of the new Seafood Development Programme.

Important Dates April - June 2015

| | | |
|-------------------|---|---------------------|
| April 8, 2015 | SFPA Consultative Committee Meeting | Clonakilty, Co Cork |
| April 9, 2015 | Discards Implementation Group | Dublin |
| April 9, 2015 | Mackerel Egg Survey Meeting | London |
| April 10, 2015 | Horse Mackerel Management Plan Meeting | London |
| April 13, 2015 | EAPO Discards WG | Paris |
| April 15, 2015 | Operational Programme Monitoring Committee | Clonakilty, Co Cork |
| April 20, 2015 | Fisheries Council | Luxembourg |
| April 21, 2015 | Pelagic Advisory Council | Bilbao |
| April 22, 2015 | Landing Obligation Conference (DiscardLess Project) | Bilbao |
| April 22-23, 2015 | North Western Waters Advisory Council | Bilbao |
| April 24, 2015 | Whitefish Quota Management Meeting | Dublin |
| May 5-9, 2015 | ICES Advice Drafting Group Herring | Copenhagen |
| May 11-12, 2015 | Fisheries Council | Brussels |
| May 13, 2015 | BIM Seafood Leadership Workshop | Naas, Co Kildare |
| May 29, 2015 | KFO AGM | Killybegs |
| June 8-12, 2015 | ICES Advice Drafting Group Celtic Sea stocks | Copenhagen |
| June 16, 2015 | Fisheries Council | Luxembourg |
| June 16-17, 2015 | ACRUNET Final Partner Meeting | Roscoff |
| June 25-26, 2015 | EAPO AGM | Roscoff |
| June 30, 2015 | ICES Advice issued demersal and herring stocks | Copenhagen |

Head Office: Killybegs Fishermen's Organisation Ltd.,
Bruach na Mara, St. Catherine's Road, Killybegs, Co. Donegal.
Tel: (074) 9731 089, (074) 9731 305, Fax: (074) 9731 577,
Email: kfo@kfo.ie Website: www.kfo.ie
Dublin Office Tel: (01) 825 8846, Fax: (01) 825 8847