



Prospects of Chaos and Conflict at Sea and Ashore in Event of "No-Deal" BREXIT



The EUFA delegation including Killybegs Fishermen's Organisation CEO, Seán O'Donoghue (second from left, front row) which met EU Chief Brexit Negotiator, Michel Barnier (fourth from left, front row) in Brussels

Three and a half years after the referendum and three United Kingdom Prime Ministers later, the population of the UK, and the 27 other member states of the European Union, await clarity on the final outcome of Brexit. To date, millions of Euros, and GB Pounds, plus uncountable man-hours, have been spent preparing for Brexit-day which is currently pencilled in for October 31 but, given the bizarre progress of this process so far, the only certainty is the outcome constitutes a threat to the Irish economy and, in particular, the Irish fishing industry.

While all EU countries which fish in UK waters will be negatively affected by any form of Brexit, Ireland will suffer most acutely as much of its most lucrative fishing takes place in UK waters; for instance, of Ireland's most valuable catches, mackerel and Nephrops, 60 percent and 40 percent respectively, are caught in UK waters. In 2018 the Irish seafood industry was valued at €1.25 billion and employed 14,300 people predominantly in rural, coastal areas. In Killybegs the seafood sector accounts for 82 percent of economic activity with Ros a' Mhíl and Castletownbere coming in at 92 percent and 86 percent respectively. The loss of landings from the UK traditional fishing areas would be catastrophic for these major fishing ports and Irish fleets confined to their own EEZ will have to share a limited resource with similarly displaced operators from other EU countries.

At an international level the negotiating relationships, bi-lateral and Coastal States

agreements, built up over decades are in jeopardy and, at best, will require considerable review. The management of stocks and their continued sustainability is highly dependent on the network of cooperation built into these agreements and may be undermined in the event of a "No-Deal" Brexit.

To strengthen Ireland's position post-Brexit, Killybegs Fishermen's Organisation has been aligned with the other EU fishing nations which will be most affected, and which have grouped together under the European Fisheries Alliance (EUFA). This group has ensured the threat of being displaced from traditional fishing grounds has been kept to the fore in all negotiations so far and have won the critically important assurance from Michel Barnier, Chief Brexit Negotiator for the EU (see photo), that access to fishing grounds will be linked to future trade agreements irrespective of "Deal" or "No-Deal."

The fall-out from a "No-Deal" scenario is not limited to economic issues. Enforcement of the UK EEZ borders would be a mammoth task; Ireland alone has an almost 3,000km boundary, which extends westward into the North Atlantic. The risk of vessels displaced from their traditional fishing grounds taking the law into their own hands is very real and could end disastrously on the high seas. Such events are not unknown in the fishing industry and must be considered during negotiations to avoid the inevitable chaos.

Latest ICES Advice shows Mackerel up 20% on the revised May 2019 Advice

On October 1, ICES released 2020 catch advice for a number of widely distributed stocks including NEA Mackerel, Western Horse Mackerel, Blue Whiting, Atlanto-Scandian Herring and Boarfish.

The 2020 catch advice for NEA Mackerel of 922,064t is given on the basis of the MSY approach as there is no long-term management strategy agreed by all parties. This advice represents a significant increase on that issued for 2019 in September 2018 and is approximately 20 percent higher than the revised 2019 advice which was issued following the inter-benchmark of the assessment carried out in early 2019. During the inter-benchmark, the data input to the assessment model from catches of tagged fish was reviewed. Additionally, a number of model settings were updated and stock reference points were revised, including an increase of F_{MSY} from 0.21 to 0.23. The updated assessment indicated a change in the perception of the stock, increasing the overall biomass although still indicating a declining trend from a high level in the most recent years. The 2020 catch advice is based on a subsequent update assessment carried out in September which takes into consideration the most recent available data including the estimate of stock size from the 2019 egg survey, the swept area summer survey and an updated recruitment index. This assessment has further revised the stock size in recent years upwards and, combined with above average recent recruitment, this leads to the increased catch advice for 2020.

The 2020 catch advice for Blue Whiting is 1,161,615t, based on the agreed long term management strategy. This is similar to the 2019 advice and the stock level remains well above the $MSY_{Btrigger}$, the biomass at which point advice would be for a reduction in exploitation. Of concern however is the low level of recruitment observed since 2016 which may lead to reduced catching opportunities in the near future.

The 2020 catch advice for Western Horse Mackerel is significantly reduced from that for 2019 (down 42 percent). Although there are indications of a modest increase in stock size on the back of improved recent recruitment, the stock remains close to the lowest observed level. The reference points for this stock were examined during an inter-benchmark exercise earlier in 2019. The updated values indicate that the stock is currently below the MSY biomass reference point and so the advice is based on a reduced F_{MSY} value.

(Continued on page two)

Latest ICES Advice shows Mackerel up 20% on the revised May 2019 Advice

Catch advice for Atlanto-Scandian Herring in 2020 is 525,594t. Although the stock is above the MSY biomass reference point, the stock size has been declining steadily over the last decade, leading to an 11 percent reduction from the 2019 advice. Boarfish advice for both 2020 and 2021 was also issued this year. Following a sharp decline between 2012 and 2014, the assessment indicates a stable biomass since 2014. Catch advice is given based on the trend in the assessment and, given that the stock reference points are undefined, includes a precautionary reduction leading to catch advice of 19,152t for each of 2020 and 2021.

The 2019 Mackerel and Horse Mackerel Egg Survey (MEGS)

The Mackerel and Horse Mackerel Egg Survey (MEGS) surveys are conducted every three years. The 2019 survey ran for approximately six months (Feb-July) and consisted of 18 separate cruises undertaken by eight countries, repeatedly covering an extensive area from Cadiz to Iceland and the Norwegian coast. Samples are taken at regular stations by a Gulf plankton sampler which filters a measured volume of water during a double oblique tow whilst being towed at 4 knots. The sample is taken from close to the surface down to a maximum sampling depth which is 200m or 20m below any thermocline and back up again. Once a tow is completed, the sample is retrieved from the Gulf and preserved for further analysis which includes the identification and counting of freshly spawned mackerel and horse mackerel eggs. In 2019, 1,780 samples were collected over the total of 349 survey days.

Peak spawning for the western component of mackerel was observed during April. It is important for the survey to adequately cover the timing of this peak which has fluctuated greatly in recent surveys with very early spawning (Feb/Mar) observed in 2013 and late spawning (June) in 2016. For the southern stock component the timing of peak spawning was similar to that in 2007 and 2010, but earlier than in 2013.

As in 2016, eggs were observed over a wide area although the level of spawning was lower than that seen in 2016. Overall, the egg production for the western component was 20 percent lower in 2019 whereas there was a large increase for the southern component. The western component is much the larger component and so the overall egg production in 2019 is lower than that from 2016.

In order to calculate stock size from observed egg numbers, it is necessary to calculate the fecundity from samples of female fish. This analysis is a lengthy process and the 2019 samples have not yet been fully processed. A preliminary estimate, based on the fecundity samples processed so far results in an estimate of 3.1Mt for the SSB in 2019 (down from 3.5Mt in 2016). This estimate will be finalised when the remaining samples are processed.

Initial results for horse mackerel indicate that the spawning area and timing of peak spawning was also adequately captured by the survey. Peak spawning occurred in July, similar to earlier surveys. However, egg production has reduced by 50 percent from that observed in 2016 with rates in Biscay particularly low.

New Technical Conservation Measures Get Greenlight

Following more than two years of negotiation, a new legislative framework for the conservation of fisheries resources and the protection of marine ecosystems through technical measures across all EU waters entered into force in August. The new rules are contained in Regulation (EU) No 2019/1024.

While the agreed Regulation simplifies the existing technical conservation measures that had become highly complex over the years, it differs significantly from the original Commission proposal. Many in the fishing industry and indeed NGOs had generally supported the Commission's original approach, which has become somewhat diluted during the negotiations between the Council and the Parliament. Many derogations along with catch composition rules in a different format have been re-introduced. In tandem with the rules included in the discard plans for the North Western Waters the mesh sizes rules have been even more complex than those included in the previous technical measures.

The main elements of relevance to Ireland are:

- A new baseline mesh size for trawls and seines of 120mm or at least 100mm in the Celtic Sea will apply in North Western Waters.
- Smaller mesh sizes are allowed for prawn fisheries, directed fisheries for hake, megrim and anglerfish, as well as for fisheries for whiting, mackerel, sole and species not subject to catch limits. Such gears are only allowed provided by-catch of cod, saithe and haddock are caught in low quantities (less than 20 percent.)
- Where the discard plan for North Western Waters (Regulation (EU) 2018/2034) introduces more stringent gear requirements (as recently introduced for the Celtic Sea and Irish Sea) these measures will apply. These include a range of selective gear options allowed in whitefish and prawn fisheries in the Celtic Sea and Irish Sea.
- The mesh sizes for beam trawls and pelagic species remain unchanged.
- New baseline mesh sizes are defined for gillnets although these do not diverge from the previous mesh sizes for such gears.
- The minimum conservation reference which replaces the minimum landing sizes have remained unchanged.
- Most of the existing closed areas (e.g. Celtic Sea cod closures, mackerel box, Rockall haddock closure, Greencastle Cape closure and Porcupine closure) remain in place. However, changes have been made to the Irish Sea cod box, where all the

previous derogations have been removed.

- The restrictions inside the so-called "French Line" running along the continental shelf off the northwest have been removed, while the herring boxes in the southwest have also been deleted with the intention to regulate this fishery through national measures.
- Existing closed areas to protect sensitive deepwater corals remain in place.
- New rules introducing quantitative indicators to help reduce unwanted catches of marine species below minimum conservation reference sizes are included. These indicators are rather poorly defined, and it is unclear what they are and how they will be monitored.
- Restrictions on the bycatch of non-commercial and sensitive marine species including mammals such as whales, dolphins and porpoises, seabirds and marine reptiles are also defined.
- A total ban on electric pulse trawl fishing from July 1, 2021, with the possibility for member states to immediately prohibit or restrict this type of fishing in their coastal waters in also included. A phasing-out period to allow the sector to adapt is provided.
- Regional groups of Member States will be allowed to develop additional mitigation measures in their joint recommendations to reduce the impact of fishing on sensitive species and habitats.
- Member States will have other tools at their disposal, such as real-time closures and restrictions on the construction and operation of certain fishing gears, to improve selectivity and the protection of the environment under certain conditions. These can be implemented through regionalisation.
- Scientific research will continue although it will have to be carried out in line with stringent conditions. In order not to close the door to innovation in the sector, the regulation includes the requirement of a future Commission report on the impact of innovative gears on marine ecosystems, sensitive habitats and selectivity.

Full details of the new rules can be found on BIM's recently launched Fisheries Management App, which is available at www.Fisheriesmanagementchart.ie.

Marine Stewardship Council (MSC) Moves the Goalposts for NEA Mackerel

The Mackerel Industry Sustainability Alliance (MINSAs), of which the KFO is a key member, is committed to the sustainable management of NEA mackerel. To get recognition for their commitment and improve the market for a top-class product, the members of MINSAs sought certification from MSC which was awarded in 2016 after a period of assessment lasting several years.

However, due to high-handed actions of other non-aligned countries with less regard for sustainable management, the MSC certification was under threat. The threat became a reality when ICES issued advice in September 2018 which seemed to indicate there was a problem with a dangerously low stock biomass estimate. ICES did qualify this advice by highlighting an issue regarding the assessment itself, and shortly after indicated it would resolve the issue which gave rise to the underestimate and provide an inter-benchmark report to rectify the situation. In the meantime, the 2019 mackerel quota was reduced by 20 percent. In May 2019 ICES hugely revised upwards its 2019 advice by 80 percent, which meant instead of a 20 percent reduction agree by EU, Norway and Faros for the 2019 TAC it should have been a 20 percent increase.

The mackerel certification bodies (CABs) concerned, including Lloyd's Register (formerly Acoura Marine) which is the MINSAs CAB, re-scored the fisheries resulting in a suspension of the MSC certification in March 2019 but did accept a corrective action plan submitted by MINSAs.

At the end of March, ICES issued its inter-benchmark report which, as expected by industry, reversed the earlier estimate of SSB upwards from 2.35Mt to 4.16Mt; not only was the stock in a healthy state, recruitment was the best it had been in this time-series. In May ICES published a revised 2019 mackerel TAC to reflect this new advice.

MINSAs fully expected this new ICES Advice would open the way to remove the suspension of MSC and was supported by Lloyd's Register, but the request was refused on the grounds there was not an agreed Harvest Control Rule. The debate between the CABs and MINSAs, largely based on technicalities of the MSC system, has been back and forth over the summer months and has finally been referred to the CABs overseeing body. Currently the MSC certification for MINSAs has been formally suspended.

Since the last update from the herring stock identification project there have been many significant developments in the project. As mentioned in the last update, EU funding was secured to continue the project for an additional three years and to expand it further by also studying morphometric differences between the different herring populations. This collaborative project between University College Dublin, the Marine Institute and Marine Scotland Science is now reaching the end of its second year and final results will be available by the end of 2020.

Preliminary results to date support previous findings, in that the 6aN autumn spawning herring collected north and northwest of Cape Wrath represent a different population to the spawning fish collected in 6aS in the Donegal Bay, Lough Swilly and Lough Foyle areas. The Celtic Sea and Irish Sea also comprise distinct populations. No significant genetic population structure was detected between the 6aN and the North Sea spawning samples, which indicates a high level of mixing between these areas. Genetically distinct spring spawning populations have also been identified in 6aN and Milford Haven though they are both currently thought to be small populations.

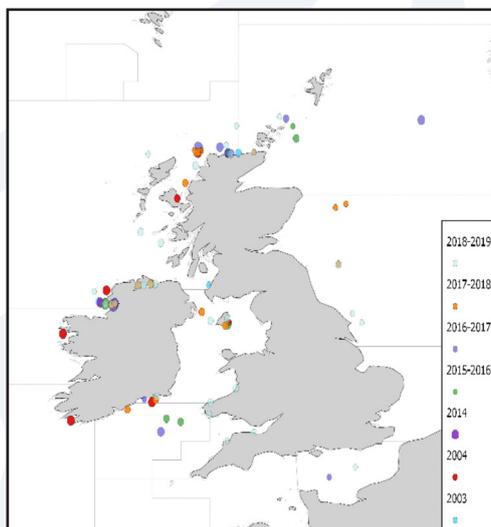
Of particular interest is that recent results also indicate that the fish collected in 6aS do not comprise a single spawning group. There appears to be at least two genetically distinct groups of herring in 6aS, one of which spawns primarily in winter (November and December) and one which spawns later (from February onwards.) The distribution and abundance of this second group is unknown as they have not been targeted in the monitoring fishery up to now. It is important to accurately characterise this late spawning group as they may contribute significantly to the biomass of herring in the area and it is important that they can be distinguished from the 6aN herring. To this end a provision has been made in the allocation of quota for this year's monitoring fishery to enable collection of samples from January to April 2020.

In addition to the ongoing sample analyses we have also developed a strong collaboration with researchers in Norway, Sweden and Denmark who are working on a project entitled Genetic Adaptations Underlying Population Structure in Herring, *Clupea harengus* (GENSINC). The aim of their project is to genetically sequence the complete 'genome' or full genetic blueprint of herring from multiple populations to try to understand how herring have adapted to many different environments. The initial results of this project have demonstrated that herring populations are highly adapted to the different areas and environments that they spawn in and form many isolated local populations. This is relevant to stock identification issues because if the full genome is available for our populations of interest then we can use it to identify more informative genetic markers for distinguishing between our populations. Through the collaboration, this has now been completed for the populations around Ireland and from this we have been able to identify a number of additional markers that may be very useful for discriminating between the different populations. In order to test their applicability, all the spawning baseline samples collected to date are currently being re-analysing with the new markers. This is a large undertaking,

as the sample set now comprises over 6,500 herring (Figure 1), but it will ensure the final baseline dataset is as robust as possible.

It is expected the baseline will be finalised before the end of this year and then the mixed samples collected during the Malin Shelf Herring Acoustic Survey will be compared to it. It is these samples that will be used to split the survey index into its 6aN and 6aS components, thus providing data for two separate stock assessments. Genetic samples have been collected since 2014 so once the genetic method is finalised it will be possible to split the index back to this date. However, morphometric data has been collected since 2010 and this is the reason it was included in the project. Analyses are currently underway to determine if the morphometric method is working and if the data agree with the genetic data for the 2014-2019 samples. If they are, then it may be possible to use morphometric data alone to retrospectively split the time series to 2010. This would provide a longer time series, which is preferable for the 6aN and 6aS stock assessments.

Whilst there has been much work done to date there is still a significant amount to be completed before a new assessment can be undertaken on the divided stocks. It may seem like the project is taking a long time to complete but it is important that the final results are as robust as possible and stand up to thorough review at ICES. There have been numerous attempts to split these and other herring stocks in the past, however these have been largely unsuccessful and have not been incorporated into assessment and management. It is envisaged that the results of the current project will contribute significantly to improving the long-term assessment and management of the 6a stocks.



(Figure 1) The distribution of herring samples analysed to date

The 6a 7b–c herring stock occurs to the north of Ireland and west of Scotland. Commercial catches reached a maximum of 250,000t in 1973 but have shown a constant decrease since the early 1980s. Stock identity in this area has always been a challenge. In 2015, the stocks were benchmarked and scientists could not segregate them in the summer indices. As a result, the two stocks were combined in a single assessment.

The combined assessment showed a continuing decrease in biomass (<Blim) which led to a zero catch advice for 2016 and the following years. ICES advised that if a monitoring fishery were to be permitted that a TAC of 4,840t would be sufficient to facilitate the collection of commercial catch samples to support the assessment. Since 2016, a TAC of 5,800t has been set annually. To address the stock identity issue, close collaboration between industry and scientists led to research projects on the use of cutting edge genetic methods along with body morphometry and otolith shape (inherited from WESTHER and SGHERWAY) to develop new tools to identify stocks in the historical acoustic surveys. In 2016, two quota funded spawning period surveys were started to derive new abundance indices at a time when stocks are not mixing.

Should the zero catch advice on this stock be implemented without continuing the scientific sampling programme with the commercial vessels, it will have the following potential consequences:

- The assessment quality may deteriorate. It may also in the short term reduce the quality of future assessments if stocks are split.
- Sampling on spawning grounds required by the 6a herring project would rely only on spawning period surveys (if funded) that cover a short period of time and are not flexible. The monitoring fishery that covers the whole spawning period would reduce the risk of missing the spawning fish.
- The Scottish spawning survey that started in 2016 may have to find an alternative source of funding. That would impair the utility of the time series of this survey in the assessment in the short term

In conclusion, the scientific sampling programme carried out by commercial vessels is a useful mechanism to support the assessment and is helpful to collect required data to develop tools to determine the herring stock structure in 6a and 7b–c.

Editorial



by Sean O'Donoghue

CHIEF EXECUTIVE, KFO



Brexit continues to be the most important issue and greatest threat to the Irish seafood industry. A "No-Deal" Brexit will reduce Irish fishing opportunities, such as pelagic species and Nephrops, to such a degree that the critical mass required to operate at our current level will be destroyed with little prospect of being replaced. Our red lines must include, avoidance of "No-Deal" and no dilution of arrangements already agreed; fisheries negotiations must not be separated from the post-Brexit Free Trade Agreement; our current access and quota share must be maintained including our Hague Preferences and, importantly, all fisheries negotiations must be within the remit of the Chief Negotiator of the Free Trade Agreement.

The EU Brexit Negotiator, Michel Barnier, is very sympathetic to the cause of European fishers who may be displaced and has assured us (page one) that access to fishing grounds will be firmly linked to any future trade agreement but, without an acceptable withdrawal arrangement, trade agreements are a distant prospect.

We continue to have some concerns regarding the ICES Advice. The 20 percent increase for mackerel on top of the revised 2019 advice does not come as a surprise, as it confirms our opinion last year based on the evidence on the ground. However, the scientific advice for Western Horse Mackerel indicating a 42 percent reduction is worrying particularly when compared to the unexpected increase last year; the PelAC is considering a proposal for an alternative re-building plan for this stock.

Regarding the Scientific Quota for Northwest herring, it is imperative that this data collection effort continues as the eventual splitting of the stock relies on a complete data series. Incomplete data at this stage would render the genetic and acoustic work already done useless and an expensive waste of time and resources.

It must be remembered that the ICES Advice is not the final word on fishing opportunities for 2020; that will be published by the Commission at the end of this month.

While Brexit is still the biggest threat, we are also looking at a "perfect storm" of environmental issues with the looming implementation of Marine Spatial Planning (MSP), the Climate Adaptation Plan and a number of bio-diversity targets in the near future. The MSP team will hold an information workshop in Killybegs on October 15 in the Tara Hotel; it is important all those with an interest attend.

Brown crab has long been one of our most valuable species and critically important for both dedicated offshore vivier crabbers as well as seasonal inshore fleets. In recent years the growth of major Asian markets has had a major impact on all European brown crab fisheries with an unprecedented rise in demand and price. While this has been a bonanza for many operators it is not without threat as a fishery which is not subject to the usual constraints of TAC and quota allocations or, in Ireland, licence restrictions, becomes the target of unmanaged increased effort. It is imperative that the various bodies with an interest in this fishery come together and focus on a workable management plan and avoid the inevitable "boom and bust" scenario which is often the outcome in these situations.

I am very disappointed in the completely unacceptable and unprofessional stance taken by MSC following the mackerel ICES Advice debacle earlier this year. The MSC system of assessment of sustainable fisheries is obviously not fit for purpose when it suspended certification of the MINSAs group on the basis of what was admitted to be erroneous information. MSC needs to examine its assessment system to ensure its certification rewards those engaging in sustainable fisheries and not those who flout the regulations.

It gives me great pleasure to congratulate Dr Paul Connolly on his appointment as CEO to the Marine Institute on the upcoming retirement of Dr Peter Heffernan. I have had the pleasure of working with Paul for many years and can vouch for his legendary knowledge and dedication to fisheries improvement. The Marine Institute has proudly represented Ireland on the global scientific and maritime stage for many years and I have no doubt will attain even greater heights under his expert guidance.

Important Dates October - December 2019

DATE	MEETINGS	VENUE
Oct 1	ICES Advice (Pelagic Stocks) Published NPWG	Copenhagen The Hague
Oct 2	PelAC WG1 & WG2	The Hague
Oct 3	PelAC General Assembly & Executive Committee	The Hague
Oct 4	Industry/Science Partnership	Dublin
Oct 10	MAC Workshop on Traceability of Fisheries	Brussels
Oct 14-15	Fisheries Council	Luxembourg
Oct 15-17	Coastal States (Mackerel)	London
Oct 22-23	Coastal States (Blue Whiting)	London
Oct 24-25	Coastal States (Atlanto-Scandian Herring)	London
Oct 24	Quota Management Advisory Committee (QMAC)	Dublin
Nov 6	LDAC WG1, WG4, Extraordinary ExCom	Brussels
Nov 7	LDAC WG5 MAC Workshop on Marine Plastics	Brussels Brussels
Nov 8	Inter AC meeting	Brussels
Nov 11	LDAC WG2	London
Nov 12	NEAFC AGM	London
Nov 18	Fisheries Council	Brussels
Nov 18-19	EU/Norway 1st Round Negotiations	Brussels
Nov 25-29	WKIrish Workshop for single species stock assessments	Dublin
Dec 2-6	EU/Norway 2nd Round Negotiations	London
Dec 16-17	Fisheries Council	Brussels

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