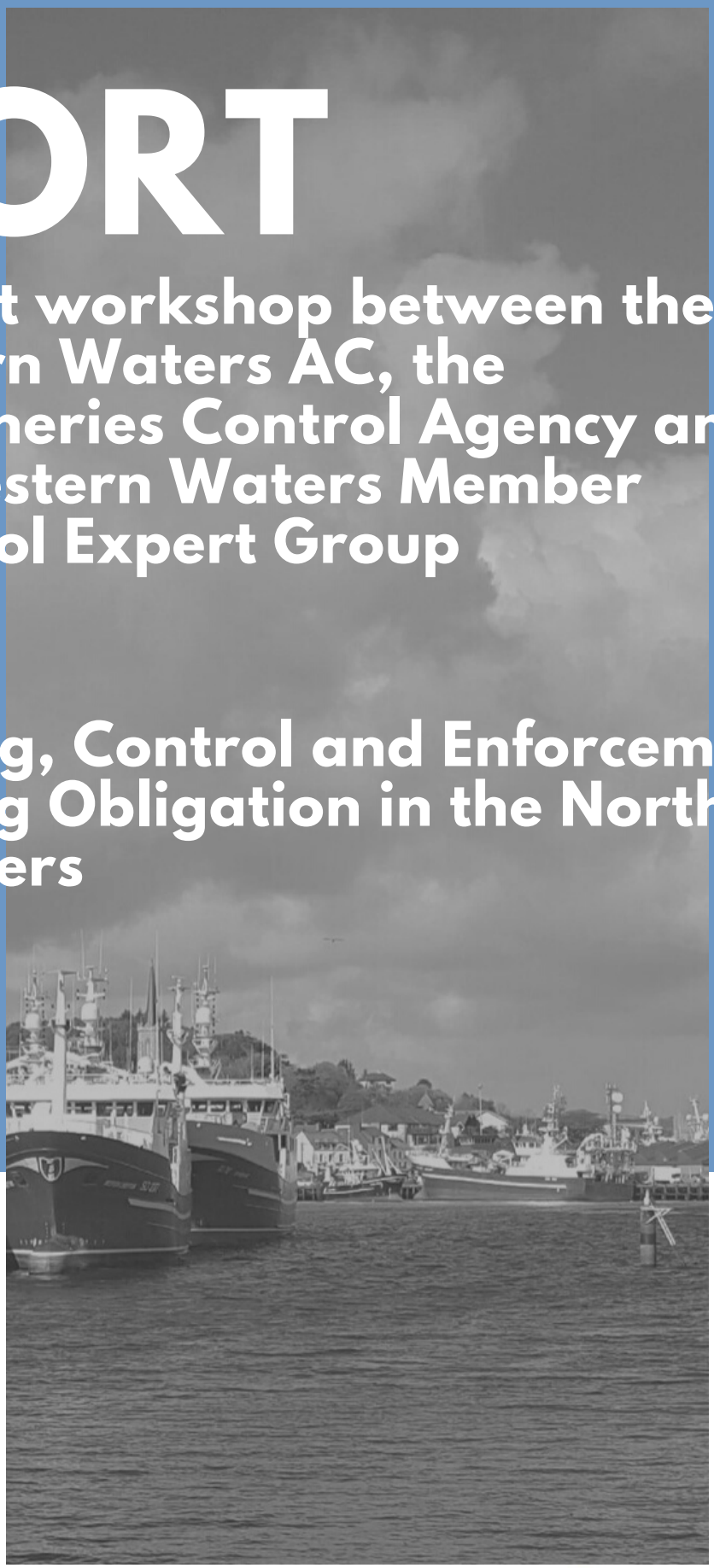
REPORT

From the joint workshop between the North Western Waters AC, the European Fisheries Control Agency and the North Western Waters Member States' Control Expert Group

On Monitoring, Control and Enforcement of the Landing Obligation in the North Western Waters



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INTRODUCTION

With the full implementation of the Landing Obligation (LO) having come into effect in 2019, one important issue is the evaluation of compliance in different areas, which is part of the European Fisheries Control Agency's (EFCA) remit, as well as influencing opinions within the industry regarding the implementation of the LO.

This workshop is the result of cooperation and collaboration between the North Western Waters Advisory Council (NWWAC), EFCA and the Control Expert Group (CEG) following the publication of EFCA's report on compliance with the LO in the North Western Waters (NWW).

Since its inception in 2005 NWWAC members have paid close attention to the developments in the field of monitoring compliance and control, and the act produced advice on many aspects of control in the different existing regulations. The most recent development is the continuance of the Focus Group Control, where the advice on the Commission's proposal for a new control regulation was prepared. This Focus Group recently also drafted the recommendation on how to improve operations between EFCA and the CEG.

Another specific objective of this Focus Group is to present draft advice to the NWWAC's Executive Committee on the follow up on the EFCA report on the monitoring, control and enforcement of the implementation of the landing obligation. This should include a risk analysis.

This workshop was a welcome opportunity for dialogue on this topic between EFCA, the Member States' Control Expert Group, the European Commission, and the AC.

DISCARD DATA & SCIENTIFIC ADVICE

Current situation and future needs for estimating discards

COLM LORDAN, ACOM VICE-CHAIR, ICES

The International Council for the Exploration of the Sea (ICES) is a scientific network that operates in the North Atlantic but has a global reach. It has over 5,000 experts involved from 700 different scientific institutes and organizations with a broad range of disciplines involved in the advisory process. There are over 150 expert groups meeting on an annual basis and contributions from 60 different countries. ICES' objectives are, firstly, knowledge creation and sharing; secondly, to provide the evidence base for scientific advice; and thirdly, to develop data tools and techniques that underpin it. Finally, ICES is involved in developing training, conferences, and workshops around scientific assessments and advice. Most importantly in this context, ICES is the key knowledge provider for decision-makers, providing best available scientific advice to a number of national and international authorities, including the European Commission, Norway, Iceland, OSPAR, NEAFC, NASCO, HELCOM, FAO, NAMMCO, and NAFO. ICES provides advice on approx. 240 fish stocks on an annual basis, on the fishing opportunities for those 240 fish docks, as well as advice on by-catch issues, deep-sea impacts, vulnerable marine habitats, Marine Protected Areas, and other marine eco-system related scientific advice.

One key aspect of the scientific advice is the underpinning data that comes in a European context from the Data Collection Regulation whose objective it is to improve the understanding and monitoring of commercial species, to understand the dynamics of single and mixed fisheries, and to improve ecological modeling at a regional basis. This data feeds into the ICES stock assessments.

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To estimate discards ICES looks at the overall level of fishing effort followed by an analysis of the effort that was sampled by the scientific observers. The ratio between the samples efforts to the overall effort is then used to raise the scientific estimates up to an overall estimate, which is also done similarly with trips, there may be a sample 10 trips out of 500 trips, for example, which would be raised, i.e. the estimates generated from those 10 trips up to the 500 trips. Using these different raising metrics, some quite different estimates may be arrived at.
If different countries are involved, the national institutes in those bring their estimates to the ICES working groups where those estimates are compiled and then quality checked as well by the expert group in ICES.

Once there are estimates of landings and discards, the assessment methods tend to use numbers at age in the population and numbers at age and the catches and inputs to the stock assessment. These numbers are an input to the stock assessment. The stock assessment itself works on the numbers of fish in the catch to provide an overall estimate of fishing mortality, spawning stock biomass and recruitment. Available numbers at age in the catches are combined with survey information, from which an estimate of the total catches from the stock is produced.

From the stock assessment, an estimate can be made of fishing pressure or fishing mortality over time and spawning stock biomass (that is the size of the mature part of the population). An estimate of recruitment can be arrived at. This is the number of juvenile fish coming into the population over time. A difficult issue for ICES relates to the quality of the stock assessment. This is where, every year when the stock assessments are updated, the new assessment is rescaled or changes the level of spawning stock biomass.
One of the potential issues causing these problems with the quality of the assessment is the accuracy of the catch information that is put into the stock assessment, which depends on the accuracy of landings reported, and also the accuracy of the estimates of discards that are put into the stock assessment.
This is one of the key concerns driving the quality of the assessments in addition to the accuracy and precision of the sampling data. This issue does not only relate just to the actual total volumes of landings and discards, but also to how well the sampling for length and age distribution has been achieved.

Other factors that impact on the quality of the assessments include survey coverage and variability in surveys for example. But the most important thing to get accurate catch data (landings + discard).
In the ICES advice sheets, various forecasts of stock development in the short term under different fishing mortality scenarios are presented. Under the CFP, the management objective is to fish stocks at maximum sustainable yield. For the NWW, a multi-annual management plan is also available, which has a range in the fishing mortality range from FMSY lower, which is the lowest fish mortality that will maximize sustainable yield, to the FMSY upper fishing mortality that will maximize sustainable yield.
When asked by the European Commission to give advice based on these ranges, average landings and discard rates over the previous few years are taken into account. The assessment is run on catch data which is then partitioned into landings and discards based on the observations of discarding in the recent past (usually the last 3 years).

In terms of future discard estimation needs, the introduction of the Landing Obligation (LO) has complicated the role of the scientific catch observers. Previously, their role was just collecting scientific information, since the introduction of the LO having a scientific observer onboard your vessel has increased the risk to particular vessels. The response has been quite variable across different countries, fleets and time to the scientific observer programmes.
Some countries have had problems getting scientific observers out to sea in particular fleets at particular times. Others have not had some so much trouble. This is quite variable across North Western Waters.
From a scientific point of view, if there are further reductions in sampling levels, this will impact on the quality of the stock assessments and inevitably lead to downgrading of the assessment categories and more precautionary advice. The less that is known in terms of the sampling data, the more precautionary the advices will necessarily have to become.

Within ICES, several working groups are looking at innovative ways to improve sampling levels, including a working group on technology and integration of fishery-dependent data that is looking at methods such as using remote monitoring to collect data on the length distributions of fish that is being seen on cameras. ICES also has a workshop on standards and guidelines for fishery-dependent data which is working with the fishing industry as well to take in self-sampling data that has been collected by various sectors within the fishing industry and figuring out ways of ensuring that the quality of that data is sufficiently good to be included in the stock assessments. Also, to improve the data flows into the stock assessments.

QUESTIONS & ANSWERS

Q: In relation to the presentation of advice, there seem to be variations between presenting the information in terms of the catch and the discards and the effect on biomass in terms of the TAC advice in future years. Why is there this inconsistency or, perhaps ICES considers it to be a consistent approach?
A: In general, ICES is trying to have a consistent approach, however, for some stocks many inconsistencies have to be taken into account which may result in a slightly different layout for that stock. Also, if no full analytical assessment is available, a slightly different format of the advice is provided.

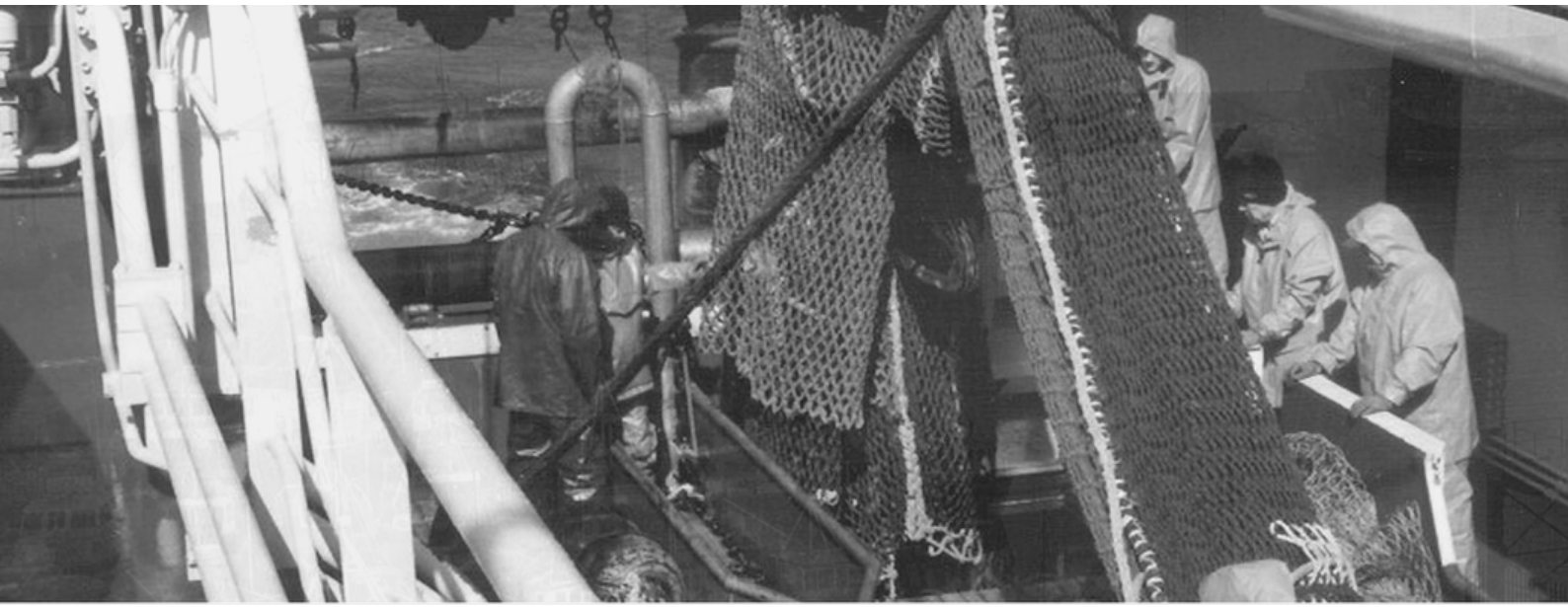
Q: Regarding the quality of the assessment, why was a problem with the precision and the accuracy of the catch sampling as there are 'experts' doing the monitoring? Some assessments have been radically changed apparently due to issues with the accuracy of the data, which seems to be the main issue for the quality of the assessment, but is this accurately reflected in the advice? In addition, is there more quality assurance now going into the assessments than there was in previous years resulting in these significant changes in the advice for some of the stocks for 2021?

A: Generally, the scientific observer rate is less than 1%, meaning less than 1% of the catches that are being made on trips with scientific observers on board. Such a low-level of scientific observations can lead to very imprecise data. If we want to improve the precision of data going into the assessments, we need to have more sampling and we need to have more accurate catch data going into the stock assessments.

In terms of assessments that have changed significantly in recent years, every three to five years, a benchmarking process takes place, looking at all the input data that is going into the stock assessments, and trying to ensure that we are using the best available data and the best underpinning information in the stock assessment.
Sometimes that benchmark process results in a change in the data that is being used and a change in the perception of historical stock dynamics.

The goal of the benchmark should be to provide the most accurate and most precise assessment that can be arrived at.
ICES has embarked on developing a quality assurance framework which will quality assure the scientific advice from end to end, so from data to the final product. This is a huge task to do at an ICES level, but work is underway with the development of systems and processes such as the Transparent Assessment Framework to ensure that all the scientific advice is fully reproducible and repeatable.

If there are issues with data that has been used in the assessment, or if there are errors in the data or changes to the data, that is flagged up in the scientific advice itself. Also, the quality of the assessments is hugely variable across different stocks. This is often down to the input data that goes into the stock assessments. Quite often, conflicting information is going into the stock assessments, for example one survey going up another survey going down or catch information going one way and the survey's going another way. In that type of scenario, the stock assessments are not as stable as we would like. It is a very stock specific issue. When that occurs, ICES looks at the causes and the reasons for discrepancies and the differences in trends between the different underpinning data sources that are used in the stock assessments.



WELCOME FROM DG MARE

EVELYN RANSHUYSEN, POLICY OFFICER, UNIT D3 – CFP AND STRUCTURAL SUPPORT, POLICY DEVELOPMENT AND COORDINATION

On 16 June, the Commission published the annual communication towards sustainable fishing in the EU. In line with previous years, this communication gives an overview on the state of play of the CFP. It also sets out the main orientations intended to shape the Commission's proposal for the fishing opportunities for 2021. In general, the LO is an important element in the state of play as it is an important element of the CFP with the objective to eliminate discards by avoiding and reducing unwanted catches and by ensuring that the catches are landed. The annual monitoring of the implementation of the LO is carried out by the Commission on the basis of various sources of information, such as reports received from Member States (MS) as well as this year from the Advisory Councils. We also received vital information via a report from EFCA, as well as the NWWAC. It is much appreciated that aside from the individual responses from every Advisory Council, the NWWAC provided some overarching observations based on its work on choke species.

What comes forward in this communication is that because of intense collaboration and exchanges between MS, fishermen, the NGOs, scientists, the Parliament, and the Commission, having taken place throughout the transition years, these have helped reaching a better understanding and, in some terms, even a common understanding of the challenges and solutions of implementation of the LO. This is particularly noticeable in the collaboration on what causes some of the discards for choke species, and the tools to be used to address these cases, for example with the choke mitigation tool.

Nonetheless, there are also challenges. There continues to be little or no data on whether overall discard rates are reducing. This element as well as lack of compliance as indicated in the Commission's audits, as well as EFCA initiatives such as the recently published compliance reports make it difficult to assess whether or not the reality at sea corresponds with real change in fishing behaviour and adoption of more selective fishing techniques. Compliance in general appears to be weak due to the lack of accurate reporting and the difficulties in monitoring the catches. The Commission considers that continuous efforts are needed to increase the selective fishing gears and techniques. This was also one of the emphasized priorities of the NWWAC, with another emphasis put on the importance to ensure adequate monitoring and control of fishing operations by using suitable modern tools. I want to inform you that on behalf of DG MARE and contracted by EASME a research study has been on the Synthesis of the Landing Obligation Measures and Discard Rates, including control and enforcement measures and discard rates. This specific study is set up to contribute to an improved understanding of the management measures put in place and to facilitate the implementation of the LO. It is to build up knowledge on whether these measures are successful in reducing discards which is the main objective of the LO. As the Commission shall report on the functioning of the CFP by 31 December 2022 to the European Parliament and to the Council, this research study is aimed to be finalised mid-2021. With this study the Commission intends to make a first attempt to do further analyses, building upon the already established knowledge and experience throughout the past years. To conclude, continuous collaboration and dialogue is necessary on this important topic, which is why initiatives like today's workshop are very important.

MONITORING THE REGIONAL IMPLEMENTATION OF THE LANDING OBLIGATION

The evaluation of compliance in the NWW fisheries

CRISTINA MORGADO, EFCA DEPUTY HEAD OF UNIT 2, EU WATERS AND NORTH ATLANTIC

One of the key roles in EFCA related to the LO is to support its uniform implementation. EFCA uses the Joint Deployment Plans (JDP) to control and to monitor the implementation of the LO and to obtain indicators of compliance. Risk analyses are developed on the risk of non-compliance with the LO where those indicators are a crucial element in the estimation of the likelihood of non-compliance. Also, a key role of EFCA is the cooperation with the regional control bodies.

EFCA also promotes the standardization of inspections through training, as well as the development of guidelines and common interpretation of the application of EU regulations.

Risk analyses are carried out due to limited resources, both human and economic. Once priorities are identified, these are implemented through the JDPs. Risk analyses form a key element of the planning of the next year's JDP. Each analysis is conducted at the fleet segment level based on a combination of gear, mesh size, and area, as well as in some cases, some split segments related to the target species.

EFCA uses a standard risk assessment methodology that was developed together with MS and is available on the EFCA website. The methodology can be adapted to data-poor cases similarly to the ICES approach, which will make the advice more precautionary. With less knowledge, less data, less information, a fleet segment will be assumed to be of a higher risk.

EFCA then prepares a fishery fact sheet. For each fleet segment, there is a compilation of information on:

- Fishery
- Level of catches
- Stock status
- Applicable regulation
- Risk characterization
- Fisheries seasonality

EFCA's standard risk assessment methodology identifies risk based on information on impact and information on likelihood. Likelihood is a combination of the exposure to the risk and also the deterrence effect. To assess the likelihood, compliance indicators are used, while the impact assessment is based on a combination of the status of the stock and the level of catch of each stock in relation to the TAC, with more weight to the stock status than to the level of catch. When conducting the risk assessment of non-compliance with the LO, estimates are used of illegal discards as likelihood information, as well as expert knowledge and other intelligence. When conducting a risk assessment, Member States' experts are invited to participate.

The results of the 2019 risk assessment were based on the stock status of 2018. The risk assessment for 2020 took place last week and is still being validated.

The information arrived at via the risk assessment is used for the planning of EFCA's control activities, which are accommodated in the recommendations of the JDP decisions. In addition, with the information received from MS regarding catch, areas can be identified for specific control actions where more control or a dedicated action may be needed, which is then agrees on for the implementation of the JDPs.

Compliance is dependent on many factors, including control strategy and effort, management measures in place, sanction policy, legitimacy and more. When evaluating compliance in relation to the LO, five different methods are used.

Two methods are more quantitative and based on discard rates. Method One, inspections, is based on the reference data that is collected during inspections at sea. This is the so-called last haul, where information of the catch composition is available, as well as information on the proportion of the catch, what is above and below MCRS.
In addition, under Method 2 scientific estimates from the data collection are used, namely those that are collected via the EU Data Collection framework. Two different types of estimates are used, the download from the FDI database, which is referred to as the STECF data in the Executive Summary. Also, information from ICES is used on a stock basis, with EFCA carrying out an evaluation for each fleet segment. Additional qualitative information is used which is based on the infringement trends that are collected during the JDPs. And finally, as Method 5, a market analysis is carried out on the utilization on unwanted catch.

The estimates obtained by the last haul are the ones that provide more information because the way the data is obtained is in line with the fleet segments. The estimates are not based on one last haul, but on the information on the catch composition. This could be the split between BMS and legal-size catch.
Logbook data of fishing trips that were not verified are also used. Different patterns can be found, some align with what is obtained with reference data and other does not. This is already an indication of non-compliance. To estimate the illegal discards, the difference of the proportions from comparing non-verified data with reference data is evaluated.
In the particular case of the compliance evaluation conducted for the NWW in 2019, only the legal size catch and BMS were used which provided an estimate of the discards. Adding the illegal estimate of discards, information on the implementation of the LO can be arrived at. These estimates of the discards are also used as likelihood in the EFCA risk assessment. If the level of discards is low, it is assumed that the likelihood of non-compliance is low. If the discards are more than 50%, it is assumed that the likelihood is high. These results are in turn then used for the planning of the monitoring and control activities via the JDPs.

The evaluation for 2016/2017 was carried out for haddock, hake, and whiting.

From the results for Method 1 it can be seen that only a very low number of last hauls was obtained, mainly due to the fact that during 2016 and 2017 most of fisheries were not included in EFCA JDPs, which at the time were only for the pelagic fisheries. Last Hauls inspections were provided by the MS.

Method 1 was supplemented this with the information obtained from STECF and ICES (Method 2). However, the FDI database did not have the data from 2017. For the two trawl fleet segments considered, the evaluation obtained low compliance for haddock in 6, 7a and rest of seven, as well as for whiting in most areas. The evaluation was not conducted for the fleet segments that were not subject to the LO. For hake, gillnets, trammel nets and longline were considered and medium compliance was identified in 7a and rest of 7, while for all the other areas for which information or data from FDI was available, the compliance was high. Essentially, there was low compliance for bottom trawls.
No infringements were recorded for 2016 and 2017. The control experts considered that there is a very low compliance but that with the current control and monitoring tools infringements to the LO were almost impossible to detect, while the industry considered that there was a medium to high compliance.
Looking at the market analysis, very few landings of small quantities of unwanted catch were recorded. When contacted, some ports stated that the compliance with the LO was generally low, which was the same for retailers, many of whom gave very low importance to the compliance with the LO when making their buying decisions, despite having statements promoting buying only compliant fisheries.

Based on both the quantitative information and the indications of the qualitative methods, the overall evaluation showed low compliance in the bottom trawl fleet segments. This evaluation did not address the recording requirements.
Although some fleet segments were subject to *de minimis* exemptions, there was very low *de minimis* recording. There was also *de minimis* recording in fleet segments that were not subject to the LO, and some MS not having the correct recording.

While considering the low infringements as well as what inspectors obtained when they do sea inspections, there is a need to have reliable reference data. The traditional control tools have proven they are not efficient in terms of monitoring and enforcing the landing obligation. When considering the characteristics of these fisheries, control experts consider that the introduction of remote electronic monitoring systems will be a much more efficient tool, either for improving or obtaining reference data, and also to monitor and to enforce the LO.

QUESTIONS & ANSWERS

Q: Regarding your analysis of the beam trawler sector, two segments were shown, the 80 to 99-millimeter segment, and the segment of less than 120 millimeters. The consideration was that the 80 to 99 was of low risk, but the 120 millimeters or less was very high risk. For our region of the NWWAC, how many beam trawlers are operating in the less than 120 millimeters segment for them to obtain this statistic? The beam trawl segment 80 to 99 millimeters consists of the entirety of the English registered beam trawl segment in Area 7. How many vessels of this segment exist for the analysis and for EFCA to conclude that they are very high risk?
A: The information used is not based on the number of vessels but based on the catch level, therefore, the number of vessels cannot be provided. The final risk presented is a product of estimations of likelihood (probability of unwanted catches), and impact (based on the stock status and catch levels). Even if there are very few vessels and the catch quantity is low, if the exploited stocks are in a poor status, the risk could be higher.
CLARIFICATION: EFCA would like to clarify that the risk results presented to the fleet segment NWW04 wrongly depicted in the presentation on the risk assessment results as "TBB 80-90mm", in fact correspond as "TBB ≥ 120mm". This fleet segment has a low risk of non-compliance with the LO. The other fleet segment of beam trawlers has a mesh size of less than 120mm (NWW05) and has a very high risk of non-compliance with LO, resulting from a high impact and a very high likelihood.

Q: In 2015/2016 discarding occurred on observation voyages on beam trawlers, and just, for example, there was a case when the observer noted that there was 100% discard of hake caught by a beam trawler. This was a startling discovery until it was realized that this related to one fish in the last haul. Yes, it was 100% discard, but it was one fish that was discarded. It would be very useful to know the absolute numbers that are being talked about in order for this segment to be classified as a very high risk of causing discards.
A: Regarding the volume this is correct, but the likelihood of discarding would be considered 100%. When the numbers are not available, it is difficult to know if this is one case for one fish, or if it is another case of several tonnes. What is clear is that the likelihood that does not change according to the volume.

Q: It seems that putting the over 120-millimeter category of demersal trawlers into the high-risk category would actually almost seem counter-productive. These are the most selective gears that we have in the regulations for demersal fisheries, and it would naturally follow, that there would be very little discards from them. Take for instance 7a, I believe that there are actually only a very small handful of boats fishing in that category in 7a of over 120 millimeters which begs the question of how these could be put into a high-risk category with a red flag.
A: This is the result of last year, and there is more detail available regarding what the main contributions were of getting into that value, if this is more a consequence of the stock status, the level of catch, or the estimates that we were assuming. Probably this is the information provided from the FDI database.

Q: The NWWAC recently submitted a query regarding the publication of the summary on the EFCA website, and that it is seeking detailed information around that. There has been correspondence stating that the MS regional groups have said that they are not prepared to allow the release of the detailed information.
It seems only very scant detailed information is available on last haul information to be making the proposition that haddock, hake, and maybe to a lesser degree whiting, can be put into the various categories. It could be assumed that standard practice that at least several representative samples would be available, not a once-off sample of the last haul that the judgments are based on. If the information behind the results is not published, then the Executive Summary should be withdrawn because people should have an opportunity to comment on the veracity of that Executive Summary.

Regarding the assessment in 5b, which in terms of EU waters is quite a small area, how many samples were taken? How many last haul samples were available for haddock, hake, and whiting in those?
It is hard to accept that the Area 6 for haddock is in the high risk, that there is a much greater than level of discards than is being recorded. Looking at the ICES columns chart, you will see that, particularly for haddock in Area 6, the discards are really quite low. The same could be said about hake. Some of this information seems subjective and not based on real data as such.
There is a problem with the summary report being published like this because people not involved in the industry may take it as gospel when it really is not. If ICES issued a report like this saying, "Well, the catch next year is a zero-catch option," as the only advice they gave, that would not be accepted by any of the players looking at the advice.
A: The Scheveningen HLG requested that EFCA should publish an executive summary of the compliance evaluation reports. In this sense, the executive summary was drafted in order not to disclose sensitive inspection data and other confidential details contained in the full report not suitable for external publication.
EFCA explained that one of the main purposes of this workshop was to explain on which basis the evaluation was conducted, including methodology and key results.It was already recognised in the executive summary that the number of last hauls is not ideal, and that the scientific discard estimates were used to confirm
and to make sure that the last haul estimates were in the right direction. The expertise of MS control experts participating in the exercise was also crucial to confirm the evaluation results. Indications given by the data available for a segment were confirmed with experts knowing these fisheries better than anyone probably, and they were confirming the results of this evaluation, even in some cases explaining that for some segments and in some specific areas the levels of compliance could be even lower than the evaluation results indicate.

EFCA welcomed the submission of any data showing different results, and explained that it would be useful to receive more verified data to use in the updated evaluation. The compliance evaluation is included in the CEG work plan for 2020 and 2021 and new data available would be evaluated. The update of this compliance evaluation will be based on more recent data, mainly years 2018 and 2019. Any data that we can use and shows otherwise, would be welcome.

MAIN ISSUES ENCOUNTERED BY THE NWWAC

SEAN O'DONOGHUE, CHAIRMAN NWWAC FOCUS GROUP CONTROL & COMPLIANCE

The position presented has been agreed and submitted by the North Western Waters Advisory Council going as far back as 2016.

1 Control and compliance with discards

Over the years the NWWAC has discussed this in depth and made specific recommendations on the *de minimis* and the high survival. The focus in the NWW has always been that discarding should be avoided and mimised as far as possible and the use of technical conservation measures should be maximised. In addition, the NWWAC has continually highlighted that the accuracy and the documentation of discards have to be a priority for the MS and indeed on the control and enforcement of it as well.
The second issue on the control and the compliance going back as far as 2016, was the level playing field in terms of third countries operating in the NWW and the EU, and that the penalties and the enforcement have to be the same for all parties both in terms of technical measures and in terms of penalties and penalty points.
The third item the NWWAC has asked for clarity on relates to Brexit and the fact that we will be in a different situation on 01January with the UK having fully left the CFP. Issues will arise around control and enforcement and the discard provisions that will apply from 01 January which need to be clarified.
The final mention goes to the collaboration between the Control Expert Groups and the NWWAC. The NWWAC feels that it has a good relationship with EFCA and today is proof of that, the organisation of this workshop.
However, there does not seem to be the same interaction with the Member States' Control Expert Group.
The NWWAC feels it would be worthwhile for the CEGs when producing documents to liaise with the AC in advance of finalizing their discussions, at least to ground truth some of their recommendations and to avoid having battles later when it is published.
We would hope that this can be significantly improved going forward, particularly with the Focus Group Control which I chair within the AC. The CEG has an open invitation to attend all Focus Group Control meetings in the hope that the FG could have input into the development of any CEG documents at a very early stage.

2 Choke situations and compliance

The fisheries in the NWW are a highly dynamic variable, and certainly have a very mixed nature. The TAC application in mixed fisheries can be very problematic, especially when the TAC for bycatch species is restrictive and opportunities for the target species as well. Setting TACs at maximum levels for target stocks in the mixed fisheries can result in exceeding the minimum advice TACs and also cause problems if we do not do that in choking of fisheries. This AC, as well as the Pelagic AC has had issues with the pelagic bycatches in demersal fisheries. This is an area that the data seem to be really poor and some of it has to be questioned in terms of the veracity of that data.

The NWWAC developed a choke identification tool investing a lot of time and effort, and receiving help from various experts, in particularly from Dominic Rihan in BIM. ALL NWWAC members are proud of this tool. Over a long period of time, this AC has produced a document which identifies stocks in terms of high risk, moderate risk, or low risk and spent considerable time in working out what each of those parameters meant.
For the higher risk one, these included stocks that had an inadequate total TAC available to actually sustain the fishery throughout the year without it actually causing significant chokes in relation to those fisheries. The Choke ID tool was updated again at the end of last year, and information can be found on the NWWAC website.
The high-risk ones were of particular difficulty of which 10 species were identified by the NWWAC, including the Haddock in 7b-k, Summary Cod in 7b-k, Sole in 7h, j, and k, Plaice in 7 h, j and k, Cod in 6a, Whiting in 6a, Haddock in 6a, Cod in 6b, Cod in 7a and Whiting in 7a. The regional MSG has been very supportive of this as has the Commission and for most of those solutions have been found in terms of bycatch provisions. This shows that the ACs can have significant input in trying to resolve particular problems that arise with the LO.

3 Risk Assessment

This AC fully accepts that high-risk vessels are identified, full control is needed.
The last time the NWWAC looked at the methodology that was being applied by the CEGs and the Director at the time was in 2016, and that has been significantly revised in the meantime. Neither the AC, nor the FG Control has had a discussion with the control expert group on the methodology which was defined in 2017 or 2018.
This was also addressed in the NWWAC advice as it was unclear how the high-risk categories were being fully identified. Maybe as an outcome of this workshop, we can look at what has been done since in terms of that.

The NWWAC suggested that the choke identification tool should be used as part of the risk assessment tool. Once the high-level vessels are agreed, our view is that additional controls should be put on those vessels, and that includes a whole range of things, from REM, to observers, to data to catch reporting.

The central point is that where the NWWAC was with the risk assessment and where the control agencies and EFCA are, are slightly different positions. The NWWAC's is out of date at this stage.
Finally, this is the control issue relating to the new technical regulation Article 27, which deals with catch composition and mesh sizes as against the requirement of Article 15 in terms of the LO.

The NWWAC is seeking clarity in relation to what it means to the vessel operating in a particular area, what are the catch composition rules and the mesh size rules that actually apply, or do they not apply as such? Just clarity in relation to the legal position. Since this is a big issue we will hopefully meet with the Commission in the not-too-distant future, and hopefully with EFCA as well to see if we can get some clarity in relation to this.

CEG: The Control Expert Group welcomes the NWWAC's offer to contribute to our work, and we might be in a position to contribute to some of the NWWAC's as well.

EFCA: This workshop is an example of the collaborations which EFCA and the Control Expert Group is open to. The inter-cooperation with the industry and the AC is a goal of the CEG work plan and is a running task with the assistance of EFCA.
The CEG is open to and has in the past participated as EFCA in meetings of the NWWAC and also informing on progress and issues of the CEG. Regarding the presentation of documents, an exchange of views might be arranged, pending a decision by the MS group, on the process of the update of the compliance evaluation. Finally, EFCA offered to have a bilateral meeting with the AC to continue discussions and to improve cooperation.

DISCARDLESS

Strategies for the elimination of discards in European Fisheries

DAVID REID, PRINCIPAL INVESTIGATOR, MARINE INSTITUTE

The position presented has been agreed and submitted by the North Western Waters Advisory Council going as far back as 2016.

This presentation is on the DiscardLess project that finished last year, focusing on the concept of choked species.
As part of the project, Discard Mitigation Strategy toolbox (DMS toolbox), was set up while also looking at the overview of the discards, avoiding unwanted catches, some degree of what to do with the unwanted catches if you still have them onboard and a various collection of models and data information. The project had several components:

- Framing and implementing discards policy
- Ecosystem scale assessment
- Fishery scale assessment
- Adaptation of gear technology
- Adaptation of fishing strategies
- From deck to first sale
- Products to the value chain

For the ecosystem-scale assessments a range of different models were used looking at the multi-species interactions in the fishery. What effect would the removal and discard of a particular species have on the rest in the system?
Several studies on the effects of stopping all discarding into the system show, for example in the North Sea, that birds, in particular, will be significantly affected. There are different bird species which are very dependent on discards. Fulmars, gannets, some kittiwakes, and skuas as well to some extent, which also has a wider impact.

The project spent a lot of time looking at the scavenger community and how much advantage they take out of the extra protein put back into the ocean. It does have an impact e.g. in the North Sea one which is carnivorous scavengers from the bottom. Most of that happens in the *Nephrops* grounds.
The scale of discarding the *Nephrops* grounds is greater than almost anywhere else, so stopping all discards would lead to some reduction in the scavenger species. Generally, across most of the system, there is very little evidence of major ecological impacts.
The project also looked at the fishery scale assessment and full implementation of the landing obligation. If there was a case of discarding as usual and ignoring the minimum landing size, revenue would increase. However, following through on the LO, financially
almost all fisheries that were examined will experience considerable reductions in the economic ability.
Full implementation of the LO will carry an economic cost.
When looking at gear modification, the problems was not that there is a lack of gear modification work, but that these are not really available to fishermen to try and work out how to use these. The project also put forward examples of what gear modification could be done (available on http://www.discardless.eu/).
A small-scale study within the project looked at the use of lighted components to the fishing net. The key to this is if one part of the fishing net is lit up, some fish might escape out of it.

One of the classic species separation problems for gear technologists is to separate haddock and whiting as they behave very similar. With this approach for the first time, we have been able to show that there is some potential for separating those two species and that would be particularly important when you have a lot of quota for whiting for instance but very little for haddock.
For the adaptation of fishing strategies, the project included the fishermen's story, the scientists' story, and the managers' story.
Tactics put forward by the fishermen which were looked at in the project include:

- Change of fishing ground
- Avoidance of spawning/nursery areas
- Information sharing
- "Moving on" after high catches of choke or <MCRS fish.
- Change of target species.
- Fishers developing quota approaches.
- Changing the depth
- Shorter hauls
- Use of sonar to target hauls

Several challenge trials were also set up in Denmark, France and Ireland to reduce the exposure stops. During the French ones it was discovered that the tactical changes fishermen can make might help, but the good places were not places they wanted to leave, so there was a tendency to try and prove that rather than explore.
In Denmark, fishermen were able to reduce their exposure to several species, for instance by implementing various measures.
In Ireland, trials were carried out by a *Nephrops* boat and a whitefish boat. One month's fishing was carried out as normal to provide baseline, and then one month's fishing was carried out while trying to avoid discards. The *Nephrops* skipper was able to reduce his exposure to cod catches, as well as reduce his *Nephrops* discard mostly via gear changes with some area moving. For the whitefish vessel, there was evidence that changing depth (going deeper) and fishing at other times of day could help.
In addition, a mapping exercise was carried out on where there were predictable discarding hotspots. These maps could be used to give guidance of where to fish and where to avoid.
This was then put it into an online app, which allowed a skipper to work on a particular species he was trying to avoid or trying to target. This app could also map above and below MCRS discarding hotspots. While the fishermen liked the App, they felt the data used was not current enough. This is true, as the data we used were from 5 years of observer data. If we had access to real catches from the fishermen, the predictable hotspots from the observer data could be linked to current data from the boats and make a better product. This is the subject of a new project iFISH, funded by the SFI, and focusing on data sharing within the fleets to get this up-to-date picture. The project is underway, and we hope to make a full presentation at the next meeting.
A Danish study in the North Sea looked at fishing for value, trying to see if the places where the most discards occurred were also the places that the fishermen could make the most revenue or profit from. It shows that there are places which do show a higher revenue per catch, as well as areas where they do get high revenue, but they also get high discard rates. This gives you a chance to know where to go and where to avoid, a tool that probably most fishermen have in their heads as they know the best places to go to make the most money.

QUESTIONS & ANSWERS

Q: The DiscardLess project finished before really the LO kicked in in many areas. When talking about birds or scavengers having an impact on the populations under the LO because of the lack of discards in the moment, are there any studies that evaluate the impact of these populations more recent than DiscardLess?
A: No not really, although work is still ongoing on this. The work in DiscardLess used modelling to explore the effect of the LO, so it could be used to consider the impact on scavengers both before and after the LO came in.

THE NWWAC'S VIEWS ON REMOTE ELECTRONIC MONITORING (REM)

SEAN O'DONOGHUE, CHAIRMAN NWWAC FOCUS GROUP CONTROL & COMPLIANCE

The NWWAC accepts that there needs to be a full and transparent monitoring of the LO, however, the key issue is that before looking at REM or additional controls, high-risk and very high-risk vessels must be identified. There is no one size fits all system, and the NWWAC believes that additional measures relate to the vessels that are in the high-risk categories in the various fleets. Appropriate tools are needed that could effectively monitor and control the LO, and the NWWAC identified a range of tools that could be looked at ranging from observers to CCTV, to VMAs, and the onshore vessel monitoring and so forth.

It is also noted in the NWWAC advice that this is obviously a controversial issue. Good communication is vital, particularly with those that are directly affected by this, and the advantages of this could be seen for all. Privacy laws and GDPR need to be respected, and there should be dedicated programmes, particularly in relation to the compliance with the LO measures.
The NWWAC sees the necessity for additional control and enforcement measures in relation to high-risk vessels that have been well-defined, and the tools could include REM and CCTV, which need to be evaluated in terms of the appropriateness and the economic situation around them, as there is no one-size-fits-all.

EFCA: Regarding high-risk vessels, EFCA evaluates the risk at the fleet segment level. When a fleet segment level is considered high risk, that means that it has a high probability or likelihood of having discards because of the gear in use, the fishing grounds, or the nature of the fisheries.

In the high-risk segment, there are compliant vessels and non-compliant vessels. When looking to put an REM programme into a specific segment that is high risk, it would allow to determine which vessels are compliant and which are not. A particular vessel is not selected because it is high risk. It is agreed that one size fits all is not the solution, and that there is a need to find different solutions for different problems. This is done in the framework of the operational plans in which EFCA is working on REM, looking at different size vessels, looking at different REM setups according to the different fisheries.

CURRRENT AND FUTURE REM PILOT PROJECTS IN THE EU

LIAM S. KENNEDY, SEA FISHERIES PROTECTION OFFICER, SFPA IRELAND

The traditional tools used by control authorities to measure compliance with fishery control requirements have been found to have a limited ability to measure complaints with the landing obligation. The tools that are available are considered quite expensive in terms of person, time, or financial resources, and perhaps without providing just high return in terms of measurable complaints of the landing obligation at a deep level.
In Ireland, the SFPA is working towards the premise that REM can provide a low-cost solution and would give real tangible measurability of complaints with the land obligation upkeep level.
In 2018, the Sea-Fisheries Protection Authority were on a project to install CCTV systems on pelagic fishing vessels to determine the pros and cons of cameras and how they can monitor and measure compliance to the LO. The project was built on three main pillars:

- The landing obligation is an “at sea” problem
- On land we can do something, but what happens at sea stays at sea.
- This technology is a solution to bring what happens at sea to land based officials.

Was CCTV a success story? Only when recalibrating what success is, which was done to in order to move on with the project. The reason to recalibrate what the success was, was that the project had been tendered out as a turnkey solution in order to get a report back on CCTV solutions.
The successful vendor was unable to engage fishing vessels to participate.

To get around this problem, the SFPA attempted to tender for fishing vessels to be paid the daily rate to take CCTV equipment on board and that failed. The SFPA could not get people to volunteer and also could not pay people enough to engage with the project. Due to these challenges, the SFPA steered away from CCTV and embraced other aspects of remote electronic monitoring, intending to explore sensor data but excluding CCTV.

This has a two-pronged approach. In 2020 and 2021, the SFPA is running remote logbook verification projects, and in 2021 to 2023, it will look at remote electronic monitoring data integration looking at both pelagic and demersal solutions. The key piece of information is to identify catch by weight or volume and arrive at a kilogram amount. Alongside that, within the same sensor suite, the SFPA is interested in identifying the fish activities that occurred, fishing areas, the number of fishing operations, and fishery operation durations. All this information would provide a very good measure of compliance with the LO.

Another benefit to this is to gain some experience with using new data streams within control work. The draft EU Fishery Control Regulation is suggesting a mandatory use of REM in fishing fleets. The introduction of REM as an efficient control tool. It has the ability to enhance the control functions but could also becoming a massive administrative burden on the control authority. The introduction needs to be planned and managed. The EFCA REM document details just the main standards for REM in fishing vessels.

As a control authority, the SFPA needs to consider how to integrate these elements into its organisational workspace. Over the next three years, the SFPA plans to prevent the data avalanche from consuming it and is considering the EFCA REM document as the standard for REM usage. The integration of the data streams is planned around the deliverables that are detailed in the document. This is a multi-phase project and includes a number of sub-projects which come together to create the entire solution:

Phase 1

- Detail current control tools used by the SFPA to comply with the fisheries control requirements.
- Identify usage scenarios which could be enhanced by REM data.
- Give an assessment of current practices used by other fisheries control authorities to implement the use of REM as a control tool.
- Detail how identified current practices align with the EFCA requirements.
- Complete an assessment of advantages and dis-advantages of the identified implantation options
- Identify the options available to the SFPA for the implementation of REM as a control tool.
- Identify the data usage scenarios other control agencies have identified for REM data.
- Develop an EM implementation plan and gap analysis for the introduction of REM
- Identify risk areas which could prevent successful REM integration into Irish fisheries.

Phase 2

- Look at identified gaps and assess how to bridge them
- Develop the administrative workstreams to be used by the organisation to manage the introduction of REM in fisheries control
- Provide an electronic interface, employable within SFPA IT systems to manage the administration of the introduction of all aspects of REM and vessel data management of which VMPs are considered to be a part of.

Phase 3

- Pilot a user interface to manage all aspects of REM data.
- Roll out the user interface to allow the full integration of REM data into Irish Fisheries control.

At this point of time, the SFPA probably has the fullest understanding of what we think a good REM solution will be, and how to manage and use data in order to add value to the work that we do.

QUESTIONS & ANSWERS

Q: The NWWAC would much welcome the opportunity for the SFPA to present to its members at a future date because it seems that the SFPA is thinking outside the box and actually moving away from the sound bite that CCTV will solve the LO and looking at it as a holistic solution in terms of REM, which is really welcomed. In addition, there are significant differences between pelagic and demersal fisheries.
Q: Noting that the intention of Ireland is to place less reliance on CCTV in favour of other sensor monitoring solutions, what would infrared sensor monitoring entail exactly? How could infrared sensors quantify the catch and in a net?
A: Infrared was discussed as one part of the projects to try and move away from CCTV or to see if we could move away from CCTV. The project is not underway yet, so unfortunately there is no definitive answer to this question.

Q: This solution would fit certain vessels, as mentioned before there are a lot of differences between demersal and pelagic fishing vessels, I think you mentioned RSW, but would not be the ideal solution for others?
A: There are very different solutions between the demersal and pelagic fleets. They are two separate projects. It would be interesting to look at the solutions which are most favoured by the industry. The SFPA just wants data and is not wed to a solution. There are two strands of projects to look at different solutions separately for demersal and pelagic because we are aware that one solution does not fit all here.

Q: Is there any information available here regarding the project from Denmark, in which around 100 vessels will be equipped with cameras in the Skagerrak during 2021 and 2022?
A: This Danish project is in the Kattegat. It is the classical REM project which relies on both cameras and sensors which will be utilized to monitor and analyse the fisheries.

This project is focused on the national fisheries, the demersal fisheries in the Kattegat where the issue is to protect the cod stock. The first 15 vessels have already been equipped and the number of vessels will gradually increase. The experience has been similar to Ireland as in that the fisherman will not volunteer for this, but Denmark has the legal base, which will be used to implement this.

MONITORING & IMPROVING COMPLIANCE WITH THE LANDING OBLIGATION

MIGUEL NUEVO, EFCA HEAD OF SECTOR 2A, JDPS AND REGIONAL COOPERATION

EFCA is carrying out several activities in supporting the uniform implementation of the LO.

- Use JDPs to control and monitor the implementation of the LO and obtain indicators
- Develop risk analysis on the LO
- Cooperation with regional control bodies (CEGs):
  - Evaluate compliance with the LO
  - Support dialogue with stakeholders on LO
  - Promote standardisation of inspections, guidelines and common interpretation of the application of EU regulations
- Coordination and engagement in the
- EFCA REM WG

When it comes to monitoring compliance with the LO, the current control tools do not provide an effective control and monitoring of the LO. Inspections at sea only provide a very limited snapshot of fishing activity. The move towards continuous monitoring could have a positive outcome in compliance levels and support fisheries management in general.

Last haul inspections and aerial surveillance are the only current tools used to monitor the implementation of the LO. Using these means the actual detection of illegal discarding is very low. The availability of last haul data is insufficient, and evaluation of compliance is difficult. Alternative tools for control of the LO, specifically continuous monitoring by means of REM systems and/or control observers, should be considered to complement the last haul inspections.
The results are from the Skagerrak project where a significant number of demersal vessels fishing for cod were equipped with CCTV in 2016 comparing catch and the proportion of grade sizes between vessels equipped with CCTV and vessels without cameras. A significant difference in the recording of grade sizes four and five can be seen between vessels with cameras and vessels without cameras. Vessels with CCTV reported a significantly larger percentage of sizes four and five which were not reported by vessels without cameras.

Last haul data was also compared between vessels with and without cameras and were identical when looking at the reporting on the observed grade sizes four and five, which was really reassuring the scheme of the last haul inspections.
Within the same project an analysis was carried out on the relative number of trips and the proportion of grade size 5 reported in the sales notes. The proportion of trips declaring zero size five caught was almost 73% by vessels without cameras, but the vessels with cameras were reporting 3% and were reporting size 5 caught also in other trips.
It is very telling that when there are no cameras, no reporting happened of grades five caught in the catches in 73% the cases. This difference is quite significant between vessels with and without cameras.

The MS and the Commission requested EFCA to create a REM Technical Working Group to work on technical guidelines, specifically on a technical definition of REM systems which could be used across MS but without looking at where REM should be implemented, or which legal framework will be used. This group was created in 2018 and published these technical guidelines and specification for the implementation of remote electronic monitoring in 2019 (link). The guidelines are presented in three parts:

A. Guidelines for implementation: Include rationale and recommendations for implementation.
B. Annex summarising the technical specifications and minimum requirements
C. Appendices:
    1. Fleet segmentation and summarised minimum requirements
    2. Vessel Monitoring Plan (VMP) for the purpose of installation

The approach from the REM WG to this task was not to reinvent the wheel, but to use the knowledge built from experiences of Denmark and the UK, and REM implementation programmes being already implemented successfully in the USA or Canada. REM providers were also consulted and the feedback on the guidelines was very positive. The REM Technical Guidelines will allow for adjustments based both on implementation experiences, and also adjustment according to future technological developments.

The work of the REM WG continues, and the group is maintained by EFCA together with the MS. One issue that is currently being examined are legal considerations and data protection.
REM analysis tools and the impact for control authorities are also considered, as there are some concerns regarding the administrative burden associated with the implementation of REM programmes. In this regard, EFCA is also cooperating with international organizations, including ICES and NOAA.

To implement the REM technical guidelines, various possibilities are open, including:

- Control regulation revision (art.13)
- Technical Measures regulation (art. 25a on pilot projects)
- Delegated acts
- National rules

EFCA is looking for a joint regional approach that would ensure a level playing field and currently has a mandate from the Scheveningen High Level Group to prepare a REM regional pilot project operational plan for the North Sea.

The EFCA Working Group is supporting the development of this plan which will be presented to the High Level Group in October 2020. Other MS are also carrying out or will carry out some pilot project in parallel to this, for example The Danish project already mentioned, and Sweden is trialing this with 15 vessels between the Baltic and the North Sea.

An obligation to insert REM systems onboard high and very high-risk vessels is under discussion with regards to the revision of the Control Regulation.
Furthermore, with Brexit coming it is not clear how the access to UK waters will be, and REM might play a role there. EFCA is also in contact with the North Western Waters High Level Group to identify if a REM pilot project might be carried out following the same approach which the Scheveningen Group has taken.

QUESTIONS & ANSWERS

Q: It is not clear what is going to happen on 01 January with Brexit, but from a fishing point of view, is the LO going to apply to EU vessels in UK waters and vice versa? Have EFCA or the CEG considered the control implications in relation to the LO as in from 01 January and what vessels will or will not have to comply with?
A: EFCA has been preparing a series of workshops on Brexit with the MS and just concluded a risk assessment from the control perspective, including EU consignments coming in and out of the UK.
Commission: In general, the CFP rules apply to Union waters. For fishing activity by UK vessels in Union waters after Brexit, they will have to respect the LO. In relation to fishing activities by Union fishing vessels in third-country waters or in UK waters after Brexit, Article 15 paragraph 2 of the CFP regulation might apply, which can provide for exemptions to the LO subject to the Union's international obligations, but it is not clear yet what those international obligations will be.

Q: How will REM operate the collation of the visual data seen on camera? Are all hauls at the same day, same trip in a year? Does the camera have to see each and every haul?
A: Each haul is going to be monitored by the cameras. In the technical guidelines EFCA recommends a series and type of cameras and of sensors that are going to be activating and disactivating the camera according to the fishing activity. The idea is that certain cameras record every time a haul is made and stop after the haul, others continue recording the catch processing operations, and some cameras may be monitoring an area 24/7. This needs to be planned according to the configuration of each individual vessel and detailed in its specific Vessel Monitoring Plan. While every haul will be recorded, control authorities will not be reviewing every haul. The REM providers already have very sophisticated software that would automatically identify the hauls to review according to the risk analysis processes, for example if through the sensors there is more tension and there is more catch and maybe point the reviewer to view that piece of video instead of another one, also cross-checking the catch in a haul with the logbook recording.
Commission: It is important to emphasize that control is essential for the successful implementation of the LO. It is absolutely indispensable for MS to ensure that effective control and enforcement is applied. There are simply too many drivers for non-compliance to expect the LO to be successfully implemented in the absence of effective control and enforcement measures. Some of those drivers are choke issues and low value catches and even a lack of buy-in from the fishing industry. The MS have a responsibility to ensure control, enforcement and inspection of all activities that come under the scope of the CFP, and that includes the LO. Member States' authorities are responsible to ensure the accuracy of catch registration data such as information on quantities discarded and quantities retained on board, as recorded in fishing logbooks. MS have to ensure that they have adequate capacity and means to ensure the detailed and accurate documentation of all catches. In this regard, conventional controls are not fit for purpose in the context of the LO. As discussed today, conventional controls, i.e. inspections at sea, inspections at landing, aerial surveillance etc., only provide a snapshot of compliance at the time of the inspection.
REM incorporating CCTV has been identified as the most cost-effective means to ensure control and enforcement of the LO. This has been demonstrated through MS pilot projects, but also in third countries where REM and CCTV has been used to provide a control solution for a variety of problems. In the absence of effective control and enforcement, it is important to recognize that the industry will miss an important incentive for avoiding unwanted catches in the first place, either through the implementation of more selective gears, or through spatio-temporal changes to fishing behavior.

In the absence of effective control and enforcement, the LO will be a failure. It will not be successfully implemented. It will result in overfishing, and this in turn will undermine the objectives of the CFP. The Commission has a responsibility to control and evaluate the application of the rules of the CFP by MS. The Commission takes the LO very seriously as it is a core element of the reformed CFP. In fulfilling this remit to control and evaluate the application of the LO, the Commission will perform audits and other such evaluations of the measures adopted by MS to ensure control and enforcement and will always be available to work closely with MS to remedy any shortcomings detected.
The importance for MS to fulfill their obligation to ensure control enforcement and inspection of the LO must be emphasised.

THE WAY FORWARD

MIGUEL NUEVO, EFCA HEAD OF SECTOR 2A, JDPS AND REGIONAL COOPERATION
EMIEL BROUCKAERT, CHAIRMAN NWWAC EXECUTIVE COMMITTEE

MIGUEL NUEVO, EFCA

Each year the EFCA Advisory Board meets with all the Advisory Councils to exchange views and raise any concerns and issues regarding fisheries control. In addition, the Chair of the NWWAC Executive Committee has requested deeper cooperation between EFCA and the NWWAC. EFCA is available for a bilateral meeting to discuss how to improve this cooperation and where more assistance can be arranged, or where common ground to enhance this cooperation and exchange for information can be found.

There is an obligation to find the best way to implement the LO, otherwise, it will be a failure regarding the objectives of the CFP and would have a negative effect on all aspects of fisheries. It is necessary to work together to find the best way of making it work, with an initial need for improving control and monitoring.

Without the right tools it is not possible to enforce the LO. EFCA has been working on this for some years now and is ready to move forward on the REM side. The resistance encountered initially regarding the implementation of REM seems to have reduced, finding practical and technical solutions to the initial problems, and there seems to be agreement to move into this new age of monitoring, and not only for monitoring and enforcement, but also for improving data and safety. In fact, many modern vessels are already equipped with a very sophisticated CCTV systems for safety issues, which could also be adapted for monitoring the catch.

EMIEL BROUCKAERT, NWWAC

Starting off with a brief recap from the NWWAC perspective, the introduction to the Control Expert Group work plan 2021 containing an evaluation of the LO was clear. EFCA asked for assistance, and the NWWAC stands ready to give advice where and when needed.

During the ICES presentation, what stood out was the difference in available data which goes back to the accurate levels and the quality issue with some of the data collections.

The Commission made it clear that compliance is considered weak because of lack of reporting. It was interesting to get confirmation regarding the EASME research study that will be finalized in 2021 and will feed into the CFP analysis which is required by the Commission by 2022.

After the useful EFCA presentation about how the evaluation was conducted, more details were requested by the attendants about the data provided per gear, reference years used and the level of implementation. EFCA promised to revert with additional information. [This can now be found in the clarification on page 09 of this report.]

The Chair of the NWWAC Focus Group Control pointed out that the Control Expert Group, EFCA, should consider sharing any information before publishing.

Details were provided on the work carried out by the NWWAC on the choke mitigation to an extent and choke identification, and the lack of discussion put forward by the Control Expert Group and by EFCA on the definition of these categories was mentioned.

Article 27 of the Technical Measures Regulations was mentioned for which North Western Waters AC has set up a separate meeting with the Commission to look specifically at the implementation of certain parts of same.

It was interesting to note that Ireland is looking at sensors now instead of CCTV based on the experience. Also noted in this whole project is the administrative
burden for the control agency on a national level.

Finally, it is clearly important for EFCA to have REM complimenting the existing control measures which are not sufficient to detect the legal discarding, a point which was repeated by the Commission representative who also emphasized the responsibility of the MS for controlling all aspects of the CFP under data collection.

The NWWAC Focus Group Control will use all points mentioned for the basis for the North Western Waters AC advice. The NWWAC welcomes the confirmation of the CEG and EFCA on their participation in the next NWWAC meeting.

The NWWAC is interested to look at all the possible tools and means to follow up and to monitor the CFP requirements.

EFCA: The NWWAC has participated in some parts of the meetings of the Control Expert Group in the past, and hopefully this can be repeated in the future. The CEG and EFCA will ensure that the AC is informed of the progress of the relevant parts of the work plan by the Control Expert Group.