

Case Study Report, Task 7.3

Synthesis and recommendations for Discard Mitigation Strategies by case study

Year 1 : March 2015-February 2016

Case Study: Eastern Channel

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1 What has been going on in this case study during the last 12 months?

The Eastern Channel case study in DiscardLess focuses on demersal fisheries which were not subject to Landing Obligation (LO) in 2015. The (EU) 2015/2438 commission delegated regulation defines the fisheries subject to the Landing Obligation in 2016. These fisheries are fisheries targeting Sole and gadoids. All fisheries catching Sole will be subject to the Landing Obligation with different specificities depending on the gear used. The Landing Obligation should also apply to whiting in demersal fisheries using demersal trawls and seines that landed more than 25% of cod, haddock, whiting and saithe combined in 2013-2014.

Based on this discard plan, several exemption have been asked by the member states and assessed by STECF (STECF-15-10)

1.1 Important changes in stock development, discard data and ecosystem

- No major changes were observed in stocks, discard data or ecosystem since no LO is in place in the Eastern Channel as yet.
- ICES has provided catch advice with the corresponding landing advice using the observed historical discard ratio (<http://www.ices.dk/community/advisory-process/Pages/Latest-Advice.aspx>) for the main demersal species (Cod, Whiting, Plaice and Sole).
- However, as a general point, the number of pelagic trawler skippers who refused to take an observer onboard increased by more than 130% in 2015 in France compared to 2014 (282 compared to 140). Among those the skippers who stated they never wanted to see an observer again and rejected the programme itself increased from 39 to 104. The pelagic fisheries are not included in the Eastern Channel case study but these figure are of major concern if they are also observed in the other fisheries in the future years.

1.2 Important changes in terms of fisheries and stakeholders perception

- The LO has not been applied to the Eastern Channel demersal fisheries yet. Therefore, no changes in the fisheries were observed until March 2016.
- Interviews were realised in Boulogne in September 2015. The main stakeholders likely to be impacted by the LO (individual fishers, representatives of fishers organisations including Committees and POs as well as processing industry and auctions) were interviewed. Interviews aimed at gathering stakeholders opinion towards the LO, its implementation and mitigation strategies to avoid discards. In this harbour fishers accepted to undertake trials of LO and test new selective gears to avoid discards or at least to reduce the quantity of discards through the project EODE (<http://www.francefilerepeche.fr/projet/eode/>, <http://www.comitedespeches-npdcp.fr/nos-actions/gestion-de-ressource/eode/>). Boulogne is one among the few French harbours having local processing industries already processing eco-products and likely to use discards if the EU regulation gives such possibility in the near future. All stakeholders view the LO as an “unfair rule” because it didn’t take into account fisheries sector interests (individual fishers opinion) but only the interests of other important lobbies (such as environmentalists). For individual fishers and representatives of the regional fisheries committee (CRPM), the LO is an obstacle for the entrance of young fishers in the sector but also it will divert crew members from this sector which already faces difficulties to recruit crew. In Boulogne, the majority of the fleet is artisanal which means that the owner of the boat is

onboard, and crew members are remunerated with shares. Thus, the main argument is that the LO will increase the workload of crew members on board without any extra income. Owners mentioned also all other extra costs, if the LO is implemented, which will reduce considerably the income of crew members but also of the owner.

For the Producent Organisation (POs), the implementation of LO will create problems on quota distribution as it will challenge the different agreements negotiated within POs on landings by species but also the quota system, at least as it is running today. Will the national quotas increase so to include discards or will discards be deducted from the current quota of each species? This is the main concern for fishers and POs.

During the implementation process, POs play the role of “educators” which means that they should explain to all fishers what is the LO and how to apply it. For the POs, the fisheries administration didn't communicate about the LO to individual fishers and fishers don't know what to do. So POs had to play this educational role. For the two POs and CRPM in Boulogne, the main difficulty is to explain the differences in LO implementation between the two regional seas, North Sea and East Channel in which Boulogne fishing fleet operates. Explanations about the differences on exemptions between the two regional seas are also provided by the PO. For many fishers exemptions appear complicated to understand and follow.

For the processing industry and the platform of innovation for the promotion of seafood (PFI) but also for the auction, the LO will be difficult to implement as it requires the re-organisation of the sector and current practices. The national project EODE run by CRPM of Nord aimed at finding solutions and prepare trawlers operating in the North Sea and Eastern English Channel to apply the Landing Obligation. Two trawlers of different size, one of 24 meters long and the second of 12 meters, decided to implement Landing Obligation and test more selective gears. Other objectives of the project were to identify opportunities to turn discards into products, to estimate the cost of creating infrastructure for that and also the cost for boats of landing non-marketable catch.

- Comparing fishers opinion expressed during interviews made in 2015 with these collected in the same harbour in October 2013 for a national project on LO (before implementation) no change is observed. Very similar views are expressed.
- At an individual level, four boats/fishers accepted to make trials on LO and also of selective gears. They accepted to participate in the trials because “somebody has to do it”. But all of them found that selective gears were not effective because of the lost of commercial species. Fishers said that when unwanted species are abundant in a fishing area they change fishing area to avoid discards and also save sorting time.

1.3 Important changes in management

Discussions on the discard ban and exemption (administration/fisher representatives)

- At national level, PO's, Regional and National Fisheries Committees, national administration and the IFREMER research institute created a national group (MOOD) where they discuss and cooperate to adopt a common position to be brought to the European negotiations on Landing Obligation. Except for its regular meetings, the working group often opens up to all actors of the fisheries related to this issue, as a way to obtain wider opinions to support the definition of the French argumentation, which will be used during the European negotiations at the regional seas level. France is involved in the negotiation process in the North Sea, Western Waters and Mediterranean discards plans. The lack of staff at national fisheries administration makes it

difficult for them to participate in all these negotiation tables. The establishment of this national group, mainly to support the national fisheries administration, impacted positively on the governance system of the fisheries industry. Often discussions were about the type of exemptions that France will claim at regional sea levels but also how to build the argument for such exemptions. Scientists are invited to contribute. The interactions between all these actors highlighted the stressful situation in which French fishers and their representatives are today.

- In France, the prospect of the Landing Obligation has created a strong incentive to increase selectivity and each PO has developed its own project. Many projects were funded from national funds and fishers actively participated. The main barriers to the implementation of the discard ban seem to be (i) the short implementation time scale, (ii) the absence of anticipation of the impacts of this regulation on fishers (impact and adaptation of the labour on board) and (iii) the lack of preparation of POs and auctions and other actors in charge of the storage and use of the previously discarded catches.
- Similarly to what happened at national level, in the Eastern Channel case study, project on selectivity are ongoing as well as project on survival rates to document exemptions. Changes are expected on quotas management but this is not yet visible.

2 The Year behind us: What has DiscardLess produced in this case study during the last 12 months?

2.1 Impact assessment

2.1.1 ecosystem scale

Current status of ecosystem knowledge and data and identification of knowledge gaps

- The compilation of several observers datasets and fishing experiments that have studied catch and discard composition of the different fleets occurring in the Eastern Channel has been realised and incorporated into the Fact Sheet (Appendix to Deliverable D1.1)

Standard ecosystem criteria for evaluating discard mitigation strategies

- The standard ecosystem criteria for evaluating the most relevant effects of discards on ecosystem has been identified and finalised in deliverable D.1.2. The descriptors considered in DiscardLess to evaluate whether the Discard Mitigation Strategies promote GES are: the descriptors 1 (biodiversity), 3 (commercial fish and shellfish), 4 (food web), 5 (eutrophication) and 6 (sea-floor integrity). DiscardLess uses a selection of the simulation models developed with Ecopath with Ecosim, OSMOSE, Atlantis, ISIS-Fish, and StrathE2E to assess the outcomes of scenarios in different case studies based on standard criteria. Indicators were defined for the following criteria: population abundance or biomass (D1), population demographic characteristics (D1), composition and relative proportions of ecosystem components (D1), fishing mortality (D3), spawning stock biomass (D3), proportion of fish larger than the mean size of maturity (D3), performance of key predator species using their production per unit biomass (D4), proportion of large fish (D4), abundance trends of functionally groups or species (D4), nutrients concentration in the water column (D5), chlorophyll concentration in the water column (D5), dissolved oxygen changes and size of the area concerned (D5), and bottom trawling effort maps (D6).

- *Discard mitigation strategies scenarios and parameterisation of operational models*
 - Current CFP regulations and available discard plans for the modeled species have been reviewed in order to constrain the initial scenarios. The way these scenarios are implemented in each models are being defined.
 - ISIS-FISH: model parameterization has been updated (based on 2008-2014 data). In order to fit DiscardLess objectives, cod and whiting population dynamics have been added and the description of discard behavior refined). Dynamic calibration is ongoing over the period 2010-2014.
 - OSMOSE: Some model development has been initiated in order to include a fleet dynamics module within the food web model OSMOSE. This work - still under progress - will allow the simulation of more realistic scenarios of landing obligation in the coming years
 - ATLANTIS: The Eastern English Channel Atlantis model has been used to run preliminary scenarios with constant F and discarding or no discarding. The analysis of the results are in progress. The fleet dynamics and management modules of the Atlantis model will be parametrised this year.

2.1.2 Fishery scale assessment

- Participation in three meetings of the EODE project and 10 interviews conducted with fishers and representatives of fisheries committee and POs. This has allowed gathering perceptions about LO and identify potential impacts that should be documented by continued observation in the coming years.
- Within WP2, a list of indicators of interest has been proposed and a comparison of indicators produced by the different models is ongoing (Deliverable D2.2). Some of these indicators (related to catch) are common with WP1. The scenarios simulated in WP2 will as much as possible be similar to scenarios in WP1, so that comparisons of results across both ecosystem and bio-economic models is possible.

2.2 Avoiding unwanted catches: fishing strategies

- *“The Fisher’s story: Challenge experiments”*

The experimental trips in the Eastern English Channel and Southern North Sea are now completed. In total 86 experimental trips have been conducted: 37 onboard a large trawler (23 m) from October 2014 to September 2015, and 49 onboard three small trawlers (11 - 12 m) May - September 2015. The vessels were recruited under three different calls, where all experimental trips were compensated for lost catch by the average earnings of a trip in the relevant fleet in 2014 – the trip catches being sold on the top of the compensation. On all three calls there were limited numbers of candidate vessels. Experimental trips were observed by professional onboard observers specifically dedicated to the programmes. A complex protocol was used with three types of fishing operations: LO fishing operations, operated as if the landing obligation was in force, where all landings weights (including unwanted catch of quota-species), sorting and tying times were recorded; the other fishing operations

were operated under the current regulation (no landing obligation), and either all the catch was identified, weighed and measured; or just landings weight and sorting and tying times were recorded.

Although data analysis and reporting are still in progress, a preliminary summary of the main findings from these experiments follows.

- ✓ Skippers and crews were reluctant to comply with the landing obligation and ended up using the experimental trips to demonstrate that increases in selectivity are difficult to achieve and/or that the costs of handling unwanted catches are disproportionate, rather than to adapt to the new regulation.
- ✓ Increases in selectivity were indeed difficult to achieve, in the sense that designing and producing new selective gears required months – a time longer than anticipated. As a result, too few trials could be made with the selective gears to enable a quantitative estimation of their efficacy. Some of the new gears seemed to reduce the unwanted catches, generally with some loss of marketable catch; variability was high. Spatio-temporal effort reallocation seemed to be highly constrained by regulations, weather, and abundance of marketable resource. As a consequence of these difficulties and/or the limited commitment of the skippers and crews, no time trend in amounts or proportions of undesired catch (undersized individuals of quota-species) could be detected on any of the four vessels participating in the experiment.
- ✓ Size was the major cause for discarding or falling under the landing obligation onboard the small vessels, whereas a mixture of size, market, quality and quota limitations (by decreasing importance) were mentioned by the crew on the large trawler.
- ✓ Sorting time was generally higher during the fishing operations operated under landing obligation conditions than on “normal” operations; tying time was similar, for the unwanted part of the landings was not iced and was kept on the deck. Under the landing obligation, storage capacity would constrain trip duration on 20% of trips on the small vessels, with a high variability between vessels. Capacity seems to be less constraining for the large vessel.
- ✓ Utilization of unwanted catches subject to landing obligation might be complicated by seasonal variability, and the small volumes landed at a time. Additional costs directly generated by the landing obligation would be variable across vessels and catch composition, and might average 50-100 euros per day at sea, in addition to the investments required to handle these catches on the decks of the vessels and in harbours.
 - *The Scientists story – identification of locations, times and practices to fish to avoid unwanted catch*

Some work have started on mapping species spatio-temporal distribution using survey and observer data and discards hot-spots in order to inform and discuss with fishers on the potential problematic areas. Data on species distribution are available via scientific survey but only during the period of the survey. Other are available from onboard observer programs but not for the entire area and need standardization (Figure 1). These analysis will be submitted for publication early 2016.

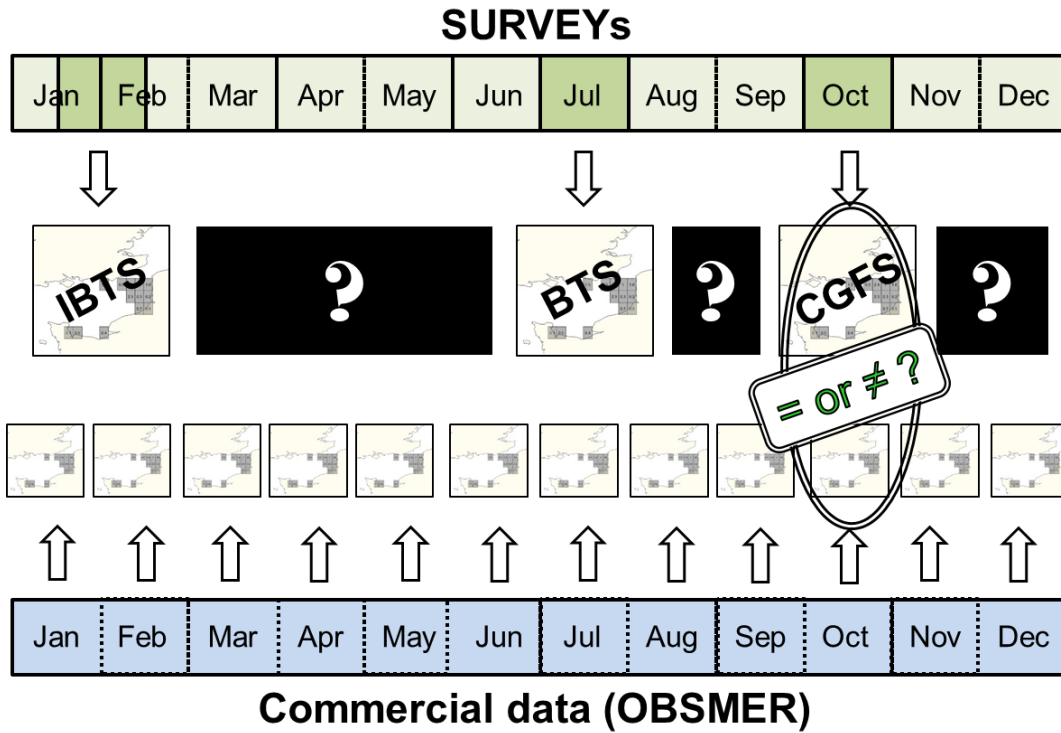


Figure 1: Spatio-temporal species observation from scientific surveys and commercial onboard observer program

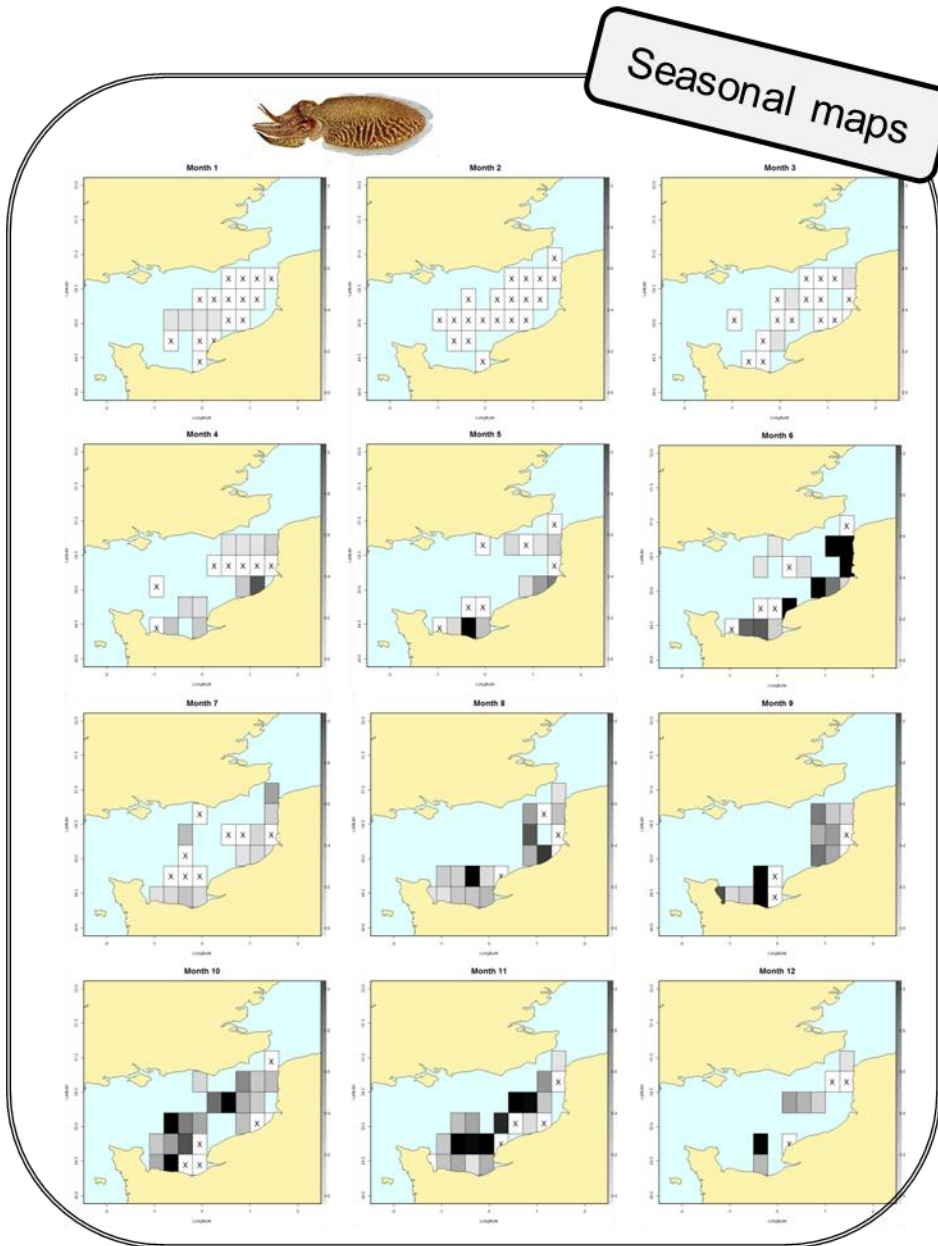


Figure 2: Monthly spatial abundance distribution estimated from OBSMER for cuttlefish. 'X' represent area where no cuttlefish was ever fished during a month in the database.

2.3 Policy outreach

The Eastern Channel description was made available for the online atlas and description of the different indicators were provided. Many meetings were held with stakeholders.

2.4 Summary:

- *Main Discard Mitigation Strategies investigated:*

In the challenge experiments, all vessels tried selective devices expected to address their major discard issue, but owing to various constraints the number of trials were limited and insufficient to allow a quantitative analysis. As for spatial strategies, they were reportedly already implemented by the large vessel. The small vessels are highly dependent on a small area for their major marketable catches during the summer season. Therefore they did not feel they could move to different areas. The cost-effectiveness of the solutions tested during the trials were assessed.

Some work started to map species distribution and in particular discard hot spots and spatio-temporal distribution of sensitive areas

- Stakeholders Involvement has been important throughout, with several meetings with fishers & fisher representatives, and very constructive discussions on model parameterisation / indicators.
- The First annual meeting for DiscardLess was hosted in Boulogne-sur-Mer in March 2016, including a round table with participation from local and national stakeholders. A round table was organised at the Annual Meeting.

3 The Year ahead of us: What do we expect for the next year?

- Ecosystem-scale:
 - On the modelling side, last model settings and fixings will be done in course of the next year (fleets dynamic implementation in OSMOSE & ATLANTIS). Additionally, recommendations provided by stakeholders on some of the models' features on and on the indicators they wish to see produced will be considered (primarily within ISIS-Fish) Baseline scenarios will be run and first scenarios will be considered. Collaborations with stakeholders are planned in order to work together on modelling and scenarios.
 - A summary of what have been observed during the ICES assessment Working Groups impacted by LO, will be produced.
- Fishery scale:
 - Two main actions are going to be pursued in course of 2016. The first one aims at understanding the context around using or not selective gears. The second is the follow-up of the evolution of stakeholders view based on collaborative work with an informant group.
- Fishing strategies:
 - We will continue compilation of the spatially explicit data and run species distribution models in order to produce maps of sensitive areas for discards.
 - In year 2 (Autumn 2016) we will participate or organize a workshop to define common product formats and contents across the case studies, and to exchange/test analytical tools (R scripts, etc.).
 - A summary a the challenge experiments will be produced