

## ROUNDTABLE – March 4<sup>th</sup>, 2016: What can Science do to help with the Landing Obligation?

09.30	Arrival, coffee
10:00	Welcome, Introduction (Clara Ulrich, DTU Aqua)
10:10	<b>The Eastern Channel: Progresses on knowledge and barriers to implementation</b> <ul style="list-style-type: none"><li>• Antony Viera (CRPM): The Eode Project</li><li>• Emmanuelle Goffier (Plate forme Nouvelle Vagues) : Use of discards in Value Chain</li><li>• Youen Vermard (IFREMER): Scientific progresses in DiscardLess</li><li>• Questions and Answers</li></ul>
10:50	<b>Selected scientific outcomes from DiscardLess so far</b> <ul style="list-style-type: none"><li>• Jonas R. Viðarsson (MATIS): Landing and using of unwanted catches</li><li>• Dave Reid (MI) : Selectivity and avoidance</li><li>• Marie Savina (IFREMER) : Role of discards in the ecosystem</li><li>• Questions and Answers</li></ul>
11:30	Discussion and feedbacks
12.00	End of session – Light cocktail and drinks

# Minutes of the DiscardLess roundtable on March 4th, 2016 together with various actors of French Fisheries

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25 to 30 actors from different affiliations and 45-50 partners from the DiscardLess project met at during a 2-hours round table 2 hours at CCI Boulogne-sur-Mer. The discussion was moderated by Ms. Clara Ulrich, head of the European project. Simultaneous translation between French and English was provided to facilitate communication and participation of all participants.

## **Introduction. Clara Ulrich (DTUAqua, Denmark)**

Objectives:

- Present DiscardLess project and its progress to industry players and discuss the role of science in the system and especially here in the debate on the regulation of European landing obligation (LO).
- Discuss about how to create new knowledge, how to improve our understanding of the system and also highlight what scientists can bring to the stakeholders and also what the stakeholders can bring to science.
- DiscardLess can be broken down into three major areas of work: (i) Improving the selectivity of fishing gears, (ii) Value chain, work on the deck and land uses of discards, and (iii) impact assessment on whole ecosystem (biology, economics, social).

For DiscardLess, the Eastern Channel case study is particularly central and interesting, as it illustrates problems that are common to both the industrial fisheries from Northern Europe and the artisanal fisheries from Southern Europe. The discussion revolved around 6 presentations: 3 presentations on the example of Boulogne-sur-Mer fishing industry in relation to the LO and 3 presentations on ongoing advancements in the DiscardLess project. A session of questions and answers ensued.

## **Eastern Channel: Progress on knowledge and information, barriers to implementation.**

### **Presentations EODE Project**

The EODE project lasted 16 months and was led by the CRPMEM Nord Pas de Calais Picardie. The project is divided into two parts: (i) a sea component, focused on additional work management related to the application of the LO, and (ii) a land component, with a focus on the valuation of discards by the seafood industry.

## Presentation of the results of the study on changes of work on board related to the LO. Anthony Viera (CRPMEM Nord Pas de Calais Picardy, France)

The study was conducted on a group of French demersal trawlers of less than 18m in the period from May to September and also on a group of more than 18m over a period of 12 months. The study of trawlers of less than 18m showed a discard rate of 55.8% for the 21 trawlers of Boulogne-sur-Mer studied. The species mainly present in the discards were whiting (*Merlangius merlangus*), plaice (*Pleuronectes platessa*) and horse mackerel (*Trachurus trachurus*) with a peak in September. In the case of demersal trawlers over 18 meters there was a discard rate of 22.6% with a species composition mainly dominated by whiting, herring (*Clupea harengus*) around the end of year and April and the cod (*Gadus morhua*). In terms of changing working conditions on board, sorting time increased from 2:30 to 3:00 for both groups of vessels studied in the case of the application of LO, resulting in a decrease in resting time for crew members. The LO also raised the question of discard storage onboard. EODE showed that in terms of tonnage, the licensed storage capacity limit had rarely been reached (twice for each group of vessels), however in terms of number of storage boxes the limit of vessel capacity was often reached

## Using discards in the value chain. Emmanuelle Goffier (Plateforme Nouvelles Vagues, France)

Since the regulation on the future of landed discards is still unclear at present, the EODE project explored the possibilities in a very wide way. During the project, regulation, valuation paths, opportunities and possible transformation tools were evaluated. The transformation tools are relatively simple, however the current regulation constraints the processors. Indeed, currently the law stipulates that the LO should not create new markets and discards shall not be used for direct human consumption. EODE sought to be proactive, providing additional information in order to clarify and amend the law on the use of discards and also facilitate the work of the fishermen. Valuation tests required involvement of the entire industry.

Valuation tests were conducted on the cod, whiting, dab (*Limanda limanda*), lemon sole (*Microstomus kitt*), plaice, horse mackerel, mackerel (*Scomber scombrus*) and herring. As a minimum to be used the fish must be headed and gutted, which requires the presence of machines onshore or onboard. Overall, landed discards are of very good quality but with a disparity in size of individuals that may pose problems during processing. In terms of enhancement of the flesh in the form of freezing blocks, it was found that for whiting for example, 20 to 25% of discards were landed within marketing sizes. It may therefore be beneficial to use this raw material as part of the human diet for charitable purposes, which would require a change in the current law. The skins can be used in textile industries. discards of mackerel and herring could be valued as bait, oil or meal for animal feed. Performance tests, as well as working time calculation tests have been performed to evaluate the effectiveness of processing industries. In EODE program the COPALIS company also studied alternative valuation options such as molecule extraction for example (collagen, fatty acid ...). However, the market of discards is by definition an ephemeral market because the LO aims to reduce discards and therefore reduce the raw material available for processing. The problem therefore arises of whether a company is able and willing to invest (time or money) in such a market.

In conclusion, the regulation on the valuation of landed discards remains to be clarified in order to consider the management of discards effectively. Many options are existing and envisaged. In the port

of Boulogne-sur-Mer, most infrastructures are already available to support the discards. But the discard market is by definition a short-term sector, there will be a need to provide financial aid for processing to assist in the valuation of products that will disappear in the medium-term.

### Eastern Channel Case Study Presentation in DiscardLess. Youen Vermard (Ifremer, France)

The case study of the Eastern Channel focuses mainly on the impact of the LO on the French demersal fishery and the ecosystem of the area. International fisheries are also considered in the analysis to take into account the effect of their catches in stocks. In the Channel, the French demersal fishery can be divided into two activities: (i) a fleet of inshore vessels under 18 m fishing mainly in coastal areas in the Eastern Channel, and (ii) a fleet of offshore vessels above 18 m that divides its efforts between the Channel and the North Sea. This fishery is considered mixed because of the great diversity of species present in the area, their spatial distribution and their seasonality. Vessels often operate several métiers and change their target species during the year. The management of this fishery is conducted mainly using TAC (cod, whiting, plaice, sole, herring), quotas and size limits for certain species. Many species remains exploited without any management rules. A monitoring of the sector in collaboration with the various players is performed. A study of fishing strategies, working conditions (with experimental trips) is underway to better assess the impact of the LO on the fishery. The project will increase the number of experimental trips and thus complement the work done during the project EODE. The study of the spatial and temporal distribution of discards and fish communities is underway to eventually be able to make a map of sensitive areas (areas with high potential for discards). A study was also conducted to investigate the relationship between observation data at sea (OBSMER) collected on board French fishing vessels throughout the year and data from scientific surveys, to complement species distribution data throughout the year. In addition, three ecosystem models (Atlantis, ISISFish and OSMOSE) are currently being implemented in the area to assess the overall impact of the LO on the marine ecosystem as well as on fishing strategies and performance of fleets .

### Discussion on the presentations of the Eastern Channel

**Maximilien Simon (DPMA, France):** *Many studies on gear selectivity have been conducted in the past and are still ongoing, also trying to reduce discards. Is changing selectivity taken into account in the case study of the Eastern Channel? Considerable progress is observed in the field of gear selectivity, however, is it possible to changes fishing strategies to avoid sensitive areas?*

**Youen Vermard:** For the Eastern Channel DiscardLess case study, changing gear selectivity is not the focus, but it is included in the project as a tool and is considered in ecosystem models. One of the project goals for the Eastern Channel is to map sensitive areas to have a basis for discussion with stakeholders and have a tool that could help the development of individual fishing strategies. However, it should also take into account that every effort reports involve a change of impacted species, areas of interaction with other uses and regulations.

**Antony Viera:** A lot of work was done in collaboration with the industry. This work helped reduce discards significantly however reduce discards below 30% is very difficult without financial loss, it is important particularly in the Eastern Channel. Indeed, the Eastern Channel is an area with a high specific diversity and a mixed demersal fleet, the income of fishermen is often dependent on a large number of different species.

**Clara Ulrich:** *How is the information provided by scientists (eg maps of sensitive areas) perceived by the industry?*

**Thierry Missonnier (Aquimer & FROM Nord, France):** The objective of the fishermen is not to discard, and the industry has made considerable progress in reducing discards already. The discard ban was a very symbolic announcement. The industry is concerned on how to implement the new regulations taking into account all the complexity of the topic, fleet diversity, targeted species and discards. Studies such as EODE provide an initial observation on the possible consequences of the implementation of the LO, however it remains a limited study time and sampling term. The expectation of stakeholders regarding DiscardLess is to answer the questions of the valuation of discards, safety on board (decreased rest time), of the problem related to the ability of vessels to store and handle discards and of the harmonization and operationability of European regulations.

**Thierry Missonnier:** *How can DiscardLess help clarify and develop regulations to prevent an "economic and social disaster"? Are there any interaction between the project and the European Commission?*

**Clara Ulrich:** DiscardLess is accountable to the Directorate General for Research (DG RTD), not to the DG Mare. So there are scientific criteria rather than political. However this is a very fluid system because many of the scientists in the project are already involved in the advisory and management systems (ICES, STECF, national expert) and they are the same people who play a local role also. So the knowledge of each case study is gathered and shared in the project. European projects such as DiscardLess allow us to respond to EU issues by combining the knowledge gained by producing new knowledge and bringing a scientific opinion on the problem.

**Mike Fitzpatrick (MNRG, Ireland):** The DiscardLess project is a scientific project, but it also includes political elements. We study how the LO has evolved in other fisheries (other than those considered in the case of project studies) on the project period and also in the past. A review of policies and recommendations for the LO is performed.

## Featuring a selection of results obtained so far under DiscardLess

### Use and landing of unwanted catches. Jonas R. Viðarsson (MATIS, Iceland)

In the project, a review of the discard practices was conducted in order to establish an inventory and also identify the different solutions implemented in the past to meet the challenges of the LO, including discards handling on board, and discards reduction. During this review a wide variety of fisheries could be evaluated, each with different reasons for discarding. We also studied the fisheries where the LO is already in place such as Iceland, New Zealand and Norway. In the case of Iceland, the reduction of discards following the implementation of the LO has taken over 30 years and currently, the Icelandic fisheries still have some problems (but small compared to the historical situation) related to the implementation of the LO. In the studies already done to implement the LO, specific arrangements have been made on certain vessels for easy sorting, storage and control of discards on board. Such equipment could be implemented on existing vessels or in the manufacture of new vessels. Studies are underway to identify automatically the fish (camera and image processing software) on the trunk or sorting tables for example. The project objective is to provide proposals to manage discards on board, studying several vessels and fisheries and on the basis of what has been achieved in other case studies. We also analyzed the use of discards in the value chain and what has been done in the world to fully



use this raw material. However one of the main problems in Europe remains the regulation on the use of discards, which states that it is impossible to create new sources of market, making it difficult to finance investment from processing business to support discards.

### Use and landing of unwanted catches: Discussion

**Emmanuelle Goffier:** *The studies presented were conducted on large vessels or on boats under construction. What about small coastal vessels, is it possible to modify the ship to facilitate the management of discards?*

**Jonas R. Viðarsson:** Yes, it would be possible to put in place arrangements on vessels of small size to facilitate the extra work generated by the LO. However, "high tech" solutions will be difficult to apply to these vessels, which is why some of DiscardLess project is also allocated to explore new solutions to facilitate work on small fishing vessels.

**Thierry Missonnier:** One of the problems of the French fleet is that many of the vessels are under 24m and over 25 years old, and they have constraints on the ship's layout with a limit gauge imposed by regulations. The opportunities for fishermen are very limited. And even the construction of new "ships of the future" remains complicated. A fleet renewal program is necessary.

**Jonas R. Viðarsson:** For now, this aspect has not been taken into consideration but will be included in the project and brought in our analyzes.

**Clara Ulrich:** The problem must be decomposed into two components (i) how to adapt an existing vessel to facilitate the management board of discards and (ii) how to plan in advance the facilities on a ship under construction.

**Thierry Missonnier:** Currently, it is almost impossible to increase the tonnage of the vessels because of the regulation and / or the structure of the ship.

**Marianne Robert (Ifremer, France):** *Is it possible to use EU funds in order to make further studies on this topic, such as the EMFF fund?*

**Maximilien Simon:** The EMFF will not finance a particular measure but several options. Improved fishing gear is a long-standing effort by the industry. Improving the management aboard and ashore are two areas of studies considered in the framework of the EMFF. The calls for projects launched under the EMFF also rely on professionals and scientists to contribute to the improvement of knowledge in these case studies.

### Selectivity and avoidance. David Reid (Marine Institute, Ireland)

Two aspects of the problem are to be considered if we want to reduce and avoid unwanted catches: (i) adaptation of fishing gear, and (ii) modifying fisheries strategies. Initially, the project seeks to make the most exhaustive possible review of the various gears used and the various selective devices implemented and tested. The aim is to be able to produce a manual available to all to give a range of possible solutions for each of the fishing activities and help reduce discards. The goal is also to complete this review and to monitor existing projects and new technologies designed to improve gear selectivity (eg selectivity by light). Modifying fisheries strategies is another major challenge and requires consideration of both the diversity and complexity of marine ecosystems and also the complexity of fishing behavior. Studies have been conducted to explore the possibilities to change the fishing strategies (fishing zone change, fishing during certain periods of the day, for example). During the study, we focused which species were limiting and when the quota of limiting species was reached.

The study was inconclusive in terms of reducing discards. However the study was conducted on a small number of vessels and fishers worked alone. Fishermen believe that collaboration with other vessels could help (information sharing, sensitive areas, effective gear). The use of scientific fishery survey data is also considered to develop predictive tools. Models were evaluated to predict and map the distribution of discards. For now, in the case of whiting, we get to effectively predict the areas where discards are low, however, the prediction of high discards zones (“hot spots”) is more difficult. The ultimate goal is to provide maximum knowledge about the spatial and seasonal distribution of limiting species to help fishermen to decide where to avoid too many discards.

### Selectivity and avoidance: Discussion

**Maximilien Simon:** *Will DiscardLess be able to provide a catalogue of gear tests? Indeed, this information is also required under the EMFF to be able to discuss with the EU and the industry.*

**David Reid:** The project goal is to trace all the information of what happens in the greatest possible number of countries, and realize a catalog that summarizes all the results.

**Antony Viera:** A French catalog is already available, it summarizes the testing of different gears in different areas in Nord-Pas de Calais. This catalog is now available to French professionals to give them an overview of tests and opportunities for gear selection.

**Morgane Travers-Trolet (Ifremer, France):** During a meeting conducted in Boulogne-sur-Mer between actors in the fisheries sector and the scientists involved in the Eastern Channel case regarding expectations for the project, it was also asked about results of gear tests that did not work.

**David Reid:** The problem is that very often when a test is not conclusive it is very difficult to know if this does not work because of the gear studied or is it a combination of circumstances, e.g. a bad time of year or a bad area for example.

**Barry O'Neill (MSS, Scotland):** It is also important to study the non-conclusive tests in order to improve our knowledge about the reasons for the production of waste.

### The role of discards in the marine ecosystem. Mary Savina (Ifremer, France)

In the project, one objective is to make an impact assessment of the LO on the ecosystem and also to improve our knowledge on the fate of discards in the ecosystem. For this, a synthesis of discards practices globally and across different case studies is conducted. Annual monitoring of the implementation of the LO by case study is underway following discards levels across stocks, fleets and areas, and also feedback from stakeholders on the implementation of the LO. New observation programs are also being developed (eg the Azores). All this information is synthesized in the form of an online Atlas under development and will be filled on an annual basis to enable mapping and quantifying discards but also the levels of catches and stocks in the various case studies.

A synthesis of knowledge on the fate of discards and their impact on the ecosystem has been achieved. The project also includes the establishment of additional data collection (mapping of sensitive habitats in the Mediterranean, video on discards in the North Sea). To study the impact of the LO on the entire ecosystem, including fisheries, the project includes the development and use of many ecosystem models. These are mathematical multi-species simulation models, with different levels of complexity depending on the model. They can take account of environmental parameters and also socio-economic considerations. In DiscardLess, most European areas are represented with sometimes several models developed on the same areas, allowing comparison of results between each model. The purpose of these models is to simulate and evaluate different adaptation strategies proposed in the project. Each

scenario of the LO will be analyzed based on multiple indicators (Profits, F / Fmsy, Biodiversity, working time, stock levels). The information from studies conducted on the fate of discards in the ecosystem can be integrated in different models to refine our understanding of the interactions within the system.

## General Discussion

**Gwendoline Bodin (CNPMEM, France):** Which feedbacks can we expect from the DiscardLess project and how often?

**Clara Ulrich:** Every year a 5-page document will be produced to describe the progress of the project and the main results of our studies. The website is being improved, and will also increase the visibility of the project. The idea would be to have at least once a year local interaction with the stakeholders (meetings, round table, etc.). In addition there are numerous interactions at national and local level. For example, in Denmark, a monthly meeting is organized by the Ministry with scientists, ministry, professionals and NGOs. In spring 2017, the mid-term meeting will aim to bring in stakeholders to discuss the advancements of the project and results.

**Thierry Missonnier:** The dissemination of the project outputs is very important for the industry in order to address issues raised by the establishment of the LO. Several questions arise, how to improve the sector to reduce discards but also to make better use of by-products from fishing. There is also much uncertainty around the regulation, regarding the implementation timing or the future use of discards onboard and ashore. It is necessary to change the regulations and the outputs of the project could be a basis to discuss the regulations with the EU. The LO implies an increase in working time on board, so one needs a pay accordingly for fishermen. It is also necessary to develop the fleet and shore facilities, so there is need for more certainty and also funding to enable these changes.

**Francois Meurice (Valofish, France):** On Boulogne-sur-Mer, waste recovery infrastructure and other by-products of fisheries are already present, however, the regulations limit the use of discards. Blocking is more linked to the regulations, there is a need to have more visibility on the future and know the costs of the LO on fishing activity and the industry, to develop an effective use.

**Luce Sergent (Copalis, France):** Boulogne-sur-Mer is ready to support the transformation of discards, but regulation should be specified. However this is not true for all fishing ports. Work is needed to assess the cost and feasibility of the implementation of discards use. Indeed, the logistics around the discards remains complicated, a discard traceability effort is essential to avoid creating a market that is currently prohibited by regulation.

**Clara Ulrich:** Is the European Commission listening and was it aware of the problems related to the implementation of LO upon ratification of the law?

**Luce Sergent:** The problem is that the establishment of the LO has put forward lots of problem that had not been thought of.

**Begoña Perez Villareal (AZTI, Spain):** Logistics is a key problem, there is a lot of potentials in Boulogne-sur-Mer but this is not necessarily true everywhere in Europe. Joint action with all the project partners but also in collaboration with the industry would be needed to clarify the EU regulation.

**Thierry Missonnier:** The valuation of discards is necessary but it should not be that the producer is obliged to pay to promote the discards (reduction of salary fishermen investment for transformers for example).



**Mathilde Coquelle (Procidys, France):** A study is underway with a French auction to see how to value discards, in a place where the auction is smaller than that of Boulogne-sur-Mer and no infrastructure exist. The conclusion is that it is always possible to value discards even on a small scale. However, the problem is how to compensate fishermen for the extra work they must provide.

**Clara Ulrich:** If we take the example of Iceland, the sector is highly integrated with the fleets often belonging to processing plants, There are a direct link between each link in the chain which greatly reduces the losses.

**Katia Frangoudes (UBO, France):** The most significant effect in the valuation of discards is to take into account the additional cost that this will impose upon the sector.

**Mathilde Coquelle:** In the project an economic model tries to test the profitability enhancement releases and studying a way to pay back the benefits to fishermen.

## Conclusions

This roundtable allowed a direct and useful exchange on the role of Science in the implementation of the LO. A regular and constructive dialogue is a necessary condition (although probably not sufficient !) to understand the issues and find solutions. Boulogne-sur-Mer has a lot of strengths and potentials, and the projects undertaken there can be a source of inspiration for other areas.

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