

This project has received funding from the European Union's Horizon 2020 research and innovation action under grant agreement no.633680



Landing Obligation 2019:  
What have we learned, what are the next steps?

*A Science - Policy conference for the closing of H2020 DiscardLess project*

## Handling unwanted catches onboard

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*31/01/2019*



# Challenges

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- **Lack of space onboard for handling and stowage**
- **Lack of onboard labour / additional labour required**
- **No/little economic incentives for fishermen and vessel owners**
- **Investment needed**
- **Shorter fishing trips due to lack of stowage space**
- **Infrastructure at harbour to handle unwanted catches lacking**
- **Sometimes no market for unwanted catches**
- **Reporting as well as Monitoring, Control and Surveillance a specific challenge.**

# Challenges

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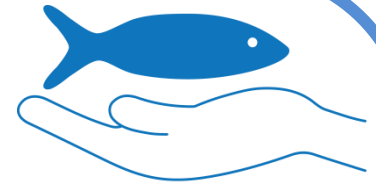


**The MCRS catches have to be recorded and stowed separately from the catches intended for human consumption (EU 2015/812).**

**Vessels greater than 12 meters length overall also have to place their catches in boxes, compartments or containers separately for each stock (EC 1224/2009)**

# Solutions

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DiscardLess

**Optimum handling of all catches, placing everting into boxes by species and sizes – and clearly separating in the hold between catches intended for human and non-human consumption e.g. by having a separation panel and/or differently coloured boxes.**

**+Allows for using all catches for high value products, as unwanted catches can for example be used for pet-food, pharmaceuticals, nutraceuticals, high value feed etc.**

**-Does however require lot of work and space.**

# Solutions

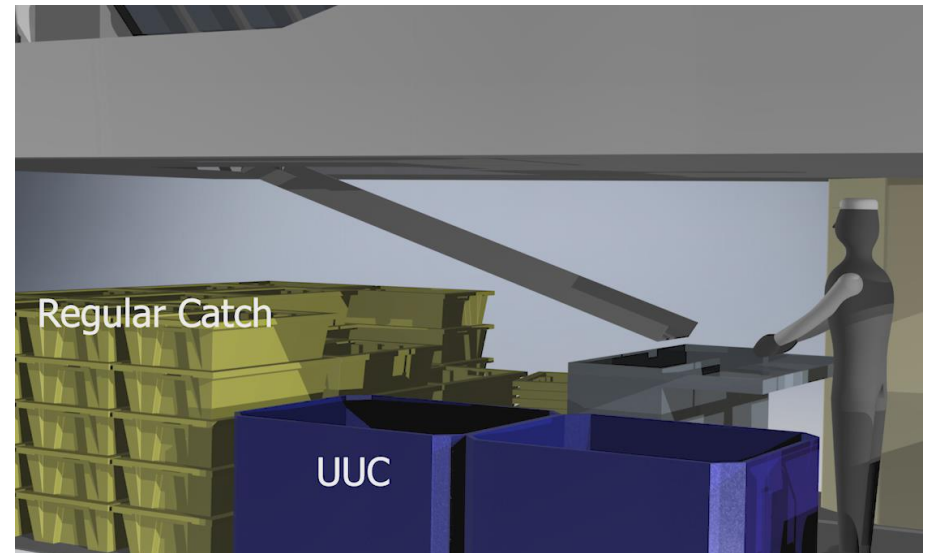
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**Bulk storage of unwanted catches – to be classified at harbour.**

**+Saves time and space. Handling can be made to fit requirements of intended production stream.**

**-Is only allowed at the moment for below 12 meter vessels.**



# Solutions

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**Making (basic)silage or thickened silage out of unwanted catches**

**+Simple solution requiring minimum effort and relatively little space.**

**-MCS can be an issue (examples though where this has been allowed given conditions on reporting e.g. CCTV).**

**-Relatively low value**



# Solutions

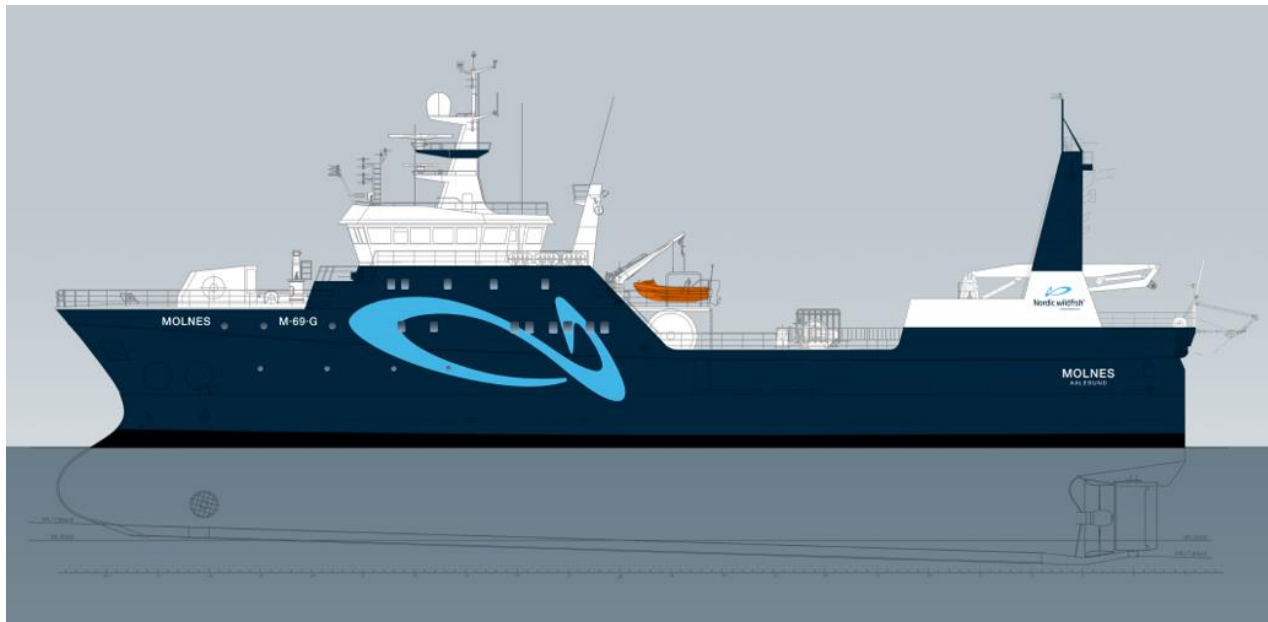
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**Making FPC or FPH out of unwanted catches**

**+More value**

**-Considerable investment needed and more effort from the crew**



# Solutions

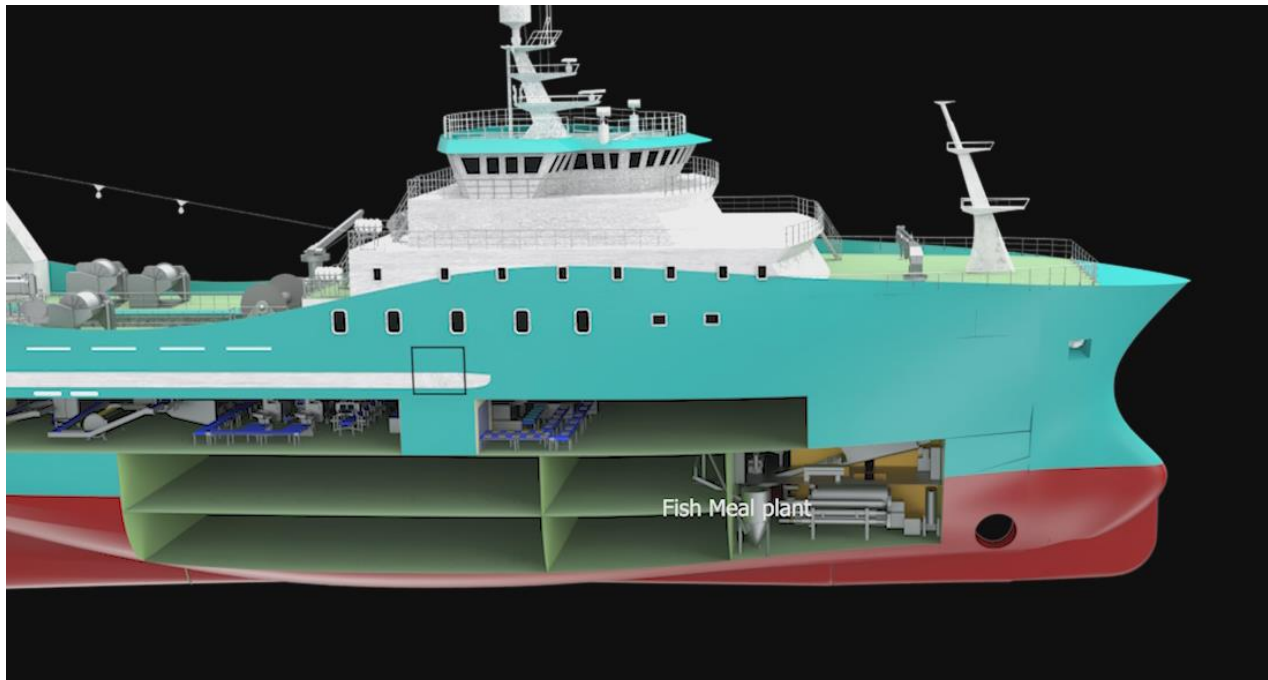
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## Making fishmeal and fish oil out of unwanted catches

**+High value**

**-Major investment, needs significant space and extra labour**





# Discard Mitigation strategies Toolbox

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The screenshot shows the DiscardLess website interface. At the top, there is a navigation bar with a home icon, a search bar, and menu items: "What is DiscardLess?", "Where do we work?", "Contact", "Scientific Results", "Media", "Tools", and "OwnCloud". Below this is a breadcrumb trail: "Home / Adapting fishing vessels".

The main content area features a header with the DiscardLess logo and the tagline "Strategies for the gradual elimination of discards in European fisheries". A dropdown menu is open over the "Tools" menu item, listing: "Atlas", "Selectivity Manual", "Fishermen's Story", "Adapting Fishing Vessels" (highlighted), "Adapting Strategy", and "Valorisation Module".

The sidebar on the left contains a list of navigation options: "Introduction", "Report", "Cost-benefit calculator", and "Onboard handling solutions". Below this is a section titled "On board solutions" with a European Union flag icon and a text box stating: "This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 633680".

The main content area displays a section titled "DiscardLess Onboard handling solutions :". Below this title is a paragraph of text: "Below, the solutions designed for each respective case study can be seen. The solutions offered are based on the concept of better handling of all catch, including by-catches such as UUC and fish under MCRS. It includes adequate bleeding and cooling mechanisms, sorting and limiting all impacts the fish might experience after being hauled on board each vessel. The UUC and fish under MCRS are categorized so that they end up in the same storage units as the main catch. For the three larger boats, an additional solution of silage production is offered to deal with offal and viscera left from the gutting of fish and for smaller or unwanted catches." Below this text is another paragraph: "Furthermore, these solutions can be viewed on any computer in 3D, given that it has a viewer for PDF files such as Adobe Acrobat Viewer or similar."

Below the text are four case study thumbnails, each with a title and an image of a fishing vessel:

- SMALL COASTAL VESSELS**: Image of a small white and red coastal vessel.
- SMALL BOTTOM TRAWLERS AND DANISH SEINERS**: Image of a red and white bottom trawler.
- MEDIUM SIZED BOTTOM TRAWLERS IN THE BAY OF BISCAY**: Image of a blue and white medium-sized bottom trawler.
- LARGE WETFISH BOTTOM TRAWLERS**: Image of a large blue and white wetfish bottom trawler.

At the bottom of the screenshot, a Windows taskbar is visible with icons for Outlook, Word, PowerPoint, Excel, File Explorer, and several instances of the Microsoft Edge browser.

# Discard Mitigation strategies Toolbox

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- 12 m coastal vessel
- 20 m seiner
- 29 m bottom trawler
- 36 m BoB bottom trawler
- 50 m bottom trawler
- 80 m factory trawler

HANDLING UNWANTED CATCH ONBOARD



# Discard Mitigation strategies Toolbox

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HANDLING UNWANTED CATCH ONBOARD



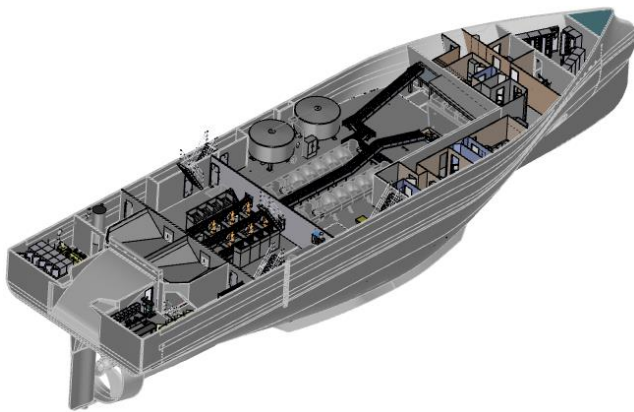
# Discard Mitigation strategies Toolbox

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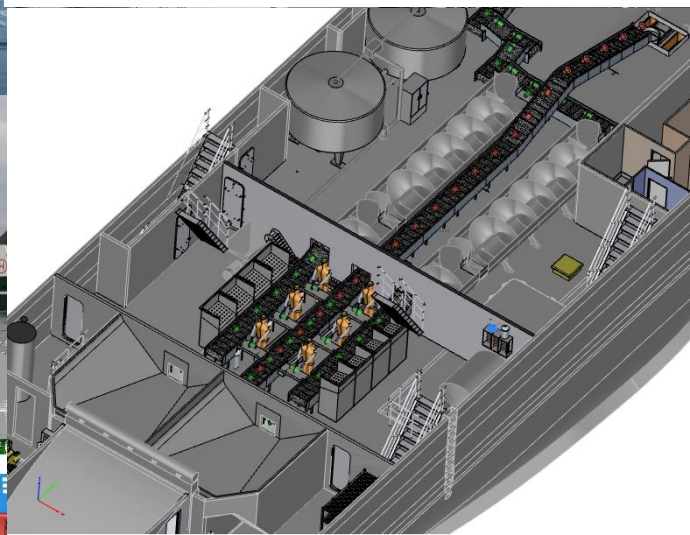


➤ 12 m coastal vessel

➤ 2000 tonnes



HANDLING UNWANTED CATCH ONBOARD



# Discard Mitigation strategies Toolbox

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➤ 12 m coastal vessel

➤ 2000000 EUR investment cost



## Discardless calculator

This calculator computes the revenue obtained by adding/increasing the processing of by-catches as well as estimating the benefits of improved handling. This calculator is a part of WPS (DiscardLess) where solutions have been developed for four European fleet segments. Solutions for processing of bycatch, sorting, storing of the catch and how to improve all handling are all presented. Along with revenues, this calculator presents the investment cost for each respective fleet segment based on the solutions offered.

The aforementioned by-catch consist of fish under minimum conservation reference size (MCRS), unavoidable unwanted catch (UUC) and viscera & offals. These catches have been analyzed with respect to the chemical composition, fishing habit and fishing stocks for each fleet segment. For more information about designs, see WPS (DS.4), DiscardLess.

### 1. Fleet segment

433 select Bifilatic (DK) from fish below trawler

#### Instructions

Step 1. Select one of the four fleet segments by clicking the combo box.

### 2. By-products

Annual volume (ton)	
MCRS-catch	100
UUC	400
Viscera & offal	500

Step 2. Type in the annual volumes of MCRS, UUC and viscera & offal's in the white boxes.

Step 3. Select whether you want a total overhaul of the traditional processing line on board

### 3. Improve the handling

How

Annual added handling cost: 0 EUR

Investment cost: 0 EUR

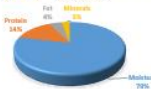
Step 4. Select a processing method

Step 5. Select if you want the by-catch to be landed in a traditional way

Step 6. Use the check boxes to choose which raw materials should be processed



The chemical composition of the bycatch volume 1000 tons



## HANDLING UNWANTED CATCH ONBOARD

### 4. Processing

On-board 2000 production: 2000 Preservation

Land traditionally: No

UUC  
 UUC  
 Viscera and offal

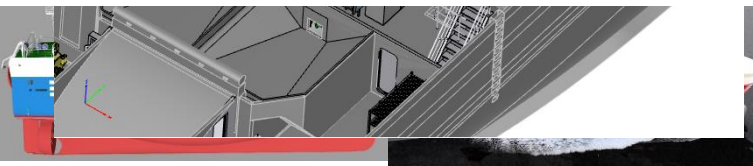
Annual Added Value: 181.901 EUR     0 EUR

Investment cost: -166.000 EUR     0 EUR

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Total Added Annual Value: 181.901 EUR

Total Investment cost: -166.000 EUR



# Thank you

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