

A new mapping app to identify catch and discard hotspots

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DISCARDLESS

Strategies for the gradual elimination of discards
in European fisheries



<http://www.discardless.eu/>

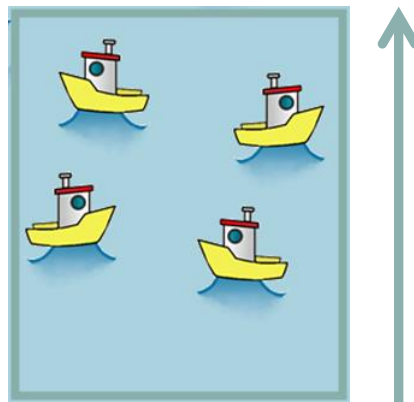
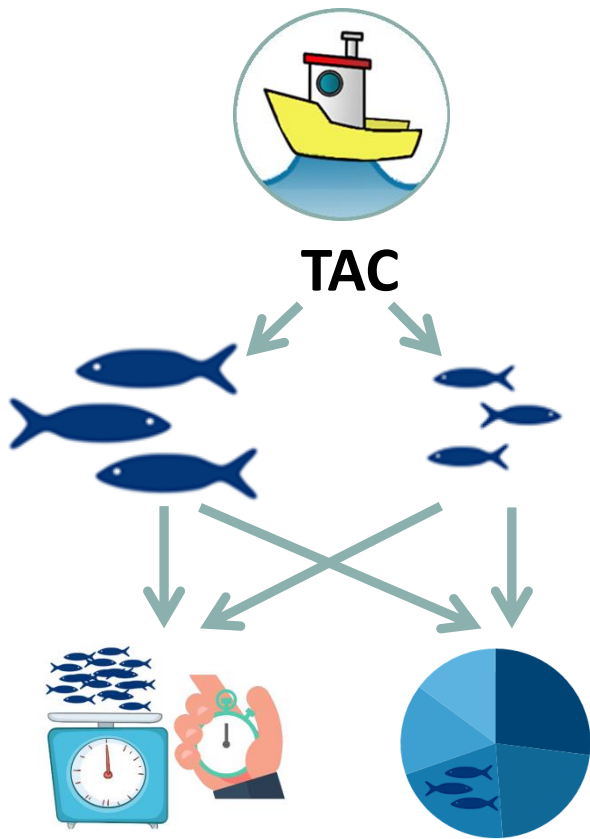
OBSERVER DATA



OBSERVER DATA

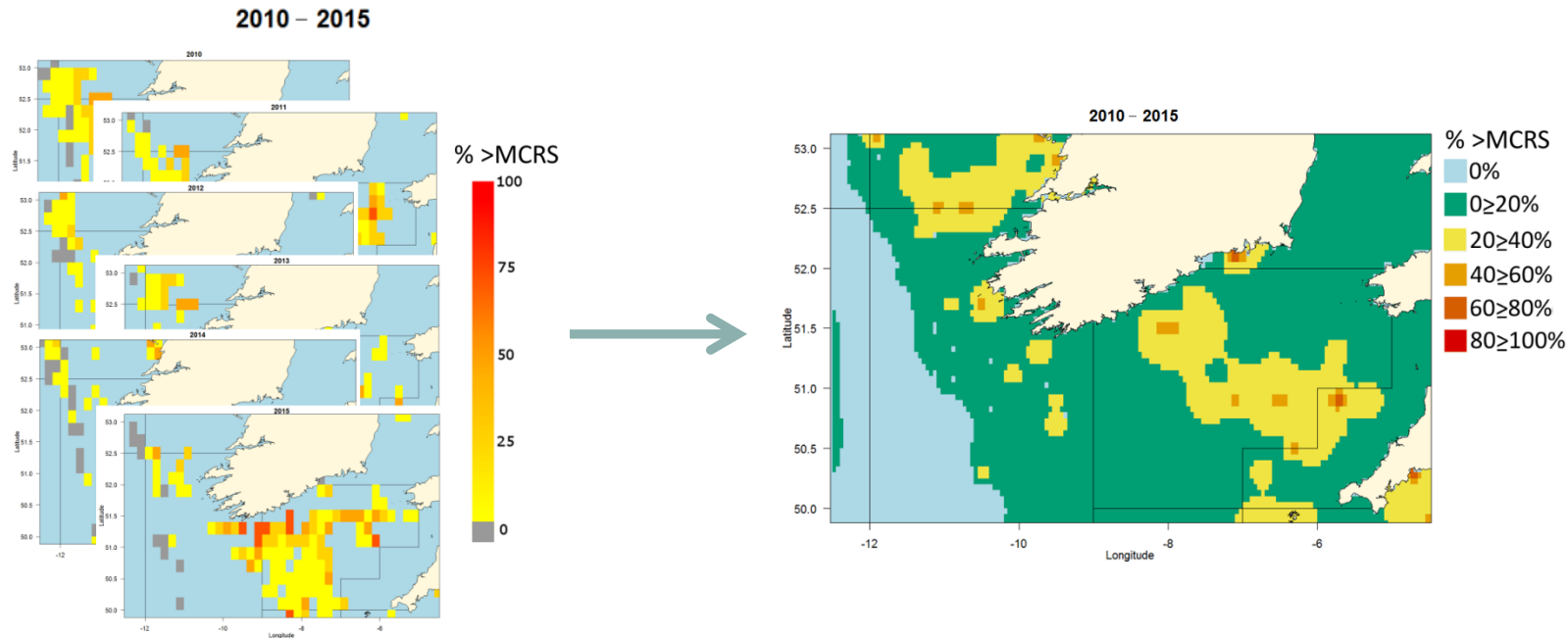


OBSERVER DATA



$0.2^{\circ} \times 0.2^{\circ}$

HOTSPOT MAPS



MAPPING APP



Hot Spot Map Explorer

Introduction

Hotspot Maps

CPUE Maps

Proportion Maps

Apowersoft
Screen Recorder

Select the species of interest, the size component of the catch, season and catch metric below to display the desired hotspot map;

Vessel type

TR1

Species

Cod

Size

Below MCRS

Season

Annual

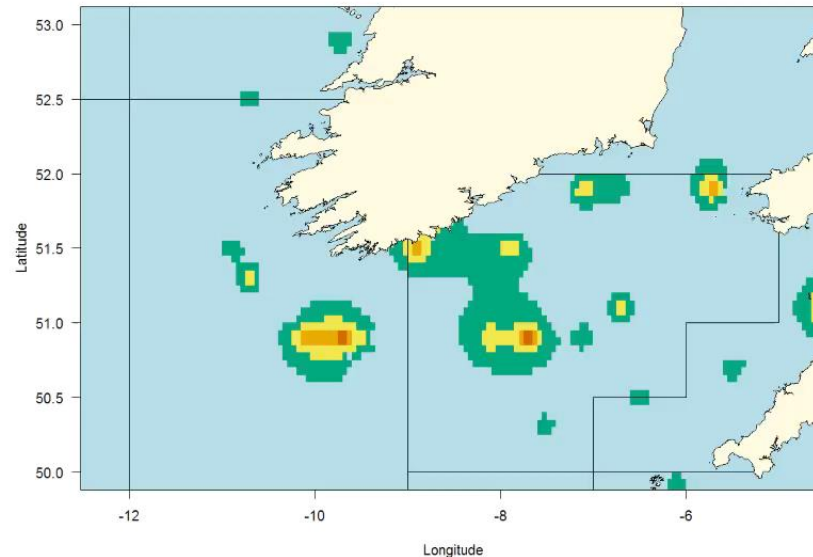
Map Type

CPUE

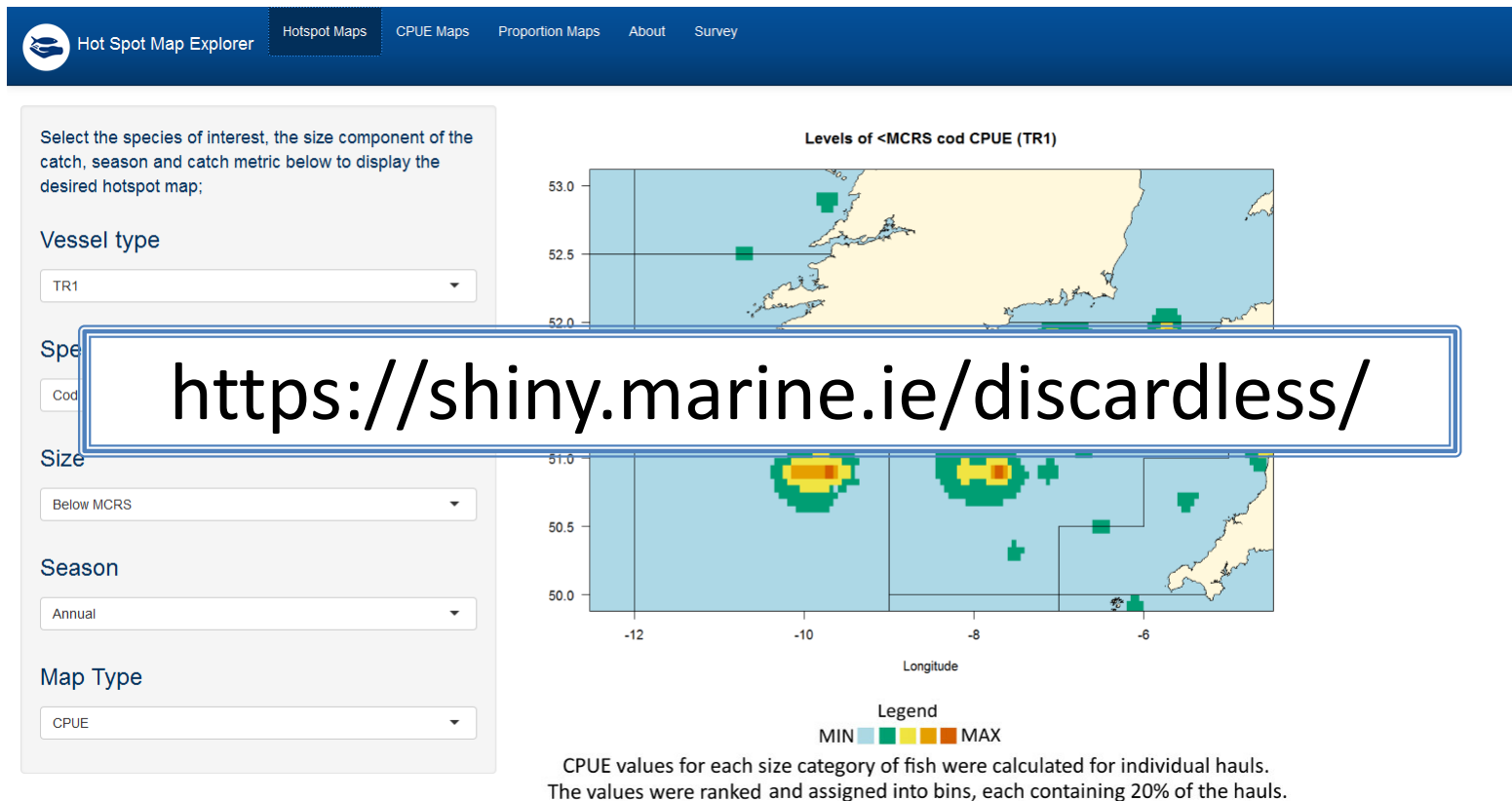
CPUE

Proportion

Levels of <MCRS cod CPUE (TR1)



MAPPING APP



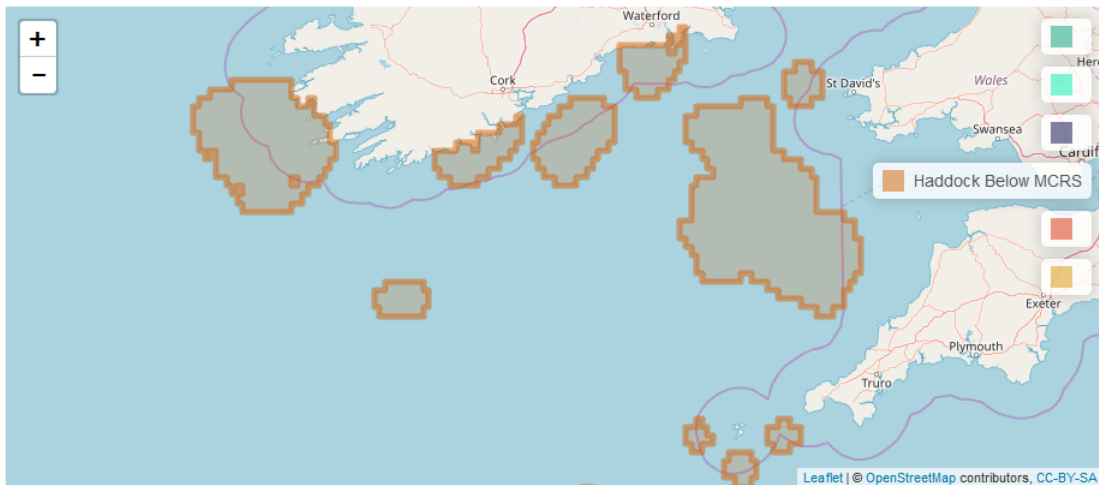
HOTSPOT MAPS

Hotspot Map Explorer

Hotspot Maps

CPUE Maps

Proportion Maps



CPUE Map Comparison

Season

Annual

Target Species

Target Species #1

None

Target Species Size #1

Below MCRS

Min CPUE to target #1



Target Species #2

None

Target Species Size #2

Below MCRS

Min CPUE to target #2



Non-Target Species

Non-Target Species #1

Haddock

Non-Target Species Size #1

Below MCRS

Min CPUE to avoid #1



Non-Target Species #2

None

Non-Target Species Size #2

Below MCRS

Min CPUE to avoid #2



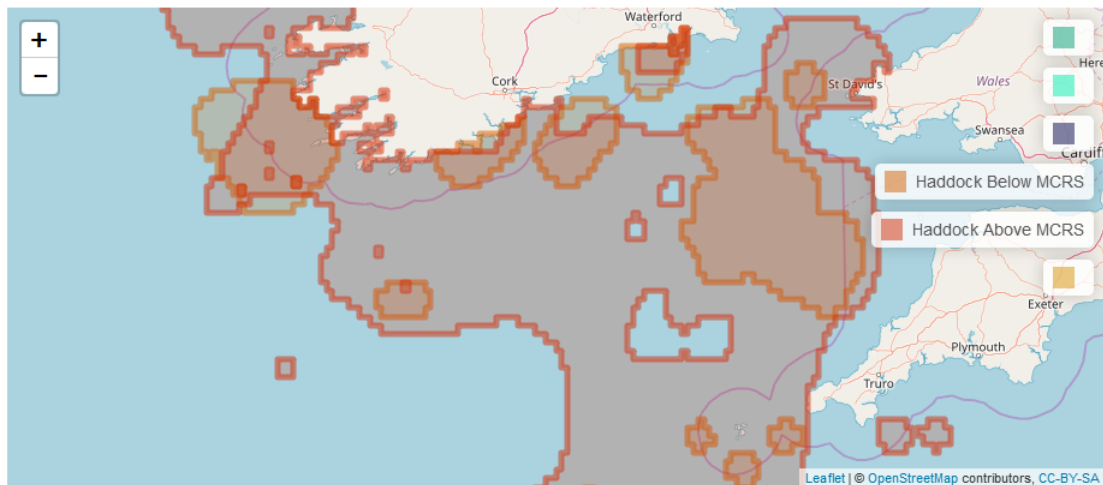
HOTSPOT MAPS

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CPUE Map Comparison

Season

Annual

Target Species

Target Species #1

None

Target Species Size #1

Below MCRS

Min CPUE to target #1



Target Species #2

None

Target Species Size #2

Below MCRS

Min CPUE to target #2



Non-Target Species

Non-Target Species #1

Haddock

Non-Target Species Size #1

Below MCRS

Min CPUE to avoid #1



Non-Target Species #2

Haddock

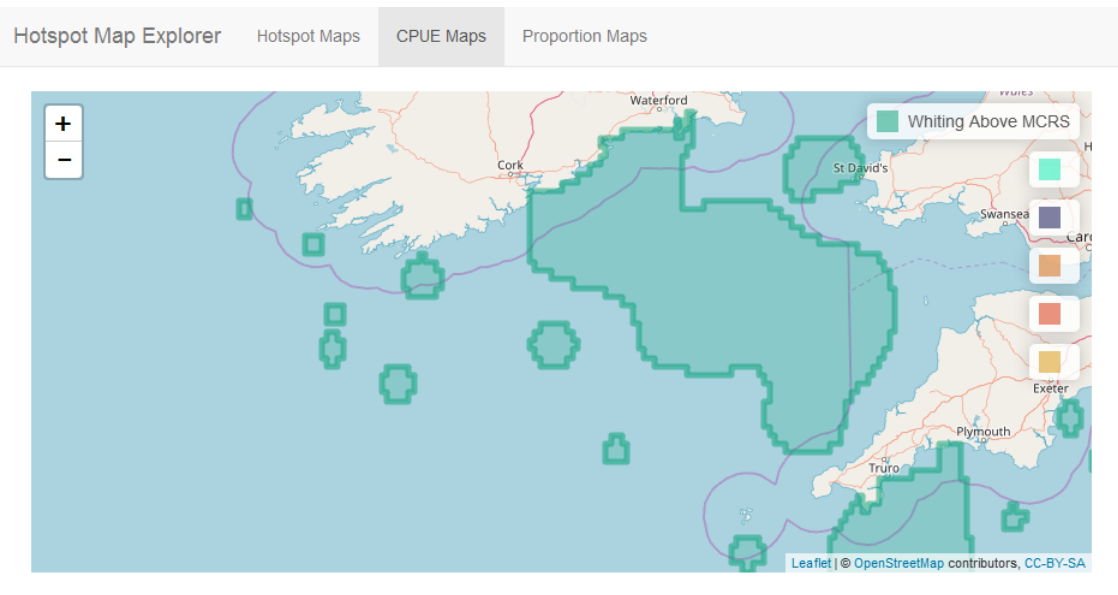
Non-Target Species Size #2

Above MCRS

Min CPUE to avoid #2



HOTSPOT MAPS



CPUE Map Comparison

Season
Annual

Target Species

Target Species #1

Whiting

Target Species Size #1

Above MCRS

Min CPUE to target #1



Target Species #2

None

Target Species Size #2

Below MCRS

Min CPUE to target #2



Non-Target Species

Non-Target Species #1

None

Non-Target Species Size #1

Below MCRS

Min CPUE to avoid #1



Non-Target Species #2

None

Non-Target Species Size #2

Above MCRS

Min CPUE to avoid #2



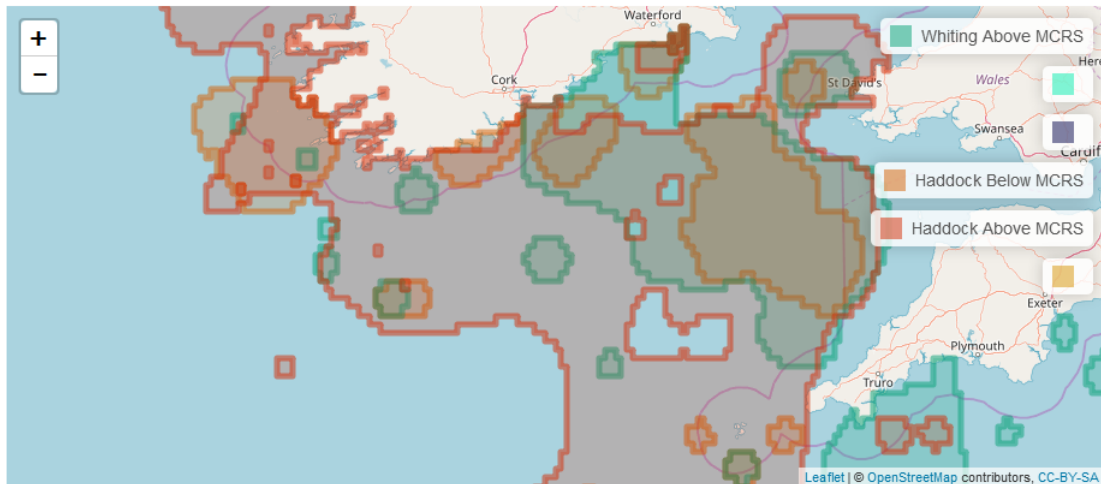
HOTSPOT MAPS

Hotspot Map Explorer

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CPUE Map Comparison

Season

Annual

Target Species

Target Species #1

Whiting

Target Species Size #1

Above MCRS

Min CPUE to target #1



Target Species #2

None

Target Species Size #2

Below MCRS

Min CPUE to target #2



Non-Target Species

Non-Target Species #1

Haddock

Non-Target Species Size #1

Below MCRS

Min CPUE to avoid #1



Non-Target Species #2

Haddock

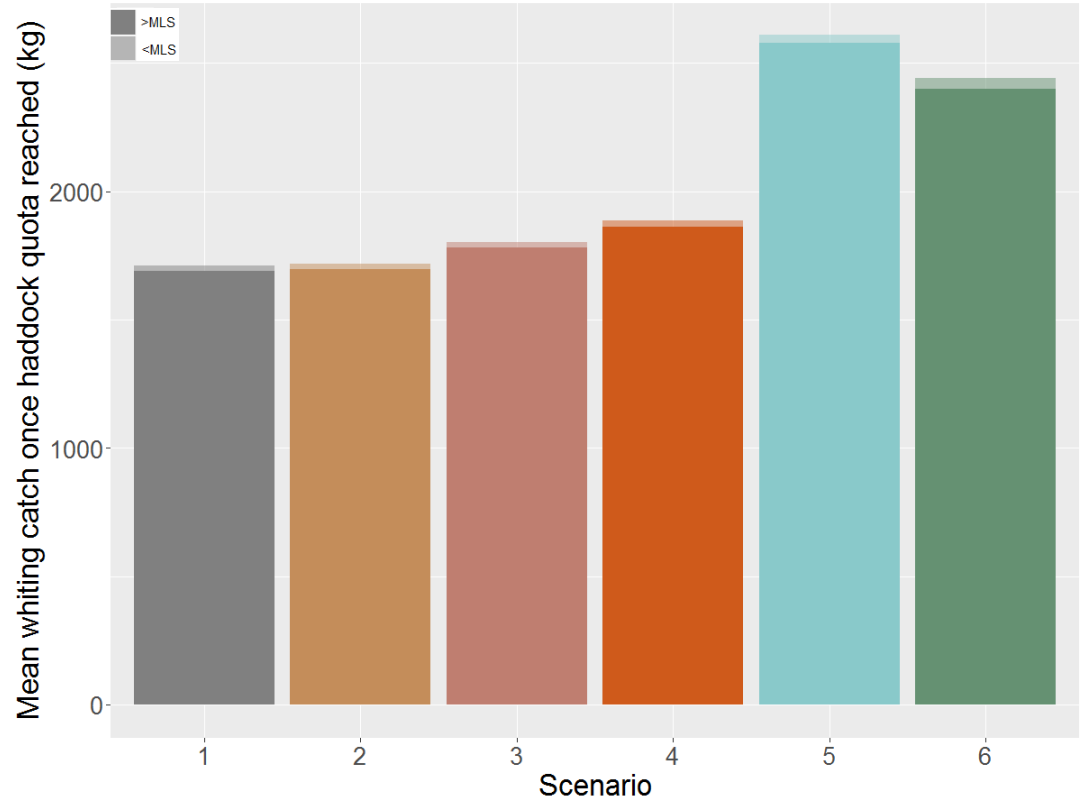
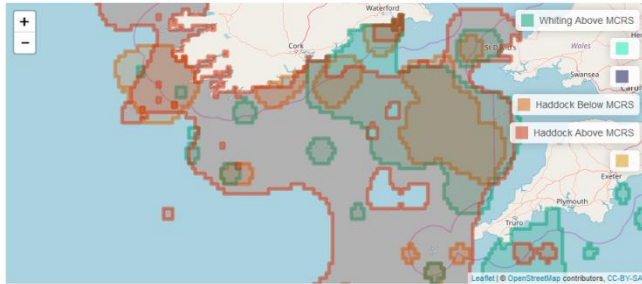
Non-Target Species Size #2

Above MCRS

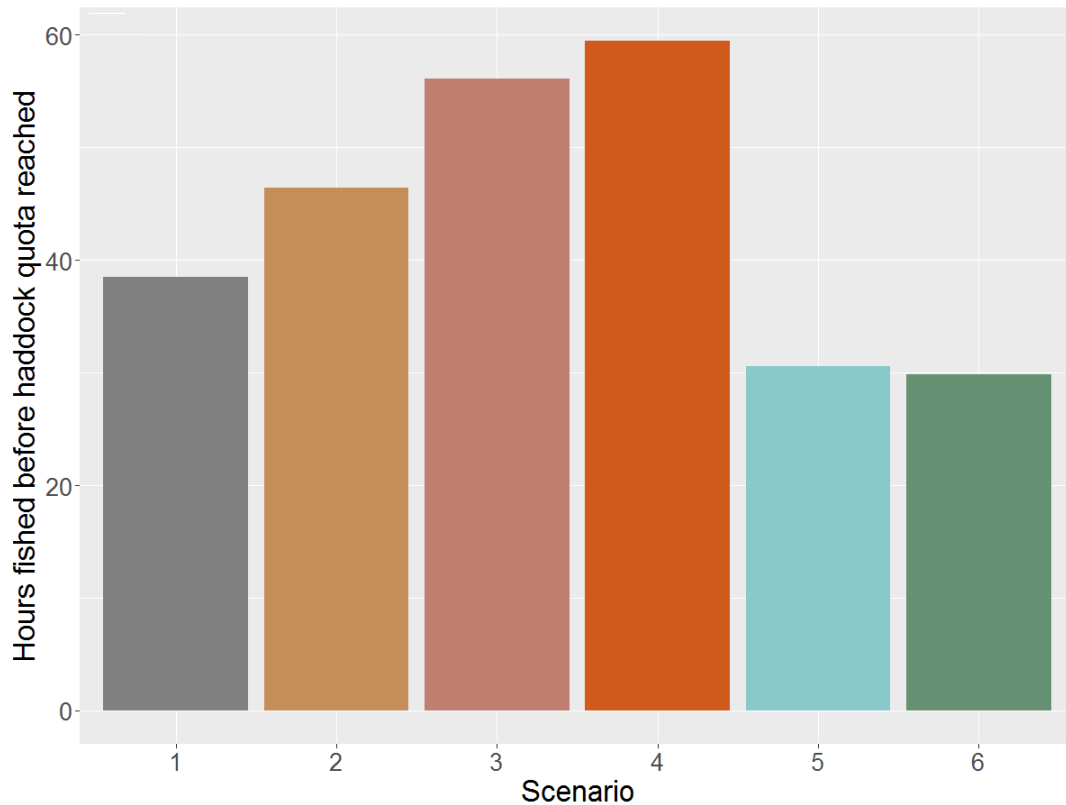
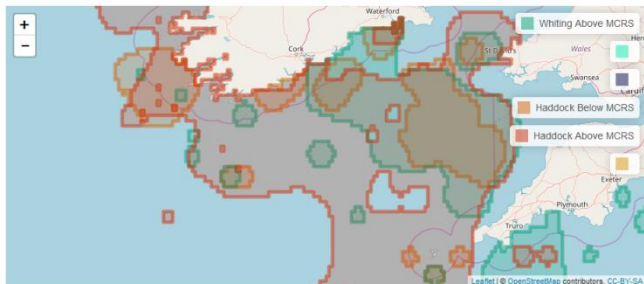
Min CPUE to avoid #2



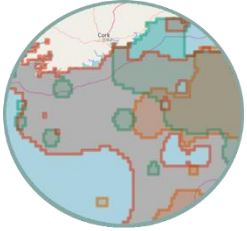
WHITING CATCH



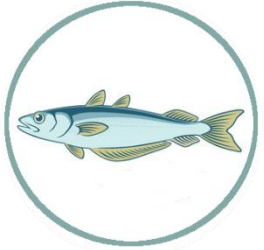
HOURS FISHED



CONCLUSIONS



Hotspot maps could help to better target catches and optimise fishing opportunities



In our 2 species example targeting whiting rather than avoiding haddock produced the best results



This app could be a useful product, but it isn't a final product yet and we are looking to continue to develop this alongside industry

FEEDBACK

<https://shiny.marine.ie/discardless/>



Hot Spot Map Explorer

Hotspot Maps

CPUE Maps

Proportion Maps

About

Survey

We would be grateful if you could take a few minutes to complete the following short survey to provide feedback on this **Hot-Spot Map Explorer**. The **Map Explorer** is currently still in development and your thoughts and input could help to greatly improve this product.

This survey should only take 5-10 minutes to complete

Survey

1. Do you work in the fishing industry?

- ☐ Yes
- ☐ No

2. Which of the following best describes your job/role?

- ☐ Vessel owner
- ☐ Skipper
- ☐ Crew member
- ☐ Co-operative employee
- ☐ Producer organisation employee
- ☐ Other

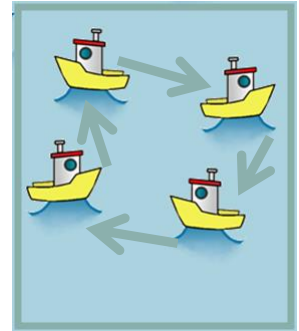
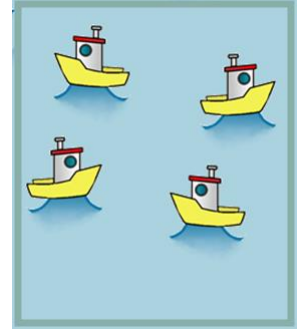
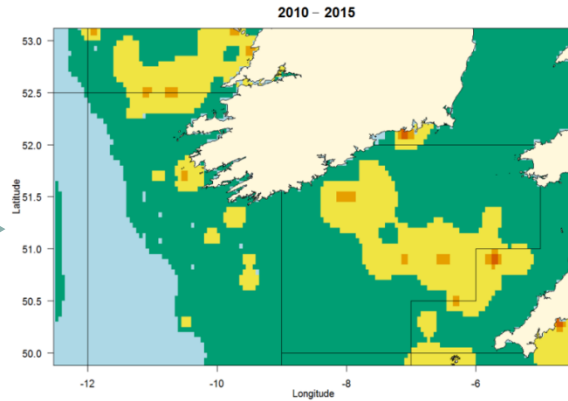
If other please specify

If you are involved in fishing please answer the following set of questions (otherwise skip to Q.8)

3. Which vessel size group are you involved with?

- ☐ <6m
- ☐ 6<18m

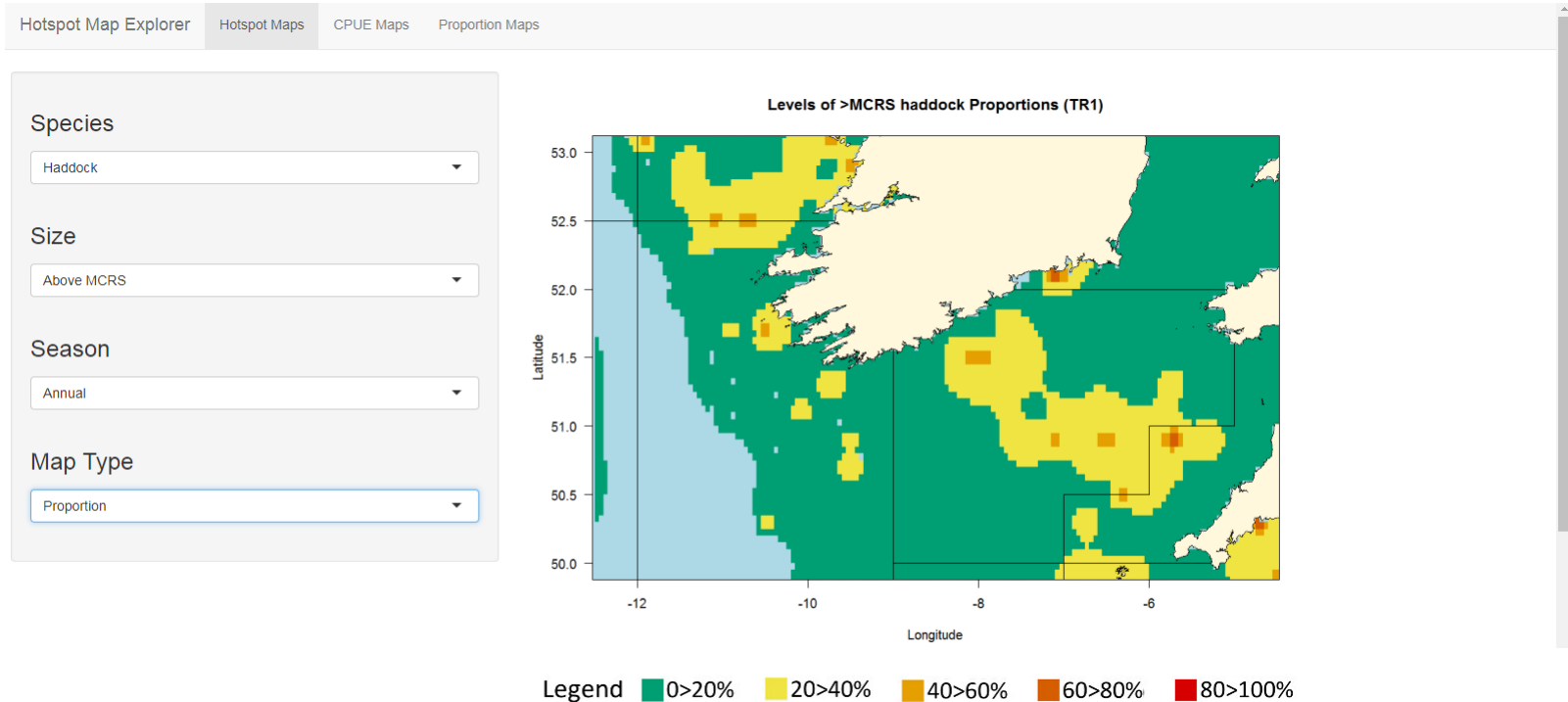
MORE INFORMATION?





Funded by the Horizon 2020
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European Union

MAPPING APP



The values were ranked and assigned into bins, each containing 20% of the hauls.
The resultant categories were used to create the interpolated maps.

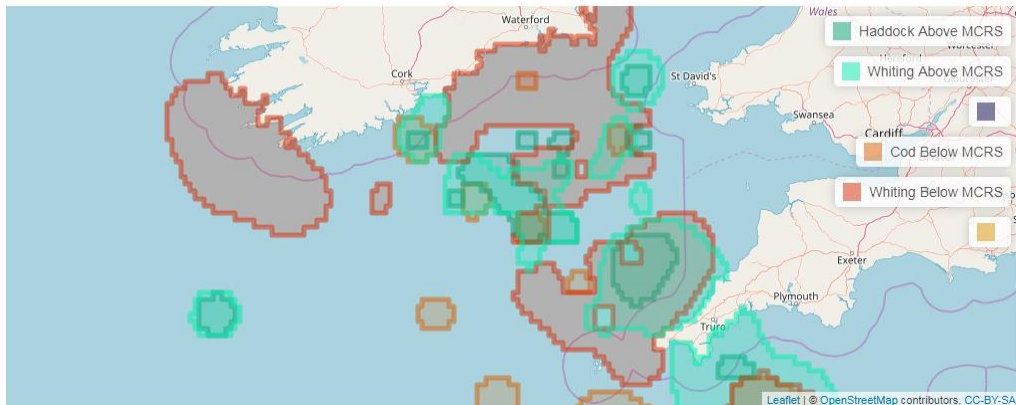
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CPUE Map Comparison

Season

Quarter 1

Annual

Quarter 1

Quarter 2

Quarter 3

Quarter 4

Target Species

Target Species #1

Haddock

Target Species Size #1

Above MCRS

Min CPUE to target #1



Target Species #2

Whiting

Target Species Size #2

Above MCRS

Min CPUE to target #2



Non-Target Species

Non-Target Species #1

Cod

Non-Target Species Size #1

Below MCRS

Min CPUE to avoid #1



Non-Target Species #2

Whiting

Non-Target Species Size #2

Below MCRS

Min CPUE to avoid #2

