



# CETUS

Cetacean, Elasmobranch, Turtle and Seabird

Distribution modelling platform supporting the sustainable development of offshore renewable energy

Dr Danielle Orrell  
[Dorrell@ucc.ie](mailto:Dorrell@ucc.ie)

Dr Damien Haberlin  
[d.haberlin@ucc.ie](mailto:d.haberlin@ucc.ie)

# Background: CETUS



## Rapid expansion of offshore renewables

- 7 GW by 2030
- 37GW by 2050

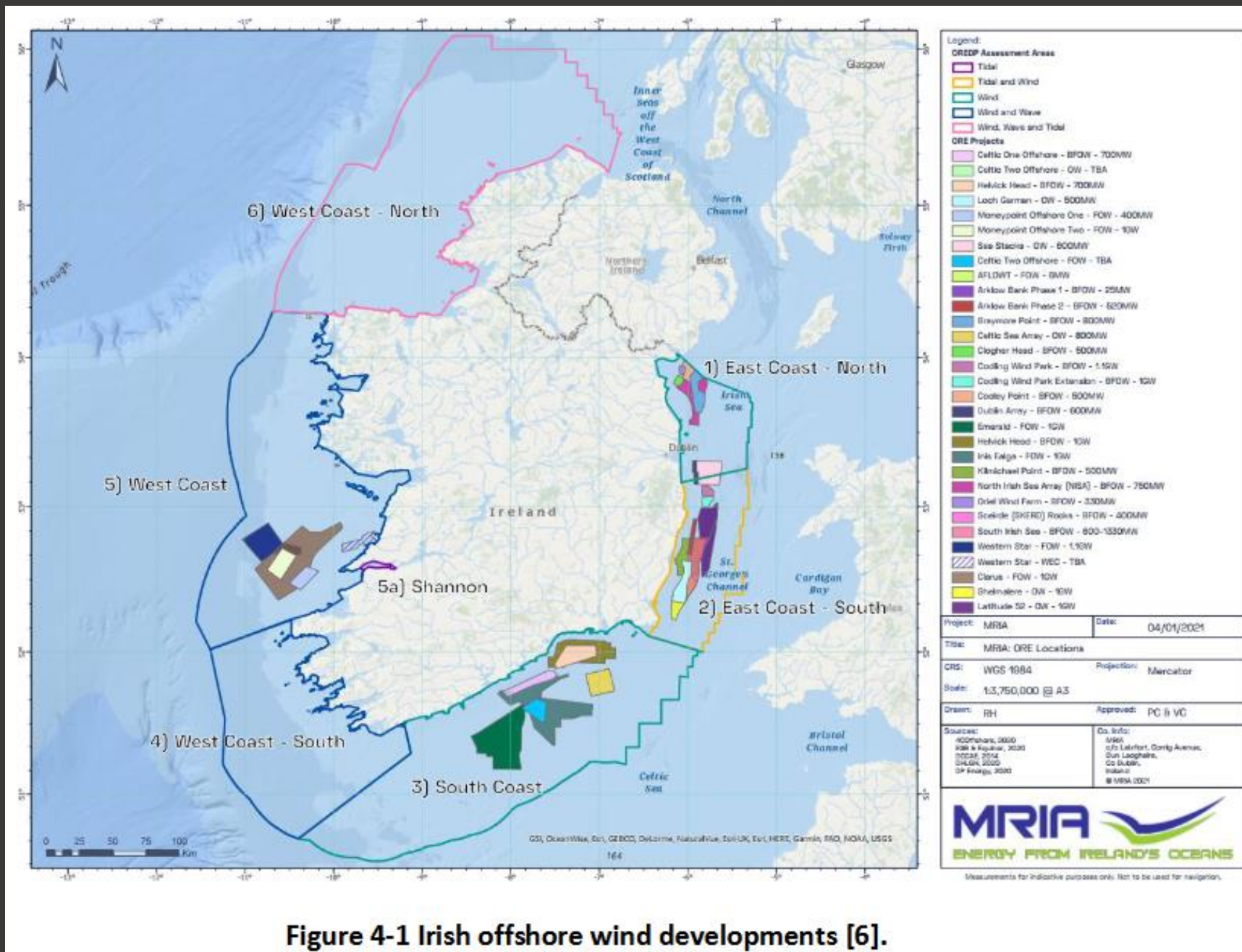
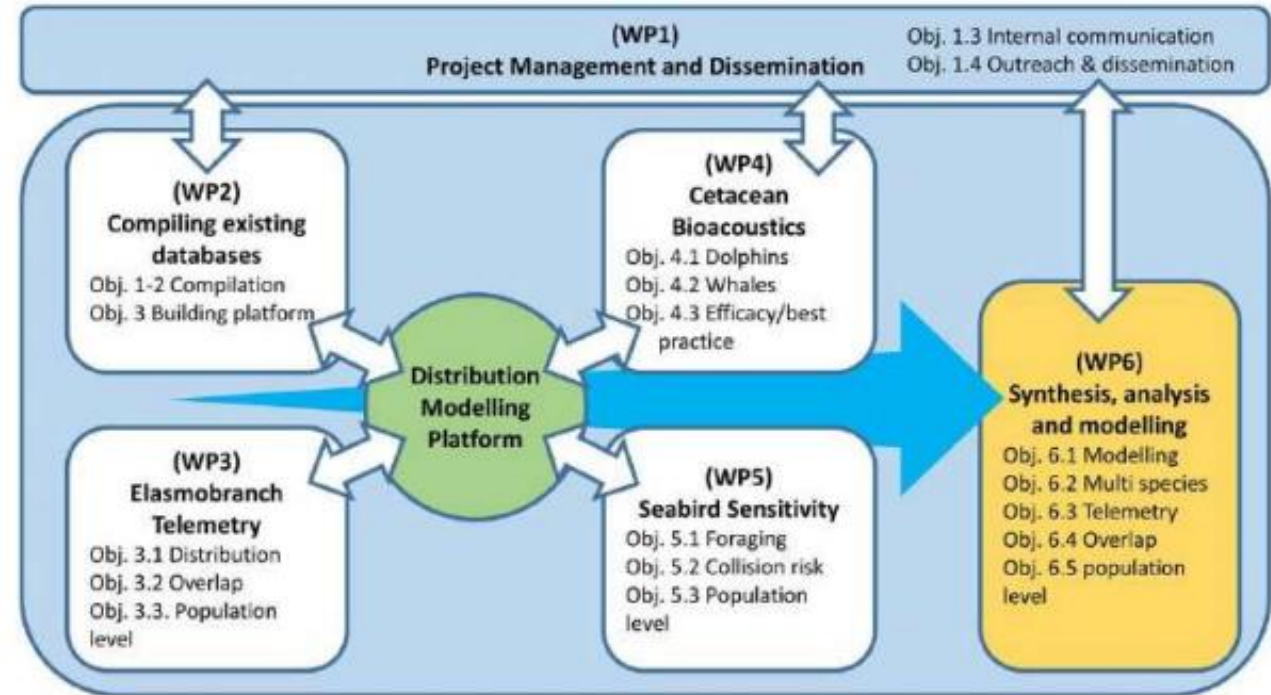
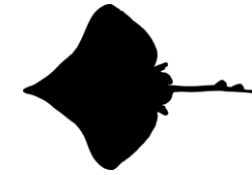
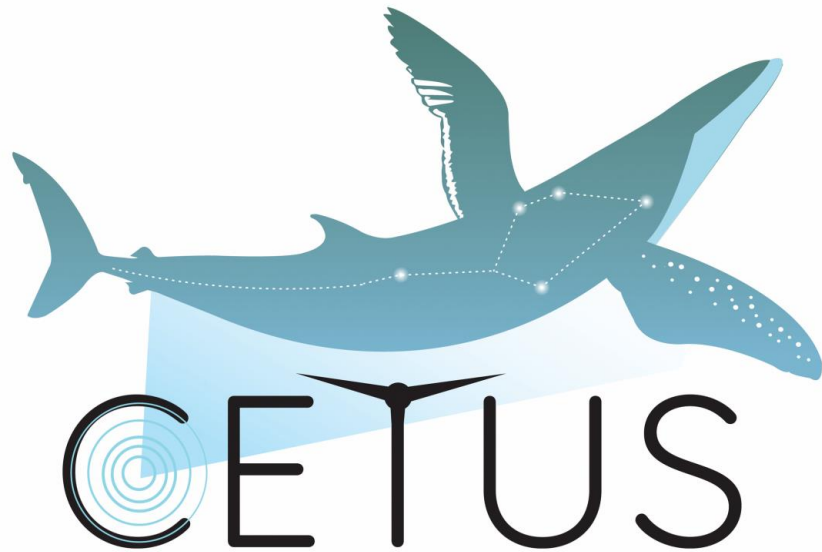


Figure 4-1 Irish offshore wind developments [6].

# Background: CETUS





# Methodology

Extinct

EX

EW

Threatened

CR

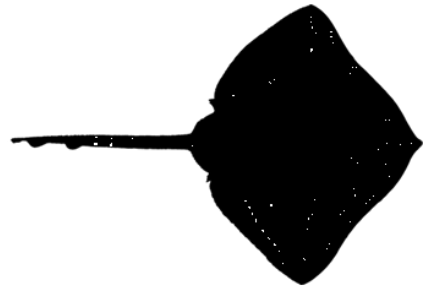
EN

VU

NT

LC

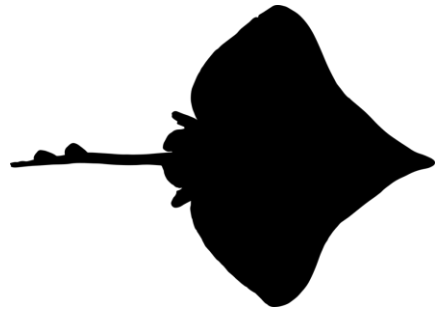
Least Concern



**X45** Thornback ray



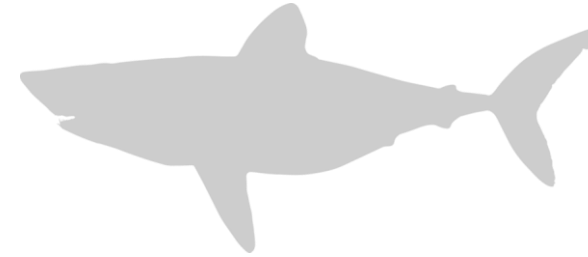
LC



**X40** Common skate



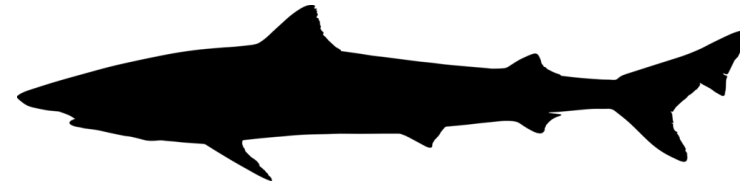
CR



**X5** Porbeagle



VU



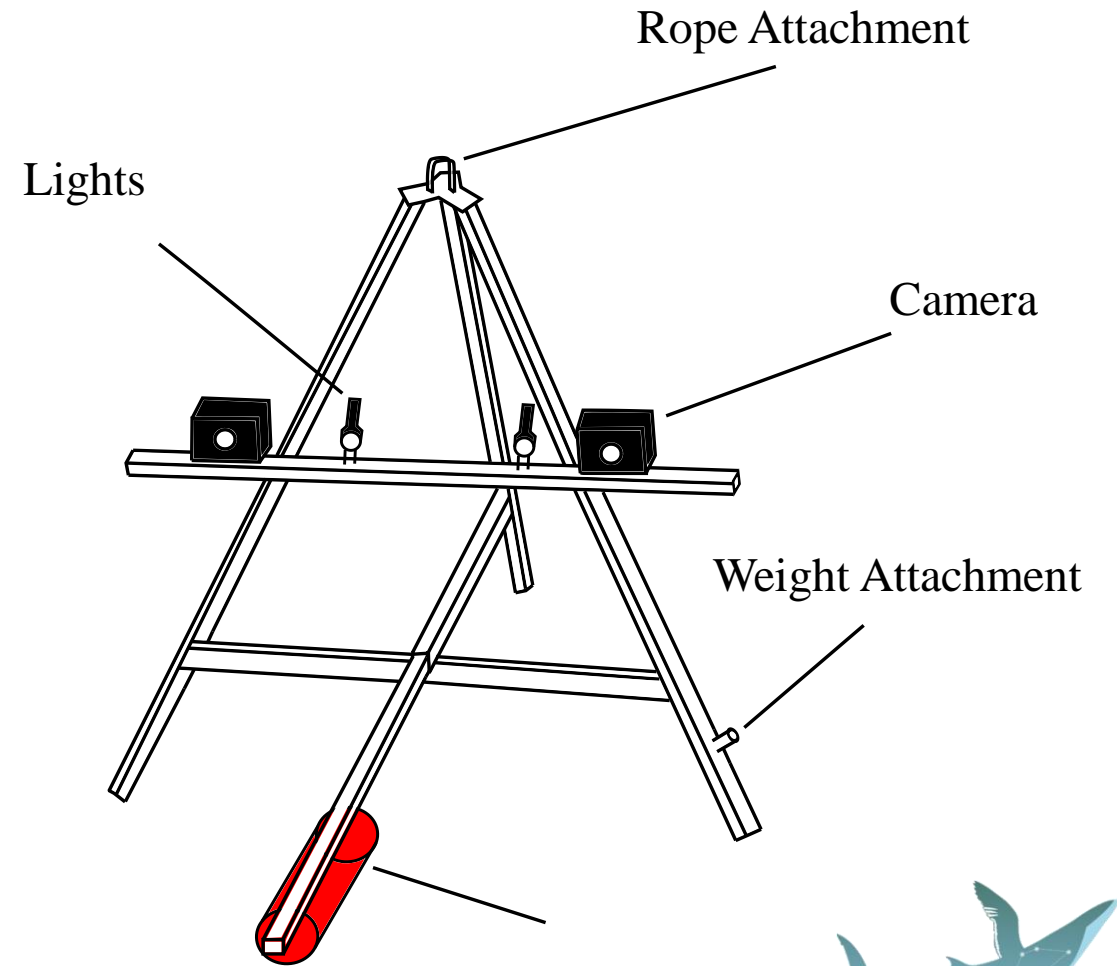
**X35** Tope



CR



# Baited Remote Underwater Video

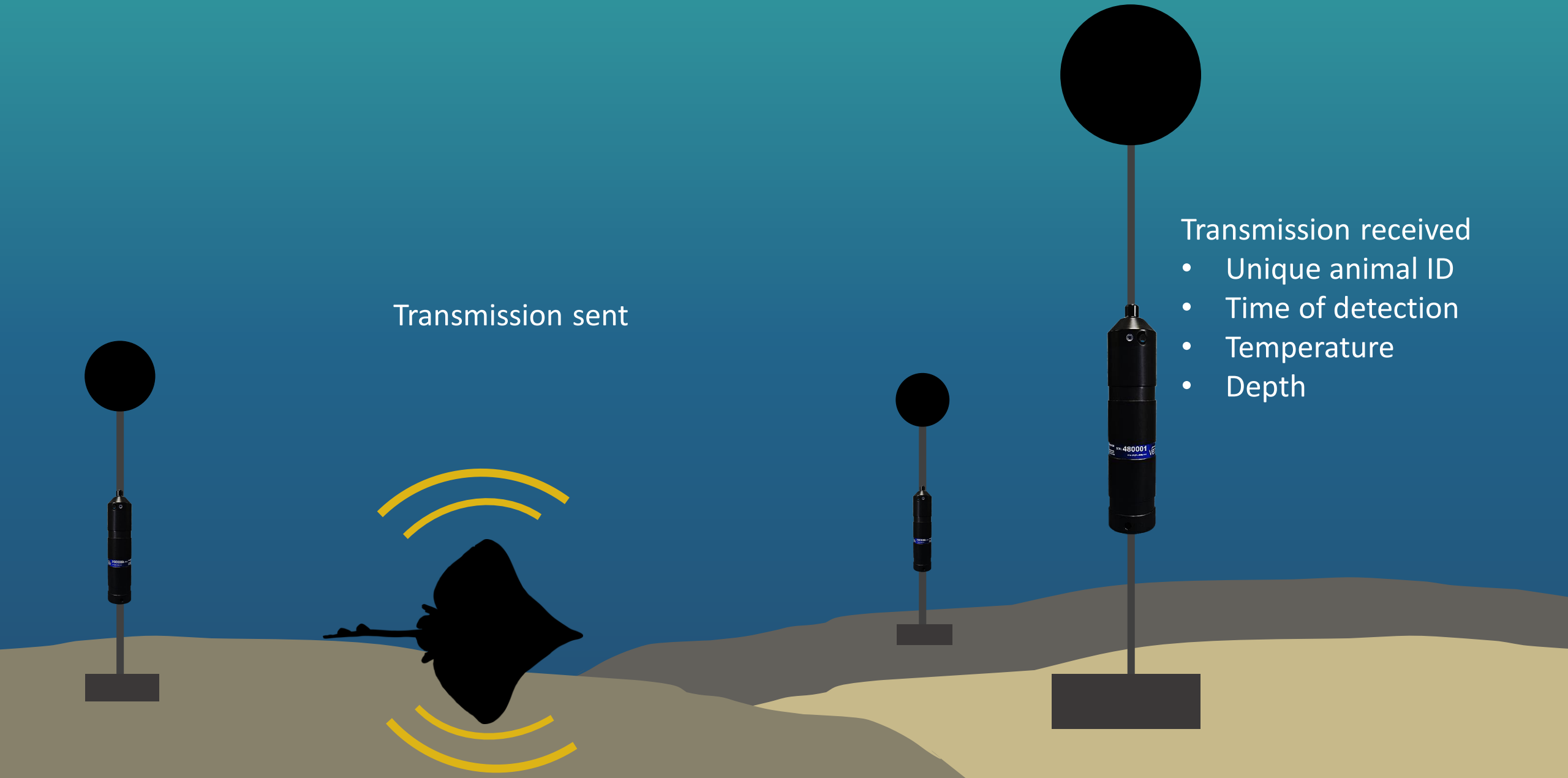


# Acoustic tracking

Transmission sent

Transmission received

- Unique animal ID
- Time of detection
- Temperature
- Depth





# Tracking skate in Courtmacsherry

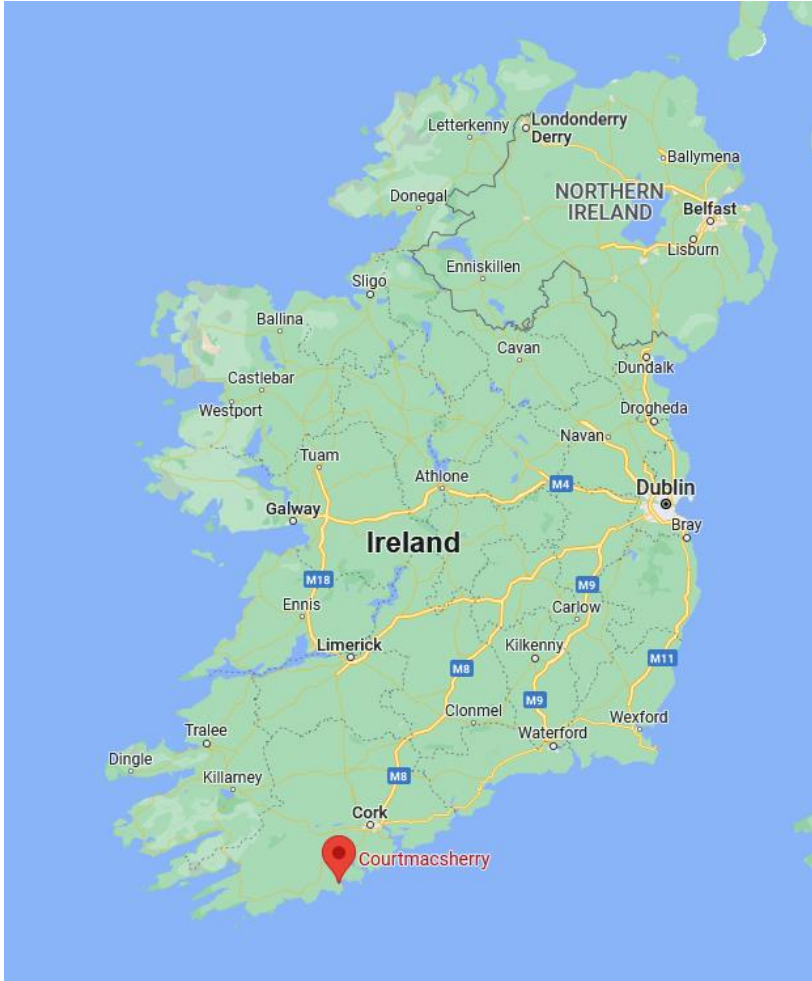
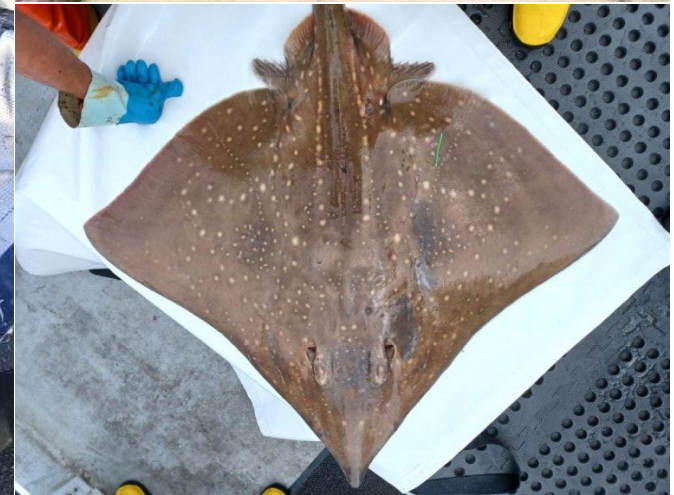


Photo: Mark Gannon

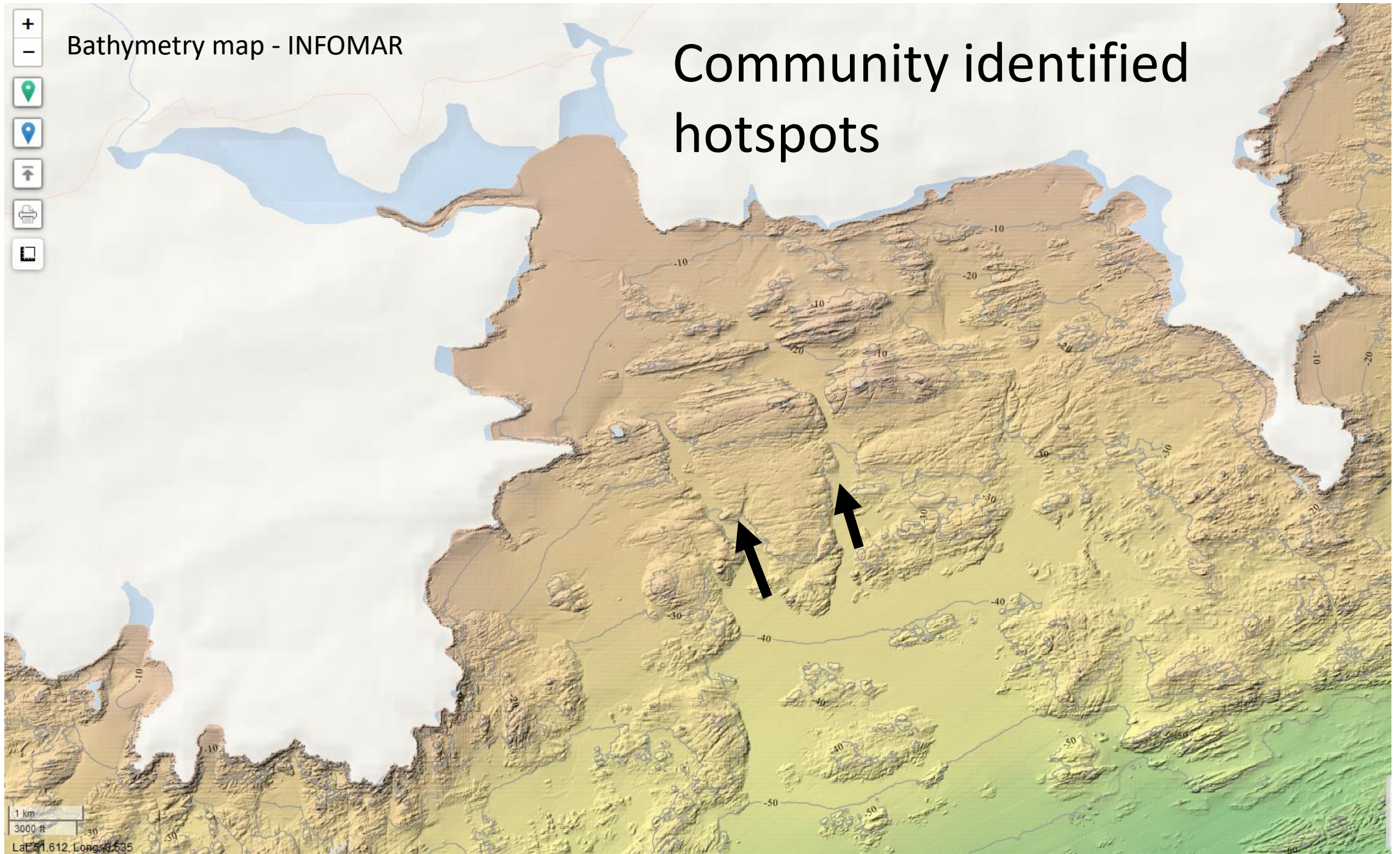






Bathymetry map - INFOMAR

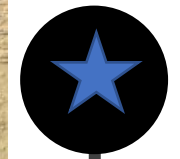
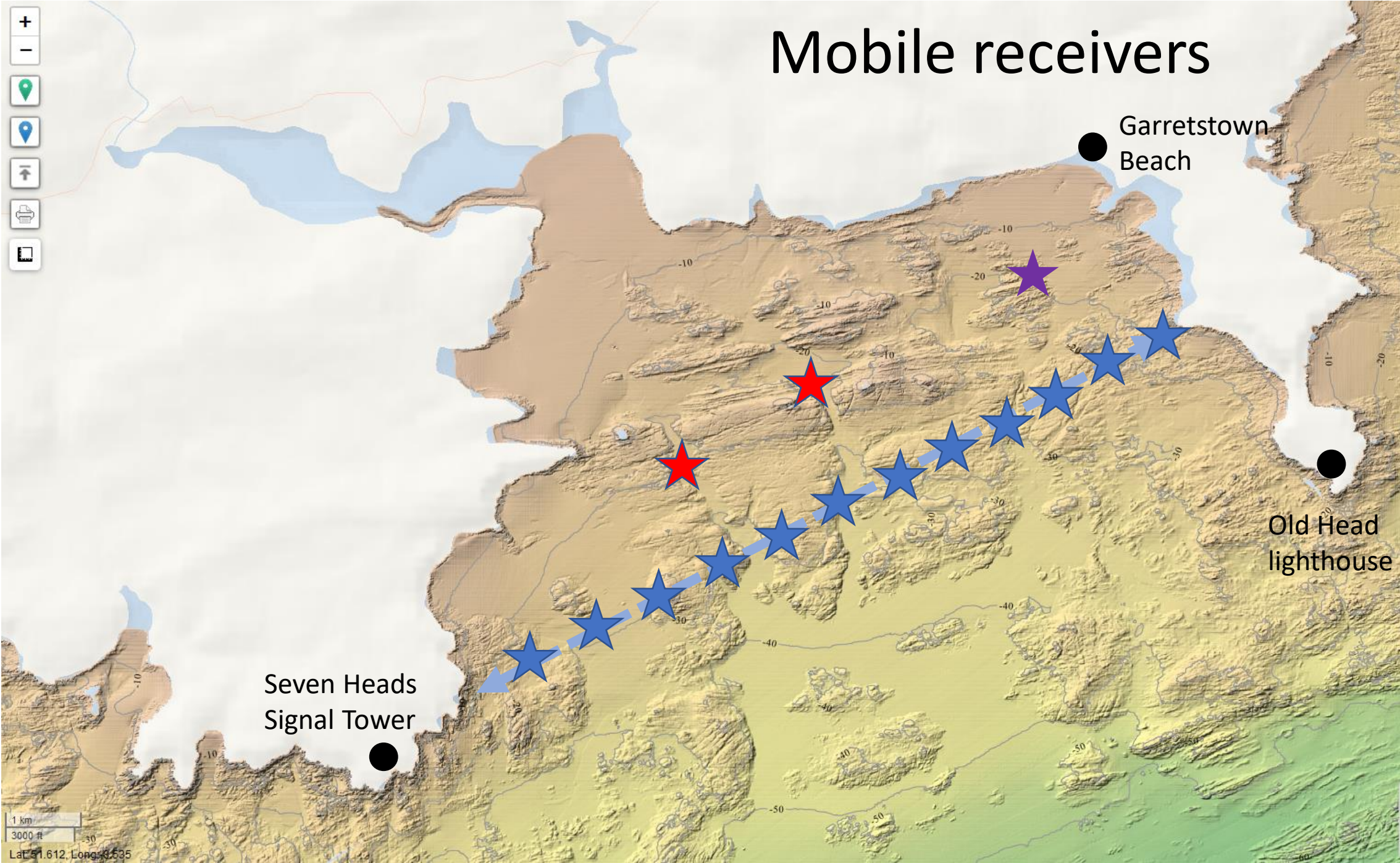
# Community identified hotspots



1 km  
3000 ft  
Lat: 51.612, Long: 8.535



# Mobile receivers



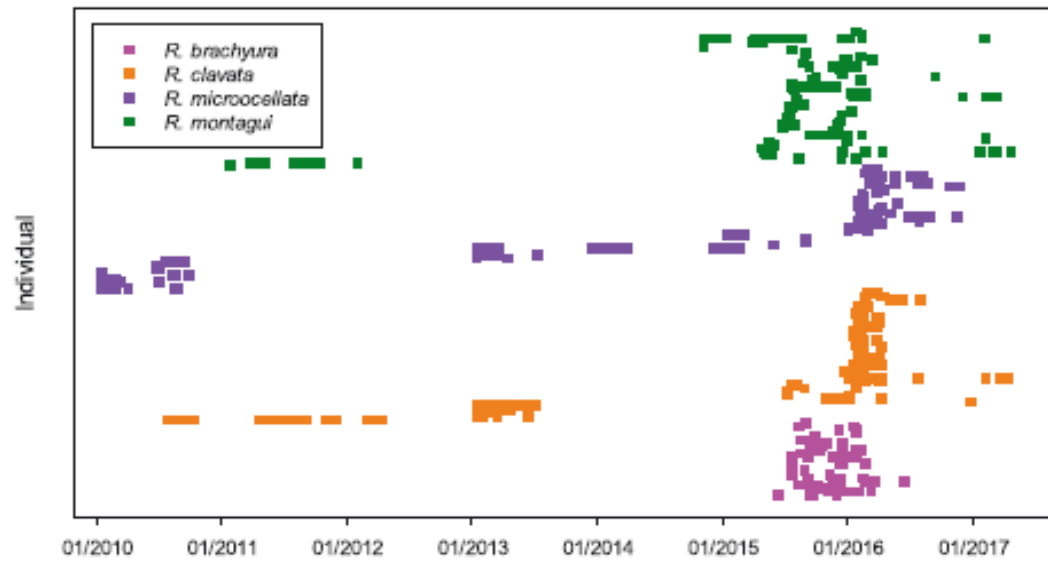


# Achievements to Date

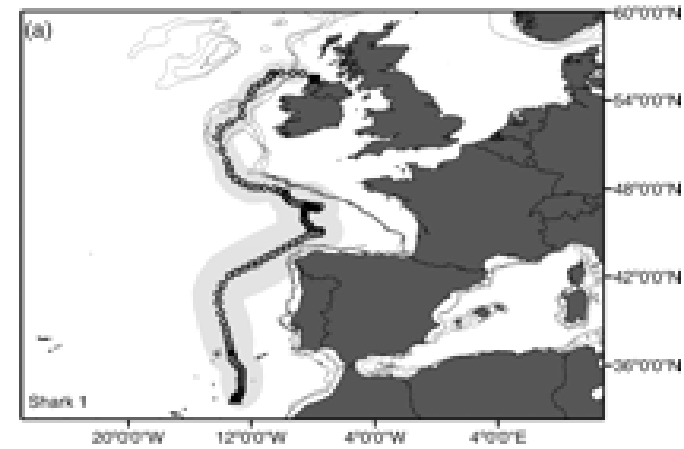




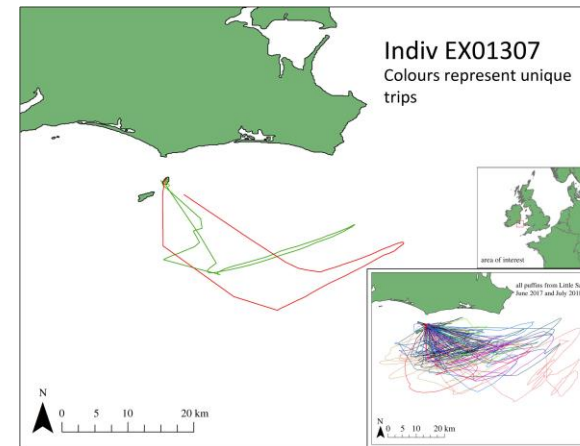
# Expected Outputs



Simpson et al., 2011



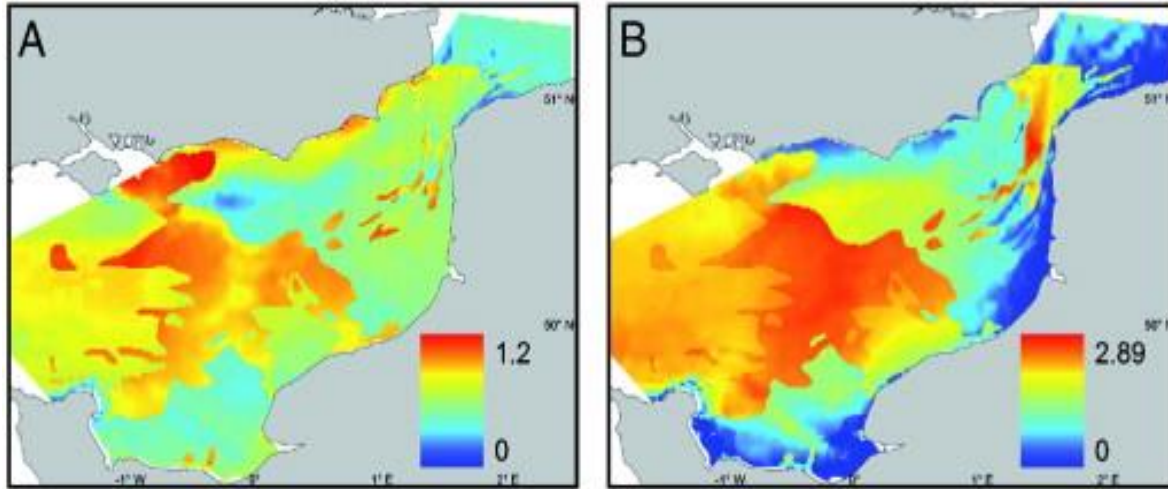
Saunders et al., 2011



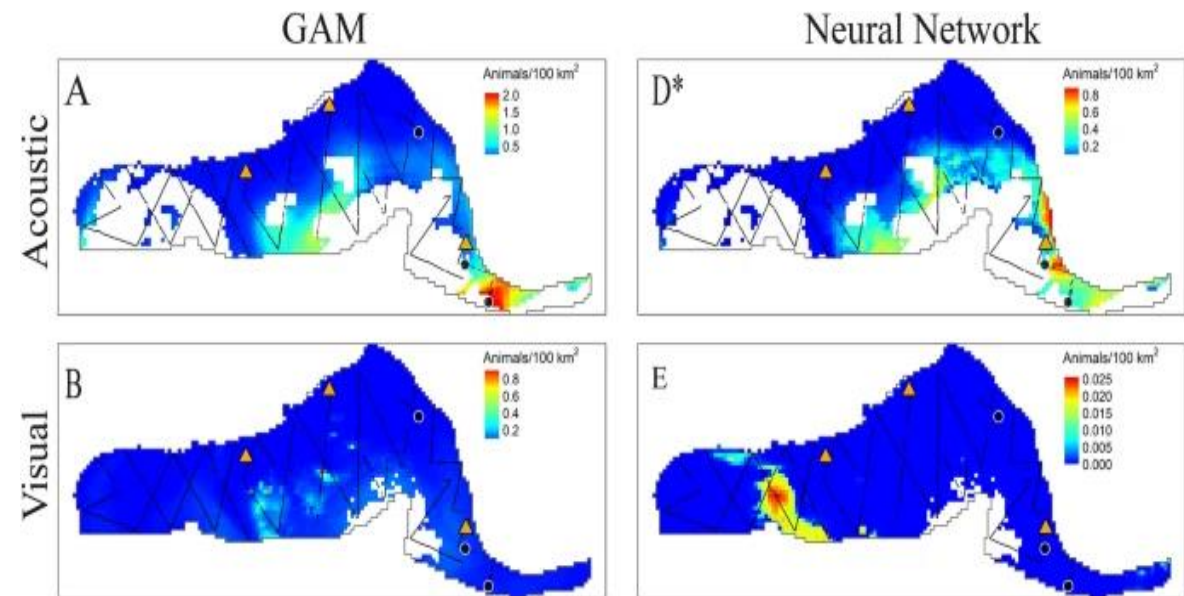
Bennison et al., 2019



# Expected Outputs



Martin et al., 2012



Fraiser et al., 2012





# CETUS

Cetacean, Elasmobranch, Turtle and Seabird

Distribution modelling platform supporting the sustainable development of offshore renewable energy