



---

# Little Loch Broom surveys 2022

[copy of presentation at Wester Ross MPA Discovery Day 14<sup>th</sup> October with stills from videos]

Dr Neil Burns – [neil.burns@sruc.ac.uk](mailto:neil.burns@sruc.ac.uk),

Dr Charlotte Hopkins – [charlotte.hopkins@hull.ac.uk](mailto:charlotte.hopkins@hull.ac.uk),

Dr David Bailey – [david.bailey@glasgow.ac.uk](mailto:david.bailey@glasgow.ac.uk)

# New research from August 2022

---

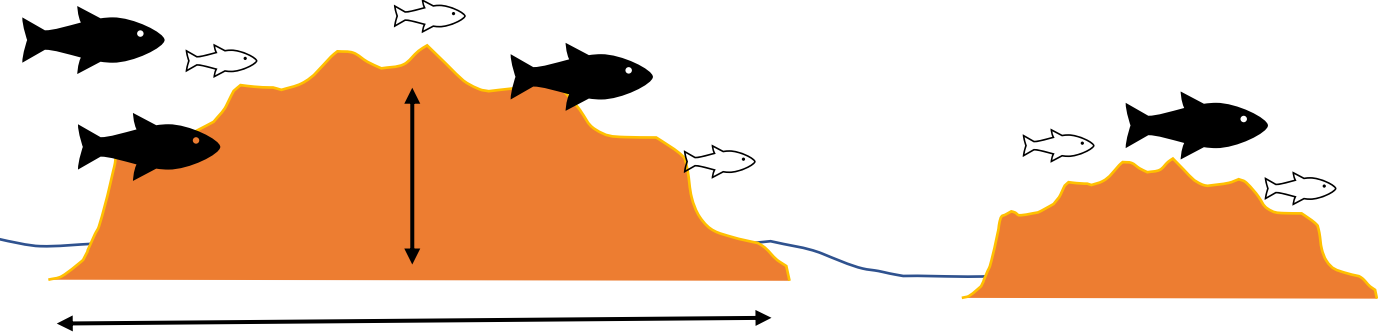


- Seascape understanding of marine environments
- Animal movement at local and wide scales.
- Develop useful advice for protection and management

**RESAS**

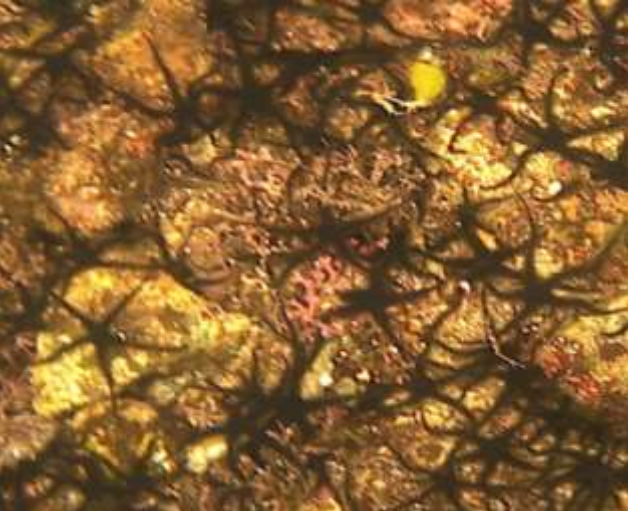
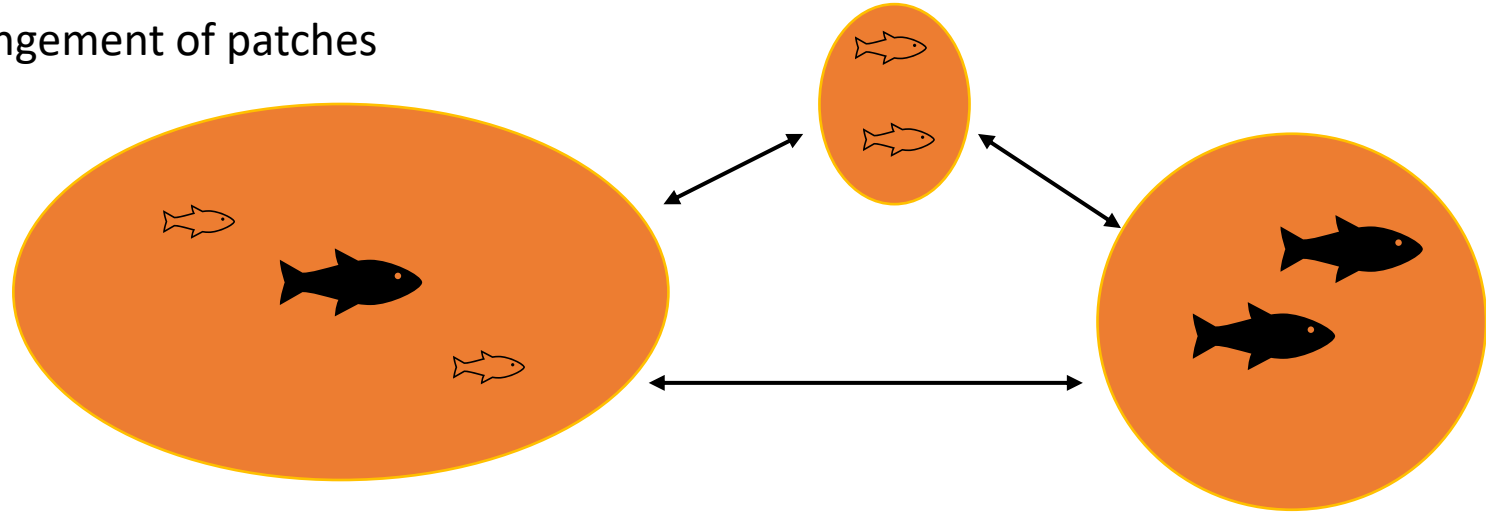
Rural & Environmental Science  
and Analytical Services

# Seascape concept



Patch characteristics

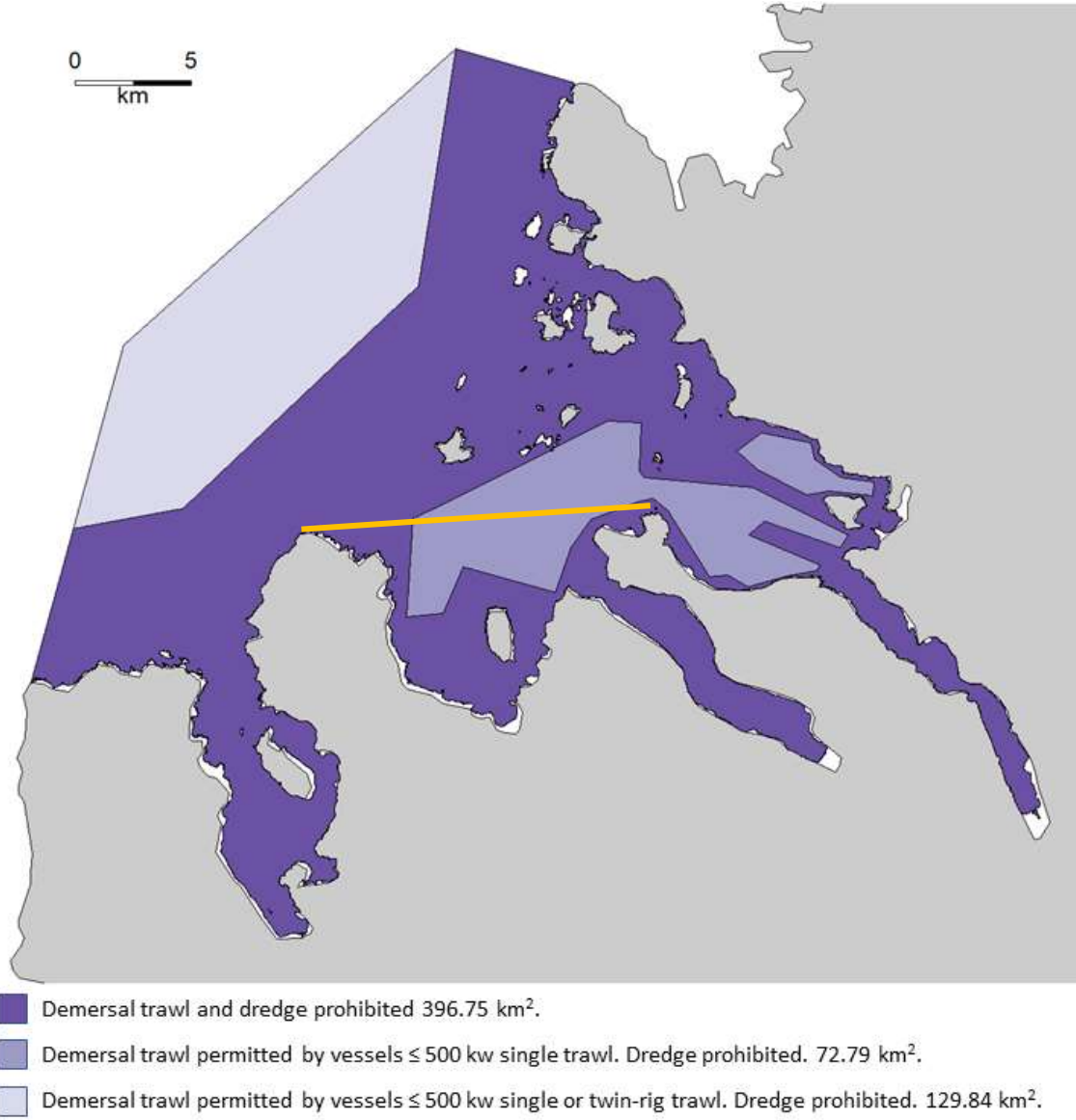
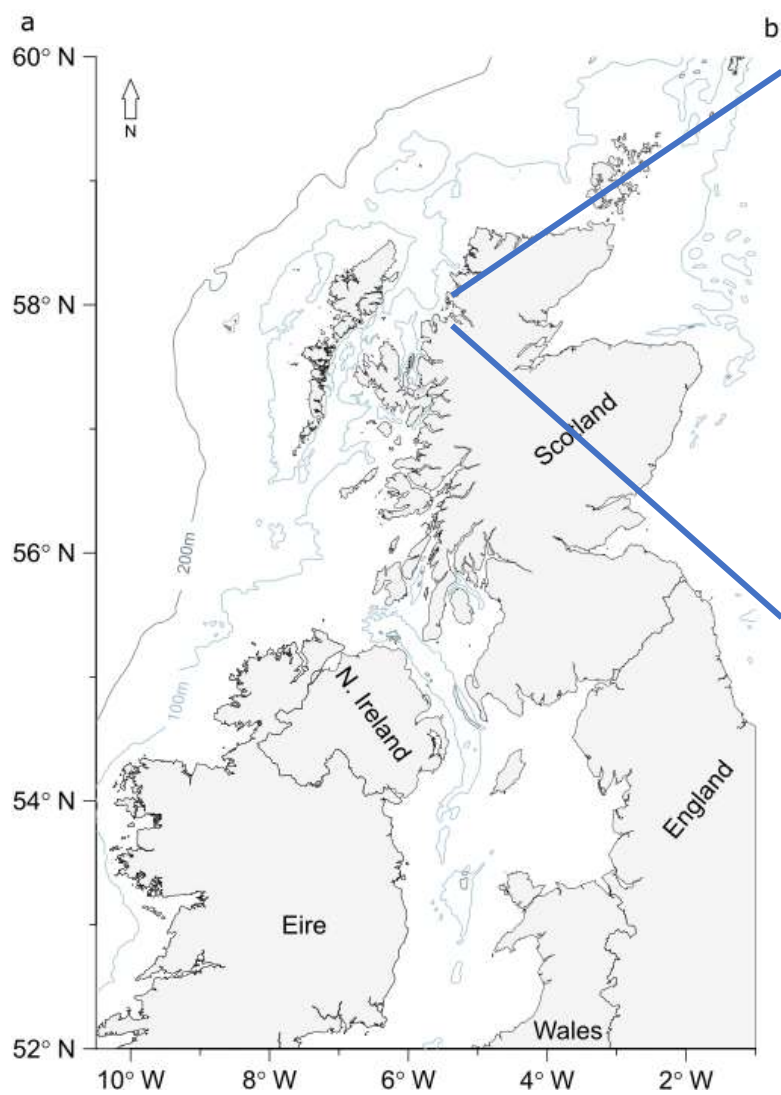
Arrangement of patches



Patch diversity

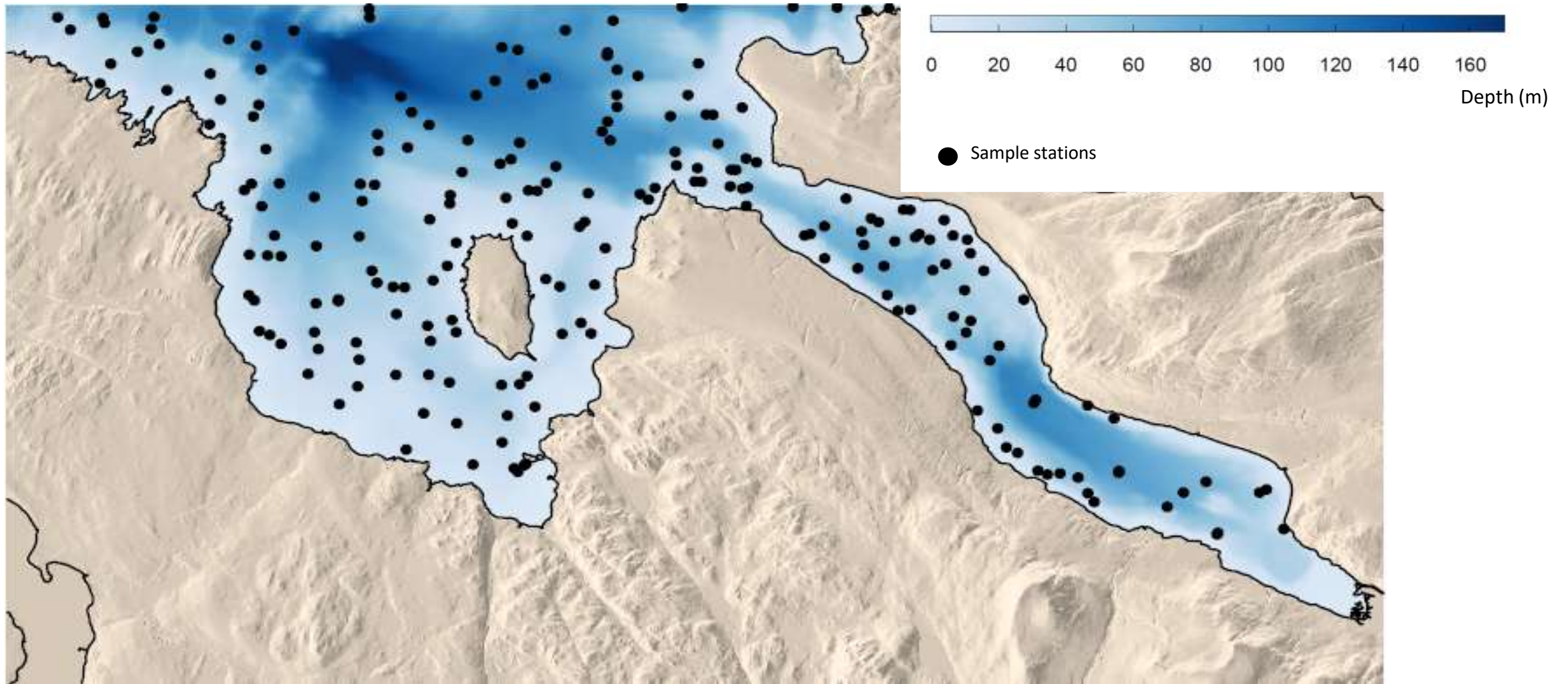


# August - September 2022 survey location



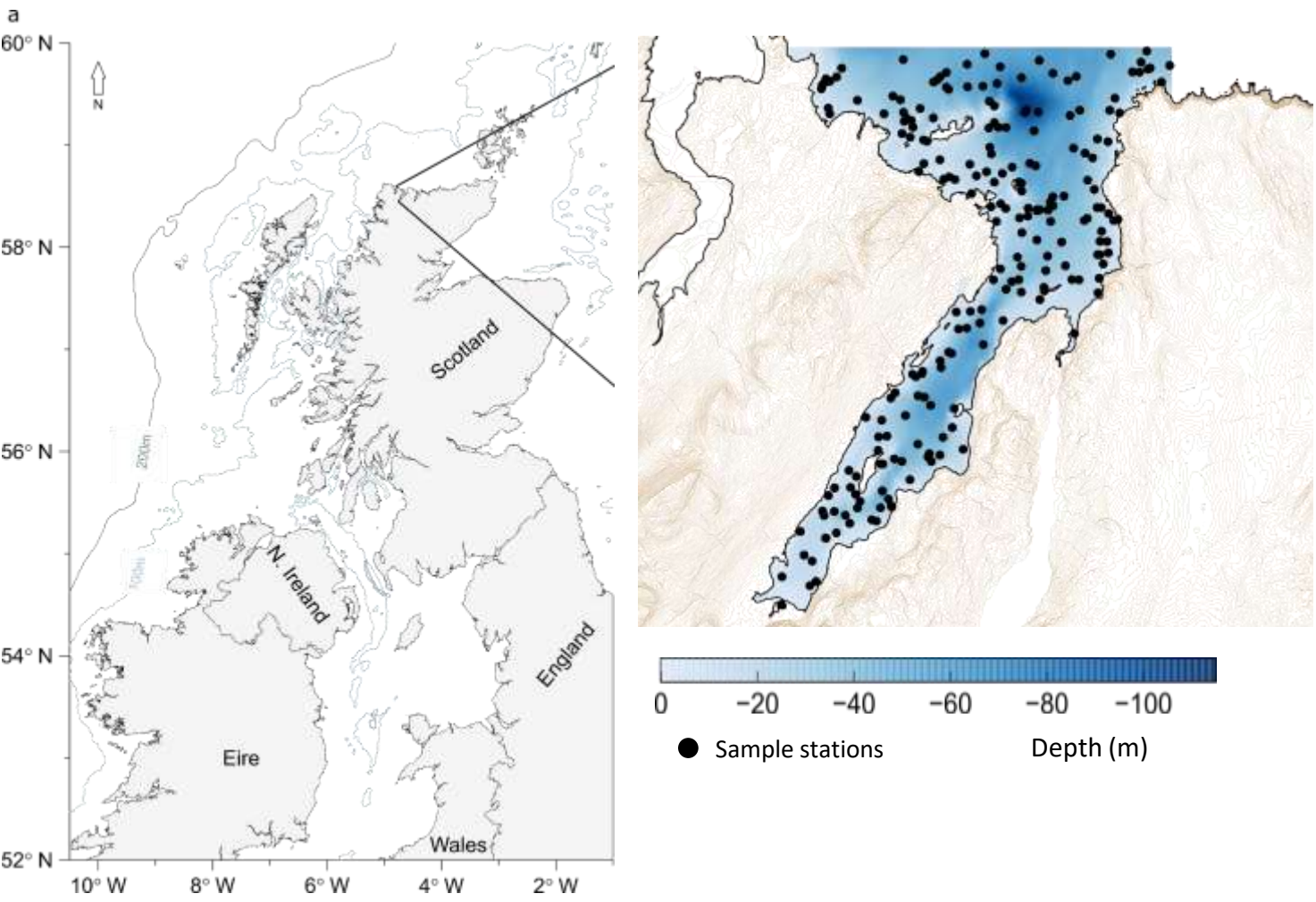
# Sample sites

---

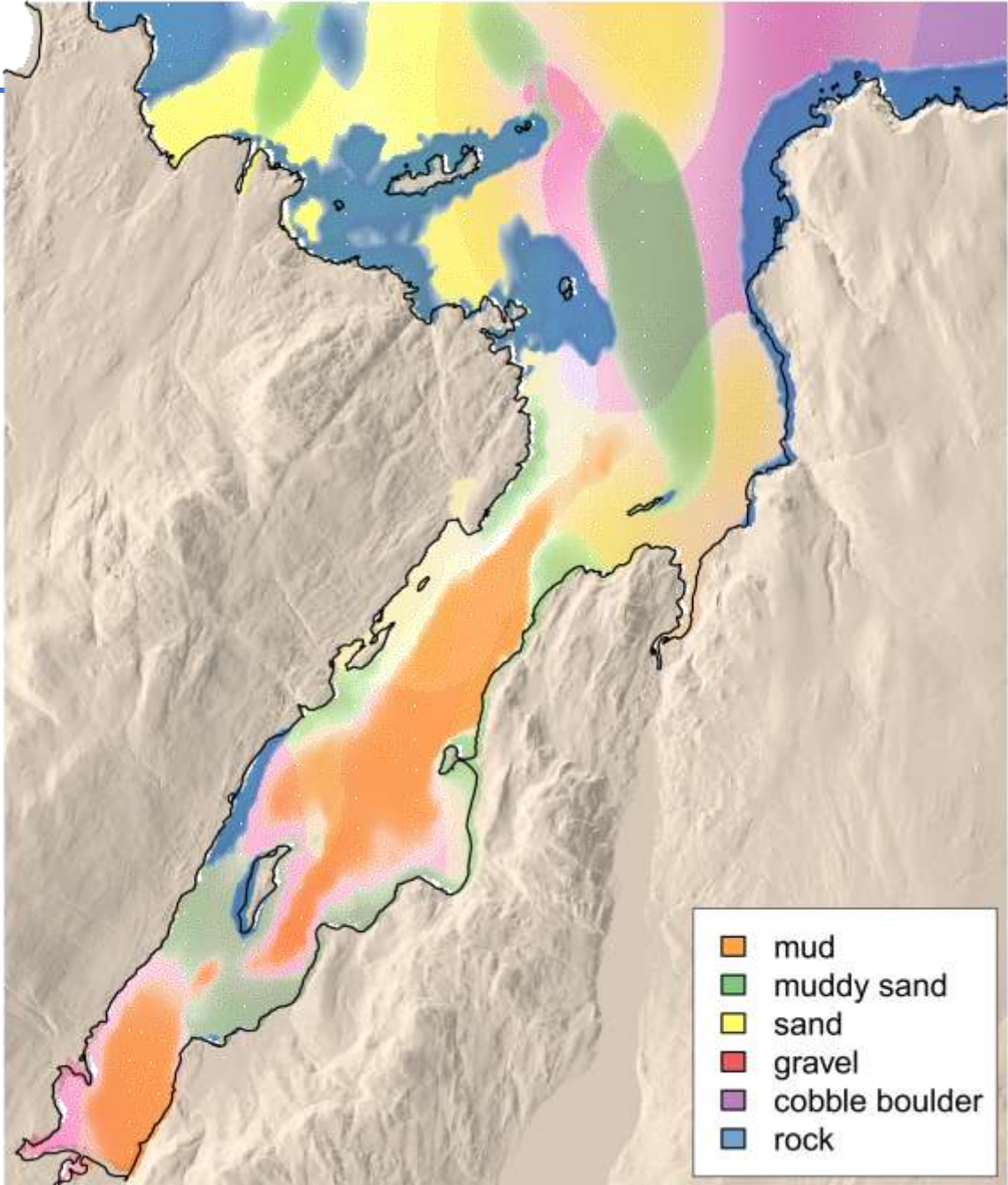
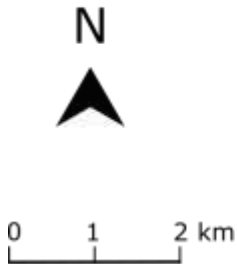
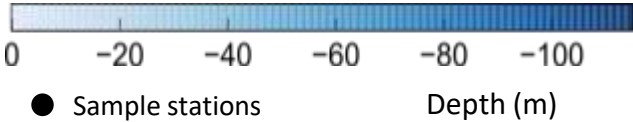
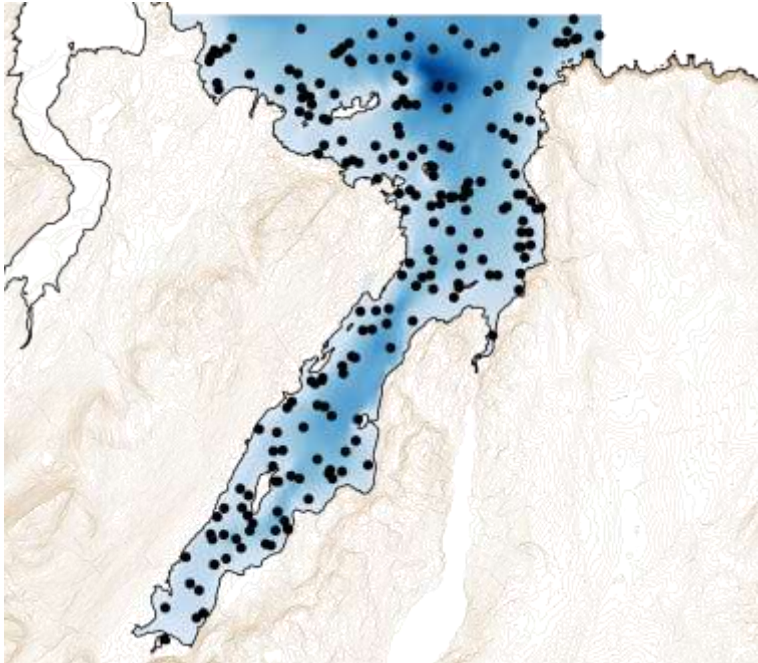


216, depth stratified sample sites from 10 m to 140 m

# Parallel work in Eriboll



# Parallel work in Eriboll



# Survey equipment

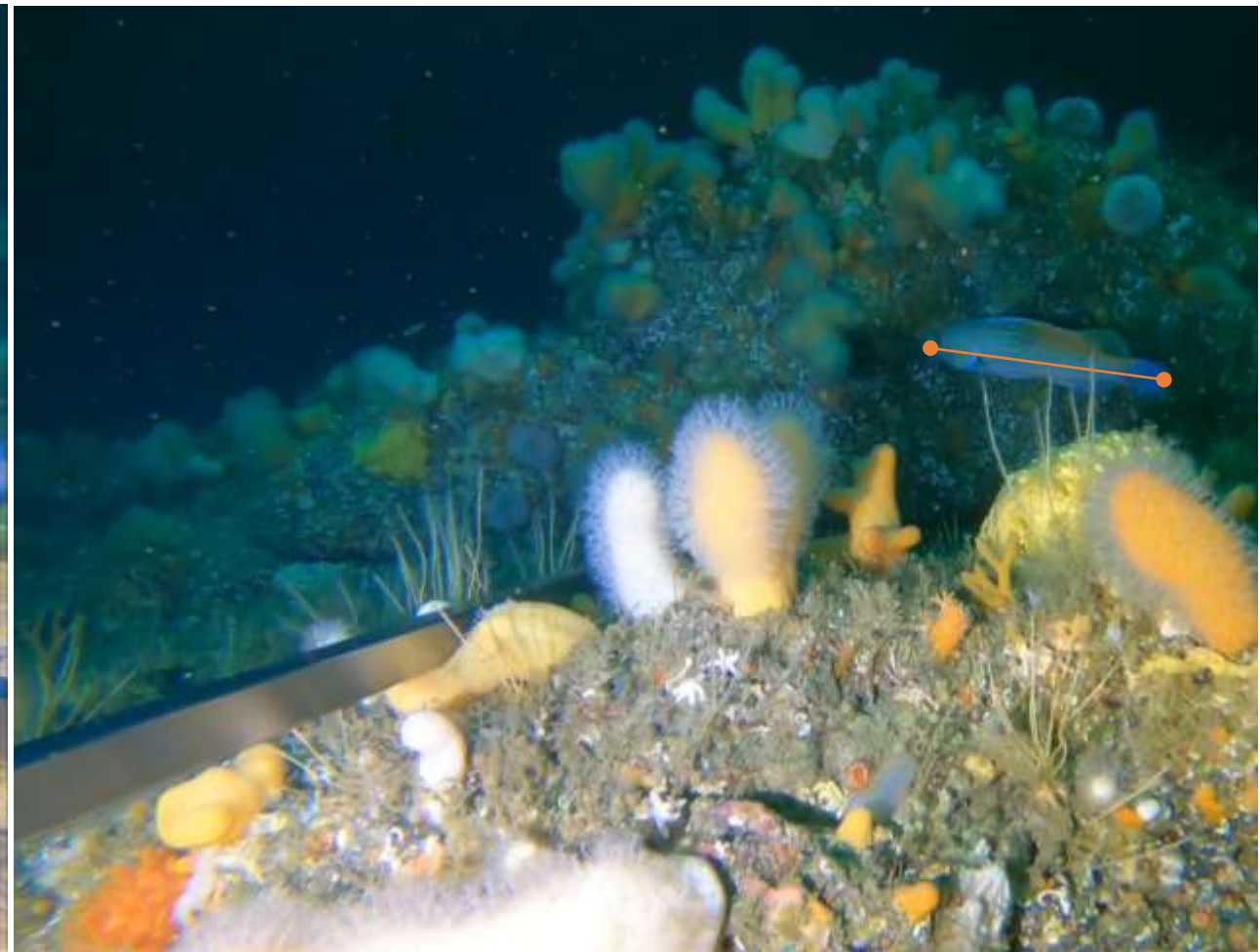
---





# Why stereo video cameras?

---



# Wester Ross seabed diversity

Burrowed  
mud  
communities  
and feather  
stars ~80 m



# Wester Ross seabed diversity

Burrowed  
mud ~100 m



# Wester Ross seabed diversity

Diverse rocky  
reef ~25 m



# Wester Ross seabed diversity

Kelp covered  
rocky reef  
~15 m

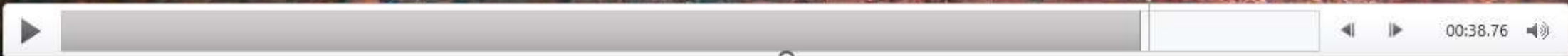


# Wester Ross seabed diversity

Maerl beds  
>15 m



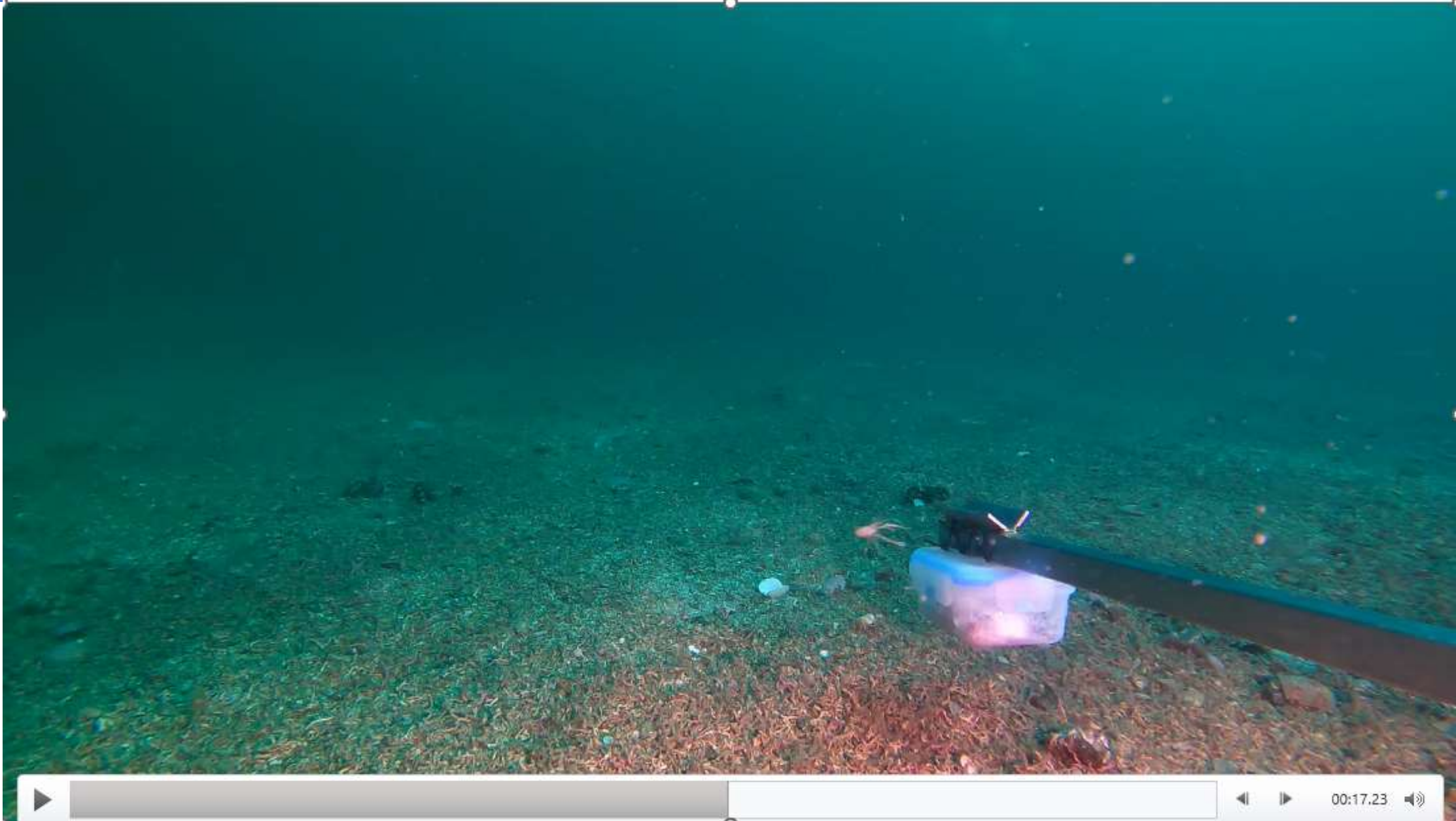
00:38.96



00:38.76

# Wester Ross seabed diversity

Maerl beds  
>20 m



# Wester Ross seabed diversity

Burrowed mud  
supporting fish  
abundance and  
Nephrops fishery  
~60 m





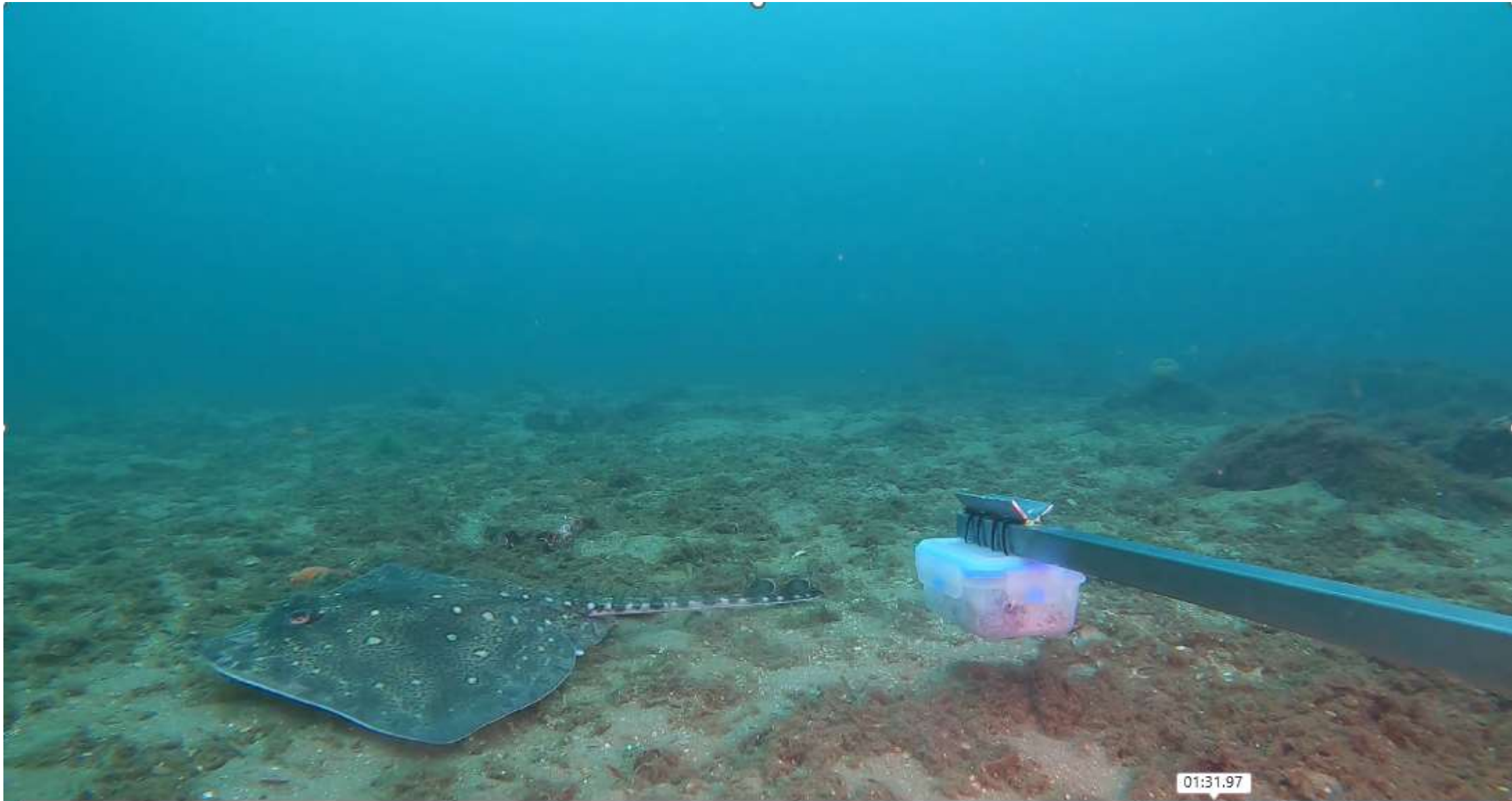
# Wester Ross seabed diversity

Sandy habitats  
providing refuge  
for sandeels  
~10 m



# Wester Ross seabed diversity

~12 m



# Wester Ross seabed diversity

~125 m



01:19.58



01:19.07

# Next steps

---

## Immediate

- 216 hours of footage to analyse from Wester Ross
- SRUC PhD student started in October 2022 exploring fish movement through seascapes
- University of Hull - Knowledge exchange

## Medium term

- Merge Loch Eriboll and Wester Ross data to model biological elements of seabed maps
- Continue sampling in summer 2023 (project is funded for another 4 years).

## Long term

- Start SRUC PhD student in October 2023 exploring influence of seascape diversity and configuration on fish growth.
- Pursue more funding to continue work



# Questions

---



**RESAS**

Rural & Environmental Science  
and Analytical Services



**UNIVERSITY  
OF HULL**

