

RESEARCH VESSEL PROGRAMME

RV CEFAS ENDEAVOUR
Survey: CEND 09 - 2018

STAFF:

Name	Role	Cabin	Shift
Ewen Bell	SIC Mentor	SIC	12 h
Karen Vanstaen	SIC	SCI 2 (B2)	12 h
Roslyn McIntyre	SIC2	SCI 1 (B1)	12 h
Andy Lawler	Shellfish scientist	SCI 2 (C2)	12 h
Charlotte Reeve	Shellfish scientist	SCI 3 (C3)	12 h
Dan Clarke	Shellfish scientist	SCI 4 (C4)	12 h
Joanna Uzyczak	Scientist	SCI 5 (C5)	12 h
Stuart Wynne	Shellfish scientist	SCI 6 (C6)	12 h
Axayacatl Molina Ramirez	MIST Technician	SCI 3 (D3)	12 h
Ben Wood	MIST Technician support	SCI 2 (D2)	12 h
Andy Hinds	RFID technician - visitor	Not yet confirmed	Visitor - tbc
Lauren Parkhouse	DIFCA visitor	SCI 7 (C7)	Visitor
Hayden Close	MIST Technician support		Reserve - tbc

DURATION:

Monday June 11, 2018 departing from Swansea 01:00 am docking Monday June 18, 00:29 am, demobbing in Lowestoft.

Project:

Defra R+D MF0243/C7658 Estimating catchability of scallop dredges and TV survey efficiency

LOCATION:

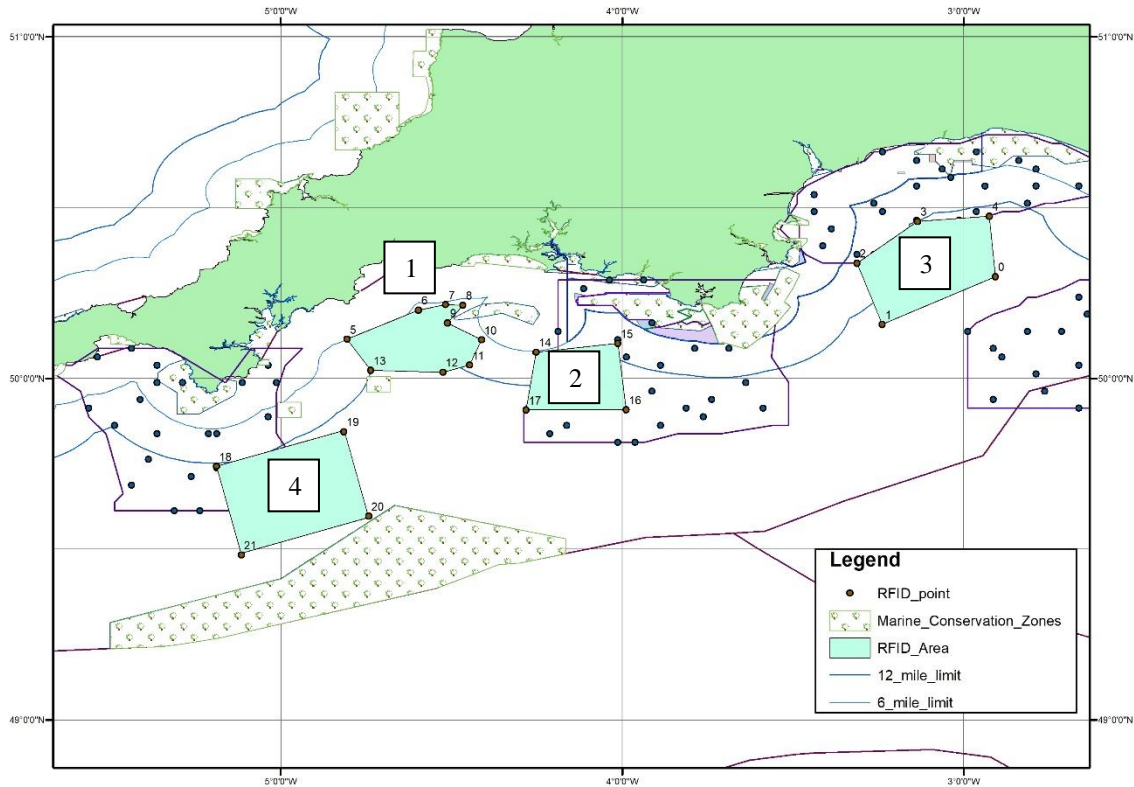


Figure 1. Four survey areas for underwater TV work Cefas Endeavour 0918. Areas 1-3 for scallop deployment only.

The station positions will be randomly selected within the survey areas depending on substrate, static gear. We will be avoiding work within MPAs, MCZ's potting zones (DIFCA) and outside 6nm.

- Western Channel MCZ
- Lizard Point SCI
- Start Point to Plymouth Sound & Eddystone SCI
- Skerries Bank and Surrounds MCZ
- Lyme Bay and Tore Bay SCI

AIMS:

To investigate the use of novel Radio Frequency Identification (RFID) technology to determine the efficacy of UWTV and catchability of scallop dredges. With the commercial dredges, this survey will test the concept of using RFID technology so that it can ultimately the technology can be transferred to the surveys undertaken on commercial boats. For the UWTV, the project aims to give an efficiency estimate of the UWTV gear used in areas typically unfished by scallop dredges either due to sea bed topography or protected status.

1. Optimise scallop dispersal method (to prevent RFID tag clash and to closer replicate natural average densities).
2. Evaluate the potential of using RFID technology to determine catchability of scallop dredges.

3. Determine UWTV efficiency using RFID technology and optimise elements of UWTV method.
4. Acquire high-resolution acoustic data using multibeam sonar (as time permits).

PLAN:

Depart from Swansea early Monday 11 June 2018 and transit to location. Baseline parameters on RFID to be tested in seawater tanks on steam round.

Collection of live scallops from Falmouth via Endeavour work boat (one to two collections anticipated or dredging for live scallops if required). On site:

1. Scallop dispersal method to be assessed with acoustic release drop frame (if this is unable to deliver the required distribution alternative release methods will be trialled, including pipe method, hand-released baskets and hand dispersal over the side).
2. Baseline assessment of each site (substrate, suitability, baseline population etc) by multibeam, UWTV and dredge (if appropriate), followed by deployment of RFID tagged scallops
3. Video data will be collected using SeaSpyder UWTV and RFID array (side gantry deployment). In addition, other UWTV array platforms will be trailed including Flying array and Sea Chariot).
4. Dredge tows to be taken along the line of RFID tagged scallop deployment (efficiency estimate using RFID) with repeat tows (depletion methodology) as back up methodology where required. ID's detected will provide data for catchability and efficiency calculations.
5. Multibeam echo sounder data will be recorded pre and post deployment and dredging.

On completion, the vessel will transit to Lowestoft to demobilise.

GEAR:

SeaSpyder drop-camera frame with additional UV light source.

Scallop dredges (4 dredges per bar, 1 bar on each side of stern, scallop and queenie dredges deployed).

RFID antennae array and logger on both SeaSpyder and dredge.

CTD.

Multibeam echosounder.

DSIFCA flying array and Marine Scotland Sea Chariot.

GoPro set up on dredge and drop frame if required.

Scallop release systems 1) drop cage with acoustic release, 2) pipe release.

Scallops (kept in large seawater deck (2 and 1 m) tanks with flowing seawater.)

RFID tags, glued to scallops along with fluorescent painted beads.



Figure 2. STR SeaSpyder drop frame camera system.

Karen Vanstaen
Scientist in Charge
28 May 18