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MRV Scotia

Survey 0623S

PROGRAMME

18 May – 13 June 2023

Ports

Loading: Aberdeen, 16 May 2023

Sailing: Aberdeen, 18 May 2023

Port call: Aberdeen, 24 May 2023

Half Landing: Ullapool, 30 May 2023

Staff transfer: Ullapool, 07 June 2023 (TBC)

Unloading: Aberdeen, 13 June 2023

In setting the survey programme and specific objectives, etc the Scientist-in-Charge needs to be aware of the restrictions on working hours and the need to build in adequate rest days and rest breaks as set out in Marine Scotland's Working Time Policy (Lab Notice 34/03). In addition, the Scientist-in-Charge must formally review the risk assessments for the survey with staff on-board before work is commenced.

In the interest of efficient data management it is now mandatory to return the Survey Report, to I Gibb and the Survey Summary Report (old ROSCOP form) to M Geldart, three months of a survey ending. In the case of the Survey Summary Report a nil return is required, if appropriate.

Gear

2 x towed UWTV sledges

2 x 600m fibre optic/copper hybrid umbilical towing cables and associated TV equipment (HD and SD systems, including back up)

1 x 600m copper umbilical towing cable

2 x Scotia BT175 80 mm prawn trawls, with Vee 25/26 and Vee 41/42 trawl doors

2 x USBL transponders

2 sets SS4 Scanmar door sensors and chargers

SPAN moorings: VEMCO deck box, transponder and charging unit for acoustic release;
100 kg clump weight, two sensors, mooring line, shackles (one for each of the six mooring sites)

Estimated Days per Project: 27 Days, 20724

Objectives

1. To obtain estimates of the distribution and abundance of *Nephrops* burrows at Fladen, the Devils Hole, the North Minch, South Minch, Sound of Jura, Clyde, Moray Firth and at the Noup using underwater television (UWTV) video cameras.
2. To use the video footage to record occurrence of other benthic fauna and evidence of commercial trawling activity.
3. To collect trawl caught samples of *Nephrops* for comparison of reproductive condition and morphometrics.

4. If trawling occurs, record and retain marine litter obtained from trawling as part of the MSFD.
5. To collect sediment samples at each UWTV station.
6. If time and conditions allow, to recover and deploy SPAN moorings in the Clyde and along the North coast.

Procedure

Objective 1.

After sailing, the vessel will head for the Fladen grounds, ready to start operations early on the morning of 19 May. On arrival, approximately 450 m of the UWTV umbilical cable will be spooled off the winch and towed behind the vessel using a large buoy (ship's equipment) to apply back tension to avoid the build-up of loose turns during the survey. Once the UWTV survey begins at Fladen the pre-defined route (to be supplied) will be followed in an anti-clockwise direction.

On 24 May a return to Aberdeen will be required where there will be a change of crew. The vessel will then return to Fladen picking up the remaining stations in the west before heading to Noup. The stations at Noup should be completed within 12 hours, after which the vessel will then make its way to the North Minch where work will continue for two days before the half landing on 30 May in Ullapool.

The remaining stations in the North Minch will be completed before heading into the South Minch to spend approximately three days covering the area.

Following the completion of the South Minch the survey will continue in to the Clyde for two days over the weekend before spending 12 hours in the Sound of Jura carrying out TV operations there.

At this point all west coast stations will have been completed and so the vessel will make way for the Moray Firth. (Positional data and plots for the Moray Firth will be provided during the survey). However, on the way north the vessel will need to return to Ullapool around 7 June to allow one member of staff ashore and for another to rejoin the survey for the remainder of the trip.

Based on previous experience, *Scotia* should be able to complete all the Moray Firth stations in 48 hours, after which the vessel will make way for Devils Hole to spend a further 48 hours there before returning to Aberdeen and unload on 13 June.

Some amendments maybe required to this plan during the survey as a result of poor weather or other uncontrollable factors.

Precise latitudes and longitudes of each UWTV site will be presented to the vessel prior to sailing.

Objective 2.

During sledge deployments, various data will be recorded both manually and automatically, including evidence of anthropogenic activity on the seabed and the various fauna observed (if any).

Objective 3.

If time allows, it is hoped to carry out at least one trawl in each of the areas surveyed. Towing would normally be undertaken in the evenings and each tow will be for an hour, unless otherwise advised.

Various length and weight measurements from *Nephrops* caught will be taken, and recorded manually.

The trawl will need to be stream cleaned at sea after leaving the east and west coasts.

Objective 4.

Following each trawl, a record of any marine litter brought onboard will be updated (including NIL returns) and forwarded to the appropriate person on completing the survey. Physical litter will be retained onboard and disposed of correctly once the vessel returns to harbour.

Objective 5.

Obtaining a sediment sample will be attempted at the end of each sledge run, using the mini van Veen grab mounted on the sledge. This operation is conducted remotely by the scientists. The sediment sample will be frozen in a small bag, with no additives (i.e. there are no chemicals involved). There will be no requirement for a Day grab on this survey.

Objective 6.

If time and weather permits, a number of SPAN moorings will be recovered/deployed in both the Clyde (Sites 18 and 19) and along the North coast (Sites 9, 10 a-c), (Figure 7 and Table 1). Full SOPs and risk assessments will be provided prior to sailing.

General

No chemicals will be required on board for this survey.

Normal contact will be maintained with the laboratory.

Submitted:
A Weetman
15 May 2023

Approved:
I Gibb
16 May 2023

Fladen

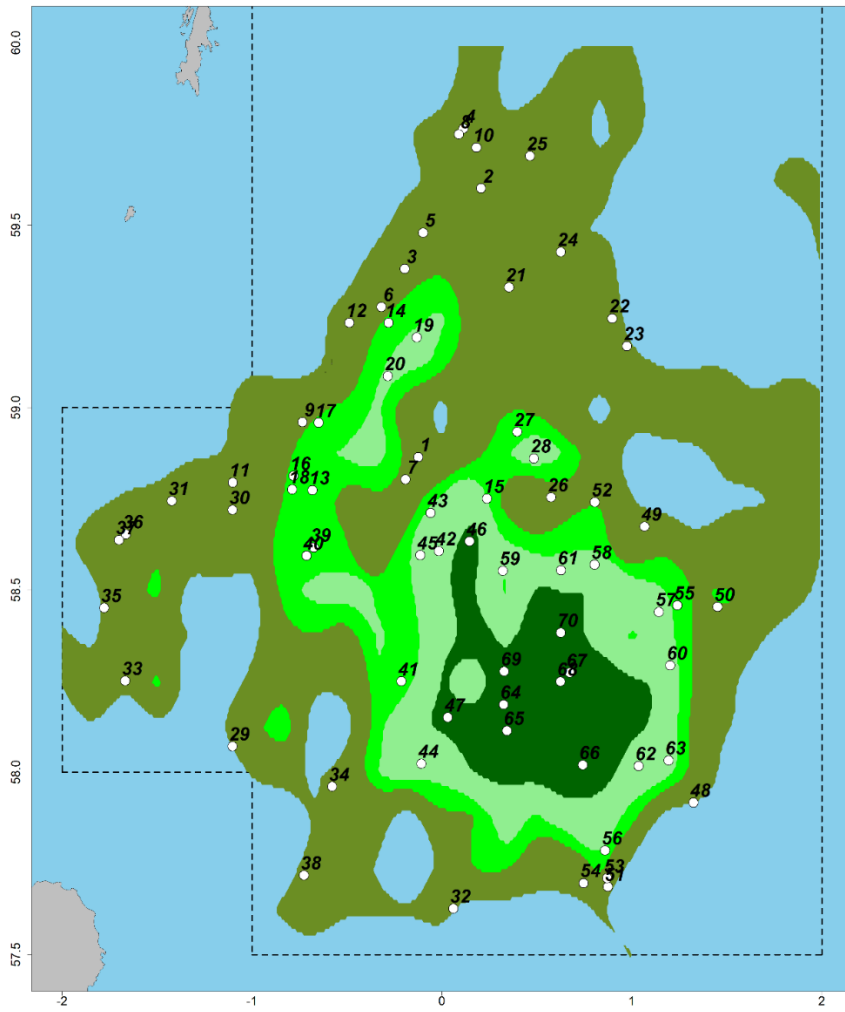


Figure 1: Proposed Fladen UWTV stations for 0623S (18 May – 9 June 2023).

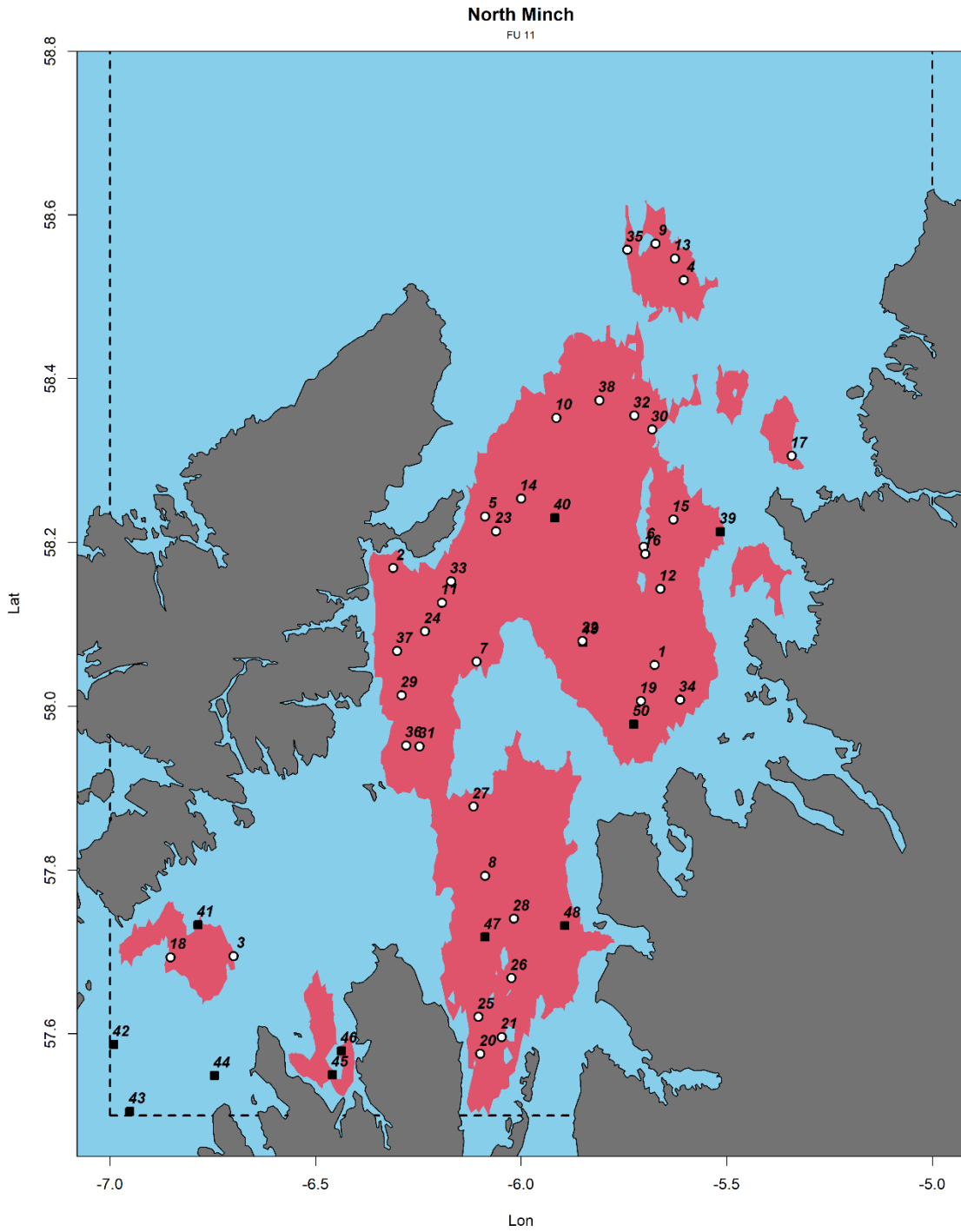


Figure 2: Proposed North Minch UWTV stations for 0623S (18 May – 9 June 2023).

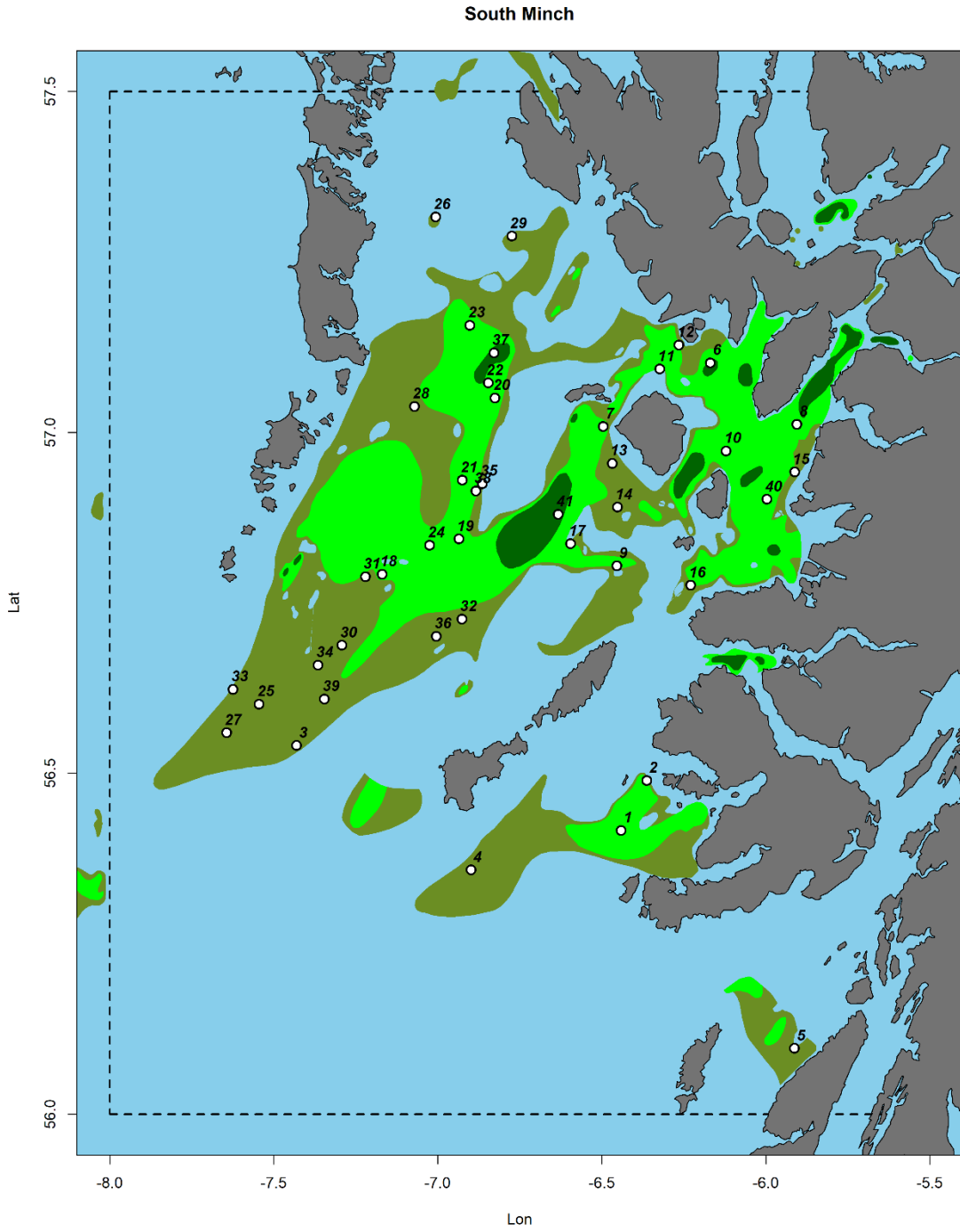


Figure 3: Proposed South Minch UWTW stations for 0623S (18 May – 9 June 2023).

Firth of Clyde & Sound of Jura

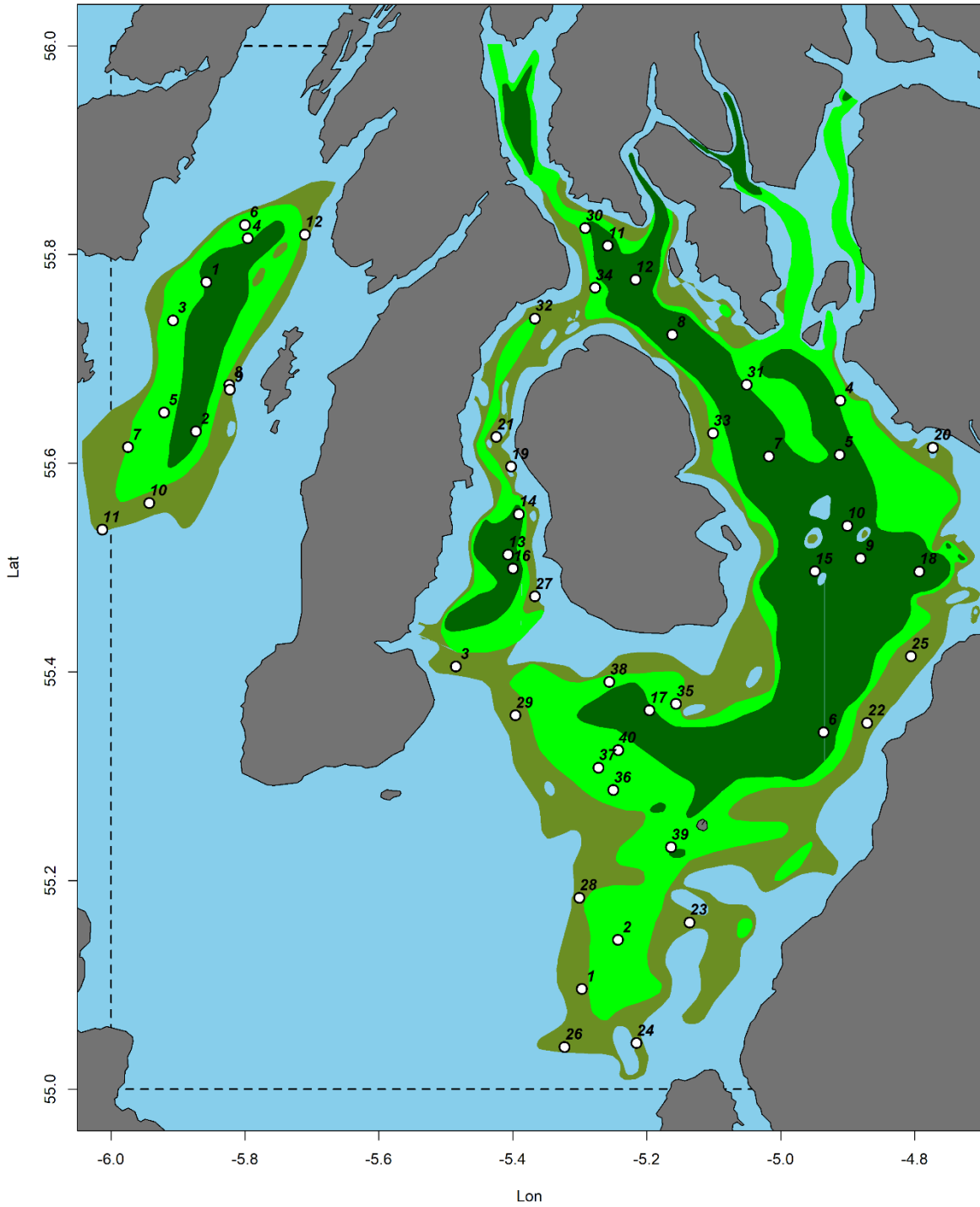


Figure 4: Proposed Clyde and Sound of Jura UWTW stations for 0623S (18 May – 9 June 2023).

Noup

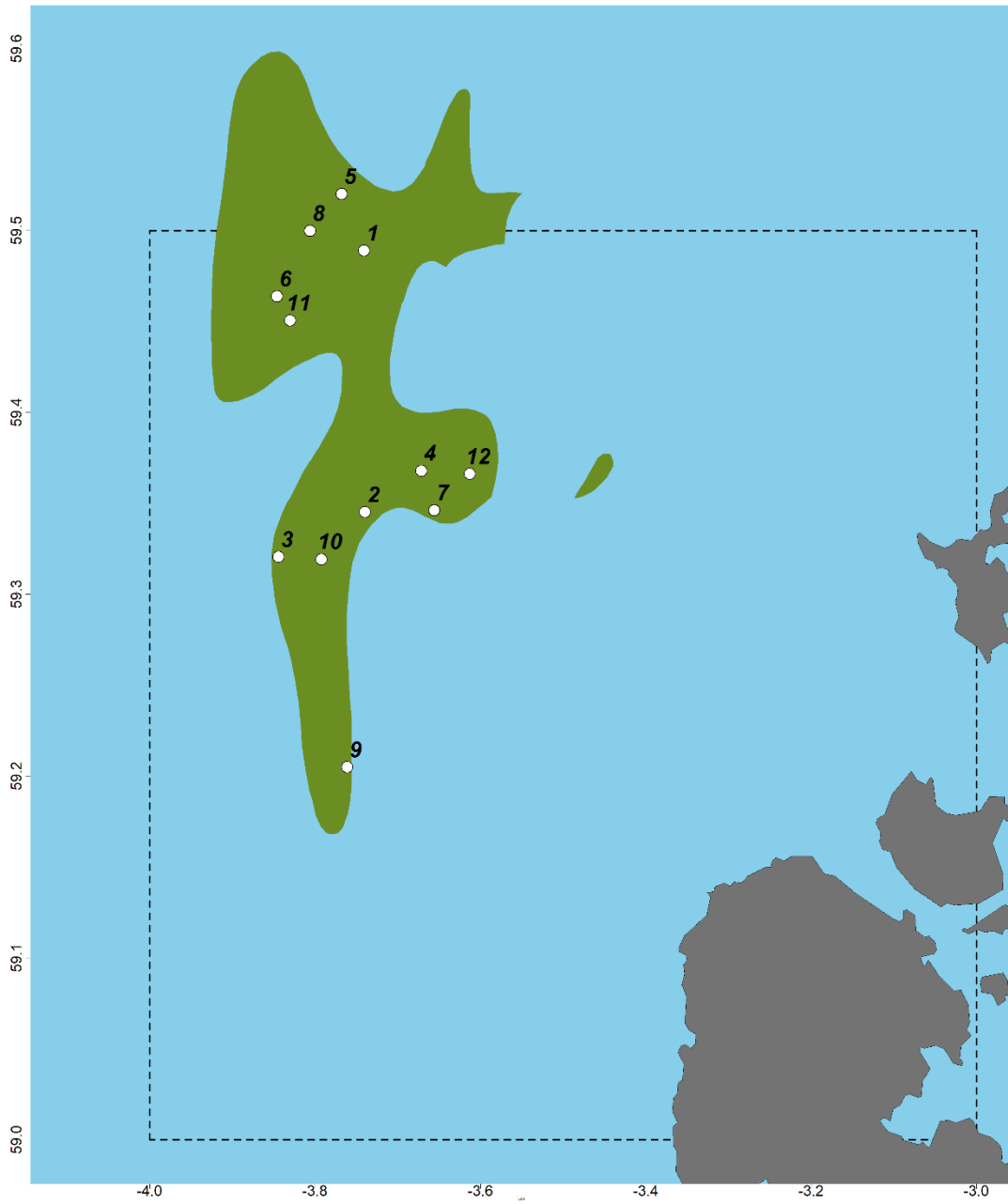


Figure 5: Proposed UWTV stations at the Noup for 0623S (18 May – 9 June 2023).

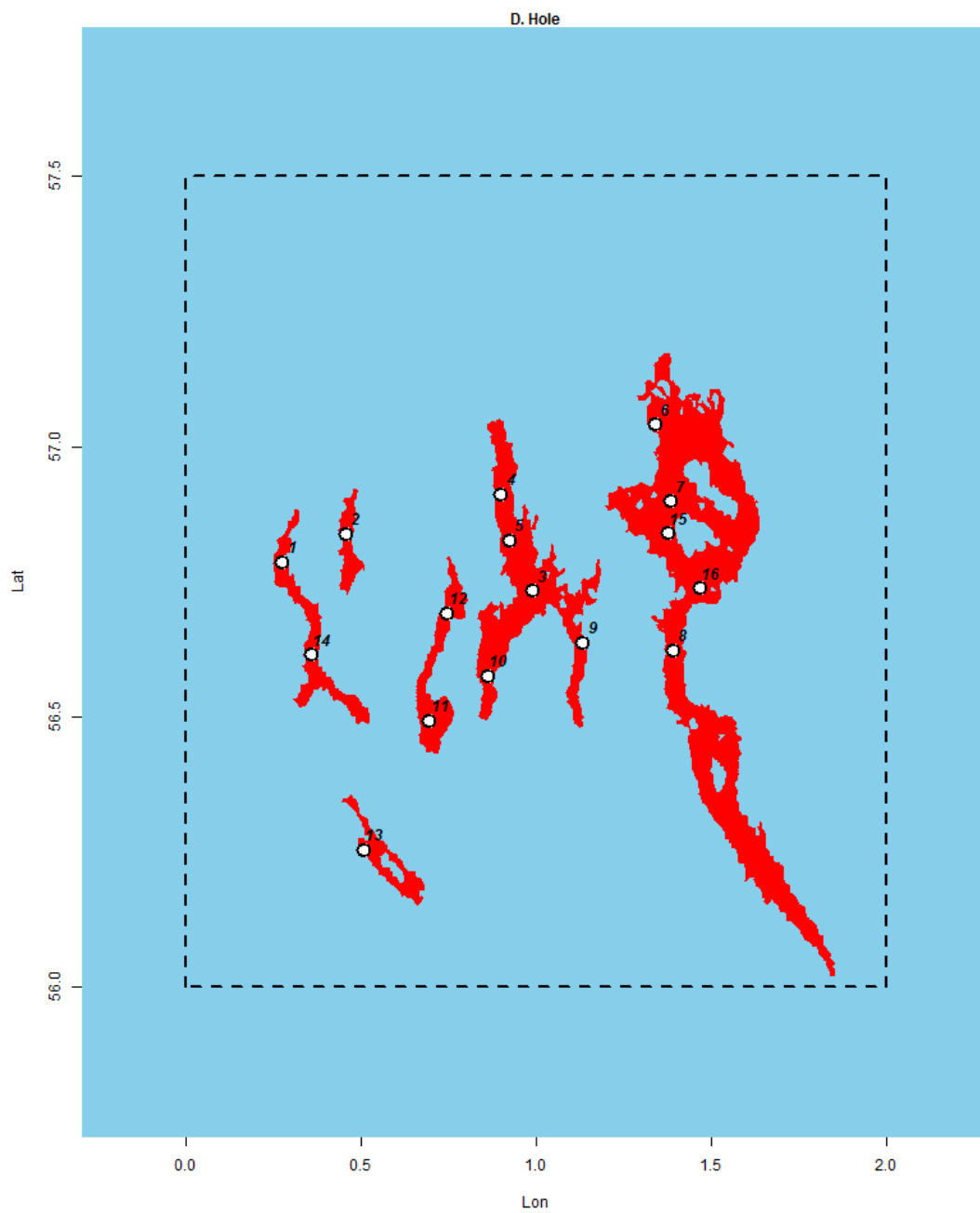


Figure 6: Proposed UWTW stations at Devils Hole for 0623S (18 May – 9 June 2023).

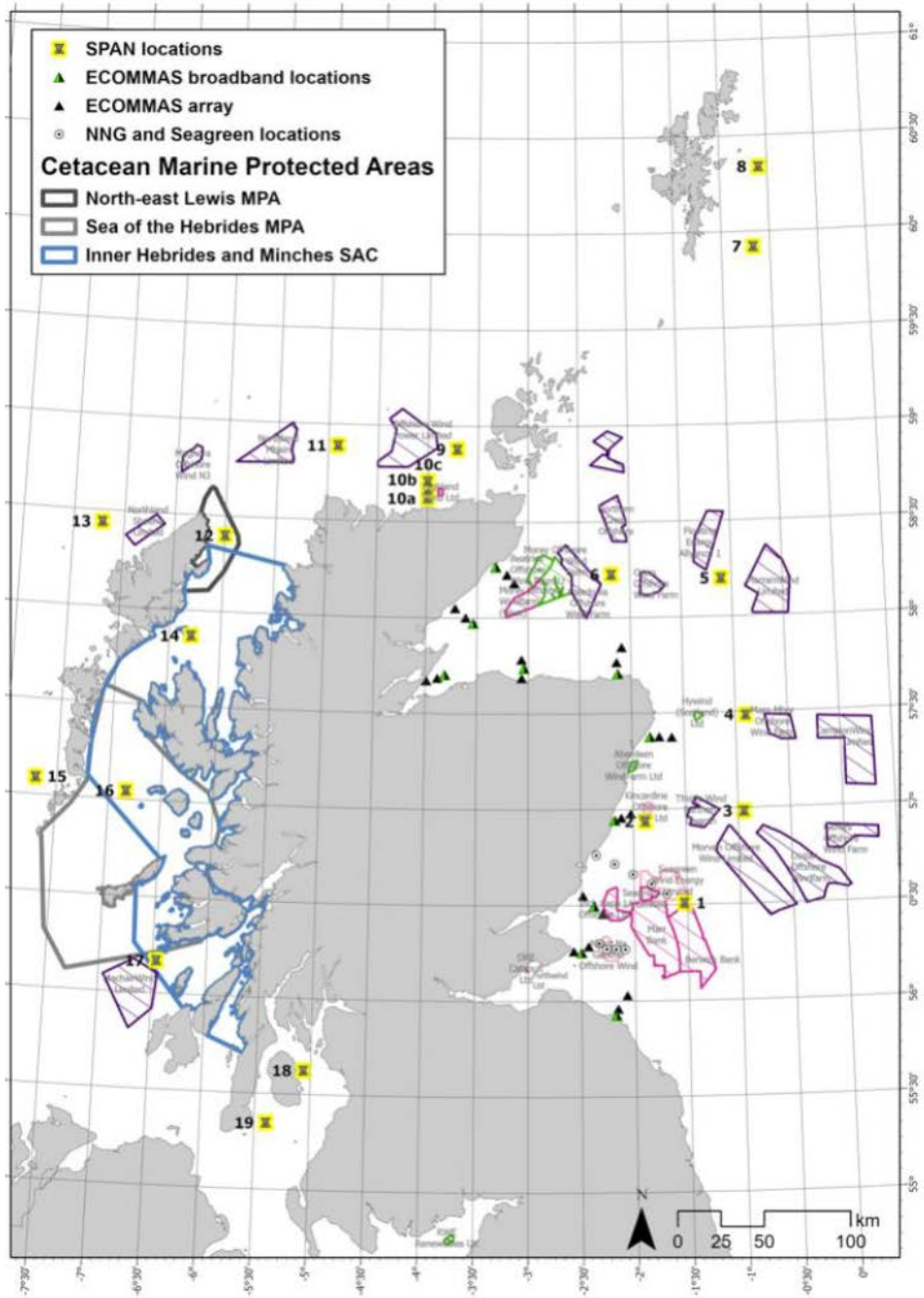


Figure 7: The location of SPAN moorings around the Scottish coast (2023).

ID_not in DB	NAME	To Retrieve	Lat- Retrieval	Long-Retrieval	To Deploy	Lat-Deployment	Long-Deployment
9	Orkney West	x	58°52.734'0"N	03°42.471'0"W	x	58° 52.734' N	3° 42.468' W
10a	Totegan_5	x	58.62217	-3.99983	x	58° 37.338' N	4° 0.012' W
10b	Totegan_10				x	58° 40.116' N	3° 59.964' W
10c	Totegan_15				x	58° 42.678' N	3° 59.94' W
19	Kilbrannan Sound	x	55.38133333	-5.39266666	x	55° 20.844' N	5° 23.634' W
18	Portencross				x	55° 37.512' N	5° 3.918' W

Table 1: The location and actions required at the various SPAN mooring sites (0623S).