

RESEARCH VESSEL PROGRAMME

RV CEFAS ENDEAVOUR
Survey: C END 09 - 2019

STAFF:

Name	Role	Cabin	Shift
Robin Masefield	SIC	SIC cabin	08:00-20:00
Rosana Ourens	2IC/ Watch & counter	B1	08:00-12:00/20:00-00:00
Chris Firmin	Data manager/ Watch & counter	B2	08:00-12:00/20:00-00:00
Karen Vanstaen	H&S/ Watch & counter	C1	00:00-04:00/12:00-16:00
Lucy Shuff	Watch & counter	C2	00:00-04:00/12:00-16:00
Charlotte Reeve	Watch & counter/Water sampling	C5	04:00-08:00/16:00-20:00
Andy Lawler	Watch & counter	C6	04:00-08:00/16:00-20:00
MIST 1 - TBC	Technician	D3	08:00-17:00
MIST 2 - TBC	Technician	C3	08:00-17:00

DURATION: 24th- 30th June 2019

LOCATION: Farn Deepes grounds, 55° 35' - 54° 45' N and 1° 30' - 0° 40' W. Figure 1, Table 1

AIMS:

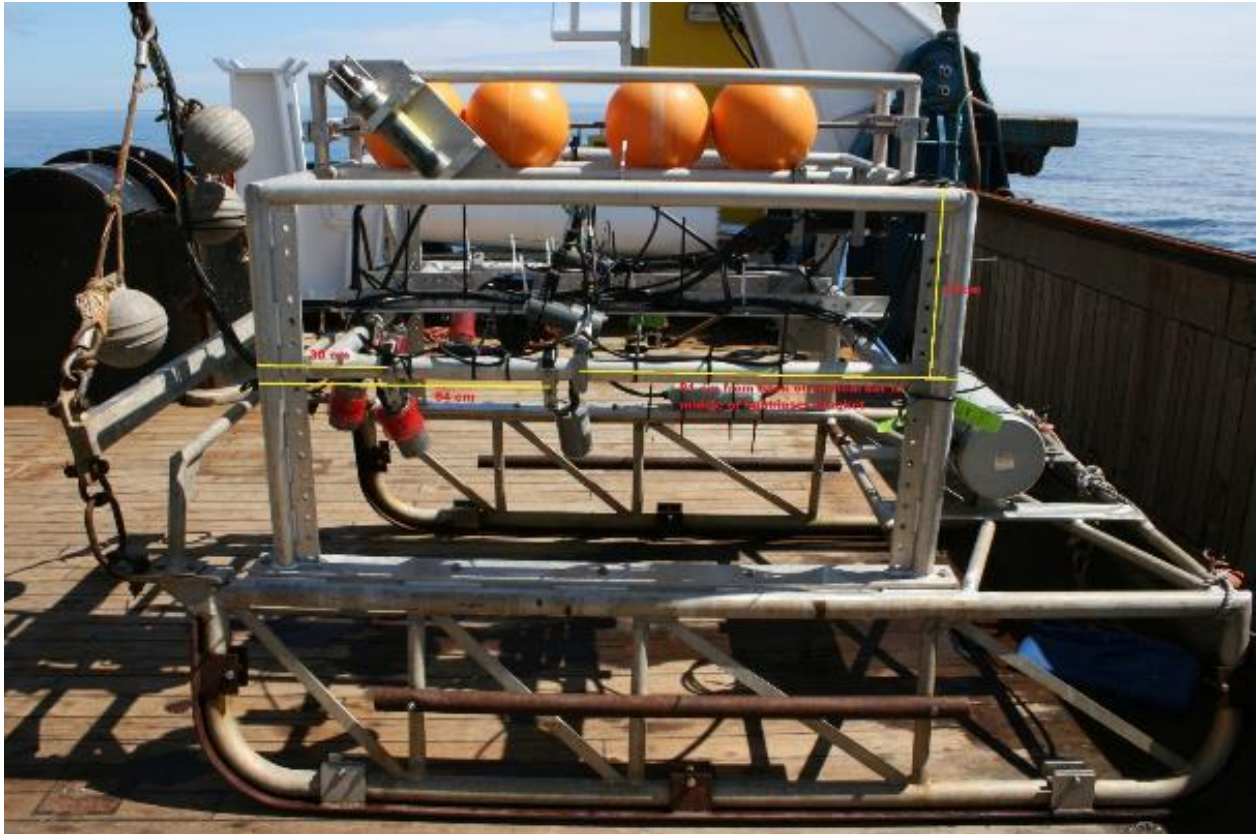
1. To conduct a standard underwater TV survey of *Nephrops* burrow densities on the Farn Deepes grounds, 55° 35' - 54° 45' N and 1° 30' - 0° 40' W, and to evaluate *Nephrops* abundance (110 stations).
2. Secondary: To conduct a standard underwater TV survey of additional stations on the Farn Deepes grounds (as per objective 1, highlighted red on figure 2), if time allows.
3. Secondary: Take daily water samples from the underway supply for filtering and freezing, used for Chlorophyll sampling as part of SLA25.

PLAN:

CEFAS ENDEAVOUR will sail on 26th June from Lowestoft and will return to the same port on 30th June 2018. This survey involves 24-hour procedures and the scientific staff will be working 4/8 hours shifts (2 people per shift).

GEAR:

STR TV sledge: Setup with 2 fan lasers, 6 LED lights, HD camera and fibre optic umbilical. The sledge will be towed (0.7 Knot) against the tide and 10 minutes of good footage will be recorded, this corresponds to ~ 200m of track.



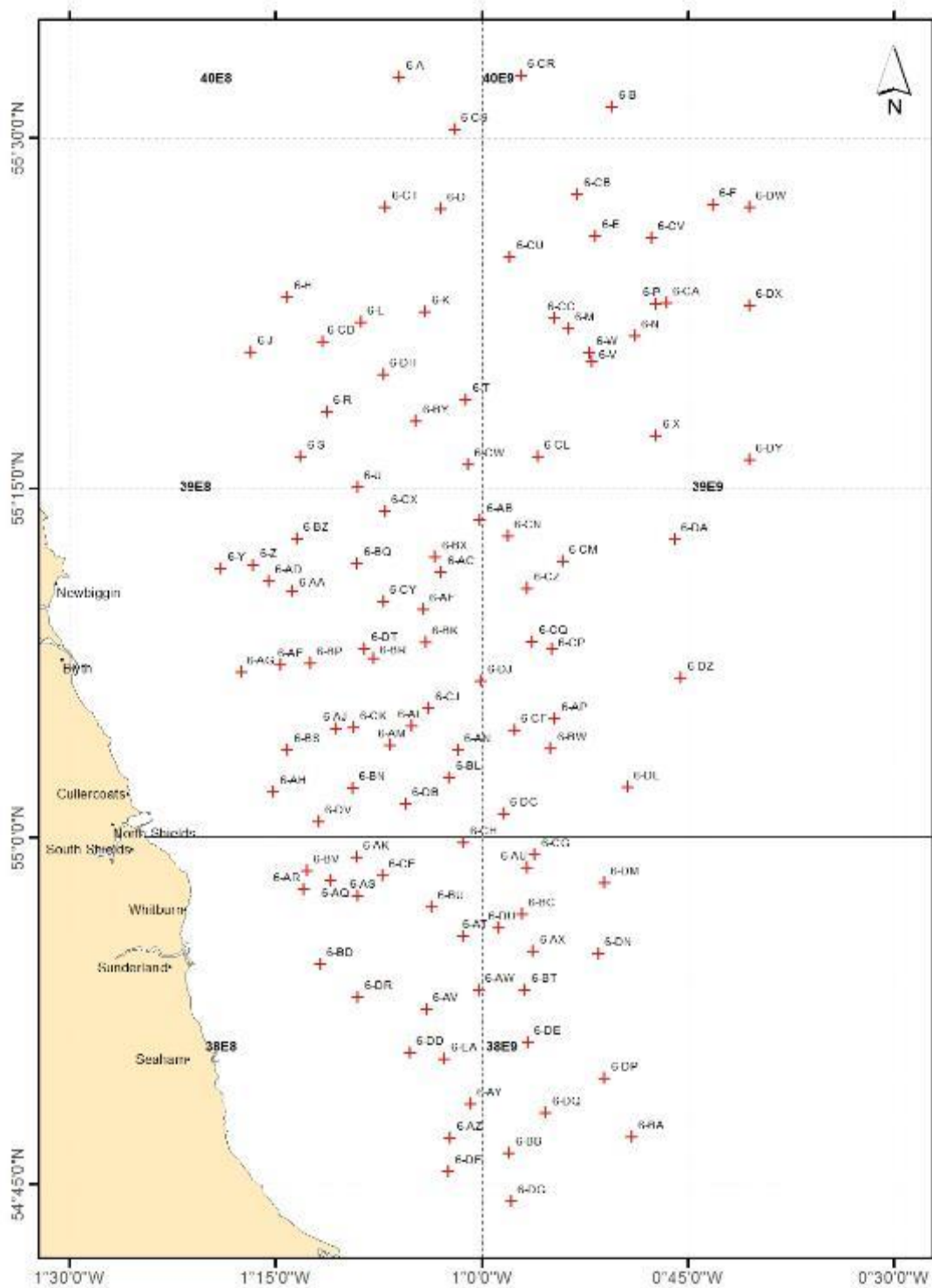


Figure 1. C END 09/19 station positions.

Table 1. C END 09/19 station positions for the Farn Deeps (Fu6) area.

Area	TVID	LatD	LatM	LongD	LongM	Declat	Declong
FU6	6-A	55	32.5405	-1	5.9825	55.5423	-1.0997
FU6	6-B	55	31.2705	0	50.536	55.5212	-0.8423
FU6	6-D	55	26.9245	-1	2.9665	55.4487	-1.0494
FU6	6-E	55	25.766	0	51.727	55.4294	-0.8621
FU6	6-F	55	27.115	0	43.166	55.4519	-0.7194
FU6	6-H	55	23.1485	-1	14.108	55.3858	-1.2351
FU6	6-J	55	20.8195	-1	16.773	55.347	-1.2795
FU6	6-K	55	22.5425	-1	4.1145	55.3757	-1.0686
FU6	6-L	55	22.075	-1	8.77	55.3679	-1.1462
FU6	6-M	55	21.8065	0	53.66	55.3634	-0.8943
FU6	6-N	55	21.5175	0	48.839	55.3586	-0.814
FU6	6-P	55	22.8875	0	47.3105	55.3815	-0.7885
FU6	6-R	55	18.277	-1	11.2245	55.3046	-1.1871
FU6	6-S	55	16.3355	-1	13.155	55.2723	-1.2193
FU6	6-T	55	18.7905	-1	1.1415	55.3132	-1.019
FU6	6-U	55	15.027	-1	9	55.2504	-1.15
FU6	6-V	55	20.3955	0	51.96	55.3399	-0.866
FU6	6-W	55	20.764	0	52.156	55.3461	-0.8693
FU6	6-X	55	17.2445	0	47.312	55.2874	-0.7885
FU6	6-Y	55	11.552	-1	18.957	55.1925	-1.316
FU6	6-Z	55	11.6655	-1	16.593	55.1944	-1.2766
FU6	6-AA	55	10.5855	-1	13.7555	55.1764	-1.2293
FU6	6-AB	55	13.6265	-1	0.093	55.2271	-1.0016
FU6	6-AC	55	11.3755	-1	2.935	55.1896	-1.0489
FU6	6-AD	55	10.9925	-1	15.4685	55.1832	-1.2578
FU6	6-AE	55	7.393	-1	14.626	55.1232	-1.2438
FU6	6-AF	55	9.7795	-1	4.247	55.163	-1.0708
FU6	6-AG	55	7.076	-1	17.4725	55.1179	-1.2912
FU6	6-AH	55	1.9165	-1	15.132	55.0319	-1.2522
FU6	6-AJ	55	4.65	-1	10.57	55.0775	-1.1762
FU6	6-AK	54	59.104	-1	9.079	54.9851	-1.1513
FU6	6-AL	55	4.758	-1	5.048	55.0793	-1.0841
FU6	6-AM	55	3.919	-1	6.626	55.0653	-1.1104
FU6	6-AN	55	3.7155	-1	1.6815	55.0619	-1.028
FU6	6-AP	55	5.064	0	54.6885	55.0844	-0.9115
FU6	6-AQ	54	58.1145	-1	11.0145	54.9686	-1.1836
FU6	6-AR	54	57.71	-1	12.9065	54.9618	-1.2151
FU6	6-AS	54	57.4505	-1	9.0015	54.9575	-1.15
FU6	6-AT	54	55.703	-1	1.3515	54.9284	-1.0225
FU6	6-AU	54	58.6765	0	56.68	54.9779	-0.9447
FU6	6-AV	54	52.5465	-1	3.971	54.8758	-1.0662

FU6	6-AW	54	53.369	-1	0.185	54.8895	-1.0031
FU6	6-AX	54	55.0255	0	56.2345	54.9171	-0.9372
FU6	6-AY	54	48.4275	-1	0.8005	54.8071	-1.0133
FU6	6-AZ	54	46.949	-1	2.28	54.7825	-1.038
FU6	6-BA	54	46.9985	0	49.096	54.7833	-0.8183
FU6	6-BB	54	46.294	0	57.99	54.7716	-0.9665
FU6	6-BC	54	56.656	0	57.066	54.9443	-0.9511
FU6	6-BD	54	54.48	-1	11.704	54.908	-1.1951
FU6	6-BK	55	8.3505	-1	4.068	55.1392	-1.0678
FU6	6-BL	55	2.5395	-1	2.3485	55.0423	-1.0391
FU6	6-BN	55	2.102	-1	9.3845	55.035	-1.1564
FU6	6-BP	55	7.4605	-1	12.468	55.1243	-1.2078
FU6	6-BQ	55	11.7365	-1	9.0545	55.1956	-1.1509
FU6	6-BR	55	7.6645	-1	7.8575	55.1277	-1.131
FU6	6-BS	55	3.713	-1	14.1035	55.0619	-1.2351
FU6	6-BT	54	53.3655	0	56.8425	54.8894	-0.9474
FU6	6-BU	54	56.9725	-1	3.654	54.9495	-1.0609
FU6	6-BV	54	58.537	-1	12.695	54.9756	-1.2116
FU6	6-BW	55	3.7895	0	54.9875	55.0632	-0.9165
FU6	6-BX	55	12.0335	-1	3.393	55.2006	-1.0565
FU6	6-BY	55	17.8435	-1	4.767	55.2974	-1.0794
FU6	6-BZ	55	12.803	-1	13.43	55.2134	-1.2238
FU6	6-CA	55	22.928	0	46.5375	55.3821	-0.7756
FU6	6-CB	55	27.5395	0	53.034	55.459	-0.8839
FU6	6-CC	55	22.2735	0	54.6865	55.3712	-0.9114
FU6	6-CD	55	21.2535	-1	11.555	55.3542	-1.1926
FU6	6-CE	54	58.309	-1	7.208	54.9718	-1.1201
FU6	6-CF	55	4.576	0	57.598	55.0763	-0.96
FU6	6-CG	54	59.227	0	56.138	54.9871	-0.9356
FU6	6-CH	54	59.7265	-1	1.317	54.9954	-1.022
FU6	6-CJ	55	5.5165	-1	3.8465	55.0919	-1.0641
FU6	6-CK	55	4.7055	-1	9.294	55.0784	-1.1549
FU6	6-CL	55	16.335	0	55.915	55.2722	-0.9319
FU6	6-CM	55	11.855	0	54.075	55.1976	-0.9013
FU6	6-CN	55	12.935	0	58.1	55.2156	-0.9683
FU6	6-CP	55	8.08	0	54.88	55.1347	-0.9147
FU6	6-CQ	55	8.415	0	56.32	55.1402	-0.9387
FU6	6-CR	55	32.6215	0	57.115	55.5437	-0.9519
FU6	6-CS	55	30.33	-1	1.9465	55.5055	-1.0324
FU6	6-CT	55	27.0125	-1	6.991	55.4502	-1.1165
FU6	6-CU	55	24.8635	0	57.931	55.4144	-0.9655
FU6	6-CV	55	25.679	0	47.6245	55.428	-0.7937
FU6	6-CW	55	15.9795	-1	0.9605	55.2663	-1.016
FU6	6-CX	55	14	-1	6.985	55.2333	-1.1164

FU6	6-CY	55	10.1215	-1	7.114	55.1687	-1.1186
FU6	6-CZ	55	10.674	0	56.682	55.1779	-0.9447
FU6	6-DA	55	12.7935	0	45.923	55.2132	-0.7654
FU6	6-DB	55	1.4035	-1	5.521	55.0234	-1.092
FU6	6-DC	55	0.9965	0	58.398	55.0166	-0.9733
FU6	6-DD	54	50.6505	-1	5.2015	54.8442	-1.0867
FU6	6-DE	54	51.1	0	56.628	54.8517	-0.9438
FU6	6-DF	54	45.512	-1	2.411	54.7585	-1.0402
FU6	6-DG	54	44.203	0	57.856	54.7367	-0.9643
FU6	6-DH	55	19.8625	-1	7.126	55.331	-1.1188
FU6	6-DJ	55	6.7	-1	0.0835	55.1117	-1.0014
FU6	6-DL	55	2.1165	0	49.3725	55.0353	-0.8229
FU6	6-DM	54	57.989	0	51.0605	54.9665	-0.851
FU6	6-DN	54	54.944	0	51.4915	54.9157	-0.8582
FU6	6-DP	54	49.539	0	51.036	54.8257	-0.8506
FU6	6-DQ	54	48.0295	0	55.339	54.8005	-0.9223
FU6	6-DR	54	53.075	-1	8.97	54.8846	-1.1495
FU6	6-DT	55	8.1025	-1	8.5145	55.135	-1.1419
FU6	6-DU	54	56.0585	0	58.7305	54.9343	-0.9788
FU6	6-DV	55	0.638	-1	11.827	55.0106	-1.1971
FU6	6-DW	55	27	0	40.5	55.45	-0.675
FU6	6-DX	55	22.8	0	40.5	55.38	-0.675
FU6	6-DY	55	16.2	0	40.5	55.27	-0.675
FU6	6-DZ	55	6.8311	0	45.5009	55.1139	-0.75835
FU6	6-EA	54	50.364	-1	2.6958	54.8394	-1.04493

Robin Masefield
Scientist in Charge
01/05/2019

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