Natural England Commissioned Report NECR353

Padstow Bay and Surrounds MCZ 2015 Inshore Survey Report

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Foreword

Natural England commission a range of reports from external contractors to provide evidence and advice to assist us in delivering our duties. The views in this report are those of the authors and do not necessarily represent those of Natural England.

Background

Following designation, Natural England started a baseline monitoring programme across all marine protected areas.

This report was commissioned as part of an inshore benthic marine survey of the Padstow Bay and Surrounds MCZ.

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Further information
This report can be downloaded from the Natural England Access to Evidence Catalogue: **http://publications.naturalengland.org.uk/** . For information on Natural England publications contact the Natural England Enquiry Service on 0300 060 3900 or e-mail **enquiries@naturalengland.org.uk**.

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Padstow Bay and Surrounds MCZ
2015 Inshore Survey Report

Project Code: MB0120

Author: Gareth Davies

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Document Control

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Padstow Bay and Surrounds MCZ 2015 Inshore Survey Report

Project Code: MB0120

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Acknowledgements

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Katie Arnold	Marine Ecologist, Environment Agency
Matt Curtis	Benthic Ecologist, Cefas
Ben Green	Marine Ecology Technical Specialist, Natural England/Environment Agency
Nina Godsell	Marine Ecologist, Environment Agency
Suzanne Ware	Benthic Ecologist, Cefas
Mike Young	Senior Marine Monitoring Specialist, Natural England

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1. Introduction

The Marine and Coastal Access Act 2009 requires the UK Government to create an ecologically coherent network of Marine Conservation Zones (MCZs) in British waters. MCZs will exist alongside other Marine Protected Areas (MPAs), including Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Sites of Special Scientific Interest (SSSIs) and Ramsar sites to help conserve marine biodiversity, in particular habitats and species of European and national importance.

Through Defra, and with written advice from the Statutory Nature Conservation Bodies* (SNCBs), four regional projects were established to identify potential MCZs within the UK Exclusive Economic Zone (EEZ). These projects were called Net Gain (North Sea), Balanced Seas (South East waters), Finding Sanctuary (South West waters) and the Irish Sea Conservation Zones (Irish Sea) (see http://jncc.defra.gov.uk/mczmap [accessed 13/06/2018). They combined stakeholder consultation with existing scientific data to propose recommended MCZs and Reference Area (RAs) (rMCZ and rRA) in their region that would contribute to the MCZ network. The four projects reported in September 2011, each producing a 'final recommendations' report, which contained Site Assessment Documents (SADs) for each of the rMCZs. These reports were reviewed by an independent science advisory panel, who recommended that the scientific evidence base for some of the rMCZs should be strengthened before the SNCBs recommended them to the Environment Minister for formal designation.

On 21st November 2013, the UK Government announced the designation of 27 MCZs in the first tranche, which included the Padstow Bay and Surrounds MCZ. The site has been created to protect four different subtidal rock habitats and two species of conservation importance, and also protects intertidal features (intertidal coarse sediment, intertidal sand and muddy sand, and intertidal rock), but these features were not targeted in this subtidal survey. Following designation, Natural England started a baseline monitoring programme across all Tranche 1 MCZs, specifically targeting the features present both inside and outside each site boundary. The initial datasets gathered will be used to inform future monitoring and management of the sites.

*Natural England and the Joint Nature Conservation Committee (JNCC)

1.1 Survey Aim and Objectives

Overall Survey Aim

To undertake a drop camera survey of the designated circalittoral rock Broadscale Habitat feature of the Padstow Bay and Surrounds MCZ, in order to obtain improved evidence, potentially ascribe condition and provide a baseline dataset, which can then be used to detect change over time and support future monitoring.

Survey objectives

- To undertake a drop camera survey of the designated features, both inside and outside the site boundary, using a BACI (Before-After, Control-Impact) sampling design (circa 120-160 target stations). The research vessel *Cefas Endeavour* will be used to sample the area beyond the 10 m depth contour; the EA will sample the shallower inshore area (<10 m depth).
- To provide incidental records of the designated species Features Of cCnservation Importance (*Eunicella verrucosa* and *Palinurus elephas*).

1.2 The Padstow Bay and Surrounds MCZ Survey Team

The Padstow Bay and Surrounds (inshore) MCZ area was surveyed in August 2015 from the Coastal Survey Vessel (CSV) *Severn Guardian* (Figure 1, Annexe 7.1), crewed by Briggs Marine staff. The survey team included the following Environment Agency marine survey staff:

Environment Agency Estuarine and Coastal Monitoring & Assessment Service Survey Officers	Katie Arnold Gareth Davies

Figure 1. Coastal survey vessel *Severn Guardian*, operated by Briggs Marine.

1.3 Site Description

The Padstow Bay and Surrounds MCZ is located on the north Cornish Coast (Figure 2). The boundary follows the coastline along the Ordnance Survey mean high water mark from Park Head (to the north of Trenance) to Com Head (just east of Pentire Point and The Rumps). The seaward boundary runs approximately 6 km west from Park Head, and then north for 9.5 km to the farthest point offshore. It returns to Gulland Rock and then balloons out around Pentire Point and The Rumps (Downie and McIlwaine, 2015).

Detailed site information can be found in Section 11.3.38 of the Finding Sanctuary Final Recommendations Report (Lieberknecht et al., 2011).

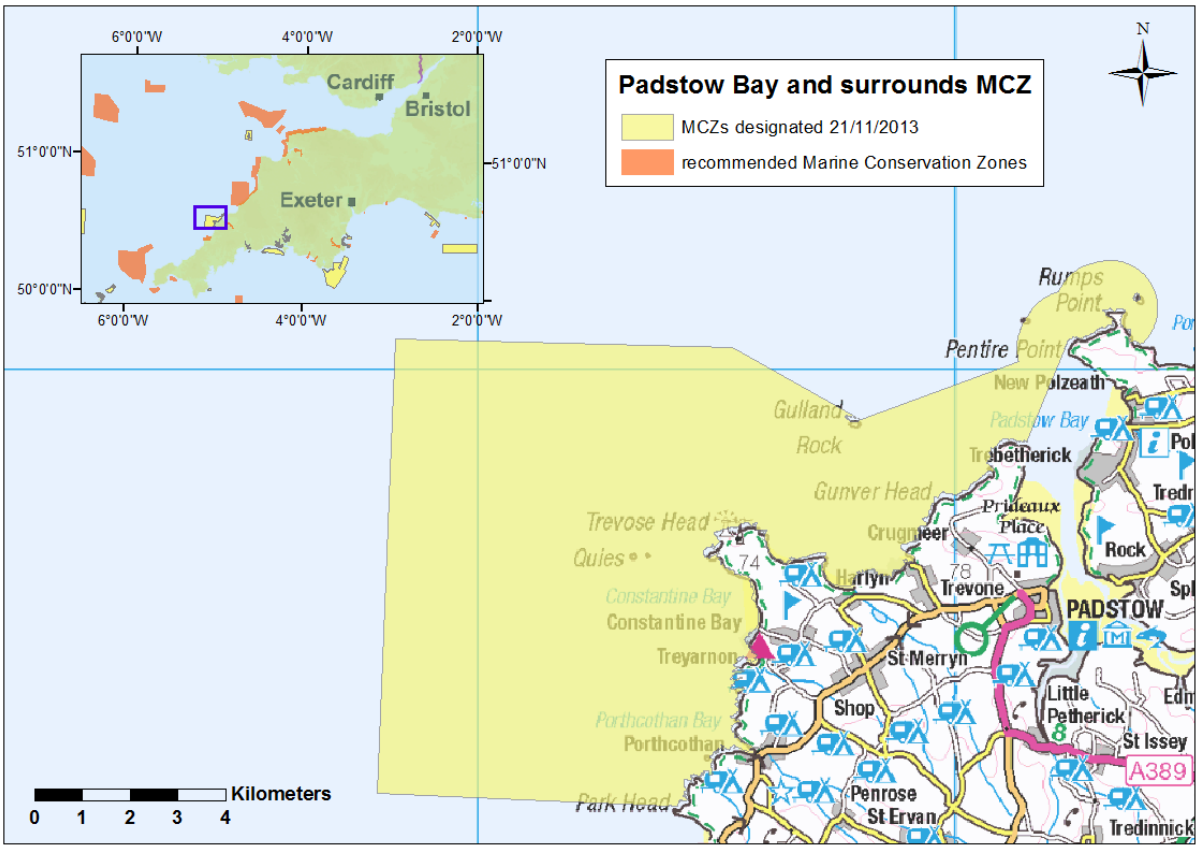

Figure 2. Location of the Padstow Bay and Surrounds Marine Conservation Zone (MCZ) in the context of other designated MCZs (as of 21/11/2013) and recommended MCZs (as of 21/11/2012) off the south west of England.

1.4 Geological and Biological Context

Historical surveys of the sublittoral habitat within the Padstow Bay and Surrounds MCZ identified a predominantly flat sandy seabed interspersed with boulder outcrops and broken reefs. Around the headlands, a mixture of stable and broken bedrock was recorded. Most rock surfaces were observed with a covering of sand, providing a suitable substratum for circalittoral species such as *Pentapora fascialis*, *Stolonica socialis*, *Alcyonidium gelatinosum*, *Eunicella verrucosa* and *Marthasterias glacialis* (Lieberknecht et al., 2011).

The MCZ was surveyed by the Environment Agency and Cefas in 2013 (Godsell, 2014; Downie and McIlwaine, 2015), the results of which led to updated presence and extent figures for the Broadscale Habitats and Features Of Conservation Importance (FOCI) inside the site (Table 1).

Table 1. Presence and/or extent of subtidal features present in the Padstow Bay and Surrounds Marine Conservation Zone Site Assessment Document (SAD) (Lieberknecht et al., 2011), updated following the 2013 verification survey (Godsell, 2014, Downie and McIlwaine, 2015). Features in bold are designated features. (R = Recover to favourable condition, M = Maintain in favourable condition).

Feature type	Feature Name	Extent according to the original SAD/FOCI observations[1]	Extent according to updated habitat map/FOCI observations[2]	Current Management Approach
Broadscale Habitats	**'A3.1 High energy infralittoral rock'**	**44.45 km²**	**Not found**	**M**
	'A3.2 Moderate energy infralittoral rock'	**0.58 km²**	**6.20 km²**	**M**
	'A4.1 High energy circalittoral rock'	**9.71 km²**	**Not found**	**M**
	'A4.2 Moderate energy circalittoral rock'	12.18 km²	61.83 km²	N/A
	'A5.1 Subtidal coarse sediment'	23.59 km²	9.86 km²	N/A
	'A5.2 Subtidal sand'	-	Not found	N/A
Habitat FOCI	Subtidal Sands and Gravels	-	20.02 km²	N/A
Species FOCI	***Eunicella verrucosa*** **(Pink Sea-Fan)**	**21 records**	**9 records from 4 stations**	**M**
	Palinurus elephas **(Spiny Lobster)**	**1 record**	**None observed**	**R**

[1] Lieberknecht et al., 2011
[2] Downie and McIlwaine, 2015

2. Survey Design and Methods

2.1 Survey Design and Planning Phase

Twenty-three sampling stations were manually plotted, their location informed by the existing BSH map (Downie and McIlwaine, 2015) for the site. Circalittoral rock was selected as the priority feature of interest for the survey, being the substrate type with the largest extent within the MCZ. Stations were spatially distributed across the circalittoral rock, both inside and outside the MCZ boundary, to comprise T0 sampling as part of a BACI experimental design (Figure 3). In addition, ten stations surveyed in 2013 by the EA (Godsell, 2014) were revisited. These were selected as sentinel stations for future monitoring to assess community change over time.

Marine specialists from the Environment Agency and Natural England reviewed the plan. The following hazards were identified from the United Kingdom Hydrographic Office (UKHO) Admiralty charts: submarine cables, rocky areas, un-surveyed areas of the seabed and numerous wrecks. Safety buffer zones were applied to minimize risk to the vessel. Advice from the Cornwall Inshore Fishery and Conservation Authority (IFCA) also warned of static fishing gear present in the inshore area. Sampling stations were selected carefully to avoid these hazards as far as possible.

Due to the large surface area of the MCZ, the offshore expanse (beyond the 10 m depth contour) was surveyed by Cefas staff, operating from the research vessel *Cefas Endeavour*. The EA were tasked with surveying thirty-three stations within the shallower inshore area.

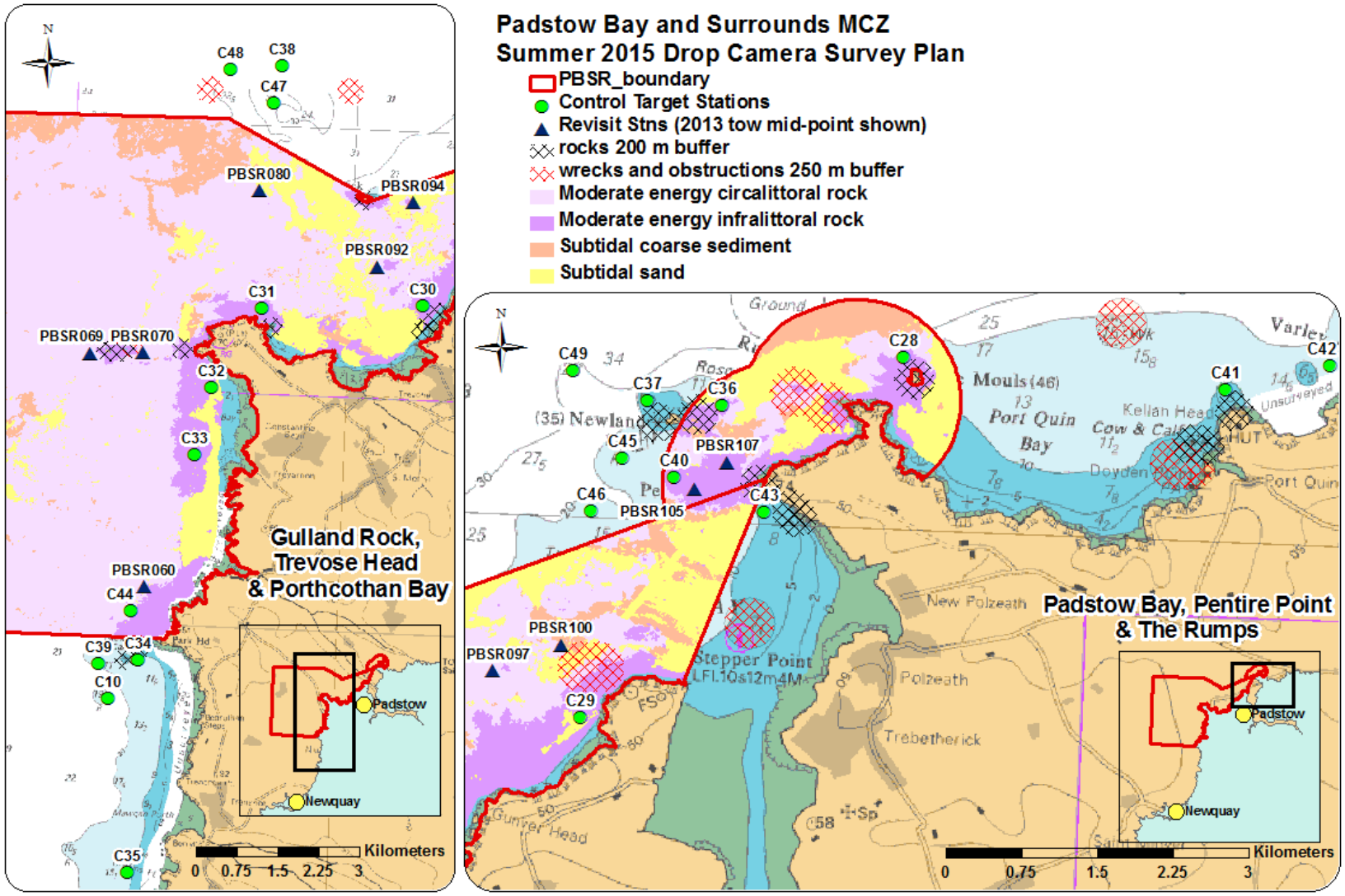

Figure 3. The Padstow Bay and Surrounds MCZ 2015 inshore baseline survey plan. Target sampling stations within the MCZ boundary have been mapped over the EUNIS Level 3 Broadscale Habitat layer from Downie and McIlwaine (2015) .

2.2 Sampling Methodology

Drop video camera equipment (Annex 7.2.2) was deployed in accordance with the MESH 'recommended operating guidelines (ROG) for underwater video and photographic imaging techniques' (Coggan et al., 2007). The Subsea Technology & Rentals (STR) SeaBug camera system was deployed from the stern of the survey vessel, as shown in Figure 4. Real time navigation data acquisition and manual position fixing when the gear contacted the seabed was captured via Trimble® HYDRO*pro*™ software and logged by the survey officer. The mid-point of the vessel's stern gantry was used as the default offset for position fixing (see Annex 7.2.1 for further details). Video files and digital still images were transmitted via the sea cable to be captured and saved directly to a computer in the survey cabin. The video footage was annotated with time and position using a GPS (SIMRAD MX512 DGPS) referenced video overlay (uncorrected position data). Images of the seabed were captured approximately every 10 to 15 metres over a distance of > 150 metres. Extra photographs were taken in heterogeneous areas of BSH and if particular habitat/species FOCI were observed. If a BSH habitat boundary was detected towards the end of a tow, the camera deployment was extended to confirm the change. The drop frame depth was controlled via a winch operator receiving instructions from the survey cabin. For further deployment details please see the 'EA underwater video procedure_version 2.2' in Annex 7.3.

Figure 4. STR SeaBug drop Camera being deployed from the stern of the coastal survey vessel.

During each drop camera deployment, a member of the survey team continuously monitored the real-time video feed, recording general station notes, habitat information and fauna observations (please see Annex 7.5 for a worked example of the video logsheet).

3. Survey Narrative

The drop camera baseline survey was carried out on the 11th and 12th August 2015. The Sea Bug camera system was successfully assembled and tested on *Severn Guardian* on Monday 10th August by EA personnel in Padstow Harbour. On the 11th August the vessel departed Padstow at 05:15 UTC and transited to the northernmost extent of the survey area. The vessel then proceeded to survey the target stations linearly in a southerly direction, completing twenty-five stations before returning to Padstow Harbour at 15:15 UTC.

On the 12th August the *Severn Guardian* departed Padstow at 06:15 UTC and proceeded to the most northerly of the remaining eight stations, the wind direction having turned easterly, as anticipated, left the remaining stations well sheltered in the lee of the coast. The stations were surveyed working in a southerly direction. By 09:30 UTC all stations were completed and the vessel returned to Padstow Harbour, where the survey equipment was disassembled and unloaded for collection.

The Padstow Bay and Surrounds MCZ inshore baseline survey took two 'on-task' days to complete. A detailed progress report for each survey day can be found in Annex 7.6.

4. Data Acquisition

Video footage and digital photographs of the seabed were collected for Broadscale Habitat characterisation at thirty-three stations (Figure 6). Throughout the survey, the underwater visibility encountered was generally excellent (please see Annex 7.4 for the visibility assessment scale).

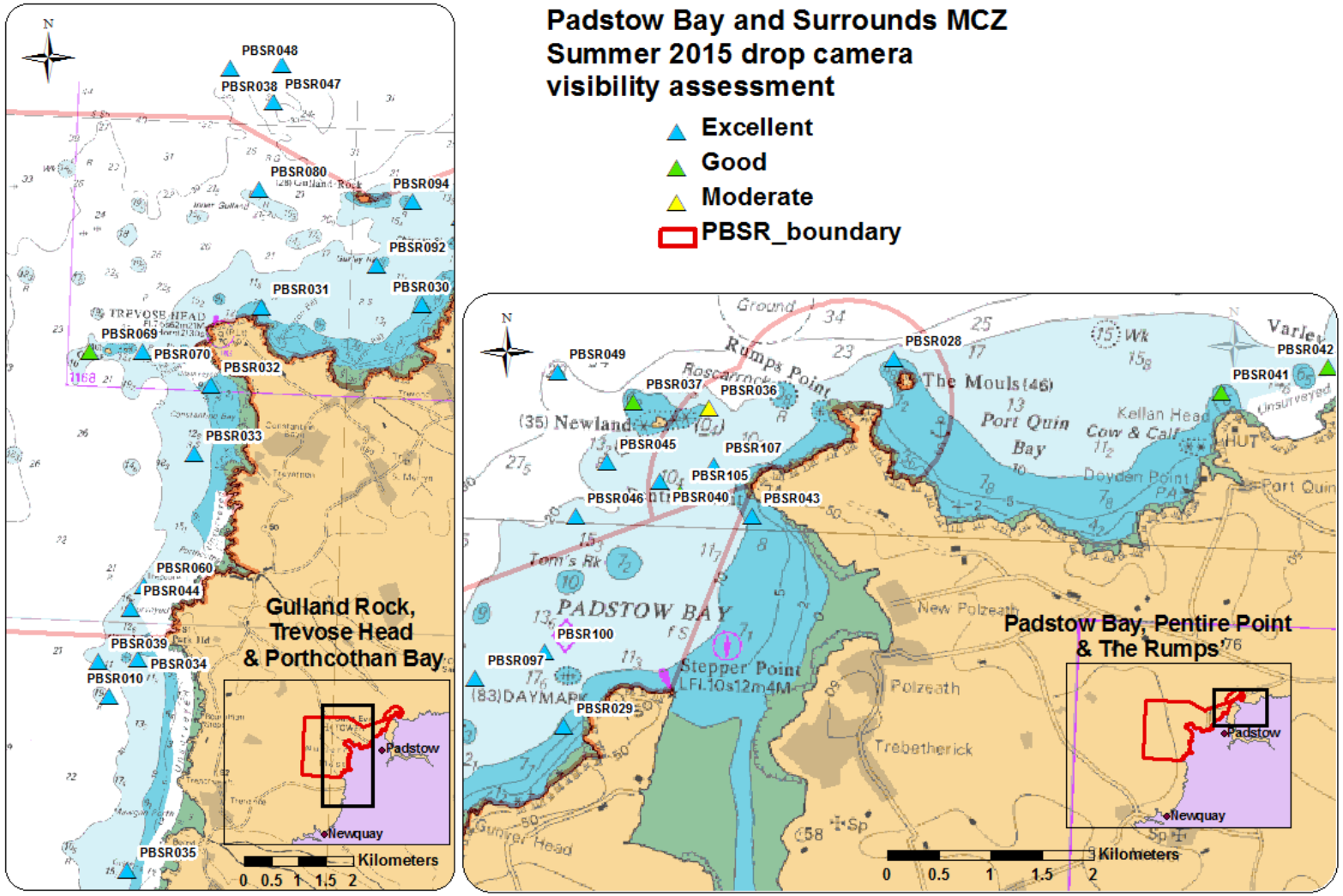

Figure 5. Underwater visibility encountered during the Padstow Bay and Surrounds MCZ 2015 inshore baseline survey.

5. References

Coggan, R., Mitchell, A., White, J. and Golding, N. (2007). Recommended operating guidelines (ROG) for underwater video and photographic imaging techniques. Mapping European Seabed Habitats (MESH) video working group report v.11.2 [online]. Available from: http://www.searchmesh.net/default.aspx?page=1915 [Accessed 30/11/2017].

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Wentworth, C.K. (1922). A scale of grade and class terms for clastic sediments. The Journal of Geology 30, 377-392.

6. General List of Abbreviations

BSH	Broadscale Habitat
Cefas	Centre for Environment, Fisheries and Aquaculture Science
CHP	Civil Hydrography Programme
CS	Camera Sledge
CSV	Coastal Survey Vessel
DC	Drop Video Camera
Defra	Department for Environment, Food and Rural Affairs
DG	Day Grab
EA	Environment Agency
ENG	Ecological Network Guidance
FOCI	Features Of Conservation Importance
IFCA	Inshore Fisheries and Conservation Authority
MCZ	Marine Conservation Zone
MESH	Mapping European Seabed Habitats
MHM	Mini-Hamon Grab
MMS	Marine Monitoring Service
mSNCI	marine Sites of Nature Conservation Importance
PSA	Particle Size Analysis
REC	Regional Environmental Characterisation
rMCZ	recommended Marine Conservation Zone
rRA	recommended Reference Area
RSG	Regional Stakeholder Group
SAC	Special Area of Conservation
SAD	Site Assessment Document
SNCB	Statutory Nature Conservation Body
SOP	Standard Operating Procedure
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
UTC	Coordinated Universal Time

7. Annexes

7.1 Coastal Survey Vessel General Information

Briggs Marine and Environmental Services Ltd.
Seaforth House, Seaforth Place, Burtisland, Fife, KY3 9AX.
Tel: +44(0)1592 872939
Email: marketing@briggsmarine.com
Website: www.briggsmarine.com

Severn Guardian

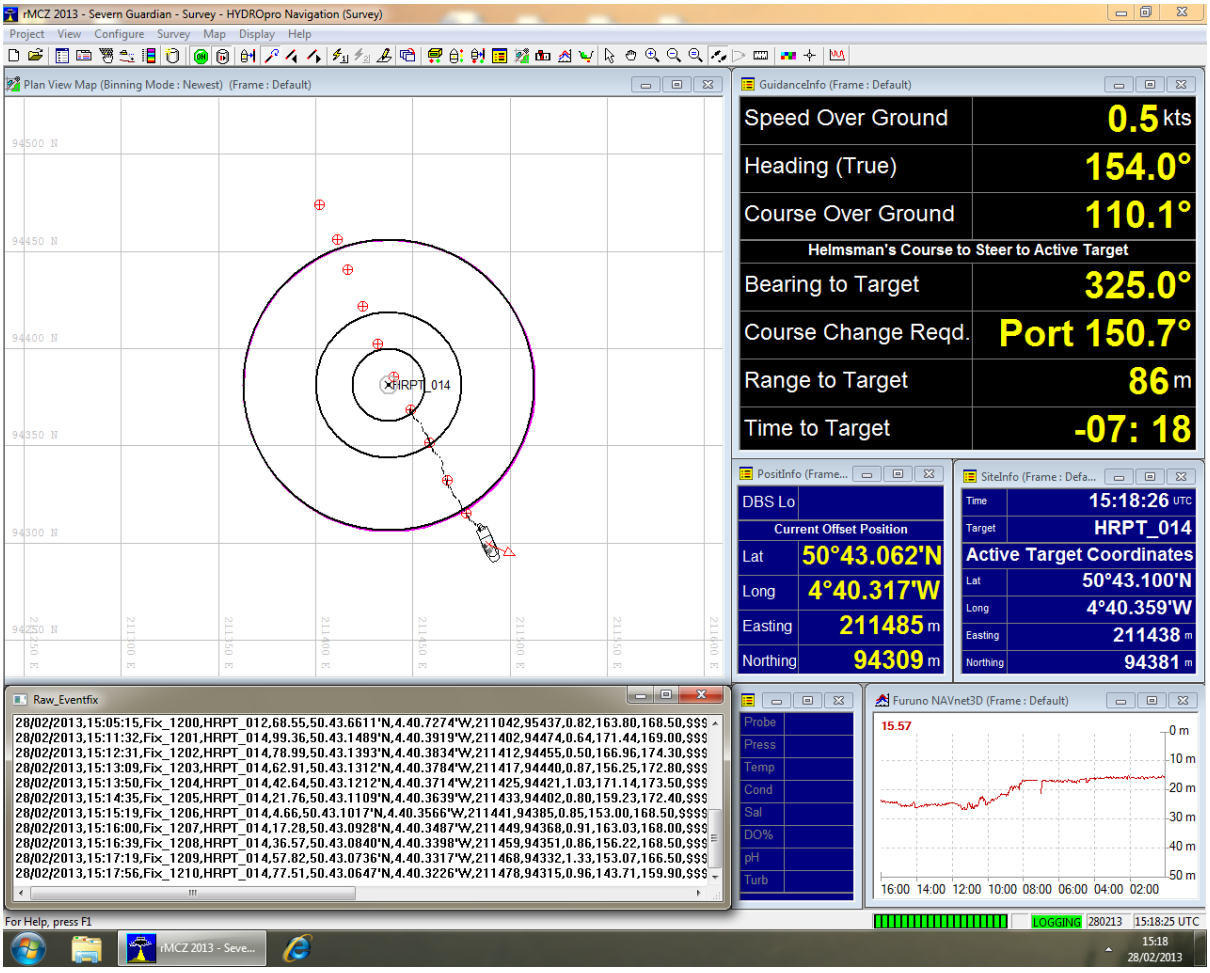
General Information
Length: 18.3 m
Beam: 6.3 m
Draft (baseline): 1.15 m
Draught (skegs): 2.2 m
Displacement (light ship): 22 T
Displacement (full load): 30 T
Service Speed: 16 knots
Maximum Speed: 18 knots

Main Equipment
Main Engines: 2 x Volvo D9-MH 261 bkW @ 2200 rpm. Twin Disc MGX-5075 integral vee-drive
Crew: 7
Scientific Officers: Up to 10
Accommodation: 3 x twin cabins and mess
Data network to share information around vessel
Wet lab/bench for processing water, sediment and ecology samples
Fridge/freezer for sample storage
Dry lab space for two computers and data processing
Large aft deck working area
A frame – 2 T SWL
Double Independent Drum Trawl Winch – 2 T SWL
Hydraulic crane

7.2 Survey Equipment

7.2.1 Navigation and Positioning

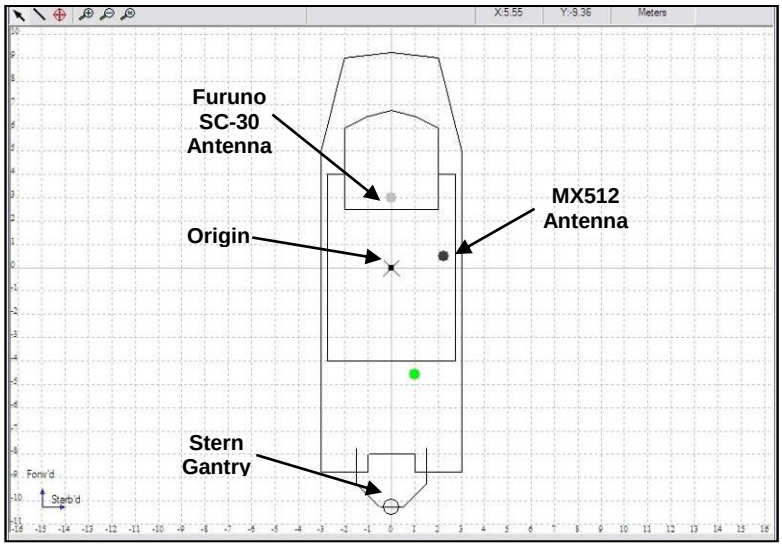
Trimble® HYDRO*pro*™ software is utilised for real-time navigation and survey data acquisition.



Trimble® HYDRO*pro*™ software screen grab displaying real-time navigation and survey data acquisition for a MCZ drop camera survey line.

Navigational and survey equipment offsets on the Coastal Survey Vessel *Severn Guardian* (Environment Agency Marine Monitoring Service).

NMEA Device	*Make/Model*	*Offset Name*	*Offset (m)*		
			X (Starb'd)	*Y (Forw'd)*	*Z +ve (Up)*
Gyrocompass	*Simrad Robertson RGC50*	*n/a*	*-*	*-*	*-*
Navigation Echosounder	*Furuno DFF1, 525ST-MSD transducer*	*n/a*	*-*	*-*	*-*
Survey Echosounder	*Kongsberg EA400*	*n/a*	*-*	*-*	*-*
Origin	*n/a*	*Origin*	*0.0*	*0.0*	*0.0*
Navigation GPS (Secondary)	*Furuno SC-30 DGPS*	*Furuno SC-30 Antenna*	*0.0*	*3.0*	*0.0*
Survey GPS (Primary)	*SIMRAD MX512 DGPS*	*MX512 Antenna*	*2.25*	*0.5*	*0.0*
n/a	*n/a*	*Sediment Grab (Stern Gantry)*	*0.0*	*-10.25*	*0.0*



Trimble® HYDROpro™ vessel editor screen showing survey equipment offsets from the origin (Environment Agency Marine Monitoring Service).

7.2.2 SeaBug Drop Camera System

SEABUG

DROP CAMERA SYSTEM

Designed for deepwater real time video monitoring, the SeaBug Drop Camera System is the perfect tool for capturing high resolution imagery down to 3000m water depth.

The **Multiport Digital Data Transport System** is a fully-configurable subsea multiplexer which can operate over a 6000m single coaxial cable. The system provides sensor power and a high speed digital link to the digital stills camera, camera flash and LED lamps, with dedicated high bandwidth video channels for real-time seabed monitoring. In addition the versatile Digital DTS platform provides transparent telemetry interfaces to support additional sensors for multiple data collection.

The latest generation Digital Stills Camera offers an impressive 14.7 mega pixels resolution and 5 x optical zoom for the very best in subsea imagery detail. The colour stills are captured and framed using live video and uploaded "on the fly" for near instant review.

A dedicated High Power Camera Flash gives precise exposure control and remote switchable high power LED Lamps with natural spectrum output to enhance visibility in challenging environments. Accurate imagery scaling is provided by dual scaling subsea lasers mounted a set distance apart to display red dots on the target at an equivalent spacing. A user friendly PC interface provides full remote control of the camera functions from a laptop or optional rack mount workstation. A simple to use digital video recording system offers data acquisition in a choice of digital formats and multiple-user defined serial interfaces provide flexible text and graphical video overlay functions.

KEY FEATURES

- Superior 14.7 mega pixel resolution
- "On the fly" capture upload
- Real time video monitoring
- High speed telemetry operation on coaxial cables up to 6000m
- Configurable multiplexer for additional sensors
- 3000m depth rating

E: enquiry@sonar-equipment.com | **W:** www.sonar-equipment.com | **T:** +44 (0) 845 3886383

SEABUG DROP CAMERA SYSTEM

MULTIPORT DIGITAL DTS SURFACE CONTROL UNIT

ELECTRICAL

Cable Power: 260 V – 340 VDC & 600 W
Cable Interface: High bandwidth DSL over coaxial cable
Cable Safety: Integrated ground fault detection system
Low voltage start up
Front panel status display
Power Input: 100 V – 230 VAC, 50 Hz (800 W)

INTERFACE

8 X RS232/RS485/RS422 ports for lamps and sensors
6 X Remote switching of LED lamps and sensors
2 X Ethernet output for digital stills camera and workstation
1 X PAL/NTSC composite video output
1 X TTL Trigger input
1 X VGA output

MECHANICAL

Dimensions: 19 inch 4U rack mountable
520 mm (L) x 430 mm (W) x 180 mm (H)

MULTIPORT DIGITAL DATA TRANSPORT SYSTEM SUBSEA UNIT /INTERFACE

ELECTRICAL

Subsea Power Output: 24 VDC: 600 W Peak, 300 W Continuous

INTERFACE

6 X Dedicated LED lamp ports with 24 VDC
5 X Remotely configurable RS232/RS485 ports with 24 VDC
2 X Ethernet with 24 VDC
2 X PAL/NTSC video with 24 VDC
2 X TTL trigger: 10 mSec positive going with 24 VDC

MECHANICAL

Diameter:	200 mm
Length:	720 mm
Weight in Air:	26 kg
Weight in Water:	3.5 kg
Standard Housing:	Hard Anodised Aluminium
Depth Rating:	3000 m

SES 14.7 MEGA PIXELS DIGITAL STILLS CAMERA

ELECTRICAL

Image Resolution: 320 x 240 – 4416 x 3312 pixels
Compression Modes: jpeg (Superfine, Fine, Normal)
ISO Sensitivity: ISO 80 to ISO 1600
Sensor Type: 1/1.7 inch CCD sensor
Framing Video: PAL, 625 line
Interface: Ethernet
Power Input: 24 VDC @ 0.5 A (1.5 A surge)

OPTICAL

Standard Lens:	6.1 – 30.5 mm (35 mm format equivalent to 28 – 140 mm)
Zoom:	5 x Optic 4 x digital
Macro Mode:	f2.8 – f4.5
Focus Control:	Automatic
Angle of View:	~45° diagonal in water

MECHANICAL

Diameter:	200 mm
Length:	230 mm
Weight in Air:	13 kg
Weight in Water:	5.75 kg
Standard Housing:	Hard Anodised Aluminium
Depth Rating:	3000 m

SES HIGH POWER CAMERA FLASH

ELECTRICAL

Control: TTL control via digital stills camera
Power Input: Power supply via stills camera

MECHANICAL

Diameter:	150 mm
Length:	230 mm
Weight in Air:	7.6 kg
Weight in Water:	3.54 kg
Standard Housing:	Hard Anodised Aluminium
Depth Rating:	3000 m

SES 20 W LED LIGHT

ELECTRICAL

Lighting:	LED Lamp
Luminous Flux:	1500 Lm
Wavelength:	Neutral White
LED Life >50,000 hours if adequately cooled	
Power Input:	24 VDC @ 1.1 A
	In built thermal projection

MECHANICAL

Diameter:	70 mm
Length:	110 mm
Weight in Air:	1 kg
Weight in Water:	0.58 kg
Standard Housing:	Hard Anodised Aluminium
Depth Rating:	3000 m

SES DUAL SCALING SUBSEA LASERS

ELECTRICAL

Power Input: 8 V – 30 VDC; 60 m A @ 24 VDC

LASER

Type:	Class II Safety Classification (<1 milliwatt output)
Beam Shape:	Elliptical (Approx 6 mm Red Dot output)
Beam Divergence:	~ 0.75mrad
Wavelength:	650 nm
Temperature Range:	-10°C to 40°C

MECHANICAL

Diameter:	38 mm
Length:	205 mm
Weight in Air:	360 g
Weight in Water:	200 g
Spacing Adjustment:	90 mm – 200 mm
Standard Housing:	Hard Anodised Aluminium
Depth Rating:	3000 m

SES MULTIPORT VIDEO RECORDER

ELECTRICAL

Power Supply: 5 VDC via USB 2.0

INTERFACE

User Interface: Video with Com Recording Software

PC interface:	USB2.0
Video Input:	1 x 75Ω BNC
Overlay Input:	3 x RS232 ports
Data Recording:	RAW, DivX, Xvid
Output Format:	MPEG-4 or AVI

MECHANICAL

Length:	160 mm
Width:	160 mm
Height:	60 mm
Weight in Air:	1 kg
Connector:	USB Type B

SEABUG DROP CAMERA FRAME

Length:	1720 mm
Width:	1500 mm
Height:	1300 mm
Weight in Air:	275 kg (with sensors)
Weight in Water:	215 kg (with sensors)
Depth Rating:	3000 m

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7.3 EA underwater video procedure_version 2.2 (STR Systems)

The procedure outlined below has been developed through a series of discussions involving the Environment Agency, Cefas and Natural England. Due to the heterogeneous nature of the inshore coastal seabed habitat, strong tidal streams, various underwater hazards and no dynamic positioning system on the survey vessels, a flexible approach is recommended for the underwater video camera deployment. The procedure must be used in accordance with the MESH 'recommended operating guidelines (ROG) for underwater video and photographic imaging techniques' (Coggan et al., 2007).

Important points to remember:

- **Select stern gantry offset in Hydropro**
- **Synchronise all survey equipment (camera, laptops, etc.) with primary survey GPS time (UTC).**
- **Ensure the correct date, station code, time and position are displayed on the video overlay.**

Example:

EA Marine Monitoring Service_2013-1008

RNSB_GT025_STN_028 *(annotate if station has been attempted on a previous occasion A1, A2, etc.)*

UTC: 142544 (*real time feed from survey GPS*)

Lat: 5433.3403N (*real time uncorrected feed from survey GPS*)

Lon: 000038.9172W (*real time uncorrected feed from survey GPS*)

- **Alter the stills prefix to the correct station code.**

Example:

RNSB017_STN_? *(? = sequential 'STN or event' number expressed as an integer i.e. no leading zeros – refer to previous survey period for starting number)*

The software will then automatically add '_01, _02,_03.....' as the stills are captured – you may need to adjust the number of leading zeros.

Final stills code format saved to the laptop:

RNSB017_STN_14_01

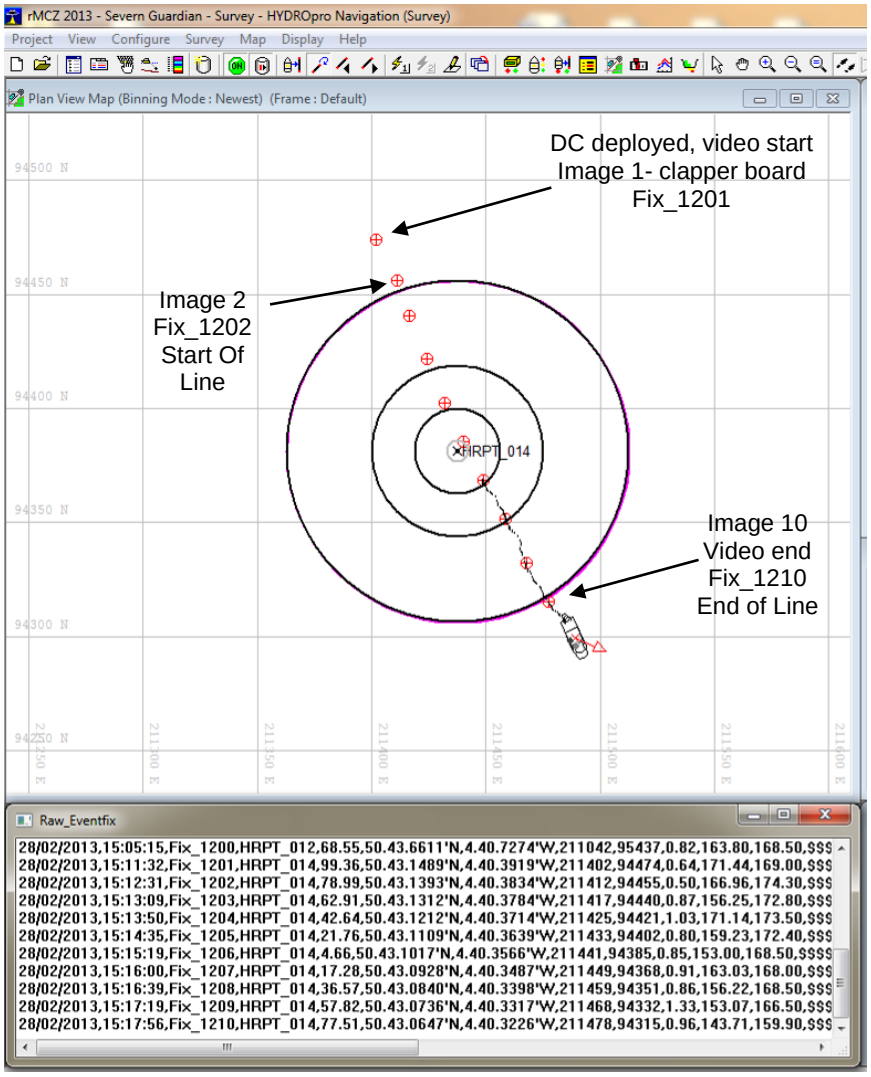
RNSB017_STN_14_02

RNSB017_STN_14_03

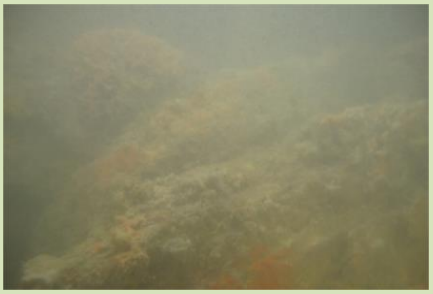
- **The field of view scale bar/laser points should be set up/calibrated prior to the survey commencing. Laser pointers are ineffective in moderate/poor visibility conditions; a rope with a visible scale will be required as a replacement**
- **Set the image resolution to Large Normal (Seabug 14.7 Megapixels, SeaSpyder 18.0 Megapixels).**
- **Check that the camera settings are appropriate for the conditions; that the LED lights are on if required and ensure that the video is recording throughout the deployment.**

- **If a Broadscale Habitat (BSH) boundary is detected, extend the deployment to gather as much information on habitat extent as possible.**
- **Take extra stills if habitat/species FOCI are observed – note these in the survey log.**
- **If possible, work a downhill seabed profile to avoid slack cable during deployment.**
- **Beware of sudden depth changes when surveying rocky areas.**
- **Abandon the station if survey conditions are hazardous.**

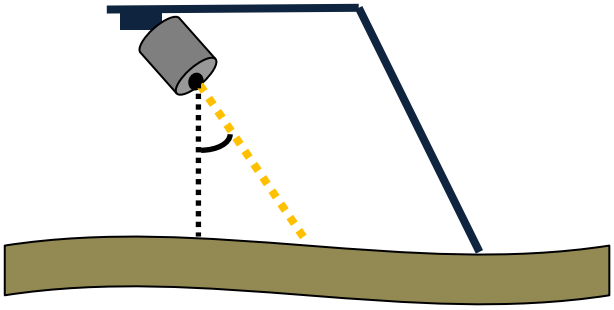
Video Camera Type	Survey Conditions	Deployment
Drop down	Good visibility	*Deploy camera, initially working across the Hydropro 75 m radius target area, as shown in the diagram below. Hover/rest camera above/on the seabed; take a still every 15 m. If tide/wind conditions do not allow a survey line to be followed across the bull ring, use the outer circle as a guide to ensure a distance of 150 m is covered (minimum) nearby.
	Poor visibility	Hover/rest camera above/on the seabed, take a still every 15 m. If the visibility is very poor, retrieve the equipment after taking 3 - 4 stills.



7.4 Underwater Visibility Scale

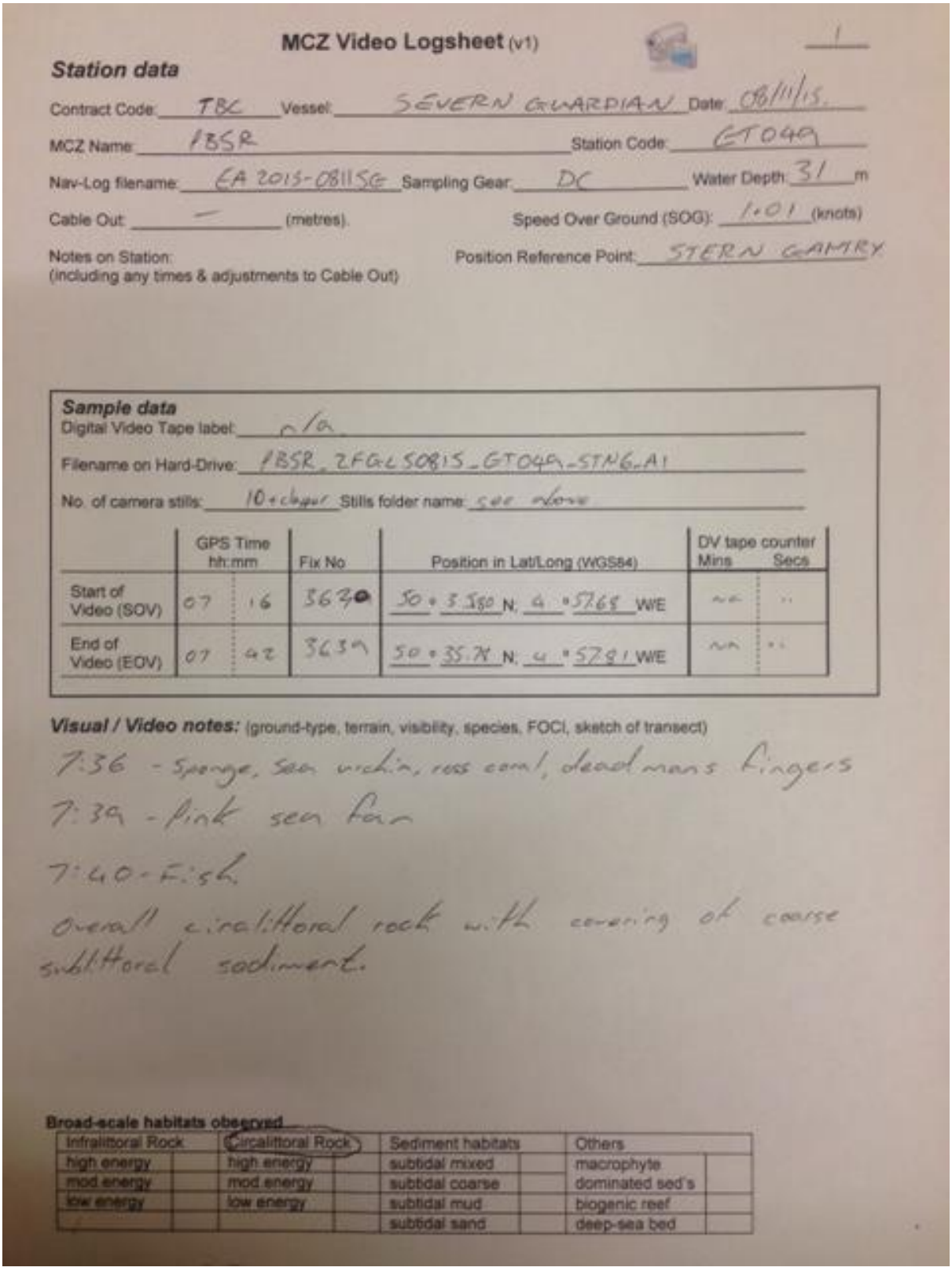
Example image	Scale	Definition
	Excellent	clear, sharp images - no suspended particulate matter
	Good	seabed features and epifauna clearly discernible
	Moderate	seabed features discernible - epifauna difficult to discern
	Poor	both seabed features and epifauna difficult to discern, low confidence in preliminary habitat assessment
	Very Poor	no seabed features or epifauna visible

7.5 MCZ Camera Settings and Video logsheet

Survey	**Padstow MCZ**
Scientists on board	**Gareth Davies, Katie Arnold**
Date	**11/08/2015**
	

Manufacturer	**STR**
Model	**Sea Bug Drop camera**
Survey Vessel	**Severn Guardian (2FGL5)**
separate video/stills camera	Yes
Video/stills camera angle relative to the seabed (approx.)	Video 60º Camera 45º
distance of video/stills camera above seabed	55 cm
Flash unit angle relative to the seabed (approx.)	40º
no. of lights (dimmable?)	6 x LED spotlights – non-dimmable
FOV scaling lasers distance apart	2 x laser points 10.5 cm

Camera settings	
Date	**11/08/2015**
Time	**05:30 BST**
Image quality	Large – normal 18 Megapixels
Flash setup	Auto
Shutter speed	
Aperture size	
ISO setting	AUTO
White balance	AWB
Light metering mode	Evaluative
Focus	Quick mode, manual selection – centre point selected – click ‘ON’ and wait for camera to complete focus adjustment. ‘OFF’ to deselect when complete.



MCZ Video Logsheet (v1)

1

Station data

Contract Code: TBC Vessel: SEVERN GUARDIAN Date: 08/11/15.

MCZ Name: PBSR Station Code: GT049

Nav-Log filename: EA 2015-0811SG Sampling Gear: DC Water Depth: 31 m

Cable Out: — (metres). Speed Over Ground (SOG): 1.01 (knots)

Notes on Station: (including any times & adjustments to Cable Out)

Position Reference Point: STERN GAMRY

Sample data

Digital Video Tape label: n/a

Filename on Hard-Drive: PBSR_2FGL50815_GT049-STN6_A1

No. of camera stills: 10+ cheyer Stills folder name: see above

	GPS Time hh:mm		Fix No	Position in Lat/Long (WGS84)	DV tape counter Mins	Secs
Start of Video (SOV)	07	16	3630	50 ° 35.580 N; 4 ° 57.65 W/E	na	..
End of Video (EOV)	07	42	3639	50 ° 35.71 N; 4 ° 57.91 W/E	na	..

Visual / Video notes: (ground-type, terrain, visibility, species, FOCI, sketch of transect)

7:36 - Sponge, sea urchin, ross coral, dead mans fingers

7:39 - pink sea fan

7:40 - Fish

Overall circalittoral rock with covering of coarse subtidal sediment.

Broad-scale habitats observed

Infralittoral Rock		Circalittoral Rock		Sediment habitats		Others	
high energy		high energy		subtidal mixed		macrophyte dominated sed's	
mod energy		mod energy		subtidal coarse		biogenic reef	
low energy		low energy		subtidal mud		deep-sea bed	
				subtidal sand			

7.6 Daily Progress Reports

DAILY LOG
STATUS REPORT
Environment Agency Marine Monitoring Service

Vessel: Severn Guardian	Project: MCZ surveys
Daily Progress Report No.1	Location: Padstow Bay and surrounds (PBSR)
Date: 10th August 2015	

To Company:	Person:	E-mail:
Cefas	Matt Curtis	Matthew.Curtis@cefas.co.uk
Natural England	Michael Young	Michael.Young@naturalengland.org.uk
EA	Luke Martina	Luke.Martina@environment–agency.gov.uk
EA	Nina Godsell	Nina.Godsell@environment-agency.gov.uk

Safety

	Today	To Date
Accidents/Incidents	0	0
Near Misses	0	0
Safety Drills/Induction	0	0
Additional comments:		

Summary of operations 0000-2400

Time UTC (start)	Time UTC (end)	Type	Comments
11:15	18:00	Mobilised, Camera set up	KA
14:00	20:00	Mobilised	GD

Weather

Weather/sea state conditions	0000-0600	0600-1200	1200-1800	1800-2400	Remarks
Wind		N/A	N/A		
Sea state					
Swell					
Visibility					

Overall Progress

Type	Today (hh:mm)	Remarks
Mob	07:00	GD+KA
Offshore Calibrations		
Total Operation (Camera) Survey (TOSu)		
Total Operation (Grab) Sampling (TOSa)		
Equipment/Downtime	5:15	Camera loaded and set up KA
Ship/Plant Downtime		
Waiting On Weather		
Transit		
Standby Port		
Demob	00:30	KA
Other		
Total:	12:45	

Overall Progress Groundtruthing Samples

Action	Sites Total	Sites Complete	Remaining Sites	Remarks
Drop Camera	33	0	33	

Weather forecast for the next 24 hours

Wind force 2 – 3 E or NE

Planned operation for the next 24 hours (00:00 to 24:00 on 11th August 2015)

Commence DC survey Padstow Bay and surrounds

Agreed Changes to Scope/Survey operation priorities

No changes required.

Comments

Hours split to account for separate activities

Staff on board

Survey Role	Company	Name
Scientist In Charge (SIC)	Environment Agency	Gareth Davies
Survey Officer	Environment Agency	Katie Arnold

DAILY LOG
STATUS REPORT
Environment Agency Marine Monitoring Service

Vessel: Severn Guardian	Project: MCZ habitat verification surveys
Daily Progress Report No.2	Location: Padstow Bay and surrounds (PBSR)
Date: 11th August 2015	

To Company:	Person:	E-mail:
Cefas	Matt Curtis	Matthew.Curtis@cefas.co.uk
Natural England	Michael Young	Michael.Young@naturalengland.org.uk
EA	Luke Martina	Luke.Martina@environment–agency.gov.uk
EA	Nina Godsell	Nina.Godsell@environment-agency.gov.uk

Safety

	Today	To Date
Accidents/Incidents	0	0
Near Misses	0	0
Safety Drills/Induction	1	0
Additional comments: KA boarded and safety talk delivered		

Summary of operations 0000-2400

Time UTC (start)	Time UTC (end)	Type	Comments
03:30	04:00	Mobilised	KA
04:00	05:30	Transited to survey location. Safety briefings	
05:30	14:10	DC survey	
14:10	14:45	Transited to Padstow Harbour	
14:45	15:30	Post survey activities	

Weather

Weather/sea state conditions	0000-0600	0600-1200	1200-1800	1800-2400	Remarks
Wind	-	2-3 E	2 – 3 N, NW	-	-
Sea state					
Swell					
Visibility					

Overall Progress

Type	Today (hh:mm)	Accum (hh:mm)	Remarks
Mob	00:30	07:30	
Offshore Calibrations			
Total Operation (Camera) Survey (TOSu)	09:25	09:25	
Total Operation (Grab) Sampling (TOSa)			
Equipment/Downtime		05:15	
Ship/Plant Downtime			
Waiting On Weather			
Transit	02:05	02:05	
Standby Port			
Demob		00:30	
Other			
Total:	12:00	24:45	

Overall Progress Groundtruthing Samples

Action	Sites Total	Sites Complete	Remaining Sites	Remarks
Drop Camera	33	25	8	Stations remaining predicted to be sheltered according to forecast.

Weather forecast for the next 24 hours

Wind force E – NE 3-4

Planned operation for the next 24 hours (00:00 to 24:00 on 12th August 2015)

Complete DC survey of remaining stations. Offload camera

Agreed Changes to Scope/Survey operation priorities

No changes required.

Comments

Staff on board

Survey Role	Company	Name
Scientist In Charge (SIC)	Gareth Davies	Environment Agency
Survey officer	Katie Arnold	Environment Agency

DAILY LOG
STATUS REPORT
Environment Agency Marine Monitoring Service

Vessel: Severn Guardian	Project: MCZ habitat verification surveys
Daily Progress Report No.3	Location: Padstow Bay and surrounds (PBSR)
Date: 12th August 2015	

To Company:	Person:	E-mail:
Cefas	Matt Curtis	Matthew.Curtis@cefas.co.uk
Natural England	Michael Young	Michael.Young@naturalengland.org.uk
EA	Luke Martina	Luke.Martina@environment–agency.gov.uk
EA	Nina Godsell	Nina.Godsel@environment-agency.gov.uk

Safety

	Today	To Date
Accidents/Incidents	0	0
Near Misses	0	0
Safety Drills/Induction	0	1
Additional comments:		

Summary of operations 0000-2400

Time UTC (start)	Time UTC (end)	Type	Comments
04:50	5:00	Mobilised	
5:00	06:10	Preparations, transited to survey location. Safety briefings	
06:10	08:25	DC survey	
08:25	13:00	Awaited tide/Transited to Padstow Harbour	
13:00	15:00	Post survey, offloaded camera equipment	

Weather

Weather/sea state conditions	0000-0600	0600-1200	1200-1800	1800-2400	Remarks
Wind	1-2 E	1 – 2 E			
Sea state					
Swell					
Visibility					

Overall Progress

Type	Today (hh:mm)	Accum (hh:mm)	Remarks
Mob	0:10	07:40	
Offshore Calibrations			
Total Operation (Camera) Survey (TOSu)	2:15	11:40	
Total Operation (Grab) Sampling (TOSa)			
Equipment/Downtime	2:00	07:15	Camera offloaded
Ship/Plant Downtime			
Waiting On Weather			
Transit	4:35	6:40	Awaited tide and return passage
Standby Port			
Demob		00:30	
Other			
Total:	09:00	33:45	

Overall Progress Groundtruthing Samples

Action	Sites Total	Sites Complete	Remaining Sites	Remarks
Drop Camera	33	33	0	

Weather forecast for the next 24 hours

Planned operation for the next 24 hours (00:00 to 24:00 on 13th August 2015)

Demob

Agreed Changes to Scope/Survey operation priorities

No changes required.

Comments

Staff on board

Survey Role	Company	Name
Scientist In Charge (SIC)	Gareth Davies	Environment Agency
Survey officer	Katie Arnold	Environment Agency

7.7 Video Survey Metadata

Date	Time UTC	Station Code	WGS84 Latitude DD.DDDDD	WGS84 Longitude DD.DDDDD	STN number	Hpro fix no.	Still label	Water depth (m)	SOG (knots)
Sampling Gear: SeaSpyder Drop Camera, FOV Scale: Lasers (10cm) & Rope (5cm)									
11/08/2015	**04:15**	**Departed Padstow Harbour**							
11/08/2015	05:24	PBSR042	-	-	1	no fix	PBSR_2FGL50815_GT042_STN_1_A1_1		
11/08/2015	05:35	PBSR042	50.59953	-4.85631	1	3567	PBSR_2FGL50815_GT042_STN_1_A1_2	16.1	2.36
11/08/2015	05:36	Erroneous fix	50.59953	-4.85648	-	3568	-	15.9	0
11/08/2015	05:36	PBSR042	50.59953	-4.85648	1	3569	PBSR_2FGL50815_GT042_STN_1_A1_3	15.9	0
11/08/2015	05:36	Erroneous fix	50.59953	-4.85648	-	3570	-	15.9	0
11/08/2015	05:36	Erroneous fix	50.59953	-4.85648	-	3571	-	15.9	0
11/08/2015	05:36	Erroneous fix	50.59953	-4.85648	-	3572	-	15.9	0
11/08/2015	05:37	PBSR042	50.59952	-4.85664	1	3573	PBSR_2FGL50815_GT042_STN_1_A1_4	16.2	0
11/08/2015	05:38	PBSR042	50.59968	-4.85680	1	3574	PBSR_2FGL50815_GT042_STN_1_A1_5	16	0
11/08/2015	05:59	PBSR042	50.59972	-4.85548	1	3575	PBSR_2FGL50815_GT042_STN_1_A2_1	15.6	1.39
11/08/2015	06:00	PBSR042	50.59965	-4.85576	1	3576	PBSR_2FGL50815_GT042_STN_1_A2_2	19.7	1.35
11/08/2015	06:01	PBSR042	50.59956	-4.85611	1	3577	PBSR_2FGL50815_GT042_STN_1_A2_3	15.9	1.69
11/08/2015	06:01	PBSR042	50.59950	-4.85631	1	3578	PBSR_2FGL50815_GT042_STN_1_A2_4	15.6	0.86
11/08/2015	06:02	PBSR042	50.59940	-4.85653	1	3579	PBSR_2FGL50815_GT042_STN_1_A2_5	15.1	1.38
11/08/2015	06:02	PBSR042	50.59930	-4.85675	1	3580	PBSR_2FGL50815_GT042_STN_1_A2_6	15	0.88

Date	Time UTC	Station Code	WGS84 Latitude DD.DDDDD	WGS84 Longitude DD.DDDDD	STN number	Hpro fix no.	Still label	Water depth (m)	SOG (knots)
11/08/2015	06:03	PBSR042	50.59923	-4.85701	1	3581	PBSR_2FGL50815_GT042_STN_1_A2_7	16.4	1.28
11/08/2015	06:03	PBSR042	50.59917	-4.85717	1	3582	PBSR_2FGL50815_GT042_STN_1_A2_8	16.3	0.69
11/08/2015	06:04	PBSR042	50.59909	-4.85750	1	3583	PBSR_2FGL50815_GT042_STN_1_A2_9	16.4	1.33
11/08/2015	06:05	PBSR042	50.59901	-4.85786	1	3584	PBSR_2FGL50815_GT042_STN_1_A2_10	16.9	1.86
11/08/2015	06:09	PBSR041	50.59763	-4.86403	2	3585	PBSR_2FGL50815_GT041_STN_2_A1_1	18.3	7.03
11/08/2015	06:12	PBSR041	50.59681	-4.87026	2	3586	PBSR_2FGL50815_GT041_STN_2_A1_2	12.4	0.13
11/08/2015	06:14	PBSR041	50.59674	-4.87053	2	3587	PBSR_2FGL50815_GT041_STN_2_A1_3	14.2	1.32
11/08/2015	06:14	PBSR041	50.59672	-4.87076	2	3588	PBSR_2FGL50815_GT041_STN_2_A1_4	12.2	0.74
11/08/2015	06:15	PBSR041	50.59670	-4.87093	2	3589	PBSR_2FGL50815_GT041_STN_2_A1_5	10.1	0.88
11/08/2015	06:19	PBSR041	50.59666	-4.87111	2	3590	PBSR_2FGL50815_GT041_STN_2_A1_6	12.6	1.83
11/08/2015	06:20	PBSR041	50.59667	-4.87134	2	3591	PBSR_2FGL50815_GT041_STN_2_A1_7	14.3	0.94
11/08/2015	06:20	PBSR041	50.59665	-4.87153	2	3592	PBSR_2FGL50815_GT041_STN_2_A1_8	19.8	0.6
11/08/2015	06:21	PBSR041	50.59665	-4.87185	2	3593	PBSR_2FGL50815_GT041_STN_2_A1_9	19.6	1.28
11/08/2015	06:22	PBSR041	50.59665	-4.87202	2	3594	PBSR_2FGL50815_GT041_STN_2_A1_10	19.5	0.7
11/08/2015	06:22	PBSR041	50.59665	-4.87231	2	3595	PBSR_2FGL50815_GT041_STN_2_A1_11	19.5	1.18
11/08/2015	06:25	PBSR028	50.59696	-4.87695	3	3596	PBSR_2FGL50815_GT028_STN_3_A1_1	18.1	8.96
11/08/2015	06:38	PBSR028	50.59875	-4.91501	3	3597	PBSR_2FGL50815_GT028_STN_3_A1_2	16.2	0.74
11/08/2015	06:39	PBSR028	50.59879	-4.91528	3	3598	PBSR_2FGL50815_GT028_STN_3_A1_3	14.8	0.94
11/08/2015	06:39	PBSR028	50.59884	-4.91561	3	3599	PBSR_2FGL50815_GT028_STN_3_A1_4	13.1	1.23
11/08/2015	06:40	PBSR028	50.59887	-4.91587	3	3600	PBSR_2FGL50815_GT028_STN_3_A1_5	11.5	0.96

Date	Time UTC	Station Code	WGS84 Latitude DD.DDDDD	WGS84 Longitude DD.DDDDD	STN number	Hpro fix no.	Still label	Water depth (m)	SOG (knots)
11/08/2015	06:41	PBSR028	50.59893	-4.91611	3	3601	PBSR_2FGL50815_GT028_STN_3_A1_6	14.0	0.87
11/08/2015	06:41	PBSR028	50.59892	-4.91642	3	3602	PBSR_2FGL50815_GT028_STN_3_A1_7	14.3	1.3
11/08/2015	06:42	PBSR028	50.59887	-4.91670	3	3603	PBSR_2FGL50815_GT028_STN_3_A1_8	15.3	1.59
11/08/2015	06:42	PBSR028	50.59885	-4.91699	3	3604	PBSR_2FGL50815_GT028_STN_3_A1_9	16.3	1.1
11/08/2015	06:43	PBSR028	50.59885	-4.91728	3	3605	PBSR_2FGL50815_GT028_STN_3_A1_10	17.4	1.08
11/08/2015	06:43	PBSR028	50.59887	-4.91751	3	3606	PBSR_2FGL50815_GT028_STN_3_A1_11	19.9	0.7
11/08/2015	06:47	PBSR036	50.60009	-4.92262	4	3607	PBSR_2FGL50815_GT036_STN_4_A1_1	34.4	8.51
11/08/2015	06:54	PBSR036	50.59343	-4.94050	4	3608	PBSR_2FGL50815_GT036_STN_4_A1_2	19.2	0.6
11/08/2015	06:58	PBSR036	50.59358	-4.94095	4	3609	PBSR_2FGL50815_GT036_STN_4_A1_3	15.7	1.33
11/08/2015	06:59	PBSR036	50.59357	-4.94124	4	3610	no still	16.2	1.55
11/08/2015	06:59	PBSR036	50.59357	-4.94139	4	3611	PBSR_2FGL50815_GT036_STN_4_A1_4	16.1	1.46
11/08/2015	06:59	PBSR036	50.59359	-4.94162	4	3612	PBSR_2FGL50815_GT036_STN_4_A1_5	17.0	1.55
11/08/2015	07:00	PBSR036	50.59360	-4.94185	4	3613	PBSR_2FGL50815_GT036_STN_4_A1_6	16.2	1.41
11/08/2015	07:00	PBSR036	50.59362	-4.94210	4	3614	PBSR_2FGL50815_GT036_STN_4_A1_7	14.8	1.55
11/08/2015	07:01	PBSR036	50.59364	-4.94232	4	3615	PBSR_2FGL50815_GT036_STN_4_A1_8	16.4	0.94
11/08/2015	07:01	PBSR036	50.59364	-4.94253	4	3616	no still	16.1	1.03
11/08/2015	07:01	PBSR036	50.59363	-4.94272	4	3617	PBSR_2FGL50815_GT036_STN_4_A1_9	14.4	1.07
11/08/2015	07:05	PBSR037	50.59428	-4.94830	5	3618	PBSR_2FGL50815_GT037_STN_5_A1_1	11.9	4.54
11/08/2015	07:07	PBSR037	50.59385	-4.95049	5	3619	PBSR_2FGL50815_GT037_STN_5_A1_2	14.2	1.22
11/08/2015	07:08	PBSR037	50.59375	-4.95091	5	3620	PBSR_2FGL50815_GT037_STN_5_A1_3	11.4	1.29

Date	Time UTC	Station Code	WGS84 Latitude DD.DDDDD	WGS84 Longitude DD.DDDDD	STN number	Hpro fix no.	Still label	Water depth (m)	SOG (knots)
11/08/2015	07:08	PBSR037	50.59371	-4.95121	5	3621	PBSR_2FGL50815_GT037_STN_5_A1_4	10.5	1.83
11/08/2015	07:09	PBSR037	50.59369	-4.95149	5	3622	PBSR_2FGL50815_GT037_STN_5_A1_5	9.6	1.34
11/08/2015	07:10	PBSR037	50.59364	-4.95176	5	3623	PBSR_2FGL50815_GT037_STN_5_A1_6	12.2	1.3
11/08/2015	07:10	PBSR037	50.59359	-4.95201	5	3624	PBSR_2FGL50815_GT037_STN_5_A1_7	14.6	0.55
11/08/2015	07:11	PBSR037	50.59356	-4.95225	5	3625	PBSR_2FGL50815_GT037_STN_5_A1_8	12.1	1.25
11/08/2015	07:12	PBSR037	50.59354	-4.95252	5	3626	PBSR_2FGL50815_GT037_STN_5_A1_9	16.8	0.7
11/08/2015	07:12	PBSR037	50.59352	-4.95268	5	3627	PBSR_2FGL50815_GT037_STN_5_A1_10	19.9	0.63
11/08/2015	07:13	PBSR037	50.59350	-4.95287	5	3628	PBSR_2FGL50815_GT037_STN_5_A1_11	20.7	0.57
11/08/2015	07:16	PBSR049	50.59385	-4.95639	6	3629	PBSR_2FGL50815_GT049_STN_6_A1_1	31.7	6.09
11/08/2015	07:36	PBSR049	50.59665	-4.96133	6	3630	PBSR_2FGL50815_GT049_STN_6_A1_2	31.5	0.98
11/08/2015	07:37	PBSR049	50.59661	-4.96155	6	3631	PBSR_2FGL50815_GT049_STN_6_A1_3	31.7	0.85
11/08/2015	07:37	PBSR049	50.59659	-4.96182	6	3632	PBSR_2FGL50815_GT049_STN_6_A1_4	30.6	0.94
11/08/2015	07:38	PBSR049	50.59656	-4.96210	6	3633	PBSR_2FGL50815_GT049_STN_6_A1_5	30.6	0.93
11/08/2015	07:39	PBSR049	50.59654	-4.96237	6	3634	PBSR_2FGL50815_GT049_STN_6_A1_6	31	1.01
11/08/2015	07:39	PBSR049	50.59652	-4.96257	6	3635	PBSR_2FGL50815_GT049_STN_6_A1_7	31.2	0.82
11/08/2015	07:40	PBSR049	50.59649	-4.96281	6	3636	PBSR_2FGL50815_GT049_STN_6_A1_8	32.2	1.07
11/08/2015	07:40	PBSR049	50.59645	-4.96302	6	3637	PBSR_2FGL50815_GT049_STN_6_A1_9	31.2	0.86
11/08/2015	07:41	PBSR049	50.59638	-4.96327	6	3638	PBSR_2FGL50815_GT049_STN_6_A1_10	31	0.75
11/08/2015	07:42	PBSR049	50.59633	-4.96355	6	3639	PBSR_2FGL50815_GT049_STN_6_A1_11	30.2	1.09
11/08/2015	07:46	PBSR045	50.59430	-4.96415	7	3640	PBSR_2FGL50815_GT045_STN_7_A1_1	33.1	5.85

Date	Time UTC	Station Code	WGS84 Latitude DD.DDDDD	WGS84 Longitude DD.DDDDD	STN number	Hpro fix no.	Still label	Water depth (m)	SOG (knots)
11/08/2015	07:51	PBSR045	50.58899	-4.95386	7	3641	PBSR_2FGL50815_GT045_STN_7_A1_2	22.8	0.53
11/08/2015	07:52	PBSR045	50.58891	-4.95417	7	3642	PBSR_2FGL50815_GT045_STN_7_A1_3	22.3	1.01
11/08/2015	07:53	PBSR045	50.58887	-4.95434	7	3643	PBSR_2FGL50815_GT045_STN_7_A1_4	22.4	0.58
11/08/2015	07:53	PBSR045	50.58884	-4.95457	7	3644	PBSR_2FGL50815_GT045_STN_7_A1_5	22.7	0.8
11/08/2015	07:54	PBSR045	50.58879	-4.95492	7	3645	PBSR_2FGL50815_GT045_STN_7_A1_6	21.2	0.89
11/08/2015	07:55	PBSR045	50.58877	-4.95510	7	3646	PBSR_2FGL50815_GT045_STN_7_A1_7	22.2	0.27
11/08/2015	07:56	PBSR045	50.58873	-4.95527	7	3647	PBSR_2FGL50815_GT045_STN_7_A1_8	22	0.83
11/08/2015	07:57	PBSR045	50.58858	-4.95546	7	3648	PBSR_2FGL50815_GT045_STN_7_A1_9	22.3	1.11
11/08/2015	07:59	PBSR045	50.58844	-4.95571	7	3649	PBSR_2FGL50815_GT045_STN_7_A1_10	20.2	0.88
11/08/2015	07:59	PBSR045	50.58836	-4.95595	7	3650	PBSR_2FGL50815_GT045_STN_7_A1_11	22.9	1.04
11/08/2015	08:00	PBSR045	50.58834	-4.95620	7	3651	PBSR_2FGL50815_GT045_STN_7_A1_12	22.1	1.22
11/08/2015	08:01	PBSR045	50.58837	-4.95638	7	3652	PBSR_2FGL50815_GT045_STN_7_A1_13	22.1	0.49
11/08/2015	08:04	PBSR040	50.58868	-4.95653	8	3653	PBSR_2FGL50815_GT040_STN_8_A1_1	23.2	0.37
11/08/2015	08:10	PBSR040	50.58718	-4.94649	8	3654	PBSR_2FGL50815_GT040_STN_8_A1_2	18.9	1.06
11/08/2015	08:11	PBSR040	50.58707	-4.94678	8	3655	PBSR_2FGL50815_GT040_STN_8_A1_3	13	1.42
11/08/2015	08:11	PBSR040	50.58706	-4.94723	8	3656	PBSR_2FGL50815_GT040_STN_8_A1_4	14.7	1.68
11/08/2015	08:12	PBSR040	50.58710	-4.94751	8	3657	PBSR_2FGL50815_GT040_STN_8_A1_5	14.6	1.67
11/08/2015	08:12	PBSR040	50.58717	-4.94779	8	3658	PBSR_2FGL50815_GT040_STN_8_A1_6	16.3	1.6
11/08/2015	08:12	PBSR040	50.58720	-4.94809	8	3659	PBSR_2FGL50815_GT040_STN_8_A1_7	15	1.54
11/08/2015	08:13	PBSR040	50.58717	-4.94840	8	3660	PBSR_2FGL50815_GT040_STN_8_A1_8	15.7	1.64

Date	Time UTC	Station Code	WGS84 Latitude DD.DDDDD	WGS84 Longitude DD.DDDDD	STN number	Hpro fix no.	Still label	Water depth (m)	SOG (knots)
11/08/2015	08:14	PBSR040	50.58696	-4.94879	8	3661	PBSR_2FGL50815_GT040_STN_8_A1_9	16.4	0.59
11/08/2015	08:15	PBSR040	50.58687	-4.94893	8	3662	PBSR_2FGL50815_GT040_STN_8_A1_10	16.6	0.6
11/08/2015	08:16	PBSR040	50.58679	-4.94912	8	3663	PBSR_2FGL50815_GT040_STN_8_A1_11	17	1.28
11/08/2015	08:19	PBSR105	50.58633	-4.95022	9	3664	PBSR_2FGL50815_GT105_STN_9_A1_1	18.9	4.32
11/08/2015	08:25	PBSR105	50.58645	-4.94445	9	3665	PBSR_2FGL50815_GT105_STN_9_A1_2	16.1	1.04
11/08/2015	08:25	PBSR105	50.58636	-4.94458	9	3666	no still	15.1	1.3
11/08/2015	08:26	PBSR105	50.58626	-4.94474	9	3667	PBSR_2FGL50815_GT105_STN_9_A1_3	14.8	1.44
11/08/2015	08:26	PBSR105	50.58617	-4.94494	9	3668	PBSR_2FGL50815_GT105_STN_9_A1_4	16	1.62
11/08/2015	08:27	PBSR105	50.58613	-4.94511	9	3669	PBSR_2FGL50815_GT105_STN_9_A1_5	13.9	0.83
11/08/2015	08:27	PBSR105	50.58602	-4.94535	9	3670	PBSR_2FGL50815_GT105_STN_9_A1_6	14.7	1.42
11/08/2015	08:27	PBSR105	50.58593	-4.94550	9	3671	PBSR_2FGL50815_GT105_STN_9_A1_7	16.7	1.19
11/08/2015	08:28	PBSR105	50.58579	-4.94569	9	3672	PBSR_2FGL50815_GT105_STN_9_A1_8	15.7	1.21
11/08/2015	08:28	PBSR105	50.58570	-4.94585	9	3673	PBSR_2FGL50815_GT105_STN_9_A1_9	15.7	1.55
11/08/2015	08:29	PBSR105	50.58561	-4.94597	9	3674	PBSR_2FGL50815_GT105_STN_9_A1_10	16.1	0.32
11/08/2015	08:31	PBSR107	50.58482	-4.94633	10	3675	no still	16.7	3.56
11/08/2015	09:22	PBSR107	50.58800	-4.94098	10	3676	PBSR_2FGL50815_GT107_STN_10_A1_1	15.4	0.36
11/08/2015	09:22	PBSR107	50.58817	-4.94079	10	3677	PBSR_2FGL50815_GT107_STN_10_A1_2	16.1	1.1
11/08/2015	09:23	PBSR107	50.58829	-4.94071	10	3678	PBSR_2FGL50815_GT107_STN_10_A1_3	15	0.59
11/08/2015	09:24	PBSR107	50.58843	-4.94064	10	3679	PBSR_2FGL50815_GT107_STN_10_A1_4	14.9	0.77
11/08/2015	09:24	PBSR107	50.58864	-4.94060	10	3680	PBSR_2FGL50815_GT107_STN_10_A1_5	14.5	1.42

Date	Time UTC	Station Code	WGS84 Latitude DD.DDDDD	WGS84 Longitude DD.DDDDD	STN number	Hpro fix no.	Still label	Water depth (m)	SOG (knots)
11/08/2015	09:25	PBSR107	50.58875	-4.94052	10	3681	PBSR_2FGL50815_GT107_STN_10_A1_6	15.1	1.12
11/08/2015	09:25	PBSR107	50.58894	-4.94038	10	3682	PBSR_2FGL50815_GT107_STN_10_A1_7	14.7	0.95
11/08/2015	09:26	PBSR107	50.58907	-4.94029	10	3683	PBSR_2FGL50815_GT107_STN_10_A1_8	15.1	0.96
11/08/2015	09:27	PBSR107	50.58925	-4.94018	10	3684	PBSR_2FGL50815_GT107_STN_10_A1_9	14.9	0.97
11/08/2015	09:27	PBSR107	50.58936	-4.94014	10	3685	PBSR_2FGL50815_GT107_STN_10_A1_10	14.7	0.8
11/08/2015	09:28	PBSR107	50.58958	-4.93995	10	3686	PBSR_2FGL50815_GT107_STN_10_A1_11	15.1	1.47
11/08/2015	09:32	PBSR043	50.58763	-4.93985	11	3687	no still	15.7	9.54
11/08/2015	09:39	PBSR043	50.58508	-4.93457	11	3688	PBSR_2FGL50815_GT043_STN_11_A1_1	9.3	0
11/08/2015	09:40	PBSR043	50.58491	-4.93469	11	3689	PBSR_2FGL50815_GT043_STN_11_A1_2	11.1	1.63
11/08/2015	09:40	PBSR043	50.58476	-4.93487	11	3690	PBSR_2FGL50815_GT043_STN_11_A1_3	13.6	1.56
11/08/2015	09:41	PBSR043	50.58461	-4.93497	11	3691	PBSR_2FGL50815_GT043_STN_11_A1_4	13.4	1.04
11/08/2015	09:42	PBSR043	50.58451	-4.93505	11	3692	PBSR_2FGL50815_GT043_STN_11_A1_5	13.2	1.01
11/08/2015	09:42	PBSR043	50.58437	-4.93518	11	3693	PBSR_2FGL50815_GT043_STN_11_A1_6	13.2	1.09
11/08/2015	09:43	PBSR043	50.58425	-4.93531	11	3694	PBSR_2FGL50815_GT043_STN_11_A1_7	13.4	1.35
11/08/2015	09:43	PBSR043	50.58412	-4.93543	11	3695	PBSR_2FGL50815_GT043_STN_11_A1_8	13.3	1.05
11/08/2015	09:44	PBSR043	50.58403	-4.93560	11	3696	PBSR_2FGL50815_GT043_STN_11_A1_9	13.7	1.33
11/08/2015	09:44	PBSR043	50.58389	-4.93586	11	3697	no still	13.8	0.55
11/08/2015	09:49	PBSR046	50.58347	-4.94524		No fix	PBSR_2FGL50815_GT046_STN_12_A1_1	17.8	7.15
11/08/2015	09:56	PBSR046	50.58384	-4.96028	12	3698	PBSR_2FGL50815_GT046_STN_12_A1_2	22.9	0.72
11/08/2015	09:57	PBSR046	50.58385	-4.96008	12	3699	PBSR_2FGL50815_GT046_STN_12_A1_3	23.0	1.42

Date	Time UTC	Station Code	WGS84 Latitude DD.DDDDD	WGS84 Longitude DD.DDDDD	STN number	Hpro fix no.	Still label	Water depth (m)	SOG (knots)
11/08/2015	09:57	PBSR046	50.58385	-4.95984	12	3700	PBSR_2FGL50815_GT046_STN_12_A1_4	22.9	1.47
11/08/2015	09:58	PBSR046	50.58385	-4.95962	12	3701	PBSR_2FGL50815_GT046_STN_12_A1_5	23.0	1.12
11/08/2015	09:58	PBSR046	50.58390	-4.95938	12	3702	PBSR_2FGL50815_GT046_STN_12_A1_6	21.4	1.15
11/08/2015	09:59	PBSR046	50.58390	-4.95908	12	3703	PBSR_2FGL50815_GT046_STN_12_A1_7	20.9	1.12
11/08/2015	10:00	PBSR046	50.58392	-4.95881	12	3704	PBSR_2FGL50815_GT046_STN_12_A1_8	20.5	0.86
11/08/2015	10:01	PBSR046	50.58393	-4.95856	12	3705	PBSR_2FGL50815_GT046_STN_12_A1_9	20.4	1.39
11/08/2015	10:01	PBSR046	50.58391	-4.95832	12	3706	PBSR_2FGL50815_GT046_STN_12_A1_10	20.2	0.62
11/08/2015	10:02	PBSR046	50.58390	-4.95807	12	3707	PBSR_2FGL50815_GT046_STN_12_A1_11	20.0	0.93
11/08/2015	10:05	PBSR100	50.58339	-4.95692	13	3708	PBSR_2FGL50815_GT100_STN_13_A1_1	19.4	5.7
11/08/2015	10:14	PBSR100	50.57175	-4.96329	13	3709	PBSR_2FGL50815_GT100_STN_13_A1_2	22.0	0.94
11/08/2015	10:14	PBSR100	50.57180	-4.96301	13	3710	PBSR_2FGL50815_GT100_STN_13_A1_3	21.8	1.13
11/08/2015	10:15	PBSR100	50.57185	-4.96277	13	3711	PBSR_2FGL50815_GT100_STN_13_A1_4	21.8	1.16
11/08/2015	10:15	PBSR100	50.57188	-4.96251	13	3712	PBSR_2FGL50815_GT100_STN_13_A1_5	22.3	1.25
11/08/2015	10:16	PBSR100	50.57193	-4.96230	13	3713	PBSR_2FGL50815_GT100_STN_13_A1_6	21.6	1.41
11/08/2015	10:16	PBSR100	50.57198	-4.96196	13	3714	PBSR_2FGL50815_GT100_STN_13_A1_7	21.6	1.46
11/08/2015	10:17	PBSR100	50.57198	-4.96165	13	3715	PBSR_2FGL50815_GT100_STN_13_A1_8	21.4	1.29
11/08/2015	10:18	PBSR100	50.57198	-4.96135	13	3716	PBSR_2FGL50815_GT100_STN_13_A1_9	21.2	1.46
11/08/2015	10:18	PBSR100	50.57200	-4.96109	13	3717	PBSR_2FGL50815_GT100_STN_13_A1_10	20.9	1.43
11/08/2015	10:18	PBSR100	50.57201	-4.96092	13	3718	PBSR_2FGL50815_GT100_STN_13_A1_11	21.3	0.95
11/08/2015	10:24	PBSR100	50.57173	-4.96342	13	3719	no still	22.2	0.43

Date	Time UTC	Station Code	WGS84 Latitude DD.DDDDD	WGS84 Longitude DD.DDDDD	STN number	Hpro fix no.	Still label	Water depth (m)	SOG (knots)
11/08/2015	10:25	PBSR100	50.57175	-4.96336	13	3720	PBSR_2FGL50815_GT100_STN_13_A2_1	21.8	0.41
11/08/2015	10:25	PBSR100	50.57177	-4.96322	13	3721	PBSR_2FGL50815_GT100_STN_13_A2_2	22.3	0.85
11/08/2015	10:25	PBSR100	50.57180	-4.96303	13	3722	PBSR_2FGL50815_GT100_STN_13_A2_3	22.3	1.33
11/08/2015	10:26	PBSR100	50.57183	-4.96276	13	3723	PBSR_2FGL50815_GT100_STN_13_A2_4	22.2	1.28
11/08/2015	10:27	PBSR100	50.57188	-4.96251	13	3724	PBSR_2FGL50815_GT100_STN_13_A2_5	22.3	0.92
11/08/2015	10:27	PBSR100	50.57193	-4.96231	13	3725	PBSR_2FGL50815_GT100_STN_13_A2_6	22.1	1.11
11/08/2015	10:28	PBSR100	50.57200	-4.96197	13	3726	PBSR_2FGL50815_GT100_STN_13_A2_7	21.9	1.36
11/08/2015	10:28	PBSR100	50.57201	-4.96158	13	3727	PBSR_2FGL50815_GT100_STN_13_A2_8	21.5	1.56
11/08/2015	10:29	PBSR100	50.57198	-4.96140	13	3728	PBSR_2FGL50815_GT100_STN_13_A2_9	21.3	1.2
11/08/2015	10:29	PBSR100	50.57193	-4.96109	13	3729	PBSR_2FGL50815_GT100_STN_13_A2_10	21.6	1.24
11/08/2015	10:30	PBSR100	50.57191	-4.96089	13	3730	PBSR_2FGL50815_GT100_STN_13_A2_11	21.2	1.2
11/08/2015	10:33	PBSR029	50.57026	-4.95931	14	3731	PBSR_2FGL50815_GT029_STN_14_A1_1	19.3	8.26
11/08/2015	10:37	PBSR029	50.56499	-4.95859	14	3732	PBSR_2FGL50815_GT029_STN_14_A1_2	7.9	0.81
11/08/2015	10:37	PBSR029	50.56501	-4.95883	14	3733	PBSR_2FGL50815_GT029_STN_14_A1_3	9.4	1.31
11/08/2015	10:38	PBSR029	50.56511	-4.95915	14	3734	PBSR_2FGL50815_GT029_STN_14_A1_4	10.3	1.29
11/08/2015	10:39	PBSR029	50.56520	-4.95927	14	3735	PBSR_2FGL50815_GT029_STN_14_A1_5	10.6	0.67
11/08/2015	10:39	PBSR029	50.56530	-4.95953	14	3736	PBSR_2FGL50815_GT029_STN_14_A1_6	11.0	1.06
11/08/2015	10:40	PBSR029	50.56537	-4.95973	14	3737	PBSR_2FGL50815_GT029_STN_14_A1_7	12.1	1
11/08/2015	10:40	PBSR029	50.56547	-4.95993	14	3738	PBSR_2FGL50815_GT029_STN_14_A1_8	12.2	1.34
11/08/2015	10:41	PBSR029	50.56562	-4.96012	14	3739	PBSR_2FGL50815_GT029_STN_14_A1_9	12.7	1.41

Date	Time UTC	Station Code	WGS84 Latitude DD.DDDDD	WGS84 Longitude DD.DDDDD	STN number	Hpro fix no.	Still label	Water depth (m)	SOG (knots)
11/08/2015	10:41	PBSR029	50.56573	-4.96021	14	3740	PBSR_2FGL50815_GT029_STN_14_A1_10	13.8	1.03
11/08/2015	10:42	PBSR029	50.56589	-4.96033	14	3741	PBSR_2FGL50815_GT029_STN_14_A1_11	13.7	1.19
11/08/2015	11:08	PBSR048	50.59213	-5.03433	15	3742	PBSR_2FGL50815_GT048_STN_15_A1_1	39.0	0.33
11/08/2015	11:09	PBSR048	50.59219	-5.03415	15	3743	PBSR_2FGL50815_GT048_STN_15_A1_2	37.9	1.33
11/08/2015	11:09	PBSR048	50.59224	-5.03394	15	3744	PBSR_2FGL50815_GT048_STN_15_A1_3	38.4	0.85
11/08/2015	11:10	PBSR048	50.59229	-5.03382	15	3745	PBSR_2FGL50815_GT048_STN_15_A1_4	38.8	0.58
11/08/2015	11:11	PBSR048	50.59238	-5.03362	15	3746	PBSR_2FGL50815_GT048_STN_15_A1_5	39.0	1.07
11/08/2015	11:11	PBSR048	50.59247	-5.03337	15	3747	PBSR_2FGL50815_GT048_STN_15_A1_6	39.5	1.47
11/08/2015	11:12	PBSR048	50.59255	-5.03315	15	3748	PBSR_2FGL50815_GT048_STN_15_A1_7	38.7	0.77
11/08/2015	11:12	PBSR048	50.59263	-5.03299	15	3749	PBSR_2FGL50815_GT048_STN_15_A1_8	37.6	0.89
11/08/2015	11:13	PBSR048	50.59271	-5.03280	15	3750	PBSR_2FGL50815_GT048_STN_15_A1_9	38.5	1.03
11/08/2015	11:14	PBSR048	50.59278	-5.03262	15	3751	PBSR_2FGL50815_GT048_STN_15_A1_10	39.2	0.41
11/08/2015	11:23	PBSR038	50.59341	-5.02151	16	3752	PBSR_2FGL50815_GT038_STN_16_A1_1	18.6	0.37
11/08/2015	11:24	PBSR038	50.59345	-5.02133	16	3753	PBSR_2FGL50815_GT038_STN_16_A1_2	17.6	1.27
11/08/2015	11:24	PBSR038	50.59343	-5.02092	16	3754	PBSR_2FGL50815_GT038_STN_16_A1_3	18.1	1.54
11/08/2015	11:25	PBSR038	50.59342	-5.02061	16	3755	PBSR_2FGL50815_GT038_STN_16_A1_4	17.3	1.14
11/08/2015	11:26	PBSR038	50.59343	-5.02040	16	3756	PBSR_2FGL50815_GT038_STN_16_A1_5	17.5	1.43
11/08/2015	11:26	PBSR038	50.59341	-5.02010	16	3757	PBSR_2FGL50815_GT038_STN_16_A1_6	21.4	1.39
11/08/2015	11:27	PBSR038	50.59340	-5.01980	16	3758	PBSR_2FGL50815_GT038_STN_16_A1_7	17.4	1.49
11/08/2015	11:27	PBSR038	50.59334	-5.01950	16	3759	PBSR_2FGL50815_GT038_STN_16_A1_8	22.7	1.56

Date	Time UTC	Station Code	WGS84 Latitude DD.DDDDD	WGS84 Longitude DD.DDDDD	STN number	Hpro fix no.	Still label	Water depth (m)	SOG (knots)
11/08/2015	11:28	PBSR038	50.59327	-5.01921	16	3760	PBSR_2FGL50815_GT038_STN_16_A1_9	17.8	1.12
11/08/2015	11:28	PBSR038	50.59323	-5.01898	16	3761	PBSR_2FGL50815_GT038_STN_16_A1_10	22.5	1.25
11/08/2015	11:29	PBSR038	50.59320	-5.01868	16	3762	PBSR_2FGL50815_GT038_STN_16_A1_11	22.8	1.06
11/08/2015	11:32	PBSR047	50.59246	-5.01755	17	no fix	PBSR_2FGL50815_GT047_STN_17_A1_1	30.0	7.23
11/08/2015	11:38	PBSR047	50.58677	-5.02250	17	3763	PBSR_2FGL50815_GT047_STN_17_A1_2	35.3	0.41
11/08/2015	11:38	PBSR047	50.58680	-5.02219	17	3764	PBSR_2FGL50815_GT047_STN_17_A1_3	34.8	1.42
11/08/2015	11:39	PBSR047	50.58691	-5.02193	17	3765	PBSR_2FGL50815_GT047_STN_17_A1_4	35.9	1.04
11/08/2015	11:40	PBSR047	50.58697	-5.02176	17	3766	PBSR_2FGL50815_GT047_STN_17_A1_5	34.9	0.54
11/08/2015	11:40	PBSR047	50.58701	-5.02157	17	3767	PBSR_2FGL50815_GT047_STN_17_A1_6	35.2	1.14
11/08/2015	11:41	PBSR047	50.58703	-5.02140	17	3768	PBSR_2FGL50815_GT047_STN_17_A1_7	34.4	0.63
11/08/2015	11:42	PBSR047	50.58706	-5.02118	17	3769	PBSR_2FGL50815_GT047_STN_17_A1_8	34.7	1.1
11/08/2015	11:42	PBSR047	50.58709	-5.02100	17	3770	PBSR_2FGL50815_GT047_STN_17_A1_9	33.6	0.59
11/08/2015	11:43	PBSR047	50.58710	-5.02082	17	3771	PBSR_2FGL50815_GT047_STN_17_A1_10	32.6	0.5
11/08/2015	11:44	PBSR047	50.58712	-5.02065	17	3772	PBSR_2FGL50815_GT047_STN_17_A1_11	33.7	0.55
11/08/2015	11:47	PBSR069	50.58518	-5.02093	18	3773	PBSR_2FGL50815_GT069_STN_18_A1_1	34.2	10.42
11/08/2015	12:08	PBSR069	50.54466	-5.06738	18	3774	PBSR_2FGL50815_GT069_STN_18_A1_2	24.6	0.54
11/08/2015	12:15	PBSR069	50.54422	-5.06576	18	3775	PBSR_2FGL50815_GT069_STN_18_A1_3	23.8	1.17
11/08/2015	12:16	PBSR069	50.54449	-5.06601	18	3776	PBSR_2FGL50815_GT069_STN_18_A1_4	22.5	1.8
11/08/2015	12:16	PBSR069	50.54462	-5.06637	18	3777	PBSR_2FGL50815_GT069_STN_18_A1_5	24.1	1.9
11/08/2015	12:17	PBSR069	50.54469	-5.06664	18	3778	PBSR_2FGL50815_GT069_STN_18_A1_6	25.3	1.6

Date	Time UTC	Station Code	WGS84 Latitude DD.DDDDD	WGS84 Longitude DD.DDDDD	STN number	Hpro fix no.	Still label	Water depth (m)	SOG (knots)
11/08/2015	12:17	PBSR069	50.54473	-5.06686	18	3779	no still	24.8	1.64
11/08/2015	12:17	PBSR069	50.54477	-5.06704	18	3780	PBSR_2FGL50815_GT069_STN_18_A1_7	22.8	1.04
11/08/2015	12:18	PBSR069	50.54492	-5.06722	18	3781	PBSR_2FGL50815_GT069_STN_18_A1_8	24.1	1.25
11/08/2015	12:18	PBSR069	50.54507	-5.06723	18	3782	PBSR_2FGL50815_GT069_STN_18_A1_9	22.5	1.4
11/08/2015	12:19	PBSR069	50.54522	-5.06719	18	3783	PBSR_2FGL50815_GT069_STN_18_A1_10	20.2	1.42
11/08/2015	12:19	PBSR069	50.54540	-5.06709	18	3784	PBSR_2FGL50815_GT069_STN_18_A1_11	24.0	1.57
11/08/2015	12:20	PBSR069	50.54560	-5.06704	18	3785	PBSR_2FGL50815_GT069_STN_18_A1_12	24.5	1.3
11/08/2015	12:24	PBSR070	50.54219	-5.06489	19	3786	PBSR_2FGL50815_GT070_STN_19_A1_1	24.5	10.05
11/08/2015	12:28	PBSR070	50.54476	-5.05336	19	3787	PBSR_2FGL50815_GT070_STN_19_A1_2	20.9	1.51
11/08/2015	12:29	PBSR070	50.54486	-5.05328	19	3788	PBSR_2FGL50815_GT070_STN_19_A1_3	21.0	1.45
11/08/2015	12:29	PBSR070	50.54501	-5.05319	19	3789	PBSR_2FGL50815_GT070_STN_19_A1_4	21.2	1.27
11/08/2015	12:29	PBSR070	50.54512	-5.05311	19	3790	PBSR_2FGL50815_GT070_STN_19_A1_5	21.5	1.25
11/08/2015	12:30	PBSR070	50.54526	-5.05300	19	3791	PBSR_2FGL50815_GT070_STN_19_A1_6	23.1	1.44
11/08/2015	12:30	PBSR070	50.54541	-5.05291	19	3792	PBSR_2FGL50815_GT070_STN_19_A1_7	22.8	1.35
11/08/2015	12:31	PBSR070	50.54559	-5.05276	19	3793	PBSR_2FGL50815_GT070_STN_19_A1_8	23.1	1.5
11/08/2015	12:31	PBSR070	50.54572	-5.05264	19	3794	PBSR_2FGL50815_GT070_STN_19_A1_9	23.2	1.25
11/08/2015	12:32	PBSR070	50.54588	-5.05252	19	3795	PBSR_2FGL50815_GT070_STN_19_A1_10	23.1	1.43
11/08/2015	12:32	PBSR070	50.54603	-5.05238	19	3796	PBSR_2FGL50815_GT070_STN_19_A1_11	23.0	1.41
11/08/2015	12:36	PBSR031	50.54967	-5.04754	20	3797	PBSR_2FGL50815_GT031_STN_20_A1_1	25.5	12.66
11/08/2015	12:42	PBSR031	50.55291	-5.02455	20	3798	PBSR_2FGL50815_GT031_STN_20_A1_2	14.4	0.55

Date	Time UTC	Station Code	WGS84 Latitude DD.DDDDD	WGS84 Longitude DD.DDDDD	STN number	Hpro fix no.	Still label	Water depth (m)	SOG (knots)
11/08/2015	12:43	PBSR031	50.55289	-5.02429	20	3799	PBSR_2FGL50815_GT031_STN_20_A1_3	14.4	0.63
11/08/2015	12:44	PBSR031	50.55290	-5.02393	20	3800	PBSR_2FGL50815_GT031_STN_20_A1_4	13.1	1.47
11/08/2015	12:44	PBSR031	50.55289	-5.02359	20	3801	PBSR_2FGL50815_GT031_STN_20_A1_5	10.6	1.51
11/08/2015	12:45	PBSR031	50.55281	-5.02317	20	3802	PBSR_2FGL50815_GT031_STN_20_A1_6	15.5	1.21
11/08/2015	12:46	PBSR031	50.55278	-5.02279	20	3803	PBSR_2FGL50815_GT031_STN_20_A1_7	18.0	1.39
11/08/2015	12:47	PBSR031	50.55284	-5.02244	20	3804	PBSR_2FGL50815_GT031_STN_20_A1_8	17.1	1.37
11/08/2015	12:47	PBSR031	50.55289	-5.02227	20	3805	PBSR_2FGL50815_GT031_STN_20_A1_9	15.8	0.84
11/08/2015	12:48	PBSR031	50.55291	-5.02199	20	3806	PBSR_2FGL50815_GT031_STN_20_A1_10	15.6	1.04
11/08/2015	12:48	PBSR031	50.55293	-5.02170	20	3807	PBSR_2FGL50815_GT031_STN_20_A1_11	15.0	1.15
11/08/2015	12:52	PBSR080	50.55420	-5.02082	21	3808	PBSR_2FGL50815_GT080_STN_21_A1_1	19.9	9.16
11/08/2015	13:01	PBSR080	50.57215	-5.02619	21	3809	PBSR_2FGL50815_GT080_STN_21_A1_2	25.9	0.59
11/08/2015	13:02	PBSR080	50.57228	-5.02596	21	3810	PBSR_2FGL50815_GT080_STN_21_A1_3	24.7	1
11/08/2015	13:03	PBSR080	50.57250	-5.02558	21	3811	PBSR_2FGL50815_GT080_STN_21_A1_4	29.5	1.45
11/08/2015	13:03	PBSR080	50.57259	-5.02527	21	3812	PBSR_2FGL50815_GT080_STN_21_A1_5	29.5	1.19
11/08/2015	13:04	PBSR080	50.57259	-5.02496	21	3813	PBSR_2FGL50815_GT080_STN_21_A1_6	28.8	1.1
11/08/2015	13:05	PBSR080	50.57276	-5.02460	21	3814	PBSR_2FGL50815_GT080_STN_21_A1_7	30.3	1.37
11/08/2015	13:05	PBSR080	50.57277	-5.02433	21	3815	PBSR_2FGL50815_GT080_STN_21_A1_8	30.5	0.82
11/08/2015	13:06	PBSR080	50.57278	-5.02413	21	3816	PBSR_2FGL50815_GT080_STN_21_A1_9	30.5	1
11/08/2015	13:06	PBSR080	50.57280	-5.02390	21	3817	PBSR_2FGL50815_GT080_STN_21_A1_10	30.7	1.14
11/08/2015	13:07	PBSR080	50.57282	-5.02361	21	3818	PBSR_2FGL50815_GT080_STN_21_A1_11	31.0	1.22

Date	Time UTC	Station Code	WGS84 Latitude DD.DDDDD	WGS84 Longitude DD.DDDDD	STN number	Hpro fix no.	Still label	Water depth (m)	SOG (knots)
11/08/2015	13:07	PBSR080	50.57283	-5.02337	21	3819	PBSR_2FGL50815_GT080_STN_21_A1_12	30.8	1.04
11/08/2015	13:08	PBSR080	50.57284	-5.02304	21	3820	PBSR_2FGL50815_GT080_STN_21_A1_13	30.8	1.03
11/08/2015	13:13	PBSR092	50.56814	-5.01014	22	3821	PBSR_2FGL50815_GT092_STN_22_A1_1	27.5	11.21
11/08/2015	13:20	PBSR092	50.56032	-4.99291	22	3822	PBSR_2FGL50815_GT092_STN_22_A1_2	25.0	0.79
11/08/2015	13:21	PBSR092	50.56036	-4.99248	22	3823	PBSR_2FGL50815_GT092_STN_22_A1_3	23.7	1.03
11/08/2015	13:21	PBSR092	50.56042	-4.99226	22	3824	PBSR_2FGL50815_GT092_STN_22_A1_4	22.9	0.86
11/08/2015	13:22	PBSR092	50.56047	-4.99212	22	3825	PBSR_2FGL50815_GT092_STN_22_A1_5	24.2	1.01
11/08/2015	13:23	PBSR092	50.56064	-4.99197	22	3826	PBSR_2FGL50815_GT092_STN_22_A1_6	22.7	0.88
11/08/2015	13:23	PBSR092	50.56071	-4.99179	22	3827	PBSR_2FGL50815_GT092_STN_22_A1_7	21.5	1.11
11/08/2015	13:24	PBSR092	50.56078	-4.99164	22	3828	PBSR_2FGL50815_GT092_STN_22_A1_8	20.8	0.74
11/08/2015	13:25	PBSR092	50.56089	-4.99146	22	3829	PBSR_2FGL50815_GT092_STN_22_A1_9	20.0	1.39
11/08/2015	13:25	PBSR092	50.56097	-4.99129	22	3830	PBSR_2FGL50815_GT092_STN_22_A1_10	19.0	1.24
11/08/2015	13:26	PBSR092	50.56106	-4.99103	22	3831	PBSR_2FGL50815_GT092_STN_22_A1_11	17.3	1.3
11/08/2015	13:28	PBSR030	50.56050	-4.98878	23	no fix	PBSR_2FGL50815_GT030_STN_23_A1_1	20.6	14.23
11/08/2015	13:34	PBSR030	50.55393	-4.98190	23	3832	PBSR_2FGL50815_GT030_STN_23_A1_2	17.1	0.79
11/08/2015	13:35	PBSR030	50.55408	-4.98168	23	3833	PBSR_2FGL50815_GT030_STN_23_A1_3	17.5	1.26
11/08/2015	13:36	PBSR030	50.55428	-4.98157	23	3834	PBSR_2FGL50815_GT030_STN_23_A1_4	17.2	1.03
11/08/2015	13:36	PBSR030	50.55429	-4.98148	23	3835	PBSR_2FGL50815_GT030_STN_23_A1_5	17.2	0.36
11/08/2015	13:37	PBSR030	50.55437	-4.98127	23	3836	PBSR_2FGL50815_GT030_STN_23_A1_6	17.1	1.31
11/08/2015	13:37	PBSR030	50.55450	-4.98116	23	3837	PBSR_2FGL50815_GT030_STN_23_A1_7	16.5	1.28

Date	Time UTC	Station Code	WGS84 Latitude DD.DDDDD	WGS84 Longitude DD.DDDDD	STN number	Hpro fix no.	Still label	Water depth (m)	SOG (knots)
11/08/2015	13:38	PBSR030	50.55467	-4.98108	23	3838	PBSR_2FGL50815_GT030_STN_23_A1_8	17.2	1.25
11/08/2015	13:39	PBSR030	50.55480	-4.98096	23	3839	PBSR_2FGL50815_GT030_STN_23_A1_9	15.8	1.19
11/08/2015	13:39	PBSR030	50.55491	-4.98078	23	3840	PBSR_2FGL50815_GT030_STN_23_A1_10	16.0	1.13
11/08/2015	13:40	PBSR030	50.55505	-4.98062	23	3841	PBSR_2FGL50815_GT030_STN_23_A1_11	17.2	1.08
11/08/2015	13:49	PBSR094	50.57139	-4.98571	24	3842	PBSR_2FGL50815_GT094_STN_24_A1_1	13.8	0.63
11/08/2015	13:49	PBSR094	50.57142	-4.98551	24	3843	PBSR_2FGL50815_GT094_STN_24_A1_2	14.2	0.45
11/08/2015	13:50	PBSR094	50.57142	-4.98537	24	3844	PBSR_2FGL50815_GT094_STN_24_A1_3	15.1	0.66
11/08/2015	13:51	PBSR094	50.57139	-4.98504	24	3845	PBSR_2FGL50815_GT094_STN_24_A1_4	21.2	0.79
11/08/2015	13:52	PBSR094	50.57136	-4.98486	24	3846	PBSR_2FGL50815_GT094_STN_24_A1_5	23.3	0.69
11/08/2015	13:52	PBSR094	50.57134	-4.98467	24	3847	PBSR_2FGL50815_GT094_STN_24_A1_6	24.9	0.69
11/08/2015	13:53	PBSR094	50.57132	-4.98447	24	3848	PBSR_2FGL50815_GT094_STN_24_A1_7	25.5	0.69
11/08/2015	13:54	PBSR094	50.57129	-4.98429	24	3849	PBSR_2FGL50815_GT094_STN_24_A1_8	25.2	0.78
11/08/2015	13:54	PBSR094	50.57127	-4.98410	24	3850	PBSR_2FGL50815_GT094_STN_24_A1_9	25.5	0.69
11/08/2015	13:55	PBSR094	50.57124	-4.98393	24	3851	PBSR_2FGL50815_GT094_STN_24_A1_10	25.5	0.67
11/08/2015	13:55	PBSR094	50.57122	-4.98383	24	no fix	PBSR_2FGL50815_GT094_STN_24_A1_11	25.6	0.59
11/08/2015	14:01	PBSR097	50.56897	-4.97290	25	3852	PBSR_2FGL50815_GT097_STN_25_A1_1	23.0	5.08
11/08/2015	14:04	PBSR097	50.56914	-4.97230	25	3853	PBSR_2FGL50815_GT097_STN_25_A1_2	22.6	1.51
11/08/2015	14:05	PBSR097	50.56923	-4.97155	25	3854	PBSR_2FGL50815_GT097_STN_25_A1_3	23.3	0.84
11/08/2015	14:06	PBSR097	50.56918	-4.97140	25	3855	PBSR_2FGL50815_GT097_STN_25_A1_4	22.5	0.38
11/08/2015	14:07	PBSR097	50.56910	-4.97127	25	3856	PBSR_2FGL50815_GT097_STN_25_A1_5	22.1	0.32

Date	Time UTC	Station Code	WGS84 Latitude DD.DDDDD	WGS84 Longitude DD.DDDDD	STN number	Hpro fix no.	Still label	Water depth (m)	SOG (knots)
11/08/2015	14:08	PBSR097	50.56900	-4.97113	25	3857	PBSR_2FGL50815_GT097_STN_25_A1_6	22.3	1.27
11/08/2015	14:08	PBSR097	50.56895	-4.97094	25	3858	PBSR_2FGL50815_GT097_STN_25_A1_7	22.5	0.76
11/08/2015	14:08	Erroneous fix	50.56893	-4.97088	25	3858	no still	21.9	0.66
11/08/2015	14:09	PBSR097	50.56884	-4.97080	25	3860	PBSR_2FGL50815_GT097_STN_25_A1_8	21.3	0.46
11/08/2015	14:10	PBSR097	50.56878	-4.97072	25	3861	PBSR_2FGL50815_GT097_STN_25_A1_9	21.1	0.29
11/08/2015	14:11	PBSR097	50.56868	-4.97055	25	3862	PBSR_2FGL50815_GT097_STN_25_A1_10	22.0	1.42
11/08/2015	14:11	PBSR097	50.56860	-4.97039	25	3863	PBSR_2FGL50815_GT097_STN_25_A1_11	21.8	0.46
11/08/2015		**Lines on Padstow Harbour**							
12/08/2015	05:25	Ropes off Padstow							
12/08/2015	06:11								
12/08/2015	06:11	PBSR032	50.5399704	-5.03491259	26	3864	PBSR_2FGL50815_GT032_STN_26_A1_1	12.7	0
12/08/2015	06:13	PBSR032	50.5403557	-5.03474522	26	3865	PBSR_2FGL50815_GT032_STN_26_A1_2	12.7	0.23
12/08/2015	06:14	PBSR032	50.5402107	-5.03482342	26	3866	PBSR_2FGL50815_GT032_STN_26_A1_3	12.2	1.19
12/08/2015	06:15	PBSR032	50.5400352	-5.03492975	26	3867	PBSR_2FGL50815_GT032_STN_26_A1_4	13.3	1.07
12/08/2015	06:15	PBSR032	50.5399246	-5.03500986	26	3868	PBSR_2FGL50815_GT032_STN_26_A1_5	13.0	0.65
12/08/2015	06:16	PBSR032	50.5397987	-5.03508902	26	3869	PBSR_2FGL50815_GT032_STN_26_A1_6	13.1	1.4
12/08/2015	06:16	PBSR032	50.5396729	-5.03518343	26	3870	PBSR_2FGL50815_GT032_STN_26_A1_7	12.1	1.42
12/08/2015	06:16	PBSR032	50.5395699	-5.03527784	26	3871	PBSR_2FGL50815_GT032_STN_26_A1_8	12.8	1.38
12/08/2015	06:17	PBSR032	50.5394478	-5.03537178	26	3872	PBSR_2FGL50815_GT032_STN_26_A1_9	13.3	1.11

Date	Time UTC	Station Code	WGS84 Latitude DD.DDDDD	WGS84 Longitude DD.DDDDD	STN number	Hpro fix no.	Still label	Water depth (m)	SOG (knots)
12/08/2015	06:17	PBSR032	50.5393143	-5.03547955	26	3873	PBSR_2FGL50815_GT032_STN_26_A1_10	13.2	1.04
12/08/2015	06:18	PBSR032	50.5391693	-5.03560066	26	3874	PBSR_2FGL50815_GT032_STN_26_A1_11	12.8	1.03
12/08/2015	06:21	PBSR033	50.5371666	-5.03680277	27	3875	PBSR_2FGL50815_GT033_STN_27_A1_1	15.6	7.63
12/08/2015	06:26	PBSR033	50.5288124	-5.03879261	27	3876	PBSR_2FGL50815_GT033_STN_27_A1_2	16.1	1.33
12/08/2015	06:26	PBSR033	50.5286865	-5.03880119	27	3877	PBSR_2FGL50815_GT033_STN_27_A1_3	15.8	1.41
12/08/2015	06:27	PBSR033	50.5285339	-5.03882265	27	3878	PBSR_2FGL50815_GT033_STN_27_A1_4	17.4	1.46
12/08/2015	06:27	PBSR033	50.5283432	-5.03881454	27	3879	PBSR_2FGL50815_GT033_STN_27_A1_5	16.8	1.62
12/08/2015	06:27	PBSR033	50.528244	-5.03882456	27	3880	PBSR_2FGL50815_GT033_STN_27_A1_6	16.4	1.08
12/08/2015	06:28	PBSR033	50.5281372	-5.03881979	27	3881	PBSR_2FGL50815_GT033_STN_27_A1_7	16.9	1.35
12/08/2015	06:28	PBSR033	50.5279922	-5.03881407	27	3882	PBSR_2FGL50815_GT033_STN_27_A1_8	16.7	1.54
12/08/2015	06:29	PBSR033	50.527874	-5.03882265	27	3883	PBSR_2FGL50815_GT033_STN_27_A1_9	17.4	1.43
12/08/2015	06:29	PBSR033	50.5277328	-5.03883076	27	3884	PBSR_2FGL50815_GT033_STN_27_A1_10	15.5	1.49
12/08/2015	06:29	PBSR033	50.527607	-5.03883934	27	3885	PBSR_2FGL50815_GT033_STN_27_A1_11	16.1	1.39
12/08/2015	06:32	PBSR060	50.5254288	-5.03907013	28	3886	PBSR_2FGL50815_GT060_STN_28_A1_1	15.6	7.94
12/08/2015	06:42	PBSR060	50.506382	-5.04999208	28	3887	PBSR_2FGL50815_GT060_STN_28_A1_2	19.9	1.5
12/08/2015	06:43	PBSR060	50.5062714	-5.05014372	28	3888	PBSR_2FGL50815_GT060_STN_28_A1_3	20.3	1.16
12/08/2015	06:43	PBSR060	50.5061646	-5.05028057	28	3889	PBSR_2FGL50815_GT060_STN_28_A1_4	19.9	1.78
12/08/2015	06:43	PBSR060	50.5060577	-5.05044556	28	3890	PBSR_2FGL50815_GT060_STN_28_A1_5	18.2	1.37
12/08/2015	06:44	PBSR060	50.5059738	-5.05058336	28	3891	PBSR_2FGL50815_GT060_STN_28_A1_6	19.9	0.94
12/08/2015	06:44	PBSR060	50.5058403	-5.05076218	28	3892	PBSR_2FGL50815_GT060_STN_28_A1_7	19.7	1.34

Date	Time UTC	Station Code	WGS84 Latitude DD.DDDDD	WGS84 Longitude DD.DDDDD	STN number	Hpro fix no.	Still label	Water depth (m)	SOG (knots)
12/08/2015	06:45	PBSR060	50.5057487	-5.05091381	28	3893	PBSR_2FGL50815_GT060_STN_28_A1_8	19.8	1.13
12/08/2015	06:45	PBSR060	50.5056725	-5.05103779	28	3894	PBSR_2FGL50815_GT060_STN_28_A1_9	19.8	0.96
12/08/2015	06:45	PBSR060	50.5056	-5.05117559	28	3895	PBSR_2FGL50815_GT060_STN_28_A1_10	20.1	0.97
12/08/2015	06:46	PBSR060	50.5055199	-5.05132818	28	3896	PBSR_2FGL50815_GT060_STN_28_A1_11	19.8	0.94
12/08/2015	06:49	PBSR044	50.5045204	-5.05226088	29	3897	PBSR_2FGL50815_GT044_STN_29_A1_1	19.6	5.04
12/08/2015	06:51	PBSR044	50.5025787	-5.05371904	29	3898	PBSR_2FGL50815_GT044_STN_29_A1_2	19.7	1.16
12/08/2015	06:52	PBSR044	50.5024986	-5.05387115	29	3899	PBSR_2FGL50815_GT044_STN_29_A1_3	21.3	0.94
12/08/2015	06:52	PBSR044	50.5023384	-5.05409098	29	3900	PBSR_2FGL50815_GT044_STN_29_A1_4	20.4	1.82
12/08/2015	06:53	PBSR044	50.5021248	-5.05422306	29	3901	PBSR_2FGL50815_GT044_STN_29_A1_5	20.1	2.02
12/08/2015	06:53	PBSR044	50.5019073	-5.0542984	29	3902	PBSR_2FGL50815_GT044_STN_29_A1_6	20.4	1.64
12/08/2015	06:53	PBSR044	50.5017776	-5.05439186	29	3903	PBSR_2FGL50815_GT044_STN_29_A1_7	19.6	1.31
12/08/2015	06:54	PBSR044	50.501667	-5.05451441	29	3904	PBSR_2FGL50815_GT044_STN_29_A1_8	19.0	1.31
12/08/2015	06:54	PBSR044	50.5015373	-5.05470657	29	3905	PBSR_2FGL50815_GT044_STN_29_A1_9	18.7	1.24
12/08/2015	06:55	PBSR044	50.5014496	-5.05487299	29	3906	PBSR_2FGL50815_GT044_STN_29_A1_10	19.4	1.08
12/08/2015	06:55	PBSR044	50.5013542	-5.05506706	29	3907	PBSR_2FGL50815_GT044_STN_29_A1_11	18.6	1.12
12/08/2015	06:57	PBSR034	50.4996376	-5.05652046	30	3908	PBSR_2FGL50815_GT034_STN_30_A1_1	17.6	8.96
12/08/2015	07:06	PBSR034	50.4945221	-5.05049658	30	3909	PBSR_2FGL50815_GT034_STN_30_A1_2	15.5	0.35
12/08/2015	07:07	PBSR034	50.4944534	-5.05067778	30	3910	PBSR_2FGL50815_GT034_STN_30_A1_3	16.3	0.72
12/08/2015	07:07	PBSR034	50.4943771	-5.05083036	30	3911	PBSR_2FGL50815_GT034_STN_30_A1_4	15.0	0.75
12/08/2015	07:08	PBSR034	50.4943161	-5.05098248	30	3912	PBSR_2FGL50815_GT034_STN_30_A1_5	14.2	0.96

Date	Time UTC	Station Code	WGS84 Latitude DD.DDDDD	WGS84 Longitude DD.DDDDD	STN number	Hpro fix no.	Still label	Water depth (m)	SOG (knots)
12/08/2015	07:08	PBSR034	50.4942093	-5.05110502	30	3913	PBSR_2FGL50815_GT034_STN_30_A1_6	14.6	0.89
12/08/2015	07:09	PBSR034	50.4940987	-5.05124187	30	3914	PBSR_2FGL50815_GT034_STN_30_A1_7	14.6	0.88
12/08/2015	07:09	PBSR034	50.4940262	-5.05135155	30	3915	PBSR_2FGL50815_GT034_STN_30_A1_8	14.8	0.89
12/08/2015	07:10	PBSR034	50.4939194	-5.05147505	30	3916	PBSR_2FGL50815_GT034_STN_30_A1_9	15.2	0.88
12/08/2015	07:11	PBSR034	50.4938049	-5.05166817	30	3917	PBSR_2FGL50815_GT034_STN_30_A1_10	15.0	0.87
12/08/2015	07:11	PBSR034	50.4937057	-5.05180454	30	3918	PBSR_2FGL50815_GT034_STN_30_A1_11	16.3	0.83
12/08/2015	07:12	PBSR034	50.4936104	-5.05194235	30	3919	PBSR_2FGL50815_GT034_STN_30_A1_12	17.3	0.77
12/08/2015	07:15	PBSR039	50.4928246	-5.05395985	31	3920	PBSR_2FGL50815_GT039_STN_31_A1_1	17.7	2.17
12/08/2015	07:40	PBSR039	50.4937134	-5.06060553	31	3921	PBSR_2FGL50815_GT039_STN_31_A1_2	20.6	0.92
12/08/2015	07:41	PBSR039	50.4936104	-5.06074286	31	3922	PBSR_2FGL50815_GT039_STN_31_A1_3	20.0	0.98
12/08/2015	07:41	PBSR039	50.4934731	-5.06089258	31	3923	PBSR_2FGL50815_GT039_STN_31_A1_4	14.8	1.14
12/08/2015	07:42	PBSR039	50.4933052	-5.06111097	31	3924	PBSR_2FGL50815_GT039_STN_31_A1_5	14.2	1.17
12/08/2015	07:42	PBSR039	50.4931564	-5.06123209	31	3925	PBSR_2FGL50815_GT039_STN_31_A1_6	14.3	1.26
12/08/2015	07:43	PBSR039	50.4930267	-5.06138134	31	3926	PBSR_2FGL50815_GT039_STN_31_A1_7	16.1	1.19
12/08/2015	07:43	PBSR039	50.4929085	-5.06150436	31	3927	PBSR_2FGL50815_GT039_STN_31_A1_8	19.0	1.2
12/08/2015	07:44	PBSR039	50.4927444	-5.06166649	31	3928	PBSR_2FGL50815_GT039_STN_31_A1_9	21.0	1.16
12/08/2015	07:44	PBSR039	50.4926186	-5.06178808	31	3929	PBSR_2FGL50815_GT039_STN_31_A1_10	21.2	1.17
12/08/2015	07:45	PBSR039	50.4925003	-5.06192493	31	3930	PBSR_2FGL50815_GT039_STN_31_A1_11	22.4	1.23
12/08/2015	07:48	PBSR010	50.4914513	-5.06260061	32	3931	PBSR_2FGL50815_GT010_STN_32_A1_1	23.5	3.59
12/08/2015	07:52	PBSR010	50.4879112	-5.05752325	32	3932	PBSR_2FGL50815_GT010_STN_32_A1_2	21.1	0.56

Date	Time UTC	Station Code	WGS84 Latitude DD.DDDDD	WGS84 Longitude DD.DDDDD	STN number	Hpro fix no.	Still label	Water depth (m)	SOG (knots)
12/08/2015	07:53	PBSR010	50.4878197	-5.05766106	32	3933	PBSR_2FGL50815_GT010_STN_32_A1_3	21.4	0.7
12/08/2015	07:53	PBSR010	50.487709	-5.05779791	32	3934	PBSR_2FGL50815_GT010_STN_32_A1_4	21.1	0.81
12/08/2015	07:54	PBSR010	50.4876289	-5.05790758	32	3935	PBSR_2FGL50815_GT010_STN_32_A1_5	20.0	0.79
12/08/2015	07:55	PBSR010	50.4875259	-5.05804443	32	3936	PBSR_2FGL50815_GT010_STN_32_A1_6	20.1	0.86
12/08/2015	07:55	PBSR010	50.4874153	-5.05818129	32	3937	PBSR_2FGL50815_GT010_STN_32_A1_7	21.1	0.91
12/08/2015	07:56	PBSR010	50.4873161	-5.05829	32	3938	PBSR_2FGL50815_GT010_STN_32_A1_8	21.9	0.91
12/08/2015	07:56	PBSR010	50.4872055	-5.05844069	32	3939	PBSR_2FGL50815_GT010_STN_32_A1_9	23.3	0.82
12/08/2015	07:57	PBSR010	50.4871063	-5.05856371	32	3940	PBSR_2FGL50815_GT010_STN_32_A1_10	23.5	0.84
12/08/2015	07:58	PBSR010	50.4869919	-5.05871439	32	3941	PBSR_2FGL50815_GT010_STN_32_A1_11	22.7	0.85
12/08/2015	07:58	PBSR010	50.4868698	-5.05883646	32	3942	PBSR_2FGL50815_GT010_STN_32_A1_12	24.0	0.78
12/08/2015	08:00	PBSR035	50.4857674	-5.05908489	33	3943	PBSR_2FGL50815_GT035_STN_33_A1_1	24.5	6.23
12/08/2015	08:18	PBSR035	50.45924	-5.05091715	33	3944	PBSR_2FGL50815_GT035_STN_33_A1_2	15.3	0.67
12/08/2015	08:19	PBSR035	50.4591255	-5.05108166	33	3945	PBSR_2FGL50815_GT035_STN_33_A1_3	15.3	0.87
12/08/2015	08:19	PBSR035	50.4590111	-5.05124617	33	3946	PBSR_2FGL50815_GT035_STN_33_A1_4	15.8	0.94
12/08/2015	08:20	PBSR035	50.4588394	-5.05128098	33	3947	PBSR_2FGL50815_GT035_STN_33_A1_5	15.9	1.1
12/08/2015	08:21	PBSR035	50.4586983	-5.051332	33	3948	PBSR_2FGL50815_GT035_STN_33_A1_6	15.4	0.97
12/08/2015	08:21	PBSR035	50.4585724	-5.05136871	33	3949	PBSR_2FGL50815_GT035_STN_33_A1_7	15.7	0.75
12/08/2015	08:22	PBSR035	50.4584465	-5.05146217	33	3950	PBSR_2FGL50815_GT035_STN_33_A1_8	15.8	0.66
12/08/2015	08:23	PBSR035	50.4583321	-5.05157042	33	3951	PBSR_2FGL50815_GT035_STN_33_A1_9	16.9	0.61
12/08/2015	08:24	PBSR035	50.4581947	-5.05171967	33	3952	PBSR_2FGL50815_GT035_STN_33_A1_10	17.0	0.75

Date	Time UTC	Station Code	WGS84 Latitude DD.DDDDD	WGS84 Longitude DD.DDDDD	STN number	Hpro fix no.	Still label	Water depth (m)	SOG (knots)
12/08/2015	08:24	PBSR035	50.4580956	-5.05184269	33	3953	PBSR_2FGL50815_GT035_STN_33_A1_11	15.6	0.69

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