

Expedition Plan Darwen Sub Aqua Club 0047 Newfoundland

24th May-21st June 2017



**Application for BEGS Grant made on behalf of Darwen Branch
0047**

Expedition Leader: Keith Dearden

Introduction

Darwen Sub Aqua Club is organising an expedition to Newfoundland to mark the club's 60th anniversary. This is a follow on from when, as part of the club's 50th anniversary, the club organised an expedition to the Falkland Islands.

Newfoundland is an Island off the east coast of Canada, lying in the entrance to the Gulf of St Lawrence. The area we are intending to dive is in Conception Bay, which is the first bay to the west of St John's.

We are intending to be a fully self-sufficient trip. This means taking boats, compressors, gas and all the support equipment that that requires, as well as the usual dive equipment.

There will be 2 groups. Group 1 from 24th May to 7th June and Group 2 from 7th June to 20th June. This enables the fixed costs of shipping to be spread over a larger group.

The divers are from 5 different clubs, and so this provides an opportunity to share Darwen club's experience of expedition diving. A follow-on presentation will also be arranged to share the experience with North West Region members who are working towards First Class Diver.

Logistics

The only way to get all the gear over to Newfoundland is in a shipping container. Loading will be done over a few days at Walsh & Dearden in Darwen. It will then be taken to Liverpool and loaded onto a vessel heading to Halifax. It will then be transferred to a ship unloading in St John's. Holden's Transport will then pick it up from the quay side in St John's and take it to their site. It will then be craned off the trailer onto the floor. We will then meet it and unload. At the end of the trip the operation is reversed.



Container from Falkland Island trip

We cannot hire vehicles with tow bars, so Holden's Haulage will launch for us. But we are hiring two pickups.

We then de-camp from the container and set up base in The Royal Newfoundland Yacht Club. This will be our base of operations for the duration of the stay.

We are staying in 1 large town house on the outskirts of St John's.

Key addresses & contact details are in Appendix 5.

Timeline

Date	Activity	Comments
08-Apr	Load container at Walsh and Dearden, Darwen	Container
19-Apr	Closing for cargo, Liverpool	
22-Apr	ETD from Liverpool	
30-Apr	ETA Halifax	
12-May	ETD Halifax	
14-May	ETA St Johns	
23-May	Travel to Gatwick & stay overnight (optional)	Group 1
24-May	Flight WS25 departs Gatwick North terminal 09:30, arrives St Johns 11.47	
	Collect hire cars, drop bags off at house. Proceed to the container and unload. Tranship the boats and the gear to the yacht club. Launch and set up the filling station and dive gear.	
25 May - 5 June	Diving. First couple of days will be easy checkout dives, assessing conditions and seeking local knowledge. Day 3 will deploy shot lines on wrecks	
06-Jun	Load Group 1 gear in container for return journey	
07-Jun	Flight WS25 departs Gatwick North terminal 09:30, arrives St Johns 11.47.	Group 2
	Debrief and handover	All
	Unload group 2 gear and set up at yacht club	Group 2
	Depart St Johns 23:00, arrive LGW 08:24 on 8th	Group 1
8 - 18 June	Diving.	Group 2

19-Jun	Recover boats, disassemble filling station, pack gear in to container	
20-Jun	Depart St Johns 23:00, arrive LGW 08:24 on 21st	
21 June – late July	Container transported back to Darwen (detailed schedule not yet available)	Container
TBD	Unload container	All

The Diving

Main Dive Sites

Our main dive sites will be the 4 wrecks around Bell Island.



SS PLM-27 A cargo steam ship torpedoed at the end of 1942. 15-30m, the shallowest of the four. <http://www.wrecksandreefs.com/plm27.htm>

SS Saganaga A cargo steam ship torpedoed Sept 1942. 18-33m.
<http://www.wrecksandreefs.com/saganaga.htm>

SS Lord Strathcona A cargo steam ship torpedoed Sept 1942. 23-40m
http://www.wrecksandreefs.com/l_strahc.htm

SS Rose Castle. A cargo steam ship torpedoed Nov 1942. This is the deepest we'll dive 30-45m. The temperature at the sea bed and in the holds 0C.
<http://www.wrecksandreefs.com/rose.htm>

Other dive sites

We also intend to try to dive an old whaling station that is to the south of the bay and apparently, there are still a lot of whale bones that you can dive on.

There is also plenty of scope for other diving around the island with walls around most of it and some caves at the north-east corner of the island. There are also two smaller islands between the harbour and Bell Island for us to explore.

There is also the possibility that we will get to dive near/under an iceberg as they are known to still float into the bay right up until June.

Bad weather backup plan

Bell Island is 5nm due north from the harbour. With the entrance to Conception Bay being due north, the Island shelters us from the North Atlantic. So we as long as we can sail to the Island diving will be had. We are in touch with the local dive centre and will assess local anomalies when we get there. With the short transit time and a guaranteed lea side we'll be very unlucky not to dive.

Costs

The cost per diver will be approx. £2000 p/p. This pays for the container, flights, accommodation and pickup hire. All costs will be shared equally. Once you commit to join the expedition, it is your responsibility to pay in full if you cancel and no replacement is found. See appendix 1 for detailed cost breakdown.

Participants

Group	Name	BSAC Role	Club	Diver grade	Instructor grade	Boat Handler	Diver Cox	Radio op	First Aid	AED	ADP	Gas blend	Chartwork and positioning	BSAC Membership No.
Group 1	Keith Dearden	Secretary/Expedition Officer	Darwen	AD		X	X	X				X	X	A747077
	Jill Dean	Treasurer	Darwen/Trafford	AD	ADI	X	X	X	X		X	X		A286623
	Martyn Dean	Boat Officer	Darwen/Trafford	AD		X	X				X	X		A634585
	Keith Adam		Darwen	AD										A805723
	Maria Harwood	Diving Officer	Chorley	FCD	NI			X	X	X	X	X	X	A178771
	David Wakelam	NDC ITG Lead	Cardigan	FCD	NI			X	X		X		X	A061302
	Margret Driscoll	NI Chief Examiner	Cardigan	FCD	NI			X	X		X		X	A173288
Group 2	Ian Dearden	Diving Officer	Darwen	AD		X		X				X		A112995
	Patricia Booth	Training Officer	Darwen	AD	AAI	X			X	X	X		X	A747078
	Duncan Read		Darwen	FCD	AI	X	X	X	X	X		X	X	A626039
	Jan Grzywna		Darwen	DL						X	X			A817768
	Nell Turton		Kendal and Lakes	AD										A657550
	Mona-Lisa Andersson	Non Diver	Darwen											

Accommodation

We have hired a well-equipped house in St John's.

<https://www.airbnb.co.uk/rooms/995503>. There is a range of shops and restaurants nearby and so the intention is to do a mix of self-catering and dining out. Each group will sort out a kitty for food and drink, and catering duties will be shared.

Prerequisites

Be a BSAC member, Dive leader and above, with over 100 UK dives. Be capable of launching a DSMB unaided. Feel comfortable diving to deeper than 35meters on air.

Training opportunities

There are opportunities to deliver some additional training as part of the expedition:

- An AED workshop is being run at Darwen club in advance of the expedition.
- The team has a number of experienced boat handlers, but some do not have BSAC Diver Cox'n Qualification, instead they hold RYA powerboat qualifications, so there is the opportunity to conduct the assessment if time permits.
- During the trip there is the opportunity to run both Gas Blender and Compressor courses.

Non Diving Partners

Non diving partners are welcome and any help they can offer to make the trip run smoothly is gratefully accepted.

Equipment provided by the expedition

Category	Expedition Equipment
Boats	2 fully equipped RIBs, one of which has side-scan. Both have GMDSS radios, echo sounders, GPS & all expected safety kit
	25 jerry cans for fuel
	Shotlines, buoys, weights
First aid	2 Oxygen Admin kits, 2 first aid kits, 1 AED,
Gas	3 compressors with long hoses, 6 Js of oxygen, gas blending kit



Some of the equipment taken on previous expedition to Norway

Personal responsibilities

All members of the expedition are responsible for:

- Personal diving equipment:
 - Suitable for cold water diving (e.g. ensure drysuits are in good condition, adequate insulating layers, dry gloves are recommended)
 - Twinsets and stage cylinders for decompression
 - CCR divers to arrange spares and Sofnalime
 - Protective clothing for on the boat
 - Basic spares (there is a dive shop in St John's)
- Insurance: please provide details of your travel and dive insurance to Keith in advance of the expedition;

- ETA: Canada requires all air travellers from the UK to have an Electronic Travel Authorisation <http://www.cic.gc.ca/english/visit/eta.asp> (& a valid passport)
- Next of kin details: please provide to Keith, plus details of any medical conditions for emergency services (in a sealed envelope if appropriate)

Responsibilities

Role	Overall expedition	Group 1	Group 2
Expedition management	Keith D	Keith D	Ian
Accounts	Martyn		Martyn
First aid	Duncan	David	Duncan
Expedition report	Maria		

The Expedition Leader will have overall responsibility for safety. A dive manager will be responsible each day for diving operations, record keeping, safety, oxygen and emergency equipment, weather forecasts and buddy pairings. They will be able to delegate some of these functions to deputies.

It is the responsibility of each individual diver to analyse their gas mix before embarking on their dive.

This is a capable group, and roles may rotate on a daily basis so that all members of the team are involved. All members of the team including the leader will be actively involved in making sure that help is offered to each other as and when required

Preparatory Activities

Key Activity	When	Who
Arrange storage for container in St Johns	2016	Keith
Arrange launching / mooring with RNYC	2016	Keith
Advertise expedition & finalise group	2016	Keith & Maria
Arrange boat towing & launching in St Johns	2016	Keith
Book house in St Johns	2016	Keith
Arrange container shipping	Jan-17	Keith
Book flights	Feb-17	Keith
Book hire vehicles	Feb-17	Martyn
Ensure boat insurance covers Newfoundland	Mar-17	Martyn
Boat & exped equipment maintenance checks	Mar-17	Martyn

AED workshop	Feb-17	Pat
Boat & exped equipment ready for loading	Apr-17	Martyn
Personal equipment ready for loading	Apr-17	All
First aid equipment ready for loading	Apr-17	Duncan

Dive Safety

All divers are expected to adhere to the practices outlined in the BSAC publication "Safe Diving Practices". A risk assessment is detailed in appendix 2. This is based on BSAC's generic open water risk assessment with additions as deemed appropriate for this expedition. If any expedition participants identify additional hazards please bring this to the notice of the Dive Manager who will take steps to reduce the risk as appropriate

The diver recall signal will be continuous revving of dive boat engine and/or banging on a metal pipe underwater. This will be done in groups of 3 with a short space between them to help distinguish from incidental engine noise or banging. If an SMB is in use, by the diver to be recalled, a clip/carabine will be dropped down the line. We will be taking therapeutic oxygen and a comprehensive first aid kit together with an AED.

Just prior to the trip the club is running an AED course so that more of the trip members are qualified.

Dive Management

The dives will be managed by Keith Dearden and Ian Dearden, or others by agreement. The RHIBs will do their utmost to keep visual contact and will always be in radio contact with each other. Ch 8 will be used during radio communications. A dual watch will be kept on Ch 16 and Ch8. An assistant dive manager (usually on the other RHIB) will be active when the DM is diving

Weather and Tidal Information

The tidal range around Newfoundland is significantly less than the UK. 0.5-1.5m. See appendix 4 for tide times during the trip. The weather will be assessed locally.

EMERGENCY PROCEDURES AND CONTACTS

For emergency and urgent situations at sea contact the coastguard on channel 16 using MAYDAY or PANPAN procedures after activating DSC red button on VHF set or on land by dialing 911 and asking for the coastguard.

A list of emergency next of kin and contact numbers for the dive team will be available from the expedition leader, along with insurance details.

Reporting post expedition

A full report will be forwarded to the BEGS coordinator. The team will also present to the North West First Class Diver preparation group.

If requested a report will be submitted to local and national diving conference and SCUBA magazine

Appendix 1 – Cost Estimates

Item	Total cost	Cost per diver	Comments
House	4370	336	Divided by 13 (1 non-diver)
Boat fuel/oil	1000	83	Each boat uses approx. 1 litre per NM on a calm sea, running between 3800 and 4200 rpm. In a rough sea we expect to use twice as much. Each boat has a built in fuel capacity of 80 litres. In addition Judy 2 has a spare built in tank of 20 litres. We will not need to take extra fuel on the boats unless we plan a round trip in excess of 40 miles.
Container	9667	806	
Cars (2 vehicles)	1700	131	Includes 1 driver per vehicle. Additional drivers \$10 / day Divided by 13
Flights		362	Maria & Duncan booking own flights
Container storage	1760	147	
Oxygen (6 cylinders)	250	21	
Boat fees		50	
Boat insurance	170	14	
Miscellaneous	200	17	Towbar adapter, oxygen adapters, charts, etc.
Cost per diver		1966	
Cost per non-diver		467	

Appendix 2 - Risk assessment

Risk	Immediate action	Controls
Weather exposure (col water and air temperatures & RIB diving)	Remove from exposure, administer warm drinks, warm clothing. Seek medical attention if needed	All divers to ensure in advance that dry suits don't leak, and they have suitable thermal protection. Wear additional protective gear in boat (e.g., windproof jacket & hat). Terminate dive if cold. Boat to carry exposure blanket and flask. Adapt plans in line with weather
Diving related injury	Immediate oxygen administration and / or resuscitation. Recall divers. Contact C/guard	Follow BSAC safe diving practices. Adopt conservative dive profiles, including use of nitrox. Oxygen kit, first aid kit, radio and flare pack carried on board. All divers Dive Leader or higher qualification and balanced buddy pairs. Avoid excess alcohol and drink plenty of non-alcoholic fluids to combat dehydration
Lost divers	DM to contact C/guard. Follow instructions. Prepare surface search.	Deploy DSMB immediately if swept off dive site. Use DSMB's, whistles, flags, strobes. Consider use of PLBs. Boat crew to maintain lookout when divers are in water. Agree maximum dive time in advance.
Entanglement in nets or lines	Assistance from buddy	Divers to carry line cutter and / or sharp knife. Buddy to monitor/assist.
Injury from compressor / gas blending	Treat any injuries. Call for medical aid if necessary	Ensure that all compressor operators and gas blenders are competent
Boat mechanical failure	Use auxiliary engine, other boat to tow if needed. Contact CG if these measures	Both boats are well maintained, and have auxiliary engines. The general practice will be for both boats to travel together, though some days only 1 boat might go out

	fail	
Road traffic accident (driving on "wrong" side of road)	Treat any injuries. Call for medical aid if necessary	Ensure drivers are comfortable with driving on the right. Passenger to remind if necessary
Non-diving medical emergency	Call 911 for emergency assistance.	Ensure that all divers have adequate insurance. Carry list of insurance details on the boat (lamine a copy). Also, carry a credit card!
Kit won't fit in container	Re-pack / re-consider what needs to go	Darwen club have undertaken similar expeditions before, so are familiar with how much kit can be fitted in a container. It was realised that the trailer axles were too wide, so both trailers have been fitted with narrower axles
Late arrival of container in Newfoundland		The container is scheduled to arrive in St Johns 10 days before group 1 arrive, so any issues will be known about in advance
Kit failure	Fix or use alternative	Each boat has a backup engine, and we could manage with just 1 boat if needed. There will be 2 main compressors, plus a spare, and there will be several spare sets of dive gear from the alternate group. St John's has chandlers, a dive store, etc.
Differences between UK & North America specifications	Use engineering skills and ingenuity!	Adaptors are being sourced for the towing hitches and oxygen cylinders

Appendix 3 - Emergency Procedures & Contacts

NEWFOUNDLAND Centre for
Offshore and Remote Medicine

MEDICOR

Faculty of Medicine

Memorial University of
Newfoundland

St-John's, NF

A1B 3V6

Emergency 24/7: (709) 777-6300

Chamber: (709) 777-6433

Canada Search & Rescue

Emergency Numbers (24 hour)
Newfoundland and Labrador Toll
free (within region) 1-800-563-2444
Phone 1-902-427-8200

Channel 16 VHF as UK

Appendix 4 Tide Tables

2017-05-24 (Wednesday)		
Time	Height	
NST	(m)	(ft)
00:07	0.1	0.3
05:56	1.1	3.6
12:00	0.1	0.3
18:28	1.3	4.3

2017-05-25 (Thursday)		
Time	Height	
NST	(m)	(ft)
00:58	0	0.0
06:49	1.1	3.6
12:52	0	0.0
19:18	1.3	4.3

2017-05-26 (Friday)		
Time	Height	
NST	(m)	(ft)
01:47	0	0.0
07:42	1.1	3.6
13:44	0	0.0
20:07	1.4	4.6

2017-05-27 (Saturday)		
Time	Height	
NST	(m)	(ft)
02:35	0	0.0
08:34	1.1	3.6
14:36	0.1	0.3
20:54	1.4	4.6

2017-05-28 (Sunday)		
Time	Height	
NST	(m)	(ft)
03:24	0	0.0
09:24	1.1	3.6
15:27	0.2	0.7
21:41	1.3	4.3

2017-05-29 (Monday)		
Time	Height	
NST	(m)	(ft)
04:15	0.1	0.3
10:15	1.1	3.6
16:18	0.3	1.0
22:27	1.2	3.9

2017-05-30 (Tuesday)		
Time	Height	
NST	(m)	(ft)
05:08	0.1	0.3
11:06	1	3.3
17:09	0.4	1.3
23:14	1.1	3.6

2017-05-31 (Wednesday)		
Time	Height	
NST	(m)	(ft)
06:04	0.2	0.7
12:02	0.9	3.0
18:06	0.4	1.3

2017-06-01 (Thursday)		
Time	Height	
NST	(m)	(ft)
00:08	1	3.3
07:03	0.3	1.0
13:05	0.8	2.6
19:09	0.5	1.6

2017-06-02 (Friday)		
Time	Height	
NST	(m)	(ft)
01:19	0.9	3.0
08:04	0.4	1.3
14:13	0.8	2.6
20:19	0.5	1.6

2017-06-03 (Saturday)		
Time	Height	
NST	(m)	(ft)
02:39	0.8	2.6
09:03	0.4	1.3
15:20	0.8	2.6
21:30	0.4	1.3

2017-06-04 (Sunday)		
Time	Height	
NST	(m)	(ft)
03:50	0.8	2.6
09:57	0.3	1.0
16:17	0.8	2.6
22:41	0.4	1.3

2017-06-05 (Monday)		
Time	Height	
NST	(m)	(ft)
04:47	0.8	2.6
10:44	0.3	1.0
17:05	0.8	2.6
23:39	0.3	1.0

2017-06-06 (Tuesday)		
Time	Height	
NST	(m)	(ft)
05:34	0.8	2.6
11:26	0.3	1.0
17:47	0.9	3.0

2017-06-07 (Wednesday)		
Time	Height	
NST	(m)	(ft)
00:22	0.2	0.7
06:17	0.8	2.6
12:06	0.2	0.7
18:27	1	3.3

2017-06-08 (Thursday)		
Time	Height	
NST	(m)	(ft)
01:00	0.2	0.7
06:57	0.8	2.6
12:45	0.2	0.7
19:06	1.1	3.6

2017-06-09 (Friday)		
Time	Height	
NST	(m)	(ft)
01:36	0.1	0.3
07:36	0.9	3.0
13:24	0.2	0.7
19:45	1.1	3.6

2017-06-10 (Saturday)		
Time	Height	
NST	(m)	(ft)
02:12	0.2	0.7
08:13	0.9	3.0
14:03	0.2	0.7
20:22	1.2	3.9

2017-06-11 (Sunday)		
Time	Height	
NST	(m)	(ft)
02:48	0.2	0.7
08:49	0.9	3.0
14:39	0.3	1.0
20:56	1.2	3.9

2017-06-12 (Monday)		
Time	Height	
NST	(m)	(ft)
03:23	0.3	1.0
09:23	1	3.3
15:12	0.4	1.3
21:27	1.2	3.9

2017-06-13 (Tuesday)		
Time	Height	
NST	(m)	(ft)
03:58	0.4	1.3
09:52	1	3.3
15:39	0.4	1.3
21:54	1.2	3.9

2017-06-14 (Wednesday)		
Time	Height	
NST	(m)	(ft)
04:30	0.4	1.3
10:19	1	3.3
16:07	0.5	1.6
22:24	1.2	3.9

2017-06-15 (Thursday)		
Time	Height	
NST	(m)	(ft)
05:02	0.5	1.6
10:50	1	3.3
16:44	0.6	2.0
22:59	1.1	3.6

2017-06-16 (Friday)		
Time	Height	
NST	(m)	(ft)
05:37	0.5	1.6
11:32	1	3.3
17:37	0.6	2.0
23:45	1.1	3.6

2017-06-17 (Saturday)		
Time	Height	
NST	(m)	(ft)
06:23	0.5	1.6
12:27	1	3.3
18:53	0.6	2.0

2017-06-18 (Sunday)		
Time	Height	
NST	(m)	(ft)
00:45	1	3.3
07:21	0.5	1.6
13:41	1	3.3
20:26	0.5	1.6

2017-06-19 (Monday)		
Time	Height	
NST	(m)	(ft)
02:09	0.9	3.0
08:27	0.4	1.3
15:04	1	3.3
21:42	0.4	1.3

2017-06-20 (Tuesday)		
Time	Height	
NST	(m)	(ft)
03:29	0.9	3.0
09:33	0.3	1.0
16:12	1.1	3.6
22:48	0.3	1.0

2017-06-21 (Wednesday)		
Time	Height	
NST	(m)	(ft)
04:33	0.9	3.0
10:34	0.2	0.7
17:13	1.2	3.9
23:47	0.2	0.7

Appendix 5 – Key Addresses & Contacts

Holden's Haulage

255 Brookfield Road
St. John's, NL
A1E 6J6

Phone: (709) 368-3539

The Royal Newfoundland Yacht Club

108 Greenslades Rd, Conception Bay South, NL A1W 5C5

Phone: 834-5151

Accommodation (awaiting details)

<https://www.airbnb.co.uk/rooms/995503>