

**Proposed Receiver Locations:**

- These proposed receiver locations are approximations and are subject to change. A minimum set of 15 initial VR-2 receiver locations are listed as the Stage-1 deployment. A desirable set of 11 additional VR-2 receiver locations are listed as a possible Stage-2 deployment.

**PROPOSED OTN STATION LOCATIONS [version 1.0]**

OTN\_REGION Atlantic

OTN\_ARRAY Bras d'Or

STATION (#)	STATION_NAME	DEPTH (m)	PROPOSED_LAT (dd.ddddd)	PROPOSED_LONG ddd.ddddd)
	STAGE-1 VR-2s:			
1	Great Bras d'Or NE	17	46.291944	60.415009
2	Great Bras d'Or SW	40	46.173810	60.570744
3	Little Bras d'Or M	7	46.280000	60.301610
4	Nyanza Bay W	9	46.064620	60.901060
5	Nyanza Bay E	11	46.064700	60.895700
6	Little Narrows N	15	45.998894	60.977268
7	Little Narrows S	15	45.990600	60.987815
8	Skye River	1	45.964681	61.126289
9	Barra Strait West	22	45.961598	60.799648
10	Barra Strait East	22	45.960525	60.796022
11	The Boom	11	45.903604	61.017095
12	River Denys	3	45.860263	61.092744
13	Twist Point	15	45.689048	60.819331
14	St Peters North	5	45.658300	60.865786
15	St Peters South	5	45.651414	60.870250
	STAGE-2 VR-2s:			
16	Little Bras d'Or N	5	46.310587	60.285150
17	Little Bras d'Or S	3	46.252604	60.294570
18	East Bay 1 NW	6	45.940527	60.539865
19	East Bay 2	26	45.937948	60.535465
20	East Bay 3	45	45.935530	60.531064
21	East Bay 4 SE	20	45.933596	60.526973
22	Cape George 1 W	26	45.736227	60.804212
23	Cape George 2	45	45.738013	60.798277
24	Cape George 3	20	45.740070	60.791802
25	Cape George 4 E	10	45.742775	60.785174
26	Black River	5	45.700217	61.087861

Position Coordinates reference the WGS84 map datum.

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180 KHz

### 3. Deployment Schedule

The deployment of the first 15 acoustic receivers is planned for Spring of 2011. Final details of the deployment schedules are still being reviewed and will depend on collection of local ecological knowledge (ongoing), vessel availability and weather conditions.

### 4. Maintenance Schedule

It is expected that service trips to the Bras d'Or array will take place (at a minimum) once per year, at which time batteries will be changed if needed in the receivers and acoustic releases, and biofouling will be removed from the receivers and acoustic releases. Maintenance checks and upgrades (at a minimum batteries and corroded parts will be replaced, where applicable, full replacement units will be provided) will be performed during those trips. It is expected that during maintenance trips, equipment at each station will be recovered, maintained and redeployed in a timely manner as to avoid any prolonged absence of acoustic receivers on the acoustic array.

### 5. Data Retrieval Schedule

Data will be uploaded from the receivers once a year, and submitted to OTN in the manner outlined in the OTN Data Management Policy.

### 6. Mooring Design

All VR-2 receivers will be moored in water depths accessible by SCUBA diving. Thus, acoustic releases are not essential, and moorings can be positioned on seabed terrain. At deep sites, simple 45kg steel & concrete weights will retain a 2m tether to a PVC cylinder that holds the VR-2, with another 2m tether to a sub-surface float with 10kg positive buoyancy. In shallow sites, a 45kg circular steel & concrete slab will hold a rigid PVC cylinder in which the VR-2 will sit.

### 7. Shipping Details

Cape Breton University staff will pick up the equipment on campus to receive training in received use, maintenance and mooring protocols prior to transporting the gear back to Cape Breton for deployment. Dalhousie will ensure that the acoustic receivers are in good working order and condition before they are picked up, and will provide expert guidance as specified above.

## 8. Equipment Details

The following is a list of serial #s for 15 VR2 acoustic receivers:

- 1) 110133
- 2) 110140
- 3) 110143
- 4) 110557
- 5) 110562
- 6) 110563
- 7) 110564
- 8) 110565
- 9) 110566
- 10) 110567
- 11) 110568
- 12) 110569
- 13) 110571
- 14) 110572
- 15) 110573

## 9. Roles and Responsibilities

Roles and responsibilities for the deployment of this array are divided as follows:

Bras D'Or Lakes Array – Deployment Team:

- Design array;
- Set deployment schedule(s);
- Design Moorings;
- Reserve and provide shiptime;
- Lead deployment activities;
- Upload and provide data to OTN as specified in section 5

OTN Technician(s):

- Review array design;
- Review mooring design;
- Test equipment;
- Provide training and assistance (as required) during deployment (OTN staff will be available for the first deployment);

Both teams are required to coordinate and order parts/equipment with enough lead time, such that both teams will have all required items at time of deployment.

### 10.Receiver Replacement

Lost or damaged receivers may be replaced at Dalhousie’s discretion according to the terms specified in the Collaborators agreement.

### 11.Risk Management

The table below identifies the risks associated with the deployment and also identifies how/if the OTN team plans to address these items.

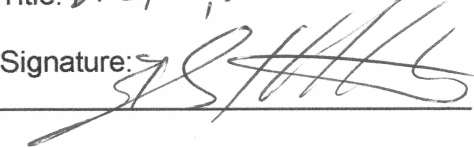
<b>RISK FACTORS</b>	<b>IMPACT</b>	<b>RISK LEVEL</b>	<b>MITIGATION STRATEGIES</b>
Faulty Receiver and/or Acoustic Release discovered after partner takes possession of the equipment	<ol style="list-style-type: none"> <li>1. a hole in the curtain</li> <li>2. the curtain could be shorter than originally planned</li> <li>3. Lost equipment</li> <li>4. Dalhousie could be in non-compliance with the collaboration agreement</li> </ol>	Medium	<ol style="list-style-type: none"> <li>1. In instances where the equipment cannot be tested before they are shipped to the partner, the agreement will be modified to indicate the partner is responsible for testing.</li> </ol>
Faulty deployment vessel and/or positioning equipment	<ol style="list-style-type: none"> <li>1. Inability to deploy equipment at desired locations</li> </ol>	Low	<ol style="list-style-type: none"> <li>1. Maintain communication lines with partners so alternate cruise plan can be developed, if required.</li> <li>2. OTN technicians carry independent GPS positioning equipment and navigational software.</li> </ol>

<p>Inclement weather forces deployment crew to stay on shore</p>	<ol style="list-style-type: none"> <li>1. OTN technicians may not be available for the deployment of the entire line (quality of deployment may be an issue)</li> </ol>	<p>Medium</p>	<ol style="list-style-type: none"> <li>1. Plan deployment window when the partner is most likely to have favorable weather conditions</li> <li>2. Assess the skill level of the partner and adjust the length of OTN's Technician's travel to the region accordingly</li> </ol>
<p>Poor mooring design</p>	<ol style="list-style-type: none"> <li>1. Lost equipment and/or hole(s) in the curtain</li> <li>2. Environmental hazards</li> </ol>	<p>Medium</p>	<ol style="list-style-type: none"> <li>1. Obtain partner's mooring design well in advance of deployment and have it reviewed by a panel of like-minded and experienced individuals.</li> <li>2. Collaborators should think about range testing their line with various types of tags in various weather conditions</li> </ol>
<p>Line can't be deployed in the planned position because of unknown obstacles and/or regional embargoes/environmental concerns</p>	<ol style="list-style-type: none"> <li>1. The line cannot be deployed and OTN technician travel is wasted</li> </ol>	<p>Medium</p>	<ol style="list-style-type: none"> <li>1. Engage NSERC and regional authorities to review the environmental impact of the line placement</li> <li>2. Ensure line placement is approved by an appropriate regional body.</li> <li>3. Maintain communication lines with partners so alternate deployment locations can be developed, if required.</li> </ol>
<p>Collaborator does not provide data and/or metadata or data/metadata of</p>	<ol style="list-style-type: none"> <li>1. Data from the line is meaningless or non-</li> </ol>	<p>Low</p>	<ol style="list-style-type: none"> <li>1. Partner required to sign and comply with OTN data policy</li> <li>2. Examine collaborator's existing systems</li> </ol>

poor quality	<p>existent</p> <p>2. Data quality compromised</p>		<p>3. Employ OTN data quality control procedures</p>
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**Institution Name**

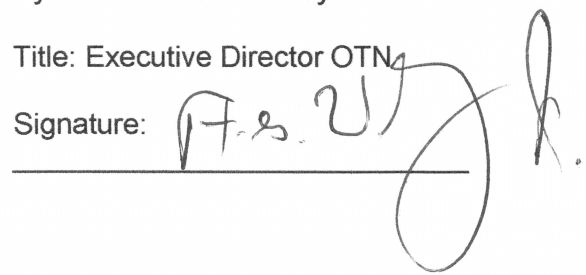
By: *Bruce G. Hatcher*  
 Title: *Director, Bras d'Or Ench.*

Signature: 

**DALHOUSIE UNIVERSITY**

By: Frederick Whoriskey

Title: Executive Director OTN

Signature: 

By: Martha Crago

Title: Vice President Research

Signature:

