

OTN Canada - Project Plan

ANT ARRAY SWAP

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1. Background

Array Name and general location: The ANT array is located in Antigonish Harbour (Fig 1, 45N 61W), the entrances to Ogden's Pond and Pomquet Harbour, the mouths of the South, West and Wright's Rivers, and ~20km up the West River, Antigonish County, Nova Scotia, Canada.

Concept: The array is used to determine seasonal use of marine habitats and natal origin of sea-run Brook trout (*Salvelinus fontinalis*).

2. Initial Array Design

a. Equipment and Services:

- I. Dalhousie will provide:
 - i. 6 acoustic receivers: Vemco VR2W-069k-100, with lithium batteries
- II. *partner* will provide:
 - i. Moorings,
 - ii. Boat time for initial deployment,
 - iii. Qualified personnel for initial deployment (including divers if necessary), and
 - iv. Boat time for maintenance and uploading of data.

b. Proposed Array Location:



Fig 1. Overview of ANT array, Antigonish Harbour, Nova Scotia, Canada. Green markers = SW. Blue markers = FW. Diamonds = VR2W (n = 14). Squares = VR3 (n = 8).

Table 1. Proposed Receiver Locations for swap in ANT array, April 2011.

OTN_REGION Atlantic Canada OTN_ARRAY ANT

STATION_NO	BOTTOM_DEPTH (m)	PROPOSED_LAT (dd.ddddd)	PROPOSED_LONG (ddd.ddddd)	VR3
FW4 WR	2	45.6227	-61.96435	390
FW7 WRS	1.5	45.554467	-62.09018	333
FW8 StJo	2.5	45.539417	-62.08163	???
FW9 BM	1	45.55635	-62.10242	340
SW2	2	45.62135	-61.91617	344
SW8	8	45.65845	-61.90677	337
SW9	3	45.672067	-61.88980	349
SW13 DP	1	45.6334	-61.94022	385

3. Deployment Schedule

The deployment of 8 of the acoustic receivers is planned for April, 2011 to replace all VR3s currently deployed within ANT array (Table 1).

4. Maintenance Schedule

It is expected that service trips to ANT 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

Each VR2W will be tied into a rock anchor or lobster trap (Fig 2), with a bottom grab line attached to 2 or more anchors. Any receiver next to shore will have a safety line attached to a tree OR an anchor buried underneath the sand.



Fig 2. A VR3 receiver mounted in a lobster trap before deployment in Pomquet Harbour channel (SW12 PH; Apr'10).

7. Shipping Details

PI (A.Spares) will pick up at OTN lab, Halifax, NS, April 11, 2011.

8. Equipment Details

The following is a list of serial #s for 6 VR2 acoustic receivers:

106617
106581
109136
106614
110170
106583

9. Roles and Responsibilities

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

ANT Array – Deployment Team: A.Spares

- 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): A.Spares

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

RISK FACTORS	IMPACT	RISK LEVEL	MITIGATION STRATEGIES
Faulty Receiver and/or Acoustic Release discovered after partner takes possession of the equipment	<ol style="list-style-type: none"> 1. a hole in the curtain 2. the curtain could be shorter than originally planned 3. Lost equipment 4. Dalhousie could be in non-compliance with the collaboration agreement 	Medium	<ol style="list-style-type: none"> 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.
Faulty deployment vessel and/or positioning equipment	<ol style="list-style-type: none"> 1. Inability to deploy equipment at desired locations 	Low	<ol style="list-style-type: none"> 1. Maintain communication lines with partners so alternate cruise plan can be developed, if

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

			developed, if required.
Collaborator does not provide data and/or metadata or data/metadata of poor quality	<ol style="list-style-type: none"> 1. Data from the line is meaningless or non-existent 2. Data quality compromised 	Low	<ol style="list-style-type: none"> 1. Partner required to sign and comply with OTN data policy 2. Examine collaborator's existing systems 3. Employ OTN data quality control procedures

Institution Name

DALHOUSIE UNIVERSITY

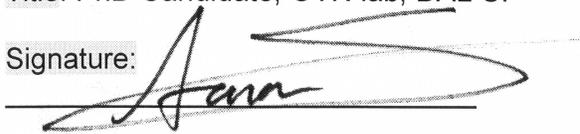
By: A. Spares

By: Frederick Whoriskey

Title: PhD Candidate, OTN lab, DAL U.

Title: Executive Director OTN

Signature:



Signature:

