

VOICEPIPE

Issue 77

April 2018

The Newsletter of the BIO-Oceans Association

Announcing the 2018 Beluga Award recipient Andrew Cogswell

Beluga Award Ceremony
11:00 am – noon
Thursday, 17 May 2018
BIO Auditorium



Contents

Beluga Award Recipient	1
From the President	3
The Living Data Project	3
BIO Today: Acoustic Research Reveals New Insights into the Distribution of Whales in the Gully Marine Protected Area (Excerpts)	4
Update from the CSS Acadia Task Group	7
Book Review: HMCS Labrador's First Voyage	8
Oceans Week 2018	9
Editor's Keyboard	10
About the Association	10
New online map makes shellfish harvesting safer	11
Educating Coastal Communities About Sea-level Rise	12



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Andrew Cogswell: 2018 Beluga Award Recipient

Introducing this year's Beluga Award winner, Andrew Cogswell! Andrew is the Operational Coordinator for the Atlantic Zone Monitoring Program (AZMP) and is part of Science's Ocean and Ecosystem Sciences Division at the Bedford Institute of Oceanography (BIO). In his fifteen years at BIO, Andrew has shown an exceptional contribution to the success of BIO projects, initiatives, and the programs he has worked on. These contributions exemplify his unselfish efforts that encourage cooperation and foster a team-work approach, which is so important to BIO.

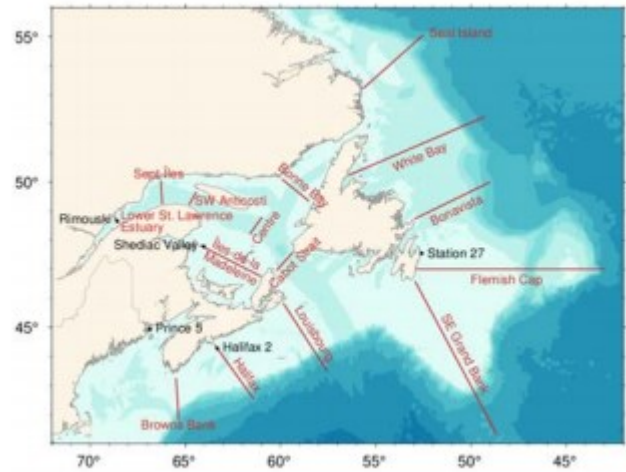
Andrew started his career as Biologist with DFO's shellfish biotechnology program and later worked with the benthic ecology program and the Centre for Offshore Oil, Gas and Energy Research. In these roles, Andrew learned about the value of team work and developed into a great team leader. In his current position, Andrew plays a key role in making sure the AZMP program is properly carried out and meets or exceeds its objectives. Over the past 5 years, Andrew has been chief scientist many times aboard CCGS *Hudson*, a remarkable achievement for a young scientist.

In addition to his outstanding efforts in his BIO science role, Andrew also positively impacts the greater BIO and Halifax Regional Municipality communities. In 2015, Andrew took on the role of co-Chair of BIO EXPO 2017, a twenty month journey to producing the largest Canada150 event in Atlantic Canada and the most successful BIO open house on record. The resounding success of this event was due to unprecedented teamwork, for which Andrew can take great pride in having created and facilitated.

Andrew is the lead for BIO's Christmas dinner program; where in partnership with Parker Street Food Bank, he and his volunteers get an impressive 1300 dinners into homes of people less fortunate. He also played a key role in development of the Halifax Scholars Program, a charity that mentors and funds education for talented students who cannot afford a post-secondary education.

Andrew is well respected by his peers and management staff throughout BIO. He is also known for his sense of humour and making the workplace fun.

Because of Andrew's efforts and unselfish dedication to his work, to BIO and his community, we are proud to recognize Andrew as this year's recipient of the Beluga



Atlantic Zone Monitoring Program high frequency sampling stations (black) and selected section lines (red).



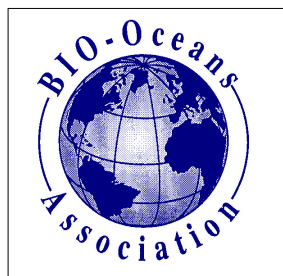
Award. Please join us for the ceremony to celebrate Andrew Cogswell as the 2018 Beluga Award recipient.

Beluga Award Ceremony

When: 11:00 am – noon, Thursday, 17 May 2018
(10:30 am for coffee and cookies prior to the ceremony)

Where: BIO Auditorium

Please direct any questions about the award ceremony to Melanie MacLean, Chair, BIO Ocean Association Beluga Award Committee at 902-440-8549 or Melanie.MacLean@dfo-mpo.gc.ca



From the President

The upcoming May AGM signals the end of my first year in office. I am glad to report there has been no fake news or Russian conspiracy plots during my first year as President.

I would like to give a big shout out to Mike Murphy who actually manned the OA helm until I finished BIO EX-PO last Fall. Thank you Mike for being so supportive!

Our Annual General Meeting will be held in the BIO Auditorium on 17 May 2018 at 0930. The presentation of BIO's only all-institute award, the BIO Beluga Award will follow the AGM at 11:00 (10:30 for coffee and cookies).

We have been a busy Association over the past year.

Your executive has been meeting regularly and working on several projects one noteworthy one is the restoration of CSS *Acadia*. Please see the update in this issue.

We are actively recruiting new members by partnering with the BIO Tuesday Night Jazz Band on several occasions which brought in several new members and facilitated old members to renew their membership.

New for 2018, OA is offering a free one-year membership to any retiring BIO staff. This will hopefully bring fresh faces to the Association.

2018 marks the 20th Anniversary of your Association. On 17 October 2018 we will celebrate with an off-site party. Details of this great event will be announced in future newsletters.

We hope you will attend our AGM and help the BIO-OA, and BIO celebrate with Andrew Cogswell his well deserved Beluga at the award ceremony that follows the AGM.

Looking forward to another exciting year.

Claudia Currie

President, BIO Oceans Association

The Living Data Project

Dr. Diane Srivastava, a zoologist at the University of British Columbia and the daughter of former BIO scientists Vivien and Sheri Srivastava has proposed a project to rescue biological data that is relevant to ecology, evolution or environmental science. The data rescue project will work with researchers who are retired or nearing retirement and have datasets that meet the projects criteria. The project will fund and train graduate students to work with these researchers to prepare the data for sharing. The project will bring together two generations of researchers: senior researchers who wish to leave a data legacy but may not have the data science skills, and graduate students and postdoctoral fellows, who have or are eager to learn the data science skills needed to deposit data and who would value the interaction with leaders in their field. This intergenerational interaction could be further incentivized by providing the researchers with public recognition of their contribution, and providing the graduate students with an internship stipend as well as formal training in data science.

If you have a dataset that meets the criteria below and want to participate in the project contact Diane at:

srivast@zoology.ubc.ca

Criteria for Legacy Datasets

1. The dataset should include biological data that is relevant to ecology, evolution or environmental science. The dataset does not need to be entirely biological; physical and chemical data is acceptable if in the context of an ecological or evolutionary process. For example water chemistry is an important part of understanding aquatic ecology.
2. The dataset should be important in one of the follow ways: (1) extensive in either space or time (e.g. bird surveys over more than a decade, or national surveys of caribou density); (2) describes a study that was ground-breaking in the history of science; (3) concerns a species or ecosystem that is considered at risk in Canada.
3. The dataset should either concern a Canadian species or ecosystem, or have been collected by a Canadian researcher or Canadian organization.
4. The owner of the dataset commits the data to be permanently archived, and open and accessible. We realize that some dataset owners will want to keep the dataset private until some predetermined time in the future, and in such cases we can implement an embargo system.

In Memoriam

James "Jim" Edward Stewart, died 1 March 2018, Research Scientist and Research Manager, DFO, BIO

BIO Today**Acoustic Research Reveals New Insights into the Distribution of Whales in the Gully Marine Protected Area (Excerpts)**

To read the full story visit

<http://www.dfo-mpo.gc.ca/science/publications/article/2016/11-15-16-eng.html>

“We generally don’t have much information about when, where and how marine mammals are using the offshore environment, or how much noise they are being exposed to from human activities,” says BIO research scientist Dr. Hilary Moors-Murphy.

To address this knowledge gap, she is collaborating with JASCO Applied Sciences Ltd. in Dartmouth, Nova Scotia to gather baseline data on the occurrence and behavior of cetaceans—an order of marine mammals including whales and dolphins—in the Gully Marine Protected Area (MPA) and surrounding areas on the Scotian Slope. The findings will inform recovery efforts for species at risk by identifying important habitat, and supporting the development of ecosystem monitoring

indicators for the Gully MPA.

“Whales, and beaked whales in particular, are sensitive to underwater noise,” says Moors-Murphy. “Depending on the type and duration, the effects of underwater noise can vary from disturbing animals and causing changes in behavior to actually causing physical harm such as damaging their hearing. Underwater noise can also interfere with communication. For example, the vocal signals of baleen whales can be masked by boat noise and other low frequency sounds that can propagate through the ocean over very long distances.”

The research team deployed deep-water Autonomous Multichannel Acoustic Recorders (AMAR)—developed by JASCO—at depths of 1,500 metres in three locations within and near the Gully MPA. Each recorder gathered acoustic data almost continuously for two years from October 2012 to September 2014, except for short interruptions every six months to retrieve the data and replace the hard drives and batteries before redeploying them from Canadian Coast Guard ships during scientific research cruises. In collaboration with JASCO, the recordings are being analyzed to determine when, where



BIO research scientist Dr. Hilary Moors-Murphy is analyzing the acoustic recordings collected to assess the year-round importance of the Gully marine protected area and nearby areas to cetaceans, including how Northern Bottlenose use waters of the shelf edge. Photo Credit: Hilary Moors-Murphy



Coast Guard deck crew and DFO technicians deploy a deep-water acoustic recorder from the CCGS *Hudson*. Three acoustic recorders, deployed in the Gully marine protected area and surrounding areas on the Scotian Slope from October 2012 to September 2014, gathered baseline data on the occurrence and behavior of cetaceans—an order of marine mammals including whales and dolphins.

Photo Credit: Hilary Moors-Murphy

and for what purpose various species roam these waters.

“One of the most challenging aspects of studying whales offshore is that it’s almost impossible to gather any information in the winter, because the sea state and visibility are usually poor. Most visual studies occur from about June to September,” says Moors-Murphy. “Acoustic research provides year-round data, enabling us to analyze the daily and seasonal occurrence of cetaceans within an area and sometimes more specific behavior such as foraging patterns.”

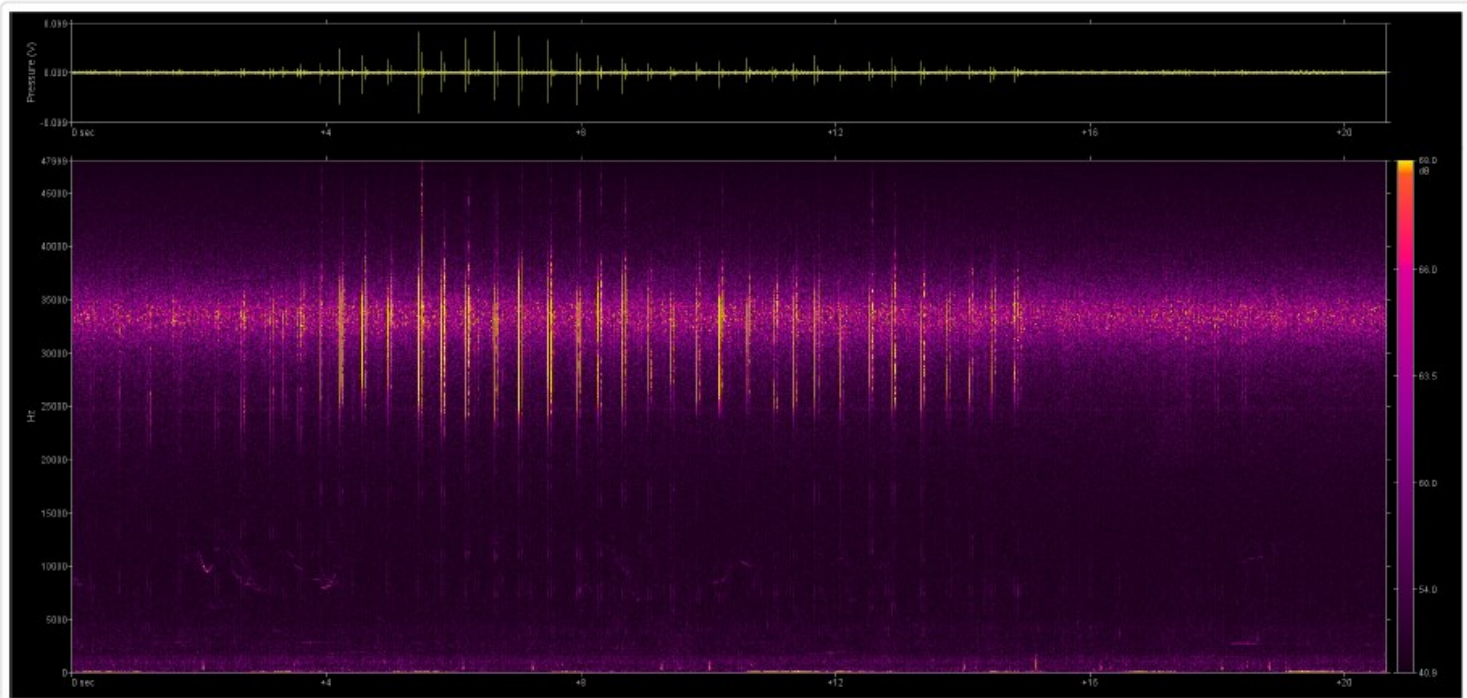
A second component of the study, led by Fisheries and Oceans Canada research scientist Dr. Norman Cochrane, will characterize the natural (ambient) background noise caused by wind, precipitation and so on, as well as noise produced from shipping, seismic surveys for oil and gas deposits, and other human activities.

The findings of Moors-Murphy’s and Cochrane’s re-

search will be used to:

- assess the year-round occurrence of cetaceans in The Gully MPA and surrounding areas and
- the relevant importance of these areas to various species, including Scotian Shelf Northern Bottlenose Whales and Blue, Fin, Sei, Humpback, Sperm, and Pilot whales, as well as dolphins.
- assess ambient and anthropogenic noise levels in these areas;
- potentially examine changes in vocal behavior in the presence of specific sources of anthropogenic noise.

“One of the species we targeted was the Northern Bottlenose Whale, a rare beaked whale that can grow up to 10 metres in length and typically inhabit depths of more than 500 metres,” says Moors-Murphy. “Because they’re a deep-water species, frequently diving to depths of more than 1,000 metres, they occur far off-



Example acoustic waveform (top portion of figure) and spectrogram (bottom portion of figure) of Northern Bottlenose Whale click vocalizations. In this segment of acoustic data, which is slightly more than 20 seconds, loud Northern Bottlenose Whale clicks appear as yellow vertical lines. Credit: Figure created in sound analysis software “SpectroPlotter” (© JASCO Applied Sciences Ltd.).

shore and can be difficult to study.” The population off the coast of Nova Scotia, which numbers around 140 individuals, is listed as endangered under the Species at Risk Act (SARA). Relatively little is known about a second population in Davis Strait—assessed as Special Concern—mainly because there haven’t been as many dedicated studies of this more northern population.

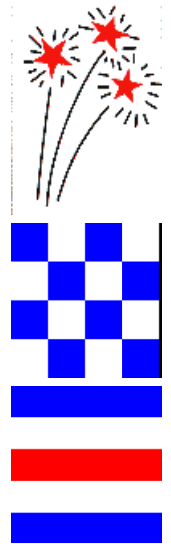
The research is investigating how Northern Bottlenose Whales use shelf-break areas between The Gully, Shortland and Haldimand canyons in relation to how they use their critical habitat in The Gully. It may also help to identify other critical habitat for the population, which is one component of the Fisheries and Oceans Canada recovery strategy for this species.

“We know the whales travel between these canyons, but we need to know if these between-canyon areas are more than just migration routes and may actually constitute critical habitat for Bottlenose Whales,” says Moors-Murphy. “My previous studies indicate that these between canyon areas may also be foraging grounds. Bottlenose Whales produce distinctive echolocation clicks to find their food and feed, so I can determine whether they’re feeding in the migratory corridors by listening for foraging vocalizations.”

JASCO uses specialized computer software to automatically detect whale calls in the dataset. This helps Moors-Murphy target specific recordings to examine for the presence of whale calls using spectrographic analysis software, which produces visual representations of the sounds called spectrograms.

“I get more information from looking at the spectrograms than listening to the recordings because a lot of whale vocalizations occur at frequencies outside the human hearing range. I can see sounds even when I can’t hear them,” says Moors-Murphy. “We’re still in the process of assessing the presence of vocalizations from the various species, however the findings so far indicate that Bottlenose Whales frequent and forage in all three areas including those between the canyons throughout the year.”

“This research will vastly increase our knowledge of cetaceans in East Coast waters and, along with determining areas of importance, will inform the development of strategies to minimize the impact of human activities, including noise, on at-risk species of cetaceans,” says Moors-Murphy. Her monitoring program continues to expand, and she will be placing more acoustic recorders at other sites off Nova Scotia starting in April 2015.



Update from the CSS *Acadia* Task Group

In this issue you will find two letters.

The first is the response from Minister Leo Glavine to a letter from David Flemming, a member of your task group and former Maritime Museum of the Atlantic curator. Although the letter talks of some modest progress it doesn't come close to meeting the promise the Minister made to the CBC that the *Acadia* would be out of the water in 2018.

The second is a letter to The Honourable Scott Brison and copied to the Minister of National Defense, the Minister responsible for National Historic Sites, two local Members of Parliament, provincial cabinet ministers, Glavine, Hines (DTIR) and Casey (Finance) requesting that the federal government contribute to the restoration of the CSS *Acadia*.

Dear Mr. Flemming:

Thank you for your email of 12 February 2018 and for your kind words of understanding. I remain committed to the preservation goals of the CSS *Acadia* and will continue to work towards securing funding for the major repairs the vessel requires.

I am pleased to tell you that in the past few weeks Transportation and Infrastructure Renewal staff have launched a project to develop a scope of work and design documentation to update the assessment of CSS *Acadia* and propose repair options. The purpose of this work is to ensure that we have detailed information prepared when funding is secured and, as well, know

what our options are with respect to where and how the repair work can take place.

I appreciate your understanding of the Nova Scotia Museum overall stewardship responsibility which is considerable: over 230 buildings and vessels and more than a million artifacts. The CSS *Acadia* continues to be our top maintenance priority and we will continue to work on meeting its needs.

Thank you for your ongoing concern. The province is fortunate to have you continuing your role as a champion of cultural heritage presentation.

Sincerely,

Leo Glavine
Minister

23 March 2018

The Honourable Scott Brison
President of the Treasury Board and
Member of Parliament for Kings - Hants

Dear Minister Brison,

We would like to congratulate the Government of Canada for its investment in the preservation of the HMCS / CNAV *Sackville*, an important naval and oceanographic artifact that represents Canada's heroic contribution to the Battle of the Atlantic during WW II and Canada's post-war commitment to oceanographic research.

We would also like to bring to your attention an even more significant naval and scientific artifact that during the tourist season is tied up alongside the HMCS / CNAV *Sackville* on the Halifax waterfront. The CSS / HMCS *Acadia* served the Royal Canadian Navy in both World Wars in various guard duties in Halifax Harbour and as a training vessel. It is possibly a unique example of ship construction that is still afloat in the tradition of vessels like the RMS *Titanic*.

The CSS / HMCS *Acadia* was transferred as a museum ship to the custodianship of the Province of Nova Scotia in 1982. A 2013 condition assessment indicated that the ship was in reasonable shape for its age but had several issues that needed immediate attention to prevent further deterioration.

On 5 December 2017, the CBC reported that The Honourable Leo Glavine, Nova Scotia's Minister for Communities, Culture and Heritage stated in a news conference that the CSS *Acadia* will be "out of the water in 2018 to start on the necessary repairs". He also indicated that he would be seeking funding from the federal government to assist with the repairs. In a follow up letter he indicated that the province had "launched a project to develop a scope of work and design documentation to update the assessment of CSS *Acadia* and propose repair options" and that "the CSS *Acadia* continues to be our

top maintenance priority and we will continue to work on meeting its needs".

On 17 January 2018 members of our executive visited Darren Fisher, MP for Dartmouth – Cole Harbour, the federal riding containing the home of the CSS / HMCS *Acadia* at the Bedford Institute of Oceanography before its transfer to the province. Mr. Fisher indicated at the meeting that he would contact Minister Glavine to explore options for federal funding.

We are writing to encourage you in your various capacities to contribute to the efforts of Minister Glavine and Mr. Fisher in identifying sources of federal funding and possible in-kind resources to add to provincial efforts to preserve the naval and scientific legacy of the CSS / HMCS *Acadia* for the enjoyment and education of future generations.

Although we fully recognize it is the province's obligation to care for the ship, we suggest that recognizing the national significance of the CSS / HMCS *Acadia* would be sufficient to justify a federal contribution to its restoration. We are hopeful that a joint announcement of funding to preserve this national treasure between the federal and provincial governments will be held in 2018.

Andrew Sherin

CSS *Acadia* Task Group, BIO-Oceans Association

Book Review: HMCS *Labrador's* First Voyage

by D.L.McKeown

Recently I came across a very interesting book, "*The Ice Was All Between*", which described HMCS *Labrador's* first voyage to the Arctic in 1954. It was written by T. Irvine, the Royal Canadian Navy officer in charge of the hydrographic survey work undertaken during that trip. There is a copy in the BIO Library (call number G 650 1954 .I7), there are some used copies available for purchase online and Google has scanned it to produce a digital version which can be found at <https://babel.hathitrust.org/cgi/pt?id=mdp.39015022366275;page=root;view=image;size=100;seq=1>.

While the PDF version of the book can be downloaded from this website, I lacked appropriate permission so I read it online.

There was a ten-member scientific party coordinated by the Defence Research Board on board consisting of staff from the Atlantic Oceanographic Group (AOG), the Ca-

nadian Hydrographic Service (CHS), the Dominion Observatory, the National Research Council and the Scott Polar Institute. To quote from the book:

"The ten scientists who were sailing with us appeared on board, and like all scientists were followed by tons of equipment, which was piled up on the wharf while the Commander and the Buffer ranged over the ship frantically looking for stowage space. *Labrador* was figuratively beginning to bulge at her welded seams with officers, men, scientists, food and stores.

Sailors are apt to look upon scientists with considerable suspicion, and names such as "bug hunters" or "longhairs" were fiercely bandied about out of earshot of the rather bewildered gentlemen as the storing parties staggered up the gangway with the scientific equipment.

However, excellent liaison was established between scientists and sailors by the sight of Doctor Rose of the Physics Division, National Research Council, and our senior scientist, himself staggering up the gangway with some of his heavy cosmic-ray-research gear after declin-



MS *St. Roch* and HMCS *Labrador* at dockside. Photograph by Walter E. Frost in 1954. Copyright: City of Vancouver. The *St. Roch* was the first vessel to transit the Northwest Passage.

ing any assistance from the sailors in the storing party.”

No names of the AOG and CHS participants are provided but, as members of these organizations formed a significant part of the original occupants of BIO, we may have known them. However, as the voyage occurred 64 years ago, I suspect they are no longer with us.

The inshore hydrographic survey work was carried out aboard Pogo a 36-foot launch which was specially designed and built for this purpose. In 1996 this launch was donated to the Canadian War Museum where I pre-

sume it still resides. Having looked at a detailed description of it online, <http://affairesmaritimes.existasia.com/en/234-english/canadian-nautical-research-society/argonauta/371-auxiliary-support-vessels-of-arctic-patrol-vessel-hmcs-labrador-2.html>

I wonder if the BIO launch *Tudlick* was a sister vessel. Does anyone know?

For anyone interested in Canada's early hydrographic survey work in the Arctic or the first voyage of HMCS *Labrador*, I recommend reading this book.



Oceans Week 2018 1-10 June 2018

For information on events planned for Oceans Week Visit <http://www.oceansweek.ca/>

The H₂O Home to Overseas Exhibition and Conference

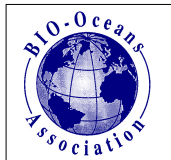
7 June 2018

For more information visit: <http://www.h2oconference.ca/>

The luncheon speaker will be Kevin Forshaw, Associate Director, Innovation and Enterprise, National Oceanography Centre, United Kingdom.

Editor's Keyboard: We lead off this issue with the story of another deserving recipient of the Beluga Award, Andrew Cogswell. As the article states he has made many contributions to the community at BIO not the least of which was chairing the Beluga Award Committee. Thank you to two Davids: David Flemming for his expertise and hard work for our *Acadia* Task Group and David McKeown for his book review on the *Labrador's* first voyage and many other contributions he has made in the past to this newsletter. At the time of writing this column, we have not heard from the federal

ministers we wrote to on 23 March 2018 concerning federal funding for *Acadia's* restoration. We will continue to pursue the politicians and would encourage any members so inclined to write to Ministers Glavine and Brison. I have started a new column called **BIO Today**. In part, adding this column follows responses to my survey requesting articles about what is happening at BIO today. Although I intend to 'crib' articles from existing sources, I would welcome articles by current staff or suggestions of staff to approach for an article. *Andy Sherin*



ABOUT THE BIO-OCEANS ASSOCIATION

The Bedford Institute of Oceanography Oceans Association (BIO-OA) was established in 1998 to foster the continued fellowship of its members; to help preserve, in cooperation with the Institute's managers and staff, BIO's history and spirit; and to support

efforts to increase public understanding of the oceans and ocean science. Membership is open to all those who share our objectives. Most current members are present or past employees of BIO or of the federal departments of Environment, Fisheries and Oceans,

and Natural Resources (or their predecessors) located in the Halifax Regional Municipality. Membership is \$10.00 per year, \$40.00 for five years, or \$150.00 for a lifetime membership.

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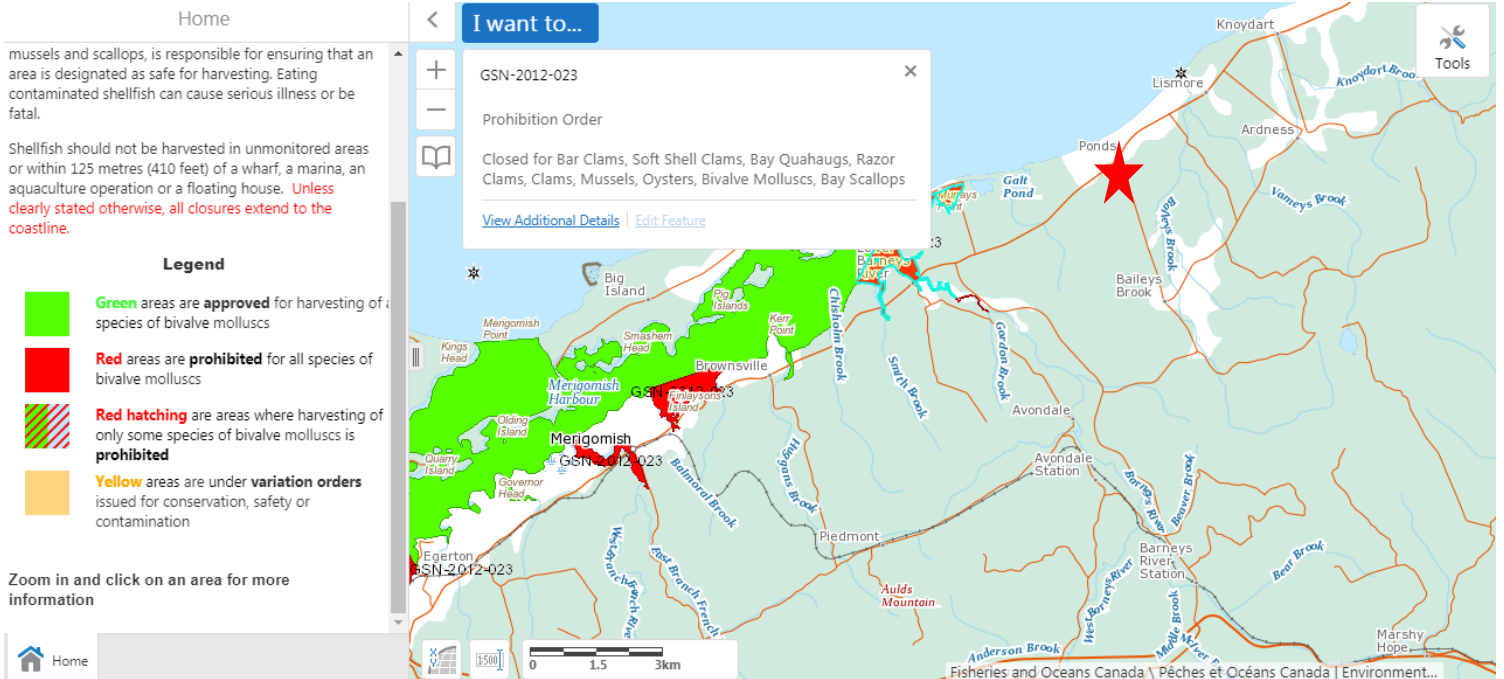
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Unless otherwise credited all photographs were taken by Andy Sherin



An example map from the new online shellfish harvesting map showing closed shellfish areas in Merigomish Harbour, Nova Scotia near your editor's country house shown by the red star at Ponds, NS.

New online map makes shellfish harvesting safer

On 29 March 2018, The Honourable Dominic LeBlanc, Minister of Fisheries, Oceans, and the Canadian Coast Guard, announced the launch of a new online shellfish harvesting map detailing open and closed bivalve shellfish harvesting areas in real time. This map will help Canadians make informed decisions and avoid the consumption of contaminated shellfish.

The online harvesting map enables any shellfish harvester to view a desired area to see if it is open or closed. Users are able to clearly see harvest area boundaries. The map also allows harvesters to subscribe to automatic email notifications for openings and closures in areas of interest.

The map also serves as an extension of the DFO Fisheries Notices. Updates on the opening and closing of harvesting areas will also continue to be communicated as appropriate to the public through local media, notices posted in closed areas, and information provided by local DFO offices.

[Editor's Note: This map has been a long time in coming. Your editor remembers conversations in the coffee shop on the ground floor of 200 Kent Street in Ottawa several years ago. The DFO staff I was sharing coffee with were proud of the fact that an online shellfish area closure application was their highest priority and would 'hit the street' very soon.]

"The Shellfish Harvesting Map is an online tool to help Canadians make informed decisions on where to harvest bivalve shellfish. Real-time maps like this ensure people consume safe shellfish from open harvest areas. Canada has an excellent reputation for safe and high-quality shellfish and this new harvesting map will ensure it continues." The Honourable Dominic LeBlanc, Minister of Fisheries, Oceans, and the Canadian Coast Guard.

Notice

The Regional Director-General, Maritimes Region, Fisheries and Oceans Canada, hereby revokes the Contaminated Fisheries Prohibition Order No. MAR-SSN-2014-031 and closes the following areas for fishing for all species of clams, quahaugs, mussels, whelks, oysters and Bay scallops:

1. That portion of Halifax County from Monk Point at grid reference 517356E / 4957912N, to grid reference 541621E / 4965150N on Sober Island
2. That portion of Halifax County from Sober Island at grid reference 541641E / 4965005N, to the Halifax/Guysborough County Line

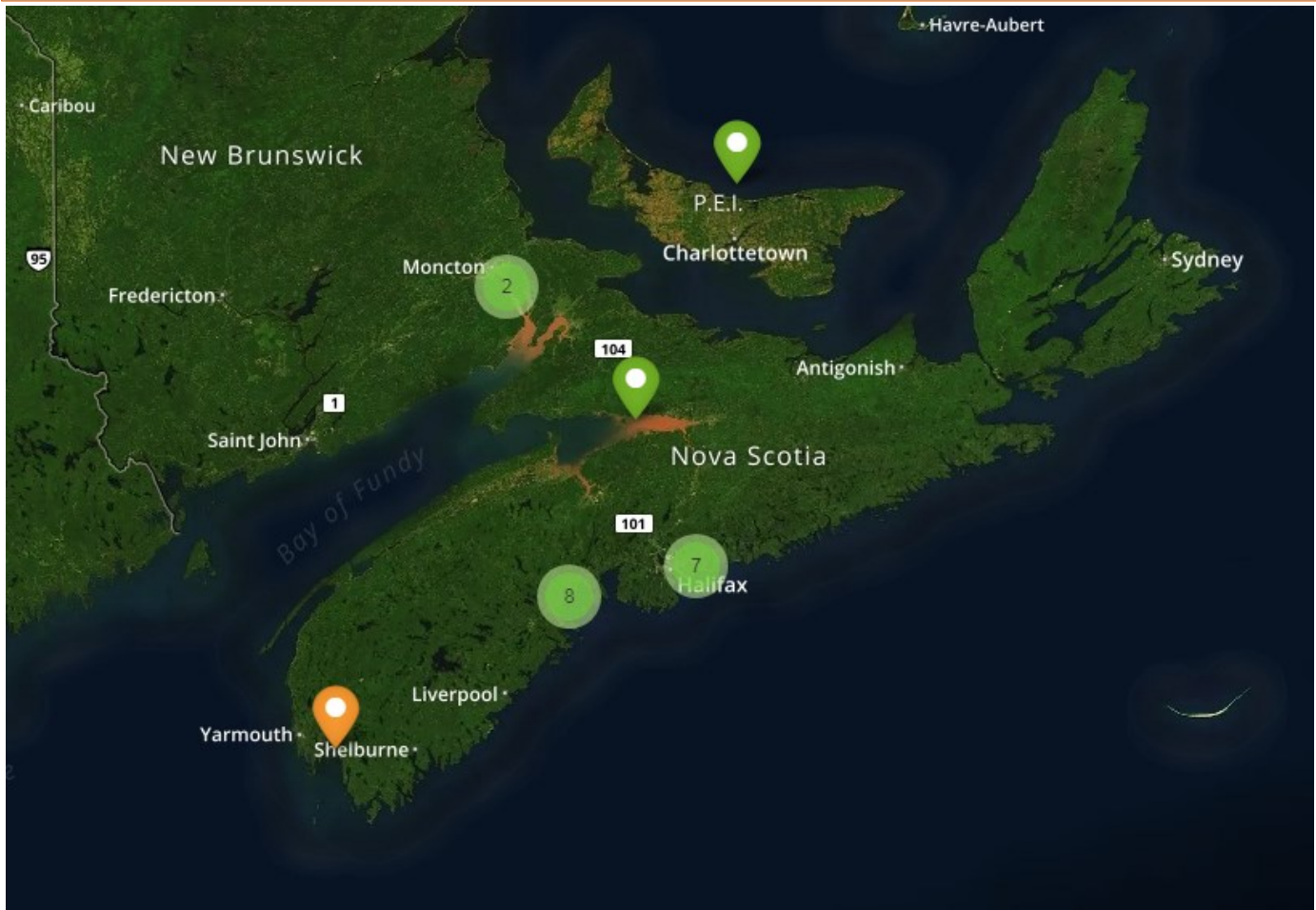
Note: When the boundary of an area is expressed in grid references, those grid references are based on the Universal Transverse Mercator Grid system set out on the National Topographic Series Map, Scale 1:50,000 published by the Department of Energy, Mines and Resources (NAD 1983, Zone 20).

For further information contact your local Fishery Officer and refer to Contaminated Fisheries Prohibition Order MAR-SSN-2014-033 signed on January 23, 2015.

Faith G. Scattolon
Regional Director-General
Maritimes Region

An example of the previous geographic information given for closure areas. PDF files were also made available but were not georeferenced.

Visit: www.dfo-mpo.gc.ca/shellfish-mollusques/cssp-map-eng.htm



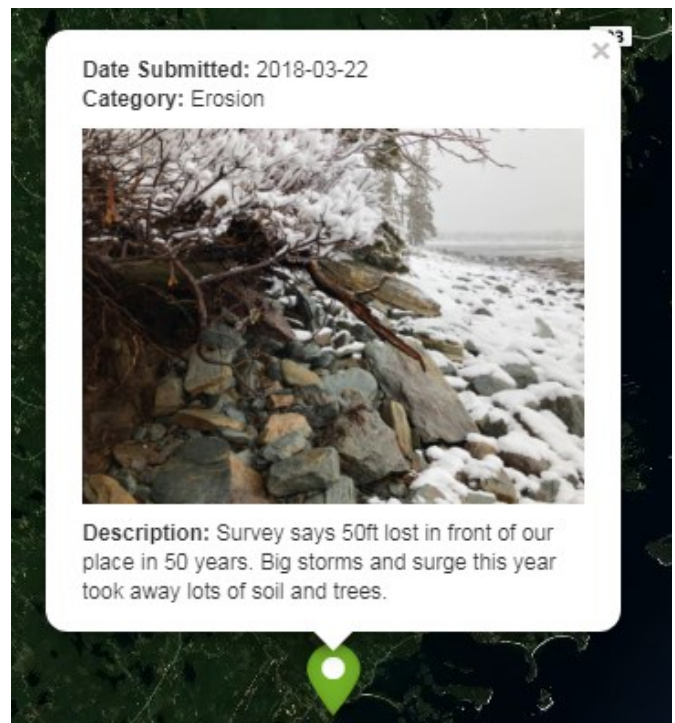
Interactive map from the Educating Coastal Communities About Sea-level Rise website <http://www.sealevelrise.ca/map.html>

Educating Coastal Communities About Sea-level Rise

The Educating Coastal Communities About Sea-level Rise (ECoAS) Project is a co-led initiative designed to translate scientific climate change research into useable information to educate coastal communities within Atlantic Canada about the need for planning for future sea-level rise impacts. The Ecology Action Centre has teamed up with Fisheries and Oceans Canada to create an informative website along with workshops for coastal residents, fishers, and municipalities about rising seas that are specific to our region.

An interactive map has been developed to illustrate where sea-level rise impacts are happening.

The map allows users to identify and share their observations and experiences with sea-level rise impacts along Canada's coastline. Users can zoom into a familiar location, create a point, and share their story about their observations of the impact of sea-level rise. If an area is experiencing more than one impact, the user can add as many points as they like. To read more visit: www.sealevelrise.ca



An example of a user provided point near Risser's Beach Provincial Park, Nova Scotia.