

#### Ruth Jackson: 2019 Beluga Award Recipient



Dr. Ruth Jackson

**2019 Beluga Award Ceremony** 21 May 2019 1100, coffee @ 1030 William Ford Auditorium

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#### VOICEPIPE 81

#### Apríl 2019

#### Ruth Jackson: 2019 Beluga Award Winner

Introducing this year's Beluga Award winner, Dr. Ruth Jackson! Ruth is a Scientist Emerita and Arctic researcher with Natural Resources Canada. Although Ruth retired from the Geological Survey of Canada -Atlantic in 2009, she is still contributing to ongoing research at BIO and can be seen regularly at BIO. Ruth is particularly engaged in the preparation of Canada's United Nations Convention on the Law of the Sea (UNCLOS) Arctic Submission.

Over the past four decades, Ruth has made contributions to many BIO projects and programs. Since the 1980s, she participated in a variety of Arctic field programs. Ruth has been described as a scientific trailblazer, working during a time when women were just beginning to participate in research missions at sea. She later went to lead programs and many international efforts to map and interpret Arctic geology. For much of the 2000s, she participated in the large multidepartmental and international efforts to map the offshore in preparation for Canada's Arctic UNCLOS submission. This UNCLOS work was highly multidisciplinary and involved participants from other government departments, Arctic communities, contractors, academic and international partners.

Today, Ruth's contributions to BIO are visible through the new unique outreach display in BIO's main courtyard, the Bernard Pelletier Fossil Forest. This display communicates the concepts of evolution, Arctic geology and climate change in an experiential exhibit. The exhibit was Ruth's idea and her dedication to the project made it a reality. She continues to be involved in its care and operation.

To quote one of Ruth's nominators "Ruth epitomizes the true spirit and essence of the Beluga Award through her unselfish spirit, curiosity, professionalism and dedication that enhances the reputation and betterment of BIO." As a result of Ruth's efforts and dedication to BIO and its community, we are proud to recognize Ruth as this year's recipient of the Beluga Award. Please join us for the ceremony to celebrate Dr. Ruth Jackson as the 2019 Beluga Award recipient.

Please address any questions or concerns relating to the content of this message to Melanie MacLean at 902-440-8549.



Ruth with USGS scientist Debbie Hutchison during joint USA / Canada icebreaker expedition to the Arctic Ocean.



Ruth "cutting the rug" with her husband John during BIO-OA Association's reception prior to the opening of BIO EXPO 2017. Dance music was supplied by the Tuesday Night Jazz Band.

#### BIO – Oceans Association Newsletter

#### "We're making a claim for posterity"<sup>\*</sup>

[Editor's Note: The text in this article is taken from a transcript found at http://www.science.gc.ca/eic/ site/063.nsf/eng/h C44DF9B0.html]

"I [Ruth] had spent a career really working in the Arctic both on ships and on ice camps. I had worked particularly with the Americans in the Canada Basin on their ships. I had worked in the Arctic on a two shipped experiment with the Russians and the Germans and I knew very clearly that you are not getting close to the Canadian margin on a ship. It couldn't be done. So my involvement would be to say we are not using ships we are going to do it from the ice.

In the beginning of the United Nations Convention on the Law of the Sea (UNCLOS) project, I was the chief scientist in the Arctic on the ice camp work and on the ship going programs. For UNCLOS, what we were trying to do to get the maximum claim possible you have to look at bathymetric highs that are attached to your margin and they are both attached, the ones that are significant for us, the Lomonosov Ridge and the Alpha Ridge are both attached north of Ellesmere Island. This is the area we had to begin our work.

Remember it is cold in the Arctic, you are putting small instruments the size of a lunch box on the ice, you have to find them again and they have to work. We had ex-

tremely bad weather conditions. We finally get a day or two of flying. We put the instruments out, it storms for five days. The ice moves. You have to find those things again. We didn't get them all out. We had a few in a base camp. We turned the instruments on. They were still working. If they had not been working we would have gotten no data out of the first experiment.

There were actually a small number of people who could do this job and the Geological Survey of Canada, both the part in Dartmouth and the part that is in Ottawa, had very particular expertise. If you want a specialist to fix

your computer, that's easy to find; finding a seagoing tech with 30 years of Arctic experience is very difficult.

The Louis is very important program because we are working in



to the UNCLOS Ruth (right) with John Shimeld (GSC Atlantic) on the 2006 joint Denmark / Canada ice camp LORITA-1 on the Lomonosov Ridge, Arctic Ocean.

heavy ice and it's Canada's largest ice breaker. It has 23,000 horse power and a bubbler system so we are able to tow gear behind it to collect data. And also, one of the interesting things, the USCGC *Healey*<sup>\*\*</sup> is a much newer ship but it's built on more military standards and it isn't near as comfortable. When people could exchange between the *Louis* and the *Healy*, they generally liked to stay on the Louis as long as possible".

<sup>\*</sup>Quote credited to Ruth Jackson in a Globe and Mail article 24 March 2006.

\*\*CCGS Louis St. Laurent and the USCGC Healy participated in a joint USA / Canada Arctic Ocean expedition where Ruth was the Canadian Chief Scientist.



CCGS Louis St. Laurent entering St. John's Harbour.

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Excerpts from the Proceedings of the NSIS on two distinguished leaders in Canadian oceanography

# by Don Gordon

**Gordon Arthur Rilev** 

The Complete Oceanographer

Gordon Riley was an outstanding scientist who played a leading international role in the development of oceanography as a field of scientific study in the midtwentieth century. His multidisciplinary approach,

quantitative skills, imagination and intuition advanced our knowledge and understanding of the ocean enormously. Of his many significant scientific contributions to oceanography, he is best known for his pioneering work in developing simple numerical models for improving the understanding of the dynamics of marine ecosystems with a focus on plankton. He helped transform oceanography from a descriptive to a quantitative science.

His early career was spent in the United States at the Bingham Oceanographic Laboratory of Yale University and the Woods Hole Oceanographic Institution. In 1965, at the peak of his career, he immigrated to Canada to become the director of the Institute of Oceanography at Dalhousie University. Under his leadership, the Institute evolved into the Department of Oceanography, which became an internationally recognized centre for marine research and teaching. During this period, he also played a prominent role in the development of the broader Canadian oceanographic community.

He served as a wonderful example of how scientific research, teaching and a life should be carried out.

#### **Remembering James "Jim" Edward Stewart**

#### by Peters Wells

Jim began his career as a federal scientist with the Fisheries Research Board of Canada in 1958, based in Halifax, NS, and completed it as an Emeritus Scientist with the Department of Fisheries and Oceans (DFO) at the Bedford Institute of Oceanography (BIO), Dartmouth, NS.



Jim's primary interest was on topics relevant to fisheries species and their management. His initial passion was research on the diseases and disease defense mechanisms of lobsters.

[Michael Sinclair shared that] his research greatly "contributed to the economic viability of the lobster fishery, through the replacement of

wooden plugs with rubber bands, now used by fishermen to prevent movement of the claws of the captured animals; this change significantly reduced *gaffkemia* transfer and incidence."

John Castell, a former DFO scientist now living in NB, recalls that "I was always impressed with Jim's interest and knowledge in a wide diversity of research programs. He was an inspiration to all of his research team."

In his personal life, Jim was devoted to his family and greatly enjoyed working outdoors. Living in Allen Heights at the Head of St. Margaret's Bay, NS, he took "great pride and pleasure in landscaping and in harvesting and splitting his own firewood" (Halifax Today 2018). In retirement, Jim routinely attended NSIS lectures; his presence there will be greatly missed. Above all, he will be remembered as a hard-working, dedicated and highly productive scientist, a wonderful model to all others in the marine sciences following in his footsteps.

Read the complete articles in Vol. 50, Part 1 of the Proceedings of the Nova Scotian Institute of Science

#### BIO – Oceans Association Newsletter

## sociation

From the President

I strongly encourage BIO OA members to attend our Annual General Meeting to be held just before the Beluga Award Ceremony on Tuesday 21 May 2019. The meeting will start with coffee and

cookies at 0900. I would ask members to seriously consider stepping forward and taking on a role on your Executive Committee. There are several vacancies that need member's knowledge and talent. Please contact me if you want to serve the Association and its members in this capacity. (asherin@ncf.ca)

The 2019 Beluga Award will be presented to Ruth Jackson who has devoted many years to understanding the structure of the Arctic Ocean and leading icebreaker and ice camp expeditions to gather evidence to support Canada's claim in the Arctic Ocean under the United Nations Convention on the Law of the Sea. I recall our discussions concerning safety on the field operations she led. Her concern for the wellbeing of her field parties was uppermost in her mind.

In addition to her remarkable scientific contribution to Canada and BIO, she has lead the development of the Bernard Pelletier Fossil Garden. This reflects her love and talent for gardening. I remember working with her on a project to document a changing climate through monitoring the changing blossoming dates for rhododendrons across the province from gardeners' logbooks.

Melanie MacLean and her Beluga Award Committee are to be congratulated for their excellent work in recognizing another worthy recipient of the Beluga.

Another group deserving thanks is our CSS *Acadia* task group that has worked with members outside the BIO-OA to bring the sad condition of the "Grand Old Lady" to the attention of decision makers with gratifying results.

See you at the AGM and the Beluga Award Ceremony! Andy Sherin, First Vice President

#### BIO Oceans Association AGM 21 May 2019 0930 William Ford Auditorium

From Daniel, Makeala, Alex. atherine, Jeromy & Scott 2018, and we are ind the Hudson off the Nova Scotla. IF 1151 65 ou find this, return to Beisford Institute Cerpano 10 is tomowith the

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#### Message in a bottle from CCGS Hudson

The following message was received by the *Voicepipe* from Roy E. Ehler Jr.

28 July 2018

To Whom It May Concern

My name is Roy E. Ehler Jr.

I went for a walk on the beach about 100 ft from my house, when I saw a bottle laying on the sand, I opened it and this is what I found. Then I took it to my garage to get my glasses to see what it said on the note.

I couldn't believe it because I worked for the BIO for 10 years on the CSS *Kapuskasing* and then *Baffin* also *Theron* and shore parties. *Baffin* up north in the summer and the West Indies in the winter.

My father on CSS *Cartia*, *Maxwell & Hudson* and shore parties.

The note was very moving for me arriving on the beach where I live 45 years later.

Thanks to Daniel, Makeaia, Alex, Katherine, Jeremy & Scott.

Thanks again

Regs Roy E. Ehler

[Editor's Note: Mr. Ehler lives in Larry's River, Guysborough County, NS]

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#### Update on the CSS Acadia





Communities, Culture and Heritage Office of the Minister

1741 Brunswick Street, PO Box 456, Halfsa, Nova Scotia, Canada B3J 285 Talaphone 902 424-4889 Fox 902 424-4872 • novascotia.cs

#### MAR 1 3 2019

Mr. Andrew G. Sherin, Vice President BIO-Oceans Association 9 Rose Street Dartmouth, NS B3A 2T4

Dear Mr. Sherin:

Thank you for your letter on February 12, 2019 expressing your appreciation for the work being carried out on CSS Acadia. We are pleased with the positive reaction and interest from the public regarding the restoration and repair work. All of us are reassured that this significant part of our maritime and cultural heritage is preserved for future generations.

Currently, Maritime Museum of the Atlantic staff and contractors are working on numerous tasks: repairing and recoating the steel sub deck; repairing the mast and lifeboats; painting the hull; and removing hazardous materials. New safety equipment and a custom designed all-weather cover are being purchased and installed as well. Other upgrades to be completed in the next few months include: the installation of a new wooden deck; refitting interior seating with new leather upholstery and the installation of new washrooms. Wharf repairs and installation of new fenders will also be completed. In the near future, the vessel will be slipped to conduct any required hull repairs. In the meantime, staff anticipate that Acad/a will be open to visitors this summer.

I extend a heartfelt thanks to you and your organization for your support for the Acadia. The repairs and refurbishments will once again allow the public to discover and explore this heritage vessel.

Sincerely,

Jeavine

Leo Glavine Minister

In addition to the letter from Minister Glavine shown at the left we have received a package of documents released through a Freedom of Information request. It includes the original 2013 assessment report we had already received plus a series of emails between various government staff at the Maritime Museum of the Atlantic, the Departments Culture, Communities and Heritage and Transport and Infrastructure Renewal. Photographs of the holes in the hull found above the waterline were included. Not redacted in this package were the estimates for repair which in various locations in the package ranged from about \$900,000 to \$1.4 million. It was pointed out in the package that this was the cost of repair not restoration.

Anyone walking along the waterfront recently will notice that work on repair has already commenced and consists importantly the repair of the steel weather deck that underlies the wooden main deck.



Free air gravity image of the Reykjanes Ridge after Richard N. Hey, School of Ocean and Earth Science and Technology, University of Hawaii at Manoa.

#### On the Mid-Ocean Rift

#### by Alan Ruffman

In the Summer of 1971 during my short time at the Atlantic Geoscience Centre at BIO (July. 1970 to October 1971), I volunteered to go on the mid-1971 cruise of the USNS *Lynch* on a Leonard Johnson-sponsored rock dredging program on the Reykjanes Mid-Ocean Ridge from 50°N to the south coast of Iceland.

The cruise ended at Rekjavik, and I was able to spend several days in the area as a tourist. This included what I considered a pilgrimage to Pingvellir National Park, then a decision to go to the coastal village of Reykjanes at the

northern terminus of the ridge we had been dredging on for almost a month. I had no trouble hitchhiking out towards the Keflavik International Airport, then I had to take a minor rural road to the south to reach the turn off to the Reykjanes village on the map I'd found. It was a quiet unpaved road, and there was no traffic so I walked. It was not a gravel road; it was a loose sandy pumice track and very hard walking. I do not quite remember, but I must have landed a drive for the final 5 or so km.

Reykjanes turned out to not be a thriving village — perhaps two or three buildings associated with a lighthouse. Nearby just inland was a geothermal test facility with a test well serving to jet a superheated white stream thun-



Photos: top, Reykjanes Lighthouse Photo Credit: visitreykjanes.is; bottom: Eldey Island Photo Credit: Dagur Brynjólfsson used under Creative Commons license CC BY-SA 2.0 cropped at the top. https://creativecommons.org/licenses/by-sa/2.0/

dering up into the sky; the ground was literally shaking from the energy release. The satellite photos of today show that the well has been capped and is serving to generate geothermal electricity. I stood there, my right foot on the European Plate and the left planted on the Greenland/North American Plate, as the steam jet rose and roared overhead, the solid ground shook beneath my feet as the mid-ocean ridge

I climbed a hill that ended in a cliff dropping into the sea — the start of the Reykjanes Ridge with the cliffed island of Eldey standing as a lone stack several kilometres offshore. Eldey was apparently the site of the 3 June 1844 infamous slaying of the last nesting pair of Great Auks. Extinction to the south, then I turned to look northward inland.

I stood there, my right foot on the European Plate and the left planted on the Greenland/North American Plate, as the steam jet rose and roared overhead, the solid ground shook beneath my feet as the mid-ocean ridge was giving life to the volcanic forces that were gathering strength to open the rift and to allow new volcanic lava to erupt to the surface and continue the rifting forces that have been active in Iceland for over 60 million years.

This geologist will not ever forget that time on the midocean rift and feeling the power shaking the ground on which I stood.

#### BIO – Oceans Association Newsletter

#### **Sacred Heart School Honours the Ocean**

The primary school at Halifax's Sacred Heart School held an art exhibit of their creations on Thursday 2 May 2019. In the entry way of the school an art piece made mostly of recycled materials was displayed.

Junior primary students paper plate made fish (below), Primary students made paper towel roll octopi, Grade 1, scrap paper seahorses, Grade2 plastic bag sea turtles, Grade 3, coffee filter jellyfish, (photo below centre) Grade 4, boxed puffer fish, and Grade 5, plastic bottle corals (photo bottom left) and Grade 6, cardboard starfish.









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Editor's Keyboard: I anticipate this will be one of the last newsletters that I will take responsibility for. At the upcoming AGM I will formally take over as President for the next two years. It has been an enjoyable if not challenging experience at times. I need to express my thanks to several individuals who have assisted me over the years, David Nettleship for his devotion to Noteworthy Reads and skillful editing, to my wife Sheila Clyburne who has on many occasions been persuaded to be my editor and to Peter Wells and Don Gordon who have faithfully provided good copy. In this issue I

thank Alan Ruffman for his memories of his visit to Reykjanes in Iceland and Roy Ehler for finding and reporting on the bottle message from Hudson. Our granddaughter is in Grade 2 at Sacred Heart School and we recently had the opportunity to view the primary school's art exhibition. I was blown away by the display when we entered the front door. It paid homage to the ocean and ocean life. I thought it was well worth sharing with BIO-OA members and it filled an empty page. I would encourage you to read the NSIS Journal and the OCRA newsletters excerpted here. Andy Sherin



#### ABOUT THE BIO-OCEANS ASSOCIATION

he 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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Association Mailing address: Bedford Institute of Oceanography, P.O. Box 1006, Dartmouth, NS B2Y 4A2. VoicePipe mailing address: c/o Andy Sherin, 9 Rose Street, Dartmouth, NS B3A 2T4. Unless otherwise credited all photographs were taken by Andy Sherin

From the *Ocean S&T Spotlight* - April 2019 the newsletter of the Ocean Research in Canada Alliance (ORCA) Read ORCA newsletters at <u>http://www.science.gc.ca/eic/site/063.nsf/eng/h</u> 97787.html

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BIO – Oceans Association Newsletter

CIOOS CANADIAN INTEGRATED OCEAN OBSERVING SYSTEM SIDOOC SYSTÈME INTÉGRÉ D'OBSERVATION DES OCÉANS DU CANADA

Fisheries and Oceans Canada (DFO), in partnership with the Marine Environmental Observation Prediction and Response Network (MEOPAR), is spearheading the development of a Canadian Integrated Ocean Observation System (CIOOS) that brings together and leverages existing Canadian and international ocean observation data into a national data system. CIOOS will improve coordination and collaboration among data producers, ensure data and metadata interoperability, improve access to existing information, and enable discovery and reuse of data.

Three regional associations (RAs) have been established: Pacific, St. Lawrence, and Atlantic. The RAs will collaborate with regional data providers and users to ensure interoperable data management and dissemi-

#### **Research Vessel Needs in Atlantic Canada**

The Marine Environmental Observation, Prediction and Response Network (MEOPAR) released a report outlining a serious gap between the amount of time researchers need to spend at sea performing valuable offshore research and the availability of suitable vessels. Canada's research vessel capacity is suffering from a rapidly aging and overextended fleet, with alreadylimited ship time reduced further as vessel are retired. While a program to replace the aging fleet exists, it is not expected to result in an increased capacity or days at sea for researchers and their students. The report on the "Assessment of Needs and Opportuni-

ties for Research Vessel Use in Atlantic

Canada" identifies a major problem affecting Canada's government, universities, private sector and NGOs alike. The report also highlights that the problems are not unsurmountable and suggests practical ways to move forward, which will require cooperation and willingness to do things differently. MEOPAR is working with a broad range of stakeholders to develop a national action

Fisheries and Oceans Canada (DFO), in partnership with the Marine Environmental Observation Prediction and Response Network (MEOPAR), is spearheading the development of a Canadian Integrated Ocean Observation System (CIOOS) that brings together and leverages

> As a community initiative, CIOOS encourages your participation in all of the future steps of its development. As such, we encourage you to get in touch with your regional contacts and watch out for upcoming CIOOS workshops. Feel free to contact us if you have any questions, follow us on Twitter @cioos\_siooc and subscribe to our mailing list to stay in the loop. For the Atlantic RA contact Christiana Macdonald at c.macdonald@dal.ca

> > Age of Merchant Fleet



Figure 9 from the MEOPAR Report: Aging of CGG RV fleet

plan to address the issue of research vessel capacity in Canada.

Read the full report at:

http://meopar.ca/uploads/ MEOPAR RV needs assessment report Final.pdf

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### The Science We Need for the Ocean We Want

https://unesdoc.unesco.org/ark:/48223/pf0000265198

The United Nations Decade of Ocean Science for Sustainable Development (2021-2030)



The United Nations General Assembly proclaimed the Decade of Ocean Science for Sustainable Development to mobilise ocean stakeholders worldwide behind a common framework that will ensure ocean science can fully support countries in the achievement of the 2030 Agenda for Sustainable Development. The Decade will stimulate action over the next ten years in areas of critical importance for the planet, people, prosperity, peace and partnership. More coordinated and consolidated observations and research will contribute to the UN processes

protecting the ocean and its resources, such as the Aichi Biodiversity targets, the SAMOA Pathway, the United Nations Convention for the Law of the Sea and the Sendai Framework for Disaster Risk Reduction. The Intergovernmental Oceanographic Commission of UNESCO has been tasked with designing the Decade and consulting governments, UN partners, scientific organisations, the private sector and civil society to deliver, together, the ocean we need for the future we want.