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VOICEPIPE

Issue 89 January 2022

The Newsletter of the BIO-Oceans Association

Farewell to a Valued and Trusted Partner
CCGS Hudson 1963-2022

CCGS *Hudson* arrives at BIO Jan. 24, 2022 for the last time.
(Photo - Gordon Fader)

Contents

Ships, Ships Ships

CCGS *Hudson* to be Decommissioned

The Executive of the Oceans Association heard the news at the same time as it was announced to staff at BIO. In an email circulated to BIO staff on Jan. 19, 2022, Gary Ivany, Assistant Commissioner, Atlantic region of the Canadian Coast Guard, announced:

"Today, the Canadian Coast Guard and Fisheries and Oceans Canada will announce that following 59 years of dedicated service, the oldest serving vessel in the fleet, the CCGS Hudson, is being decommissioned. In November 2021, a failure of the starboard propulsion motor placed the CCGS Hudson out of service. Due to the scale of the problem and the time and cost to repair it, combined with the costs associated with an upcoming period of regulatory compliance work, it has been determined that the ship is beyond economical repair and further investment would not allow it to return to reliable service. The CCGS Hudson is a key platform for Fisheries and Oceans Canada's oceanographic science program. While there are no science missions planned for the CCGS Hudson over the winter months, the vessel's permanent replacement, the yet to be named Offshore Oceanographic Science Vessel, is not expected to be delivered until 2025. The Canadian Coast Guard is working closely with Ecosystems and Oceans Science Sector to evaluate the near and long terms impacts on programming and developing a plan to mitigate these impacts. Discussions are focused on which parts of the science program can be completed by other Canadian Coast Guard vessels, by chartered vessels, or through the use of other technology. The decommissioning of the CCGS Hudson marks the end of an era for the Canadian Coast Guard. In the coming months, plans for a celebration of the ship and the crews' accomplishments over the past 59 years will be developed and Canadians will have the opportunity to share memories and experiences of their own interactions with the ship and all of its past crew."

Our Executive met the next day and reached out to Mr. Ivany to express our interest in contributing to celebrating the Hudson legacy. President Andy Sherin asked to be kept in the loop on any plans the CCG may be developing to which the Assistant Commissioner readily agreed. Andy also informed him that the OA has begun collecting materials associated with the Hudson and will be collecting stories from OA members who have participated in Hudson expeditions. This project will be led by Don Gordon, assisted by Dave McKeown, Pierre Clement and Kelly Bentham. While still in the early stages, the goal is to compile a history of her illustrious career by creating an inventory of the vast amount of information that already exists on the *Hudson,* a list of cruises over her career, and a collection of representative photos. The team plans to put out a call to both scientific staff and crew for stories on their time on Hudson. The collected information would be used to prepare illustrated summaries of *Hudson* history that could be posted on the BIO-OA website, submit to a journal such as the Proceedings of the NSIS, and prepare attractive products for public outreach. Another possibility is to find a marine historian interested in writing a book on *Hudson.*

This project will no doubt evolve. Anyone wishing to participate or contribute photos and stories should contact one of the team. As our president expressed to Mr. Ivany ,"The loss of such a magnificent vessel from the CCG fleet must be sad for you, the crew and your staff. As was discussed today at our meeting, there may be a ship that takes over the work of the Hudson but there will be no replacement for her."

CSS *Acadia* Returns to Maritime Museum of the Atlantic

For several years a number of groups, including the BIO OA, have been pushing the provincial government to restore the CSS *Acadia* and the progress has been reported here in a number of our issues. So it was heartening to see the *Acadia* return to her berth at the Maritime Museum of the Atlantic this past November after spending three months at the drydock in Shelburne to repair the corroded steel plates in her hull. She had departed Halifax in August, as part of a three phase project to restore her as true to her original condition as possible.

Fig. 1 – Tugs bringing CSS *Acadia* into Halifax harbor. (Photo – A. Sherin)

Fig. 2 – A tug getting ready to push CSS *Acadia* into her berth at the Maritime Museum of the Atlantic. (Photo – A. Sherin)

In earlier phases of the project, the deck and sub-deck were repaired by prepping the steel deck and then covering it with Douglas fir planking. The second phase concentrated on the electrical system and the boilers, while the final phase was the dry dock work to repair the corroded hull plates. The provincial government is to be congratulated on the completion of this project.

With the work completed, we now look forward to the *Acadia* returning to her role as the centerpiece of the Museum's attractions. In a future edition, we hope to have an article that will better describe the extensive work done on the ship and a discussion on how the Museum hopes to use this valuable asset to explore our maritime heritage.

Fig. 3 – CSS *Acadia* returned to Halifax harbor and to her former glory. (Photo – A. Sherin)

An Unexpected Discovery (Don Gordon)

In late September, to celebrate our 53rd wedding anniversary, Jo and I made a trip around the Cape Chignecto area with frequent stops at beaches, trails and museums. We happened to spend two nights at the Fox Point Inn, about 16 km west of Parrsboro across from Cape Split. When I had made our bookings over the phone a few weeks before, I mentioned that I had worked at BIO and done extensive oceanographic research in the Bay of Fundy. I was asked by the hosts if I had ever sailed on the *Hudson*. I of course replied yes, many times, and added that my wife had sailed on her as well in 1965 and 1967. The hosts were excited to hear this and said they had something special to show us when we arrived.

When we arrived, the hosts took us on an orientation tour of the inn which ended up in the dining room. Jo was asked to sit down in one of the many oak armchairs around the dining tables. She was then asked to get up and turn the chair over. Low and behold, on the bottom was stencilled 'CSS Hudson'! The hosts were curious about the circle of screw holes under the seat and I explained that that was where the anchor chain had been attached to keep the chair from skating over the deck in rough weather. There were about twenty of these chairs in the dining room, all in fine shape. The owners had bought them from someone in Musquodoboit Harbour three years ago who most likely had acquired them at some unknown time through Crown Assets. Needless to say we were thrilled to sit in them while enjoying the fine cuisine with fond memories of our times on *Hudson.*

Fig. 1 - Chairs from the *Hudson* at the Fox Point Inn. Photo D. Gordon.

The morning we were leaving, our hosts said they had several additional chairs in storage in the basement and asked if we would like some. At first we said no but then decided to take them up on their kind offer. Most fortunately we had room in the back seat of our car to bring two of them home. In appreciation of their generosity, I gave them a copy of *Voyage of Discovery* with Tony Law's painting of *Hudson* on the cover. The chairs are now sitting at our dining table out at our camp on Coxs Lake in Yankeetown. This is most appropriate for the camp was built by Gordon Riley from the Department of Oceanography at Dalhousie and he too sailed several times on *Hudson.*

Fig. 2 - Jo Gordon relaxing in a *Hudson* chair. Photo D. Gordon.

If you are ever looking for a special weekend getaway, we highly recommend the Fox Point Inn. The hosts are most gracious, there are views of the Bay, beaches are nearby, the food is excellent and the dining room chairs come with a long and distinguished history to which many BIO-OA members contributed.

A tribute to Professor Edward O. Wilson, Harvard University (Peter Wells)

Dr. E.O. (Ed) Wilson, one of America's most recognized and influential biologists in the last 100 years, sadly passed away over the Christmas holidays at the age of 92, after a long and highly productive career and retirement.

His many writings of papers and books, on topics ranging from ants (his scientific specialty), to island biogeography and ecology, biodiversity, sociobiology, environmental ethics, and global conservation, have been a major source of inspiration and information for

many of us in the environmental sciences over recent decades. In recent years, he especially studied the topic of biological diversity or biodiversity, including marine biodiversity, and wrote cornerstone volumes on the topic. In this context, to protect the planet's species, he recommended setting aside half of the earth's surface for conservation, from terrestrial parks to marine (coastal and offshore) protected areas.

Fig. 1 - Dr. E.O. Wilson. Photo - kids.Britannica.com

Wilson was a champion and practitioner of knowledge synthesis on many biological and environmental topics of global significance. As noted on the E. O. Wilson Foundation website , he once shared "*We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely*". This is at the heart of many global attempts to ensure that new relevant information, on issues such as climate change (the work of the IPCC), marine environmental protection (the work of the UN-GESAMP), and marine environmental quality (in Canada, the work of DFO and others), continues to be expertly summarized and translated in a timely fashion for policy and decision makers in government.

Noted on the E O Wilson Foundation website (Half Earth Day discussions – Sir Tim Smit) is that scientists often do not have a huge audience compared to other sectors of society. Hence, one of the challenges is to find and engage public audiences on critical topics. Wilson attempted to bridge this gap with his later writings which highlight in plain language the environmental issues that humanity faces and the need to adjust our economic growth and consumption ethos accordingly.

Within the science community, including the social sciences, Dr Wilson will be long remembered for his scientific and philosophical writings and lectures. One hopes that his concerns about global biodiversity, especially for the oceans, will lead to timely policies and practical solutions, across all latitudes. Read "*The Diversity of Life*", "*Consilience*", and "*Half-Earth*", be inspired, and continue to support local conservation efforts in Nova Scotia and beyond.

CNAV *Sackville* (Don Gordon)

The HMCS/CNAV *Sackville* is a Flower Class corvette built in Saint John, NB in 1941 for the Royal Canadian Navy. She saw extensive action during World War II on convoy duty across the North Atlantic. She was the only one of 123 corvettes not discarded at the end of the war. In 1951, still operated by the Royal Canadian Navy, she was made available to the Atlantic Oceanographic Group in St. Andrews for oceanographic research. She later spent many years in support of oceanographic programs at both Dalhousie and BIO. Her last BIO cruise was in 1975 and she was retired by the Navy in 1982. In 1983 she was transferred to the Canadian Naval Corvette Trust (now the Canadian Naval Memorial Trust) and restored to her 1944 wartime appearance.

Fig. 1 - Refurbished HMCS *Sackville.* Photo courtesy of the Maritime Museum of the Atlantic (maritimemuseum.novascotia.ca)

Since 1985, she has been moored during the summer months at the Maritime Museum of the Atlantic in Halifax and open to visitors. A full history of her distinguished career, both as a military and scientific vessel, has been written by Marc Milner. This excellent book, *HMCS Sackville; 1941-1985,* published in 1998 by the Canadian Naval Memorial Trust, covers all aspects of her life from construction to restoration.

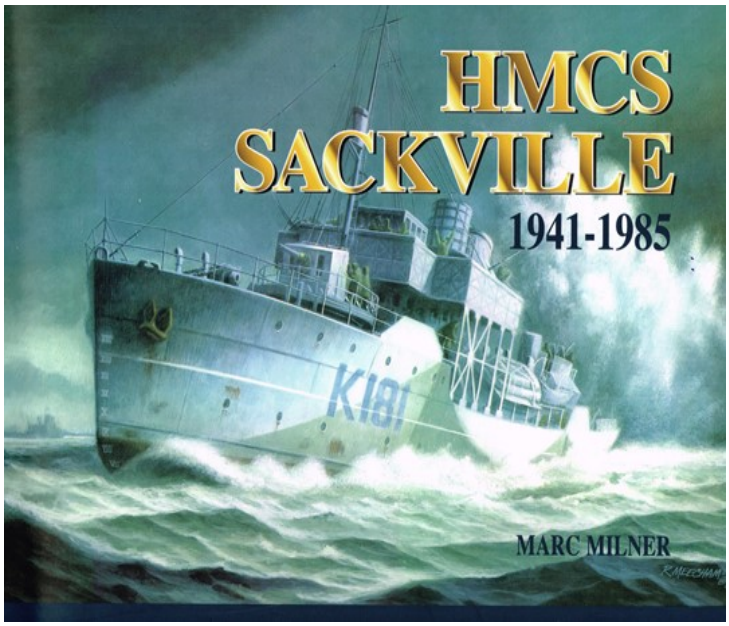


Fig. 2 - Cover of Marc Milner's book on the HMCS *Sackville*.

About ten years ago, the BIO-OA felt that it would be valuable to collect more details on her long career as a research vessel before they were lost. Over the years Keith Manchester had assembled a large number of documents, including photographs, a list of cruises, and various accounts, some quite amusing, written by many of the scientists who went to sea on her (e.g. Neil Campbell, Keith Manchester, John Lazier, Doug Loring, Don Gordon, Tim Lambert and Dave McKeown). These documents were recently scanned by Borden Chapman and are now posted on the BIO-OA website under Archives for your reading pleasure. The documents are sorted in various categories with links to each for ease of reviewing. Here is the direct link to the documents: http://www.bio-oa.ca/sackville.php

The "Backstory" - Another Epiphany not revealed until 1984 (Alan Ruffman)

Don Gordon has written quite succinctly, in *VoicePipe* No 87 last year, of his personal experience with the scientific revolution and the paradigm shift as the 1912 - 1928 proposals of Alfred Wegener with respect to "Continental Drift" were borne out and confirmed in the 1960s. Don was given a window on the process when a 1960 university field trip took him into the Lamont Geological Laboratory as Marie Tharp was painstakingly digitizing archived analogue bathymetry echo-sounder records and plotting the data, line-by-line, to carefully construct a subsea 3D image of the topography of the North Atlantic Ocean. Then came the South Atlantic. and the fold-out colour-shaded bathy maps published by the *National Geographic* that we all put up on our walls. "Mind-blowing" were Don's words. Words he was to repeat four years later after he got his M.Sc. at the Univ. of Rhode Island and emigrated in the fall of 1965 to begin a Ph.D. at Dalhousie's embryonic Institute of Oceanography (IODAL). He had the good fortune to attend Frederick Vine's Fall 1966 Dal lecture on new marine magnetometer evidence to further confirm the 'Vine and Matthews' 1963 paper's explanation of the zebra-like banding of the positive and negative magnetic anomaly maps made over the oceanic crust to either side of the modern mid-ocean ridges (F.J. Vine and D.H. Matthews. 1963. Magnetic Anomalies Over Oceanic Ridges. *Nature*, Vol. 199, No. 4897, Sept. 7, pp. 947-949). A "mind-blowing" seminar for Don.

Don rightly recommended that his *VoicePipe* audience find and read "*Soundings*" written in 2012 by Hali Felt. Let me recommend to my readers that they read Thomas Kuhn's 1962 book "*The Structure of Scientific Revolutions*"; the story of the use of the magnetic mapping of the ocean's 'stripes' to bring about the acceptance of continental drift in the 1960s has all the elements of Kuhn's analysis. I would further recommend the reading of Naomi Oreskes' 2001 edited collection of papers on "*Plate Tectonics: An Insider's History of the Modern Theory of the Earth*" especially Chapter 3 which is Frederick J. Vine's cleverly titled "Reversals of Fortune" (pp. 46-66). I do not know if Vine intended the double entendre since he also discusses Dr. Lawrence Morely's failure to get his paper "proposing exactly the same idea" (Vine's own words in 2001 on p. 57), accepted by *Nature* and by the *Journal of Geophysical Research* when he submitted it for publication first in February and later in April of 1963, respectively.

Lawrence Whitaker Morely (1920-2013) was a Canadian geophysicist who was with the Geological Survey of Canada as its first geophysicist. Morely's university training was interrupted by WW II in which he served as a radar specialist. He returned to U of T to earn a degree in physics and later a Ph.D. with J. Tuzo Wilson as his supervisor doing a thesis on the magnetic properties of rocks. He was well suited to be thinking about the magnetic properties of the oceanic rocks found at the mid-ocean ridges.

His theories and his submitted February, 1963 paper "proposing exactly the same idea" were not known by Fred Vine in 1963 as he finally sat down and penned the initial draft of what was to become the 'Vine and Matthews' manuscript in May of 1963; it was then internally reviewed within the Dept. of Geodesy and Geophysics at Madingley Rise at Cambridge by Maurice Hill, Sir Edward (Teddy) Bullard and finally by

Drum Matthews, Vine's thesis supervisor. It was submitted to *Nature* "in late June or early July." (Vine, 2001, p. 58), at least four months after Morely's initial submission to *Nature,* and Vine and Matthews were in print on September 7, 1963.

Vine in 2001 indicates that he became aware of Morely's rejected submissions four years later in 1967. The rest of us were generally not aware of Morely's involvement until in 1984 when the actual Morely text of February, 1963 and the text of the two journals' letters of rejection with peer reviewers' comments were published through the efforts of several of Larry Morely's colleagues. I too was oblivious to Larry Morley's dilemma until 1984.

I had come to Dalhousie IODal to do an M.Sc. in Geology in September 1964, a year earlier than Don's arrival. I had had the good fortune to have done my Honour's degree at U of T where my final year included a geophysics course taught by Dr. J. Tuzo Wilson. Tuzo was in the midst of working out the details and marine evidence for the new family of "transform faults" that he had come up with. During the 1963-64 course, Tuzo along with

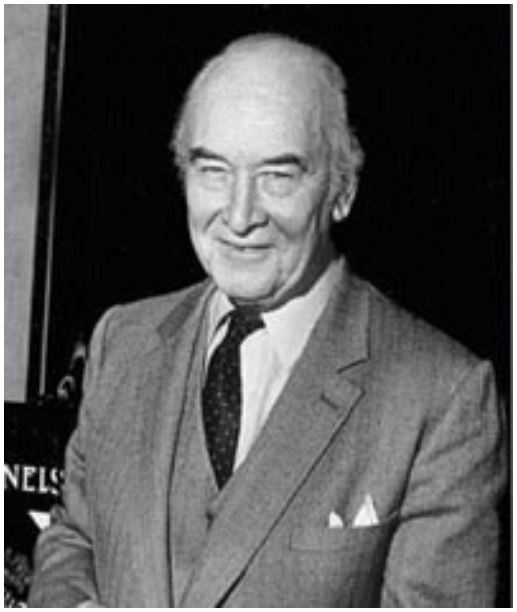


Fig. 1 - Dr. J. Tuzo Wilson. Photo - Huntsmanaward.weebly.com

Gord West as backup, thoroughly imbued our small class of less than eight with rubric of magnetic reversals, remnant magnetism, the stripes seen in marine magnetic anomaly maps and of course transform faults. I do not recall being blown away by the new paradigm: continental drift was just part of our geologic vocabulary. My lasting image is of Tuzo standing in front of us in the Geophysics House hand-holding his simple paper and cardboard model painted with the ocean's magnetic anomaly stripes then with a magician's ease and with a mischievous smile pulling on the edges of the model to visually demonstrate the "transform fault' opening before our eyes. It was all so logical and it made sense. Dr. Wilson went on a sabbatical in 1964-1965 at Madingley Rise at Cambridge where he was to write his transform fault papers for *Nature* and *Science;* to his students it seemed as if the world was unfolding - transforming - as it should.

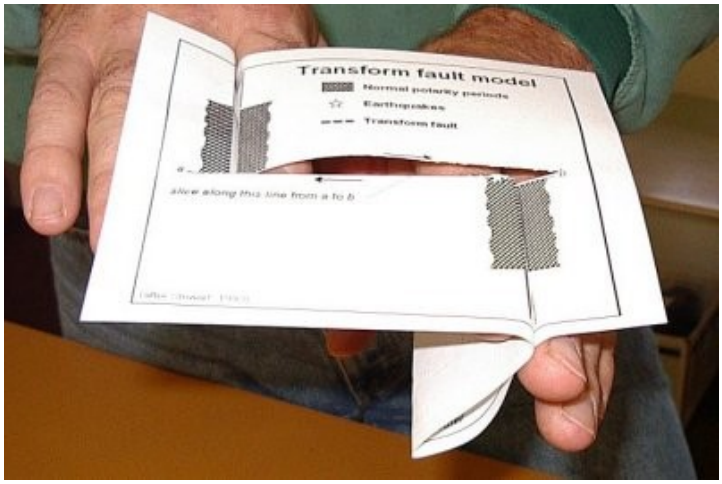


Fig.2 - Transform fault model folded. Photo from https://web.viu.ca/earle/transform-model/

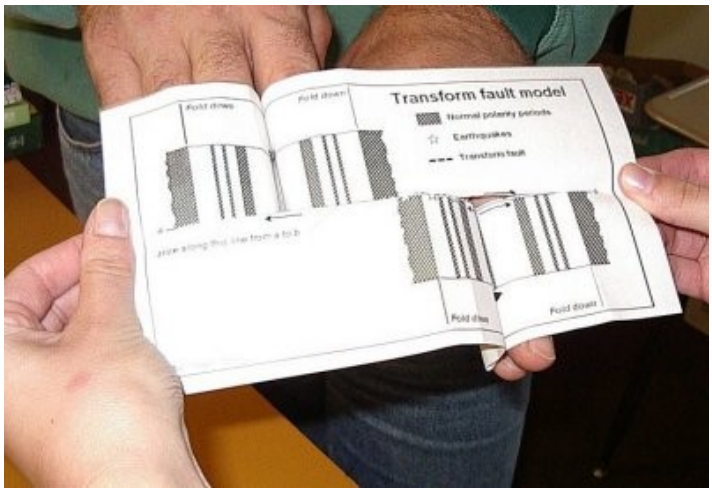


Fig. 3 - Wilson's transform fault paper model being unfolded. Photo and further description on how to make these models available at https://web.viu.ca/earle/transform-model/

IODal History On The BIO-OA Website

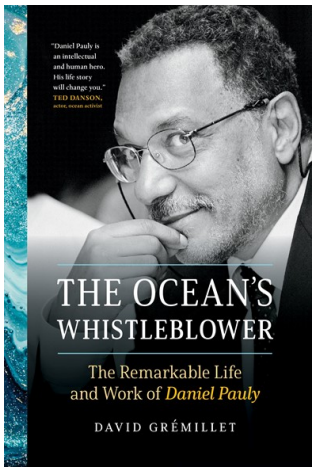
Don Gordon has written a history of the early days of oceanography at Dalhousie University which is now posted on the BIO-OA website. http://www.bio-oa.ca/docs/IODal-History-Final_21Dec2021.pdf The Dalhousie Institute of Oceanography (IODal) was founded in 1959, three years before the opening of BIO. Under the leadership of Gordon Riley and Bill Ford, the programs of both institutes developed in close collaboration which included staff exchanges, loan of equipment and joint programs.

This history begins by reviewing the origins of IODal. After describing its structure and operation, it

reviews the year-by-year evolution of its faculty, students and programs up until 1986 when IODal was terminated. Also included are some representative research highlights of faculty and graduate students. It concludes with a brief summary. Further details are provided in appendices which include advisory committees, faculty and students, research associates, student theses and graduates who were later employed at BIO. This history compliments the one prepared earlier for BIO's Marine Ecology Lab (MEL) which is also posted on the BIO-OA website. http://www.bio-oa.ca/docs/Marine-Ecology-Laboratory-History.pdf

Book Review – *The Ocean's Whistleblower* (Peter Wells)

The Ocean's Whistleblower. The Remarkable Life and Work of Daniel Pauly. David Gremillet. (Translated by Georgia Lyon Froman). 2021. Greystone Books Ltd., Vancouver/Berkeley. 349p.



Biographies are a pleasant and usually painless way of learning about a new topic and the life and experiences of an interesting character, in this case the prominent and highly published Canadian-based fisheries biologist, Dr. Daniel Pauly of UBC, Vancouver. If you work in fisheries, fish conservation, or marine ecology, you will have heard of Pauly, likely the most published fisheries biologist on the planet. If not, you are in for a pleasant and entertaining surprise through Gremillet's book, and will be learning a lot of marine biology in the process. Pauly is best known amongst fisheries and environmental biologists for his writings on the concept of the shifting baseline syndrome and has penned numerous papers and more recently a best-selling book on it.

The Ocean's Whistleblower is Pauly's life story. It is one of surviving a challenging upbringing in Europe, then of studying fisheries in the Pacific Ocean, followed by a hectic professional career of travel, research and writing while trying to promote the concept of sustainable fisheries. His career to date has covered recent decades in a world determined to overfish wherever possible, regardless of the impact on the species themselves and the people in the developing world largely dependent upon small scale fisheries. The book reads like a novel and is hard to put down. Pauly is clearly driven to help rescue the world from industrial fishing which has decimated so many fish populations. Read it, get angry, and absorb the ecological concepts that apply not just to fish but also to other species (i.e. think buffalo and salmon!). We live on a planet that is changing so rapidly that we do not see the changes and accept what is popularly known as the new normal, not noting how the wildlife populations and ecological baselines are changing.

All environmental biologists will learn something from this enjoyable and well-written book. Importantly, you perhaps will be galvanized to keep working to protect and conserve the species that are utilized by us, as well as those that are still wild and untouched on our beautiful but threatened planet.

(Editor's note – this review was previously published in the CSEB Bulletin, Winter Edition, Nov. 2021)

Backcountry Tripping with a Big Canoe (Mike Murphy)

Fig.1 – Paddling on Kejimkujik Lake. Photo – Howard Hart (a passing kayaker).

All my previous experience with big canoes has been in brigades on river systems or day trips in the coastal waters of my home province of Nova Scotia. The brigades on the Rideau River and the Saint John River were typical ventures – there would be eight to ten canoes greater than 25 feet long with crews of ten to twelve people; we started at one point and moved along the river supported by a convoy of cars, trucks, and trailers, sometimes moving around dams or other obstructions by taking the canoes out and trucking them to a put in site further along the route. This year, five of us (Mike Murphy, Wayne Gillis, Tim Surette, Earle Hickey, Brian Smith) decided to try something a little different. We took a 25 foot Rabaska canoe into the backcountry of Kejimkujik National Park. The plan was to paddle across Kejimkujik Lake (the big lake), then take a series of portages ranging from 1.2 kilometers to 100

meters through North Cranberry, Puzzle, Corbeille and Mountain Lakes to finally arrive in Peskowesk Lake. We would then spend time exploring a series of back lakes that are connected by portages of various lengths between 200 and 800 meters. What could go wrong?

Well, it turns out that a lot could. We talked to the Park staff about the portages and our plan but we didn't pick up on their subtle hints like "no one has ever taken a canoe that long and wide through those portages" and "well, that should be interesting – we want to hear how it turns out." We had a great set of wheels for the canoe and the confidence of five men well into their retirement years so we figured this should be pretty straightforward. Not so.

After an easy paddle across Keji Lake, we hit the first portage to North Cranberry Lake, a 1.2 kilometer trek with a number of uphill sections. We strapped the canoe onto the wheels and pushed, forced, and bullied it over roots and boulders. It took an hour but we got through to North Cranberry. A couple of quick trips back and forth brought all our gear over and we were ready to go but we were now aware of just how difficult this was going to be. We crossed the small lake quickly and got ready for the second portage, a short level one of just over 100 meters. We made it through this one to Puzzle Lake with relative ease and started to think that our plan may actually be feasible. Another short paddle brought us to our third portage and this is the one that killed the dream.

Fig. 2 – This is the 2nd (and easiest) portage. Photo – Earle Hickey

This one was about 400 meters, with many twists and turns in heavy forest, big boulders all along the route, and exposed roots everywhere on the portage. We took our gear over first and quickly discovered 4 spots where the portage was less than 36 inches wide. We stopped counting after those four. The laws of physics just don't allow a 50 inch wide canoe to go through a space less than 36 inches wide. We weren't about to try to flip the canoe on its side and carry it. As well, we had to consider our return trip – we still had another portage to make it to our destination and then on our return, we would need to do this all over again. So we had a quick discussion and made the only decision we could: we called the park and changed our reservation. We luckily got the campsite at the end of that portage, so we left the canoe at the start point and settled in for the night.

Fig. 3 – Kejimkujik Lake in its autumn glory. Photo – Earle Hickey

The next day, we took the canoe back through the two portages we completed on day one, and found our new campsite on the shores of Keji Lake. Over the next two days, we absolutely enjoyed paddling all around some coves and islands in the big lake in glorious sunny, calm, warm October weather. Lessons learned are pretty obvious: check out the route beforehand; big canoes don't portage well, even with wheels – they don't work in really rough terrain. But we also learned that the big canoe is loads of fun for a group in the right conditions.

From the President

We are entering 2022 still with COVID restrictions, I hope this issue finds you and yours in good health. If you have been unfortunate enough to have been exposed to the virus, I hope you are convalescing or recovered. The public health restrictions have generated a lot of stress not only for individuals and families but front line workers and businesses. The future continues to be uncertain so your Executive continues to meet virtually and any in-person events (e.g. celebrating Hudson '70) we have been contemplating have to be postponed.

As displayed on the front page, there are several stories about ships in this issue. The good news concerns the CSS/HMCS *Acadia* and the HMCS/CNAV *Sackville*. After extensive repair the *Acadia* returned to her berth on the Halifax waterfront after a brief sojourn to the shipyard in Shelburne. As an example of the extensive renovations she underwent, a local leather crafts-person was contracted to replace the leather in the hydrographers quarters. It is the Museum's plans to use her as a venue for educational programs.

I want to thank Keith Manchester, Bordon Chapman, Don Gordon and Jazmine Hayden in their efforts to preserve documentation on the *Sackville*'s science legacy. These documents are now on the OA website and some have been added to records at the Maritime Museum. Your Executive continues to work with the Canadian Naval Memorial Trust to enhance the *Sackville*'s story with its scientific contributions in their programming.

Now the sad news. CSS/CCGS *Hudson* is being decommissioned. As you are likely aware she has spent a lot of time in shipyards over the last few years for planned and unplanned repairs. Her latest equipment failure is considered uneconomic to repair. Your Executive is working with a team from the Coast Guard to celebrate the *Hudson*'s outstanding contributions to oceanography. You are invited to contribute brief stories with pictures of your experience sailing on *Hudson* as part of the OA contribution to the celebration. In addition I ask that you communicate with any of your *Hudson* shipmates who may not get this invitation so they can also contribute. Send your story to bio.oceans@gmail.com with the subject Hudson. The contributions will be collated and edited into a document for the OA website.

Peter Wells is a frequent contributor to the *Voicepipe*, this time he is the focus of one story for recognition by the Canadian Ecotoxicity Workshop for Outstanding Ecotoxicology Contributions. Congratulations and well deserved Peter. Alan Ruffman's remembrance of J. Tuzo Wilson reminded me that Wilson is one of the recipients of the Huntsman Award and gave a lecture on sea floor spreading in the BIO auditorium.

In closing let me wish you all a happy and healthy 2022 hoping we will at some point this year return to a "new" normal. Your Executive will continue to meet and have occasional meetings with management at BIO to discuss issues of concern related to preserving BIO's history. As our AGM approaches, please consider taking on a role on the Executive. You can work closely with other former and present BIO employees to preserve the legacy of a cooperative community at BIO.

Peter Wells Receives Award

At the Canadian Ecotoxicity Workshop last October in Halifax, Peter Wells was honored as a recipient of the Outstanding Ecotoxicology Contributions Award. The CEW Award was established in 2017 to recognize individuals who have made a significant and measurable contribution to the field of ecotoxicological science in Canada. Since the 1970s, Peter Wells has dedicated his career to the protection of the marine environment through his work on the impact of oils and dispersants on marine organisms, and on the development of ecotoxicity testing. Peter joined Environment Canada in 1974 at the Bedford Institute of Oceanography exploring the relatively new area of insoluble substances, specifically determining exposure concentrations and partitioning in marine waters. He has also contributed significantly to the use of scientific evidence to inform policymaking, developing guiding principles at the science-policy interface of resource management, working to ensure that science is not excluded or misused in policy. As one of his nominees stated "[Peter] has been a teacher and prolific writer who, with his global connections, has effectively promoted the inclusion of science-based information for the protection of oceans in general and Canada's in particular." In his address to the CEW, Peter highlighted the importance of marine environmental science, including marine ecotoxicology, programs that sadly DFO cancelled in a spate of spending reductions in the early 2010s.

Editor's Keyboard:

The theme in this edition is ships, with articles on three ships that have a deep connection to the work of BIO. As Andy noted, we have good news about *Acadia* and *Sackville*, but very concerning news on the *Hudson*. While we will work with the CCG to commemorate the contribution of this workhorse, the loss of this vessel will be felt by the current staff of BIO. The replacement for *Hudson* is not expected until 2025 and as we all know, these types of major projects are invariably delayed.

The loss of a dedicated vessel for oceanographic research will be felt by the current staff and by any one interested in ocean research. While charters and the use of other CCG vessels may help reduce the impact, these are jury-rigged solutions that affect the ongoing research programs and only erode the capacity of BIO. Lack of ship time and opportunities to actually go to sea will make recruitment and retention of scientific staff more difficult. We can only hope that the *Hudson* replacement arrives on time and proves to be a worthy successor.

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 per year, $40 for five years, $70 for 10 years, or $150 for a lifetime membership.

Officers and Directors

PRESIDENT	Andy Sherin	
VICE-PRESIDENT / PRESIDENT-ELECT	Patrick Potter	
VICE-PRESIDENT	Borden Chapman	
PAST PRESIDENT	Claudia Currie	
SECRETARY	Pierre Clement	
TREASURER	Lori Collins	
DIRECTORS AT LARGE:	Ruth Jackson	Don Gordon
	Kelly Bentham	Steve Blasco
	David McKeown	Tim Lambert

Communications: Newsletter, PR, and Web Site

NEWSLETTER EDITOR	Michael Murphy
PR AND MEMBERSHIP	Jennifer Hackett
WEBMASTER	Jazmine Hayden

Committees / Working Groups: Chairs

BELUGA AWARD	Randy King	NSIS LIAISON	Peter Wells
OUTREACH	Charles Schafer	TITANIC SOC. LIAISON	Steve Blasco
EVENT COORDINATOR	Vacant	SACKVILLE LIAISON	Keith Manchester
BIO ARCHIVES	Don Gordon	BIO GARDEN	Gerry McCormack
FOSSIL GARDEN	Ruth Jackson		
EQUIPMENT ARCHIVES	David McKeown, Philip Spencer, Randy King		

Past Presidents

Robert Reiniger (1998-2000), Dale Buckley (2000-02), David Nettleship (2002-04), Donald Peer (2004-06), Betty Sutherland (2006-08 and 2010-11), Bob O'Boyle (2008-10), Paul Keizer (2011-13), Mike Hughes (2013-15), Michael Murphy (2015-17), Claudia Currie (2017-2018)

Membership Information

Access to our registration form and info at http://bedfordbasin.ca/join.php

Or

Email bio.oceans@gmail.com - request details to become an OA Member

Association Mailing address: Bedford Institute of Oceanography, P.O. Box 1006, Dartmouth, NS B2Y 4A2.
Email address: oanewsletteredtor@gmail.com