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# VOICEPIPE

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The Newsletter of the BIO-Oceans Association

## Bob Murphy: 2013 Beluga Award Winner

Photo: Kelly Bentham

Bob Murphy was "born at an early age", one of 13 children in a northend Halifax home. There he remained until he left school in Grade 11 to help in earning some household income. From the beginning, Bob's career revolved around seagoing and teamwork. His first job as a 'brush hand' (a painter's helper) at the Halifax dockyards had him applying the primer coat on submarines. When seeking another job, Bob crossed the harbour to the Bedford Institute of Oceanography (BIO) to work for the Department of Mines and Technical Surveys (an earlier name for Natural Resources Canada) where he was part of a crew painting workshops and offices. His very first task was to paint the Atlantic Geoscience Centre's Depot floor (a feat he repeated for Open House 2012). His work impressed Keith Manchester enough to earn him a six-month extension. When the term ended and Bob returned to 'Manpower' (as it was called in those days) he underwent a 'job placement evaluation' that stated he was ideally suited to be either a shoe salesman or an electronics technician. Bob made the decision to return to school to study electronics when Keith called him back for a one-year term. The electronic world's loss was our gain; lucky for us, Bob never left. Starting as an assistant to coring technicians Mike Gorveatt and Lyle Brown, "Murph", as he became known, learned all there is to know about marine sampling, but especially sediment coring.

Forty-one years later, Bob is the GSC's senior marine sampling technician and no GSC Atlantic scientist wants to go in the field without him. In addition to his technical prowess, his contribution to every mission's success comes from a profound sense of purpose and community. The strong bonds he has forged and

**BIO-OA AGM**
**9:30 am**
**and**
**Beluga Award Ceremony**
**11:00 am**
**9 May 2013**

## Contents



continues to maintain between science staff and ship's crew have not only ensured operational successes over the years, but have fostered goodwill and an emotional investment for all involved in the mission that transcends a mere 'job'. Indeed, letters in support of Bob's nomination came from NRCan and DFO managers, Coast Guard officers and crew, friends, and colleagues. As the letter of support written by the crew of CCGS *Hudson* states "When the vessel is coming in and we require a linesman, he will gladly accept the task. Once tied up he will volunteer any assistance for what might be required for that day. He does all of this not out of a work obligation, but because he values the vessel and its crew. He does it all because he cares and he accomplishes it with a smile."

Back on shore, if there is something you need, Bob's your man. No job is too messy for him. If he can't do it he knows who can. If he can't find it, it probably doesn't exist. As well, Murph is the go-to guy for BIO's many social and charity activities, always working behind the scenes. Whether it is the Christmas charity fundraiser, Open House logistics, Huntsman Award ceremonies, or the heavy lifting for the Parker Street Christmas Food project, you will find Bob getting the job done.

It is somehow fitting that Bob's professional expertise is in the collection of sediment cores. He is at the core of what makes BIO special: the people. It's Bob's special gift and it makes him especially worthy of this prestigious award. He helps to make BIO a great workplace for us all. Please mark 11:00 am 9 May on your calendars and come down to auditorium to help celebrate this much-deserved award with Bob.

## Recovery Unlikely for Cod[1]

The recovery of overexploited fish populations such as cod has been slower than expected and many depleted stocks may never be able to bounce back, a new study says.

The study, published on 19 April 2013 in the journal Science, was compiled by researchers who examined 153 fish and invertebrate stocks from around the world.

Most fish species are resilient enough to recover within a decade if swift action is taken to reduce pressure on depleted stocks, the researchers say.

"But when you don't take action rapidly ... not only does it result in a much longer potential recovery time, but the uncertainty as to whether recovery will happen at all increases exponentially," said Jeff Hutchings, a professor of biology at Dalhousie University and one of the authors of the study.

Hutchings said that may explain why cod hasn't bounced back more than 20 years after Ottawa declared a moratorium on the commercial cod fishery, a once thriving Atlantic Canadian industry.

"Here we are two decades after enormous depletion of cod stocks ... and people are still wondering about the prospects of recovery," said Hutchings.

"Our study really suggests that recovery is quite unlikely now for cod because of our failure to act when we could have."

Hutchings said the federal government needs to set a population threshold that would determine when action must be taken to reduce pressure on a fishery.

He said legislation is needed to allow for depleted stocks to recover, as they have in the United States.

There, when a commercial stock is overfished, fishing ceases immediately and a plan must be put in place within two years to rebuild the stock within a decade, he said.

"Canada currently has no such requirements for recovery or rebuilding plans and we also do not have a legislatively required trigger for such action," he said.

"I would like to think that this kind of work would provide even more scientific incentive ... to come up with target reference points and rebuilding targets for all of our depleted fisheries."

Hutchings said this would not only be beneficial from a biological standpoint, but would also ensure food security and employment in the fishing industry.

Frank Stanek, a spokesman for the federal Fisheries Department, said in an email that the government introduced conservation measures after the 1992 moratorium that included gear restrictions and cod by-catch limits.

He added that a working group on the cod recovery was set up "to develop a fishery decision-making framework that incorporates the precautionary approach for this stock."

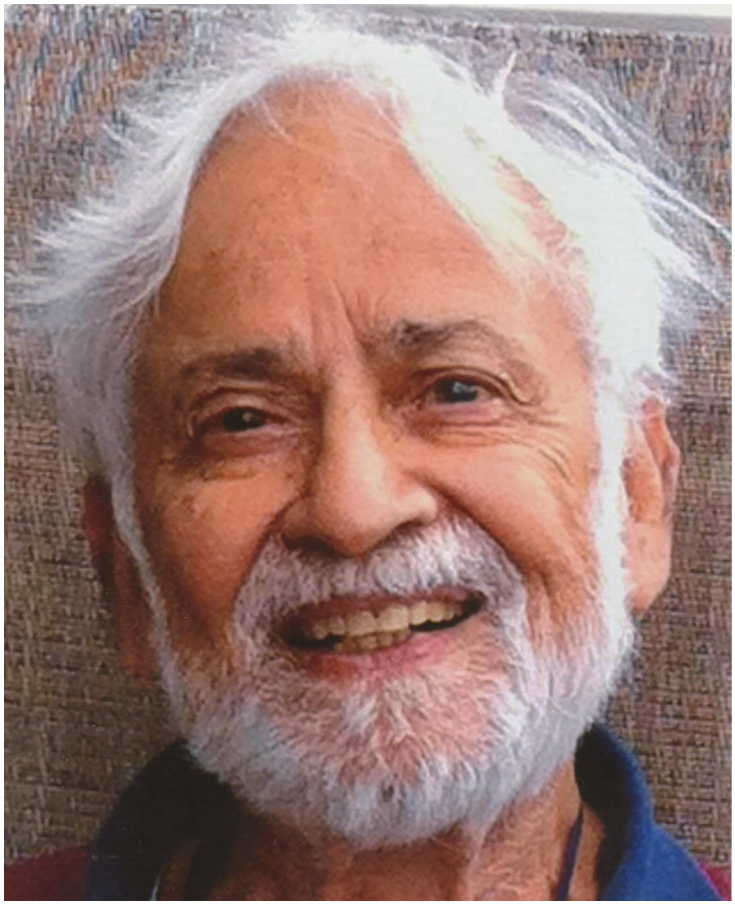
Since the early 1960s, cod populations off the northeast coast of Newfoundland and Labrador have declined by more than 97 per cent and are now at historically low levels, according to the Department of Fisheries and Oceans.

The study looked at fish species including herring and yellowtail founder whose populations had declined below their maximum sustainable yield, which is set by the United Nations Convention on the Law of the Sea.

[1] From The Canadian Press by Aly Thomson, 18 April 2013.

**Remembering Shiri Srivastava: An Appreciation**

by Bosko Loncarevic



We met for an interview at the Lord Elgin hotel in Ottawa, Ontario, though I had already decided to offer him a position with the Geophysics group at BIO. He had excellent credentials: a ground breaking PhD from the University of British Columbia (UBC) and a clear recommendation from his supervisor at the Dominion Observatory where he was a Postdoctoral Fellow at the time. "If you need a computer wizard, Shiri is your man," said Dr. W. My only concern was that after a couple of years with us he might be lured to one of the big oceanographic institutions in the United States. After all, I thought, there was nothing to hold him in Canada if the Americans wanted him. I didn't know at the time that Shiri's wife, Vivien, a marine biologist with a PhD, also from UBC, was already in touch with Lloyd Dickie, Director of the Marine Ecology Laboratory, about a position at BIO.

The most vivid memory of that interview is how modest Shiri was. He appeared reluctant to talk about his accomplishments and concentrated on pointing out how his research project could have been improved if he had more time to complete all the calculations.

Shiri (and Vivien) joined BIO in June 1966 and he immediately tackled a difficult and important study of the Daily Magnetic Variation (DMV) of the magnetic field. Unlike ocean tides, DMV are less predictable and cannot be easily corrected in surveys of areas where magnetic anomalies are small, as for example on Grand Banks. There were only two other research groups in the world studying the same problem, at the University of Cambridge and at the Scripps Oceanographic Institution in La Jolla, California. Shiri quickly established scientific cooperation with both. Cambridge sent a graduate student to work at BIO under Shiri's supervision for a year, while Scripps invited Shiri to participate in a major expedition in the Indian Ocean.

This ground-breaking work established international cooperation as a major component in all of Shiri's scientific endeavours. Shiri probably had more international collaborators than any other scientist in our group.

As the scientific community accepted the paradigm of plate tectonics, Shiri shifted his scientific curiosity to the spreading of the Labrador Sea. There were plenty of magnetic anomalies in the area, but they did not fit the neat patterns that were identified in the Atlantic and the Pacific. Shiri solved the problem when he recognized that spreading of the Labrador sea started long after the European and North American plates began to split and then slowed and stopped as the north end of Greenland encountered the resistance of Ellesmere Island between 43-33 million years ago.

Solving this problem led Shiri to tackle the details of fit of Grand Banks to the European plate. This interest led to productive collaboration with Jean-Claude Sibouet and others and led to Shiri's involvement with the Deep Sea Drilling Project. For many years he was Canadian Representative (together with Matt Salisbury) on the planning and technical committees of the Ocean Drilling Project (ODP), the largest international scientific program in Earth Sciences.

Most of his life, Shiri was in poor health. His weak lungs caused problems with various other body functions. He seemed often to be on the verge of some crisis or another. He never complained. Instead he was stoic about his condition, his modesty masking the pain and suffering.

Those who remember Shiri will remember him mostly for his loyalty. He was uncompromisingly loyal to his family and friends, to his work, to the institutions that he worked for, and to the colleagues that shared his knowledge.

Those who were fortunate to live close to Shiri, will remember him best for his hospitality. Vivien and Shiri's home was always open, be it just overnight accommodation for a Newfoundland scientist who had missed his flight, home for Jean-Claude Sibouet for days while they worked on a joint paper, or space for forty or more BIO-OA members attending a summer picnic in a lovely garden on the shores of Lake Charles. Shiri was one of the founders of the BIO-Oceans Association.

And who will ever forget the fabulous chicken tandoori that Shiri could prepare for any number of people, including almost eighty scientists and crew on CSS *Hudson* during his many expeditions? No one!

It is customary to conclude saying "We will miss you, Shiri." But we miss some more than others, and we will miss Shiri as our very dear friend.

## International Listing of Shark should provide incentive for National Conservation Measures[1]

After a week of negotiations in Bangkok, Thailand, the Convention on International Trade in Endangered species (CITES) accepted the listing of five commercially important shark species under Appendix II. Among the shark species listed was the porbeagle, also known as 'Canada's shark', as they spend the majority of their lives in Canadian waters. Canada supported the listing of porbeagle; however, Canada remains the only country in the world to continue to allow a directed porbeagle fishery and lands more porbeagle as by-catch in non-direct fisheries than any other country.

In November 2012, a proposal was tabled at the International Commission for the Conservation of Atlantic Tunas (ICCAT) which would ban the retention of any porbeagle caught in the Atlantic and Mediterranean, where populations have been listed as endangered by the International Union for the Conservation of Nature (IUCN) Red List for Threatened Species. The proposal failed to pass in part due to Canada's request for an exemption.

"Canada is failing to be accountable internationally, and to its own citizens on this issue, says Shannon Arnold of the Ecology Action Centre. "The blocking of a decision at ICCAT and a failure to respond to the petition is truly baffling."

The listing of porbeagle and other shark species under CITES Appendix II is a big win for the shark conservation movement and has the ability to have a large impact on the recovery of these shark.

"This is another indication that there is a global consensus on the serious threats these sharks are facing", says Arnold. "We need to do everything possible to give them a fighting chance to recover."

Listing of these species requires that exports of products derived from these species must be accompanied by proof that they are from a sustainable and legal source. By supporting the CITES listing, but requesting an exemption to the ICCAT proposal, Canada has essentially cornered the market on an endangered species. They will likely be able to get an export certification for the porbeagle fishery which means that Canada will be the only country that is directly and legally fishing porbeagle in a manner that is acceptable for trade under Appendix II.

"It's definitely a bit suspicious", says Heather Grant also of the Ecology Action Centre. "The purpose of both the ICCAT proposal and the CITES listing were to protect an endangered species that is having trouble recovering from fishing pressures. So why support one and not the other, unless there are some ulterior motives at play?"

In 2006, the porbeagle shark was denied protection under Canada's Species at Risk Act (SARA) despite seeing declines of up to 88% since 1961 for fear of economic losses to the fishing industry.

"We are glad that Canada has supported the international regulation of trade of the porbeagle shark", says Grant. "We hope that this will now be reflected by an increase in national efforts to conserve this shark and keep it off fishermen's lines, rather than a push to increase the market for an endangered species."

[1] From the Ecology Action Centre, 18 March 2013.

## FROM THE PRESIDENT

Spring is just around the corner and just as we look forward to the longer days and warmer weather, we also look forward to the BIO-OA's Annual General Meeting (AGM) and with it, the Beluga Award presentation. This year our meeting will be held on 9 May 2013 in the Ford Auditorium. We need YOU to come and provide input about what the OA has been doing and what we should do in the future. This is an opportunity for you to get together with your colleagues over a cup of coffee and then to join in the celebration of our Beluga Award winner. The OA Executive work all year to keep you connected with what is happening at BIO and to provide social and educational events for our members. So please take a morning of your time to show your support for what your Executive is doing and provide suggestions for future direction and activities.

During the BIO Expo, and also during a recent tour by the Young Presidents' Organization, there were numerous comments from visitors about the passion with which exhibitors and speakers talked about their work. Despite the continued cutbacks to operating funds and the restrictions placed on communicating research results, the scientific community at BIO continues to approach their work with an unusual passion. I believe that much of this positive attitude is the direct result of activities of those individuals who are nominated for and/or awarded the Beluga Award. They are the individuals who transcend the bureaucratic boundaries and make things happen. All of us who work or have worked at BIO owe a great deal to these individuals who have made BIO a remarkable workplace.

So mark 9 May 2013 on your calendars as the 'not-to-be missed' date for the presentation of the Beluga Award for 2013. As always, we have a well-deserved winner, and this year, the Beluga Award winner is Bob Murphy (for details, see pages 1 and 2).

The OA has been a party to many positive events over the past two years. However, those events have been overshadowed by federal environmental policy changes and drastic reductions in the funding of government science. We have seen the international status of marine science in Canada drop dramatically, Canada is no longer seen as a major contributor to marine scientific research. On top of that, the federal government has quietly imposed draconian measures to control the publication and dissemination of the results of the research that is being done and paid for by Canadians. In the past we have seen cycles, highs and lows, in the support of marine science in Canada; we now seem to be at a low point that is unprecedented in the 50 years of marine research at BIO. You, the members of the OA, as informed citizens and voters need to lobby your elected representatives and candidates for elected office at all levels of government to take action to restore support for marine scientific research in Canada and to insure that we protect our environment for the use of generations to come.

On a more positive note, we are looking forward to the publication of the 'Voyage of Discovery' in this fiscal year. There has been an overwhelming response from the scientific community in documenting 50 years of marine scientific research at BIO such that the book will be double the length originally anticipated. Needless to say, this has resulted in a heavy workload for the editors and a delay in publication. More details on the book and its publication will be available this fall.

This is my last president's column in the *VoicePipe*, at the AGM we will vote in a new president along with other members of the Executive. I have enjoyed my two years at the helm, and it has been a busy time with the many celebrations around the BIO 50th Anniversary. At present we have 234 members, but we only see a small fraction of those members at social and educational events. We have a new social coordinator, Claudia Currie, who is planning numerous activities for the coming year and so, come out and join your colleagues. Even better, offer to help with the Executive – it really is true that many hands make light work.

I hope to see many of you at the AGM on 9 May 2013 and at OA sponsored events in the coming year.

*Paul Keizer*

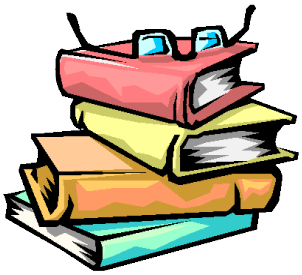
## In Memoriam

Jean Marie Hill, Natural Resources Canada micropaleontologist, died 24 March 2013.

Shirley Eileen Jordan, wife of Francis Jordan, died 23 April 2013.

Solveig Wells, wife of David Wells, died 22 March 2013.

A gathering in memory of
**Surat (Shiri) Prasad Srivastava**
was held on Sunday, 28 April 2013,
at 16 Pottery Lane, Halifax, NS.



# Noteworthy Reads: Book Reviews in Brief

*David N. Nettleship*
*Book Review Editor*

The ***Noteworthy Reads*** section is an effort by BIO-OA to produce a representative list of recent noteworthy book publications related to the marine sciences and other subjects of general interest. The listing is not intended to be comprehensive or complete, but merely an attempt to highlight a number of 'good reads' that may be of interest to OA members and associates. Most books listed are available at local bookstores and public libraries. Book prices are regular retail in Canadian funds, but discounts of 20-30% are normally available on line at: e.g., amazon.ca or chapters.indigo.ca. Contributions of book reviews to 'Noteworthy Reads' are welcome – send via e-mail to David Nettleship: dnnlundy@navnet.net (phone: 902-826-2360).

## Special Publication:

### Expedition Extraordinaire

**Schafer, Charles T. and Roger W. Smith. 2012. Getting Around the Americas: The *Hudson* 70 Expedition.** Virtualbookworm Publishing, College Station, TX. 69 pp. Softcover, $21.00 (ISBN 978-1621370765; also available at BIO gift shop @ $15.00).—At long last we have an outstanding and accessible photo portfolio of the Bedford Institute of Oceanography's most impressive marine research venture undertaken in 1969-70: the first circumnavigation of the Americas, an eleven month Canadian voyage of discovery that traversed four oceans, covering about 100,000 km! Marine geologists Charles Schafer and Roger Smith, both members of the scientific research team on the *Hudson* 70 expedition, have merged their photo collections taken en route to fill a glaring gap in the record of this ground-breaking, multi-disciplinary, and international effort to provide basic knowledge of the ocean's structure, water masses, currents, and biological and chemical characteristics. Although the general and scientific accomplishments of the voyage are well known through several book publications – from early accounts such as 'Voyage to the Edge of the World' (A. Edmonds, 1974) to more recent reviews 'The Great Ocean of Truth (P. Wadhams, 2009) – and hundreds of publications in the scientific literature, this present work, unlike the others, grabs the reader, takes them aboard to experience a unique visual tour of the expedition in progress, to locations far offshore away from land to exotic coastal sites like the previously unexplored fiords along the coast of Chile. The 124 colour illustrations succeed not only in transporting the reader into the actual work environment of the magnificent CSS *Hudson*, but also provide a real sense of life at sea and the nature of the ocean science work conducted en route and why it is important. The explanatory text by the authors that accompanies the photo documentary is informative and extremely well integrated with the pictures presented along with revealing perspectives about the expedition itself as experienced by two of its participants. This volume will be a treasured addition to the book shelves of anyone interested in the oceans of the world and Canada's global-scale contributions to oceanography.

### General Reviews

**Bown, Stephen. 2012. The Last Viking: The Life of Roald Amundsen.** Douglas & McIntyre, Vancouver, BC. 400 pp. Hardcover, $22.00 (ISBN 978-1553659372).—Here is a book that should be in the collection of anyone interested in polar exploration and voyages of discovery. One name, and one name only, stands at the forefront of contemporary geographic discovery, filling in the glaring gaps in maps of the polar world: the Norwegian Roald Amundsen. In a span of two decades, Amundsen, a skilled adventurer and meticulous planner and organizer, claimed the prizes of unsolved mysteries in the polar regions that had intrigued the world for centuries: the Northwest Passage, the South Pole, the North Pole, and the Northeast Passage. This biography vividly portrays Amundsen in all his different roles, from ambitious and competitive explorer of unconquered places with unusual skills in people management to being a national hero in Norway and an idolized celebrity figure in the United States. Stephen Bown has produced an invaluable picture of Roald Amundsen, the man in all his many forms, especially as visionary and captivating presenter of facts and plans that sponsors and governments could not deny. The title given to this work is perfect to commemorate Amundsen's legacy as explorer and conqueror, truly the last Viking in the heroic age of exploration!

**Bynum, William. 2012. A Little History of Science.** Yale University Press, New Haven, CT. 272 pp. Hardcover, $25.00 (ISBN 978-0300136593).—Looking for a little overview of science and its history? This inviting book by historian William Bynum may well fit the bill, a story outline that unrolls as a grand adventure story. Humans have always practiced 'science', wanting to understand the world around them and utilize its resources for maximum benefit. The history tour provided here traces the march of science from ancient Greek philosophers through Einstein and Watson and Crick to the scientists of today with their computer-assisted technologies. With delightful illustrations and an attractive writing style, we are exposed to the exciting and uncertainties of early sci-

entific activity and the often ensuing uproar caused by findings that upset established beliefs and ideas. The story of seeing the stars of the universe through the telescope and the realization that the sun, not the earth, is at the centre of our solar system, makes for entertaining reading, as do reviews of the beginnings and development of knowledge of geology, chemistry, physics, and biology. The stories presented often surprise, as well as inform, about the nature of scientific investigation and how past and present findings continue to amaze and challenge us, as well as opening unimagined new vistas for exploration. Professor Bynum has given us a great gift with his splendid '*A Little History of Science*'.

**Curtis, Wayne. 2012. Of Earthly and River Things: An Angler's Memoir.** Goose Lane Editions, Fredericton, NB. 240 pp. Softcover, $19.95 (ISBN 978-0864926616).—This new collection of essays by Wayne Curtis transports the reader to the delights of fishing with friends on the Miramichi River and other waterways of New Brunswick. In warm and masterful prose, Curtis pays tribute to the culture of the 'river people', their relationship and understanding of the river and its bounty, and the love of land, water, and community. The trek down memory lane through the pages of this memoir reveals the nature of growing up in an ideal environment – peaceful, connected to land and nature, evergently rewarding – and details of the subsequent changes in lifestyle that have taken place. Overall, '*Of Earthly and River Things: An Angler's Memoir*' is a magnificent and heart-warming read that prompts both the thoughtful reflection of life's past simple pleasures and concerns about the future and a vanishing river culture.

**Howell, Steve N.G. 2012. Petrels, Albatrosses, and Storm-Petrels of North America: A Photographic Guide.** Princeton University Press, Princeton, NJ. 483 pp. Hardcover, $45.00 (ISBN 978-0691142111).— This is a book aimed for the lover of the open ocean and its flying 'tubenose' inhabitants, and for the hardcore pelagic birder. Without question, Steve Howell has produced a masterpiece on the mysterious and intriguing seabird group, the Procellariiformes, best known as petrels (including shearwaters), albatrosses, and storm-petrels. It is a storehouse of information on the bird group as a whole and the ocean environment it occupies including how petrel distribution is influenced by major ocean currents, fronts, winds and other oceanographic features. Of course, the bulk of the book comprises the species accounts (70 taxa) that cover about half the world's procellariiforms. The accounts are separated into sub-groups and provide details for identification far beyond general appearance and size, such as flight characteristics, plumage variation (related to age and moult), seasonal patterns of occurrence, migratory movements, and visual determinants for distinguishing between similar-looking species, as well as a map for each species showing where it is likely to be found and at what time of year. But it is the hundreds of superb colour photographs and figures (most by the author) that make the work a 'state-of-the-art' identification guide, unlike any other. The illustrations combined with the detailed text provide all the tools necessary to identify any tubenose encountered at sea. Although focused on North America, this guide will prove useful for seabird watchers on both sides of the North Atlantic and North Pacific. This is an essential book – more than a photographic guide -- for anyone interested in pelagic seabirds *per se* and the 'bible' for all tubenose researchers and enthusiasts.

**McLaren, Ian. 2012. All the Birds of Nova Scotia.** Gaspereau Press, Kentville, NS. 336 pp. Hardcover, $47.95 (ISBN 978-1554471164).— Are you ready for some outdoor excitement and a challenge this summer? Well, if you are, and if it includes the desire to know more about those feathered friends you share the lands and waters of Nova Scotia with, grab your regular bird guide and Ian McLaren's recently published masterful supplement '*All the Birds of Nova Scotia*'. The first will assist in the identification of the birds encountered, but the invaluable McLaren reference work will allow you to focus on the finer details of occurrence and identification including distinctive subspecies, variations, and an abundance of historical and contemporary information. Brief accounts for all bird species are given, along with present status, recent changes, and answers to many other questions such as: Is the bird common or rare? Where does it normally occur and at what times of the year? All of this and more is answered, information based on the work of ornithologists and skilled amateur observers that has been compiled and carefully summarized by the author. This is a book that every serious observer of birds in Nova Scotia must have.

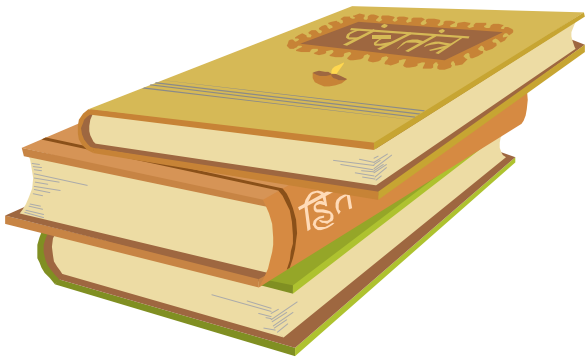
**Miller, Charles B. and Patricia A. Wheeler. 2012. Biological Oceanography, 2nd Edition.** Wiley-Blackwell, Oxford, England, UK. 480 pp. Softcover, $77.00 (ISBN 978-1444333022).—This new edition of Biological Oceanography successfully updates and expands the information presented when it was first published in 2004. As expected, the book focuses on current understanding of ocean ecology with emphasis on marine processes, pelagic organisms, their habitats and inter-relationships. But much has been added on subjects such as the ben-

thos, hydrothermal vents, commercial fisheries, and climate-change effects. Major additions occur with solid reviews of new approaches to the study of pelagic food webs and oceanic biomes, and the injection of the importance of molecular genetics, all welcomed expansions to cover adequately the broad subject area of biological oceanography. Like the first edition of this important work, the book is academic in nature and aimed at professional marine ecologists and graduate students of ocean ecology.

**Nisbet, Ian C.T., Richard R. Veit, Sasha A. Auer, and Timothy P. White. 2013. Marine Birds of the Eastern United States and Bay of Fundy.** Nuttall Ornithological Monographs No. 29, Nuttall Ornithological Club, Cambridge, MA. 188 pp. Hardcover, $49.75 (ISBN 1877973483).—This monograph by Ian Nisbet, one of North America's leading seabird population ecologists, and his co-workers along the Atlantic seaboard of the United States, have combined their data sets to review the distribution, numbers, and recent changes of 83 marine species (31 breeding species) that occur regularly along the east coast of the United States, in the Bay of Fundy, or in waters of the continental shelf. Their comprehensive overview assesses trends in numbers since 1970, threats, and research and conservation needs. It compiles data from many published and unpublished sources, and has a bibliography of more than 600 entries. Overall, the detailed information presented, combined with the rigorous manner of analysis, and conclusions drawn make this work a timely and invaluable reference source for professional marine scientists, conservation biologists, coastal zone managers, serious birdwatchers, and anyone captivated by seabirds and their marine environment.

**Saulitis, Eva. 2013. Into Great Silence: A Memoir of Discovery and Loss among Vanishing Orcas.** Beacon Press, Boston, MA. 272 pp. Hardcover, 32.00 (ISBN 978 -0807014356).— This masterfully crafted book is a sensitive personal memoir of 25 years of studying a small extended family of *Orca* whales in Prince William Sound, Alaska, known as the Chugach transients. It begins a few years before the *Exxon Valdez* oil spill in 1989 and extends into a valuable assessment of the impact the oil had on the transient *Orca* family and other marine life – fish, seabirds, seals, otters -- occupying the Sound. Eva Saulitis moved from the south to Alaska at age 23 to work at a fish hatchery. That decision changed her life by introducing her to *Orca* whales that subsequently dominated her existence. Early on, she completed an MSc degree in biology by studying the *Orcas* followed quickly by a second degree in creative writing to better communicate her research findings. She succeeded in both avenues, first by honing her skills as a scientist and field biologist, and then as a master story-teller. *Into Great Silence* recounts her scientific training and life's work on the *Orcas* in Prince William Sound, providing scientific details of the family's structure, behaviour, and changes observed through the 25-years of study. At the heart of the story is the devastation brought on by the *Exxon Valdez* oil spill to the endangered *Orca* whales struggling to survive in Prince William Sound, after which not a single young calf has been born to the group. It provides a vivid reminder of the fragile nature of certain marine systems and the irreparable damage that can be inflicted upon them – and the responsibility we have to protect them.

**Weis, Judith. 2012. Walking Sideways: the Remarkable World of Crabs.** Cornell University Press (Comstock Publishing), Ithaca, NY. 256 pp. Hardcover, $29.70 (ISBN 978-0801450501).—This amazing book by Judith Weis 'Walking Sideways' provides an all encompassing tour of the remarkable world of crabs, an intriguing and diverse (nearly 7,000 species) group of animals. Their unique biology and natural history are highlighted, along with details of their heavy exoskeletons and multiple limbs with front pincer claws, and their incredible variation in size and shape. All of this is made clear through the 76 colour and black and white illustrations presented of crabs in their habitats. This comprehensive introduction to crabs also includes reviews of their evolution, classification, habitats, ecology, behaviour, special adaptations to land and water, reproduction and development, and threats, all based on recent and up-to-date research. Some emphasis is placed on threats crabs face and conservation requirements, with reviews of their commercial value from fisheries, aquaculture, and medical uses. Overall, this information-packed book will attract and delight a wide readership from the interested layperson to biologists in many fields.



**Bernard Pelletier, Head, GSC Marine Geology**
**2nd in the series of Oral Histories**
**from the BIO Archives**
by Andy Sherin

"I loved it. Amen! I couldn't wait to get there" was Bernie Pelletier's response to "What were your impressions of BIO when you first arrived?" asked during his interview on 30 April 2003 for the BIO Oral History Project. Bill Cameron, head of the Marine Science Branch at the time, said to Bernie that he was the first one he had meet that was anxious to go east to Dartmouth, Nova Scotia, nobody wanted to leave Ottawa. Bernie remembers responding that they were not going to accomplish what was needed by staying in Ottawa: "The only thing to do, if you are going to sea, is to join the marine community." Bernie waited for the school term to end and arrived in Dartmouth on 1 July 1963 accompanied by his family to lead marine geology at the Bedford Institute of Oceanography (BIO).

Bernie also told of his impressions of the senior managers he met in Ottawa and who had made the decision to establish BIO: "Bill van Steenburgh, he was a good man and he was forceful. There was always about him an overt sense of command, get this done! And it was done. He called me into his office one day and he gave me a lecture. Don't get your toes wet. Jump in."

Bernie, as Head of Marine Geology at the Geological Survey of Canada (GSC), was invited to cocktail parties where he saw how the senior men operated. "There was that same sort of powerhouse aura; you could see it and it impressed you. They were all visionaries. They knew what they had to do to get things in place to make it work. They knew their people and you always felt easy in their presence. You always had respect, always. We owe it to them."

Bernie had about six members in his gang in 1963; Gus Vilks, Jim Marlowe, Roch Cormier and George Duncan, with Lew King and Brian MacLean arriving from Ottawa at the same time he did. A seventh member, Frances Wagner, joined the original gang the next year. Over the years, Bernie sent 20 of his staff out on educational leave including Al Grant, Dale Buckley, and Gus Vilks.

Bernard Pelletier was born in Toronto in 1923. When he was 18 he was in active service in the army; at 19 he went overseas and was in action in Italy in 1943. After the war, he finished his high school and entered McGill University in 1947. He married Judy Lamb in 1950 and they both graduated from McGill the same year. He went on to McMaster University for a Masters degree and then to Johns Hopkins University in Baltimore, Maryland, to study under Dr. Francis Pettijohn for his PhD. Professor Pettijohn mentioned Bernie in one of his books saying "Pelletier was one of the first to use [mathematical-physical] models in his study of sediments."

Bernie's first job while still a graduate student in 1947 was with the Geodetic Survey of Canada as an engineering assistant, shooting theodolites on headlights 30 to 40 miles away to establish a geodetic network. In 1949 he was 150 miles north of Great Slave Lake working for the GSC "where the diamond pipes were, but nobody in our party ever found them." In 1950 and 1951, Bernie worked for the Iron Ore Company of Canada in Labrador. "When you are traversing up in the iron ore ranges, your compass is useless" and you have to use the sun to correct your compass. "If there's no sun, you better be careful." In the second year in Labrador, "We discovered ore." At this point in the interview Bernie remembers the deaths by drowning and hypothermia of field party members in Labrador and the Northwest Territories. They were mostly students. "The students, they're tired and they're hungry all the time no matter how much you feed them, they're growing boys." In 1952 he studied Devonian oil producing deposits in western Canada for California Standard Oil, found a barite deposit and was introduced to the game of golf. For the next three field seasons, Bernie worked as a party chief in the Yukon: "My first real taste of reconnaissance geology on my own, and it was dangerous too." They used rubber dinghies and canoes to travel down fast flowing rivers in the spring to examine the geological formations that crossed the river. After graduating from John Hopkins University, Bernie started working for the GSC and

became an adjunct professor at Carleton University. His first project was with 'Operation MacKenzie' studying Devonian sections from the Canadian Shield to the Rockies between 60˚ and 64˚ N latitude. After discovering three prospective gas fields in Northern British Columbia, Bernie "got the call to go up to the Arctic. I found myself going to the Arctic in April, and then going to the mountains in June and then going to sea in September." Bernie began his narration of his work in the Arctic by telling the story of the day in April 1961 when his plane crashed through thin ice in the Beaufort Sea: "The airplane went up … with its tail in the air and its nose in the ocean and she started sinking. Just the wing tips held her up." Everyone got out of the plane before it sank, but they had to spend a couple of days on the ice with no food or water and only eiderdown sleeping bags for shelter. In 1963, Bernie took the assignment of Chief Marine Geologist for the GSC and moved to BIO.

Bernie remembered his time on an intergovernmental committee for submersibles that lead to the development of the *Pisces* submersible. In 1968, they took the submersibles to Thule, Greenland, and put them aboard the CCGS *Labrador* and dove in many places in the Arctic from Nares Strait to the Norwegian Sea.

In 1965, Bernie took the CSS *Hudson* to Hudson Bay and conducted a multidisciplinary study. "We found a trench at the bottom of the Bay; it was actually a continental suture, where continental drift had occurred. We got evidence for old sea levels and [a] radial drainage pattern underwater. We did oceanography and biology too."

Bernie remembered that Dr. Bill Ford, BIO Director, arranged the visit of CSS *Hudson*, Canada's newest science ship at the time, to 'Expo' 67' in Montreal. The ship received thousands of visitors.

In 1969, Bernie was Chief Scientist on the CSS *Hudson* cruise to the Mid-Atlantic Ridge where they recovered basalt by drilling the undersea mountains with the BIO-designed hydrostatic diamond drill. Bernie named some mountains after Greek Gods including Hebes and Mercury.

Bernie was in charge of Phase 8 of *Hudson '70* in the Arctic, joining the ship in Victoria, British Columbia and taking the ship to Resolute Bay, NWT and staying aboard to do geological work until the *Hudson* arrived back in Halifax, Nova Scotia. At the time, oil companies were very interested in the "good looking structure" on the Beaufort Shelf. "Fortunately, we had the weather and we got it done; station sampling … during the day; at night continuous lines of magnetics, gravity, seismic, sidescan sonar and bathymetric surveying. Everything has been published. You have to get the [publication] done, that's part of your pay, otherwise you're just a freeloader."

"There was a double discovery [from the *Hudson '70* cruise] of the undersea pingo and the ice scouring of the seabed. We just couldn't believe what we were looking at. If a ship hits [a pingo], she'll just rip her keel to bits. The other thing is the ice scouring. If you have pipelines in the seabed, well, there's a hazard."

In the 1970s, Bernie continued to work in the Arctic leading a cruise in 1974 where they found that Baffin Bay was an ocean basin. "The years I spent working on the ice over the Arctic Ocean and using icebreakers and chartered ships were among the most profitable and enjoyable that I have ever spent."

"Most of my cruises were on *Hudson*. The ship liked me. It was always good to me, the same with the crew. They couldn't do enough. Even the nurse kissed me good-bye once."

In 1975, Bernie transferred back to Ottawa to work on his marine science atlases of the Beaufort Sea because the cartographic assistance was up there. Bernie would never return to work at BIO. "I thought I would finish the job in 18 months."

At the time of Bernie's interview in 2003, there was renewed interest in the atlases due to a plan to build a subsea pipeline from Prudhoe Bay, Alaska, to the MacKenzie Delta and to assess the impacts of climate change on the Beaufort Sea coast.

Bernie listed his scientific achievements starting with his PhD thesis under Dr. Francis Pettijohn at John Hopkins University. Next on his list was his work in the Canadian Arctic Archipelago and the Arctic Ocean, and then the work in Hudson Bay. He also noted that drilling Flemish Cap was a highlight. "*Hudson '70* was the project that really lifted us into the 20th century. It put us on par with other countries doing arctic science."

Reflecting on the direction of science in the public sector, Bernie said: "They do too much short-term science. They should have long-term projects as well, even if it's only ten percent. If you don't study or you don't learn new things, [other institutes] are going past you. BIO really passed [other institutes] in the early days. They caught up to everybody in the world and then they started passing in less than five years. But they had these

men of vision who let you do it."

Bernie's interview ends with reflections on his experiences in Italy during World War II. He was one of what they called the 'D-Day Dodgers'. "I've been into battle too many times and I cannot shake these images. It comes out as soon as I talk [at schools on Remembrance Day]."

When Bernie retired, Ross Douglas, Dominion Hydrographer at the time, presented a plaque with the Canadian Hydrographic Service 'anchor' logo to 'Dr. BP'. "It means a lot to get something like this from one of them because they don't give them out easily."



## Betty Anderson receives Jubilee Medal

BIO-OA Member Betty Anderson (centre) is presented with the Diamond Jubilee Service Medal at the Royal Canadian Legion, Branch 95 in Bedford, NS, on 13 April 2013 in recognition of her service in the Women's Air Force during World War II and long service to the Legion. Presenting Betty with her medal and certificate are Rick Powell (right) and Carole Thompson (left), Past President of Nova Scotia Provincial Council for the Duke of Edinburgh's Award .

**CSS *Acadia* Anniversary Events at the Maritime Museum of the Atlantic**

**7 May @ 7:30 pm - 'HMCS *Acadia:* The Unlikely Warrior' with Dan Conlin.**

**28 May @ 7:30 pm - 'CSS *Acadia:* Songs for the Grand Old Lady' with David Stone.**

**Natal Day Weekend - CSS *Acadia:* Crew Reunion.**

## CSS *Acadia* celebrates 100th Anniversary: 1913 - 2013[1]

BIO Archives

Designed by Ottawa Naval Architect R.L. Newman, CSS *Acadia* was launched in Newcastle in 1913 as a Canadian Hydrographic Survey vessel at a cost of $330,000. She is 846 gross tons (439 net), 181 feet in length with a beam of 33 feet. *Acadia* worked for 56 years as a survey and research ship, as well as a naval vessel in both World Wars. *Acadia* is currently the largest artifact at the Maritime Museum of the Atlantic, Halifax, NS. In a letter to the Museum dated 17 September 1983, former First Officer Alton F. Dingee wrote the following about the *Acadia*: "Of all the ships on which I sailed, the '*Acadia*', I must say, stands at the top of the list. She was a happy ship and a well fed one too. A place in which to serve our country, a home to live in, a school in which to learn - she was all of these no doubt, but far and beyond, she had our love and affection and absorbed us into her soul."

She was the first vessel specifically designed and built to survey Canada's northern waters, and her career took her from the dangerous, ice-infested waters of Hudson's Bay to Nova Scotia's South Shore. In her early years, she was responsible for pioneering hydrographic research in Canada's Arctic waters.

[1]From the Maritime Museum of the Atlantic website.

**From the Editor's Keyboard:** Bob Murphy is a most worthy recipient of the 2013 Beluga Award. I started my career at BIO as curator of geological samples and so, I understand that getting good sediment cores is both an art and a science that needs a special relationship with the ship's crew who handle all the heavy gear. Bob's devotion to team work and getting the job done well made him an indispensable member of any initiative. This year we celebrate the 100th anniversary of the launching of the CSS *Acadia*. Our newsletter's masthead is adorned with a picture of a voice pipe from this 'Grand Old Lady'. I am writing this note on 22 April - Earth Day - reflecting on humanity's impact on the earth. Dr. Jeff Hutchings' statement in the article on page 2 that fish stocks may recover if swift action is taken and Jane Goodall's call for the education of the next generation (Globe and Mail interview: 20 April 2013) support the view that change is needed. Perhaps OA should not assume an advocate role, but as individual OA members we can. International Oceans Day is 8 June. To start, what can each of us do to give this day a greater public profile? *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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