BIO-OCEANS ASSOCIATION NEWSLETTER

Issue 31, July 2006

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FROM THE NEW PRESIDENT

My first column as your new president will be brief, because we have a jam-packed issue this summer.

First of all I want to thank, on your and my behalf, Don Peer for all the work he did during his two years as president. As I am discovering, this is NOT merely an honourary title! I also want to welcome two new members of our leadership team. Carol (Racine) Manchester joins the executive as a Director at Large, and Art Cosgrove, who retired at the end of June 2006, has agreed to be our new Graphic Designer.

In this issue you will be receiving a copy of the BIO-OA Social Activities Poll. Please complete it and return it as quickly as possible.

I also want to bring you up-to-date with the Association's newest initiative. At the Annual General Meeting (3 May 2006), it was introduced as the BIO Oceans Education Centre but, for a number of reasons, its working title is now the Oceans Outreach Initiative (OOI). This initiative, which was endorsed in principle by the membership, features two key elements: a suite of 6 to 12 new dynamic displays intended to augment and modernize the present BIO public education display infrastructure; and new outreach activities aimed at engaging the general public, tourists, and career-minded young science students regarding the work and mission of BIO's resident departments. The outreach activities would expand the summer program now offered into a year-long one by incorporating a wider mix of educational offerings (e.g., summer science camps, speaker's bureau programs, workshops for students and the general public on critical ocean issues, etc.).

This is an exciting but challenging project. In early June, Charles Schafer, David McKeown, and I met with Mike Sinclair and Jacob Verhoef to discuss the proposed initiative. The outcome of this meeting was a request from Mike and Jacob that we prepare a briefing paper on the project for them to take to their respective senior management people. This we did in late June 2006. In it we ask, among other things, that they endorse the ongoing development and implementation of this project, subject to the BIO-OA being successful in raising the funds required for its implementation, and permission to solicit funds from sources other than the three resident departments at BIO. These would include the provincial government, municipal government, private companies, etc. When we get a response to this paper we will let you know.

One final item. Don't forget the annual BIO-OA summer potluck picnic, to be held on 15 August at Bob and Heather Cook's home – for details, see page 6.

— Betty Sutherland

A Year in Geoje

Richard Addison

Jean and I are settled down again in British Columbia after spending a year in Geoje, South Korea. I went there in March 2004 to set up a marine pollution research program at a Korean government laboratory in Jangmok, about 25 km from the town of Okpo, where we lived. Geoje is an island off the south-eastern tip of South Korea, about a 2-hour drive or a 45-minute high-speed ferry ride from Busan.

The island is rather beautiful; it has a very convoluted coastline with small bays and beaches and with about 50 small islands, some of them inhabited, offshore; it has steep hills rising to about 600 m, forested with mixed hardwood and softwood, and narrow valleys which are terraced for rice paddies and which are intensively cultivated - they grow various winter crops and rice in the summer and fall. Physically, it is rather like Saltspring Island in BC, where we live. Until about 30 years ago it was considered a remote rural area; most people subsisted on fishing and farming, and some still do. In the 1970s two large shipyards were built by Samsung and by Daewoo, and the island now has a population of about 180,000. It has two bridges to the mainland, and a third, leading directly to Busan, is scheduled for completion by 2011. There are many ferry connections to the mainland and elsewhere both for vehicles and passengers. The rapid economic development has brought with it huge residential development, which (we think) has not been well controlled, and attractive views are now marred by ugly high-rise apartment blocks and small factories built with apparently no attempt to fit into the landscape. Fortunately, most of the eyesores are within easy commuting or delivery distance of Okpo, or the other town, Geohyun, and the outlying villages are still quite unspoiled. Much of the island coastline has been designated as a National Park --- though we are not quite sure what this means in terms of limiting development.

The climate is very pleasant. Most of the year is bright and sunny, with temperatures ranging from around freezing (for a couple of weeks in late January) up to about 30 C. The worst time was in July and August, when temperatures reached about 35 C with about 100% humidity. Most ex-pats went home then, and those who stayed behind went to work at 6 a.m. to avoid the sun, and moved from one air-conditioned room to another. As it was clear and dry most of the time, we spent a lot of time outdoors hiking in the hills, touring or just lying on the beaches.

This being the small world of the proverb, almost the first person we met in Okpo was Dave Foote, son of Tom Foote of BIO fame; Jean had worked briefly with Dave's wife Colleen in Halifax. (They left about a month after we arrived, for Uzbekistan, I believe, but I don't think that had anything to do with us ...) Okpo has a large western ex-pat community, mainly involved with the offshore oil rig construction or LNG tanker-building business at the shipyards, and that provided both a support network (somebody always knew how to get essential western items) and a social life outside work, which we appreciated as time went on.

The Koreans themselves are very pleasant and interesting. We had only to stand looking vacant and confused (not difficult for us) at a street corner in Okpo for some local to come out of his shop to offer help. Once a taxi driver picked us up at a bus stop and insisted on giving us a free ride to our destination. And another time I was brought home by the police. Now, this is not usually something you brag about, but these circumstances were different. I was standing by the Jangmok bus stop when a police car drove by. It slowed down and then did a U-turn and drew up beside me and a policeman got out. I thought, "Uh-oh, here's trouble. I haven't been here long enough to get my alien resident certificate yet, and I don't have my passport with me. How will I get out of this?" The policeman asked me in rather fractured English who I was and what I was doing, and I said that I was a visiting scientist --- a harmless drudge --- at that Institute over there, and that I was waiting innocently for the bus to Okpo. "Okpo?" he said, "But we are going to Okpo. We will take you there." So they drove me to Okpo, and we told each other, they in English and I in Korean, how delightful it was to live in Geoje. They dropped me off at the front door of our apartment, with red and blue lights flashing, to the great joy of the kids playing there. We parted with handshakes all round and an exchange of compliments and good wishes. But I never saw them again.

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PHOTO CAPTIONS

Clockwise from the top left:
A view looking west from Geoje Island;
Skate drying in the open air in Tongyeong;
Fish kebabs for sale at the Okpo fish market;
R/V Eardo and Onnuri (in rear), two vessels operated by the Korea Ocean Research and Development Institute (KORDI);
Near Jeogu on Geoje Island;
One of the boats chartered by KORDI for sampling;
Jean Addison at the Okpo fish market;
Jean and Richard at Deokpo Beach.


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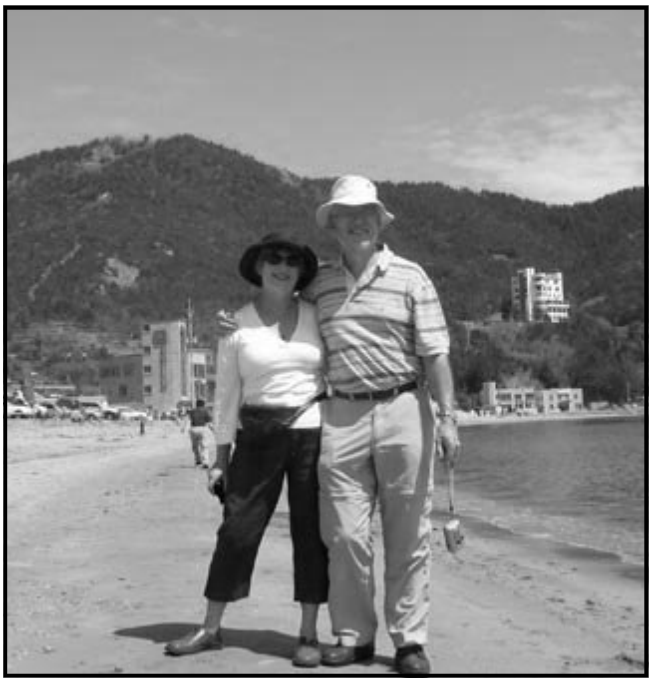


Surprisingly, considering that there has been a large American garrison in Korea for the last 50 years or so, most Koreans do not speak English very well. The scientists with whom I worked spoke some English, but only those who had worked in the USA or the UK were reasonably fluent. Since they liked to practice their English on us, we didn't have many opportunities to become at all fluent in Korean. But we learned basic terms like "beer" and "toilet" (in that order) and how to direct taxi drivers, to buy food, and so on. We also learned the Korean alphabet: it's quite simple, with only 30 or so characters, and knowing it we could find out where the bus was going, or what we were eating in the restaurants.

Life in the Korean government research Institute where I worked was rather different from that in Canada. The Institute itself is modern and well equipped. Indeed, the lab in which I worked is comparable to those at BIO or IOS. I could burble on about "high res GC-MS" or "LC-electrospray-tandem MS" but only the chemists would understand me: suffice it to say that it is probably one of only three labs in Korea, and perhaps only one of 100 in the world that can do ultra-trace analyses of marine organic pollutants. But in spite of its modernity it had some peculiar features, which I found very Asian. First, it was quite empty. In Canada, the government labs used to aim at providing about 10 m^2 of office plus another 10 m^2 of lab., to someone in my position. In Korea, I had about 25 m^2 of office (plus 3 computers, 2 desks, and a photocopier) and I shared a 80 m^2 lab with one other scientist who rarely showed up. I think they've overbuilt. And the Institute was managed oddly. Some central authority decreed that summer starts on March 15 (which it certainly did not in 2004) and so heat and hot water were turned off. Everyone brought in small personal electric heaters (which probably offset any energy saved by turning off the central heating); worse, as there was no hot water, you couldn't wash lab glassware effectively. (I suppose you could have boiled a kettle, and if we could have found one with more than about 250 W of power, I would have done so. The kettle we had at home took fully 15 min. to boil enough water for 2 cups of tea at breakfast.)

Despite its technical sophistication, there was a certain sloppiness about the Institute. Safety procedures were much laxer than in Canadian labs; freezers and photocopiers occupied stairwell landings, extension cords meandered everywhere. To convince my host to install a safe electrical service, I had to take photos, very publicly, of the maze of 220V potential trip wires on the floor of my lab to provide evidence in the event of an accident. Staff ate and drank (but, oddly, never smoked) in the labs. When we went sampling at sea, on small charter boats, even basics like PFDs were not supplied (and the postdoctoral fellow who worked with me could not swim!). The BIO Safety Committee would have had a fit. And I have to confess to some backsliding myself. Once in a while, I drank a cup of coffee in the lab when I was doing some monotonous operation. It quite took me back to the old times in MEL Trailer 14 when Maurice Zinck would start the day with a bang by throwing his first cigarette butt of the morning into the sink which happened to contain a trace of ether left over from the previous day's operations! But it was fun to be back at the bench, wearing a lab coat and doing chemistry and enzyme assays again, and never having to think about writing proposals or reports to justify my existence.

The Institute, as many do in Asia, provided accommodation for several of its staff, usually young singles, and there was a cafeteria which offered 3 meals a day at very subsidized rates. I ate lunch there sometimes: $3 bought you soup, rice, the inevitable kimchi (a traditional Korean dish based on pickled cabbage) and miscellaneous small veggies and pickled this and that (a recent item was "salted and vinegared entrails of sea-cucumber" — you get what you pay for!). Since many of the staff lived on the premises, you had the impression that they worked long hours, but that wasn't quite true: they were present for long hours, but much of that was taken up with eating and socializing. The day started officially at 0900, with a cup of coffee and a smoke (most of the men, but none of the women, smoked) for about 20 min; there was a 10 min coffee break at mid-morning, and lunch took from 1145-1300 (or later) during which you played tennis or socialized. There was another mid-afternoon break and then people knocked off officially at 1800. But by omitting smoke breaks and taking 20 min over lunch, I actually worked harder than most of them did — and I left at 1715. But they viewed the socializing as part of a team-building exercise (they were very keen on that) and the whole system reminded me in a way of what you read about the "salarymen" in Japan, whose lives are really the company's and not their own.

The Institute also provided excellent recreational facilities. It had a superbly equipped gym, tennis courts, a miniature golf driving range and a football field. The auditorium/lecture theatre had a full size screen and advanced sound equipment and showed movies on the weekends. There was a swimming beach, but, alas, no swim-up bar. Since home life in Korea is pretty cramped (most people live in apartments of < 100 m^2 and raise two children in them), staff and their families tended to spend their weekends at the Institute using the facilities, and simultaneously creating the impression that they are working very long hours.

So it was a fascinating and enjoyable year. It had its frustrations, of course — any disturbance of the even tenor of our ways will produce those — but on balance we both liked the experience. I now go back at fairly regular intervals to keep an eye on the project I started, and to do some lecturing. And maybe it's time to get back into writing proposals again — to justify that swim-up bar that they need on the beach.

Benthic Habitat Studies: An Engineer's Perspective – Part III

David McKeown

In the previous two installments (issues 29 and 30), I described the development of the equipment we planned to use for our first trawling impact study. In parallel with our engineering efforts, a scientific team under the direction of Don Gordon had been obtaining the requisite program approvals and funding in order to address the question, "Is there any measurable difference in the benthic megafaunal communities between areas showing evidence of heavy dragging and those showing none?" Then, in May of 1991, CSS *Dawson* embarked on a cruise out of St. John's, Newfoundland, under the leadership of Don Peer to begin exploring this question.

Two potential study sites were investigated, one on the Grand Banks and the other on Western Bank. The sites were first surveyed with sidescan sonar to locate pairs of adjacent trawled and untrawled areas. Each of these four sites was then sampled with the Epibenthic Sled (see Part II in Issue 30, April 2006: 13-14) and a Van Veen grab fitted with a video camera and lights. Experience with the modified Van Veen grab during this cruise led directly to the development of the Video Grab described in Part II.

In 1992, we revisited the Western Bank site, then the one on the Grand Banks, with a new Video Grab, BRUTIV, and the improved Epibenthic Sled (dubbed the "Sled from Hell" by Peter Vass for its breath-catching behaviour while being launched and recovered). We were forced to break off our work in the latter area earlier than planned and head for St. John's as a hurricane was tracking toward us. Unfortunately, it caught up to us before we reached safety. I found its passage an amazing experience. For several hours we were tossed about mercilessly. Then, for a few minutes as the eye passed over us, the wind dropped, the sky turned blue, and the waves died away … then all hell broke loose again.

By lunch time that day Magda Bergman, a benthic ecologist from The Netherlands, and myself were the only staff that made it into the dining room. I ordered soup and a sandwich. I dealt with the soup OK, but the egg salad sandwich was obviously a bad choice. Magda observed my beginning to turn green and said, "If you don't want that sandwich, may I have it". I said "yes" and it disappeared in the blink of an eye. I learned later that Magda's favorite vacation pastime was to work as a mate on flat-bottomed sailing barges in the North Sea. She clearly had a stomach of iron.

Later that afternoon, I went up to the bridge where the bosun and mate were talking about the very odd motion of the ship, as it was quite different from that of its sister ship, CSS *Dawson*. It was clear from their conversation that they were not happy with the way she was riding. When the ship arrived at BIO from the West Coast, it had a helicopter deck on the forecastle. They speculated that the unusual motion of the vessel was the result of not properly re-ballasting the ship after this structure was removed prior to the start of the field season. They may well have been right as a substantial amount of concrete was poured into the hull the following winter.

After these preliminaries, we started the Grand Banks Trawl Impact project in June 1993. At this point we began to see the formation of what has subsequently been referred to by other scientists during subsequent cruises as the "dream team". This group of amazingly compatible people with very complementary skills has continued to work on variants of and successors to the original Trawl Impact Project from 1993 to the present day.

Core team members include:
Don Gordon (our esteemed leader)
Cynthia Bourbonnais
Kelley Bentham
Gordon Fader
Kent Gilkinson
Kevin MacIsaac
David McKeown
Dwight Reimer
Peter Vass

There were two components to the Grand Banks experiment: the Corridor Study and the Long Trawl Study. The former took place on three 13-km long strips that formed an equilateral triangle and the latter was a 60-km long transect that extended from the Corridor Study area to the Hibernia Gravity Based Structure (GBS).

Each strip at the Corridor Study site consisted of two closely adjacent parallel corridors, one of which was to be trawled (experimental) and the other was to remain undisturbed as a control. Upon arrival, each corridor was sidescanned, surveyed with BRUTIV, and sampled with the Epibenthic Sled and the Video Grab. The *CSS Wilfred Templeman* then made 12 passes down each of the experimental corridors. After trawling, the experimental corridors were resurveyed and sampled. What struck me most about the trawling activity was how few fish were caught and how few we saw on the video compared to the Western Bank site. In fact, the only fish that we saw in any abundance were sandlance.

Upon completion of work at the Corridor Study site, the CSS *Wilfred Templeman* towed its bottom trawl along the 60-km transect to the Hibernia GBS while the CSS *Parizeau* followed

closely behind tracking the location of the trawl using an acoustic positioning system and simultaneously surveying the disturbed area using sidescan sonar, the Huntec DTS high resolution seismic system, and a sparker.

The Trawl Impact project was premised on our ability to locate our seafloor grab and sled tow sites precisely, relate the samples collected with both the sidescan and BRUTIV video records, and re-occupy these same sites again in subsequent years. To do this, we made use of differential GPS Trackpoint, an acoustic positioning system, and AGCNAV, a graphic navigation display system. Thirteen years later we tend to think of these technologies as commonplace but that was not the case back then. At that time, the Canadian Coast Guard was not broadcasting differential corrections for the GPS so we had to subscribe to a private-sector satellite-based service and rent an appropriate receiver and computer system. The system was installed in Halifax and worked perfectly. However, as we approached the Grand Banks, we lost the satellite signal. A lengthy radio conversation with the supplier revealed that he had neglected to tell us that we would need to manually re-aim the satellite-receiving antenna to correct for our change in longitude and had failed to show us how to do this. With some trepidation, Dave Harvey and I climbed up on top of the wheelhouse, removed the protective radome, and carefully adjusted the mechanics inside according to the instructions supplied via radio. Lo and behold, this worked!

Dave Heffler and Randy Currie had developed AGCNAV to run on a 286 personal computer in the user-unfriendly MS-DOS environment. By 1993, 486 PC's were available, although I doubt that we were using one during this cruise. I do seem to recall logging carefully decimated navigation data to a 10MB disc drive. In contrast, during our 2005 cruise, we normally logged 26MB of navigation data each day to a multi-gigabyte disc!

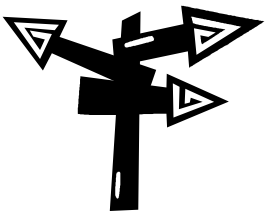
INVITATION TO THE ANNUAL BIO—OA PICNIC

To be held on **Tuesday, 15 August 2006, from 2 to 7 p.m.** (Rain or Shine)

Hosted by Heather and Bob Cook at
562 Ketch Harbour Road (telephone: 868-2948)
Portuguese Cove, Nova Scotia

Join us for fun and frolic at Heather and Bob's beautiful home overlooking the entrance to Halifax Harbour. If you can attend only one BIO-Oceans Association event this year, make it this one — especially if you were absent when the Cook's last hosted us in 2002.

Bring your own food for the grill and your favourite beverages. In addition, call Heather Cook at 868-2948 to coordinate food contributions to the general food table (hors d'oeuvres, pasta, salads, rolls, desserts, etc.). Below are directions to the Cook residence:



Starting at the **Armdale Rotary** (via Quinpool, Chebucto, or Dutch Village roads), take the **Herring Cove Road** (Route 349) to Herring Cove - at which point this road becomes the **Ketch Harbour Road.** Portuguese Cove is about 5 km further on (a total of 13 km from the Armdale Rotary). At the highway sign saying "Welcome to Portuguese Cove", the Cook's house is on the ocean side a few hundred metres farther on. The entrances have stone gates connected by a grey fence and the address "562" is clearly marked. We hope to see you there.

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 HRM 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: SCIENCE AS THE MOST POWERFUL FORCE TODAY

Suzuki, David. 2006. **David Suzuki: The Autobiography**. Greystone Books, Vancouver, BC. 384 pp. Hardcover, $34.95 (ISBN 1553651561). – A follow-up to the first part of his autobiography '*Metamorphosis*' published in 1987, science broadcaster and scientist David Suzuki provides a solid argument for why he believes science to be the most powerful force shaping our lives today. As Canada's most renowned environmental activist, a celebrity figure outgrowth after becoming host of the CBC television show 'The Nature of Things' in 1979, Suzuki reviews the environmental record in Canada and elsewhere over the last two decades. He identifies the lack of leadership from government in environmental matters and concludes "that we have a fundamental flaw in the political system." After showing that science does indeed shape our lives and societies when applied today by industry, medicine and the military, he underlines the importance of having political leaders that are scientifically literate. Without knowledge of science, wise decision-making that reduces the human impact on the environment is impossible. Overall, this book is an important and thought-provoking read, one that includes solutions to urgent environmental problems.

GENERAL REVIEWS

Ellis, Richard. 2006. Singing Whales and Flying Squid: The Discovery of Marine Life. Lyons Press, New York, NY. 288 pp. Hardcover, $34.95 (ISBN 1592288421). – Beneath the waves lurk some of the most marvelous creatures on the planet. In this the latest work of Richard Ellis – previous books include '*Men and Whales*', '*Deep Atlantic*', '*The Search for the Giant Squid*', and '*No Turning Back*' – he traces our evolving knowledge of marine life. Ellis shows how the discovery of new species or in special cases the rediscovery of life forms long thought extinct such as the coelacanth have helped shape marine biology. A dizzying array of species and their histories are highlighted to celebrate the living wonders of the sea, from the discovery of the Patagonian toothfish in 1888 to the first recorded observations of a living giant squid in Japan in September 2004. Equally captivating is his account of the origin of marine studies in antiquity through to the modern era of deep-sea exploration. '*Singing Whales and Flying Squid*' definitely opens up the undersea world to everyone.

Erwin, Douglas H. 2006. Extinction: How Life on Earth Nearly Ended 250 Million Years Ago. Princeton University Press, Princeton, NJ. 320 pp. Hardcover, $24.95 (ISBN 0691005249). – Here is a fascinating overview of the evidence for and against the major hypotheses put forth to explain the Permian Extinction 250 million years ago, when 95 per cent of all life on Earth disappeared. Douglas Erwin, curator of paleobiology at the Smithsonian National Museum of Natural History, reviews six possible causes – impact of a meteorite or comet, massive volcanism in Siberia, the effects of continental drift, a sudden drop in sea level, a decline in levels of oxygen in the oceans, and the release of a large volume of methane from sediments on the outer continental shelf. Erwin then examines the evidence from around the globe, and suggests the methane hypothesis to be the most likely. Overall, a dramatic look at one of the darkest moments in the history of life on the planet.

Glavin, Terry. 2006. Waiting for the Macaws: and Other Stories from the Age of Extinctions. Viking Canada, Toronto, ON. 318 pp. Hardcover, $35.00 (ISBN 0670044229). – This is a most disturbing book! Author Terry Glavin asks us to care deeply about the current extinction rate of species worldwide, the highest extinction rates of the past 65 million years. The loss of biodiversity is known to most of us, but the statistics press the issue to the forefront, numbing the mind and demanding attention all in the same stroke: for example, 12.5% of the world's known plant species, one in eight bird species, one in four mammals, and one in three amphibians are threatened with extinction. What an assault the human population is making on other living things and the planet as a whole. But Glavin describes and discusses wide-ranging events, past and present, and does so in a manner that informs rather than scares. He presents facts about system collapses and resulting extinctions, focusing on causes that range from over-exploitation of target food species (such as fish, birds and marine mammals) to the less known impacts of 20th century monocultural forces of globalization and industrial agriculture. This account of the "great unraveling of the

living world" presents bad news, but by doing so allows us to know what is happening and what can be done to correct it, if we care enough to do so.

Kolbert, Elizabeth. 2006. Field Notes from a Catastrophe: A Frontline Report on Climate Change. Bloomsbury Publishing, London, UK. 192 pp. Hardcover, $29.95 (ISBN 0747583838). – In this book, journalist Elizabeth Kolbert travels around the world in an effort to map the effects of climate change and bring some of the information to the lay public for consideration and understanding. Her journey begins in Alaska, and goes on to Greenland, Iceland, England and the Netherlands with numerous side trips to the United States, all locations that vividly display the rapid changes occurring – on land, in the sea and the air – owing to climate change brought about by recent human activity. The case samples presented each provides additional evidence of global warming and the fact that the Earth is entering into a climate phase never before experienced by *Homo sapiens*. Kolbert excels in translating science and bringing it alive to the reader, in a manner that is reasoned and clear. Although her message is one of an impending catastrophe, she offers some encouragement that the effects of climate change can be eased through the use of existing environmental protection policies and technologies. Without question, the problem is political. [Note: see also, Flannery 2006 & Hoffman et al. 2005 in OA Newsletter Issue 30 (April 2006), page 5.]

Kurlansky, Mark. 2006. The Big Oyster: History on the Half Shell. Ballantine, New York, NY. 307 pp. Hardcover, $29.95 (ISBN 0345476387). – Here is a book that titillates both the taste buds and marine history buffs. If you enjoyed author Kurlansky's two previous food-related works – '*Cod: A Biography of the Fish that Changed the World*' and '*Salt: A World History*' – you're bound to be delighted by his latest offering. Part a marine biology synopsis and part an environmental pollution review, 'The Big Oyster' spans four centuries. It begins with Henry Hudson's 1609 discovery of New York harbour and the rich oyster beds of the Hudson River estuary, through the city's growth and development as the 'oyster capital of the world' by the mid 1800s, to the inevitable demise of this bi-valve as a food delicacy owing to pollution by domestic sewage of New Yorkers in the late 1800s and the eventual contamination of the entire estuary by 1927. In the end, Kurlansky delivers a captivating and well-researched history, not of the oyster itself, but of New York City by way of the oyster.

McLaren, Keith. 2006. A Race for Real Sailors: The Bluenose and the International Fisherman's Cup, 1920-1938. Douglas & McIntyre, Toronto, ON. 256 pp. Hardcover, $29.95 (ISBN 1553651618). – Ahoy, all sailors! Here is a volume that will excite and stimulate. It vividly chronicles the history and development of 'The International Fishermen's Cup', an outgrowth of races between Nova Scotia and Massachusetts schooners between the First and Second World Wars. McLaren, a professional mariner and past crew member on the Bluenose II, provides a thorough and passionate account of the rivalry between sailors from the two countries, and William Dennis' – owner of *The Halifax Herald* and *The Evening Mail* – involvement in organizing and promoting the event. Details of the races are given, nail-biting encounters between determined real-life sailors fighting for 'supremacy' on the sea, stories of high drama. Comparison of the rival skippers Walters (Lunenburg) and Pine (Gloucester) is revealing, and gives a far more balanced view than most other accounts. The races continued through to 1938, by which time more efficient trawlers were replacing schooners and the era of the working sail had come to an end. An exhilarating and informative read!

Roth, Hal. 2005. The Hal Roth Seafaring Trilogy: Three True Stories of Adventure Under Sail. International Marine (McGraw-Hill), Camden, ME. 864 pp. Hardcover, $37.95 (ISBN 0071461337). – This volume puts Hal Roth's most popular books back in print – '*Two on a Big Ocean*', '*Two Against Cape Horn*', and '*The Longest Race*'. The publication of these three classics from the world's best-known offshore sailing guru in a single volume will allow sailors easier access to the invaluable information they contain, both about the skills of offshore sailing and oceanography of the waters traversed. Roth has more than 200,000 voyaging nautical miles and 10 outstanding books to his credit (for his most recent work, see BIO-OA Newsletter 27, page 7: Roth 2004 '*How to Sail Around the World: Advice and Ideas for Voyaging Under Sail*'). Of course, the present volume is also guaranteed to give sailors and lovers of the sea the taste of salt spray in the off-season!

Villiers, Marq de. 2006. Windswept: The Story of Wind and Weather. McClelland & Stewart, Toronto, ON. 286 pp. Hardcover, $34.99 (ISBN 0771026447). – Here is an account of the wonders of the wind and weather. Marq de Villiers, award-winning author of other environmental books such as 'Water' (Governor General's Award) and 'A Sand Dune Adrift' (Evelyn Richardson non-fiction prize winner), delivers another informative and entertaining review about the mysteries of winds. He describes the range of air movements, from the soft and seductive caress on the skin of a gentle breeze to the viciousness of systems that uproot trees, destroy houses, and sink ships at sea, including gales, tornadoes, cyclones and hurricanes. The descriptions and examples given are explained in a scientifically reader-friendly manner, clear in meaning without the technical jargon. Fascinating stories abound, most illustrating the powerful and destructive forces of winds, but also highlighting the more positive aspect of how that power can be harnessed and used for good purposes such as wind energy generation. Everyone with an interest in weather should delve into this book with gusto to discover the true nature of wind and all its complexity

Karen Scott's New Book

In the April 2006 issue, David Nettleship reviewed Karen Scott's new book: *Scott J. Karen and Joan E. Kieser (eds.). 2005. Northern Nurses II: More Nursing Adventures from Canada's North* published by Kokum Publications, Oakville, ON. Karen was the Chief Medical Officer on CCGS *Hudson* for several years and this volume includes an account of her experiences while there. She has kindly donated several copies of the book for sale at the BIO Gift Shop. Copies can also be purchased at booksellers or by contacting her at (905) 337-2364 or by e-mail at jkscottRN@sympatico.ca.

University Matters

Oceans Science: A Critical Mass of Minds

Editor's note: This article by Tom Traves, president of Dalhousie University, was first published in *The Chronicle Herald* on Sunday, 14 May 2006: A17.

WE DESCRIBE Nova Scotia as Canada's ocean playground, so we have a unique responsibility to reverse the alarming deterioration of our marine ecosystems and resources.

Progress happens faster when we combine our talents in seeking solutions to climate change, global warming, water pollution and vanishing fish stocks. Long known for our fisheries and coastline, Nova Scotia is now earning respect as an international leader in the areas of marine management and climate change.

Halifax, in particular, with the world's third largest collection of ocean researchers is out front broadening our knowledge about restoring and sustaining ocean environments. We've achieved a critical mass of experts here in marine biology and geology, oceanography, atmospheric sciences, marine law, engineering, information technology and telecommunications, wastewater disposal, coastal defence and environmental planning.

Integrated approaches mean we're no longer considering oceans in isolation. Increasingly, Canadian research and public policy focus on the close interrelation between water and our atmosphere, and the human impacts of both. Ocean circulation is changing. Arctic ice masses are thinning. Sea levels and water temperatures are rising. The resulting shifts in air-sea interactions are affecting hurricane seasons and other weather patterns, posing threats to salmon, leatherback turtles, coral reefs and other marine life, not to mention humans.

Ocean studies are an area of special emphasis at Dalhousie. Our researchers work closely with the Bedford Institute of Oceanography, Canada's largest centre for ocean research, as well as government agencies and institutions around the world. Our campus is home base to such organizations as the International Oceans Institute of Canada, which is exploring an affiliation with our RBC Centre for Risk Management to plan emergency response to natural and human-created disasters and major storms. Marine environmental prediction is a prominent research priority for Dalhousie. Oceanography professor John Cullen is forecasting flood risk along Canada's eastern seaboard by tracking currents, storm surges and blooms of plant life in the sea.

Our growing coalition of expertise is showing long-term economic benefits as well. Satlantic, which grew out of a research effort at Dalhousie, manufactures optical sensors that attach to buoys, ships and airplanes. Their applications range from marine pollution monitoring to space exploration and national defence. The Nova Scotia Oceans Initiative, involving Dalhousie, government and industry partners, aims to stimulate growth in the ocean technology sector.

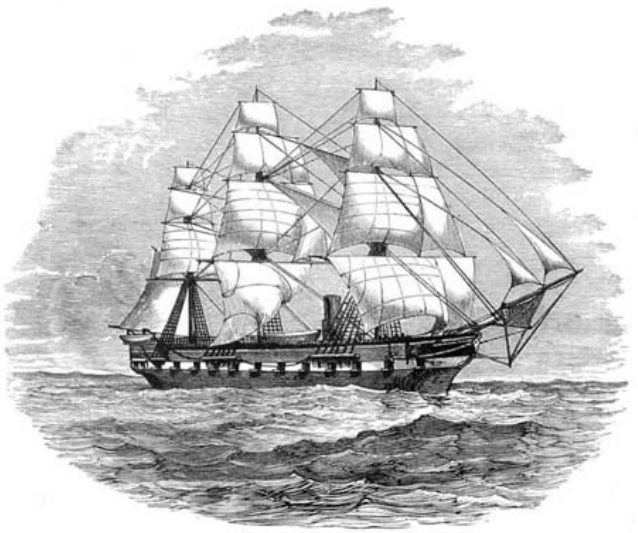
Dalhousie marine biologist Ransom Myers placed third on Fortune magazine's list of Ten People to watch in the next 75 years because his research on the decline of large fish species will have a lasting influence on the entire planet. He and colleague Boris Worm have been invited to speak at U.S. Senate hearings and the U.S. Oceans Congress. Dalhousie's Associate Dean of Science, Ron O'Dor, leads a large-scale U.S. monitoring system tracking the movement of marine life with tiny electronic tags and receivers, to study whether warmer water is affecting animal behaviour.

Recently, Dr. O'Dor and his colleagues were invited to bid on a $46-million Canadian project to build a curtain of electronic sensors across the world's oceans. This will give us the capacity to understand ocean environment changes and fish stock levels better than ever before. Our international partners on this project will add another $120 million to extend the reach and significance of this research. Dalhousie and Nova Scotia play the lead role in this global project because of our talent and expertise.

World Oceans Day, 8 June, is rapidly approaching. This international observance, first declared in 1992 at the United Nations Earth Summit in Rio de Janeiro, is an annual global checkup for our ailing oceans. But it is also an opportunity to celebrate the major strides we are making with our research and industry. Halifax has staked out a solid place in marine management, and its potential for future development puts it on par with our burgeoning IT and health sciences sectors.

There is much at stake for our coastal communities and ecosystems - biodiversity, the fisheries, aquaculture, offshore oil and gas development, ecotourism, shipping, and our safety from natural disasters and major storms. We've always taken the ocean for granted. It's huge and it sits at our back door. Increased academic, government and industry cooperation to explore how and why our oceans are changing will vastly improve the likelihood of bringing them back to health and preserve our ocean legacy.

Science History Buffs Take Note



(The editors thank Betty Sutherland and her former marine science librarian colleague, Kristen Metzger of Florida's Harbour Branch Oceanographic Institution, for alerting us to this news.)

In December 1872, the three-masted, 200-foot-long HMS *Challenger* set sail from England on a historic 3.5 year voyage of scientific discovery. The famous Challenger Expedition's objective was to gather observations of oceanographic phenomena across as much ocean as possible. This was the world's first fully oceanographic study of the oceans and it marked the arrival of oceanography as a science. The extensive results of the Expedition were the subject of voluminous scientific reports published for decades after the Expedition was completed in 1876.

The Challenger reports hold currency even today, and for several years now they have been available electronically at the following web site: **http://www.19thcenturyscience.org/HMSC/HMSC-INDEX/index-linked.htm.**

The site is well worth checking as it contains the published reports on the science of the Challenger Expedition as well as plates, drawings, descriptions, and photos of the ship, its scientists, and their scientific instrumentation.

Copies of Historic Photo Donated to BIO Library

The scientific party aboard USS *Bowditch* during the 1946 Bikini Island atomic bomb tests in the South Pacific, known as Operation Crossroads. Front row from the left is Walter Munk, a famous physical oceanographer, William von Arx who sailed on Hudson 70 and Gordon Riley, a biologist, who spent most of his illustrious career at Dalhousie University. Second from the right is William L. Ford, BIO's director from 1965 to 1978. Two copies of this photo and a caption identifying all those pictured are included within our photographic archives in the BIO library. They were donated by John Lazier.

On the Lighter Side

Some universally unavoidable laws:

1. Law of Mechanical Repair: After your hands become coated with grease, your nose will begin to itch or you'll have to pee.
2. Law of the Workshop: Any tool, when dropped, will roll to the least accessible corner.
3. Law of probability: The probability of being watched is directly proportional to the stupidity of your act.
4. Law of the Telephone: When you dial a wrong number, you never get a busy signal.
5. Law of the Alibi: If you tell the boss you were late for work because you had a flat tire, the very next morning you will have a flat tire.
6. Variation Law: If you change lines (or traffic lanes), the one you were in will start to move faster than the one you are in now.
7. Bath Theorem: When the body is fully immersed in water, the telephone rings.
8. Law of Close Encounters: The probability of meeting someone you know increases when you are with someone you don't want to be seen with.
9. Law of the Result: When you try to prove to someone that a machine won't work, it will.
10. Law of Biomechanics: The severity of the itch is inversely proportional to the reach.
11. Theater Rule: At any event, the people whose seats are furthest from the aisle arrive last.
12. Law of Coffee: As soon as you sit down to a cup of hot coffee, your boss will ask you to do something which will last until the coffee is cold.
13. Murphy's Law of Lockers: If there are only two people in a locker room, they will have adjacent lockers.
14. Law of Dirty Rugs/Carpets: The chances of an open-faced jelly sandwich landing face down on a floor are directly correlated to the newness, colour, and cost of the carpet/rug.
15. Law of Location: No matter where you go, there you are. (Or "tell me where you're to and I'll come to where you're at" as they say in Newfoundland!)
16. Law of Logical Argument: Anything is possible if you don't know what you are talking about.
17. Brown's Law: If the shoe fits, it's ugly.
18. Oliver's Law: A closed mouth gathers no feet.
19. Wilson's Law: As soon as you find a product that you really like, they will stop making it.

New dog names:

Labrador Retriever + Curly Coated Retriever = Lab Coat Retriever, the choice of research scientists.

Collie + Lhasa Apso = Collapso, a dog that folds up for easy transport.

Spitz + Chow Chow = Spitz-Chow, a dog that throws up a lot.

Pointer + Setter = Poinsetter, a traditional Christmas pet.

Great Pyrenees + Dachshund = Pyradachs, a puzzling breed.

Pekingnese + Lhasa Apso = Peekasso, an abstract dog.

Irish Water Spaniel + English Springer Spaniel = Irish Springer, a fresh and clean-as-a-whistle dog.

Newfoundland + Basset Hound = Newfound Asset Hound, a dog for financial advisors.

Terrier + Bulldog = Terribull, a dog that makes awful mistakes.

Bloodhound + Labrador = Blabador, a dog that barks incessantly.

Malamute + Pointer = Moot Point, owned by... oh, well, it doesn't matter anyway.

Collie + Malamute = Commute, a dog that travels to work.

Bull Terrier + Shitzu = Oh, never mind...

Please take a few minutes to fill out the "BIO Oceans Association Activities Poll" included with this newsletter issue and return it in the stamped and self addressed envelope provided (for local members only). Help us make sure that the BIO-Oceans Association plans the events you want to happen.

ABOUT THE ASSOCIATION

The Bedford Institute of Oceanography Oceans Association 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 $5.00 per year, $25.00 per half decade, or $100.00 for a lifetime membership.

***Officers and Directors*:**

PRESIDENT	Betty Sutherland	454-6557	betty.sutherland@dal.ca
VICE-PRESIDENT	Charles Schafer	861-3145	charlesschafer@hotmail.com
VICE-PRESIDENT	George Anderson	469-6646	n\a
PAST PRESIDENT	Don Peer	857-9268	d.peer@ns.sympatico.ca
SECRETARY	Bob Cook	868-2948	bobheather@eastlink.ca
VICE SECRETARY	David McKeown	477-5887	davidmckeown@hfx.eastlink.ca
TREASURER	Bob Reiniger	477-9833	rreiniger@hfx.eastlink.ca
VICE-TREASURER	Shiri Srivastava	434-6437	shirisrivastava@hfx.eastlink.ca
DIRECTORS AT LARGE:	Gordon Fader	455-6100	gordon.fader@ns.sympatico.ca
	Timothy Lambert	426-3872	lambertt@mar.dfo-mpo.gc.ca
	Carol Manchester	861-3509	k.manchester@ns.sympatico.ca

Communications: Newsletter, PR, and Web Site

NEWSLETTER EDITOR	Michael Latrémouille	434-4036	latremouille@accesswave.ca
ASSOCIATE EDITOR	David Nettleship	826-2360	dnnlundy@navnet.net
PR AND MEMBERSHIP	Clive Mason	426-4163	masoncs@mar.dfo-mpo.gc.ca
WEBMASTER	Bosko Loncarevic	835-9606	infocd@cd-books.com

Committees/ Working Groups: Chairs

BELUGA AWARD	Dale Buckley	434-5734	dbuckley@ns.sympatico.ca
SOCIAL PROGRAMS	Gordon Fader	455-6100	gordon.fader@ns.sympatico.ca
EQUIPMENT ARCHIVES	David McKeown	477-5887	davidmckeown@hfx.eastlink.ca
LIBRARY ARCHIVES	Bosko Loncarevic	835-9606	infocd@cd-books.com
PHOTO ARCHIVES	Michael Latrémouille	434-4036	latremouille@accesswave.ca
GRAPHIC DESIGN	Art Cosgrove	443-7945	acosgrove@hfx.eastlink.ca

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