

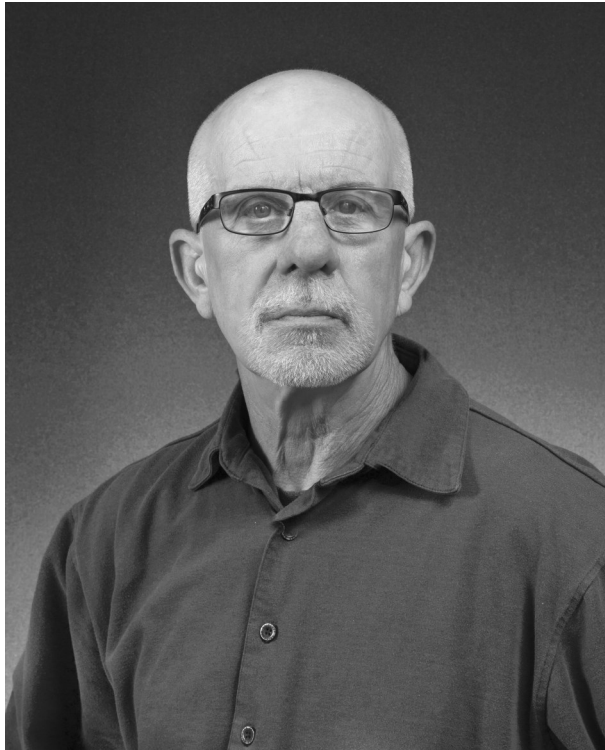
VOICEPIPE

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The Newsletter of the BIO-Oceans Association

Kelly Bentham receives the 2022 Beluga Award



We are happy to announce that Kelly Bentham is the 2022 Beluga Award winner.

The Beluga Award recognizes employees, past and present, who have exhibited unselfish dedication to community spirit at the Bedford Institute of Oceanography. Kelly's decades of service are exemplary of the spirit of teamwork that the Beluga Award recognizes. As a photographer and caretaker of the BIO photo archives, Kelly straddled the film to digital transition, contributing to programs and initiatives in the field and the office, leading and supporting technological advancements in underwater photography and acting as a valuable resource for audio/visual aids in the Ford Auditorium and throughout the BIO Campus. He has been a fixture at countless Open Houses and a strong supporter of Oceans Association work documenting the visual history of BIO.

Kelly has always been very approachable and somehow has been able to find time and energy for unscheduled tasks that folks wander in with. Professional, focussed (pun intended) and trustworthy, Kelly is a most deserving recipient of the Beluga Award. Congratulations Kelly!

**Happy Holidays and
a Prosperous and
Healthy New Year to
all our members**

Watch for a report on the
BIO OA's *Hudson* "book"
project in the next VP.

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Members of the crew and guests stand ready to ring the *Hudson's* bell for the last time. From the left: Captain David Martin, Chris Longley, Jay Barthelotte, and Marina Duque Rivera.

The Decommissioning Ceremony CSS / CCGS *Hudson*

The formal decommissioning ceremony for CSS / CCGS *Hudson* was held in the Ford Auditorium and on the jetty on 7 July 2022 in front of senior members of the Coast Guard, ship's crew, scientists and members of the BIO-OA.

Two members of the BIO scientific staff made remarks, Dr. Ellen Kenchington, DFO and Stephen Locke, Director of the Geological Survey of Canada Atlantic, NRCan. A feature of the ceremony was a video of *Hudson's* history that included contributions from the BIO OA's *Hudson* "book" project. After the formal ceremony in the auditorium those assembled moved to the jetty for the lowering of the ensign. A reception was held after under a marquee on the jetty.



Captions: Top: Scientific staff gather under *Hudson's* bow. Bottom: Senior Coast Guard staff.



Ship's crew and guests witness the lowering of the Coast Guard ensign.



Photos on this page: DFO Communications



Members of the crew of the CCGS *Hudson* at the decommissioning ceremony. Captain Francey is the bearded officer, front row centre under the O in *Hudson*. Photo: DFO Communications

An interview with the Master of CCGS *Hudson* Captain Fergus Francey

VP: How long you've been going to sea?

With Coast Guard, it was 41 years. When I was 16 my parents had gone to the International Boat Show that they have every year. They brought home a pamphlet about adventures on board a square rig training vessel for two weeks. I went through the pamphlets. It looked pretty interesting, I would try it. So at the age of 16 my first venture out onto the ocean blue, so to speak, was on the STV *Pathfinder*, which was a seventy foot two masted brigantine. It was two weeks of hard work, drudgery and making mistakes and hauling a lot of line. At the end of it, I said thank God that was sheer hell but the next morning I woke up and in clean sheets, quietness and something's missing. So that winter, they had a winter program onboard their boats where you did maintenance and you learned a bit of seamanship. If you were good enough, then the next year you get promoted to a petty officer. The following year, I was the boson. The last year I sailed with them I was one of their watch keepers. Then I went off to the Coast Guard College. Over the four years that I was with them, I decided I'd like a career at sea..

When did you first sail on *Hudson*?

That would have been 2007. I was assigned there for two years as chief officer, but I did just as much time acting captain or captain, as I did when I was there as chief officer. But prior to that. I had spent five years on *Matthew*. I started to get involved into more and more science and I found that very interesting, a lot of it was rewarding, because at the end of the day, you came away with something new. On *Hudson* I had Dave McClain as my boson. You didn't tell Dave what to do. Dave knew what was going to happen and he would be the one to fill you in. I was very fortunate to have good people with me.

VP: So were you always Master of the same crew?

That got changed around. In the last several years, because of people retiring, and reassignments and all that, it wasn't calm. It was not uncommon to see a lot of people coming and going. The good thing is we kept the core crew. The core crew were the ones that had the most knowledge and had been there the longest. We started losing those too in the last two to three years and it did make delivery of science a bit more difficult. We lost Gary Stevens. Gary had a wealth of knowledge and information and with his loss what we were trying to do was bring in new people new blood and trying to get them trained, as quick as we could. It's going to be very problematic when the new vessel is going to be coming around. Hopefully, whatever remnants we have from *Hudson*, we'll be able to migrate them.

VP: What is your most memorable expedition?

It's funny, you should say that because I thought when I saw that question, I read it and I said Southwind Fjord with Alex Normandeau will probably be the crown jewel, my career crown, just because of so many factors. I mean, the Arctic is a majestic place, wonderful place, but the challenges of getting in there was very reminiscent of my time on the *Matthew*, using field sheets, and you're having problems with geo referencing. You know, watching and working with my junior officers, who had never been in that kind of situation, the charts are so piss poor. What they're looking at, what they're seeing on the radar, two different things. The charts are not geo referenced at all. They might be 10 miles off from what the latitude and longitude is. What we're able to do was an overlay with soundings that we got from a launch that had been in there a few years prior to that, I've done it. I feel very comfortable about it. You've got junior officers haven't seen that before. They're kind of going "Are you sure?" and I'm so okay. We watched the sounders, we keep an eye on everything. If you see something that doesn't look right, we're only gonna go in there doing five or six knots. I said, it's doable, and it's safe. Once we got seated into where we were doing the work, we started deploying the gear. What really was impressive was the information that the scientists were getting back [with] the samples.

VP: So the *Hudson* was known for its seakeeping capabilities. Have you have any stories about occasions when she demonstrated how good she was?

There was times that any other vessels out there would not be able to do the science. *Hudson* would be able to do the science in 45-50 knot winds. I was talking to some of the scientists last summer. when they were on the *Atlantis* when the winds picked up to over 30 knots. They had to shut it down. It's not so much winds, it's the sea conditions with those winds over a period of time, *Hudson*, like I said, 45 knot winds no problem. There was times we'd be deploying moorings. It's also that bit of height above the waterline on the foredeck. I think this is where you're going to see we lose out in the future with the newer design being everything on the after deck. The other benefit with *Hudson* was she had a nice flare on the bow. She did have fluid tanks in her [to stop her] rolling excessively like some of the other vessels I have sailed on. She had that beautiful stern like the cruisers where you could hold station with the seas on your stern. Any other ship I've been on because of it being straight across would be like being spanked constantly, pounded constantly and would allow a lot more water to come up on the deck. Considering *Hudson* was underpowered, she was able to keep station in conditions that other vessels couldn't keep.

She wasn't without her faults, don't get me wrong. She didn't have the greatest GM which means her centre of gravity was close to centre of buoyancy and all that and so you had to be very careful in beam seas. You had to be careful when the seas coming up off your stern quarter because she would do the "jigs and the reels", and things would go flying. She was a class of her own.

VP: So you talked earlier about how you really got intrigued by working with scientists.

I think it's really your approach. It's like any approach with working with other people. You know, it was not the only science vessel I had the opportunity to work on. I always say this, regardless of whatever you're doing, be it science or anything else, when you're working with another group, it has to be collaborative. Scientists can't do the work without you working with them and vice versa. The way I looked at it is, I'm there because scientists were there. Therefore, if they needed something done, I would do what I could to make sure that it got done. Safety was a concern, scheduling was a concern and there was also operational limits. I felt for the most part, that kind of attitude went a long distance with the science community. I realize scientists, they've only got so much time, you know, to use the ship and if they lose that opportunity, they've lost two years worth of work and in some cases, three or four years worth of work. So that's the kind of mindset I had. One thing I noticed very quickly is when you show an interest in someone else's work, then they appreciate that.

VP: So in the last few years of *Hudson*, she was plagued by a lot of equipment failures. So how did that impact the crew?

It was disheartening. For those of us that had a vested interest in *Hudson*. It really hurt. I retired back in July. I would have probably been around for another year if *Hudson* was still go. *Hudson*, by today's standards is old, it had seen its best life. When you reflect back on it, there's a lot of risk with *Hudson*, compared to the new, firefighting being one of them, if we compare it to today's designs. It would have been very, very problematic getting a fire under control. I knew the risks with *Hudson* were a lot more serious than, say, a newer vessel. You're always having a plan in the back of your head. If we're in this situation, what do we do? and how do we jump on top of it? But getting back to your question, I remember, most of us knew there was writing on the wall. In talking with my crew members, after they were told, it was like, losing a loved one, believe it or not, or as someone put it, losing the family farm. Those people had a lot of time, those that were there wanted to be there because they understood what the significance of it was. They also felt a part of something great. I've done the buoy tending, I've done the icebreaking, I've

done search and rescue, I have done all that stuff but I actually enjoyed science because I felt like what we were doing was unique. It was always changing. But more importantly, it was giving us more knowledge and information of what was happening with the planet, stuff that was significant and important. I think anyone that had been on *Hudson*, they all felt that they were part of something greater and bigger than themselves.

VP: So when, when the decision was made to decommission *Hudson*, you worked hard to save some artifacts from her? Which were the most important artifacts you wanted to save? And do you know what's going to happen to them?

The most important artifacts to me would be things of tradition, such as things like a ship's wheel. The irony there is the wheel on the bridge was clunky, and of 1960s vintage, which meant didn't have the old world charm, but wasn't modern enough to be, you know, on a starship, but the wheel in the steering flats, I'm sure you saw the wheel that was mounted, that was classic. Right now that is sitting, up at 50 Discovery {Editor's note: The CG Building at BIO}. The ship's bell of course and the last remaining piece of the original railing. So those were three significant items. There was a lot of other stuff that I had identified. As a result, they were removed from the ship. They're now sitting at 50 Discovery. There's talk about a permanent display there at BIO.

VP: So what's the future in store for you?

I've got some other things on the go. I was doing stuff that I've been wanting to do for the last 30 years. Never had time to do it. But my wife will attest to this, I was constantly talking to myself and cussing and swearing and you know, you'd think after 41 years of Coast Guard, you'd be ready to walk down the gangway, but it was rather I don't feel I really went out on a high note. So after a couple of months, I started looking for work. I started with a company about two weeks ago. I will be teaching marine emergency duties, life saving and survival at sea. There's a good chance that the crowd that I have before me next week will be your next generation of scientists.

VP: Fergus, thank you so much for taking the time to do this.

I do miss sailing with the scientists, because of the type of conversations we could have. The one thing that I also took great satisfaction out of was doing the work with the whales, the right whales because I think it's our future. It's our children's future. I would like to thank you, for giving me the opportunity of having one last say about *Hudson*.

{Editor's Note: Captain Francey was an enthusiastic

and valuable contributor to our zoom conversations on the BIO-OA's *Hudson* "book" project.}

CSS *Hudson* Memories

by Joleen (Aldous) Gordon

In the summer of 1965, I was in the first group of women to sail on the CSS *Hudson* – there were 4 of us from Dalhousie University: Charlotte Keen, Janet Eaton, Kai-Mai Pold and myself. There was also a woman, Mrs. Janice Coggeshall, along with her husband, from the Harvard Medical University.

As an honours BSc summer student under the guidance of Dr. Carl Boyd in the Dalhousie Institute of Oceanography, Dr. Boyd suggested I study the visual pigment profile of the shrimp *Pandalus borealis* found off the coast of Nova Scotia for my undergraduate thesis subject.

Life on board *Hudson* was full of new experiences for me. We sailed from the BIO dock on 31 May 1965 to Eastern Passage where we took on fuel. This took some time. Luckily, we were offered the chance to fly in *Hudson's* helicopter over Halifax. It was my first, and last, see my home town from a different angle – it was a thrilling experience!

Having full tanks of fuel, we left Halifax heading south to Sable Island to replenish the food supplies of the BIO staff stationed there. On our way, *Hudson* was contacted to pick up an injured seaman from a cargo vessel. The seaman was then transferred to an Air-Sea helicopter to take the man to hospital in Halifax. We continued on our way to Sable Island. When we arrived, *Hudson* dropped anchor offshore and we began packing the needed supplies into smaller motor boats. As we neared shore, we off-loaded the supplies and carried them ashore amid the waves. The BIO staffers met us with their 4-wheeled vehicle and gave us their thanks. We had some time to walk around the Island. The wild horses were amazing to see. Some of the houses had been covered with sand, others were peaking their rooftops above the sand dunes. The fresh water ponds above the beach were a good source of fresh water for the horses. Sable Island was a magical experience.

We sailed close to the southern coast of Newfoundland where we witnessed the empty smaller communities from which the people were forced by the current government to move into larger communities. My memories of seeing empty houses, empty flakes, no boats at the seaside docks, several huge metal pots sitting on outdoor fire pits and no people or animals anywhere are still in my head.

The *Hudson* crew, all men, were very courteous to us women on board. There were amusing times when they



Kai-Mai Pold, Joleen Aldous and David Simpson (1965)

apologized to us when they realized they had used swear words when something wasn't working. Having women on board was a totally new experience to them.

On our way home, as we neared Canso, it was my time to participate in lowering a 6-foot beam-trawl for catching shrimp for both my project and Carl Boyd's project. The trawl came to the surface with several shrimp which were kept in the aquariums in *Hudson's* cold storage room.

We arrived back in Halifax on 28 June 1965. Coming on home after being away for a month at sea, I had trouble finding my "land legs" – another new experience!

Two years later, in the spring of 1967, having served on the *Hudson*, I had the opportunity to join the *Hudson* onsite at Expo'67 World's Fair in Montreal as guide. Her Halifax departure time overlapped with my honour's thesis defence oral examination so I stayed here. Exam over, I flew to Montreal on 30 April 30, the day after *Hudson* arrived at the Expo site in Montreal, 29 April 29 1967. Montreal was in a festival mood – the Expo site was full of tourists. We had many visitors as people wanted to see the first Canadian scientific ship and to learn about a career in ocean science. There were several receptions for politicians and reporters during our stay. The total number of visitors was 20,500 – Amazing!!

We guides were kept busy. We dressed up for our guiding hours which meant I wore a blouse with a matching skirt and jacket - and (low) heels. Thankfully, we had

time off when we could visit other venues and experience the energy of the crowds. Working at Expo'67 was a magical and educational experience.

For the trip home to Halifax, I stayed on *Hudson*. As I was the only female on the ship, I was given the Chief Scientist's cabin complete with a private bathroom. I was horribly seasick due to the stormy weather in the Gulf of St. Lawrence. When we came close to Canso, we lowered the beam trawl again in an effort to catch some shrimp as we had done in 1965. The trawl came up on deck, mangled, with 3 shrimp. The shrimp were destined for Dr. Boyd's use. Having graduated from Dalhousie University, I was soon to sail on the RMS *Queen Elizabeth* out of New York as a Commonwealth Scholar to commence my Master of Marine Biology degree at the University of North Wales.

CSS *Hudson* collision with Greenland iceberg

by Jaia Syvitski

Between 4 and 16 September 1993, scientists from Canada (GSCA-BIO), United States (INSTAAR), and the United Kingdom collected geological and geophysical data between Iceland and Eastern Greenland. The cruise (CANAMPONAM Cruise HU93030) was led by James Syvitski and John Andrews. The cruise collected excellent data making significant contribution on the dynamics of sikkussaq or iceberg/sea ice shelves fronting the large tidewater glaciers, and on the role of iceberg calving and rafting on fjord sediment accumulation. Kangerlugsuaq Fjord, on the eastern coast of Greenland is about 5 km wide, 80 km long, and 900 m deep. It receives more iceberg mass (a total volume of 17 km³ comprising over 1,000 large icebergs) than any single fjord in the world. Icebergs extended 600m below the sea surface and tower 80 to 100 m above the water line. Cruise participants were literally sailing into the ice age.

We sailed into the fjord on 9 September 1993, encountering distributed ice conditions of about 1/10 to 3/10ths density including bergy bits, growlers, icebergs, first and multiyear sea ice. Large open patches of water meant that we were able to deploy moorings and collect station data (cores, water samples, etc.). After we reached the head of the fjord, we proceeded to collect oceanographic data in an open water upwelling zone termed the "pool" at the head of the fjord. Snow fell through the night forming slush-ice pans. Freeze-up had begun.

On 10 September, a.m., we cored the seafloor and deployed a remotely operated submersible to examine the ice margin. In the afternoon we moved down the fjord,



CSS *Hudson* in ice infested Kangerlugsuaq Fjord, Greenland with a Danish Navy helicopter approaching.

as the captain moved the ship among the slush ice and bergy bits. Upon our return to the “pool” we towed seismic gear then collected oceanographic.

On 11 September, the captain took a direct route to Nordfjord through iceberg surface densities up to 4/10ths. A 300-foot vessel does not turn on dime, and ship-speeds through such ice are typically at about 3 knots. Along the way the ship was forced to go between two relatively small icebergs. The impact with the first iceberg pushed the ship into the second. The sound of the impact was alarming. We knew something was wrong. The ship started to list as we took on water. At the time we did not know where the hull damage was located, or its extent. The ship began to list to starboard, first to 3°, then 5°, at which time I began to scan the sea surface in case I had to jump ship and swim towards a floating ice pan. We continued our list to 9°, then to 11.5° where we stopped taking in water. Altogether the ship had took in 1,000 tonnes of water, filling an empty fuel tank. Our Canadian masters worked to rescue us, we drifted without engine power for 37 hours, amongst the icebergs. We deployed our submersible to locate and inspect the damaged hull. The Danish Navy delivered by helicopter, a dive team who repelled onto the *Hudson*’s deck. Within minutes they entered the frigid waters to visually expect the damage. The hull was cracked to a length of 12 feet, 2-3 inches wide, with two plates damaged. The navy helicopter surveyed the fjord and mapped out an ice-free corridor.

On 14 September the ship sailed out of the fjord where a second diver team inspected the damaged hull to determine if the crack had changed in dimensions. The *Hudson* then joined up to the Danish Frigate *Triton* and we were escorted to Iceland for final dockside inspection. Many scientists and crew continued their work throughout the adventure. Others had panicked. Still others talked of other ways of making a living. Through it all, the CSS *Hudson* performed admirably, my fa-

vourite research ship.

Hudson Days

by Claude Warren, *Hudson* Boson

While looking at old pictures of some of my days on the *Hudson* I was reminded of the work that was done on that amazing ship. So much scientific work with so many crew members that have never been acknowledged for the important parts they played. People like the Quarter Master - he was responsible for about 99% of the science station work. Navigation Officer - He brings the ship on station and then hands it over to the Quarter Master. He was also responsible for the log-books with the records of station numbers, what time the gear went in the water etc.

Some of the Quarter Masters I worked with were (1978) Bill Dobson, Vic Penny and Basil Hartson, all very experienced at their jobs. Back in those days you were taught as you went. I was given that job one time and I had no idea what I was doing but thanks to their guidance they showed me the right way because it was a job that could go wrong very easily.

In the early days we didn't have the navigation gear like that of today, but much less accurate systems such as Decca and Loran. The Quarter Master would be watching as the gear went over the side from the winch room or foredeck. He would be making sure the wire stayed vertical. If the wire went under the ship, it could cause a huge amount of damage and loss of equipment if the cable parted. At times there could be as much as 5000 meters of wire over the side. They would have to take into consideration wind speed and direction also the strength of the current. The Captain would be watching to make sure all the necessary steps were being taken.

To do these jobs all involved crew had to know their duties and responsibilities. Teamwork was essential. And to make it even more challenging, station work could be different each time the vessel sailed.

There was a time when Captain Dickenson came on the bridge when I was doing station work. He wanted to put the bow into the wind, blowing 35/40 knots. Anyone who'd done this work on the *Hudson* knew you had to put the stern into the wind to keep her on station. He instructed us to put the windsock on the bow Jack Staff and do the station. The winch wire was everywhere but up and down. He finally gave in and told us to go back to doing it way we had always done it. Everyone learns by experience. Science work that's done on the bow is different again. When you put the Rock- Core drill or Vibra-Core out and it sits on the bottom, you put markings on cable, and try to keep the ship on station. You didn't want too much cable to go out because it would

pull over the core equipment and the result, a bent core pipe. The Quarter Master had to try to maneuver the ship to keep the cable in a vertical position.

The Quarter Master played an important part on the bridge when doing station keeping. Sometimes the vessel could be on station for hours and other times even days.

I remember when one of the CCGS captains moved over from CCG to *Hudson*. I was the bosun on the bridge and we came on station. The Mate said to Quarter Master, "ok, go do your thing". The Captain stopped him and asked the mate, "what are you doing"? The Mate replied that the Quarter Master was going to take over on console while the ship was on station. The Captain said "no that's a Mate's job, you will do that". The Mate's response was "Captain, we work this ship 24/7. I don't have time to do it all; I do chart work and keep logging everything while dealing with Chief Scientists". Once the Captain was told what the station keeping job involved, he agreed and told the Quarter Master to take over the station keeping job.

The bosun and his deck crew went about their jobs, putting out the science gear, with the help of ship's cranes and various winches. For geophysical work, piston cores and trip wires had to be rigged to different lengths. Sometimes it would take hours to get the gear to the bottom and then back up on deck. Often in inclement weather conditions or dark of night. Along with those jobs, the deck crew were responsible to clean and maintain the decks which often included applying a fresh coat of paint.

The Oiler's job was to work with the engineers and keep the engine room clean and help with maintenance of the ship's machinery, making sure all ship's equipment was operational.

Of course, there were many others involved in keeping this ship going. The stewards and cooks looked after all the crew and staff, preparing meals and keeping the living quarters clean. At times these jobs could seem mundane but were always done well. The jobs offered a feeling of accomplishment for the crew, especially when they were singled out for a special "thank-you" from their fellow crew members and science staff.

The ship's crew was like a second family for us. Like any family there were ups and downs, with good days and not so great days. When it came right down to it, everyone had to learn the value of teamwork, because that's what going to sea on the *Hudson* was about.

A CSS *Hudson* souvenir in Lancaster Sound

by Robin Falconer; AGC/BIO 1974 -1980

Lancaster Sound, 1976, southeast of Resolute, stationary in ten tenths ice, standing quietly on the bridge as the chief engineer and officers discussed why the starboard engine was over revving. A student with me from Dalhousie University said, "If the propeller had lost a blade would it do that?" "Rubbish" was the response. The student and I quietly left and went aft. We looked over the starboard side and saw nothing. Not knowing what we should expect to see we wandered round to the port side. Starkly obvious in the clear arctic water was a very large propeller. We rather timidly returned to the bridge and thus began a saga.

Unbeknownst to most there was Defence Department base on the north side of the sound monitoring things in Lancaster Sound. They had divers, who soon arrived and confirmed the obvious, but also reported that the starboard shaft appeared fine. It looked like the propeller had simply fallen off. They also said that it was common Navy practice to be able to change propellers underwater so if we had a spare one onboard, they could fix things. There was a spare but alas in Halifax. No worries. A series of messages flying about came up with a scheme. The airforce could just fit the propeller in an aircraft. They could fly to the big US cold-war airbase in Thule, northern Greenland. *Hudson* and the divers could get to Thule OK. There was a wharf and cranes there which would make it easier. A great scheme, of interest to all, even Lloyds Register. Not to be. The insurance arm would not guarantee coverage if it was done that way. So, limp to Resolute, offload the science party, then slowly head back south with ten degrees of starboard wheel on all the way to keep a straight course.

Naturally there were all sorts of enquiries about "why". It emerged that *Hudson* had been in dry dock and the propellers had been taken off and then refitted. They push onto the shaft and then a big locking nut holds them. To secure the nut there were locking pins through the nut onto the shaft. The pins were tack welded to secure them. The enquiries found the dockyard workers who actually did the job and they said, "The pins were tighter than usual but we hammered them in OK". So probably the pins were cracked and with the to and fro of working in ice the pins came apart, the nut came off, and the propeller just spun off.

I presume the propeller is still there. The exact location is no doubt available if you are a wealthy enough collector.

Bio notes

I came to BIO in 1974, from New Zealand, on a Geological Survey of Canada post-doc fellowship that became a permanent position in 1975. I worked in the Regional Reconnaissance section of the Atlantic Geoscience Centre; primarily in the arctic. My wife Ferial and I had two daughters in Dartmouth before deciding in 1980, with many regrets, that New Zealand was "home". My years at

BIO were the foundation of a career in marine research and consultancy that has spanned the world and continues today, albeit in “retirement”.

Farewell to an old friend

Dear Andy:

I was so saddened with hearing that the *Hudson* was destined for retirement. I so remember flying to Saint John, N.B. with the crew members to join *Hudson* for her maiden entry into Halifax Harbour, her home destination at Bedford Institute of Oceanography.

We arrived in Dartmouth on 23 December 1963 at 11:30A.M. Everyone on board was quite proud of our ship. I do remember the many voyages that *Hudson* so capably performed. The eleven month trip around North and South America was indeed the trip of a lifetime, and travelling through the Panama Canal at the wheel of *Hudson* will forever be a great memory.

With all the wonderful trips that *Hudson* so faithfully guided us through, both calm waters and stormy seas, all of us on board knew we had a wonderful ship under our feet - one of the best that ever sailed on an ocean.

Farewell to an old friend.

Regards

William F. Dobson

Quartermaster CSS *Hudson*

Book Review: The Azolla Story

Reprinted with permission of Ronald C Blakey originally published in the *Geoscientist* 9 August 2022

The *Azolla Story* presents the comprehensive history of azolla, an aqueous green plant that is a symbiotic relationship between a fern and cyanobacteria. Topics covered span the evolution and genetics of azolla, the scientists and farmers involved with azolla, and the politics, benefits to human-kind, and possible future of azolla; there is something for everyone who examines this book. An overarching theme is that humankind is on the edge of a “perfect storm” that threatens our very existence and azolla may play a role in averting disaster.

The book begins in the Middle Eocene (49 million years ago), when Earth evolved from a greenhouse planet to an icehouse setting. Jonathan and Alexandra Bujak suggest that a simple green plant may have ushered in this turning point. How can this happen? Azolla forms a floating mass on water with low salinity a few centimetres thick that can double its mass over several days. Such an environment existed across the Arctic Ocean, near the end of a long period of greenhouse Earth. But oceans are salty, >3% of total dissolved salts – yet geologic evidence suggests that azolla mantled the Arctic

Ocean surface, perhaps completely, around the change from greenhouse to icehouse. Could an incredible azolla bloom across the Arctic have sequestered enough CO₂ to generate such a change in Earth’s climate? How did a freshwater plant survive in an ocean and assimilate nitrogen? How was the plant fertilized? These and many other questions are addressed.

An interesting approach is used by the authors: flashbacks. For example, the events of the Middle Eocene are interrupted by details of an Arctic expedition. The book jumps from present to past as the complete history of Earth, all 4.5 billion years, is synthesized. One of the shifts to current topics describes a critical meeting in May 2007 in Utrecht, Netherlands, where a diverse group of scientists discussed many of the questions raised above. The book returns to geologic deep time and then back to Utrecht. At first, I was confused by these shifts in time, but, as I caught on, I found this approach to be extremely successful – it formed a nice orchestration between deep time, present time, and the scientists that linked the two.

The detail in which many scientific, political, and philosophical topics are covered can be overwhelming, especially to those not proficient or who lack interest in a given topic. The book contains exhaustive foot notes, references, and glossary, which can lead the reader into even more depth on a topic. In summary, this is an impressive piece of work that should find interest amongst a wide range of readers who are interested in the possible mitigation of our current climate crisis.

Review by Ronald C Blakey

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{Editor’s Note: Jonathan Bujak was a research scientist with the Atlantic Geoscience Centre at BIO}

A Dilemma: Preserving Personal Friendships in a Time of War

by Ron Macnab

ron.macnab@ns.sympatico.ca

submitted March 12, 2022

Prologue

On February 27, past comrade-in-arms Peter Pronych circulated an email that contained the paragraph below, and he kindly consented to its appearance in this essay:

I would like to share my opinion about the invasion of Ukraine; My ancestors in Ukraine were used to Russian aggressions. As one despot in Russia is replaced by another, the tyranny continues. That is why my grand fathers, grand mothers, their families and other relatives left Ukraine in the early 1900's. We still have some relatives in Ukraine, but haven't communicated with them since my mother passed away. History repeats itself, again.

Peter is justifiably proud of his Ukrainian heritage as it evolved during that country's long history, and by the many contributions that he and his immediate forebears have made to their adopted homeland. Let me declare right now that I agree totally with Peter's perceptions of Russia's actions in his ancestral homeland, and that I have an intense admiration for the way that Ukrainian civilians and soldiers have rallied to the defense of their territory.

At the same time, I am reminded of the numerous Russians that I met during fourteen working visits to that country between 1989 and 2004. None of these people displayed militaristic tendencies, being more inclined towards the development of cordial relationships with citizens of other nations. Critical thinkers, they recognized shortcomings in their society, but they had learned to live with them while demonstrating pride in their country's accomplishments. As a guest in their country, I felt it was not my place to engage in political debate because I was there to act in a scientific capacity, and to promote technical cooperation.

Many of these new acquaintances were generous with their hospitality and open in their discussions. They shared numerous interests and concerns that are common to residents in the West, e.g. pursuing meaningful careers, looking out for the well-being of their families, seeking what was best for their children, maintaining a healthy work-life balance, nurturing outside interests, etc.

I was also privileged to welcome many of these people into my home during their travels to Canada on ex-

change visits. With my wife Mary as co-host, many a pleasant evening was spent around our dining room table while we compared customs and traditions, and downed quantities of vodka in an unending series of mutual toasts.

I present below thumbnail sketches of five individuals with whom I had particularly constructive working relationships, and whom I considered as good friends. Tragically, two of them died at too young an age, while the fate of a third remains unknown to me. My most recent New Year's greetings to several other contacts went unanswered, which I found worrisome because they were normally prompt in responding to such messages.

Sergei

Dynamic head of a very productive research group in St. Petersburg, he was a frequent visitor to Dartmouth with members of his team. He hosted an American associate and me at his dacha one memorable afternoon, serving us *shaslick* (grilled marinated pork kabobs) washed down with *samogon* (traditional Russian moonshine) prepared by his grandmother. Afterwards we helped him harvest apples on his property, for producing home-made cider. Early in his career he was deployed on geological fieldwork in old A-Bomb test sites in Siberia, where it is presumed the highly radioactive environment triggered his leukemia. With limited options for treatment in Russia, he parlayed his grandmother's Jewish connection into a permit to emigrate to Israel with his expectant wife, where he hoped to receive state-sponsored medical care. Unfortunately, little could be done to treat him there, and he died shortly after settling in his new country.

Garrik

Deputy Director of a large geoscientific laboratory in St. Petersburg. Early stages of his career were focused on issues related to the ice cover of Antarctica, in the pursuit of several field projects with international partners. A tireless promoter of trans-boundary cooperation, he had an excellent command of spoken and written English. A practitioner of old-school courtesy and a consummate host, he was very helpful in familiarizing foreign visitors with Russian customs and traditions, providing transportation, etc. He moved to Alaska upon retirement several years ago, to be near his daughter, grandson and great-grandchildren.

Volodja

A soft-spoken, doting grandfather, a Country & Western fan who rated guitarist Chet Atkins as one of his favourite performers. Cat lover. An authority on wild mushrooms, he knew which ones to harvest and how to prepare them for the table. Generous with his time in entertaining guests, his home was always open for traditional

Russian meals punctuated with frequent vodka toasts and heartfelt declarations of friendship. During one of his visits to Nova Scotia, he was impressed by the profusion of lupines that ornamented the province's highways, so Mary gave him a packet of seeds that he planted around his dacha. The next year he proudly reported that the lupines had taken root, and that he was reminded of Nova Scotia whenever he looked out on his country property.

Mikhail

A focused, results-oriented individual, an excellent partner in joint undertakings. Clear-minded, he showed great persistence in achieving goals that required complex planning and competent teamwork. He was instrumental in organizing an international workshop that was the first to consider the comprehensive determination of deep-water maritime boundaries in the Arctic Ocean. Called to testify for the prosecution in a court case that targeted a local gang, he was given a severe beating as a warning to desist. Undeterred, he continued his testimony, only to be found dead in his car with two bullet wounds to the head. The police averred it was suicide, without explaining how he would have been able, after firing the first bullet into his brain, to fire the second one. It was a chilling glimpse into the Russian justice system. A year later, a Canadian co-worker and I were invited by two of Mikhail's former colleagues to attend an informal graveside ceremony where we consumed sandwiches and downed a part-bottle of vodka. Then we took turns at the foot of Mikhail's plot, toasting its occupant and pouring a shot glass of vodka onto the ground. One of our hosts translated the inscription on his tombstone for our benefit: *Take off your dark glasses and see the light that surrounds you.*

Dmitri

Ex-Russian Navy, erstwhile director of an oceanographic laboratory in Sevastopol. When we first met, he was associated with a Paris-based agency of UNESCO, managing an ambitious intergovernmental project to develop detailed, up-to-date maps of the sea floor. Fluent in Russian, French and English, he was persuasive in recruiting specialists from different parts of the globe who could bring their data bases and expertise to bear on the challenge of creating a suite of coherent maps. Has since moved to St. Petersburg, where he is enjoying retirement. Over one summer, we hosted his daughter Polina in our home while she perfected her English at a local language school. A couple of summers later, her stepbrother (and Dmitri's stepson) Sanjar joined us for similar English-language upgrading.

Epilogue

I hope the 'memoirs' above portray their subjects as ordinary human beings, striving to live quiet, productive lives – just like the rest of us. Circumstances permitting, I'd be pleased to renew ties with any of those individuals. But realistically, I consider that my Russian 'adventures' represent a closed chapter in my life, so it's likely that those friendships will only live on as memories. If so, I will not permit those memories to be tarnished by the actions of one homicidal maniac.



Dr. Uta Passow of Memorial University was awarded the 2022 A.G. Huntsman Medal at a ceremony at Government House on 17 November 2022. She was recognized for her contributions to understanding of the ocean and its ability to respond to anthropogenic changes such as climate change and oil pollution.

She gave the A.G. Huntsman lecture in the Ford Auditorium on 18 November 2022 entitled **The Ocean in the Anthropocene, Marine Snow, Climate Change and Oil Pollution**. In her lecture she stated that marine snow was the number one pathway to move carbon to the deep ocean. She investigated the role of marine snow in transporting oil to depth for the Deep Horizon oil spill in the Gulf of Mexico.

President's Message continued

commitment to the spirit of teamwork at BIO. Kelly is now, literally, the poster child for that. Congratulations Kelly on receiving this honour from your peers!

Though there is much to celebrate, there is much work to do. We are facing vacancies in some key roles on the executive, as just mentioned, Voice Pipe Editor, but also Beluga Award Chair. We have room for members-at-large and some of the long-serving members deserve some respite. Most of all, we need energy and ideas about the future of this organization. We need members to get involved and grab an oar. BIO OCEANS ASSOCIATION WANTS YOU!

PRESIDENT'S MESSAGE

Hello OA Members,

My name is Patrick Potter. I assumed the role of President of the BIO Oceans Association at the Annual General Meeting held in early October. My time at BIO began in 1988, when I was one of Bosko's AGC summer students. I am still employed there with the Geological Survey of Canada Atlantic. My experience with the BIO Oceans Association began when I was Beluga Award chair from 2010-2013. Since then, I've been involved with Ruth Jackson and others on the Bernard Pelletier Fossil Forest.

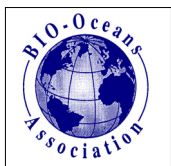
2023 is the Oceans Association's 25th anniversary. There is much to celebrate: the institution of the Beluga Award, production of the Voyage of Discovery, the Equipment Archives and many other initiatives. How shall we mark this time? Certainly, it's time for an in-person AGM, hopefully in the renovated Ford Auditori-

um in May. But a social event would be in order as well. Send us your thoughts on this: when and what, and how?

The Voicepipe is surely one of the most important activities that the OA carries out because it is a forum for ideas and venue for news. I want to thank Michael Murphy for his work editing the Voice Pipe newsletter since 2020 BC (Before Covid). And many thanks to Andy for stepping in and putting this issue together. And of course, without contributors, the newsletter could not exist.

The Beluga Award is another key focus of the association. I want to recognize Randy King for his service as Beluga Award Chair. I'm happy to report that Kelly Bentham has been chosen as the winner of the 2022 Beluga Award. As most of you already know, Kelly is most deserving of this award that celebrates unselfish

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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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Association Mailing address: Bedford Institute of Oceanography, P.O. Box 1006, Dartmouth, NS B2Y 4A2.

VoicePipe mailing address: c/o Andy Sherin, 9 Rose Street, Dartmouth, NS B3A 2T4.

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