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VOICEPIPE

October 2024

The Newsletter of the BIO-Oceans Association

New Offshore Oceanographic Science Vessel CCGS Naalak Nappaaluk Launched 19 August 2024



CCGS Naalak Nappaaluk at the Vancouver Shipyards. Photo Credit: Seaspan

The Offshore Oceanographic Science Vessel (OOSV) is a floating laboratory that will serve as the primary oceanographic science platform for Fisheries and Oceans Canada. As a Polar Class 6^{*} vessel, it will be a highly advanced ice capable ship equipped with the latest scientific research systems. The new ship will provide increased capability and capacity to support marine surveys and scientific research on ocean currents and the seabed in Atlantic Canada. It will also contribute directly to increasing our overall understanding of the impact that climate change has on the oceans.

The future *CCGS Naalak Nappaaluk* is named after a well-respected elder from Nunavik, who was a renowned promoter of the Inuit language and culture. The vessel will be stationed in Dartmouth, Nova Scotia and will accommodate up to 34 crew and 26 scientists. The data and samples collected What do you want from your OA membership?

Tell us at

bio.oceans@gmail.com

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aboard this vessel will support Canada's domestic international commitments to ensure that our oceans sustainably managed. The 88-metre-long vessel is ou ted with a modular working deck, a marine mammal servation station, an ocean sampling room, an ocean graphic winch, as well as permanent and portable la The ship can also perform search and rescue operation and environmental response when needed.	and and Knowledg are sun, waters an tfit- ob- intergeneration. The new OOS son, which enter serving ship in	d and Knowledge" depict images representing the land sun, waters and our ecosystem, including an orca symbolize community, protection, harmony, travel and intergenerational knowledge. The new OOSV is replacing the venerable CCGS <i>Hud</i> <i>son</i> , which entered service in 1964 and was the longe serving ship in the Canadian Coast Guard fleet.	
As part of the ship's launch celebration, Tsleil-Wau Nation artist, Olivia George, designed commemora coins to mark the milestone. The coins titled "Protect	tuth tive tion Note: Text taken f	means summer/autumn operation in me- ice, which may include old ice inclu- rom Seaspan's news release of 19 August 2024.	
PRESIDENT'S MESSAGE	for future edition	ons or if you would like to become more editorial team.	
Your Executive Committee has remained fairly ac over the summer months. Hybrid Executive meet are held about 10 times a year, virtually through Zo	tive There are an ir ings ties in the past oom will notify you	acreasing number of in-person opportuni- months. As other opportunities arise we	
and in-person in the glass boardroom in front of Commissionaires' Desk. A few committee members joyed a summer picnic near the Sea Pavilion before Executive meeting on 25 July.	the en- the the us know if you	several Executive Members enjoyed an I tour of the CSS <i>Acadia</i> while it was at dock (photos and article on page 10). Let a are interested in joining a private CSS	
unable to attend that meeting. Devastatingly we wer learn the extent of Don's rapidly failing health. De	was <i>Acadia</i> tour at re to spring or summon's ing another OA	ner 2025. We will definitely be organiz-	
swift passing left us feeling not only the loss of our spected long-time friend and colleague, but a c chasm in his contributions to the OA. Don's valued of umentation of BIO-related history alone, are excel compilations and editorship found in our newsletter	leep loc- lent arti-	e BIO bustling again! Here are a few of I have enjoyed over the summer. Several accessible without the need to be signed	
cles and on our website, including "A BIO Chron gy", "Hudson 70", "Marine Ecology Laboratory Hi ry", "Voyage of Discovery" and his recent N "Hudson History" article. Don will continue to be in hearts and minds. Don's Celebration of Life will be I	olo- sto- ployees are gat SIS I enjoy relaxin our tasty fresh sala held hi if they see m	teria has a nice selection and many em- hering there again for lunches and breaks. g there for a coffee or tea and maybe a d. Often colleagues will drop over to say he sitting there.	
of Christ Church Dartmouth, 61 Dundas Street, D mouth, N.S. Many OA members will be attending.	Hall Dart- BIOFit exercis offered are Tor	etired OA members have been attending e classes held in the Auditorium. Classes ne & Trim, DanceFit, and Yoga. Cost for	
and former excellent Newsletter Editors! The D Oceans Association Newsletter, renamed <i>VoicePip</i> April 2012 during BIO's 50 th Anniversary year, is	BIO Other free fith <i>e</i> in During Public ap- eral yoga classe	ess classes may be added in the future. Service Week and over the summer, seves were held outside under the trees.	
proaching its 100 th issue! Andy Sherin has been longest serving Editor over 12 years, during two p ods, straddling Mike Murphy's 3 year editorship. Be Andy, Michael Latremouille was the longest serv editor over 10 years. Linda Seto and Don Locke v the OA's inaugural editors for the first two years. newsletter has been a life-line to so many OA mem who live distantly or are no longer in touch with old leagues. It is fantastic to still be able to continue to joy these issues online on our website. Let us know you would like to submit or suggest articles or pho-	our beri- fore ving vere Our bers col- en- w if otos	ion at BIO opened its doors again this elcomed the general public to check out and take a student guided tour of the edu- . On 27 August some OA members and employees enjoyed a sunny picnic and uting. Maybe you saw the photos posted ok page? I was able to take several of my to visit the touch tank. It was a real hit! g forward to the opening of the Sea Pavil- year.	

The BIO Gardens are getting back in production again!

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During Public Service Week, Patrick Meslin and his vol- 17-27 September. Later harvests will be used for a tasty unteer committee began to clean up the Community BIO Garden by the Sea Pavilion. I assisted one afternoon to weed a plot which was later planted with cucumbers yielding quite the harvest! This year, the OA again rented one of the BIO Garden plots in the enclosed courtyard. Our labelled plot advertises us to employees who relax in the courtyard for breaks. Employees have told me how impressed they are with the lush growth in the plots. The OA plot is yielding 4 varieties of tomatoes, 2 of green peppers, 2 of squash, onions, basil, carrots & cucumber at the very least!

The early OA produce is being used to promote the BIO-OA to current BIO employees. The Golden Sweet Cherry Tomatoes have been a huge hit with BIOFit attendees during the Workplace Wellness & BIOFit Week Event

Remembering Peter C. Smith (1944-2024)

Submitted by Blair Greenan, Brian Petrie and John Loder

After receiving his PhD from the Massachusetts Institute of Technology (joint with Woods Hole Oceanographic Institution), Peter came to the Bedford Institute of Oceanography (BIO) in 1973 as a postdoctoral fellow. He successfully applied his graduate research centered on bottom boundary currents to an extensive BIO dataset from the Denmark Strait overflow off eastern Greenland. His abilities and enthusiasm were quickly recognized, and he joined BIO's Coastal Oceanography Section as a research scientist, spending his entire career there as a prominent scientist and manager in Fisheries and Oceans Canada (DFO).

In the mid/late 1970s, Peter and collaborators carried out analyses of existing physical oceanographic datasets from the Scotian Shelf, and field and interpretative studies of exchange between the Shelf and offshore continental slope. This research demonstrated that on-shelf fluxes significantly modified the properties of the westward flows on the Shelf. Bursts of low-frequency energy associated with deep-ocean eddies encountering the slope were identified as one of processes driving these exchanges.

Peter then led two major multi-year field studies on the western Scotian Shelf, at the eastern entrance to the Gulf of Maine (GoM) - a 1978-85 current and waterproperty measurement project off southwest Nova Scotia, and the physical oceanographic component of DFO's 1982-89 Fisheries Ecology Program in the Browns Bank region. He co-led the latter which had a particular focus on various life stages of the commercially-important haddock stock, and of how oceanographic changes influence their survival. At this point, these studies yielded the longest moored-measurement

OA Annual event this Fall (stay tuned for details).

The "First Wednesday" Ship Victory Lunch group is celebrating 15 years of getting together. Many are also OA members and they always welcome newcomers. Morley Wright and Gerry Dease organized the first lunch gathering on the first Wednesday in September of 2009! Ron Macnab is the group's informal moderator and emails its group members. We are joining a "First Wednesday" lunch for a future *VoicePipe* article. Maybe you'd like to attend at 12 noon on Wednesday 6 November or 4 December?

Looking forward to seeing more of you over the coming year!

Yours, Jennifer



Pierre Gauthier (CMOS President) (right) presents the J.P. Tully Medal in Oceanography to Peter on 4 June, 2014, for Peter's project leadership and management, and his outstanding research of fundamental processes on the Scotian Shelf and in the Georges Bank, Gulf of Maine region. Photo submitted.

time series of ocean currents, temperature and salinity with cross-shelf coverage in the Northwest Atlantic, which was of immense value to subsequent ocean climate investigations.

Peter was also a key contributor to the Canadian Atlantic Storms Program (Scotian Shelf, 1985-86; Newfoundland Shelf/Slope, 1992-93), a large multi-departmental field study that investigated the ocean's response to intense winter storms. Extensive arrays of land- and ocean -based instrumental arrays were deployed, and airborne surveys were conducted, complementing existing meteorological and ice-ocean observation networks. The re-

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weather forecasting off Atlantic Canada.

Peter was one of the many BIO scientists who collaborated with US researchers under the multi-phase US GLOBEC (Global Ocean Ecosystem Dynamics) Program (1993-1999), building on his earlier field studies off southwest Nova Scotia. His research provided new insights on the primary inflows and their interannual variability into the GoM through Northeast Channel and from the Scotian Shelf. These observations defined the heat, salt and nutrient fluxes into the GoM, and thereby their contribution to the dynamics of its ecosystem. Also, the direct, but intermittent, transport of surface waters from Browns Bank across the Northeast Channel to Georges Bank was found to be important for the Georges Bank ecosystem.

During most of his career, Peter made significant contributions to science management in the DFO Maritimes Region, initially as a key advisor, and later as Head of the Coastal Ocean Sciences Section (1994-2001) and Manager of the Ocean and Ecosystem Sciences Division (2001-2007), while maintaining an active research program. He served as the program lead for the multidepartmental Offshore Environmental Factors (OEF) Program for PERD (Program for Energy Research and

Drilling the Mid-Atlantic Ridge: The Hydrostatic Drill by D.L.McKeown

In the 60's, 70's and 80's BIO engineers and technologists created many innovative oceanographic devices which were employed during Mid-Atlantic Ridge (MAR) studies. These included digital data logging systems, satellite navigation methodology, shipboard mini computers, etc. However, the motivation for creating and using them extended well beyond this program. While I might try to describe some of these in a future article should the Voicepipe readership wish, I plan to focus here on technology that was specifically created to carry out research on the MAR, namely the BIO Hydrostatic Rock Core Drill and its successor the Deep Sea Electric Rock Core Drill.

A main objective of the marine geoscience community in the '60's was to prove the hypothesis of continental drift/seafloor spreading. At BIO, one of the major approaches was to obtain bedrock samples from a transect perpendicular to the MAR and age them to prove that this was directly related to their distance from the ridge axis. It was decided that the best method of obtaining such bedrock cores was to create a device that could be lowered to the sea floor at depths of 600 to 2000 metres, push its way through a thin layer of overlying sediment, then drill into the bedrock to capture a 15 cm long by 2.5 cm diameter core. While there were many challenges in

sults of this research led to improvements in marine Development), and was a key liaison with the Canadian Coast Guard's Search and Rescue Program and with multiple Dalhousie University programs (such as the Lunenburg Bay prediction project with Environment Canada, and the Ocean Tracking Network). He was appointed to the Board of Directors for the US-led Go-MOOS (Gulf of Maine Ocean Observation System) and NERACOOS (Northeast Regional Association of Coastal Ocean Observing Systems) networks.

> In recognition of Peter's dedication to Canadian oceanography through his scientific research, leadership and management, he was the 2013 recipient of the J.P Tully Medal in Oceanography awarded by the Canadian Meteorological and Oceanographic Society.

Peter excelled in a wide variety of contributions to BIO and Canada, through his research and leadership, mentoring and encouraging younger scientists, building collaborations, and actively participating in conferences, workshops and seminars. Although Peter retired from BIO in 2012, he remained active scientifically and influential until his health deteriorated. His positive attitude, energy, enthusiasm and inquisitiveness will be long remembered, as will be the lasting impact of his contributions to ocean science in Canada and the US Northeast.



This is a very early version of the drill. As time went by much of the apparent complexity was eliminated. (BIO Photo Archives neg238B1).

creating such a device, the most serious was that of how to power it. In those days oceanographic cable construction and handling precluded using electrical power from the surface. While automobile storage batteries could be

easily pressure-equalized to work at any depth, the quantity and thus weight of the number needed to provide such power made this approach impracticable. At that point Reg Gilbert and John Brooke hit upon what many to this day consider a brilliant concept. They proposed mounting a bank of industrial gas cylinders at atmospheric pressure on the platform and connect them through a hydraulic motor, then through a valve to ambient sea pressure. When the valve was opened, high-pressure sea water would flow through the motor into the cylinders thus driving the drill bit connected to the hydraulic motor. While there were many trials and tribulations along the way, they eventually got the system to work reliably. Using it, BIO geoscientists were able to collect a number of bedrock cores along the desired transect and Gilbert/Brooke received a patent for the uniquely elegant approach courtesy of George Fowler.) to powering an oceanographic sampling device.



This is the deep sea version of the drill with the spherical pressure reservoirs. (Photo courtesy of George Fowler.)

While simple in concept, there were many design and operational challenges that had to be overcome before a successful sampling device of this sort could be created especially in mid-20th century when we were all novices when it came to ocean engineering. As most of the *Voicepipe* readership is not likely to be interested in the nitty-gritty of these matters, I'll restrict myself to simply cataloging some of them:

•how could the drill be lowered to the seafloor and left to do its job without being pulled over by the wire or rope used to lower it as the ship moved about several hundred metres above it on the surface;

•how could the drill be started remotely after it was stably sitting on the seafloor;

•how would we know how well it was functioning as it drilled into the seafloor;

•how would we know where the cores were obtained relative to each other.

In time, each of these issues were resolved. However, I cannot resist describing one example of how in those early days we had to rely on ingenuity rather than technology to monitor performance of devices such as this. Specifically, how could we determine whether or not the drill barrel was actually rotating and, if so, how many turns? The solution was to place a ball of string on a spike attached to the drill frame and attach its free end to the drill barrel. Upon recovery the string had wound

about the barrel proving that it rotated. By cutting vertically through the string wound upon the barrel and counting the number of cut pieces, the total revolutions of the drill could be determined.

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The first sea trials of the Hydrostatic RCD took place in 1965 and in 1966 the first cores were obtained during engineering trials on the Kelvin Seamount before unsuccessful coring attempts were made at the MAR later that year. In 1967, the drill was part of the Hudson display at Expo 67. After further successful sea trials on the New England Seamounts, BIO returned to the MAR in 1969 and obtained 12 bedrock cores from the crest of the Ridge. Then efforts turned to extending the drilling time and operating depth. The industrial gas cylinders were replaced by two large high-strength steel spheres to accomplish this with the unfortunate side effect that their buoyancy led to the addition of more ballast and thus more strain on the lowering rope, an example of how engineering developments go around in circles. Ultimately, in 1971 Dalhousie University geologist Fab Aumento, in collaboration with the BIO drill team, took this updated version with its extended running time and depth capability to the MAR where they were able to collect six cores from the median valley area in spite of the very rough topography there.

My thanks to George Fowler for historical recollections and photos. he offered much detail which I have omitted because, while I found it fascinating, only geeky readers would appreciate it.

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A Spring Trek on the famed West Highland Way, Scotland by Peter Wells

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In early April this year, I again flew overseas to hike in the UK and visit relatives. The main objective was to thru-walk Scotland's first official national path, the 98 mile (156 km) West Highland Way (WHW) completed in 1980. It runs from Milngavie, on the outskirts of Glasgow, northwards to Fort William in the highlands (Fig. 1). After a week of walks with my Norfolk friends in the Lake District of NW England, I proceeded by bus and train to Milngavie. The path is a major attraction for the town and most hikers begin here (Fig. 2).

I spent a restful weekend in Milngavie, taking time to explore the nearby wooded Mugdock Country Park with its colourful gardens and castle ruins, after which the 8-day walk began. Overnight accommodations and luggage transfer were pre-booked as usual with Walkers Britain. It was mid-April, still early spring in Scotland, and I was hoping for good weather. As it turned out, it was quite wet over the first two days, resulting in very muddy paths and wet boots, then it cleared with largely sunny skies and cool temperatures, perfect for walking. Luck was with me.

The path starts with long stretches through valleys (called glens) and across moors and farmlands, then ventures around a mountain top, dips to the famous Loch Lomond, and goes relentlessly along the loch's edge for two days. It then travels through countless glens, crosses the huge Rannoch Moor, then follows an historic military road through more glens, with some quite demanding climbs over ridges and hills. The last three days of the trek were the most demanding, with a stiff climb early each day and seemingly endless straight stretches of path. The scenery became more spectacular as I walked from the lowlands into the highlands, the peaks of distant snowbound mountains seen in all directions when the clouds and mists allowed.

On the first day, I was walking towards the village of Drymen, enjoying the beautiful views of the glens and the distant mountains, the sheep farms, and the small lanes and paths, all clearly waymarked. Early on, I met other walkers, on this day two American chaps from Illinois; they were good company, very chatty, and quite determined to walk the whole path in 4-5 days. Later on, I walked with folks from the Shetland Islands, Australia, Netherlands, and surprisingly, Grand Manan Island, NB! Interestingly, there were many solitary walkers like myself. The first day was pretty level and easy, but very wet and muddy. I arrived at my destination, a lovely Inn, after 6.5 hr. and 19 km.

Day 2 was from Drymen to Rowardennan locat-



Fig. 1. The West Highland Way, Scotland.



Fig. 2. The official starting point of the WHW in the town of Milngavie, just north of Glasgow.

ed on Loch Lomond (23 km). It was overcast and rainy and started with a long road through forestry areas where I met and joined up with a lady from the Outer Hebrides. I was previously unaware of how much forestry was done in Scotland, and on this walk, I passed by many tree plantations, largely Sitka spruce. By mid- morning, there was a steady climb up and around a mountain

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Fig 3. Staying dry and upright on a very wet and blustery day on Conic Hill, Day 2 on the WHW (Photo by Elaine Hayes, fellow walker)



Fig. 4. A war memorial on the path alongside Loch Lomond, just north of Rowardennan (Day 3).

called Conic Hill. Conditions were not ideal - chilly, rainy and sleety, muddy, and very gusty (Fig. 3). The trail was difficult and the descent was on very wet large stones newly laid to preserve the path. My trusty hiking poles prevented falling. Once off the mountain, we entered woods and walked towards the spectacular Loch Lomond and a much welcomed lunch at a lakeside café at Balmaha.

The wet and muddy rocky path, considered a challenging part of the whole walk, continued along the lake shore, with an occasional road and many beautiful mountain views. We arrived late at the Rowardennan Hotel and I settled in. Every hotel where I stayed on this walk was comfortable, with good dining, and especially hearty breakfasts. I faithfully followed the mantra –



Fig. 5. An abandoned farmhouse and view of the snowy highlands beyond Loch Lomond, looking north on a sunny afternoon (Day 3).

"protein for dinner, carbs for breakfast"!

Day 3, from Rowardennan to Ardlui (located across the Loch, on the northwest side, reached by small boat), was a beautiful sunny day. I continued to hike with the lady from the Outer Hebrides. The day started easily from the hotel, passing by a war memorial (Fig. 4), along an old road through the woods above the lake, heading north. It soon became a rough, undulating rocky and muddy wet path along the lakeside. At times though, there were easier stretches, with beautiful views (Fig. 5) and the day stayed sunny. By late afternoon, I reached the small wharf and after a short wait with some other hikers, we went over to the hotel at Ardlui by small boat. The short ride offered a view of distant mountains and the long forested lakeshore that we had walked along all day.

The fourth day was almost 8 hours and over 20 km of walking, from Ardlui to the service town of Tyndrum, via Crianlarich. It was a partly sunny and cool day. The path, some of it on an old military road, went along two glens, and across treed hillsides, some being actively clear-cut. At the lunch spot near Crianlarich, I met up with other hikers, including a keen backpacker, Adam, from England. I walked on and off with him for much of the afternoon, it was good company. The final glen that day had extensive farmland with many sheep and glorious views of the mountains to the south. We walked by the ruins of the medieval Priory of St. Fillan (Fig. 6) and its historic and well-maintained cemetery. After more woodland walking, we finally reached Tyndrum and for me, the nearby Glengarry Guest House. After a dinner in town with three hikers from the path, I enjoyed the late evening sitting at the guest house viewing the snowy highlands of nearby Trossachs National Page 8

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Fig. 6. Ruins of the medieval St. Fillan's Priory in the dell south of Tyndrum (Day 4).



Fig. 7. Fellow walkers on the old military road, leading out of Tyndrum to the village of Bridge of Orchy (Day 5).

Park.

I was now midway on the walk. Day 5 was a well-chosen short walking day, only 14 km from Tyndrum to the hotel in the hamlet of Bridge of Orchy. It was overcast, rainy and misty. I left Tyndrum on the north side on a well-marked path, winding up the glen at the base of two mountains, and along-side the busy main road and railway. It was fairly easy walking, as it was again the old military road, bumpy, wet, but easy to follow, and shared with a few other walkers (Fig 7). Arriving in early afternoon, I had plenty of rest while watching other walkers cross the famous 1750s bridge and continue up the path. An early night was on order, knowing from the guidebooks that the final three days of this trek were going to be strenuous.

As predicted, the next three days were a chal-



Fig. 8. On the height of land between Bridge of Orchy and the Kings House Hotel (Day 6).

lenging introduction to the highlands terrain. Walking to the historic Kings House Hotel in the Glencoe Valley and the heart of the western highlands on Day 6 started with really pleasant weather, a bit overcast but sunny generally. Starting early, I tackled a stiff switchback out of Bridge of Orchy, through a forest to a summit of a high ridge (Fig. 8). Then it was downhill on the old military road to a main road, crossing the Victoria Bridge at the end of Loch Tulla, and starting up the old drovers road to Glencoe. The narrow road with its beautiful stone bridges wound relentlessly across the endless Rannoch Moor - desolate, windy, a wilderness of 50 sq. miles (Fig 9). Snowy mountains surround the moor. Fellow hiker Rachel caught up with me and we eventually found a sheltered place for lunch, just off the path amidst the ruins of yet another abandoned stone farm-



Fig. 9. Crossing the Rannoch Moor, an endless stretch of historic military road, blanket peat bog, and wilderness (the largest in Britain) on the way to Kings House Hotel (Day 6).

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Fig. 10. On the old military road just beyond the Kings House Hotel, with a view of the striking mountain, Buachaille Etive Mor, a famous landmark at the entrance of the Glencoe valley. A stunningly clear day. (Day 7).

house.

After more hours on the moor, the path finally headed downhill into a wide glen with its Glencoe Ski Centre and a newly rebuilt but historic Kings House Hotel. Arriving mid-afternoon, I soon relaxed in the pub and enjoyed its wonderful mountain views. Across the valley is the pyramidal mountain Buachaille Etive Mor (Fig. 10), with its sheer climbers rock face, a famous landmark at the entrance of the storied Glencoe valley, noted for a massacre in 1692 of the MacDonald clan and later for the Scottish Clearances. An early night beckoned.

The route from Kingshouse to Kinlochleven (14

km) on Day 7 was beautiful, and soon to be strenuous. I started early on a sunny morning with the very long walk along Glen Etive on the military road, straight, long, and rough. After 5 km, there was the waymarked entry to the infamous Devil's Staircase, named by the soldiers who laboured on the road in the 1700s. A steep and rough switchback climb led to the top of a mountain ridge, the highest point on the WHW at 548m (Fig 11), with beautiful mountain vistas. In clear weather, Ben Nevis, the UK's highest mountain, can be seen from this summit. A long slow descent followed on a good path to the aluminium smelter town of Kinlochleven, located at the head of Loch Leven. It is famous for a nearby hydro dam built to power the smelter and town. I checked into the Highland Getaway Inn, after an outdoor lunch with fellow hikers, now very familiar faces. Such camaraderie kept me going on this walk, as well as emails from family. I had time to explore the town and a display of a huge Pelton Wheel, a water impulse turbine used to generate waterpower for the smelter. It had been a good weather day, and while only 14 km, the walk felt longer likely due to the long glen and steep Devils Staircase.

The walk from Kinlochleven to Fort William was the final long one (24.5 km, over 8 hours) and tiring. The path started with a steep climb out of the glen, with good views looking back towards the town, then a long walk west on the old military road at the base of several mountains (Fig. 12). The path eventually turned north on a bumpy track through many areas of deforestation and new tree plantings, a sadly disturbed land-scape. Finally, I was heading towards Ben Nevis and Fort William on Loch Linnhe. I came into the town along side the visitor center and soon found my Guest House.

The following morning, I walked to the center of



Fig. 11. On the summit above the feared Devil's Staircase, the highest point (548 m) on the WHW with mountain views in every direction (Day 7).



Fig. 12. Other walkers and another old farmhouse (Tigh-nasleubhaich) on the old military road in the glen, surrounded by mountains, between Kinlochleven and Fort William (Day 8).

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Fig. 13. Two gents (one solid, one tired) at the official end of the West Highland Way, in Fort William.

Quicky BIO fact: Coal Fired Heating System

Like the beautiful hydrographic survey ship CSS *Acadia*, the original building was heated with coal. There was two or three boilers in the furnace room in the basement of Van Steenburg building, two stories high with coal bins against east wall. Coal delivered by trucks and fed into the building via coal scuttles outside the then second floor main frame computer room.

town and down its main street to the official end of the WHW path – a bronze statue of an old contemplative man sitting on a bench (Fig. 13). I celebrated the occasion with other walkers that morning. The WHW trek was completed but happily, many memories, pictures and new friendships remain! More walking adventures from "New Scotland" are being planned.

References

Burton, A. 2013. *West Highland Way*. Aurum Press, The Quarto Group, London, UK. 141p. www.trailguides@quarto.com

Harvey Maps. Nd. *Scotland's Great Trails. West Highland Way.* Xt40. Strong durable waterproof polyethylene map for walkers. <u>www.harveymaps.co.uk</u>

Longley, N. 2022. *The Rough Guide to Scotland*. 13th Edition. 600 p. Rough Guides, <u>www.roughguides.com</u>

Loram, C. and Stedman, H. 2022. *West Highland Way*. 8th edition. Trailblazer Publications, Hindhead, Surrey, UK. 208 p. plus maps.

Marsh, T. 2016. *Walking the West Highland Way. Milngavie to Fort William Scottish Long Distance Route*. Cicerone, Kendal, Cumbria, England. 137p. www.cicerone.co.uk

Tour of the CSS / HMCS Acadia

Members of the BIO OA Executive and guests had the privilege of touring the *Acadia* on 8 August 2024 while it was tied up at COVE in Dartmouth. Modifications while in the shipyard added a second egress point from the lower engine room to allow visitors to enter (see lower engine room pictures on page 11). The ship has many plans for the use of the ship as an educational platform with some spaces converted to teaching spaces. Dereck Harrison and Jason Climie were our guides. Groups of 10 can arrange a tour through the Shipkeeper, Ellen McLaren.





Photos: Left; Members in the Hydrographers Mess; Above: Model of HMCS *Acadia* in the chart room, note the gun on the foredeck.



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Photos from left: The crank shaft in the lower engine room, Dereck Harrison, one of our guides, shows *Acadia*'s original bell; and the tops of the three cylinders in *Acadia*'s upper engine room.



A belated tribute to Charlie Schafer Excerpts from the obituary of Charlie Schafer who died 17 August 2023

Charlie worked his entire career at BIO, where he maintained an emeritus position until his death. Some of his favourite professional adventures included his time on the Hudson '70 expedition, as well as his research projects in James Bay, Prince Edward Island, Baie des Chaleurs, the Mid-Atlantic Ridge, St. Lucia, New Zealand, the Saguenay Fjord, and Hainan Island, China. Charlie was the epitome of a lifetime learner. He used his instinct for research to contribute to many community organizations. At the time of his death, he was an active member of the National Research Council of Canada's Committee on Aging in Place.

[The editor invites the submission of a more extensive tribute to Charlie who served for many years on the BIO-OA Executive.]



Charles Thomas Schafer

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NEW AND RENEWING MEMBERSHIP B	IO-Oceans Association www.	bio-oa.ca bio.oceans@gmail.com
YOUR INFORMATION New members	ship Renewal t information.)	
Name:		
Address:	Postal Coc	le:
Telephone: Email:		
BIO/Other Affiliation:		
How would you like to be involved with E	BIO-OA (eg. social, executive positio	n, just the news, etc.)
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