



Goodbye Cold, Hello Warmth

Quarterly number 2. April sure snuck up fast on us! Time is flying but that is not always a bad thing, especially if it hastens the arrival of warmer, sunnier weather. It is almost the perfect time for diving in these parts: although the water is still cold, the air is warm (but not too warm), there are more sunny days, and they are getting longer. Perfect conditions for the North Atlantic diver. We have a bit of a long one for you this month, but you will be happy to know it is very, very interesting! So, grab a cup of your favourite warm beverage, kick back and relax while you enjoy our words for April. Here is a run down of what's in store for this edition:

- Reminders and Upcoming Events – A quick rundown of some of the events we have planned between now and June.
- Dive Charter Tips – A not so short list of things to remember when going out on those adventure filled dive charters.
- What the Heck was That Thing??? – There is a good chance you will figure it out if you have any of these identification books in your library. Wayne T. Joy shares a list of his favourite go to reference books.
- Freediving – the Misunderstood Sport - Nicolas Winkler tells us all about this peaceful past time, from the technical details to its benefits and Canadians' contributions to the sport.
- Tracking the European Sea Squirt - Greg Croft brings tells us a little bit about this invasive species and provides contact numbers for reporting invasive species sightings.
- CPAWS's First Community Biodiversity Dive took place on April 8. This short article provides a little information about iNaturalist.
- NSUC Website Update – No new content yet, but it is a lot more organized now!

Reminders and Upcoming Events

AGM

Don't forget our 2023 AGM on Tuesday, May 16, 6:30pm at the Admiral Club in Spryfield (106 Leiblin Dr.). Unfortunately, we could not secure a guest speaker for the event, but we will be bringing everyone up to date on all the fun projects coming up over the summer and into the fall. And, of course, we will be presenting the Jane Biggs award to this year's recipient

Jane Biggs Award

Speaking of the Jane Biggs Award, here is reminder number 2! If you haven't submitted a nomination yet, you still have some time - the deadline is 11:59pm, May 1. You can email us the form we sent out several weeks ago or submit via the google forms link [here](#). We recommend using the online form as it is much more convenient to submit.

Ocean Cleanups

(Alanna Canaran)

Most of the trash that enters the ocean ends up sinking to the bottom where it becomes hard to reach. As divers, we have the unique set of skills and abilities to be part of the solution and clean up some of the waste that is otherwise inaccessible.

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NSUC has partnered with Scotian Shores to host two upcoming shoreline cleanups and dive against debris.

Not a diver? Not to worry! We would still love your help! We need shore support to clean up what has washed up on the shoreline, assist divers from shallow water, and record, weigh, and sort through what was collected so that we can document and dispose of it all properly.

At both cleanups, we will be sharing data with Scotian Shores and PADI AWARE Dive Against Debris. Dive Against Debris is the largest online database of underwater debris. Reporting what we find helps reveal the extent of the global marine debris crisis. Without this data, scientists, conservationists, governments, businesses, and policymakers cannot advocate for change.

Province-wide cleanup May 13

On Mother's Day weekend let's show Mother Earth how much we care!

When: May 13th 11-1pm

Where: Shoal Cove, Blandford, NS

NSUC spring clean-up

When: May 28th

Where: TBD. If you have a location in mind, let us know - we are open to suggestions! We will announce the location on May 7th.

Please let us know via email or Facebook if you will be attending either clean up. There is limited parking available at certain sites, so carpooling is encouraged.

Ocean Week Halifax

(Alanna Canaran)

On Saturday, June 10, dive into Ocean Week Halifax at the Queens Marque Courtyard in the Halifax boardwalk. This is an all-day outdoor event to celebrate our ocean playground! The event is free, open to the public, and family-friendly, so make sure to save the date and stop by. Stay tuned as we announce what to expect from this fun-packed day full of activities, prizes, and interactive experiences from our ocean partners. The countdown to Ocean Week Halifax is now on!

If you are interested in helping as a volunteer, please reach out. We will require assistance with organization, safety divers, shore support, setup, breakdown, social media, and promotion. Our contact information can be found at the end of the newsletter.

Dive Charter Tips

May and its warmer weather is upon us. As we look at April in the rear view mirror the winter storms and rough seas should be a thing of the past, replaced with settled winds and a relatively calmer ocean. Before you know it, the dive charter season will arrive faster than you can say BWRAF! If they are not already posted, we will soon be seeing charter schedules to the Arrow, Saguenay and the sunken attractions around the Halifax Harbour approaches. Whether you are an old salt at boat diving or a



newly minted AOW diver with just a few back rolls under your belt, it always helps to refamiliarize yourself with good boat diving habits. This is not an exhaustive list (it sure is long, though!), but it will hopefully get you thinking about dive charter best practices.

Boarding

1. Arrive early – a good rule of thumb is 30 minutes prior to the scheduled departure if not specified by your charter organizer.
2. Do not board or load your gear onto the boat until the captain or crew grants permission.
3. Do not jump the line. There is plenty of time. Bonus for waiting: Those on board first tend to help load all the heavy gear!
4. Follow all boarding and loading instructions:
 - a. Stow your gear and clothes as instructed - keep the deck clear and stow tanks securely.

Post boarding/enroute

1. Listen to boat safety briefings, rules, and other instructions – do not distract others or interrupt until invited to ask questions.
2. Stand away from engine exhaust – breathing it can cause headaches and even nausea.
3. To help avoid sea sickness:
 - a. Stay outside in fresh air.
 - b. Look at the horizon to give your brain a point of reference as you move with the boat.
 - c. Try to stay in the center of boat where there is less movement.
4. If you do get sick, go to the leeward side. Have someone with you so you do not fall in when leaning over.

Pre-Dive

1. Listen to the dive briefings. In addition to site descriptions there might be important safety information such as hazards, entry/exit procedures, conditions, diver recall protocols, etc.
 - a. Do not interrupt or distract others
 - b. Stop what you are doing and listen – you can continue after the briefing.
2. Discuss the dive plan with your buddy.
3. Ensure your buddy is ready before lining up to enter the water. Don't forget BWRAF! (**B**egin **W**ith **R**ever **A**nd **F**riend).
4. Wait for the dive tender to call you forward to the boat's exit point.
5. Before entering the water:
 - a. Breathe from your regulator as a final check that your air is on.
 - b. Ensure BCD is inflated.
6. Wait until given the OK to roll or jump into the water – the dive tender will wait until the previous diver has moved away.
7. Upon surfacing after entry look toward the boat and give the OK signal.
8. Wait for your buddy before descending– if you planned to meet at the buoy, go there and wait.

During/End of dive

1. Watch your breathing gas supply and NDL.
2. If you hear the underwater recall, begin the process of ending your dive.



3. During ascent, do not clamber over slower or stopped divers. If you cannot let go the line, gently tap, or signal to let them know you need to pass.
4. Upon surfacing, wait for your buddy to join you before leaving the mooring.
5. Do not approach the boat's ladder if a diver is on it:
 - a. He/she could fall or drop gear resulting in injury.
 - b. Wait until the dive tender signals to you to approach.
6. If there are divers ahead of you waiting to board, wait your turn – do not jump the queue.
7. Discuss with your buddy who will exit the water first.
8. Once on board, allow the dive tender to help you in order to avoid falls that could injure you or others, especially when seas are rough.

Post Dive

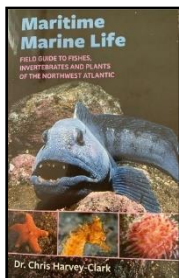
1. Once safe to do so, begin to remove your gear and start packing up:
 - a. It is easiest to pack up while boat is still tied up and stationary.
 - b. Stow tanks as per boat rules.
 - c. Place all your gear into your dive bag/tote to ensure a safe and tidy deck area
2. Talk excitedly with others about all the cool stuff you saw.

This list is intended as a general guideline to get you thinking about good practices aboard our local dive charters. While all local dive boat briefings will have much in common such as safety protocols and onboard 'services', there may be different boat specific rules on individual dive boats. With this in mind, always take care to listen and abide by the instructions of both the dive boat captain and the charter organizer.

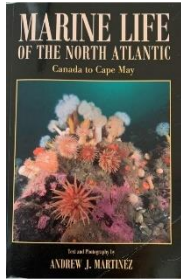
What the Heck was That Thing???

(Wayne T. Joy)

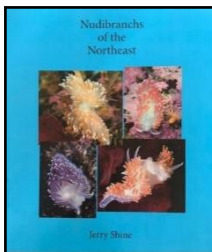
I am one of those divers who is drawn into the water by the marine life. For me, diving in Nova Scotia is like treasure hunting for marine critters. I love nothing more than to capture a picture of something new to me or rare to our waters. I have come to rely on a number of references to aid me in identification and give me a deeper understanding of what I saw. Here are a few of my go to books. If you have others you find useful, please let us know. In no particular order:



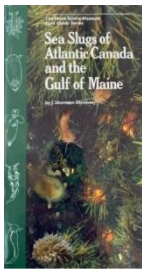
Maritime Marine Life by Dr. Chris Harvey-Clark: This locally produced field guide is an excellent quick reference. I keep a copy in my dive vehicle. There is no other reference I know of that is more specific to Nova Scotia diving.



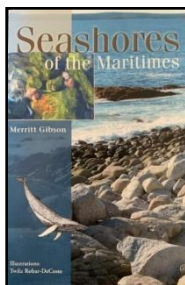
Marine Life of the North Atlantic by Andrew J. Martinez: A very comprehensive reference. This book can be paired with the interactive Marine Life – North Atlantic App which allows you to record sightings and get help with IDs. There is also a Facebook page for sharing images: [Marine Life – North Atlantic](#)



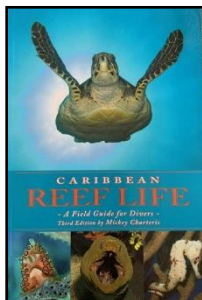
Nudibranchs of the Northeast by Jerry Shine: An excellent reference for nudibranch lovers (like me). It covers all the species we find here in Nova Scotia with clear images and comprehensive writeups.



Sea Slugs of Atlantic Canada and the Gulf of Maine by J. Sherman Bleakney: A very detailed reference filled with “neat slug facts” for all sea slugs found in Atlantic Canada. Everything you need to know and supported by detailed drawings.



Seashores of the Maritimes by Merritt Gibson: This book covers everything you might see as you wander our shorelines, from whales to seaweeds and everything in between. There is something in this book for beachcombers, waders, snorkelers, and divers alike.



Caribbean Reef Life by Mickey Charteris: I know this might seem out of place in this group of local references but I have found this book helpful for identifying some of our fall tropical visitors. It's also invaluable for creating a “hitlist” for Caribbean dive vacations.



Freediving – The Misunderstood Sport

(Nicolas Winkler)

Thousands of years ago, when people first tried to venture beyond the shoreline beneath the thin blue line in search of food, they did so by apnea or suspension of the breath. Today, the sport known as freediving has seen humans descend well beyond 100m on a single breath. As this niche sport evolved, it was often cast aside by the scuba world and its training agencies as dangerous and reckless. In the last decade its popularity has increased exponentially as the major training agencies have embraced their own freediving programs.

Freedivers take advantage of the mammalian diving reflex (MDR) which is triggered by immersion in water and apnea. This complex physiological reflex, which we share with whales and seals, induces bradycardia and blood shunting thereby conserving oxygen and allowing the freediver to spend time at depth. While the MDR is something we're all capable of taking advantage of, for most people breath holding isn't something they do naturally. Novice freedivers must learn to overcome the urge to breathe, triggered by a rise in metabolic carbon dioxide in the blood, which requires knowledge, training and mental adaptation.



Photo by Nicolas Winkler

A Halifax Freediving Club ascends from the wreck of the HMCS Saguenay. Photo Nicolas Winkler.

Unlike the more technical sports of scuba or rebreather diving, freediving requires the development of more than just skills, but also ability. Clearing a regulator, for example, doesn't really change with more practice, one becomes more efficient at it but the technique remains essentially the same. In freediving, however, every aspect from finning technique to mental preparation to equalization - which requires different techniques for

different depths - requires regular practice and learning to ensure progress. Freediving is very much a deep mental practice akin to meditation and the well-worn quote by renowned Italian freediver Umberto Pelizzari encapsulates it well: *"the scuba diver dives to look around. The freediver dives to look inside."*



The challenges posed by applying physiological knowledge to training and practice draws most people to freediving, allowing one to challenge their own limits. For many freedivers, myself included, the ability to test one's body, mind and limits has proven to provide significant positive impacts on their mental health.

As watersports go, Freediving is extremely affordable as it draws on the most basic equipment: mask, fins, snorkel and a wetsuit. A bare minimum of weight is used to counter the buoyancy of the suit, but we rely on technique and physiology to sink to the bottom. While anyone can get started with the basics, specialized freediving versions such as low volume masks/snorkels or two-piece open cell wetsuits make the sport far more comfortable, enjoyable and are ultimately essential to refining freediving techniques.



Photo by James Ferrara

*The author spends time with the Tiger sharks of Tiger Beach, Bahamas.
Photo by James Ferrara.*

The low-drag configuration of gear means you can glide through the water with ease. Apnea is also a silent sport, it frees you from the noise of a regulator's bubbles and lets animals approach you unafraid - it is great for photography. It lets you access sites that are otherwise problematic with scuba gear, especially in Nova Scotia where accessing the coast can be an issue. You can easily pack your freediving kit in a backpack-style drybag and hike down Duncan's Cove or to Polly's Cove for a session.



Photo by Nicolas Winkler

A Nova Scotia freediver explores the clear, winter waters at Prospect as sun rays punch through the water. Photo by Nicolas Winkler.

From 2018 to 2022, the Halifax Freediving Club developed one of the largest freediving clubs in Canada and one of the few that had managed to gain access to a public pool to freedive in. Sadly, the pandemic brought many challenges for the club, and forced the board to bring it to an end. The HFC set a number of provincial records during its tenure.



Despite our cold waters and short season, Canadians can lay claim to major contributions to the sport, from developing advanced equalization techniques to inventing new equipment to competing on the international stage, in both pool and depth. There are too many to name here but perhaps one of the most famous is Kirk Krack, founder of Performance Freediving International who also came up with technical freediving (pre-breathing for a dive with mixed gasses) and played a pivotal role for creating the freediving-based stunt and filming in the Avatar series.

While mastering freediving is a lifelong adventure, learning the basics is easy. In fact, most people can readily hold their breath for a couple of minutes and dive to 10-12m, which are common entry-level course requirements. Unfortunately, freediving still gets a bad rap over safety, and people who do not freedive have a poor understanding of the risks associated with it. When fatalities occur, they are often found to fall into one of these categories: diving solo, diving untrained or deviating from accepted safety practices. Those who do, take a huge gamble with their lives and negatively impact the reputation of the sport.



Despite the deep, inner mental aspect of freediving, it is very much a team sport. Author ascending from a no fins dive at a competition in Dominica Photo by Daan Verhoeven.

Divers of the breathing variety can benefit greatly from freediving, making them better, safer divers. It can build confidence in the water and improve air consumption in scuba divers. All rebreather divers would also do well to take an introductory freediving class to gain an intimate understanding of hypoxia and hypercapnia.

Freediving is an amazing sport that has more depth and complexity to it than many realize. It opens up the oceans in a whole new way and is a great tool to have in your diving toolbox, whether you are new to diving or are an advanced technical diver.



Tracking the European Sea Squirt

(Greg Croft)

There are a lot of "visitors" these days, and many are pretty and unique to our area, but their impacts can be harsh. DFO has prepared the Aquatic Invasive Species pamphlet for them - <https://waves-vagues.dfo-mpo.gc.ca/library-bibliotheque/40961242.pdf>



European Sea Squirt. Photo by Greg Croft.

This species doesn't have the tell-tale yellow edging to the siphon tube tops that the "Vase Tunicate" has, instead it appears to have a lumpy or bumpy surface, is translucent, and often has different coloured hues like pink, bluish or grayish. I have found this in St. Margaret's Bay from around West Dover, with a real outburst at Indian Point where it settles on the rockweed plants on which it hitches a ride!!

This species can have a profound impact on the local environment because it grows rapidly and can tolerate a wide range of salinities. It can out grow or "out compete" local species for planktonic food and for space to attach on rocks, piers, seaweeds, and ship bottoms. Additionally, it can sink aquaculture floating gear such as oyster cages or socks of mussels due to the mass and weight it adds to the structure. They are also responsible for drag on ships causing loss of speed and increased fuel consumption.

This species is native to the Mediterranean Sea and European coasts. It arrived in the Northeastern United States via ships' hulls and ballast water.

Divers are helping to track the spread of the European Sea Squirt along our coasts. If you see this fellow, contact the appropriate DFO facility! Take lots of pictures and send them along, too. Contact information for the Atlantic provinces is provided below.



Provided by Greg Croft.

Think wet and continue to enjoy our wonderful corner of the world underwater!!

New Brunswick

Toll-free: 1-866-759-6600

Email: DFO.GulfAquaticInvaders-EnvahisseursaquatiquesduGolfe.MPO@dfo-mpo.gc.ca

Newfoundland and Labrador

Toll-free: 1-855-862-1815

Email: DFO.NLAIS-EAETNL.MPO@dfo-mpo.gc.ca

Nova Scotia ([Gulf](#))

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Toll-free: 1-866-759-6600

Email: DFO.GulfAquaticInvaders-EnvahisseursaquatiquesduGolfe.MPO@dfo-mpo.gc.ca

Nova Scotia ([Maritimes](#))

Toll-free: 1-888-435-4040

Email: DFO.MARAquaticInvasiveSpecies-EspeciesAquatiquesEnvahissantes.MPO@dfo-mpo.gc.ca

Prince Edward Island

Toll-free: 1-866-759-6600

Email: DFO.GulfAquaticInvaders-EnvahisseursaquatiquesduGolfe.MPO@dfo-mpo.gc.ca

CPAWS' First Community Biodiversity Dive

(iNaturalist information provided by Hunter Stevens)

On Saturday, April 8 Canadian Parks and Wilderness Society (CPAWS) – Nova Scotia hosted their first community biodiversity dive at Sandy Cove in Terence Bay. The goal of the event was to capture photos or videos of as many marine animal or algal species as possible and then upload them to the iNaturalist app. iNaturalist is a citizen science initiative developed by the University of California where users can upload pictures or recordings of organisms via the app. iNaturalist then provides a list of possible identifications which can also be verified by other users. The records are used by scientists to learn about the various organisms they study. CPAWS – Nova Scotia uses iNaturalist to keep a record of the marine species observed by the dive community in Sambro.



Plankton Worm (Tomopteris helgolandica). Photo by Hunter Stevens.

NSUC Website Update

Denis has been hard at work clearing out the bugs and quirks on our website. The general format is the same, but on your next visit you should notice that all the links work, pages and menus are reorganized, and the inactive features have been removed. We still have a few minor things to address, but the big stuff is done. Great work, Denis! We have not added any new content yet, but we will be meeting with Denis in the near future to plan the next phase of improvements. When you have a minute or two drop by novascotiaunderwatercouncil.ca for a visit.

What's Happening Out There?

Are there any events or activities taking place in the upcoming months you think might be of interest to the underwater community? If you would like get the news out there let us know and we can post it in our newsletter. Just send your idea to any of the email addresses below and we'll get in touch.

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