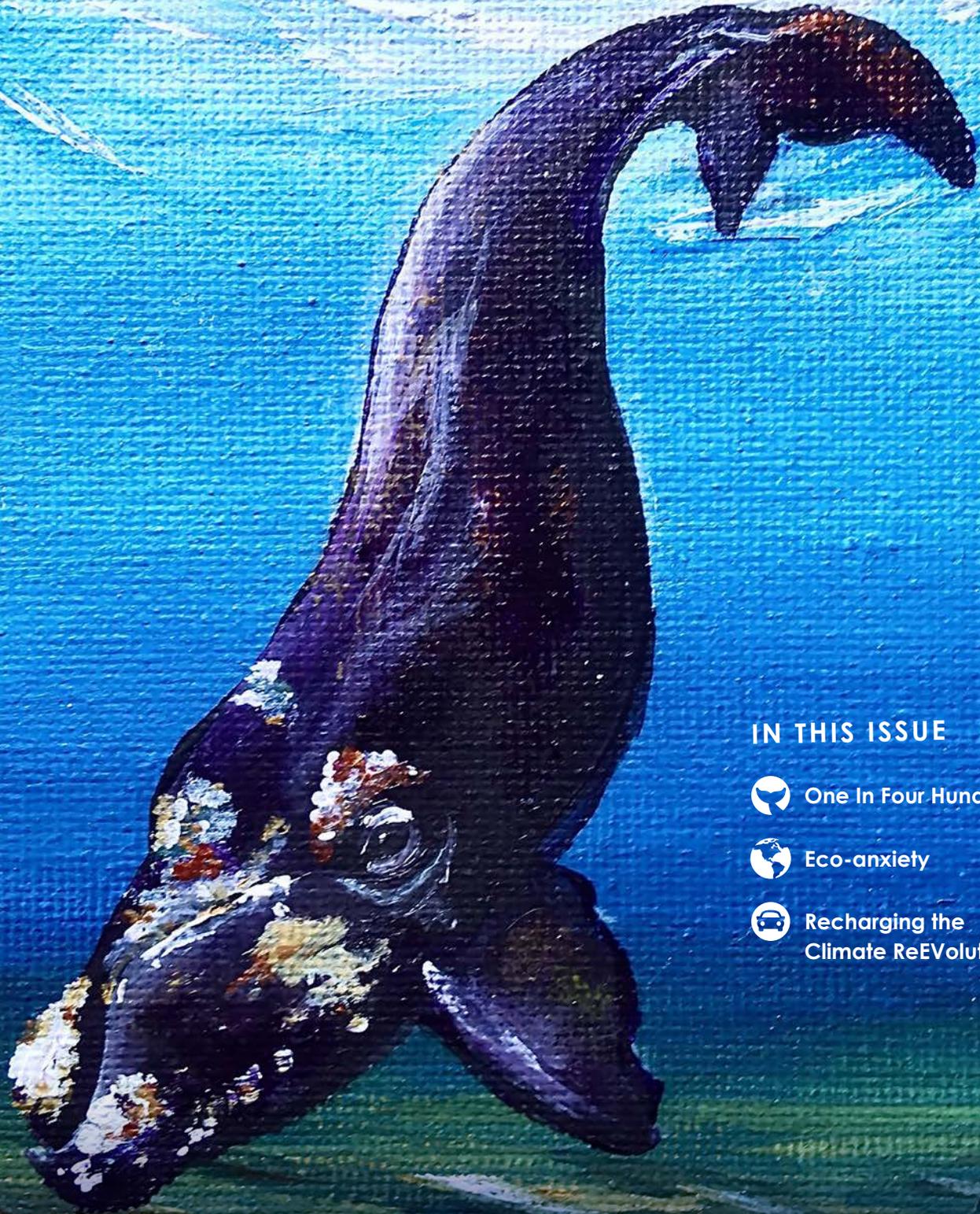


Ecology & Action

FALL 2019



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Ecology & Action is published three times a year by the Ecology Action Centre (the EAC), a charitable organization (PM Registration # 40050204).

The Ecology Action Centre is a member-based environmental charity in Nova Scotia. We take leadership on critical environmental issues from biodiversity protection to climate change to environmental justice. We are grounded in community, and a strong voice and watchdog for our environment. We work to catalyze change through policy advocacy, community development and building awareness. We take a holistic approach to the environment and our economy to create a just and sustainable society. Views expressed in *Ecology & Action* are those of the writers and do not necessarily represent the EAC or its supporters.

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Letter from the Centre

WE LOVE HEARING FROM YOU! EMAIL YOUR THOUGHTS TO MAGAZINE@ECOLOGYACTION.CA

Earlier this year, the Washington Post published an article titled *Everything is not going to be okay: How to live with constant reminders that the Earth is in trouble*. The piece grapples with questions on what it means to be alive right now, in an age of ever-present climate catastrophe. One line from the piece offered a take-away that has stuck throughout 2019—"We need courage, not hope."

In the past year, we've collectively witnessed the impacts of climate change—record temperatures, devastating storms, rising seas and warming oceans. There are solutions. There is still time to chart a course to a safe future. But we must face this challenge together.

The Ecology Action Centre represents thousands of people like you who know real, tangible solutions are possible. Whether calling for ambitious new climate goals for Nova Scotia, advocating for a national school food program, or creating Canada's first provincial

“ We need courage, not hope. ”

Coastal Protection Act, the EAC is at the table. And you, our members and supporters, are there beside us.

There has never been a more important time to stand up for our planet. And to do that, we need courage, not hope. Next year, we're pushing for stronger protections for the 400 remaining right whales, holding the province accountable to public consultations for new climate goals, and working to ensure Canada doubles the amount of nature we protect. These are just a few challenges we'll face in the coming months. But together with your help, we believe change is possible.

WHAT WILL YOUR LEGACY BE?

Leave a gift to the EAC in your will to ensure a healthy future for generations to come. Please call us at 902-442-0210 or email us at dana@ecologyaction.ca



“The Ecology Action Centre is incredibly important to the environmental health of Nova Scotia and to the people who live here. Over the years it has built a reputation for integrity and unrivaled research and work on ecological issues. My gift, I hope, will ensure it continues this work for many, many years in the future.”

— Cliff White

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Eco-anxiety

A SYMPTOM OF CARING

by PAIGE CROWELL /// EAC Volunteer



Illustration: gstudiomagen (freepik.com)

What is Eco-anxiety?

Monday, 7 a.m. You pick up your phone, turn off the alarm, scroll to the news, and read of yet another critically endangered species. Tuesday, 7:10 a.m. The radio alarm jolts to life, welcoming the day with predictions of food instability wrought by extreme weather.

If these types of experiences fill you with dread verging on despair, you are not alone. As planetary boundaries are stretched thin, the media is increasingly filled with doom and gloom. This is not without cause. In an era where the facts of climate change are seemingly up for debate, facilitating education and fostering awareness of the state of affairs is vital.

And yet, for those already tuned in to environmental issues, the effects can be debilitating. Take, for example, the 2017 article in the New York Times magazine titled *The Uninhabitable Earth - Famine, economic collapse, a sun that cooks us: What climate change could wreak - sooner than you think*. In the face of such grim proclamations, the question emerges: how can we remain engaged and find hope? At times this can seem as much a feat as the environmental challenges we face.

More and more, feelings of loss, despair, and powerlessness creep into discussions of climate change and environmental degradation. So widespread are these feelings that in 2017 the American Psychological Association coined the term “eco-anxiety” and defined it as “chronic fear of environmental doom”.

While having words to describe feelings can be incredibly powerful, eco-anxiety is hard to pin down. For some, it is background noise, persisting in the day to day, colouring thoughts and actions. **For others, these feelings can ebb and flow, spurred on by another wave of deforestation, or abated by activism.** However it is experienced, eco-anxiety can lead to feelings of isolation and disconnect, hopelessness and apathy, anger and frustration. In naming what we feel, we arrive at the next step -- how to cope. How do we move beyond these feelings? Even better, how do we channel these feelings into actions?

Combating Eco-anxiety

INFORM YOURSELF

One of the best defences for eco-anxiety is information. Though the sheer volume of reports and articles can at times feel overwhelming, you can use these same resources to educate yourself. **By turning to trusted sources, rooted in sound science and/or journalism, you can filter through the messaging and sensationalism to come to the facts, better informing your opinion.**

While the time to debate human-caused climate change has of course long passed, arming yourself with an understanding of the state of affairs can be empowering. This allows you to engage critically with issues, and to frame the information that you take in. Find sources that you trust, and endeavour to understand a topic before descending into panic. Informing yourself can also help you to engage more effectively and make a difference in areas where you feel personally driven.

TAKE ACTION

Another way to keep feelings of doom at bay is through action. Large scale global change can lead us to question whether our individual actions truly count. In times of despondency, it can be helpful to keep in mind the ways in which you can amplify your voice. For instance, you can write your elected official, vote with your conscience, vote with your money, or join an organization. You can volunteer your time or resources, invest in green initiatives, spread awareness, and incite change among your networks. **By amplifying your voice, you can reach beyond individual successes or failures, grounding yourself in a larger movement and sense of purpose. In joining together, you may be surprised to learn that those around you are struggling with similar emotions, and looking for allies.**

SEEK OUT HOPE

When overwhelmed by the road ahead, seeking insights from leading voices in the environmental discourse, many of whom refuse to give way to hopelessness, can be comforting. Michael E. Mann, Director, Earth System Science Center at Pennsylvania State University writes, “I feel concern, bemusement, frustration, disgust, anger, and hope. Yes, most of all, I feel hope.” Dr. Ailie Gallant, School of Earth, Atmosphere and Environment at Monash University, echoes sentiments familiar to many, “I hate feeling helpless. I’m ashamed to say that, sometimes, my frustration leads to apathy... [but] I live in hope that the climate changes on the graphs that I stare into every day won’t be as bad as my data tells me, because we worked together to find a solution. **All I can hope is that people share my optimism and convert it into action.**” Full versions of these letters and more can be found at IsThisHowYouFeel.com, which asks leading academics to share their thoughts on climate change. Not what the numbers say, but how they feel. The responses are by turns pessimistic, distressing, and sobering, but almost invariably, hopeful. In an era of tipping points and irreversible change, reading messages like these can be both reassuring and galvanizing.

“ I hate feeling helpless. I’m ashamed to say that, sometimes, my frustration leads to apathy... [but] I live in hope that the climate changes on the graphs that I stare into every day won’t be as bad as my data tells me, because we worked together to find a solution. All I can hope is that people share my optimism and convert it into action. ”

Living with eco-anxiety

What will global change look like? Are our feelings of dread and anxiety justified? What can we accomplish as individuals? These are the thoughts many of us mull over in the privacy of our heads. At times, it can be difficult to remain optimistic. However, we are not without resources. We can carefully consider our media consumption, educate ourselves, and connect with others experiencing eco-anxiety. We can perform acts of green as individuals and as part of broader communities, using whatever means available to us to amplify our ideas and our actions, recognizing that many drops make an ocean. In acknowledging eco-anxiety as a symptom of caring, we can channel these emotions into fuel for real change. Though the nature of our dynamic world means that eco-anxiety may crop up more and more, acknowledging these feelings and working towards solutions is vital as we contemplate the road that lies ahead. And at the end of the day, if all else fails and despondency settles in, the age-old advice “just go for a walk” can be surprisingly effective.



Paige Crowell is a conservation biologist living in Halifax.

How Environmental Racism Gets Under the Skin

ENVIRONMENTAL HEALTH INEQUITIES IN INDIGENOUS & BLACK COMMUNITIES

by **DR. INGRID WALDRON, Ph.D.**

Until recently, frameworks in medicine and health research attributed racial disparities in illness and disease to biological, genetic, cultural, or lifestyle choice differences between racial groups. However, structural determinants of health lens are increasingly being used to understand the association between health and structural inequalities in labour, employment, education, criminal justice, health care, housing, and the environment (Metzl, 2014). Therefore, environmental health inequities that result from the disproportionate placement of polluting industries in Indigenous, Black and other racialized communities (i.e. environmental racism) can't be understood independent of the structural determinants of health that intersect to create greater exposure and vulnerability to environmental burdens and risks in these communities, such as income inequality and poverty, food insecurity, housing insecurity, and unemployment (Waldron, 2018). Since Indigenous and African Nova Scotian communities have less access to the economic, social and political resources that would allow them to be involved in decision-making processes about where industry gets placed, their communities are more likely to be selected for these projects, resulting in their greater exposure to toxic burdens and risks that further compromise their health and well-being. From an Indigenous perspective, a structural determinants of health lens allows us to more fully understand the relationships between health and the physical and material aspects of geography that includes place, earth, land, space, ecology, territory, landscape, water, ground, and soil (De Leeuw, 2015). Therefore, the greater exposure of Indigenous, Black, and other racialized communities to environmental health risks due to environmental racism is a structural determinant of health.

Environmental health inequities have been defined as the health effects of the disproportionate placement of polluting industries and other environmentally hazardous projects in Indigenous, Black, and other racialized communities (Scott, Rakowski, Harris, and Dixon 2015; Waldron, 2018). Environmental health inequities across racial dimensions have been well documented in the literature, which shows that Indigenous and racialized communities in Canada are exposed to greater health risks than other communities because they are more likely to be spatially clustered around environmentally hazardous industry (Waldron 2018). The health risks associated with contamination and pollution include cancer, upper respiratory disease, cardiovascular disease, reproductive morbidity (including preterm births), allergies, skin rashes, abdominal pain, temporary liver dysfunction, and seizures (Cryderman, Letourneau, Miller, and Basu 2016; Vrijheid 2000; Kihal-Talantikite, Zmirou-Navier, Padilla & Deguen, 2017).

Dr. Ingrid Waldron is an Associate Professor in the Faculty of Health and the Team Lead of the Health of People of African Descent Research Cluster at the Healthy Populations Institute at Dalhousie University.

We can also conceptualize structural determinants of health (including environmental racism) in Indigenous communities in Canada as environmental violence that involves both the biological reproductive and social impacts of industry on Indigenous peoples and lands. The violation by industry of people's bodies negatively impacts the health of families, communities, nations, and future generations. Indigenous communities experience several forms of environmental violence, including reproductive health problems, cancer, mental illness, suicide, substance dependence, and other illnesses; poverty; sexual, domestic, and family violence; missing and murdered Indigenous women; dispossession; and loss of culture and self-determination (Konsmo and Kahealani Pacheco, 2015).

This suggests that the notion that the health effects of environmental racism can only be proven if a causal relationship between a specific environmental contaminant and a specific disease outcome is identified fails to consider how illness and disease resulting from toxic exposures are worsened by historically rooted and long-standing structural determinants of health in Indigenous, African Nova Scotian, and other racialized communities. Therefore, a structural determinants of health lens emphasizes the importance of engaging with a more holistic understanding of environmental racism as a health issue – one that is prepared to grapple with the complexities of place within which multiple, overlapping, and intersecting social, economic, political, and environmental determinants are embedded.

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photo: Brad Stallcup

What's a Kohlrabi?

LEARNING TO EAT WITH THE SEASONS

by CAROLINE SKELTON /// EAC Volunteer



photo: Kristen Koethler



photo: Shelley Pauls

Summer and fall bring overflowing boxes of fruit and vegetables to farm share members.

The bright green vegetable sat on the kitchen counter, bulbous and thick-skinned.

I eyed the kohlrabi, and I'm pretty sure it eyed me too. I googled "what to do with kohlrabi." My kids rolled cabbages across the kitchen floor.

It was January, and we had been members of a community-supported agriculture program for a blissful summer and a bountiful fall. Every week I brought my kids, two and four, to meet the truck where it made its stop in our neighbourhood. They bounced with excitement as we collected boxes brimming with fresh fruit and vegetables. Once we got home, they dove in, bowling the potatoes down the hallway, heaving the corn cobs from room to room, and following me around with a pint of blueberries until I agreed to wash them off and stand back while they devoured them like ravenous piranhas.

There is something absurdly logical about eating what the earth you're standing on has yielded. But cheap petroleum has brought produce from around the world into the grocery store, and we've become used to eating whatever we want, whenever we want.

I signed us up for a CSA because I wanted to get back in touch with the seasons of eating. I wanted my kids to be excited when asparagus and rhubarb poked through the cold ground, heralding a new season, or when we opened our box to a crop of bumpy bell peppers and they got to eat their favourite vegetable for breakfast, lunch and dinner. I also wanted to stop paying ten bucks for a bag of apples that taste like sour sponges.

In the winter and spring, when the ground froze – that's when our real education as locavores began.

TAKE ACTION

Nova Scotia boasts dozen of CSAs that bring produce straight from farms to eaters.

Find a local CSA using the Ecology Action Centre's complete list of CSAs in Nova Scotia:

bit.ly/NS_CSA

Summer and fall were easy: salads galore, crispy vegetable snacks, and tomato sauces made fresh and loaded into the freezer for the colder months. In the winter and spring, when the ground froze – that's when our real education as locavores began.

At first, we were stumped by the hairy celeriacs. We bathed the brick-sized turnips in butter and sugar. The cabbages piled up. Soon, though, we started to get the hang of it. Vegetables, it turns out, aren't that complicated. Most of them just need a quick chop or steam and they're ready for the table. The kids like food that's colourful, so the less we did to it, the more excited they were to find it on their plate.

Our farm share has shaken us out of our grocery store habits, and, more importantly, it has connected us with what's growing in our world.

In past years, little changed about our diet from season to season except the distance our food had travelled – but this winter and spring brought nettles, fiddleheads, frozen cherries, dried apples, fir tips, and a rainbow of beets and cabbages. Our farm share has shaken us out of our grocery store habits, and, more importantly, it has connected us with what's growing in our world. That's why we'll keep doing it, even when the cold winds of winter roll a lot of root vegetables to our door.

As for that kohlrabi: we chopped it up and tossed it with carrots and peanut sauce. It was a burst of freshness in the middle of a grey month. Even the kids approved.

Caroline Skelton is a writer and editor living in Halifax.

Wild Tales

SHARING ART AND STORIES ABOUT WILDLIFE IN MI'KMA'KI & THE MARITIMES

One in Four Hundred: Remembering Wolverine

by MILAGROS SANCHEZ /// Wild Tales Contributor

Over my years volunteering with the Marine Animal Response Society (MARS), I have been witnessing the extinction of the North Atlantic right whale. More than once, I have stood in the shadow of the enormous whales; so peaceful, so seemingly indestructible, and very much out of place on the warm sand of a Nova Scotian beach.

In the past couple of years, the right whale deaths in the North Atlantic have arrived in alarming numbers. I've seen the devastation of these events reflected on the faces in the community; but along with the devastation, I've also seen how quickly people can rise to action. A plan comes together as quickly as possible, and a team of passionate workers and volunteers travel where needed to get the work done.

Our job is not easy. Not only is it extremely physically demanding, it's emotionally demanding in a way I find difficult to describe. During a necropsy, I've learned to focus on the task at hand. I focus on the slice of my knife, the tightness of my fingers and the ache in my bones. I do not think about the lost life that not long ago swam in our ocean. I do not think about what it means for our shifting ecosystems and changing environments. Instead, I focus, I complete my work, and process everything else later, when I am alone.

In early June of 2019, a nine-year-old male right whale named Wolverine was found floating in the Gulf of St. Lawrence. The necropsy team assembled in Miscou, New Brunswick to inspect the young male. Before the necropsy commenced, a local Elder

arrived to guide us through a ceremony. We all gathered side by side, into a circle next to Wolverine. As he spoke and sang, I felt the weight of what we were doing, of how much it mattered, of what it meant. Among the stories he told us was the story of the turtle and the whale. He told us that the sea turtle sends the whale ashore as a message to us of an unhappy Earth, and the whale comes as a messenger to warn us. However, the whale alone also tells us that we still have time to change our ways; and it is only when the sea turtle finally follows the whale ashore that we receive our final message.

Lighting some sage, he stood before us and individually asked us to bless the skills that would guide us through the day. I watched as one by one, every member of the team washed the smoke over themselves. This was my first experience of such a ceremony, learning for the first time what Wolverine's presence meant to others, and learning a new way to prepare myself for the day beyond stretching my arms and legs. He came to stand before me, and I ran my hands through the smoke wafting from his hands. Following his guidance, I blessed my hands to prepare them for the days work; I washed the smoke over my closed eyes, so they would understand the importance of what



they were to see; I washed it over my head, to bless my thoughts, and lastly, I brought the smoke to my heart.

We turned to Wolverine and expressed our gratitude for allowing us to learn from his life and his body. It was in this moment, as I pressed the unbelievably small palm of my hand on Wolverine's white underbelly that I experienced the overwhelming clarity I had not allowed myself to experience before. I could now easily imagine this young whale swimming through the water in a habitat where his largeness was much less blatant. My throat tightened as I thought of the life he could have had. How old he could have been, how much larger he would have grown, how many calves he would have fathered who would have carried his genes to future generations. I thought about our population of right whales in the North Atlantic, and about what we have done to them. I looked up at Wolverine's immense body and knew that even if he were full-grown, his body would seem small in comparison to his South Atlantic counterparts. They're not as large as they should be, they die younger than they should, and their small population is quickly dwindling.

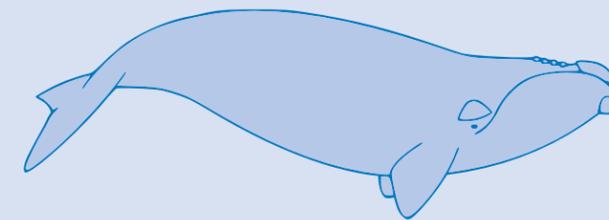
The Elder gave each of us a handful of tobacco to spread on Wolverine's body as we expressed our thanks. I spread my handful along his belly, watching as small pieces fell down to the sand. As we were told, I expressed my gratitude while my hands moved across his body, because what we learned from him could only help our fight for this species. When I had finished, I added a whispered apology to him. I am so sorry that this was your life. That it ended like this.

We're trying to make it better.

Wild Tales is an inclusive, community-based project that aims to connect people to wildlife through the sharing of scientific and cultural knowledge. It brings together people from all walks of life, encouraging them to share their experiences using different forms of creative expression. Wild Tales was created by Lindsay Wood, EAC volunteer and passionate conservationist from K'ijipukuk/Halifax.

Read more stories at wildtalesproject.wixsite.com/blog or follow Wild Tales on Facebook or Instagram @wildtalesproject

Want to share your story? Send it to wildtalesproject@gmail.com



Eubalaena *Eubalaena glacialis* North Atlantic right whale Putup

Conservation Status: Critically Endangered
Threats: Fishing gear entanglement & ship collisions

WHAT'S AT RISK

Notes from CWF Senior Conservation Biologist
Dr. Sean Brilliant

- We are on the edge of losing this species permanently.
- As a result, the sustainability of fishing and shipping industry is threatened. Saving this species is not a 'feel good' thing. It is a requirement for business.
- Despite nine dead whales, good decisions and actions have been, and are being taken to mitigate potential deaths.
- We need to act with urgency, but we need to make sure whatever we decide to do, that it will make a difference. We can't just act with intuition.
- We may need to make some very difficult decisions about, and changes to, the way we use our oceans. We need strong leadership to recognize this and make these changes.

WHAT CAN I DO?

- Reduce seafood consumption.
- Support sustainable fishing practices (look for Marine Stewardship Council or SeaChoice certifications).
- Remove fishing gear found on beaches.
- Shop locally, and avoid buying products that need to be shipped over long distances.

Milagros Sanchez is a marine biology Masters student at Dalhousie University who works with grey seals.



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LEARN MORE AT: assante.com/advisors/richardnickerson



As we build a community of active outdoor enthusiasts, we share and teach responsible outdoor recreation practices, stewarding a nation-wide appreciation and respect for the environment and increasing our access to wild forests, wetlands, mountains, urban parks, rivers, lakes and oceans where we pursue outdoor activities. We commit to conserving the ecologically and recreationally important places where we adventure and that sustain us.

FOR MORE INFO: mec.ca/community



We support the Ecology Action Centre because they have successfully demonstrated the connection between environmental issues, local communities and the local economy. That is why we donate \$ 500 every time an EAC member buys or sells a property using our services, helping to strengthen EAC's voice and impact. We're thankful to partner with EAC to help make this a better a world.

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LEARN MORE AT: garrisonbrewing.com

Recharging the Climate ReEVolution

by SARAH WILKIN /// EAC Volunteer

Despite having some of the best air quality in the world, air pollution causes 14,600 premature deaths in Canada each year. The transportation sector is not only a major contributor to the climate crisis due to high greenhouse gas emissions; it also releases nitrogen oxides, carbon monoxide, fine particulate matter, and volatile organic compounds into the atmosphere. Tailpipe emissions directly contribute to the prevalence of asthma, lung disease, and heart conditions.



photo: Jeff McCullum

The transition to electric vehicles (EVs) from internal combustion engine vehicles (ICEVs) is a step towards improving air quality and reducing carbon emissions. This transition must be coupled with expanding active transportation infrastructure and public transportation networks.

So why aren't more people switching to electric? One challenge facing EV adoption is a lack of awareness about their benefits.

There are reasons why these vehicles are a practical option, including:

1 They can go far on a full charge

The range of many new EV models is around 400 km on a full charge. This exceeds the needs of a daily commute and is suitable for long-distance driving.

2 Charging stations are easy to find

Most EV owners will charge their vehicles at home. This allows owners to wake up every morning with a fully charged vehicle. For longer distances, a network of charging stations has expanded across the country with 325 public charging stations in the Maritimes alone. These include both Level 2 chargers (which add 30 km of range per hour) and Level 3 chargers (which add up to 250 km of range per hour).

3 They can save you money

The upfront sticker price of an EV tends to be higher than that of an ICEV. There is a federal incentive of up to \$5,000 off the sticker price to help offset the cost, along with the yearly savings in fuel and maintenance. Charging an EV at home is cost-effective, with the cost being up to three times less than that of gasoline. The average cost of maintenance is expected to be lower in an EV because it has thousands of fewer moving parts than conventional ICEVs.

4 They perform as well as gas-powered vehicles, even in the winter

The lack of combustion engine, transmission, and gears allows the motor to be extremely responsive. This allows EVs to speed up quickly and smoothly while making almost no noise pollution. While an EV loses range in the wintertime, they get better traction on snow and ice compared to ICEVs.

5 They have fewer emissions regardless of how electricity is generated

While EVs do not have tailpipe emissions while driving, they are not without environmental impact. How electricity is generated, whether by fossil fuels or renewables, will influence the level of emissions created to power EVs. Research has found that even with a grid supplied entirely by coal, the emissions created from charging an EV over its lifespan would still be less than if fuelled by gasoline. One reason for this is that EVs are significantly more efficient at converting energy from their batteries into wheel power compared to ICEVs, which lose most of their potential energy in the combustion process. EVs are increasingly more appealing in terms of environmental impact as the amount of electricity from renewables increases. Worth considering is that it may be simpler to control air pollutants from a single source (i.e. a power plant) rather than from millions of vehicles on the roads.

EAC's recently released climate goals for Nova Scotia include reducing car dependence and electrifying personal and public transportation. They have called for 50,000 EVs in Nova Scotia by 2030. To meet this goal, we need uptake of EVs by individuals, public transit, as well as in commercial and government fleets. We are at a critical moment to change the status quo and lessen the impacts of climate change, and the move to EVs is just one component of many to help us strive towards a healthier future.

To find out more about electric vehicles in Nova Scotia, check out evassist.ca and nextridens.com

6 Their excess manufacturing cost can be offset

The energy output required to manufacture an EV is greater than an equivalent ICEV due to the production of the drive battery. The entire life cycle of the car must be considered to truly gauge its environmental impact. A study from the Union of Concerned Scientists suggests that the excess manufacturing life cycle costs for EVs are offset within six to 16 months, depending on the electricity grid makeup. There are ethical concerns about the sourcing of the materials that go into lithium battery production and manufacturers need to be held accountable.

Sarah Wilkin does not own a car but likes to occasionally borrow them to explore NS's coastlines and forests. She currently works for the Clean Foundation on electric vehicle public engagement.



Co-powering for the Future

by **STEPHANIE JOHNSTONE-LAURETTE** /// EAC Staff

photo: A. Berry

The Youth Global Climate Strikes are a clear reminder that youth are passionate, fully aware and fed up about what's happening to the environment. There are many pieces to this puzzle. Lessening the number of vehicles on the road and decreasing vehicular emissions are one way to make an impact.

But youth are independent and often need to make their own choices. We need to stop trying to empower youth by pushing them down what we see as the right path. Instead we should co-power with youth.

If youth want to choose walking, cycling and other modes of active travel as their main means of getting around, how can we work with them to make this an easy and accessible option? The Ecology Action Centre has been stewing on this for years – and we're not alone! There are many active transportation (AT) support programs for children and youth. Nova Scotia has been developing walking and biking infrastructure, policy, programs, and events, and many of these have been successful. But in order to see the shift that we need, we have to switch gears. What we are seeing in certain scenarios though, is that using the "build it and they will come" method doesn't work every time for youth, particularly in high school when they are more likely to be independently mobile.

Maybe it's time for a shift in AT practitioners' behaviour, in order to catalyze the shift we believe can happen for youth. This would mean listening carefully to what youth are saying they want – and need – in order to feel safe and happy when walking and biking around their communities. Listening to youth should not be an afterthought, it should be at the forefront of every AT project and program. And it can go both ways. As older generations begin to invite youth to the table to develop more vibrant, walkable, bikeable communities, youth should also begin to invite older decision-makers to their space to hear what they have to say. As is true for all generations, youth need to feel a sense of belonging before they'll want to participate in their community's growth.

Here are some ways we've been partnering with youth and seeing positive outcomes.

Youth AT Options

Recently, the EAC led a study on youth AT options, funded by the province. Here are some of the things that we heard from youth:

- Walking and biking are great when you're feeling frustrated and you just need to let some energy out – it can help you calm down.
- Active transportation is valued for its social aspects; talking to friends, having someone else to walk/bike with.
- Walking and biking are great for independence; you don't have to wait around for a drive.
- Visibility, particularly at night on sidewalks and trails, would make youth feel much safer when walking/biking. This is particularly true on shared-use trails which, although still used by youth, provoke a concern that pedestrians and cyclists might not be seen by those using motorized vehicles.
- Concerns that bikes will be stolen are still real barriers to owning a bike and being mobile. Having a safe place to lock up, or even having a lock at all, are sometimes deterrents to choosing to cycle.

Listening to what the youth have to say can help guide the decisions communities are making to support AT. Prioritizing their concerns can help us create safe, enjoyable, and accessible spaces for AT-friendly communities.

TAKE ACTION

BY YOUTH

- Learn about your community. Who is your Councillor? Is the reason you don't bike to school because you don't feel safe? Let them know. Partner up with local groups to help connect you.
- Become a Making Tracks Youth Leader. Learn more at ecologyaction.ca/making-tracks.
- Reach out to your school/group and see if they'll host a Youth-led Audit.

WITH YOUTH

- Co-power youth from day one. Give them the opportunity to tell you what needs to be done to make the modal shift happen for active transportation (AT).
- Connect with youth groups, schools, and other spaces to find out their concerns about walking and cycling.
- Work with youth on all AT initiatives. Be in it for the long-haul, not just token gestures to connect.



Making Tracks Youth Leaders

The EAC's Making Tracks program has been successfully providing safety training for cycling, walking and other modes of AT since 2008. One of the attributes of Making Tracks is that it's not always adults teaching children - we also train youth leaders. This makes for a completely different dynamic. For many students, youth teaching youth provides a different sense of comradery and respect. It also changes the comfort level of what questions they feel they can ask. For the Making Tracks program, this moves beyond the tokenization of youth engagement. It means that youth are real leaders, real teachers, and are valued for their knowledge and skills.



Welcoming Wheels

This program was developed to better support the mobility of newcomers in Nova Scotia. Welcoming Wheels provides newcomers with cycling opportunities, new bikes, helmets, and safety training, to increase wellness, equity, and access. Adults and families all have the ability to participate in this program, but seeing youth leadership grow within Welcoming Wheels is especially gratifying. Having a newcomer/refugee youth taking the reins and helping deliver Welcoming Wheels to other newcomers shows a deep sense of belonging and being a part of a community.



Youth-led Walkability Audits

As a new pilot program offered by the EAC, Youth-led Walkability Audits work with youth right from the start to assess what is supporting or deterring active transportation in a neighbourhood. Youth choose the neighbourhood, develop the route, lead the walkabout and potentially decide who to invite. Finally, youth develop an action plan based on this initiative to share with decision-makers in their community.

There are more ways to connect and work with youth. Look around your community and see how you can co-power. We need to equip youth for a healthy and sustainable future with vibrant, equitable communities – this means working with youth, not just for them.

Stephanie is the Youth Active Transportation Coordinator with the Ecology Action Centre. She spends her time getting her two kids (and everyone else's) out walking and wheeling to explore their community and discover the unique things it has to offer.

Burning Biases

BARRIERS TO BEHAVIOUR CHANGE

by **HEATHER HUNTER** /// EAC Volunteer

Behaviour change is notoriously tough. As human beings, we are not particularly good at it, even when the stakes are high. Yet, at this juncture in history, we find ourselves at a critical point. Our planet is suffering, and the climate is changing as a result of our actions. As Greta Thunberg says, we need to “act as if our house is on fire.” Yet change is slow.

To understand why, let's take a closer look at barriers to pro-environmental behaviour change. One way to conceptualize barriers to pro-environmental behaviour change is in categories:

Psychological barriers: Knowledge, beliefs, thoughts, ideologies and unconscious biases that influence behaviour.

Social and cultural barriers: Group norms that may be pro or anti-environmental and vary from group to group.

Financial barriers: Not having money to make environmentally motivated lifestyle changes.

Structural barriers: Barriers due to policy, landscape or built environment. For example, suburban sprawl favours car use over public or active transportation.

While policy changes that address structural barriers are an important tool for shaping systemic change, this article will focus on exploring barriers and strategies at the individual level. This has been an active area of study for environmental psychologists for many years.



illustration: freepik.com

Too little knowledge, wrong information, information overload

As individuals, access to information plays an important role in our behaviours. This includes our understanding of climate change.

Many have heard of climate change. Few know what to do about it or which information is accurate. Mistrust in climate change science is still prevalent. In part, this stems from deliberate attempts by political actors and groups with a vested interest in the production and use of greenhouse gases to cast doubt on climate science.

Information overload can also play a role in climate inaction. Hearing a message too frequently, even about something as important as climate change, can make us numb to the problem and less likely to change.

Ideologies of inertia

On a conscious psychological level, our ideologies and values influence our behaviours. For example, the ideology of un-reigned free enterprise capitalism as the best path for human development and prosperity can pose challenges for pro-environmental changes. Capitalism has lifted millions out of poverty. But some aspects of capitalism, including the belief that common resources should be exploitable by anyone, have led to the devastation of fisheries and forests around the world. Staunch believers in capitalism may perceive environmental policies as threats to lifestyle, freedom, or global economies. Such individuals may feel offended by suggestions to decrease how often they fly, eat meat, or use electronic devices. The capitalist ideology that “more is more” is socially potent. **Many people define their life goals in terms of higher incomes and subsequently higher levels of consumption, which can make personal purchasing habits resistant to change.**

While perhaps less common, other ideologies that can lead to environmental inaction include the belief in techno-salvation—“I don't have to change anything because eventually, technology will solve the problem of climate change”—or religious ideologies—a deity will save humanity/do as it wishes, regardless of human action.

Unfortunate brain wiring

Apart from over-arching ideologies that influence beliefs and behaviour in obvious ways, there are also more subtle psychological processes which undermine meaningful pro-environmental behaviour change. From an evolutionary perspective, our brains may be hard-wired to prioritize immediate concerns over long term gains. For many, long-term savings and climate change mitigation may not be motivation enough to pay the upfront costs of green energy. Climate change may feel too far-off to be a daily priority. Here, optimism bias tells us that the future will not be as grim as predicted. Our brains employ strategies like discounting risks that seem too far in the future to avoid panic and allow us to keep doing what we're doing.

“Perceived lack of control bias” also plays a role. Because climate change is a diffuse and global problem, many people do nothing because they think their behaviour has little or no impact on the outcome.

Social comparison is also important. For example, individuals are less likely to decrease their household energy consumption or water use if they believe their neighbours are not doing the same. They perceive this to be unfair. Lastly, but perhaps most importantly, people are highly resistant to permanently changing our daily habits. The term “behavioural inertia” aptly expresses this resistance.

Motivations for pro-environmental behaviour

Environmental psychologists have looked at what motivates pro-environmental behaviour (Steg and Vlek, 2009). Factors most likely to motivate change include a favourable comparison of costs versus benefits, moral concerns and social norms. In the costs versus benefits category, people are more motivated to choose the highest benefits for the lowest up-front costs. Here, incentives such as tax breaks for moving in environmentally favourable directions could help. Motivations can also be influenced by moral concerns. People who have values that extend beyond their immediate interests, for example pro-social, altruistic behaviours, are more likely to engage in pro-environmental behaviours. This may help with the selection of audiences for environmental campaigns. Social norms also influence behaviour. As a behaviour becomes more normative and accepted as “good” there is an element of social shame for those not engaging in that behaviour.

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Many people define their life goals in terms of higher incomes and subsequently higher levels of consumption, which can make personal purchasing habits resistant to change.

Strategies

In the environmental movement, many different strategies are used to encourage behaviour change. These include, but are not limited to, informational strategies, commitment strategies, shifting social norms and policy change.

Informational strategies aim to increase awareness, change perceptions, motivations, knowledge and norms. Examples include public education campaigns, documentaries, prompting, and modelling. When these reach the correct audience, they can be effective at fostering change.

At the individual level, commitment strategies have shown some success. Here, making “implementation intentions” clear (having people indicate for themselves what behaviours they will change) makes follow-through more likely. **In terms of maximizing benefits of individual action, strategies that discourage buying unnecessary items in the first place are better for the environment than strategies to encourage recycling.**

Social support and role models can provide information and strengthen social norms. Celebrities or respected locals stepping up to speak on behalf of environmental issues can be influential. Social media, while often bringing about controversy, can also strengthen pro-environmental social norms. Structural strategies such as implementing recycling programs or policy changes to cap emissions are perhaps the most sweeping means to achieve change. However, these strategies are important to assure that there is knowledge of and political support for such actions.

Behaviour change is tough. As human beings, our motivations are complex and often not entirely conscious. **Yet the planet can't wait while we figure our psychology out.** Environmental action is needed here and now. As we move forward, tried and true strategies as well as creative new solutions will be needed to overcome our collective behavioural inertia. While challenging, it is not impossible. As history has proven before, when human beings are sufficiently motivated, amazing changes are possible.

For further reading, check out Robert Gifford's “33 Dragons of Inaction.”

Heather Hunter is a born and raised Nova Scotian who is continually amazed by the natural beauty of this province. She works as a family doctor in the HRM.

Action is our Middle Name

WILDERNESS

A rallying cry for wilderness protection

The Wilderness Team has been deeply involved in fighting off projects that threaten environmental and human health in Nova Scotia/Mi'kmaki. We demonstrated outside a government-funded pro-gold-mining conference, in solidarity with a growing network of groups resisting gold mining, and with Mi'kmaq grassroots water protectors. Together we sent a resounding message - Water Not Gold! We continue to push back against Northern Pulp's proposed effluent pipe into the Northumberland Strait. We helped organize another #NoPipe rally, supporting the lead of Pictou Land First Nation and the Friends of Northumberland Strait. Our collective work is having positive impacts - in September, 27 more provincial protected areas were added to Nova Scotia's life-sustaining protected areas network.

ENERGY

Igniting action across the province

In October, the Provincial government passed the Sustainable Development Goals Act. Hundreds of people wrote letters and made phone calls urging the Provincial government to legislate climate goals - the pressure paid off! The Act has greenhouse gas emissions reduction targets of 53 per cent below 2005 levels by 2030, and net-zero emissions by 2050. We encourage all communities to bring their ignited sense of urgency to the upcoming consultations. The consultations will inform more climate goals, a provincial strategy, and a Sustainable Community Challenge Fund. Energy is also building in the Faithful Footprints program. Indigenous and faith leaders gathered in Pugwash and Tatamagouche to discuss action on climate change. And industry and stakeholders continue to build momentum to increase energy efficiency in buildings. Be it public pressure or industry mobilization, recent events are laying the groundwork for action!

MARINE

Speaking out on seafood labelling

In August, with our partners at SeaChoice, we asked the public to voice their concerns about Canada's poorly advanced proposed seafood labelling laws. These regulations fail to reflect Canadians demands, are well below standards enjoyed by other countries, and are inconsistent with issues the CFIA has itself identified. The call to action resulted in over 7,500 letters sent to the CFIA urging them to reconsider legislating seafood labels to have the scientific name and country or region of geographic origin (i.e. where the seafood was caught or farmed).

We also completed a successful pilot project in which we worked with members of the kayaking community to collect video data on the health of eelgrass meadows on Nova Scotia's south shore. Seagrasses like eelgrass are important to the health of coastal ecosystems. They are in decline globally so it's vital to recruit help from the public to gather this kind of monitoring information.

FOOD

Growing Food Solutions

The food team recently launched two new projects. Inspired by the Mobile Food Market in Halifax, we supported the development of the Good Food Bus in collaboration with local partners to create a healthy food market on wheels in Cape Breton Regional Municipality. We co-launched Grow Eat Learn with Nourish NS to support and grow school food gardens across Nova Scotia through resources and peer learning. We continue to connect communities and decision-makers around food issues. During the federal election, we co-hosted a Cumberland Eat Think Vote event as part of a national campaign through which community members engaged with five local candidates about farming and food insecurity. As part of the Halifax Food Policy Alliance, we co-organized a Foodscapes Bus Tour bringing several members of Halifax Regional Municipality Council and staff to visit innovative sites of community food solutions and showcase unique partnerships that are making a difference.

BUILT ENVIRONMENT

A user's guide to the greenbelt

In August, Built Environment celebrated the anniversary of the unanimously passed Halifax Green Network Plan. With this celebration came attention to the urgency of the Plan's implementation for Halifax to protect our future greenbelt and invest in creating livable communities. Working with Our HRM Alliance, a Halifax-based coalition of over 60 organizations, we are working to highlight the importance of taking action on protecting our ecologically and socially valuable areas. We have created a user's guide to the Green Network Plan and hosted nearly 100 community members to explore key sites in our future greenbelt.

In response to Halifax's recent developments, Built Environment has launched the Urban Development Advocacy Team, a volunteer team dedicated to taking action on policy, plan, and development reviews.

TRANSPORTATION

Safe cycling and walking are our jam

So far this year, our Making Tracks safety training program had 1038 children and youth participate, more than double our original goal of 500! We worked in partnership with Halifax Cycling Coalition to provide successful Urban Cycling 101 sessions in Halifax with over 30 participants. Our Welcoming Wheels program gifted 97 bikes this year and we piloted a new Bike Buddy project with seven participants. We've been partnering with youth across the province to support Active Transportation with some exciting ideas and initiatives being developed for youth by youth that encourage safe walking. We hit big numbers for our annual fall school active transportation event, International Walk to School Month, with over 17,000 students participating across Nova Scotia.

COASTAL & WATER

A hurricane, an effluent pipe and inappropriate development

This fall has been a busy time for the Coastal Team. Hurricane Dorian caused significant damage to several coastal properties and reminded us why Nova Scotia needs an adaptation plan for coastal climate change. We continue meeting with NS Environment about the regulations for the Coastal Protection Act. We've been highlighting current inappropriate developments (such as Halifax's "undersized lots") to ensure that the regulations will stop permitting these exemptions.

In October, we presented at the Institute for Catastrophic Loss Reduction's workshop on Climate Risks for Coastal Transportation Infrastructure in Atlantic Canada. We also worked with EAC's Marine and Wilderness Teams, along with East Coast Environmental Law, to respond to the Northern Pulp Focus Report. And we travelled to Pictou Landing First Nation for a walk to support A'se'k - Honour Boat Harbour Closure.

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Come hear from our staff and volunteers about what we've been working on this year, plus enjoy hot cider and warm hospitality at our home on Fern Lane.

Thursday December 5th 4-7pm | 2705 Fern Lane Halifax, NS

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Thanks for being part of our work to create a better world.



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