

ANNUAL
REPORT 2020



CEDAR COAST FIELD STATION

 Mack Bartlett

"To preserve ecological health through place-based research and education that celebrate the cultural and biological diversity of Clayoquot Sound."

www.cedarcoastfieldstation.org

ANNUAL REPORT **2020**

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A Letter from Simon Nessman: Founder, Board of Directors, Executive Director 2017-2020

2020 has fundamentally changed the way we interact with the world around us. Like a seagull swallowing a starfish whole, many of these changes have been hard to digest. Still, the novel coronavirus has brought some unexpected silver linings and provided us all with an invaluable opportunity for pause and reflection. In late March, as human beings in Clayoquot Sound retreated into lockdown, there was a seemingly opposite reaction from the rest of the animal kingdom. As boat traffic and the associated noise pollution faded away, Grey whales arrived in the waters immediately surrounding the field station in the greatest abundance observed in decades. It's possible this influx was the result of abundant prey species in Father Charles Channel at the time, and it's possible it was unrelated to reduced human activity. It's probable that the rest of the natural world breathed a collective sigh of relief when we temporarily abandoned our loyalty to destructive progress in favour of self preservation.

There are a plethora of insights that can be drawn from this and other events of the pandemic. For me, the following stand out as being un-original and yet critically important: Life on earth will likely continue long after human beings have come and gone. The inverse relationship between the boom of civilization and the collapse of biodiversity on earth is both deeply disturbing and avoidable. Ecological preservation cannot coincide with a global economy that is based on perpetual growth. We do not need to save the world; if we simply slow down and lessen our impact the natural world will regenerate itself. If we rush hurriedly and shortsightedly towards the front lines of the fight to save biodiversity we will ultimately perpetuate the cause of biodiversity's decline; namely the hurried and shortsighted nature of modern civilization.

Like the instructional airline video telling you to put your own oxygen mask on first before assisting other passengers, we must practice self care first in order to effectively engage in this fight to save the species and cultures of this planet. It is with this in mind that I announce my resignation as acting executive director of the Cedar Coast Field Station Society. I will continue to serve on the board of directors, oversee future development of station facilities, and remain fully committed to the Cedar Coast vision.

In the meantime, Mack Bartlett--who has been a core part of Cedar Coast's development and a driving force behind our research projects--has agreed to step in as interim Executive Director. I take great comfort in knowing that the organization is in good hands. Looking forward, we plan to hire a new Director who will oversee all facility and education related operations.

Reflecting back on the development of Cedar Coast over the past four years brings up a mixed bag of feelings: inspiration, pride, humility, fatigue, and gratitude come to the forefront. Cedar Coast has evolved into an independent organization doing important work to preserve ecological health. And yet, there is so much more to be done. I still get butterflies thinking about the many exciting opportunities that lay ahead for this organization. But let us not rush towards the fruition of these opportunities, and instead slow down to taste the sweet fruits of our labour.



Mack Bartlett



Mack Bartlett

A Letter from Mack Bartlett: Research Director; Interim Executive Director

This was the year of the masks, zoom meetings, and ever shrinking social bubbles. For better or worse we had an unprecedented pause to human activity, and we all experienced a smaller world than we have in years. Travel plans vaporized and we focused inwardly and into our communities. That is, when we were not drowning out the year binging Netflix, babying sourdough starters and manicuring kale patches. Hardly any boats, droning float planes or long-haul flights crisscrossing the Pacific lead to a quiet Clayoquot Sound in the early Spring. How many decades back in time did the pandemic take us? This quietness also brought hoards of Grey Whales taking advantage of herring spawns larger than those of recent decades. It will be many years until we can fully appreciate how this blip in human activity has impacted our ecosystems.

A slow down also gave us the opportunity to take a breath. Over the past three years, the Cedar Coast Field Station Society has been an incredibly busy project. Finding our footing in the community, retrofitting a new field station, and developing our programs has given little time for us to truly stop and think. Our aim as a field station has always been to serve the community with ecological research and education opportunities.

We have taken some time to rework our programming, tidy up our field station and we are looking forward to having groups back out when the opportunity arises.

Regardless of the downturn, and some quiet breaks, we still managed to have an incredibly busy monitoring year. I broke a personal record for longest continuous field season, stretching from March 1st all the way until December 9th. We continued existing projects and added new ones to the roster. Salmon did not take a break this year so neither could we. We are at a pivotal time for salmon conservation, as governments from local to federal are waking up to the far too real potential of losing wild salmon in BC. We feel that there is great value in local, independent and community driven research to help understand complex conservation issues like diminishing salmon returns.

The CCFS is changing once again as our current director, Simon, is stepping away and I am filling in. With our inability to host educational groups this year, CCFS has focused mostly on ecological research and monitoring and so if we continue this path I will stay on as acting Director. I sincerely hope that we can return to a balance of both research and education and that we can invite station users back out to Vargas Island in 2021. In the meantime, we will continue strengthening our research programs, relationships with the community. We are cautiously optimistic of what 2021 may bring and look forward to the new year.

Our Vision & Mission

Our vision at the Cedar Coast Field Station is to preserve ecological health through place-based research and education that celebrates the cultural and biological diversity of Clayoquot Sound.

We continually strive towards this vision by ensuring we fulfill our Mission:

- to provide a place for exploration, observation, and contemplation of the local ecosystem;
- to be inclusive and accessible for a diverse and collaborative community of researchers, naturalists, artists, educators, and students;
- to provide scientific resources within Clayoquot Sound by conducting objective research and producing publicly available data;
- to inspire individuals to recognize and understand our human dependence on the natural world.

Education

Our fourth year of operation looked promising. The calendar was booked with new and returning school groups, a revised organizational structure was in place, and a roster of local naturalists and educators were eager to deliver our in-house programming. But for many organizations and businesses around the world, 2020 was like no other for obvious and unavoidable reasons: COVID-19.

Before we closed our doors to the public, we welcomed our first -and last- group of students in our 2020 operating season. A class from Quest University Canada, located in Squamish, BC visited Cedar Coast as part of their immersive field course, "Reconciling Salmon - Ecology, Culture, Politics, and Economy in Clayoquot Sound." The question at the heart of this course was, "What do we do in the face of the probable collapse of a keystone species on the west coast?" They had all but a couple days to start exploring this complex question before the world around us started to shut down and they returned home earlier than expected.



It was a short visit to Cedar Coast, but they made the most of it. Research Director Mack Bartlett introduced the students to the work we do each spring during the wild skiff and showed them coastal bays where juvenile salmon congregate, how to set a beach seine net, what tools we use to identify and count sea-lice, and most importantly discussed why this work and growing dataset is a valuable resource in the conservation of wild Pacific Salmon.

For the rest of the year, a handful of employees and volunteers remained onsite performing essential research, site maintenance and program development. Though the summer was not nearly as fast-paced and vibrant without visitors, our team used the time to solidify and formalize our programs and partnerships in preparation for our post-COVID reopening.

Cedar Coast Field Station has previously offered six core educational programs: biodiversity surveys (both intertidal and terrestrial), microplastics surveys, wildlife camera tours, wild juvenile salmon monitoring, marine mammal monitoring, and plankton tows/microscope activities. Our goal this summer was to formalize lesson plans, optional assignments, games, and activities to accompany each of these offerings. Our staff created and enhanced lesson plans, designed new activities, and trialled the programming to ensure optimal content for future school groups. One notable highlight was the addition of a new program, kayak-based sea star monitoring. Environmental research and education is arguably of vital importance right now; consequently, our team worked to ensure that the data collection for each project contributed to greater citizen science programs.



Facility Buyouts

Upon request, the Cedar Coast Field Station is often able to accommodate local groups and businesses wishing to utilize the facility for personal events or workshops. In past seasons, yoga teachers from Coastal Bliss Yoga and MOcean Yoga have led rejuvenating retreats, and local businesses spent time to celebrate and reflect on another successful tourism season in Tofino, BC. Cedar Coast is keen to offer rental options in 2021 so that we can once again share the space and beauty of Vargas Island with community members when it becomes safe to do so.



Ian Harland

The Station: A Season of Maintenance and Development

This past year was one of reflection and refinery. With the Ahousaht Nation Territory closed, we took the quiet summer as an opportunity to delve into maintenance and development projects that would have otherwise been put off from the delight of hosting visiting school groups.

Cedar Coast operates with a solar electric battery bank, wood fired boiler, rainwater catchment system, and retractable dock that can be suspended out of the water during poor weather. All we can say is, having the opportunity and energy to focus on keeping our systems working top-notch was an unexpected gift of time.

Satch Roberston undertook these countless tasks which no doubt will allow for more fluid operations when our facility is open once again to the public. Two exciting additions to the property are the quaint, bungalow-style cabins that are perched above the main lodge at a breathtaking vantage point. These accommodations were constructed out of a need for more sleeping areas during peak season, specifically for visiting researchers that spend multiple weeks or months at the station completing field work. Each cabin will consist of a wood stove in a small 8'x12' living space on the main floor with a loft sleeping area above. They are currently still under construction, but we look forward to welcoming the first researchers to their new cozy cabins when the time comes!

Since our first year of operation in 2017, we've valued the learning opportunities that coincide with off-grid living. It has been a pleasure to share the way in which we operate out on Vargas Island, the way we do our best to co-exist and share space with other species large and small, how we try to tread lightly on the land and sea working alongside it, rather than against it. Taking the time to explain that each drop of water out of the tap was once falling rain, that the feeling of warmth comes from a once standing tree, and the power it takes to charge your phone came from the sun, are all lessons worth teaching. It's a different perspective for most, which we believe fosters a different level of consciousness worth tapping into.



Julia Simmerling



Satch Robertson



Satch Robertson

Research: 2020 Season in Review

Despite the station being closed for the season, we're pleased to announce that our research projects continued to flourish and became a central focus for all staff and researchers. We were fortunate to receive funding from an array of donors this year. In particular, the Canada Summer Jobs program and Environmental Careers Organization (ECO) Canada "Digital Skills 4 Youth" funding allowed us to hire four youthful and driven individuals that recently graduated from undergraduate programs across BC. A huge thank you to every person and organization that continues to believe in our work and has supported us through this unique year.

Our Research Director, Mack Bartlett led our small team through each project and respective field season. Below is a summary of each project Cedar Coast is proud to be working on to restore and protect our Biosphere.

To access all of our research reports, visit the Archives section of our website:
<https://www.cedarcoastfieldstation.org/archives/>



01.

Juvenile Salmon & Sea Lice Monitoring (April -June)

Days in the Field: 14

Wild Pacific Salmon in the area face significant threats from industry, historic land use and a changing marine ecosystem. Here in Clayoquot Sound, wild salmon are at some of their lowest recorded levels and certain runs are at risk of being lost. It is our aim to better understand how juvenile salmon use these coastal waters and to what extent they are being impacted by disease and pathogens primarily originating from open-net pens used in the finfish aquaculture industry.

Every spring, juvenile salmon migrate throughout Clayoquot Sound from their natal rivers out to the Pacific Ocean. Once again, this past spring they were exposed to high levels of sea lice as the finfish aquaculture industry failed to control and mitigate sea lice infestations on fish farms. Over the course of the out migration, we assess the sea lice load and external health of individual fish, as well as the overall abundance of juvenile salmon. We collect information on how juvenile salmon are travelling throughout Clayoquot Sound, what pathogens they may be carrying and if they are showing signs of disease. This past April, our small team started to collect and preserve a handful of juveniles that showed significant signs of disease and/or were infested with sea lice at multiple life-stages. These samples will be analyzed at the DFO Molecular Genetics Lab to determine stress/disease profiles, genetic stock, and whether or not sea-lice may act as a vector for spreading disease. We will continue this monitoring program next year potentially expanding our sampling area to Barkley Sound where salmon farms are not present. In doing so, we will most likely be able to analyze salmon that are not directly affected by fish farming, ultimately acting as a control for Clayoquot Sound salmon.

To learn more about our work involving juvenile salmon in Clayoquot Sound, take a look at our most recent juvenile salmon and sea lice report by clicking **HERE**, watch the short film "Sea Lice push Wild Salmon to the Brink" created by Clayoquot Action that highlights our monitoring program and the overall state of local and wild salmon stocks, or explore our story map funded by the Clayoquot Biosphere Trust (see links below). "Assessing Juvenile Salmon in Clayoquot Sound" is an interactive outreach tool that speaks to the importance of wild salmon and offers a glimpse into why they are disappearing. This project was financially supported by **Ocean Outfitters**, and the **Sitka Foundation**. Thank you for valuing our work and believing in this project. We are so grateful for your unwavering support.



Links to our work:

2020 Juvenile salmon and sea lice monitoring report: <https://www.cedarcoastfieldstation.org/wp-content/uploads/2021/02/CCFS-juvenile-salmon-report-2020-2.pdf>
 Recent reports: <https://www.cedarcoastfieldstation.org/archives/>
 "Sea Lice Push Wild Salmon to the Brink" a short film: <https://fb.watch/2t53NxjFkm/>
 "Assessing Juvenile Salmon in Clayoquot Sound" StoryMap: <https://storymaps.arcgis.com/stories/304bf6c25c284bd99c7f7190549363c5>



02.

Local Grey Whale Monitoring (April - October)

Days in the Field: 28

Each year, over 20,000 Grey Whales make the long migration between winter breeding grounds in Baja, Mexico to summer feeding grounds in the Arctic. Rather than completing the full migration north, there is a distinct group of approximately 250 whales named the the Pacific Coast Feeding Group that spend their summers foraging between Washington and Northern BC, including Clayoquot Sound. This group of Gray Whales has been categorized as Endangered in 2018 by COSEWIC due to its relatively small population size and therefore its increased vulnerability to the adverse effects of human activities such as pollution, entanglements, and collisions.

This past October we wrapped up our second season of Grey Whale monitoring. The goal of this project is to contribute to the documentation of population abundance trends in this unique group of whales. By observing and photographing individuals, we begin to learn their behavioral traits, distinct markings, and even favourable feeding grounds. Photographs taken this past season have been compared with those archived in a comprehensive catalogue currently being produced by the Pacific Wildlife Foundation (PWLFF) dating back to the 1970s.

Although this group of whales may be small, they hold great significance to the health of our local ecosystems, the strength of our local economies, and the persistence of our local cultures. We hope to expand this project in the future to include the monitoring of their prey composition and abundance. Acquiring this data may include plankton tows, sediment samples from the shallow feeding bays, or water samples that will be analyzed by Hakai Institute's Integrated Coastal Observatory (ICO) program.

This year, we were fortunate to receive a **Patagonia Environmental Grants Fund** from Tides Foundation to conduct the project. We would like to thank local guides Mark Sawyer and Ashly Hoyland for their continued effort to share information about Grey Whale sightings. Finally, this project was initially inspired and supported by whale biologist, Jim Darling, Ph.D. Thank you Jim and Josie Byington for your expertise in whale ID and for creating a baseline dataset to build off of.



Mack Bartlett

03.

Salmon Population Analysis

Year Round

Salmon populations in Clayoquot Sound are at, or near historically low levels. We are having very few adults returning to spawn each year with hatchery fish making up a large component of the returning populations. We currently assess salmon stocks by large geographic regions, like Clayoquot Sound, so we have little information on how each individual river is doing and whether it can bounce back if it is having low returns.

We are currently developing river level population assessments for salmon in Clayoquot Sound and the entire West Coast of Vancouver Island, so that we can see how each population has changed over time. We can assign a status based on each salmon population's current health and its productivity, or ability to rebound, even if abundance is low. This analysis is based on salmon stream counting, fishery and hatchery data and so is greatly impacted by the availability of good data.

We are working in conjunction with researchers from Dalhousie University, Salmon Coast Field Station Society, the Pacific Salmon Foundation and Fisheries & Oceans Canada. We have completed the analysis and are currently working through assigning statuses and report development. A report should follow in early 2021. This project is supported by **Ocean Outfitters, Sitka Foundation** and the **Canada Summer Jobs Program**.



Cláudia Tersigni

04.

Counting Chum Salmon with Drones (August - November)

Days in the Field: 18

This year we are excited to introduce a new research project: testing the efficacy of remotely piloted aircraft systems (drones) to enumerate Chum Salmon while they spawn in-river. Chum Salmon are ecologically, commercially and socially important but do not receive the same attention as other Pacific salmon species. This means many Chum Salmon runs go either uncounted or are only counted during the peak spawn of target species, like Chinook or Sockeye Salmon. Due to past funding restrictions less salmon rivers are counted than ever before, leaving gaps in our understanding of salmon populations. Are the salmon runs doing well this year? Are they being impacted by a specific threat? If we do not have the basic information of how many salmon are returning each year we cannot further assess how they are doing. We are looking at the potential for drones to offer an efficient, cost effective and data rich way to count Chum Salmon.

To test how well drones could be used to count salmon we picked the Tranquil Creek, located approximately 20km from Tofino in traditional Tla-o-qui-aht territory and within the Tranquil Tribal Park. Tranquil is an aptly named small creek where Chum spawn in shallow clear waters in the thousands making for an ideal test system. The Tranquil Creek is also counted through snorkel surveys and a mark-recapture study so there is adequate counting data to compare to.

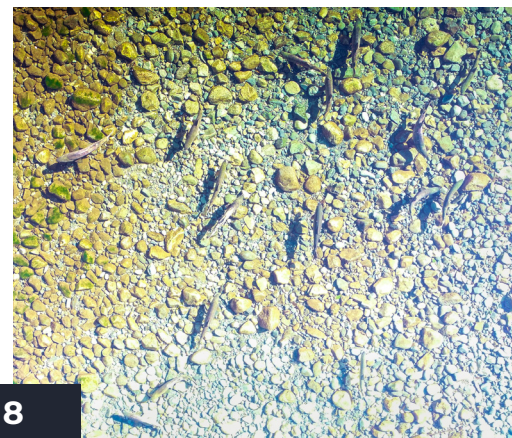
We spent this field season developing highly detailed river maps, drone flight protocols and collecting imagery of spawning Chum

Salmon to determine if current drone systems can be used as an effective tool to expand Chum Salmon counts in BC. Drones may be an effective salmon counting tool as they offer the potential of covering large spawning areas in a short time, they provide a digital copy of the salmon in-river, and even the condition of the river. This method could remove observer bias and provide data that can be reexamined years later. As with any new technology, there can be new issues and biases introduced and its likely drone salmon flights will not be the exception. We successfully completed the field season collecting thousands of images of spawning salmon in the Tranquil Creek before the spawn tapered off.

Counting thousands of salmon by traditional methods can be quite difficult, so part of this research project is to adapt automated counting software to sift through the imagery and count up the salmon we observed. The next phase of the project will be spent developing this automated counting system. These counting systems use deep learning and convoluted neural networks, the same artificial intelligence systems that make our smart devices so smart. This approach has previously been used to count sea birds in vast colonies. In our case we can “teach” the system what salmon look like in differing conditions and it will then learn to detect them when presented with an image. This development requires our staff to first manually mark thousands of salmon from our images so they can then be fed into the system.

This project got off to a fantastic start this year and we are looking forward to continuing to test if drones can be an effective tool for counting salmon in BC.

This project was completed in conjunction with, and supported by Aeria Unmanned Aircraft System (UAS), Quest University Canada, the Pacific Salmon Commission (PSC), Uuathluk Fisheries, Canadian Department of Fisheries and Oceans (CDFO) and Tla-o-qui-aht Tribal Parks.





Claudia Tersigni



Julia Simmerling



Claudia Tersigni

Collaborative Research

01.

Juvenile Chinook Early Marine Survival (March-December)

Days in the Field: 15

Chinook Salmon in Clayoquot Sound are on life support, with only around 500 adults returning to spawn in the area this year. We know very little about Chinook Salmon once they leave the rivers and first enter the ocean. Early marine survival has recently been highlighted as a critical component for population growth in other salmon stocks. This year we started a multilateral and community driven effort to understand how juvenile Chinook Salmon are using Clayoquot Sound and how they are being impacted while they are here.

The project focuses specifically on Chinook Salmon in their first year at sea. By catching and taking a small tissue sample from these juvenile fish, we hope to learn about juvenile Chinook abundance, spatial and temporal distribution, stress and disease profiles, and genetic stock. The data can help us investigate how size, condition, pathogen or parasite load, and environmental conditions may relate to growth and survival.

The program started as part of a community effort working with local guides in March of this year in Clayoquot Sound. We are grateful for the support from the fishing guide community in making this project possible at its inception. Due to the success of the first sampling effort, the project has been expanded to sample over winter through all major inlets on the West Coast of Vancouver Island. Results from the preliminary sampling effort will be available in the new year.

This project is in collaboration with Nuu-chah-nulth Uuathluk Fisheries, Ha'oom Fisheries Society, Maaqutusiis Hahoulthee Stewardship Society, Fisheries and Oceans Canada, Pacific Salmon Foundation, and the BC Conservation Foundation. Funding provided by **Fisheries and Oceans Canada, Sitka Foundation, Eco Canada.**

02.

Hakai Integrated Coastal Observatory (ICO) (Year Round)

Days in the Field: 8

This season we continued contributing environmental DNA samples to the Integrated Coastal Observatory (ICO) program at the Hakai Institute. As animals live, they are constantly sloughing off small bits of tissue containing their DNA. Each species has unique sections of DNA that can be used like a barcode to identify them. If we collect these tissue samples from the water column it is considered environmental DNA. The ICO program focuses on collecting water samples so we can identify each species that is living in the surrounding waters.

We have doubled our sampling efforts by adding an additional sampling site in Ahous Bay on the west side of Vargas Island. The goal at this site is to target Grey Whale prey populations. This ultimately ties in to our Grey Whale monitoring program as we can use our sightings data to determine what may cause Greys to feed in certain locations based on the abundance and type of prey present. Due to Covid-19, the Hakai lab has unfortunately not been able to process the eDNA samples as of yet. We look forward to receiving results soon and continue working closely with the Hakai Institute on the ICO program.



Kaylin Kazianka

03.

Coastal Wolves Monitoring (Year Round)

Days in the Field: 2

It is no secret that Vargas Island is home to a small population of coastal wolves. Though we do not flaunt their existence, people have been arriving on the island for years to photograph their unique and admired way of life. We are honoured to share this place with them and adapt the ways in which we live in order to peacefully coexist with one another.

In 2017, we set up the first wildlife camera on our property. Our intention was to learn more about the wolf population inhabiting the island without causing discomfort or confrontation. Three years later and a few more wildlife cameras in place, Cedar Coast has collaborated with Parks Canada, BC Parks, The Nature Conservancy of Canada, Maaqutusiis Hahoulthee Stewardship Society, and the Wildlife Restoration Ecology Lab (University of Northern British Columbia) to try and understand how the Vargas wolves connect with those throughout the rest of Clayoquot Sound.

To learn more about the wolf monitoring taking place in Clayoquot Sound, visit Parks Canada's "Wild About Wolves" Research Project website: <https://www.pc.gc.ca/en/pn-np/bc/pacificrim/nature/recherche-research/loups-sauvages-wild-wolves>

04.

Sea Star Wasting Disease with Strawberry Isle Marine Research Station (May- September)

Days in the Field: 5

This year we had our second season of sea star monitoring in collaboration with Strawberry Isle Marine Research Station. Our surveys contribute to monitoring the return of Sunflower and Ochre Stars in Clayoquot Sound. This past December, Sunflower Stars were listed as Critically Endangered by the IUCN (International Union for Conservation in Nature) as their global population has not recovered after Sea Star Wasting Disease moved through their entire range beginning in 2013. Over 99% of the Sunflower Stars were wiped out in some areas. Once a month, researchers from Cedar Coast survey two sites near our field station via kayaks. Any visible Sea Stars are measured and checked for signs of wasting disease. Data collected by organizations in Clayoquot Sound contributes to Sea Star Wasting Disease research compiled at the University of California Santa Cruz, USA. It is highly important that we monitor this population as further loss of this marine predator could lead to major ecosystem changes.

05.

Bat Monitoring on Vargas Island (August-September)

Days in the Field: 8

We have recently started a new project to monitor bat activity on Vargas Island. Bat monitoring comes at a particularly critical time, as in 2016 and 2017 White-Nose Syndrome was detected in Washington State, within flying distance of Vargas Island. This disease is responsible for major bat colony collapses across Eastern North America. Bats are an integral part of BC coastal ecosystems and are susceptible to land use change as they roost in old growth cedar.

Using a bat vocalization recorder, we captured the calls of nine bat species in the airspace around the field station in 2020. Of the recorded species, the Little Brown Bat is SARA listed as Endangered, and Townsend's Big-eared Bat is BC Blue listed, meaning it is a species of special concern. As part of this bat monitoring initiative, CCFS is now a contributor to the North American Bat Monitoring Program (NABat), using their surveying protocols in order to contribute to their database. NABat is a continental initiative being developed by a broad range of government agencies and other organizations having interests in bat conservation.



 Marcie Callewaert



 Marcie Callewaert



 Mack Bartlett

Community Building: The Vargas Dream

It's a dream that has been several years in the making. CCFS Board member, Lennie John, and his wife, Marcie Callewaert, an Educator at the station, have finally completed and moved into their 480 sq foot cabin at Keltsmaht beach on Vargas Island – just a 10 minute walk from the field station. The couple had been living in the First Nation's village of Ahousaht, where Lennie is from and Marcie moved to as a teacher in 2014. Lennie's parents originally built the cabin at Keltsmaht in the 80's as tangible proof that the territory was still being used when the government was considering the reserve land for a park. It was used as a summer camp for the John family and others over the years but had recently fallen into significant disrepair. Lennie and Marcie purchased the cabin and began renovations this past summer – something they only had the time to fully pursue, due to their business slowdown as a result of COVID.

The idea to move off-grid was born of a desire to live a more holistic and sustainable lifestyle while returning to both Lennie's Indigenous roots and Marcie's farming background. Lennie's father came from Keltsmaht Nation and his mother from Hesquiaht. Marcie was raised on a small hobby farm, and farming and homesteading goes back generations on both sides of her family.

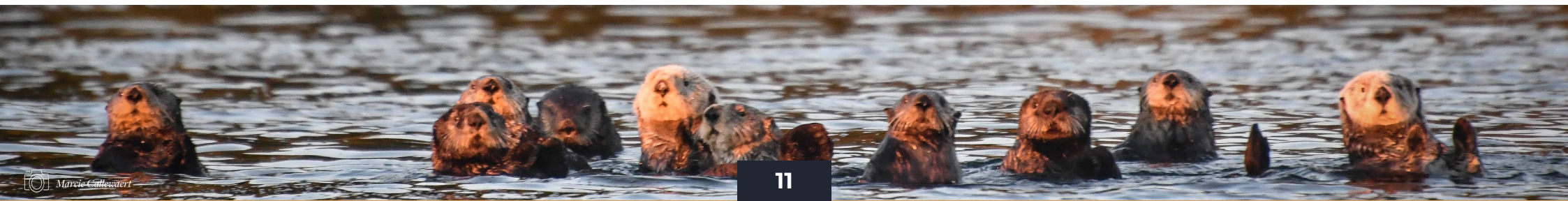
After pushing back their move-in date more times than Marcie would like to admit, they finally made the move October 31st. They've been moving in stages since then, but it only felt like home, when all four dogs, their cat, two rabbits and 14 chickens joined them as well.

There were plenty of challenges along the way. Obtaining supplies became a huge hurdle, as manufacturing and shipping was backlogged as a result of COVID. Fencing was part of a large undertaking to protect the wolves from approaching the animals and viewing them as a food source. Eight-foot-high fences were constructed, with additional wire laid on the bottom to prevent digging.

Lennie provides the cultural workshops with visiting groups at CCFS. In the past they have done nature walks, cedar weaving, and spent time around the campfire, storytelling. With their move to Keltsmaht, the couple hope to be able to do a wider variety of cultural activities at their home, including salmon kluupchuses where the fish is roasted over a fire. Marcie will also be nearby to be involved in more educational programming when visits resume. In the past she has worked on overnight trips with Maaqtusiis School from Ahousaht or come for the day to work with other groups.

The cabin would not have been possible if not for the support of the CCFS Staff, Jeremy and Randy who donated labour and construction knowledge, Robinson, Bryan, neighbours Dave and Una, Cal the Electrician, and so many more. Lennie and Marcie are looking forward to hosting everyone involved for a celebration when it is safe to do so again.

You can follow their journey online at www.instagram.com/vargasdream



Directors & Board Members

We're pleased to introduce three new Board Members that joined our team this year: Zoë Marler, Tsimka Martin and Kay Gray. We look forward to the expertise they each bring and individual perspectives that will ensure a bright future for Cedar Coast. Thank you to our entire Board for sharing the vision and guiding this organization through the many hurdles and successes over the past four years.

Directors & Board Members

- ◆ **Simon Nessman**
- ◆ **Lennie John**
- ◆ **Zephyr Polk**
- ◆ **Colin Bates**
- ◆ **Dave Ratcliffe**
- ◆ **Zoë Marler**
- ◆ **Tsimka Martin**
- ◆ **Kay Gray**

Zoë Marler

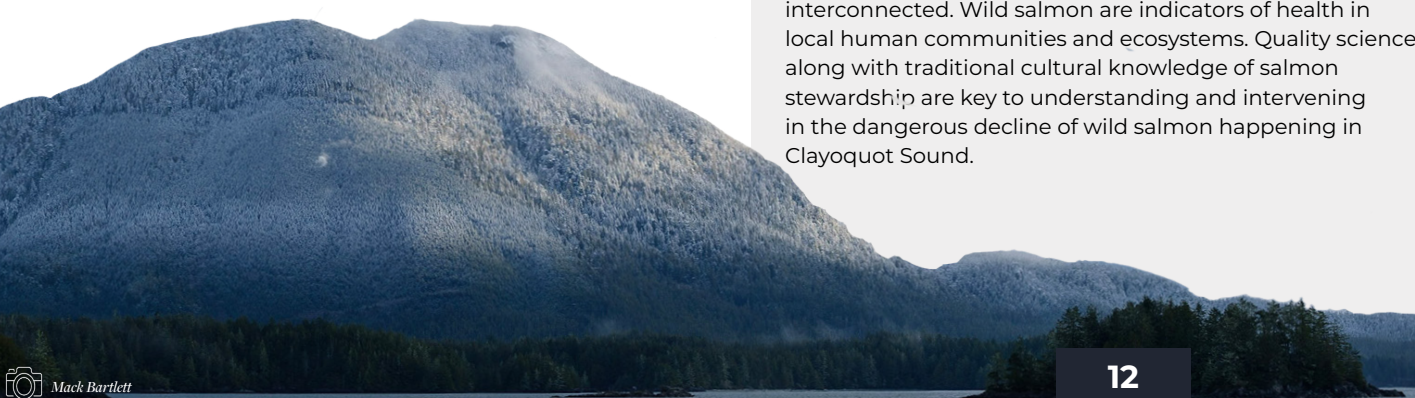
Zoë grew up on Denman Island, BC, and has had an affinity for and appreciation of our coastal environment her whole life. She obtained her undergraduate degree in Anthropology from the University of Victoria, after which she switched to the east coast to obtain her law degree from the Schulich School of Law at Dalhousie University in 2014. She currently works as a civil litigator in Victoria, BC, and tries to spend as much time as she can away from the office and enjoying the outdoors. She feels that scientific research and education about our coastal ecosystems are crucial elements in protecting the diversity and longevity of our incredible coast, and is thrilled to work with Cedar Coast towards this goal.

Tsimka Martin

I was raised in the Tla-o-qui-aht village of Esowista surrounded by giant spruce trees and open ocean. I grew up nourished by the powerful ecology of my Nuuchahnulth homeland and culture. As a young adult, I began working in educational cultural tourism, and eventually opened a company, T'ashii Paddle School, offering tours in dugout cedar canoes carved by my father, master carver Joe Martin. After 7 years of operation out of Tofino, I sold the company to Ahous Business Corp. I am now working with Tla-o-qui-aht Nation on Nuuchahnulth language revitalization. I also enjoy creating music which is something I aspire to do more of. Advocating for ecosystem and community health are also important to me. Hišuk?išcawak -everything is interconnected. Wild salmon are indicators of health in local human communities and ecosystems. Quality science, along with traditional cultural knowledge of salmon stewardship are key to understanding and intervening in the dangerous decline of wild salmon happening in Clayoquot Sound.

Kay Gray

Kay and her spouse recently relocated from North Vancouver to the Comox Valley on Vancouver Island. After growing up on a small farm in Ladner, Kay moved to Vancouver to attend school, work, and raise a family. Recently retired from the practice of accounting, Kay is now realizing her dream of returning to farm-life and getting re-connected with the great outdoors. Kay is an FCPA, FCGA, a member of Society of Trust and Estate Professionals, the Institute of Corporate Directors, and has many years experience as a volunteer board director.



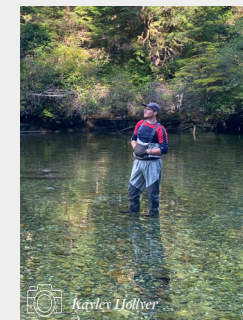
Staff

- ◊ Mack Bartlett, Research Director, *Interim Executive Director*
- ◊ Satchel Robertson, *Station Coordinator*
- ◊ Julia Simmerling, *Research Technician*
- ◊ Cristian Carson, *Research Technician*
- ◊ Kayley Hollyer, *Canada Summer Jobs - Research Technician*
- ◊ Rowen Monks, *Canada Summer Jobs - Research Technician*
- ◊ Claudia Tersigni, *Canada Summer Jobs - Research Technician*
- ◊ Sarah Ferguson, *Canada Summer Jobs- Educator*
- ◊ Marcie Callewaert, *Educator*
- ◊ Andrew Wood, *Educator*

Volunteering

The quiet operation meant we only had a handful of volunteers on site this past season. Similar to previous years, our volunteers gravitated towards working in the garden and dedicated much of their time towards a bountiful harvest. It is one of our greater visions to create gardens around the property that can sustain many of our on-site staff and visitors. Thank you to Josie, Janessa & Axel for volunteering your time and energy!

The many volunteers we've hosted in previous years have been a great help in running our station, each lending a hand in a variety of tasks ranging from stacking firewood, gardening, making meals, creating new forest trails, or simply making the facilities a clean and productive space to be in. We have found that volunteers get the most out of their experience at Cedar Coast when they have time to settle into the everyday flow of station life. For this reason, we will be moving to long-term volunteers in the coming seasons.



Donors & Supporters

Thank you to our supporters!

Each year, we depend on grants and donations to continue our research program and overall vision to preserve ecological health within the Biosphere. Once again, we're overwhelmed to have received funding and support from individuals and businesses throughout Clayoquot Sound and our greater global community. With all of your support, our work has continued to thrive in new ways: new research projects, the expansion of existing research projects, educational programming, and most heartening, the cherished partnerships and research collaborations with local organizations in the Sound. Together, we stand stronger in creating positive change to preserve the land and waters we call home.

We thank you, and appreciate your generosity towards this project.

- ◇ Simon Nessman
- ◇ Giving Tuesday Donors: Mariam Adaieva, Thomas Diesch, Paul Czene, Rosanna Lapeyrouse, Ross Petersen, Sydnie Hascarl, Jason Kanner, Cathy Guo
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- ◇ Royal Roads University
- ◇ NSERC Promoscience program
- ◇ Ocean Outfitters
- ◇ Saltwater Classic
- ◇ Pacific Salmon Commission
- ◇ Pacific Salmon Foundation
- ◇ Sitka Foundation
- ◇ Canadian Department of Fisheries & Oceans
- ◇ Eco Canada
- ◇ Canada Summer Jobs
- ◇ Patagonia Environmental Grants Fund from Tides Foundation

Donations

Interested in contributing?

If you are interested in supporting the Cedar Coast Field Station Society please make a donation at the following link: <https://www.cedarcoastfieldstation.org/donate/>



Photo Credits:

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Thank you to our photographers!

