The Cold Harvester

FALL 2023

NEWFOUNDLAND AQUACULTURE

Cold Harvest 2023 Conference and Tradeshow Highlights

Aquaculture: The Future of Responsible Food Production

AQUA MARINE SERVICES

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JIM GOSSE
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In this Issue

FALL 2023

Cover photo: Allister Blake and Michael Butler of Notre Dame Bay Mussel Farms Inc. inspecting the oyster growth at Salt Water Pond, NL.

The Newfoundland and Labrador Aquaculture Industry Association (NAIA) is a member-based organization that represents the interests of seafood farmers and their suppliers in Newfoundland and Labrador. We are passionate advocates on behalf of our members to facilitate and promote the responsible development of the aquaculture industry.

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THE COLD HARVESTER
NEWFOUNDLAND AQUACULTURE

Cold Harvest 2023

NEWFOUNDLAND AQUACULTURE INDUSTRY ASSOCIATION

28th Annual Conference & Trade Show

Aquaculture: The Future of Responsible Food Production

DELTA HOTEL ST. JOHN'S, NEWFOUNDLAND AND LABRADOR, CANADA • SEPTEMBER 5-7

DAY 1: TUESDAY, SEPTEMBER 05, 2023		
19:00 to 21:00	Cold Harvest Opening Reception, Delta Hotel	
DAY 2: WEDNESDAY, SEPTEMBER 06, 2023		
	Opening Session (Salon B / C / D)	
09:00 to 09:45	Welcome and Greetings	
09:45 to 10:30	Keynote Address: Dr. Halley Froehlich, Assistant Professor at University of California, Santa Barbara – Sustainability of Aquaculture Under a Changing Climate. (SALON B / C / D)	
10:30 to 11:00	NUTRITION BREAK (Trade Show Area)	
11:00 to 12:40	Community Forum: Supporting Aquaculture – Steve Crew, Mayor, Town of Hermitage Sandyville and Roy Drake, Deputy Mayor, Town of Harbour Breton (Salon B)	Materials Management and Recovery – Jonathan Kawaja Environmental Scientist, NL Department of Fisheries, Forestry and Agriculture (Salon C / D)
12:40 to 14:00	Lunch on Your Own -- NAIA AGM for NAIA Members (SALON EF)	
14:00 to 15:20	Emerging Aquaculture Leaders (Panel Discussion) – Amy Negrijn, Licensing and Compliance Specialist, Mowi Canada East (Salon B)	Marine Safety – Sheldon George, Newfoundland Regional Manager, Cold Ocean Salmon (Salon C / D)
15:20 to 15:50	NUTRITION BREAK (Trade Show Area)	
15:50 to 17:10	Government Services and Regulations – Ellen Careen, Senior Regional Aquaculture Management Officer, Fisheries and Oceans Canada (Salon B)	Climate Change Adaptation – Cyr Couturier, Marine Biologist & Aquaculture Scientist, Marine Institute of Memorial University and Jonathan Kawaja Environmental Scientist, NL Department of Fisheries, Forestry and Agriculture (Salon C / D)
19:00 to 21:30	Cold Harvest Networking Event – Kitchen Party 2023 – O' Reilly's Famous Irish Newfoundland Pub	
DAY 3: SEPTEMBER 7, 2023		
07:30 to 8:30	Coffee Break (Trade Show Area)	
08:40 to 10:20	Innovation in Aqua Feeds and Feeding – Lesley Clark, Technical Sales Representative, Skretting Canada East (Salon B)	Alternative Aquaculture Species – Ellen Careen, Senior Regional Aquaculture Management Officer, Fisheries and Oceans Canada (Salon C / D)
10:20 to 10:50	NUTRITION BREAK (Trade Show Area)	
10:50 to 12:30	Integrated Pest Management of Sea Lice – Darrell Green, Regional Development Coordinator, NAIA (Salon B)	Artificial Intelligence in Aquaculture – Cyr Couturier, Marine Biologist & Aquaculture Scientist, Chair MSc Aquaculture Programs, Marine Institute of Memorial University (Salon C / D)
12:30 to 13:30	Lunch on Your Own	
13:30 to 14:50	Shellfish Aquaculture and the Coastal Environment – Dr. Laura Halfyard, General Manager, Connaigre Fish Farms Inc (Salon B)	Innovation in Finfish Aquaculture – Dr. Jillian Westcott, Academic Director / Graduate Officer, Marine Institute of Memorial University (Salon C / D)
14:50 to 15:20	NUTRITION BREAK	
15:20 to 17:00	Shellfish Aquaculture and the Coastal Environment – Dr. Laura Halfyard, General Manager, Connaigre Fish Farms Inc (Salon B)	Innovation in Finfish Aquaculture – Dr. Jillian Westcott, Academic Director / Graduate Officer, Marine Institute of Memorial University (Salon C / D)
18:30 to 21:30	COLD HARVEST GALA RECEPTION AND DINNER (Delta Salon A)	

Newfoundland Labrador

Message from the Honourable Elvis Loveless

Minister of Fisheries, Forestry and Agriculture

On behalf of the Government of Newfoundland and Labrador I would like to extend a warm welcome to everyone participating in Cold Harvest 2023, particularly those visiting from other provinces and outside Canada. I hope you find an opportunity to explore our rugged beauty, experience our rich culture and sample our fine cuisine during your time here.

Cold Harvest 2023 serves as a melting pot of ideas, expertise, and visions for the aquaculture sector. Events such as this provide prime networking opportunities and present the ideal setting to unveil new and exciting products, services and technological advancements that have been developed to improve the aquaculture sector.

I look forward to meeting with global aquaculture industry leaders and encourage all delegates to seize every opportunity to connect with one another. I am confident Cold Harvest 2023 will help foster partnerships that will spur growth, promote resilience, and drive sustainable progress in the aquaculture industry.

Together, we will forge a path towards a thriving, responsible, and sustainable future for aquaculture, leaving a lasting legacy for generations to come.

Thank you to the Newfoundland Aquaculture Industry Association for hosting this conference and inviting me to take part. Please accept my best wishes for a successful and enjoyable event.

Sincerely,
Honourable Elvis Loveless
Minister of Fisheries, Forestry and Agriculture

www.gov.nl.ca

Message from President and Chair of the Board

Sheldon George

Hello fellow members and readers, and welcome to our 28th Cold Harvest Magazine Conference Edition. It is a great pleasure to be president during this exciting time in the Newfoundland aquaculture industry and hosting this conference, promoting the theme of "Aquaculture: The Future of Responsible Food Production".

Last year we experienced an excellent turnout for our joint conference with WAS and AAC and it is great to be back with our own conference this year. I am looking forward to seeing everyone again and discussing current issues and joining together with attendees to find solutions for where we can make improvements on our farms.

A "hot" topic these days is climate change, and our industry is not immune to the complications and adaptations we need to make to continue growing our success in a changing environment. Our waters are presenting us with different temperatures and stronger weather events, keeping us on our toes. We need to improve our skills in warmers waters, stronger winds and more frequent storms, just to name a few examples of the new challenges. It is during events like our Cold Harvest Conference that we bring together suppliers and researchers that allow a venue for information transfer that help our farmers connect and learn about the new research that can help us better prepare for further climate change.

Along with environmental changes, the regulatory field is changing as well due to the pressures from some folks who are not supporters of our sustainable industry. I have read in an article, farmers are able to research and adapt the biological stressors to the fish, however one of the hardest things to prepare for are the regulatory pressures. That is true here in our sector as well, and we look forward to working with Minister Loveless's department provincially and Minister Lebouthillier's department federally on working through these concerns and making sure that we all make Newfoundland and Labrador's aquaculture industry the future of responsible food production.

I look forward to seeing you all at the conference, please make the most of the event and make as many connections as possible, as it is the connections you make at these events that help everyone succeed and become the best aquaculturists you can be.

Message from Executive Director

Jamie Baker

After all the hours of hard work by staff, volunteers, sponsors, and members, we are finally on the verge of once again hosting our very own NAIA Cold Harvest Conference and Trade Show.

It's hard to imagine that it's been four years since our last one way back in 2019. How time flies.

But after last year's phenomenal success with the 2022 WAS/AAC Conference and Trade Show here in NL, we are hoping to continue building the momentum and excitement around the seafood farming sector in this province in 2023.

Driving to Marystown for an event recently, I noticed a vehicle in front of me that had a sticker in the back window stating that the driver onboard was an "#essentialworker." It occurred to me right away just how important our essential workers are as we move towards the future – and of course it occurred to me just as quickly that workers in the aquaculture sector were also deemed #essentialworkers at the heights of the pandemic.

This correlation drove home the point to me yet again, how critical this sector is now, and how much more critical it will become in the future. For all the noise and nonsense anti-farm "advocates" bring to the table, the thing that gets missed is that WE ARE FEEDING PEOPLE. That's what we do. That's how who we are.

Yes, there is a lot that gets discussed about science, technology, employment, cultural spinoff, and the like when it comes to farming – but at our core, we are providing food for the growing number of people and families in our world. There is no getting around the fact that farmers provide more than half of the world's seafood every day, and that the scale will continue to shift further that way in the years ahead.

This is why the theme for this year's conference is "Aquaculture: The Future of Responsible Food Production." We want people to better understand our sector, and we have to start with the basics – and the basic point in this case is that we need food to survive and thrive, and nobody does that better, more environmentally sustainable, and with more positive impact on rural and coastal communities that seafood farmers. It's not debatable. The numbers are not close. Anyone arguing otherwise, is either lying or badly informed.

There's no doubt major challenges lay ahead. Whether people are fishing, farming, or even just taking advantage of NL's recreational marine capacity, we all know full-well what we are up against as temperatures rise, conditions change, and weather events become more prevalent.

I believe there will come a day when all the players in the marine field will have to put petty politics aside and work together to achieve common goals in the face of these impacts. The future prosperity of our province, country and world depends on us finding ways to tackle these major challenges head on.

Right now, looking back to our last NAIA conference in 2019, it's hard to believe four years have passed – but equally hard to comprehend is how incredibly far the seafood farming sector has continued to advance and gain new potential in that same period of time, pandemic be damned. The new tech, farming practices, and expertise being developed almost daily is truly mind blowing.

There will be a lot of discussions at the 2023 Conference around these advances, how we can continue to grow and address challenges and how we can find more efficient ways to farm our world class shellfish and finfish.

But at the end of the day, the end result will be all about exactly what our theme states: Responsible food production.

The staff, board and members of NAIA look forward to welcoming all attendees to the conference, to seeing familiar faces, to meeting new ones, and collectively working to advance our food-based sector forward for the betterment of all.

New Aquaculture Pump from NLB Provides More Corrosion Resistance Than Ever

NLB has introduced a new high-pressure water jet unit for aquaculture net cleaning with innovative features that provide more resistance to saltwater corrosion than ever before. The NLB AQ3250 delivers flow of 400 lpm (106 gpm) at 207 bar (3,000 psi) to remove marine growth and debris, keep nets from getting weighed down, and maintain fish health.

Like NLB's other pumps for aquaculture, the AQ3250 is protected from sea air and spray by a lightweight aluminum enclosure, with roll-up doors for easy maintenance access in tight quarters. But this latest triplex plunger pump takes corrosion resistance a step further, replacing the stainless-steel plungers with ceramic plungers. The chemical bonds in ceramics have already been oxidized, eliminating further oxidation and the corrosion that follows.

The use of ceramic might be expected to add cost, but NLB offsets this with a unique three-piece plunger design. With only one of its three pieces subject to wear, users can simply replace that piece instead of replacing an entire plunger set.

The new plungers performed extremely well in extensive testing, and are water cooled in sealed packing cartridges to keep out seawater. The ceramic and its six-micron finish provide outstanding hardness to minimize wear.

The AQ3250's footprint (2,565 mm x 1,525 mm × 1,730 mm — 2,015 mm to the top of the exhaust) and weight (3000 kg) are relatively modest, minimizing footprint and the load on the ship's deck. The pump's seven-liter engine is powerful yet economical, consuming fuel at a rate of 39 liters per hour at full load.

Other new features include a discharge accumulator to buffer the pressure and ensure a smooth flow of water, and a suction stabilizer to provide a smooth supply of pumped water to the pump.

The AQ3250 offers the same trouble-free performance as other NLB pumps, with the same minimal maintenance. The key is a slow-running design, proven in many applications over 50 years, that minimizes wear on key parts. The unit comes mounted on a skid made of galvanized steel to withstand the harsh ocean environment. Its marine engine features convenient external priming ports, and the aluminum enclosure is removable.

Like other NLB pumps, the AQ3250 can easily be integrated with many existing net cleaning head systems.

Net cleaning companies who operate their NLB pumps seven days a week have reported that their maintenance and repair costs are 50 percent less than they were with other pumps. The new AQ3250, with its ceramic plungers and sealed packing cartridges, should increase that competitive edge.

NAIA Summer Students Ha

By: Cassidy Fudge, NAIA Summer Student and Jillian Gullage, Student, MI Workterm

Jillian Gullage at the Bay d'Leau river monitoring site.

Cassidy Fudge, NAIA summer student in the NAIA satellite office was out on the beaches quite a bit this summer.

Marine debris tends to be floating through every ocean in our world, endangering our marine mammals. Whether its animals getting trapped or ingesting the trash, the waste that fills our oceans can forever damage marine life, unless we do something about it.

This summer NAIA received funding from The Department of Immigration, Population, Growth, and Skills to hire a summer student for the NAIA satellite office in St. Alban's. Cassidy Fudge, Level 1 student at Bay D'Espoir Academy was hired for a period of 6 weeks.

"Since starting my summer job, I felt like I was a part of something big. Organizing beach clean-ups was something I enjoyed as helping clean our local beaches really made me feel that I was making a difference. I also worked with other summer students at the St. Alban's Community Youth Network to organize a very successful marine debris scavenger hunt and family beach day. The discussions we had with the youth to get them more involved in beach cleaning, was fun and a good learning experience. within the first week I had learned so much about not only our oceans, but also I gained better communication, leadership and computer skills which will help me as I advance my high school and career goals."We also organized shoreline clean ups in Conne River, Harbour Breton and Marystown."

Jillian Gullage also worked at NAIA this summer and completed her eight-week work term while researching the different areas of the aquaculture

ad Another Busy Summer

The Marystown annual clean up was another great success again this year.

industry. Jillian will start her third year of the Marine Environmental Technology program at the Marine Institute in September. She assisted with the planning and organization of the Marystown shoreline cleanup, and NAIA's upcoming Cold Harvest conference by creating advertisements and promotional material and was able to meet and speak to people from multiple different companies. She attended Marystown clean up on August 15th and also visited Grieg Seafood NL's River monitoring site at Bay de l'Eau. "Growing up, I always had an interest in the marine environment. I would love to continue a career in the aquaculture industry and gain further knowledge to work out in the field," said Jillian.

On behalf of the NAIA Board of Directors and staff, we would like to send out a special thank to Cassidy and Jillian for all their help this summer. Good luck on your future studies!

Also, thank you to the Town of Marystown, Town of Harbour Breton, Miawpukek Band Council, HBCYN, Youth Ventures, Grieg Seafood NL, Smallwood Crescent, the Marystown Green Team, Conne River Green Team, Tay Aus Diving, and Barry Group, for partnering with us on these shoreline clean events. We hope to plan more events later this summer.

CONTINUED NEXT PAGE

Staff of Aqua Sol lent a hand during the Marystown clean up as well.

NAIA Summer Students Had Another Busy Summer CONTINUED

The marine debris scavenger hunt in St. Alban's was a great success!

Staff and summer students from NAIA and the Bay d'Espoir CYN spent the afternoon at Jack House's Cove Beach in St. Alban's on August 8th and organized a youth marine debris scavenger hunt and various activities. Approximately forty people participated and collected one bag of debris. (Awesome!) Special thanks to Lisa and all the students who helped organize this great event! Marine debris is everyone's concern and together we can make a difference!

McKenzie Tibbo posing with his kayak that he was happy to win at the Conne clean up.

Skretting Canada East Unveils Breakthrough: 41% Fat Salmon Feed for Optimal Growth and Efficiency

In a remarkable stride towards sustainable aquaculture, Skretting Canada East has made waves by developing cutting-edge technology and technical expertise to produce a groundbreaking 41% fat salmon feed. The first in North America to do so. This achievement promises to bring a host of benefits to the Canadian aquaculture industry, with significant positive impacts on fish growth and feed efficiency.

The latest development centers on the increased fat content of the salmon feed, which amplifies the energy levels provided to the fish. This energy boost translates to heightened growth potential, enabling salmon to thrive and reach their full potential more efficiently. Not only does this innovative feed bolster the health and size of the salmon, but it also holds promising implications for the industry's environmental footprint and decreasing the need for marine ingredients.

By enhancing the efficiency of feed utilization, this novel 41% fat salmon feed provides more energy per serving, allowing less feed needed to get fish to harvest size. As a result, fish farmers can maximize their yields while minimizing waste, making the process not only more cost-effective but also more sustainable.

Skretting Canada East's commitment to advancing aquaculture technology showcases their dedication to responsible practices and innovation. This breakthrough marks a significant step forward in the industry's pursuit of sustainable and efficient fish farming methods. As this technology continues to be implemented on a broader scale, it brings hope for a more prosperous, and environmentally conscious, future for aquaculture.

Fostering Ocean Careers With Local Youth: An Investment In Our Future

By: Kata Valderrama, Grieg Seafood Newfoundland

The career choices and paths for youth today are wide and varied. Often young people are not even aware of some of the options that may be available to them, sometimes even in their own backyards of small outport communities in Newfoundland. Grieg Seafood Newfoundland (GSN) in collaboration with Oceans Advance (https://oceansadvance.net/) and Ocean Careers Immersion Program (https://www.oceancareersnl.net/) recognize the importance of engaging our youth in these opportunities. Two local youth, Beth Mayo and Tyler Mitchell, were sponsored this year for a summer internship with the Atlantic salmon company, GSN in Marystown, Newfoundland.

Instead of lounging or taking lazy afternoon naps, Beth and Tyler chose to spend their summer working with GSN's Health team, a group dedicated to monitoring and maintaining the health and welfare of the fish. Over the course of the summer, both students immersed themselves in multiple tasks. They participated in the welfare monitoring of the fish at the sea sites, supervising fish transfer from land to sea, routine health samplings, and even cared for the baby salmon eggs in the company's hatchery.

Beyond their work, Beth and Tyler formed close bonds with their colleagues. They shared stories and laughter during lunch breaks, discovering a sense of camaraderie that made their daily tasks even more enjoyable. They quickly realized that their efforts, no matter how small, contributed to a bigger cause. They learned invaluable lessons about sustainable aquaculture, salmon welfare, and the importance of teamwork. In the end, Beth and Tyler's summer has been more than just a job; it has been a stepping stone into a world of possibilities. As Beth says: "Everyday I go to work, I learn something new. I get to learn from people of all ages and backgrounds who deeply understand the aquaculture field. I've always had a great passion for biology, and this internship has only deepened my love for this science and significantly increased my interest in marine biology. This experience has also helped me narrow some of the career pathways I have been considering and has shown me that hands-on work is where I find the most joy. Working at Grieg has pushed me out of my comfort zone in the best way possible and has helped me become more assertive." Likewise, Tyler said "Throughout my internship I was treated like a regular employee and expected to do my job and pull my weight, I truly was a member of the team. Seeing all stages of salmon farming was an experience of a lifetime. It has opened my eyes to possibilities of careers for me when I graduate high school."

Clearly, investing in our youth by hosting such internships is so important to ensuring we provide our youth a view into the wonderful career opportunities that can exist in our industry and communities. Grieg Seafood is proud to be a part of these internships, fostering ocean careers and investing in youth.

eventmobi

Cold Harvest 2023 OFFICIAL EVENT APP

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THE FISHING VESSEL SAFETY DESIGNATE PROGRAM

COMING YOUR WAY SOON!

Check out **The Newfoundland and Labrador Fish Harvesting Safety Association's** social media and website for updates on the launch of our new online training program!

www.nlfhsa.com

NL-FHSA

FISH HARVESTING SAFETY ASSOCIATION

Cold Harvest 2023

NEWFOUNDLAND AQUACULTURE INDUSTRY ASSOCIATION

28th Annual Conference & Trade Show

Aquaculture: The Future of Responsible Food Production

DELTA HOTEL ST. JOHN'S, NEWFOUNDLAND AND LABRADOR, CANADA • SEPTEMBER 5-7

NAIA REGISTRATION DESK HOURS
Tues. Sept 5th, 8:00 am - 8:00 pm
Wed., Sept 6th, 8:00 am - 5:00 pm
Thurs., Sept 7th, 8:00 am - 5:00 pm

TRADE SHOW EXHIBITS

Trade Show Set Up:
Tues., Sept 5th, Noon – 5:00 p.m.
Trade Show Hours:
Tues., Sept 5th, 7:00 p.m. – 9:00 p.m.
Wed., Sept 6th, 8:00 a.m. – 5:30 p.m.
Thurs., Sept 7th, 7:30 a.m. – 2:00 p.m.

All nutrition breaks will take place in the Trade Show area in Salon A and the foyer area. Please show your support by visiting these areas. Exhibit spaces must be completely cleared by 2:00 pm on Thursday, Sept 7th to prepare for the Gala Banquet.

STUDENT FUNDRAISER
We've changed things up this year! Instead of the annual Dr. Joe Brown Silent Auction we will hold a 50/50 fundraising draw throughout the event. Be sure to drop by the registration desk to purchase your ticket! Thank you for your continued support and good luck!

SOCIAL EVENTS

NL KITCHEN PARTY AT O'REILLY'S
Join us on Wednesday evening, Sept 6th at 7:00 pm at O'Reilly's Newfoundland Irish Pub located at 13 George Street, St. John's, NL. Join us for a Newfoundland Kitchen Party. Tickets include one beverage, fish and chips, appetizers, and live entertainment. (Tickets must be purchased in advance - available at registration)

GALA BANQUET
The Gala Banquet will take place at the Delta Hotel on Thursday, September 7th. (Cocktails at 6:30 pm/Dinner at 7:00 pm). Meal includes NL Organic Blue Mussels, Atlantic Salmon, Vegetables, Dessert, Tea/Coffee. RSVP required.

NAIA ANNUAL GENERAL MEETING
The NAIA AGM for NAIA members will be held on Wednesday at 12:40 p.m. at the Delta Hotel. Lunch will be provided for those in attendance.

SPECIAL THANKS TO OUR COLD HARVEST PLANNING COMMITTEES
Chris Hendry - Fisheries and Oceans Canada, Gail Hoskins - NL Department of Fisheries, Forestry and Agriculture, Stephanie Synard McInnis - NL Department of Fisheries, Forestry and Agriculture, Laura Halfyard - Connaigre Fish Farms, Lori Kennedy - Atlantic Canada Opportunities Agency, Sheldon George - Cold Ocean Salmon, Jonathan Gagne - Enterprises Shippagan Ltd., Jamie Baker, Darrell Green, Roberta Collier, and Jackie Richards, NAIA.

PROGRAM COMMITTEE:
Steve Crewe - Town of Hermitage - Sandyville, Roy Drake - Town of Harbour Breton, Jonathtan Kawaja - NL Department of Fisheries, Forestry and Agriculture, Sheldon George - Cold Ocean Salmon, Amy Negrijn - Mowi Canada East, Ellen Careen - Fisheries and Oceans Canada, Cyr Couturier - Marine Institute of Memorial University Lesley Clark - Skretting Canada East, Dr. Laura Halfyard - Connaigre Fish Farms, Dr. Jillian Westcott - Marine Institute of Memorial University, Candice Way - Grieg Seafood Newfoundland and Darrell Green - NAIA.

PLEASE SEE THE CONFERENCE INSERT FOR THE COLD HARVEST 2023 PROGRAM AND HIGHLIGHTS

KEYNOTE PROFILE

Wednesday, September 06, 2023 | 9:45 a.m. (SALON B / C / D)

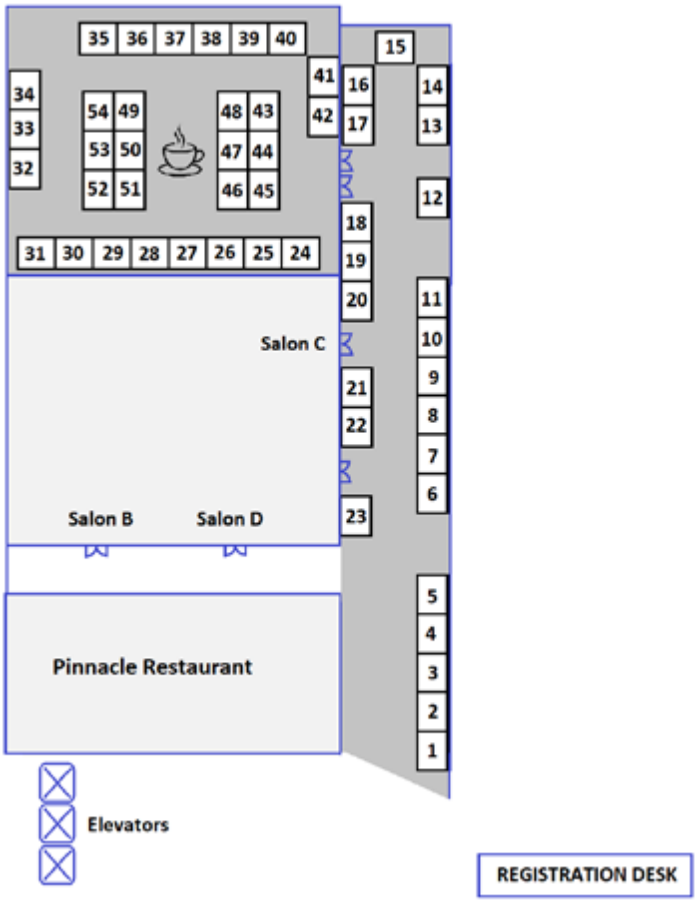
Dr. Halley Froehlich

University of California, Santa Barbara

Sustainability of Aquaculture Under a Changing Climate.

Insights on climate change knowledge gaps and food sustainability. Learn how impact mapping and adaptive strategies - from genetics to spatial planning - will help aquaculture remain sustainable into the future.

DELTA HOTEL - FLOOR PLAN AND TRADE SHOW



COLD HARVEST 2023 EXHIBITOR PROFILES

Aqua Life Products - Magic Valley
Booth #1
Exhibitors: John Bulow and Kyle Gutknech
www.aqualifeproducts.com

The Aqua-Life Products line has been designed and mfg. by Magic Vally Heli-Arc since 1975 giving the Aqua-Life team extensive experience in the safe handling of all live aquatic species within the Aquaculture Industry. Whether the application is for Land Based Hatchery or Grow Out, complete RAS movement design, or Ocean Farm movement such as bathing, transfer, ands harvesting, Aqua-Life has the solutions. From the Worlds #1 rated Fish and Shrimp transfer, counting, grading, and harvesting systems, to the extensive Aqua-Life fish pump line offering 37 models of both submersible and non-submersible pumps. Aqua-Life systems are currently in operation in 38 countries Worldwide and are backed by a network of 14 Distributors. Aqua-life systems are currently in operation innovating to meet the needs of todays growing Aquaculture.

Wolseley Canada
Booth # 2
Exhibitors: Chris Mayo and Kirk Stokes
www.wolseleywaterworks.com

Wolseley is your one-stop shop for HDPE Pipe, Fittings, Equipment, Fusion Training as well as Waterworks and Industrial PVF. From onsite fusion services to customized fabricated pipe systems, our highly trained associates are dedicated to your projects from start to finish. Discover our complete offering of products and services by partnering with us on your next project.

AKVA Group North America
Booth #4
Exhibitors: Brian Bosien and Matti Rautio
akvagroup.com

Pioneering a better future
AKVA group is the world's largest supplier of solutions and services to global aquaculture. Driven by passion, commitment, and a deep understanding of the complexity in our industry, we can solve the most advanced challenges at sea and on land and contribute to making aquaculture more sustainable. The will to pioneer a better future has been the driving force for AKVA group since our inception in Norway over 40 years ago. We are present in all the worlds markets with offices in 11 countries and employees from 39 nationalities.

Merck Animal Health
Booth #5
Exhibitors: Jackie Zimmerman and Liam Peck
www.merck-animal-health.ca

Merck Animal Health is a research-driven company that develops, manufactures, and markets a broad range of veterinary medicines and services and technologies. We offer one of the industry's most innovative portfolios, spanning products for the prevention, treatment, and control of disease in all major farm and companion animal species.
Merck Animal Health helps aquaculture producers and conservationists cultivate and maintain healthy and sustainable aquatic ecosystems. Our industry-leading biopharmaceutical and technology solutions monitor for insight, optimize for precision, and benchmark for performance.

Hoskin Scientific
Booth # 6
Exhibitors: Natalia Lecki and Jon Fajans
www.hoskin.ca

For over 75 years Hoskin Scientific has provided expert consultative support to find the right product to fit your application needs. Whether you require monitoring or testing instrumentation, rentals, or service, we are where you need us to be across Canada.
Our Environmental department provides sampling and monitoring instruments for air, water, and soil for the environmental, aquaculture, agricultural, mining and forestry markets.

Fisheries and Oceans Canada
Booth #10
Exhibitors: Kim Marshall and Kim Hobbs

The Aquaculture, Biotechnology and Aquatic Animal Health Section is within the Environmental Sciences Division of the Science Branch of DFO NL Region. The section has a tea m of scientists, biologists, technicians and students who conduct research on aquaculture interactions, oceanography, aquatic animal health and genomics. The section is stationed in St. John's. Scientific research conducted by the section is directed toward providing information and advice to the aquaculture industry through research and development projects and input into regulatory needs while supporting sustainability of the industry. Projects are conducted in close collaboration with major universities and organizations such as the Fisheries and Marine Institute Memorial University, Atlantic Veterinary College – University of PEI, NAIA, the Provincial Department of Fisheries, Forestry and Agriculture, and other DFO regions as well as the members of the aquaculture industry throughout the Province.

Enterprise Shippagan Ltd.
Booth # 13-17
Exhibitors: Jonathan Gagne, Trevor Chiasson, Adam Chiasson
www.entship.ca

Entreprises Shippagan Ltd. has established itself as one of the major wholesale distributors to the commercial fishing, aquaculture and marine industries in Canada.
Our company's head office and main warehouses, are located in Shippagan, NB. We also have warehouses and sales offices in NS and Mount Pearl, NL. In 2000, we formed a new company called Sea-Alex Inc. to provide and manufacture products used in the growing and cultivation of oysters, mussels, salmon and other aquatic species.
In 2002, we formed a third company called International Seafood and Bait Ltd. In 2009, we expanded Sea Alex Inc to include the Sea Alex Buoys product line. This was done to provide a premium HDPE plastic buoys line into today's market.
Entreprises Shippagan Ltd. is proud of the long-term commitment shown to our distributors. This loyalty is often reciprocated and is evidenced by continual support for many years from long-time clients. We appreciate our customers and are grateful for the part they have played in our success.

Saeplast Americas
Exhibitor: Mark Crandall

For over 40 years, Sæplast has been the aquaculture world's passport to quality material handling containers and pallets, serving Atlantic Canada from our manufacturing facility in Saint John. New Brunswick. Saeplast products are designed with sustainability in mind and we strive to share our knowledge and innovation with our Aquaculture partners to produce designs that shows care for employees and care for the world we live in with our sustainability initiatives. Being collaborative and partnering with Aquaculture companies, Saeplast looks to be the helping hands that will assist in success of our industry partners.
As a leader in the design and production of handling containers, pallets, and wheeled buggies, Saeplast offers innovative solutions that align with the goals of sustainability-conscious businesses. Saeplast products are designed for reuse and can withstand rigorous handling, transportation, and storage requirements of the Aquaculture Industry without compromising performance. To add on to our commitment to sustainability efforts, Saeplast has launched a repair service that will assist in extending the life of existing products.

Sevaen Apparel
Exhibitor: Sean Sturge

SEVAEN is Canada's leading designer and manufacturer of foul weather gear. For almost 40 years, SEVAEN has been keeping workers safe and dry in some of the world's harshest climates. From aprons and sleeves to bib pants, jackets, and coveralls, SEVAEN Workwear relies on decades of research and customer collaboration to build high quality protective workwear. Work in the rain? Trust SEVAEN.

Euronete
Exhibitors: Salvador Castro and Alcindo Lopes

Euronete has a worldwide leadership position through the production and distribution of netting, steel wire and fibre ropes. In 2012, WireCo WorldGroup acquired Euronete joining its family of brands and giving numerous value-added products to the WireCo portfolio. WireCo WorldGroup, a global manufacturing and technical leader in its industry, provides a consultative selling approach to offer customers a single, reliable source for solutions that fit their specific application and budget needs as well as education and expertise that enhances value. With this position in worldwide markets, Euronete can provide a fast and efficient service to all its customers worldwide.

Port of Argentia
Booth #11
Exhibitor: Ray Greene
www.portofargentia.ca

Port of Argentia is an ice-free, deep-water seaport providing supports to key industry sectors such as aquaculture, renewable energy, mining, offshore oil, and marine transportation. Strategically located near the main shipping lanes between North America and Europe, Argentia offers domestic and international container shipping and a wide range of marine, and shoreline supports, including crane and tucking services, stevedoring, storage facilities and laydown yards. The Port offers well-maintained infrastructure alongside 430 metres docking facilities with up to 11 metre draft, over 3000 acres of industrial zoned uplands, and a suite of buildings suited for storage and light manufacturing. Argentia is playing a key role in the global energy transition as North America's first monopile marshalling port in support of US offshore wind and is the site of a proposed 300-megawatt wind energy development and green fuels production and distribution facility.

COLD HARVEST 2023 EXHIBITOR PROFILES

Sandale Utility Products
Booth #12
Exhibitors: Lucas Whelan and Shawn Dowling
www.sandale.ca

Sandale Utility Products has been a large supporter of the aquaculture industry in Canada, having completed projects both in saltwater and freshwater sectors. Sandale is committed to becoming a business for everything HDPE, which includes the fusion equipment and certified technical services/training to assist with the installation and fabrication of products on your jobsite. Our success is in the quality of our products and the knowledge and service of our people. Sandale Newfoundland has the capability to assist any of your aquaculture piping needs. Contact us today to work together on your next project.

Deep Chill Solutions Inc.
Booth #18
Exhibitors: Kyle Morrison and Zeiad Elaarag
www.deepchill.com

Founded in Canada in 1978, Deepchill Solutions Inc. (previously known as Sunwell) has pioneered and continues to be the world leader in the field of slurry ice production, storage, and distribution systems. Deepchill® Solutions Inc. enables aquaculture companies all around the world optimize their operations and improve product quality by harnessing the power of Deepchill® for superior preservation performance. Deepchilling is a highly advanced cooling and preservation process that enables farmers get the most out of their production, improve product yield and increase shelf life.

Optimar
Booth #19
Exhibitors: Per Vidar Lange and Martin Karlsen
www.optimar.no

Optimar is a global leader in automated fish processing solutions for the use onboard fishing vessels, on land basic facilities and in aquaculture. These solutions are installed as turnkey projects, either independently or in connection with third-party products. As a full-service provider, Optimar offers complementary software products and service.
Optimar offers technology in robotization and automation and provides fish handling solutions and processing equipment for all species. As a system integrator we provide the time, talent and technology required to turn your vision into reality.

Oceanside Equipment Newfoundland Ltd.
Booth #23
Exhibitors: Vincent Penton and Nicole Slade
www.oceansideequipment.ca

We are Oceanside the global distribution and manufacturing of rigging equipment, as well as the design, engineering, supply, installation and storage of certified equipment and accessories for the Aquaculture, construction, energy sector, fishing, & mining.

360 Marine Ltd.
Booth #24
Exhibitors: Fabian Manning and Makala Butler
admin@360marine.ca

360 Marine Ltd. is a locally owned and operated service provider to the marine and aquaculture industry across Atlantic Canada, providing complete solutions and supports year-round. Our array of vessels, equipment, land-based service locations and our experienced dedicated team, strategically positions us to provide the best possible services across the surrounding industries. We strive to create the solutions to the challenges our clients face to ensure we provide a hassle-free experience both from land and sea each step of the way. Local experience, local knowledge, and local dedication.

Fisheries and Oceans Canada
Booth #25
Exhibitors: MacGregor Parent and Lynn Lush
www.dfo-mpo.gc.ca

The Aquatic Invasive Species (AIS) National Core Program works to stop the spread of AIS through the four management pillars of prevention, early detection, response and control and management. This is done through consistent reporting, engagement, awareness, education, collaboration and building partnerships with all types of industries, groups, and governments. Aquaculture is an industry that can be heavily impacted by the spread of AIS, but by raising awareness about the negative impacts of AIS through education and outreach, these impacts could be minimized. Visit the booth to learn how you can best prevent the spread of AIS in NL and what to do if you encounter an AIS.

COLD HARVEST 2023 EXHIBITOR PROFILES

Skretting Canada Inc.
Booth #26
Exhibitors: Lesley Clark and David Seeley
www.skretting.ca

Skretting is a global leader in providing innovative and sustainable nutritional solutions and services for the aquaculture industry. Skretting has production facilities in 18 countries on five continents and manufactures and delivers high quality feeds from hatching to harvest for more than 60 species. The total annual production volume of feed is more than 3 million tonnes. The head office is located in Stavanger, Norway. Skretting is the aquaculture division of Nutreco, a world leader in animal nutrition. Our purpose is Feeding the Future.

Proax Technologies Limited
Booth #27
Exhibitors: Rick Neave and Mathieu Tardy
www.Proax.ca

Proax Technologies Limited is an automation company which we represent several leading brands for the industry. We also have partnered up with kaeser Canada and Airsep Oxygen Generation as an authorized distributor for Atlantic Canada to supply complete packages for the Aqua culture industry.

Marine Institute of Memorial University of NL
Booth #28
Exhibitors: Sandra Badcock and Yuliia Holubnycha
www.mi.mun.ca

As a campus of Memorial University of Newfoundland, the Fisheries and Marine Institute (MI) is Canada's most comprehensive centre for education, training, applied research and industrial support for the ocean industries. MI provides more than 30 industry-driven programs ranging from technical certificates to PhDs, and has an extensive history with aquaculture programs, including a graduate diploma in aquaculture short training courses and community-based learning opportunities. Marine Institute has collaborated with the Canadian Agricultural Human Resource Council to develop and deliver a suite of training courses for new entrants, career changers and current aquaculture professionals to develop the Canadian aquaculture workforce of the future. For more information, visit our booth or www.mi.mun.ca/ aquacultureCAN.

Town of Grand Falls Windsor
Booth #29
Exhibitor: Stanley Singh
www.grandfallswindsor.com

Grand Falls-Windsor is an important business, health, and social hub in Central Newfoundland. Located right along the Trans Canada Highway it is one of the largest towns in Newfoundland. The community is an important service hub for the aquaculture industry. Grand Falls-Windsor is serviced by two airports, Gander International Airport, one hour east and Deer Lake Regional Airport, two hours west. With a strategy for business attraction and retention, Grand Falls-Windsor encourages business partnerships and provides significant opportunity for commercial development with fully serviced industrial parks and ease of transportation.

Trinav
Booth #30
Exhibitor: Kerry Hann
www.trinav.com

The TriNav Group of Companies consists of marine consulting firms which provide diverse and comprehensive services, including Brokerage, Naval Architecture, Surveying, Project Management, Fisheries Consulting, Information Technology and Publishing. The companies are located in St. John's, Newfoundland and Labrador, Halifax, Nova Scotia and Massachusetts, USA. Employing a team of qualified professionals, the TriNav Group can respond to the changing needs of the marine business community in an efficient and cost-effective manner while providing customized solutions for each situation. The companies were built on providing services to vessel owners, fish processors, government agencies, insurance companies, underwriters, boat builders and participants in the marine industry as a whole. The TriNav Group of Companies takes pride in delivering personal, prompt, reliable and top-quality services.

Whale Release and Strandings Program NL
Booth #32
Exhibitors: Cateline Landry, Julie Huntington and Wayne Ledwell
www.newfoundlandlabradorwhales.net

Whale Release and Strandings is a non-profit group that responds to whale, leatherback sea turtles and basking sharksentrapped in fishing gear, ice entrapped or stranded on the shoreline.
The group also conducts research projects and provides education outreach to fishers, community groups and schools on marine animal life in Newfoundland and Labrador waters.

Scale AQ
Booth #33
Exhibitors: Conor Foster & Tor Bjerve
www.scaleaq.com

ScaleAQ is a leading global technology provider, supplying and manufacturing complete aquaculture sites across 40+ countries. With offices in Norway, Scotland, Poland, Iceland, Chile, Canada, Tasmania, and Vietnam, and a workforce of around 900 employees, ScaleAQ is dedicated to sustainability and biology, playing a proactive role in developing technology that aligns with biological and environmental principles.
By delivering cutting-edge, sustainable, and innovative technology, infrastructure, and services, ScaleAQ drives advancements that prioritize the well-being of biology and the environment.

Department of Immigration, Population Growth & Skills
Booth #34
Exhibitors: Geoff Newman and Sarah Thompson
www.gov.nl.ca/ipgs

The Department of immigration, Population Growth and Skills (IPGS) has a mandate to ensure the province has skilled workers for our growing economy. This is achieved through a spectrum of programs and services in support of employers and workers assisting with immigration, training, wage subsides, apprenticeship and connecting employers to workers.
IPGS is committed to increasing the immigration target from 1,700 to 5,100 newcomers per year by 2026 in order to help fill current and future employment needs. Employers are encouraged to work with IPGS offices to help find workers and applicable employment and training programs to strengthen their labour force.

Badinotti Group
Booth #35 & 36
Exhibitors: David McKeen and Dave Hall
www.badinotti.com

At Badinotti Group, we deliver integrated solutions for secure fish containment needs around the world. What started as a family business over 100 years ago has grown into a global company with three business units and a versatile, multicultural, professional, and committed team. We have the widest array of containment solutions and offer all necessary consulting services to support clients in choosing the best product depending on their operational strategy, maintenance service, and traceability analysis. Our core service elements are reliability, delivery of integrated solutions, sustainability, and global experience with a local presence.

Deep Trekker Inc.
Booth #37
Exhibitors: Kelly Lefler and Andy Lawrence
www.deeptrekker.com

Deep Trekker designs and manufactures underwater ROVs and surveillance cameras for regular inspection and site monitoring. Take control of your net inspection and ensure effective cleaning and monitoring using the new Photon ROV and DTPod. Our underwater robots make pen and net inspections part of your daily routine, detect wear and tear that can cause fish escapes, and monitor stock health and behaviour. All Deep Trekker units are battery operated and fully portable without the need for gas-powered generators or on-site power, ensuring no risk of contamination to the site environment.

ROMOR Ocean Solutions
Booth #40
Exhibitor: Darrin Verge
www.romor.ca

For Ocean Instrumentation and Equipment ROMOR is Canada's technology problem solver in Marine, Freshwater, and Ocean environments. ROMOR delivers solutions for scientists, engineers, and technology innovators who deploy complex systems in challenging aquatic environments. We have over 40 years of experience consulting with customers engaged in Environmental Monitoring, Fisheries, Renewables, Defense and Scientific Research.

Pennecon
Booth #: 38-39
Exhibitors: Stephanie Gruchy, Eddy Knox, Brad MacRae, and Mark Whalen
www.pennecon.com

Pennecon services & maintenance prides itself on possessing a deep technical capability, backed by a breadth of experience, and the ability to solve our client's most complex problems. Our employees are guided by a set of shared values which compels us to deliver the best solutions, service, and quality to our clients. Encompassing Pennecon Technical Services, Pennecon Hydraulic Systems, The Panel Shop, and Pennecon Maintenance Services, Pennecon's Services & Maintenance Division is well-positioned to provide a comprehensive suite of technical services, specialized solutions and supports to serve its extensive client base. With over 250 skilled technicians deploying from multiple locations across Atlantic Canada, backed by our technical sales and support teams, and with deep relationships and distributorships with key technology and equipment providers, Pennecon Services & Maintenance have capacity to respond to our client's every demand, 24/7/365. That's our commitment!

Our service offering includes:

- Full Lifecyle Asset Management Services
- Technical Field Services (on/offshore) – Electrical/Power, Controls & Automation, Cranes, Hydraulics, Pneumatic, Non-Welded Piping Systems, Mechanical and Rotating Equipment
- Breakdown Repair Services
- Engineered Repair Services, Shop Repair / Overhaul Services and Asset Life Extension Rebuilds
- Design and Manufacture of multi-discipline Turnkey Packaged Solutions
- Electrical Power Systems Services, and System Energization & Testing
- Control System Design & Development, Panel Fabrication and System Integration
- Specialty Diagnostic Testing Services
- Provision of Marine Deck Equipment, including Cranes, Winches, A-Frames and Davits
- Plant Pre-commissioning, Commissioning / Energization, and More

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BDC
Booth #41
Exhibitors: Jillian Benson and James Garland
www.bdc.ca

As Canada's bank for entrepreneurs, BDC is a partner of choice for all entrepreneurs looking to access the financing and advice they need to build their businesses and tackle the big challenges of our time. Our investment arm, BDC Capital, offers a wide range of risk capital solutions to help grow the country's most innovative firms. We are one of Canada's Top 100 Employers and Canada's Best Diversity Employers. For more information on BDC's products and services and to consult free tools, templates and articles, visit bdc.ca or join BDC on social media.

DSS Protection
Booth#42
Exhibitors: Max Ash and Nathan Balan
www.dssprotection.com

DSS Protection is a Canadian-owned and operated group of companies who provides lifesaving, environmental, and asset protection solutions to Canada's commercial and recreational marine and aviation industries. DSS Protection has four sales and service stations across Canada, each with highly trained and certified technicians. Our team of technical and logistical professionals work together to ensure customers maintain operational readiness. Contact us to find out exactly what you need.

The Newfoundland and Labrador Fish Harvesting Safety Association (NL-FHSA)
Booth #43
Exhibitors: Brenda Greenslade and Tina Pretty
www.nlfhsa.com

The Newfoundland and Labrador Fish Harvesting Safety Association (NL-FHSA) Incorporated is a not-for-profit organization established in 2012 to promote and improve all aspects of occupational health and safety, and where appropriate, return-to-work in the Newfoundland and Labrador fish harvesting sector.
The NL-FHSA represents a tremendous co-operative effort from the fish harvesting sector. The focus of the association is the creation of education and awareness programs for fish harvesters, relating to improved safety culture, increased accessibility and participation in safety education and training, development, dissemination, and exchange of information with harvesters and other industry stakeholders and improved compliance in the industry.

NLB Corp.
Booth #44
Exhibitors: Darrell Terpenning and Partrick Durrence
www.nlbcorp.com

NLB Corporation manufactures high-pressure water jetting equipment and accessories. They have built a solid reputation based on the design integrity and quality manufacture of its products. The firm's knowledge and experience in high-pressure water jetting is unsurpassed. NLB's long-lasting, highly durable pumps are demanded by many industries, and the aquaculture industry is certainly no different. Dedicated team members create solutions tailored to the needs of in-situ and on-shore net cleaners. NLB has designed and manufactured a series of pumps providing up to 275 bar (4,000 psi) and 800 lpm (212 gpm) of flow with the ability to interface with the leading head cleaning systems available, including the ability to run multiple cleaning heads simultaneously. As testimony to the quality of NLB net cleaning systems, NLB has received citations from several leading net cleaning corporations that have professed how NLB has found solutions to routine operation obstacles and improved efficiency.

Blue Green Canada Inc.
Booth #45
Exhibitors: Mark Lane and Nils Johan Tufte
www.bluegreengroup.no

Bluegreen Canada Inc., a division of Bluegreen Group based in Norway, maintains international expertise in thermoplastics and is the inventor and manufacturer of the Marine Donut, a closed containment system for salmon farming. Our competence, innovative mindset and our unique solutions enable us to support clients to improve efficiency and environmental performance. Our vision is to deliver the world's most environmentally friendly solutions for and in water - hence the name Bluegreen: "Green solutions for the blue water and air". We focus primarily on three industries, including, aquaculture, environmental technology (carbon capture) and traditional infrastructure (water distribution and renewable energy).

Biomar Ltd.
Booth #46
Exhibitors: Mike McLeish and Mikey Clarkson
www.biomar.com

BioMar is a global aquafeed company. We are innovators in high performance aquaculture feed dedicated to doing our part in creating a healthy and sustainable global aquaculture industry. BioMar operates 17 feed factories across the globe in Norway, Chile, Denmark, Scotland, Spain, France, Greece, Turkey, China, Vietnam, Costa Rica, Ecuador, and Australia. Worldwide, we supply feed to around 90 countries and for more than 45 different species. BioMar is wholly owned by the Danish industrial group Schouw & Co, which is listed on the NASDAQ, Copenhagen.

COLD HARVEST 2023 EXHIBITOR PROFILES

Work Global Canada Inc.
Booth #47
Exhibitors: Katrina Humeniuk and Wanda Cuff Young
www.workglobalcanada.com

Work Global Canada Inc. (www.workglobalcanada.com) is an Immigration and Recruitment
Company based in Atlantic Canada. Since 2012 we have provided pathways to economic growth
and development to cities and communities throughout the region. We provide full turn-key labour solutions through International Recruitment to Canadian Businesses, Canadian Immigration Services to foreign nationals.
We ensure a compliant process to source the right talent for your business. To meet the growing demand from Canadian employers we have established satellite offices in Saint John, New Brunswick, and Nova Scotia.

Tamal Industrial Rubber
Booth #48
Exhibitors: Allan Barnes and Tammy Barnes
www.tamalindustrial.com

Tamal Industrial Rubber is Newfoundland's premier hose and fittings supply company. Tamal Rubber maintains the largest inventory of hose and fittings for every application. We specialize in Aquaculture feed hoses, air hose, hydraulic hose, fish suction hose and much more. Tamal Industrial Rubber is the premier distributor for Continental Hose, the worlds largest hose manufacturer. Continentals quality is unsurpassed in the hose industry.

Government of Newfoundland and Labrador
Department of Fisheries, Forestry and Agriculture
Booth #50
Exhibitors: Stephanie Synard and Leonard House
www.gov.nl.ca/ffa

The Provincial Government works with industry and stakeholders to achieve sustainable economic growth in all sectors for the benefit of the people of Newfoundland and Labrador. FFA's mandate includes development and growth of renewable aquatic resources for optimum sustainable economic benefit, while maintaining ecological integrity; conservation and protection of inland fish and wildlife; and regulation, compliance and enforcement of animal health and protection, food safety, aquaculture, agriculture, fish processing, inland fish and wildlife, and forestry.

Innovasea
Booth #51
Exhibitors: Brynne Wrona and Kaeleigh McConnell
www.innovasea.com

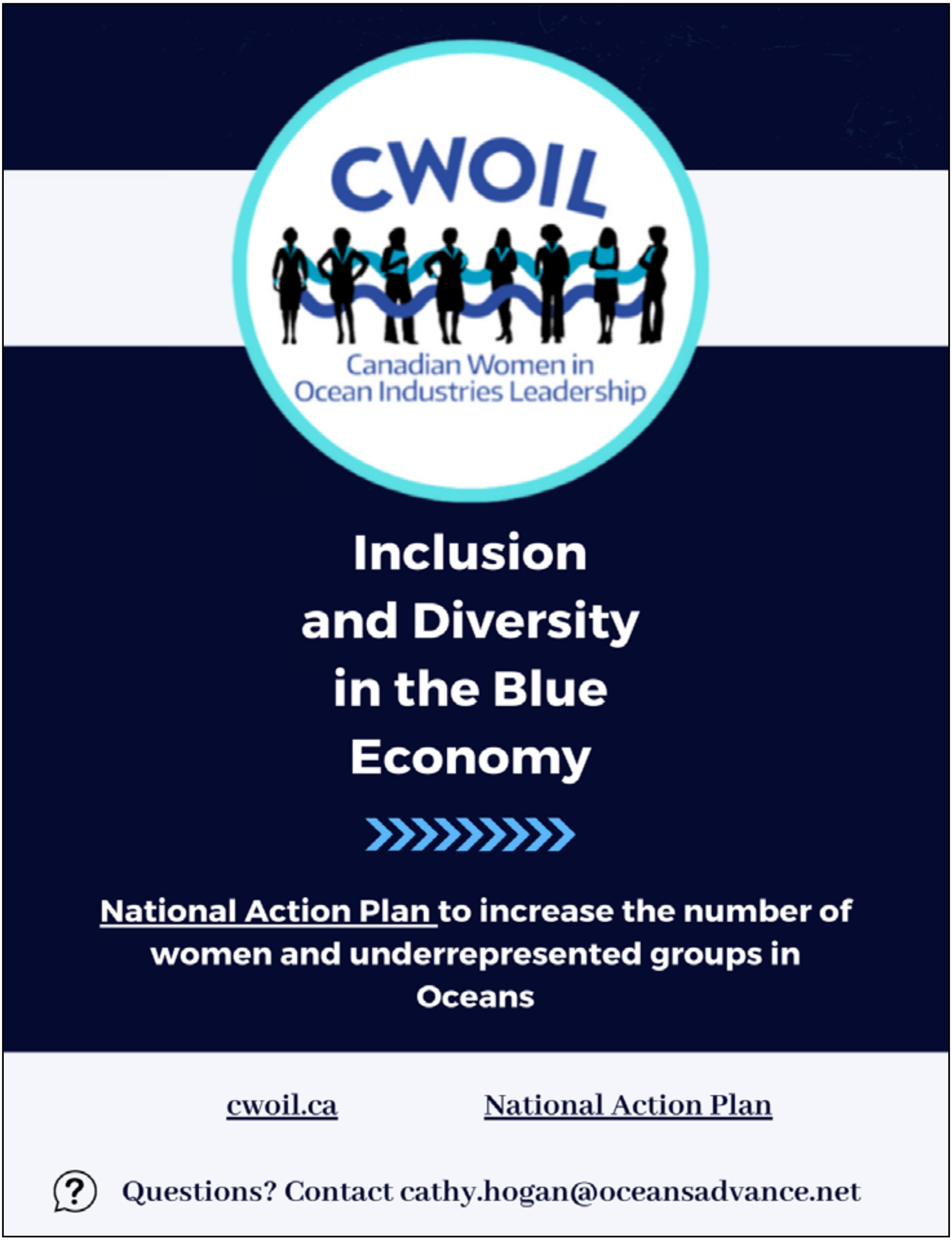
Fueled by leading-edge technology and a passion for research and development, Innovasea is revolutionizing aquaculture to make our oceans and freshwater ecosystems sustainable for future generations. With more than 275 employees worldwide, we provide complete egg-to-harvest solutions for fish farming.
Innovasea is at the forefront of data-driven aquaculture, providing unparalleled, real-time visibility into every aspect of a fish farm and enabling operators to make real-time decisions to protect fish stocks and optimize growth. Using a mix of sophisticated wireless sensors, high resolution cameras, artificial intelligence and cloud computing, our integrated solutions deliver unprecedented insights into how your farm is performing – and give you the ability to monitor and manage water conditions from the farm site or remotely.

Driveline Machine Shop
Booth #52
Exhibitors: Dean Lee and Mike Skanes
Email: drivelinemachineshop@hotmail.com

Established in 1989, Driveline Machine Shop stands as a trusted family-owned and operated business. Based in Goulds, Newfoundland, our comprehensive services cover engines, generators, heating systems, driveshafts, and transmissions. While rooted in Goulds, our reach extends across the entirety of Newfoundland. We pride ourselves on swift, high-quality assistance at fair rates—a reputation that resonates throughout the region. As authorized dealers for prestigious brands including Baudouin, Hyundai (formerly Doosan), Yanmar, and Cummins, we offer a spectrum of power solutions ranging from 10HP to 1650HP, multiple IMO 3 options. Experience dependable excellence with Driveline.

OXZO Technologies Inc.
Booth #53
Exhibitors: Benjamin Del Curto and Gonzalo Boehmwald
www.oxzo.cl

OXZO, is a Chilean company with a presence in Norway, Canada, and the United Kingdom, with more than a decade of experience, we specialize in delivering advanced technological solutions for oxygenation, air, and ozone applications for the aquaculture industry. Our team consists of proactive individuals with extensive expertise in the production and delivery of oxygen and ozone-based technologies.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Questions? Contact cathy.hogan@oceansadvance.net

Tri-X: Optimizing sterile Atlantic salmon culture through bespoke nutrition

By: Mikey Clarkson, Sales & Business Development Manager, Biomar

Recently, sterility in salmon has gained interest in the aquaculture industry due to the perceived associated advantages. Sterility in domesticated fish offers several benefits to biological performance including faster growth, bigger yield, and the avoidance of maturation which, in turn, maintains desirable fillet quality. Furthermore, the culture of sterile fish has positive implications on the environment such as the inability to interbreed with wild populations in the event of an escape and a requirement to spend less time at sea due to their faster growth potential. To unlock this, farming sterile triploid salmon can be a viable solution. However, it is important to meet the environmental and nutritional requirements that these fish demand.

BioMar, in collaboration with the Institute of Aquaculture, University of Stirling, developed the first triploid-specific diet in 2011 and continued to develop through extensive aquarium and field trials. Tri-X is designed to meet completely different requirements to those of standard, diploid, Atlantic salmon.

It is extremely important to ensure the mineralization of the fish's bone structure is optimal to support faster growth and increased muscle mass and function. Understanding how the bone develops from the earliest stages of life played a key role in determining inclusion of relevant minerals. Similarly, an adequate amount of essential vitamins are necessary in the formulation to support the contrast in immune function and metabolic processes possessed by triploid fish. Essential amino acids, the building blocks of proteins, are indeed also important playing a role in growth, development, and health throughout the body. Our research demonstrated a difference in utilization of particular components and consequently the Tri-X range was designed to provide the necessary supply for triploid salmon.

Triploid salmon have shown to have corresponding specific requirements from first feeding through to harvest size. The essential feed components that are included in the Tri-X range operate individually and together to ensure a healthy development of the fish throughout the life cycle and ultimately achieving the highest level of harvest classification.

The promising benefits associated with culturing triploid salmon are clearly very attractive. Understanding their specific nutritional, environmental and husbandry needs will allow producers to realize the potential of triploid salmon in aquaculture.

A TRIBUTE TO AQUACULTURE PIONEER

A.M. (Arnie) Sutterlin

Figure 1: First net pen of salmon for growth trials off Deer Island, NB, in 1978. Photo courtesy A. Mackay.

By: Cyr Couturier (with contributions by T. Benfey, G. Fletcher, B. Glebe, D. Stevens, D. Runigham, A. MacKay)

Dr. A.M. Sutterlin passed away peacefully in July 2023 at his home in Souris, PE, just shy of his 85th birthday. He is survived by his wife Melitta (of Bay d'Espoir NL) and daughter, Nancy (Sutterlin) Clements and grandchildren, Cape Breton, NS.

Arnie, as he preferred to be called, was a true pioneer in the Canadian aquaculture scene. He will be remembered for his curiosity, wit, intellect, and by most, for that impish look in his eyes with pending humorous outcomes to follow.

Figure 2: Arnie with male broodstock at the original Bay d'Espoir hatchery in Camp Boggy, St. Alban's, NL. Photo courtesy T. Benfey.

His curiosity is what drove him, in my view. It occasionally got him into trouble, as he once confided that he spent some time in reform school during his formative years for being "too inquisitive", but that did not deter him from pursuing a PhD and postdoctoral fellowship in fish physiology in the 1960s and feeding his curiosity further. The true essence of Arnie was to drive that curiosity with passion, towards finding solutions to grow fish and support the people who grow them. He had come to love the coast and nearby oceans during his early days in Maine, USA.

He began his fish career in the early 1970s at the St. Andrews Biological Station (SABS), then part of the Fisheries Research Board of Canada, working as a fish physiologist with scientist Dr. Dick Saunders, and then Director Dr. John Anderson. Arnie's main job was to find ways to allow the restocking program operated by the International Atlantic Salmon Foundation (IASF; now the Atlantic Salmon Federation) to improve returns to Bay of Fundy rivers. Afterall, the newly constructed dams in Mactaquac and nearby rivers were causing some distress in wild fish populations, and hatcheries were built for enhancement purposes.

Throughout the 70s Arnie and colleagues experimented with various salmonid hybrids, better ways to promote smoltification, and basic protocols for growing salmonids. The Norwegians had been working with Saunders at SABS on smolt physiology in the 1960s and began to develop salmon farming in the 1970s. So, naturally Arnie spent some time teaching and researching aquaculture in Norway from 1976-1978 on an exchange program, where he learned a little more about this new activity, salmon net-pen farming.

Arnie returned to the SABS in the late 1970s and transferred some of the excess smolts from the government stocking program to Deer Island where a young local biologist, Art Mackay, had secured a grow-out location for the fish (Figure 1) and had been advocating for farming for several years. Working with

his technician Gene Henderson and Art, they were able to produce Canada's first ocean-raised Atlantic salmon by the late 1970s, and so it began.

Arnie was offered a position as scientist at Memorial University's Marine Science Research Laboratory (MSRL) in the late 1970s to help develop finfish and shellfish aquaculture there. A place where he could apply his craft and curiosity to developing finfish aquaculture in Newfoundland (he hired me in 1981 to take over the duties for shellfish development).

Before leaving Memorial in 1984, to be with family and work for DFO Ottawa, Arnie had demonstrated with his graduate students and the Miawpukek First Nations that Atlantic salmon could be grown and overwintered on the south coast of the island of Newfoundland, a place with unique oceanographic conditions. During this same time at the MSRL, Arnie began developing sterilization techniques for trout and salmon with his MSc student T. Benfey leading those efforts, developed the first RAS system using ozone in Canada for raising salmonids, developed artificial baits for cod longlining, conducted experiments on improving fry diets with a post-doc (L. Clarke), and so on. At about the same time in the early 1980s, Arnie was still concerned about growing salmon in the cold waters of Newfoundland, and thereby encouraged MSRL colleagues G. Fletcher and Choy Hew to undertake the world's first gene transfer of winter flounder antifreeze protein into the Atlantic salmon genome.

The lure of development brought Arnie back to Newfoundland in 1986 to begin construction of the first salmon hatchery at Camp Boggy next to the Bay d'Espoir hydro plant, near St. Alban's, NL, the thought being the warmer spill water could increase growth of the fish to smolt size (Figures 2 and 3). John Holder was hired by Arnie to construct the hatchery and become its first manager. Meanwhile Arnie continued to assist local entrepreneurs in developing net-pen technology as well as hatchery-nursery technology through the 1980s. Following this, he did a stint in Indonesia and South-East Asia before being recruited to A/F Protein Inc. in the early 1990s by Dr. Fletcher, the patent holder on AquAdvantage transgenic Atlantic salmon, containing a Pacific salmon growth hormone in its genome.

Arnie moved to PEI to assist in the research and development of A/F Protein's broodstock, development of all-female triploids, and further developing RAS technology for land-based salmon farming. A/F Protein Inc. eventually traded as AquaBounty Farms in the early 2000s and later to Aquabounty Technologies to begin the long arduous process of seeking approval to farm GM salmon for food with the U.S. Food and Drug Administration (FDA) and with Health Canada and Canadian Food Inspection Agency. All the while, Arnie was involved in mentoring graduate students (Cogswell and Cook) at the facility, as well as staff, working on husbandry improvements for the fish and developing improved methods for farming overall (Figure 4).

Arnie was a true pioneer in finfish aquaculture in Canada, and he spent some time on the Board of Directors of the Aquaculture Association of Canada in the 1990s, was a founding member of the Aquaculture Association of Newfoundland (AANF 1987) and was recognized in the early 2000s as the Atlantic Canada Aquaculturist of the Year. Arnie once told me he had little patience for "no-can-do attitudes and bureaucracy", and just to get on with it. His efforts certainly show how he excelled with this attitude, one many aspire to emulate. His exceptional development skills and willingness to go beyond the confines of the ordinary, as well as his curiosity, made for an inventive and productive career in Canadian aquaculture. Arnie will be missed by all those who knew him, and I am sure we will miss that twinkle in his eyes when coming up with a new idea or solution or concept to feed his curiosity.

Figure 3: With Arnie, it was always about the fish, shown here proudly holding a large female rainbow trout ready to spawn. Photo compliments D. Runigham.

Figure 4: Arnie with longtime friend, colleague and collaborator in PEI. Courtesy D. Stevens.

WOLSELEY Waterworks

Wolseley is your one-stop shop for HDPE Pipe, Fittings, Equipment, Fusion Training as well as Waterworks and Industrial PVF. From onsite fusion services to customized fabricated pipe systems, our highly trained associates are dedicated to your projects from start to finish. Discover our complete offering of products and services by partnering with us on your next project.

Located at: 9 Corey King Drive, Mount Pearl, NL

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WORK GLOBAL CANADA INC.
workglobalcanada.com

An Atlantic Canada Based Company Providing Full Turn-Key Labour Market Solutions to Canadian Employers and Viable Immigration Pathway Options to International Clients

We specialize in human resource solutions, international recruitment, and Canadian immigration. We have a dedicated team of multi-disciplinary and multi-lingual professionals and a core group of Regulated Canadian Immigration Consultants (RCIC) Canada wide. Our staff work with employers on a province-by-province basis to ensure regulated compliancy standards and provide the best available federal or provincial pathway options to you. Some of these pathways include but are not limited to: LMIA (Labour Market Impact Assessments, Provincial Nominee Programs (PNP), Atlantic Immigration Program (AIP), Francophone Mobility Program (except in Quebec), and Express Entry.

Our corporate office is located in St. John's, NL (69 Elizabeth Ave.) and to meet the growing demand from Canadian employers we have established satellite offices in Saint John, New Brunswick, Halifax, Nova Scotia, as well as international offices in the Philippines and India.

In July 2022, after the war in Ukraine started, we initiated a dedicated Ukrainian Support Program (USP). Ukrainian newcomers continue to arrive with wealth of skills and talent. With a 3-year open work permit, these skilled workers are ready to contribute to local employers.

Work Global Canada Inc. is offering staffing solutions specifically tailored to aquaculture companies in the Atlantic Provinces. With our extensive network and expertise in the industry, we are confident in our ability to provide highly qualified skilled staff to meet the unique needs of aquaculture related businesses with the shortest possible terms.

Aquaculture is a rapidly growing industry in the Atlantic Provinces and finding the right staff can often be a challenge. That's where we come in. We understand the specific requirements and demands of aquaculture operations, and we have a wide pool of talented professionals ready to fill various roles.

We've had great success working with aquaculture companies across the Atlantic provinces.

Visit our web site for more information

www.workglobalcanada.com


BioMar
Powered by Partnership
Driven by Innovation
BioMar are innovators in high performance aquafeeds, contributing to the sustainable growth of the aquaculture industry. Worldwide, we operate 17 feed mills, serving customers in around 90 countries for over 45 different species. With a rich history spanning over six decades, we ensure that customers receive tailored technical support in order to build strong, long-term partnerships.
Learn more at www.biomar.com

Innovasea Introduces Waterborne Feeding Solution that Improves Feed Conversion and Lowers Carbon Footprint

FlowFeeder™ is gentler on pellets than air-blown systems and enhances feeding regimens by minimizing lost feed days

Innovasea, a global leader in technologically advanced aquatic solutions for aquaculture and fish tracking, introduced FlowFeeder, a waterborne feeding solution that gently delivers feed to fish below the surface, minimizing pellet damage and loss that's common with air-blown feeding systems.

"FlowFeeder provides a better way to feed fish because it gets more pellets directly into the pen underwater," said Langley Gace, senior vice president of Innovasea. "Rather than blowing feed pellets onto the surface above the fish pen where they can drift away, FlowFeeder delivers the feed at the depths where fish prefer to congregate. That means less waste and better feed conversion ratios – one of the keys to profitability at any fish farm."

FlowFeeder is an end-to-end feeding solution that can deliver feed to multiple pens from a single, centralized point. It mixes feed pellets with water on the feed vessel and then gently carries the mixture into the pens.

The waterborne delivery system requires less power than air-blown systems and can reduce energy costs by up to 50 percent – with farms that use diesel generators to power their feeding operations shrinking their carbon footprint as a result. Waterborne delivery also reduces damage to feed pellets, which are often fractured when blown through pipes by an air compressor.

"Air-blown systems are messy and leave behind a lot of dust and oily feed residue in the pipes," said Gace. "That requires regular cleanings that drive up operational and maintenance costs and increase downtime on the feed vessel."

FlowFeeder features a proprietary feed dispenser that can be placed at the ideal feeding depth for the species – and it does a better job distributing the pellets throughout the pen for all fish.

Because the feed pellets are delivered at depth, FlowFeeder enables farm operators to feed even when there are heavy waves, strong currents or surface threats such as harmful algal blooms or sea lice. Not only does that keep fish stocks safe, it also significantly reduces the number of lost feed days to help keep growth targets on track.

FlowFeeder can be used with Innovasea's submersible fish pens as well as traditional surface pens from other manufacturers. It can also be paired with BiomassPro and Innovasea's feed optimization technology to further improve feeding processes and maximize growth rates.

"Rather than blowing feed pellets onto the surface above the fish pen where they can drift away, FlowFeeder delivers the feed at the depths where fish prefer to congregate. That means less waste and better feed conversion ratios – one of the keys to profitability at any fish farm."

–Langley Gace, SVP of Innovasea

Cooking with Chef Steve Watson

Steamed Fennel Organic Mussels served with Candied Smoked Salmon and Corn

INGREDIENTS

4 lb. Newfoundland Organic Blue Mussels
8 oz. Candied Pulled Smoked Atlantic Salmon
1 Fennel bulb (approx. 1 pound), trimmed and thinly sliced
300 ml Quidi Vidi Day Boil Beer
250 ml 35% Cream
3 Cobs peaches and cream corn, cooked, each cut into 4 Pieces
Garlic bread

METHOD

Place the mussels in a large pot and add the sliced fennel. Add the Quidi Vidi Day Boil Beer and 35% cream over the mussels and steam for 5 minutes, shaking the pot occasionally. Add the cooked corn cobs to the mussels and continue to cook until all the mussels are opened. Use a slotted spoon to add the mussels, fennel and corn to the serving bowls. Top with the pulled candid Atlantic smoked salmon and add broth to each bowl. Serve with garlic bread and enjoy.

SEAFOOD TIP

Candied Smoked Atlantic Salmon bites are sweet, salty, smoky, and fatty in just the right way. They are usually smoked in strips from the belly portion of the salmon. Can be served as candy for bar snack toppings for canapes or added at the last minute to culinary dishes.

Couturier on Culture

Seaweed Advances and Opportunities

By: Cyr Couturier, School of Fisheries, Marine Institute of Memorial University

Cyr Couturier is marine biologist, aquaculture scientist and chair of the MSc Sustainable Aquaculture program at the Fisheries and Marine Institute of Memorial University. He has 35+ years of experience in applied research and development, training and education in aquaculture and fisheries. He is a Board and Executive member of several farming & development associations, including CAIA, CFA, CAHRC, HORIZON TNL, and is a past president of AAC, CAIA, and NAIA. He has worked in aquaculture and fisheries development in over 18 countries. The views expressed herein are his own. Contact: cyr@mi.mun.ca or follow on Twitter @aquacanada

THE WONDERFUL WORLD OF SEAWEED

I have given brief updates on global seaweed farming 5 and 10 years ago in this magazine, and have been involved in Asian and North American seaweed farming and climate adaptation efforts t since 2015, so it's time to update once again!

It never ceases to amaze me that of the 12,000 species of seaweed around the globe there are fewer than a dozen cultivated at scale for commercial purposes. A recent report by the World Bank 2023 (World Bank 2023 Global Seaweed – New and Emerging Markets Report) outlines the main species groups, production figures and countries producing them (see Figures 1 and 2). Interestingly, farmed seaweeds contribute about 97% of all seaweeds harvested globally, mostly in South East Asia, with the majority being red seaweeds in tropical climates. Global production of seaweeds has been slowing in the past decade however, due to the impact of a changing climate, extensive pollution in many areas, increased disease prevalence, and generally poor farm management.

About 30% of the farmed seaweeds are brown algal species, principally the sugar kelp (*Saccharina latissima*) or similar species, and most of this group are farmed in temperate climates, mainly as food (China in particular). About 3% of global seaweed harvest comes from carefully managed wild

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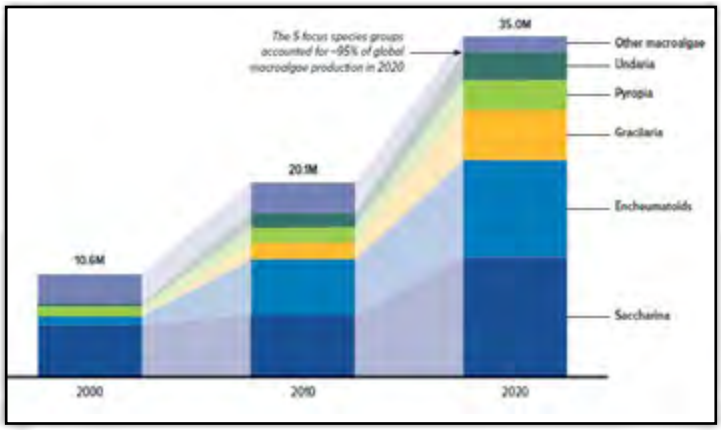

Figure 1: Major species groupings of seaweeds farmed globally. Adapted from FAO and World Bank 2023.

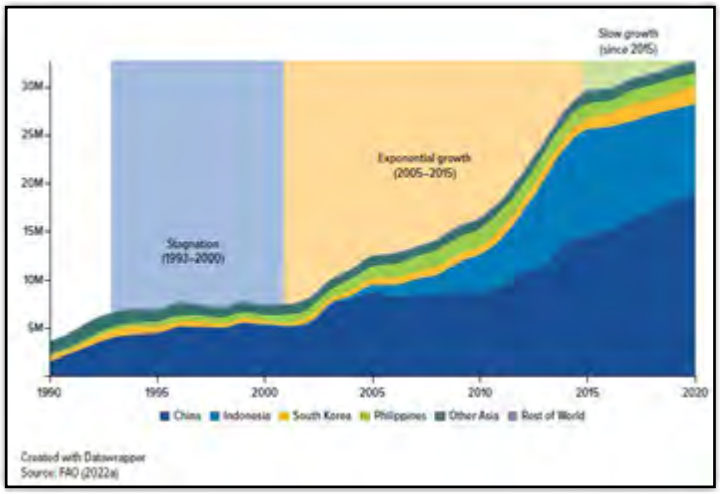

Figure 2: Farmed seaweed production by country, in millions of metric tonnes. Note less than 1% is produced in the Americas and Europe. Adapted, with permission, from the World Bank 2023 report.

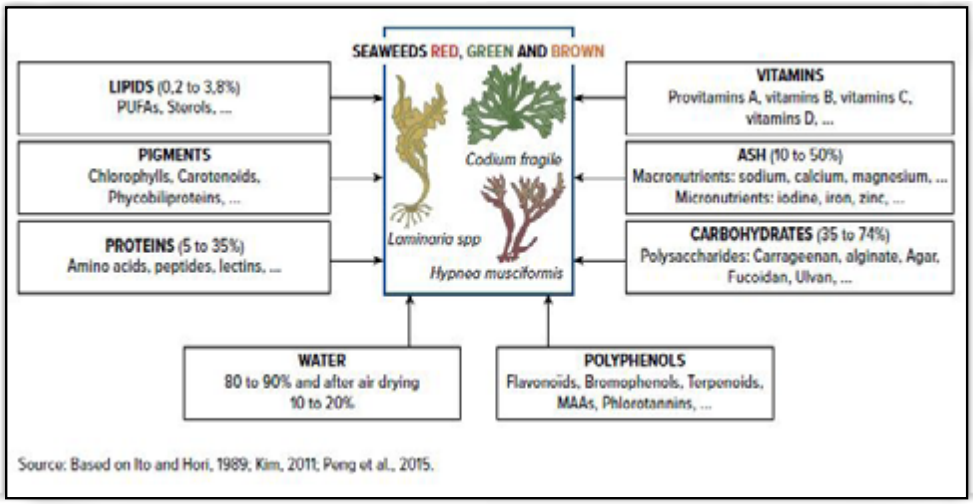

Figure 3: Seaweeds are composed of varying amounts of nutrients, minerals and essential elements that are both beneficial to plant and animal health. Adapted from the World Bank 2023 report.

sources mostly in Europe and North America. Seaweeds, both farmed and wild, contain a variety of essential and useful nutrients, of importance to both animal and plant health and nutrition (Figure 3). The actual composition of a particular strain of seaweed depends to a certain extent on its origin, its growing conditions, and the farming practices. For instance, seaweeds from Northern climates may contain more essential fatty acids, or phenols, but this has yet to be validated throughout.

RECENT AND FUTURE DEVELOPMENTS

Farmed seaweed has been gaining popularity in Europe, North America, and Australasia in the past few decades as potential means of sequestering carbon or producing so-called blue carbon credits or producing food products or even biofuels, etc. The carbon sequestration idiom is actually a bit more like green washing since the sequestration is very short lived once the plant is removed from the sea and used for fuel, or food, and the carbon is cycled back into the atmosphere. One would need an area the size of Newfoundland to grow seaweed and sink it to the abyss in order to sequester significant amounts of carbon in a meaningful way. Moreover, high density seaweed cultivation nearshore coastal areas has been shown to reduce food availability to filter feeding and planktonic organisms, by absorbing the nitrogen, one of the limiting nutrients in coastal ecosystems. Yes, too much of a "good thing" can actually be bad. Planting trees and sequestering carbon in grasslands and other soils will do a much better job at sequestering carbon, for almost no cost.

Much of the products developed from wild and farmed seaweeds in the EU and North America are for use in cosmetics, nutraceuticals, pharmaceutical, animal and plant feeds and biostimulants. There are a few pickles, preserves, spices, soaps, some fresh

kelp and red seaweed food products, but overall the emphasis really is on animal and plant health and nutritional products, and these have the greatest potential for short to medium term markets in these areas (Figure 4, from World Bank 2023). Bioplastics from seaweeds is another growth area showing great promise to reduce our reliance on hydrocarbons for packaging and marketing perishable and non-perishable products.

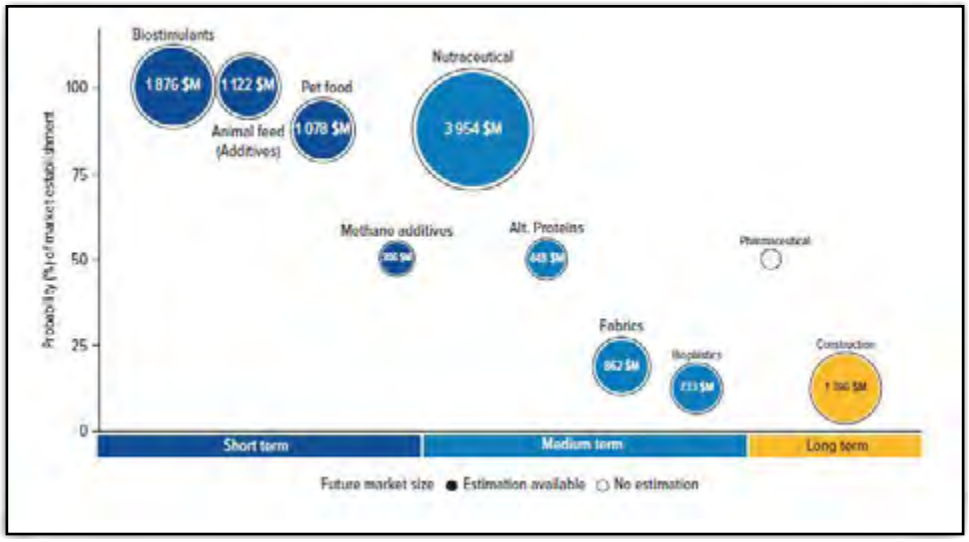

Figure 4: The most promising market opportunities in the near to medium term are in the animal and plant nutritional side of things, in addition to the biodegradable bioplastics opportunities. From World Bank 2023 report.

DEVELOPMENT STATUS IN NORTH AMERICA AND NORTHERN EUROPE

There are still ongoing trials, mostly small scale to co-culture fish or shellfish and seaweeds (mostly kelps *Alaria and Saccharina*) together in a mini-ecosystem nearshore to use some of the inorganic nutrients from the animal waste to grow the seaweeds. Cermaq the salmon farming company is trialing this in Norway, Atlantic Canadian salmon farmers have given up on this concept, and there are a few small scale shellfish and kelp farms along the eastern seaboard of North America.

At present, the total output of farmed kelps across North America (Alaska, California, USA and Eastern Canada) is roughly 1,500 tonnes wet weight, and this after 15 years of trial and error. About half of this goes into food products of various kinds, but the rest is used primarily for plant growth or biostimulant extracts. There is a more rapid and higher return on these products than trying to market seaweeds to North Americans as part of an essential diet, especially when many of the food items can be mass produced at a lower cost in Asian countries and imported into NA.

Figure 5: Sugar kelp spools and young sporophytes after a few months in the field in St. Mary's Bay, NL. Used with permission of Shorefast Foundation and HoldFastNL

I have attended several international and local seaweed conferences virtually in the past two years (Seagriculture, Seaweed around the Clock, Seaweed Academy, etc.), and

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COUTURIER ON CULTURE continued

it is evident the main constraints to expansion of the kelp sector in Canada mirror those in the EU. Most everyone is still learning "how to" produce kelp mostly in an efficient and cost effective manner. These main stumbling blocks include: reliable seed nurseries, regulatory reform / new site approvals, reducing costs of production, consistent quality at harvest, scaling up, and not to forget, access to capital.

Notwithstanding these impediments, the aspirations are still high and there are a number of startups in BC, QC and Atlantic Canada working to solve the impediments in their respective jurisdictions. Those that believe in the seaweed business truly believe it can provide some additional income in rural coastal communities, while producing at least a seasonal product that can be made into something more valuable, all the while benefitting our local ecosystems. The sector is too fragmented and young to work on its own in Canada, so it might be a good idea to band together and develop a solid plan for innovation and commercialization. More on this in the future!

MADE SAFE NL
Manufacturing & Processing Safety Sector Council

Workplaces should be safe places. We're here to help

By: Amy Fitzpatrick, Made Safe NL

Made Safe NL Manufacturing & Processing Safety Sector Council is a not-for-profit safety council in Newfoundland and Labrador (NL) that offers free, confidential safety diagnostics, training, coaching, and mentoring to all NL manufacturing and fish processing companies.

Our team works with organizations to identify the strengths and challenges of current health and safety practices through the Made Safe NL Safety Diagnostic, which is free of charge and completely confidential.

The information gathered from the diagnostic helps create a roadmap that outlines how organizations can improve health and safety practices and better protect their people through step-by-step, one-on-one training, mentoring, coaching, and education — at public sessions or on-site at your business location.

Made Safe NL can provide advice, education, and awareness training to safety staff, OHS committees, managers, and frontline staff on various awareness modules. These modules include Personal Protective Equipment, Leadership & Administration, Safety Communication, Safe Work Procedures & Instructions, Emergency Preparedness & Response, Occupational Health & Safety (OHS) Committee, Early & Safe Return-to-Work, Workplace Inspections, Education & Training, Incident Reporting & Investigation, Hazard Recognition, Evaluation, & Control, and Safety Culture.

David Haire, Executive Director of Made Safe NL, explains, "Our mandate is to help manufacturing and fish processing organizations be healthier and safer for workers and reduce injury rates. We do this by offering expert guidance and education — in an ideal world, we'd work ourselves out of a job, and all workplaces would be injury free."

To create safer workplaces for our sectors, we also facilitate the Made Safe NL Safety Consortium and an annual full-day safety symposium (2023 event date TBD).

The Made Safe NL Safety Consortium is a free learning network of safety experts, business owners, stakeholders, and safety-minded professionals who want to learn — new members are always welcome. Consortium members meet every six weeks to share ideas, experiences, challenges, and expertise to improve health & safety outcomes and build safer workplaces in NL.

Made Safe NL is here to help. To learn more about our services, please visit our website or contact David Haire, Executive Director, Made Safe NL

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david.haire@cme-mec.ca
www.madesafenl.ca.

Work Safe. Home Safe. Every Day.

*Made Safe NL is operated by Canadian Manufacturers & Exporters Newfoundland and Labrador Division (CME NL) in collaboration and partnership with WorkplaceNL. Made Safe NL is guided by an industry council with input from a fish processing subcommittee, both with balanced representation from employers and workers. The Council sets goals, objectives and priorities and oversees Made Safe NL's performance.

From Rough to Restored: Protecting the Aquaculture Industry with Elite Erosion and Corrosion Solutions

By: Samantha Harding, Director, Marketing and Communications, Eastern Composite Services

Over time, harsh environments expose aquaculture equipment and machinery to significant wear and tear; making it vitally important for operators to work alongside seasoned partners who offer tailored industry solutions. Cue, Eastern Composite Services (ECS).

Supporting industrial operations from coast to coast for more than 15 years, ECS is Newfoundland and Labrador's premier specialty service provider in the industrial sector. While ECS originated as a small on-site service and repair company, its steadfast dedication to growth and innovation has allowed the organization to expand its operations to now offer a wide range of customizable solutions. Most recently, the Placentia Chamber of Commerce awarded ECS was the 2022 Innovator of the Year Award, in recognition of the company's staunch commitment to innovation excellence.

Specializing in turnkey corrosion and erosion protection, ECS offers top-tier products that provide long-lasting, quality repair and maintenance solutions to its valued customers. Eastern Composite Services often works with clients in the aquaculture industry to revitalize damaged equipment. For example, ECS' in-house team recently restored a Fire Fighting (FiFi) pump that encompassed many components at the end of their lifecycle. Tailoring the project to the unique needs of the client, the pump underwent a comprehensive transformation; including a thorough rebuild, precision sandblasting and painting, and the application of both Belzona 1111 to worn steel components and Belzona 1391T for an overall protective coating. This approach was selected based on an expert assessment of the FiFi pump's in-field application. More specifically, the use of Belzona offered a low friction coefficient to further enhance flow rate; and any future local damage to Belzona coatings can be easily repaired, allowing for a rapid return to service.

In taking the old and making it new again, using repair compounds and industrial coatings for refurbishment and protection avoid the need for replacement, therefore reducing repair and maintenance costs, and above all, mitigating the disruptive inconvenience of downtime.

Whether implementing a straightforward remedy or a sophisticated fix, the ECS team consistently employs a targeted and inventive approach on behalf of clients. To learn more about ECS' best-in-class industrial solutions, visit easterncompositeservices.com.

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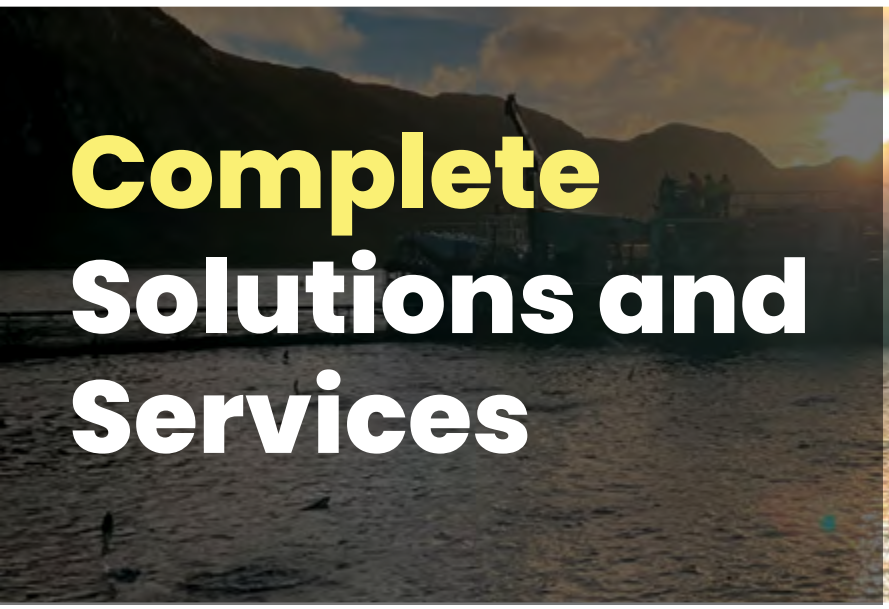

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WHY CHOOSE US?

We strive to be the partner you can rely on to help your business grow and succeed, and we're dedicated to making that happen every step of the way. We're committed to serving you for the long term.

WHO WE ARE

We are a locally owned and operated service provider for the marine and aquaculture industry in Atlantic Canada. Our main office is located in Harbour Breton, NL. We offer a wide range of products and services to suit all our clients' needs.

OUR VISION

We want to be there for you through every step of your project. Our vision is to be your go-to destination for all of your needs, whether it's through our wide range of products and services, our highly experienced and professional staff, or our commitment to excellence in everything we do.

OUR MISSION

At 360 Marine Ltd., we are passionate about the aquaculture and marine industry, and we are committed to providing the highest level of service to our clients.

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