

FALL 2018

THE COLD HARVESTER

NEWFOUNDLAND AQUACULTURE



Cold 2018 Harvest

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Fall 2018



**Fall
2018**

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The Newfoundland Aquaculture Industry Association represents aquaculturists and the service sector in the province. Its fundamental purpose is to assist the aquaculture industry to achieve its full wealth creation potential. It is the voice for the industry by ensuring that Federal / Provincial legislation, policy, and services match the needs of the industry. It delivers programs and services to its members to attain excellence in safety, quality, environmental sustainability, and profitability. For more information on NAIA membership benefits, please contact us!



Message from the Honourable Gerry Byrne

Minister of Fisheries and Land Resources, Government of Newfoundland and Labrador

As Minister of Fisheries and Land Resources, I am delighted to extend sincere congratulations to the Newfoundland Aquaculture Industry Association on yet another successful Cold Harvest conference and tradeshow – but to also acknowledge your 25th Anniversary of this event – you are doing great work!

Newfoundland and Labrador’s aquaculture industry is focused on the culture of Atlantic salmon and blue mussels. The salmon industry is estimated to have the potential to grow to 50,000 tonnes annually, and the mussel industry to 10,750 tonnes. To facilitate these growth targets, The Way Forward on Aquaculture: Sector Work Plan was announced in September 2017, and outlines 28 initiatives relating to production, human resources and labour, research, innovation and diversification, as well as market access and development, business development and risk management.

The seafood industry employs over 16,000 people from over 400 communities, and is a substantial contributor to the provincial economy, with the production value in 2017 of \$1.3 billion. A considerable portion of this total – some 21 per cent is attributed to our aquaculture sector.

The theme chosen for Cold Harvest 2018 – Cold Harvest: 25 years – Promoting Excellence in Aquaculture, aligns directly with our government’s vision for sustainability and growth which will result in new employment and economic activity.

Newfoundland and Labrador’s seafood products are exported to more than 40 countries, so it is essential that we continue to work with your association, producers and other stakeholders, to leverage maximum potential. There is significant demand for our high-quality and sustainable products, and we will continue our efforts to seek new opportunities and strengthen this valuable industry for the benefit of all Newfoundlanders and Labradorians.

Sincerely,
Honourable Gerry Byrne
Minister of Fisheries and Land Resources



Message from Laura Halfyard, President



Laura Halfyard, President and Chair of the Board, Newfoundland Aquaculture Industry Association

NAIA's Cold Harvest 2018 Conference theme "25 Years Promoting Excellence in Aquaculture" is timely as we reflect on our past and look to our future. Our conference, trade show and workshops will also be part of "Aquaculture Week 2018", as announced by the Government of NL and NAIA.

The NL industry began with separate salmonid and mussel associations that merged for a joint voice, with initial R&D for 10 species that later focused on 4 species for commercial investment (salmon, trout, mussels, cod). Our NAIA Aquaculturist of the Year recipients present a snapshot of the pioneers and key players in our industry's development. Salmonid recipients include Jennifer and Doug Caines, Jonathan Moir, John Kealey, Sheldon George, Vernon Watkins, Jennifer Woodland, Boyd Pack, Clyde Collier and Joan Strickland. The mussel sector recipients include Juan Roberts, Job Halfyard, Allen's Fisheries, Terry Mills, Geoff Ball, Cyr Couturier and Pat Dabinett.

In the past 25 years, Newfoundland & Labrador has moved from wild fishery reliance (i.e. 1990's collapse of cod fishery and moratorium) to both wild and aquaculture resource management. Having lived and worked in rural and urban NL, I find that life in the city is less tied to resilience strategies for work, food security, health and other community services. Urban populations show more disconnect to their food supply and the realities of maintaining rural livelihoods.

Aquaculture and the wild fishery are critical components to rural outport survival, whereas urban dwellers either shop for the best bargains, or are tied to health and environmental concerns, but often miss the economic impacts of aquaculture to rural families. NAIA will be launching an "Awareness Campaign" in fall 2018 that will include branding, public education and consumer awareness information about our NL aquaculture industry.

In the next 25 years, we must satisfy the wants and needs of both rural aquaculture producers and urban seafood consumers. Sustainability for salmonid culture must continue to improve Codes of Containment protocols, as reviewed at the recent south coast workshop, including cage mesh technology. Disease control remains another priority, with NAIA

and the OSC leading an excellent international "Cleaner Fish Workshop"; natural sea lice removal methods reduce environmental and consumer concerns which was held in August 2018. Again this year, Conservation Corps NL's Green Team and students, in partnership with NAIA, has lead community beach cleanups in Milltown, Hermitage, Hr. Breton, Conne River, Morrisville, Pool's Cove and St. Alban's. It is important to note that household waste was the major ocean debris collected and not aquaculture. As for innovation and marketing, the upcoming October AquaSur mission to Chile will look to new industry developments.

For mussel farmers, climate changes for rainfall and ice conditions are priorities, as well as interactions with other marine

continued on next page

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Message from Laura Halfyard, President CONTINUED

species (e.g. plankton for food, other benthic species). DFO and NAIA’s workshop in May 2018 reviewed mussel farm and lobster interactions, with data from Atlantic and QC provinces suggesting minimal negative factors, thus these fisheries can co-exist and benefit both. Also, DFO began removal of bulk oil from the Manolis L wreckage in July 2018, thus reducing risks to the Notre Dame Bay communities, and the local mussel farms and wild fisheries. NAIA also coordinated input into the proposed Transport Canada Site Marking Requirements (June), making recommendations on behalf of the mussel and salmon sectors.

During our celebrations, we will highlight our milestones as part of the Government of NL and NAIA strategies under the 5-year The Way Forward Plan, with an update at the one-year benchmark. This will include updates for the Labour Market Study, Recruitment and Retention strategies and commencing a review of aquaculture industry infrastructure needs to meet the 2-3X increased production goals.

We also will mark this occasion with Special Awards in recognition of those who have played critical roles in NL’s aquaculture development. In addition to our Aquaculturist of the Year Hall of Achievement, we will recognize Excellence

in Innovation, Stewardship and Sustainability, Aquaculture Supplier of the Year, Community Service, and Distinguished Early Career (Youth).

We hope you can join us at Cold Harvest to meet old and new industry participants. We are especially pleased to welcome many new Associate Members who have joined NAIA, in recognition of the growing opportunities for our NL aquaculture industry.

At our September AGM, we will elect a new NAIA Board and I will finish my two-year term as your President. We will present updates of our activities and NAIA Bylaws review. It has been my pleasure to work on your behalf through opportunities and challenges. We have seen new investments into our salmon sector through Marine Harvest and Grieg NL. We have seen changes in the mussel sector with the Barry Group investing in processing (i.e. Allen’s Fisheries). It will take time for successful growth of our aquaculture industry – after all, “Rome was not built in a day”. The NAIA Board, ED and staff have worked diligently on committees, events and projects, and I want to extend a special thank you for their support and the work they have done on your behalf. ✨

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Message from Mark Lane, Executive Director



Mark Lane, C.D., Executive Director, Newfoundland Aquaculture Industry Association

Welcome to the 25th Anniversary Cold Harvest Conference and Trade Show! Fittingly this year's theme, "Cold Harvest 2018: 25 Years of Promoting Excellence in Aquaculture", is reflective of our Association's mandate.

I want to sincerely thank the Conference Planning and Program Committees for their hard-work and dedication to ensuring that this year's conference is the largest ever-attended and most productive for attendees in NAIA's history.

As well, I want to extend my sincere gratitude to the NAIA Team; Roberta, Darrell and Jackie, for exerting full effort over the past number of months providing logistical and administrative support and guidance throughout the planning and execution of this year's monumental occasion.

I also want to extend sincere gratitude to all our sponsors. Without your generous support we would not have been able to host such a world class conference for all those in attendance. Your sponsorship enabled us to attract world-class speakers; expand our awards recognition program; provide healthy nutritional breaks for attendees and enabled our industry's next generation of leaders, our students, to attend this year's Cold Harvest and Gala.

Last but not least I want to thank all of you in attendance! Our members first and foremost for taking the time from your busy schedules to attend this year's conference. As well, I want to extend a warm welcome to all of those in attendance who are not currently members of NAIA that have also taken the

time to learn more about our growing industry and to network with industry pioneers and professionals.

Please take advantage of this outstanding opportunity to network amongst those industry leaders in attendance, visit and get to know our exhibitors at the trade show for they may have the solution that you were looking for, and of course enjoy the world class sessions and social activities.

We need to share our industry's success stories; hard-working farmers of the sea that produce premium seafood right here at home in Newfoundland and Labrador; sustainably and environmentally responsibly. Our industry has proven to be a catalyst for rural coastal communities such as Triton, Hermitage and Harbour Breton. Of course, we know this. Now it is time we share our success stories with the world.

I encourage all of you to share your experiences during Cold Harvest using common social media platforms such as Twitter, Facebook (Live), LinkedIn, Instagram and Periscope. It's free and effective mechanism to connect with the world. #ColdHarvest18 #sustainable #seafood

I wish all of you a productive and memorable 25th Cold Harvest and Trade Show. Thank you all for making our 25th Anniversary such a monumental occasion. ✨



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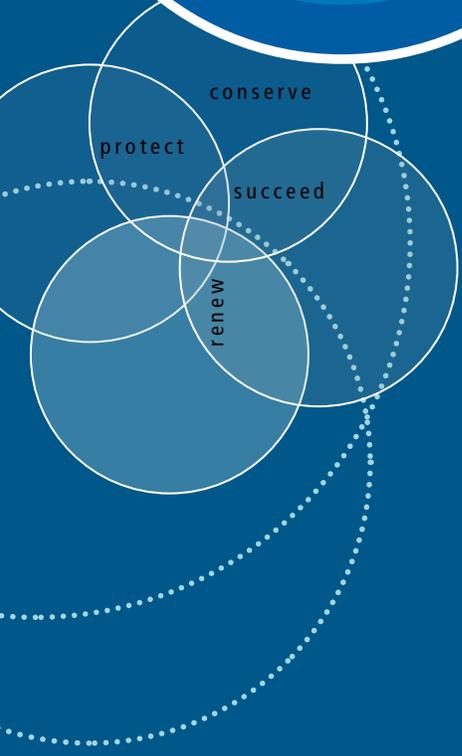


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Establishment of a Youth Forum in the Province

By: Liam O'Leary, NAIA Summer Intern

Liam O'Leary, NAIA's student intern is organizing a youth forum to be held during this year's Cold Harvest Conference and Trade Show in September. The forum will be established to promote and increase aquaculture awareness to youth in Newfoundland and Labrador with youth representatives from various regions of the province.

One goal will be to promote the numerous career opportunities available in the industry, from veterinarians and lab technicians, biologists, engineers, machine and boat operators, and more to facilitate the growth of the industry that is expected to occur in the next few decades.

A secondary goal will be to increase the social media presence of aquaculture in the province. Recent statistics show that 59% of Instagram users are between the ages 19-28 [1]. This is the key demographic which we may need to focus on in the near future. The high presence of social media is expected to grow, and it will be important to establish a large following base to help get the word out on this exciting and growing

industry. "We look forward to hearing from our members and various youth groups in the province." (Source: <https://www.omnicoreagency.com/instagram-statistics/>) ✨



NAIA Summer students in the St. Alban's office video conferencing with Liam to discuss the youth strategy over the summer.



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NL Blue Mussels a Big Hit at the Culinary Festival in Grand Falls-Windsor



Trenton Johanson, Manager, Sunrise Fish Farms and Chef Allan Milley of Grand Falls Windsor at the Culinary Festival in August.



Chef Milley was eager to serve approximately 600 guests at the Food Day Canada - Culinary Festival.

The Grand Toyota Perfectly Centered Culinary Festival took place in Grand Falls-Windsor August 16 – 18. Hosted by the Town of Grand Falls-Windsor and in partnership with the NL Culinary Team Leader Roary MacPherson, this year’s theme was From the Land and Sea. Chef Milley, also of Grand Falls Windsor and staff of Sunrise Fish Farms were also happy to participate by providing fresh organic blue mussels to the guests.

As a lead into Food Day Canada celebrations, Chefs from all across Canada prepared various dishes with local seafood and produce and the guests enjoyed a sample of each. This year’s event was another great sold out success with more than 600 guests in attendance. ✨

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Aquaculture Community Connections: NAIA Summer Work Experience

By: Amber Willcott and Miranda Caley, CCNL Green Team Members, and Melanie Collier, Michael Coombs, NAIA Summer Students

This past summer, we had the opportunity to work for Newfoundland Aquaculture Industry Association from July 2nd – August 24th (8 weeks) through Conservation Corps Newfoundland & Labrador and Canada Summer Jobs program. Conservation Corps Newfoundland and Labrador supports youth across the province to provide work experience and promote growth into leaders within their communities. Since being established in 1993, CCNL has employed more than 2400 young people through this very program.

We were eager to learn more about the CCNL and the aquaculture industry, especially since we live in a community that is



(L-R) Amber Willcott, Miranda Caley, Melanie Collier, and Michael Coombs completing a small-scale clean up at the Blue Rock swimming hole in St. Alban's, NL.



(L-R) Amber Willcott, Miranda Caley, Michael Coombs, and Melanie Collier having some fun while cleaning shorelines in Milltown, NL.

one of the aquaculture centres in NL. Our job included planning and organizing several shoreline clean-ups within the Coast of Bays, analyzing and comparing the data from those clean-ups from years prior, and promoting marine debris awareness throughout the province.

During the summer we organized seven shoreline clean-ups in the following communities: Conne River, Milltown - Head of Bay d'Espoir, Morrisville, Harbour Breton, St. Alban's, Hermitage – Sandyville, and Pool's Cove. We also held a mini-clean up in St. Josephs Cove. Compared to previous years, the amount of debris continues to decline, and it was very satisfying to know that our efforts are paying off and we truly are making a difference.

We also participated in a youth awareness committee with NAIA's summer intern Liam O'Leary. Regular meetings were held throughout the summer to work on options on how to increase awareness of the aquaculture industry among the province's youth. This initiative was identified in the Provinces Way Forward which was identified in 2017. Liam and team will present the results of the strategy at Cold Harvest in September.

We also organized and took part in several Environmental Awareness Events (EAEs). We promoted awareness about climate change, the importance of water conservation, and the various careers in aquaculture. Each EAE consisted of a discussion with the youth group about the topic at hand, followed by an activity related to it. The feedback we received at each one was wonderful, and we felt that our audience was eager to make a difference to help the environment. We were able to complete 6 EAEs over the summer, and overall, we presented to over 80 youth within the Coast of Bays.

We also had the privilege to take part in several aquaculture-related tours throughout the summer. We visited the Swanger's Cove Hatchery where we learned about the life cycle of a salmon. We also toured Hermitage Processing Inc. in Hermitage where we learned about the life cycle of a salmon and how Cooke Aquaculture's Atlantic salmon are processed. We also participated in a boat tour with Jennifer Caines of Northern Harvest Sea Farms and visited the Steamer Head and Spoon Cove salmon sites in Fortune Bay. At the Steamer Head site, we toured the brand-new Northern Feeder 4 feed barge. Here, we were shown where the feed is stored and how the salmon are fed within the 16 cages on site. Each of these tours were very educational and each company



St. Alban's Food and Fun Camp



NAIA's summer students really enjoyed the tour on the Northern Harvest Sea Farms barge near Pools Cove.

representative was incredibly passionate about the aquaculture industry. Special thanks to Jim Murphy of Cooke Aquaculture, Gail Rose of Cooke Aquaculture, and finally, Jennifer Caines and Don Fudge of Northern Harvest Sea Farms. It was an incredible experience and we are grateful to have had this excellent opportunity.

Our positions with CCNL and NAIA were truly wonderful. We discovered that there is much more to the aquaculture industry than what we've learned in high school, and there are several diverse careers available within the industry. From the people

we were able to meet during our tours and clean-ups, to participating in the different events, it was very fulfilling eight weeks.

Special thanks to CCNL and NAIA for this great opportunity, our CCNL regional supervisor Cecelia Gosse, and Roberta Collier who guided us every step of the way this summer. Although some of us have chosen different career paths (nursing, pharmacy and journalism), Melanie is pursuing studies in Marine Biology. Overall, our summer position has been truly a one-of-a-kind experience we thoroughly enjoyed and will never forget. ✨



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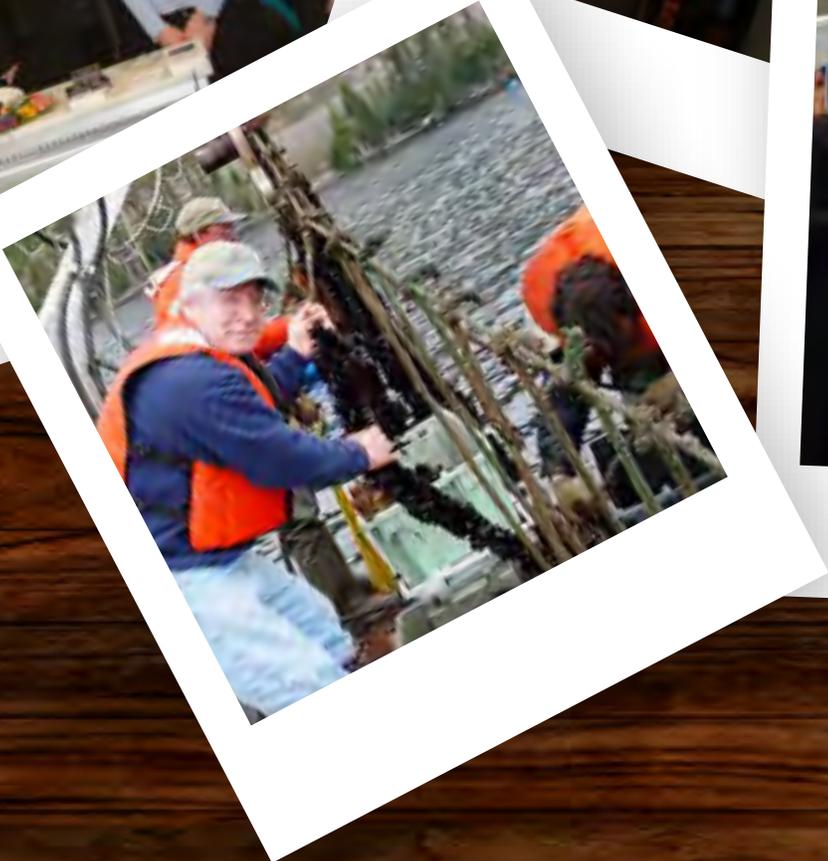
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25th Annual Conference and Trade Show

Delta Hotel, St. John's, NL, Canada

September 26th-28th, 2018

KEYNOTE SPEAKER PROFILE



Dr. Steve Gaines, Dean of the Bren School of Environmental Science & Management, University of California, Santa Barbara

Steve Gaines is Dean of the Bren School of Environmental Science & Management at the University of California, Santa Barbara – a leader in education and research on solutions to environmental challenges. He is a marine ecologist who seeks conservation solutions by linking innovations in ocean science to more effective marine policy, management, and business. His science explores the design of marine reserve networks, climate change impacts on ocean ecosystems, sustainable fisheries management using market based reforms, and the role of aquaculture in meeting the future global demand for food in the most planet friendly way. In each of these science endeavors, he has been a strong promoter of more effective communication of ocean science to enhance its impact.

Dr. Gaines will be speaking on the future of food and how responsible increases in global protein production has to focus on gains in finfish and shellfish production. Aquaculture has a low environmental footprint among protein sources and is a good choice in meeting the future global food gap. ✨

IMPORTANT INFORMATION FOR CONFERENCE DELEGATES

NAIA REGISTRATION DESK HOURS

Wednesday, Sept 26 . . . 4:00 pm – 8:00 pm
Thursday, Sept 27 8:30 am – 5:00 pm
Friday, Sept 28 8:30 am – 12:00 pm

TRADE SHOW EXHIBITS

All nutrition breaks will take place in the Trade Show area in Salon BCD and the foyer. Please show your support by visiting this area during the breaks. Exhibit spaces must be completely cleared by 3:00 pm on Friday, Sept 28th to prepare for the Aquaculture Banquet.

JOE BROWN SILENT AUCTION FUNDRAISER

The annual Dr. Joe Brown Silent Auction will take place in the Placentia Bay Room during the Opening Reception and run until Thursday evening. All proceeds raised supports aquaculture student scholarships, bursaries, and travel. Payments and pick ups are required immediately following the banquet at the registration desk in the lobby. Anyone wishing to donate an auction item can drop it off at the registration desk.

SOCIAL EVENT – NL KITCHEN PARTY

Join us on Thursday evening, Sept 27 from 7 – 9:30 pm at YellowBelly Brewery - The Public House at 1 George Street (top floor) for a Newfoundland Kitchen Party with codfish and chips and live entertainment. Tickets must be purchased in advance – available at registration.

Aquaculture Gala Banquet

The Gala Banquet will take place at the Delta Hotel on Friday, September 28th. (Cocktails at 6:30 pm/Dinner at 7:00 pm). Dinner Featuring: NL Organic Blue Mussels, Atlantic Salmon, Vegetables, Dessert, Tea/Coffee. After dinner entertainment provided by Eastern Owl, followed by Hall of Fame and Aquaculturist of the Year Awards.

SPECIAL THANKS TO OUR COLD HARVEST 2018 PROGRAM AND ORGANIZING COMMITTEES

Allison Kendall – SimCorp Marine Environmental, Chris Hendry – Fisheries and Oceans Canada, Cyr Couturier – Marine Institute of MUN, Danny Boyce – Ocean Science Centre – JBARB, Danny Eveleigh – EastChem, Gail Hoskins – Department of Tourism, Culture, Industry and Innovation, Jillian Westcott – Marine Institute of MUN, Jonathan Gagné Enterprises Shippagan, Jonathan Kawaja – NL Fisheries and Land Resources, Laura Halfyard – Sunrise Fish Farms, Lori Kennedy – Atlantic Canada Opportunities Agency, Patrick Gagnon – Department of Ocean Science - MUN, Paul James – NL Fisheries and Land Resources, Sheldon George – Cold Ocean Salmon, Stephanie Synard – NL Fisheries and Land Resources, Tom Taylor – North East Nutrition, Troy Hunt – Barry Group Inc., and NAIA Staff: Mark Lane, Darrell Green, Roberta Collier and Jackie Richards. ✨

PLEASE SEE THE CONFERENCE INSERT FOR THE COLD HARVEST 2018 PROGRAM AND HIGHLIGHTS

COLD HARVEST 2018 EXHIBITOR PROFILES

AKVA Group

Booth #1

Exhibitor: Bryan Boisene



AKVA group is a global technology and service partner that deliver technology and services that helps solve biological challenges within the aquaculture industry. Good operational performance and fish welfare ensures sustainability and profitability for the customer.

This is the premise for everything we deliver, from single components to services and complete installations. In-depth aquaculture knowledge, extensive experience and a high capacity for innovation characterizes and enables us to deliver the best solutions for both land based and cage based fish farming.

Polysteel Atlantic

Booth #2

Exhibitor: Donnie Maclean



Polysteel Atlantic and East Coast Rope are manufacturers of high tensile strength three strand synthetic rope with production capabilities in excess of 6,000,000 lbs per year. With 2 production facilities in Sydney, NS and warehouse facilities in Vancouver, BC, we have been successfully serving all areas of the aquaculture industry for 25 years. Diameters range from 5mm to 48mm in both floating and sinking varieties. Our focus is to provide flexibility in meeting unique customer requirements and ensuring production of a product line which demonstrates a consistently high level of performance.

Marine Institute

Booth #3

Exhibitor: Keith Rideout



The Marine Institute is the most comprehensive educational institute dedicated to oceans related education and research in Canada. Programs range from industry certification to post-graduate level training over a broad range of disciplines, including fisheries and aquaculture. From on-the-job training, to community-based workshops and graduate programs in sustainable aquaculture we have been serving the industry for over 30 years. Applied research in the areas of aquaculture production, marine bioprocessing, and sustainable systems design are incorporated into the curriculum at all levels. Programs are complemented by state-of-the-art facilities in flow through and recirculatory systems, bioprocessing, the world's largest flume tank, and a suite of analytical laboratories for sample analyses.

Workplace NL

Booth #4

Exhibitor: Marie Ridgeley



Serving approximately 13,000 injured workers and 19,000 employers, WorkplaceNL administers an employer-funded, no-fault insurance system that promotes safe and healthy workplaces, provides return-to-work programs and offers compensation to injured workers and their dependents.

Entreprises Shippagan Lté

Booth #5-6

Exhibitor: Jonathan Gagné and Hélène Roussel



Entreprises Shippagan Ltd. and its group of companies is one of Canada's largest wholesale distributors serving the commercial fishing and aquaculture industry. From our humble origins as a supplier to local fishermen twenty-five years ago, we now serve customers all over the world. Headquartered in Shippagan, New Brunswick, we operate in the four Atlantic Provinces under the Sea-Alex Inc, International Seafood and Bait Ltd, Vernon d'Eon Fishing Supplies, ESL Marine and DJ Marine banners. We are international suppliers of commercial fishing gear, equipment for different aquaculture sectors, importer and exporter of fish and shellfish products. We also have expertise in the construction of lobster boats and cages.

Tufropes

Booth #7

Exhibitor: Kunal Israni



An integrated global Ropes and Netting manufacturing company. Established in 1992, Tufropes is a leading global company engaged in the manufacturing of high-quality synthetic Ropes and Netting. Due to its advanced standards of production, Tufropes has extended its footprint across the globe with presence in over 85 countries. It is a leading OEM supplier to some leading blue-chip global brands. Our 5 manufacturing facilities help us with a quick response time to develop new products. It has been recognized with several quality certifications and awards, which bear testimony to our commitment towards operational excellence, corporate governance and social responsibility.

EXHIBITOR PROFILES *continued***Chaussures Regence**

Booth #8

Exhibitor: Jeff Cormier



Chaussures Regence is a family owned business, with a team of passionate people who, just like you, care about the safety and the comfort of the products they use. These experts are located in Canada, the United States, and Asia. They have dedicated themselves to design, develop, and market safety shoes of brands like Acton, STC, Wilkuro and Oshatoes. Chaussures Regence is also the preferred distributor in Canada of the brands Cofra and Dunlop.

Saeplast Americas Inc.

Booth #9 & 39

Exhibitor: Mike Kilpatrick



Saeplast is a world leader in the design and manufacture of plastic triple wall container, plastic pallets, and compensator buoys. Whatever the product, Saeplast product lines have the right solution to give you peace of mind. Trust the innovator, not the imitator.

Cube Automation

Booth #10

Exhibitor: Roch Chiasson



Cube Automation is the leader in Food & Seafood Automation in Eastern Canada. Our mission is to make your factory a Smart Factoree™ by working on your equipment efficiency. Located in the hub of Atlantic Canada's Seafood Industry, we have been delivering leading machines and products tailored to our customers market for over 20 years. We are the Eastern Canada leader in grading & advance weighing solutions. Additionally, we offer our services with automation equipment, packaging solutions, labelling, traceability, complete factory design & re-design as well as full line of after sales services. We can oversee every step of the manufacturing projects, from design and construction to product integration and optimization. Cube integrates the automation solutions needed to be successful in a rapidly changing food processing industry.

Province of Newfoundland and Labrador

Booth #11

Exhibitor: Rhonda Brennan



Newfoundland and Labrador's Department of Fisheries and Land Resources offers a full suite of services to support the aquaculture industry. As the primary contact for aquaculture operators, the department works with industry at all stages of development; conducts environmental monitoring and health surveillance of finfish and shellfish and works with provincial and federal agencies to promote effective governance of the aquaculture industry. Visit our booth to speak to one of our friendly and knowledgeable staff.

Corey Nutrition Company

Booth #12

Exhibitor: Jack Corey



In 1982, a marine biologist with the New Brunswick Department of Natural Resources saw a pressing need for safe, clean and nutritious fish food to support the growing aquaculture industry. That's when Lee Corey established Corey Nutrition Company, and put nutritional integrity at the forefront of his business. Now, over 30 years later, Corey Nutrition is still Atlantic Canada's premiere family-owned and operated source of quality Aquafeeds.

AIMS Ltd.

Booth #13

Exhibitor: Martin Gibbons



AIMS Limited is a Newfoundland and Labrador owned and operated company which was incorporated in 1984. We conduct business from our own 10,000 sq. office/warehouse building located in Donovan's Business Park, Mount Pearl, NL with an in house staff of 14 people. Over the years we have developed into one of the leading companies in Material Handling Equipment. With product lines covering forklifts to castors, racking/shelving systems to storage bins, insulated and tote boxes, just to name a few. In addition, we deal extensively in the supply and service of overhead sectional doors, both residential and commercial, specialty doors, and dock equipment. We also do safety pallet racking, forklift inspections and safety forklift training. We have assembled a great team of highly qualified people and have built our reputation on quality products, service and fair competitive pricing.

Gael Force Group

Booth #14-16

Exhibitors: Stewart Graham

Stephen Divers and Anthony Balmer



Your Trusted Supplier of Aquaculture Equipment, Technology and Services. With over 30 years of experience as a value adding partner to many aquaculture producers, Gael Force is recognized in the industry as a trusted manufacturer and supplier of robust product and dedicated service. We specialize in the manufacture of feed barges and offshore feeding systems, offshore fish farm pen systems, underwater camera and light technology, acoustic deterrents, farm software, anchors and mooring systems and supply chain management. We are committed to a future on-the-ground supplier presence in the Atlantic Provinces, in particular in Newfoundland, where we look forward to being an integral part in supporting a growing industry.

EMCO/Sandale Utility Products

Booth #17

Exhibitor: Kirk Stokes



Sandale Waterworks is Canada's largest supplier of HDPE in Canada. We are known in the Aquaculture Business as supplying "EVERYTHING HDPE". Having completed Aquaculture Projects on both Canadian Coastlines as well as internationally, our local Atlantic Canadian Team excels in obsessive customer service. Our additional business of Municipal Infrastructure Systems allows us to support land based systems with ease including underground and above ground utility water, storm and sanitary systems. Our products include HDPE Cage Piping, Anti-Static Feed Pipe, Fusion Machines and Training, Electrical Cable, Hatchery Tanks and Coatings, as well as Electrofusion products. Our Waterworks products include Fire Hydrants, Valves, PVC Systems, Valves and Stormwater systems. We are the most complete supplier of Water Supply Systems in the world. Come see us at our booth and we'll be sure to impress you!!!

Electric Motor and Pump

Booth #18

Exhibitor: Wayne Petley



Electric Motor & Pump - Supply & Service of Quality Aquaculture Equipment

- Marine/Aquaculture Pumping and Filtration Equipment
- Lobster and Shellfish Holding Systems (flow through/closed/semi-closed)
- Specialty Custom Packaged Pump and Filter Systems
- Condensate and Boiler Feed Systems
- Sewage Lift Stations
- Custom Control Systems With SCADA Communication
- Packaged Booster Systems

Maritech Dynamics

Booth #19

Exhibitor: Blair Shelton



Maritech, a key supplier of seafood software systems, is recognized as a leading partner in developing end-to-end traceability and business software for many of the largest and most prominent seafood organizations in the industry, providing them with the tools and resources they need to increase profitability and streamline business processes while keeping pace with an increasingly regulated environment.

Cargill Aqua Nutrition/EWOS Feeds

Booth #20

Exhibitor: Braden Hatt



With over 80 years of experience, EWOS feeds are formulated to provide optimum fish health while helping our customer achieve their production goals. This expertise, combined with our service excellence and Cargill's more than 100 years of experience in animal nutrition solutions, ensures customers receive high quality, nutritionally-sound feeds that are backed by global feed and ingredient research. These nutrition solutions include a range of functional feed additives that support fish health during environmental, production and life stage challenges. The secret to our success is helping our customers achieve theirs.

Eastchem (NL) Inc. / Sani Marc Inc.

Booth #21

Exhibitor: Danny Eveleigh



For nearly 40 years Eastchem (NL) Inc. has been providing products and expertise for all your chemical and sanitation needs. With products for Sanitation, Hatchery, Blood Water, Organic Production, and Biosecurity, we can service and supply all aspects of your aquaculture operations. Eastchem is also the exclusive Newfoundland distributor for the Sani Marc Group. The Sani Marc Group is the largest manufacturer and distributor of specialty cleaning and sanitation products for the Food and Beverage market in Canada. Sani Marc offers a proactive approach with a high level of service combined with industry leading Products, CEPS+ Software, Engineering, Technical Services and Support. Sani Marc works in partnership with local, regional and national food processors to ensure expertise in cleaning and sanitation solutions to optimize food safety and total operational efficiencies with measurable results.

EXHIBITOR PROFILES *continued***Aqua Production Systems**

Booth #22

Exhibitor: Nicole Ivey



Experts in hatchery and RAS water heating and cooling systems. Design and supply. Aqua Production Systems is an engineering company who does consulting, design, project management, and heating of fish hatcheries. Aqua Production Systems solves the problem of mortality during the holding phase and in shipping lobster live to markets around the world. With our new tank systems or complete retrofits, we can guarantee zero mortality claims for lobster shipped from our holding tanks. We work with clients to discuss what existing processes are working well and what needs improvement. Such topics discussed are water quality, waste-water treatment systems, oxygen levels, aeration, bacteria levels, energy consumption, refrigeration efficiency, and worker ergonomics. Aqua Production Systems uses a system called The Clean Plate, The Clean Plate uses Iodine infusion to help clean and keep your Heat Exchanger maintenance free.

Hoskin Scientific

Booth #24

Exhibitor: Jennie Gouthro



For over 70 years, Hoskin Scientific has been providing Sales, Service, and Rentals across Canada, for all of your Aquaculture Needs. Hoskin Scientific has been supplying testing and monitoring instrumentation to the Canadian market for over 70 years. Our Environmental department provides everything from systems integration services, water quality, oceanography and aquaculture, to meteorology, hydrology, indoor air quality, soil science, and plant science. We provide solutions for monitoring and sampling biological and chemical parameters in the environment. Hoskin Scientific can equip you to collect the data you need for your project whether through a purchase or rental. Each office across Canada has sales and service staff readily available to assist you in choosing the right product and having equipment or instrumentation serviced. To find out more about Hoskin Scientific, visit our website today: www.hoskin.ca

Steinsvik AS

Booth #27

Exhibitors: Blair Billard and Joel McGee



Steinsvik is a world-leading technology supplier to the global aquaculture industry. The driving force behind the company is a desire to provide innovation and solutions for an industry in constant development and help shape tomorrow's aquaculture. Steinsvik offers a wide range of products in feeding technology, monitoring systems, software, water engineering and parasite control. The company has 600 employees with branches in 10 countries and is headquartered on the west coast of Norway.

Grand Bank Development Corporation

Booth #23

Exhibitor: Conrad Collier



The Grand Bank Development Corporation was established in 1991 after the collapse of the Northern Cod fishery with a mandate to diversify the economy of the Town of Grand Bank. We do this through efforts to attract new investment and businesses, expand existing operations and encourage export development by offering programs and services that are client driven. We offer financial incentives such as low interest loans, loan guarantees, bridge financing and equity financing with flexible repayment terms. We also work with other government agencies and departments.

Aqualine AS

Booth #25-26

Exhibitor: Stig Domaas Førre and Martin Søreide



Aqualine is an R&D net cage system supplier of marine engineering, mooring systems, cages and nets, based on advanced analysis of the conditions at each site. Aqualine's head office is in Trondheim and the company has three bases and warehouses in Norway (Frøya, Bømlo, Tovik), a service station for nets at Hitra and a subsidiary in Australia. Every year, the company spends around 3–5% of the turnover on research and development.

Nord Marine

Booth #28

Exhibitor: Gail Smith



Nord Marine Services Ltd. Is a Newfoundland and Labrador based company involved in the business of sale and service of Marine Saving Life Equipment, Environmental Response and Marine Asset Protection products to the Marine and Offshore markets. Nord Marine is a certified dealer/service for Fitzwright Liferrafts and Immersion Suits along with other high quality products to meet our customers requirements.

Showa

Booth #29

Exhibitor: Chris Harker



SHOWA is synonymous with the highest degree of hand protection and innovation. With 58 patents owned and more than 100 researchers and developers dedicated to making our best even better, we blaze a trail for our industry without imitation. We pioneer revolutionary technology and create over 1,800 gloves, each meticulously engineered to provide the perfect protection for the task at hand. SHOWA's unparalleled quality is achieved through 100% integrated manufacturing, giving us complete control at every stage of design and production. Down to every fiber, our gloves are created better to perform better, unleashing new potential for hands at work.

Force Marine

Booth #30

Exhibitor: Fabian Manning



A modern marine service company focusing on bringing together an array of services to support the aquaculture industry in NL. Locally owned & operated, Force Marine brings together a professional work force to cover all aspects of the service industry providing customers with service solutions on and off the water. From services such as transportation, technical/mechanical, and training to site maintenance and inspection, Force Marine has it covered. Utilizing advanced equipment & technology, Force Marine offers its services year-round, around the clock.

Skretting

Booth #31

Exhibitor: Gary Taylor



Skretting, the global leader in innovative and sustainable nutritional solutions for the aquaculture industry delivers outstanding feeds and services for sustainable production of over 60 fish species.

Skretting's mission 'Feeding the Future' is helping to satisfy the world's rising food needs through responsible aquaculture and innovative ways to increase the efficiency and nutritional value of our products and reduce our environmental footprint.

We believe innovation is essential to driving the aquaculture industry forward. With 25 years of progressive research, advancements in our feed technology have allowed us to reduce the need for fishmeal and increase efficiency of diets.

Pentair Aquatic Ecosystems Inc.

Booth #32

Exhibitor: Constance Beaulaton



Pentair is the largest source of aquatic products and systems worldwide. Pentair offers solutions and expertise to improve growing conditions in any environment from recirculating aquaculture systems to improving water conditions in pens. Today's modern aquaculture farmer needs a partner that is able to help with the scope and variety of challenges they face every day. That is why Pentair has assembled a team of experts with diverse backgrounds in aquaculture, biological and technological engineering that is grounded in decades of research and commercial industry application experience. We help our customers run successful operations by providing the design expertise they need, a responsive service team and the largest selection of equipment and supplies in the industry. Trust in a team that's here to help you With Innovation, Design and Service.

Deep Trekker Inc.

Booth #33

Exhibitor: Rachel Major



Designed to be completely submersible, easily deployed and rugged - Deep Trekker's remotely operated vehicles (ROVs) are the go to instrument for subsurface asset management, exploration, and underwater surveillance. Currently operating in 85 countries and serving 11 industries, Deep Trekker's top side deployed robots are an effective and cost efficient tool for underwater observation of nets, moorings and feeding.

NL Association of CBDC's

Booth #34

Exhibitor: Darcy Delgatty



The Newfoundland and Labrador Association of Community Business Development Corporations (CBDC) is a network of autonomous, not-for-profit organizations that work with all levels of government and private sector to meet the needs of small business. Their mission is to foster, support, and sustain the advancement of their members so that they can help develop local economies in Newfoundland and Labrador. As CBDCs, we assist in the creation of small businesses and in the expansion and modernization of existing businesses by providing financial and technical services to entrepreneurs with all levels of government and private sector. CBDC and our associate member, Metro Business Opportunities, work in partnership to provide services to the St. John's & Mount Pearl area.

EXHIBITOR PROFILES *CONTINUED***NLB Corporation**

Booth #35

Exhibitor: Andrew Chilkiewicz



NLB Corporation is a global leader in the development and manufacture of 2,000 to 40,000 psi (140-2800 bar) high-pressure water jetting systems for industry. NLB offers pump units designed specifically for the harsh environments and conditions of net cleaning applications in situ or on-shore. Long known for its reliable and durable pumps, NLB has worked closely with net cleaning industry professionals in the creation of proven systems that provide less downtime, lower cost of operation and more productivity. A global service and support network helps customers in place with available spare/replacement parts and access to knowledgeable, trained service technicians.

Town of Holyrood

Booth #36

Exhibitor: Marjorie Gibbons



The Town of Holyrood is on a voyage toward diversifying the local economy to ensure reliable services to residences and community. We strive to become a great place to live, learn, work, play, and invest. Our destination has been carefully mapped with an emphasis on becoming the hub of research and innovation in the Ocean Sector.

Grand Falls-Windsor

Booth #37

Exhibitor: Stan Singh



The Town of Grand Falls-Windsor is the largest community in Central Newfoundland, with a population of over 14,000. It is the service centre for the entire region. The Town has had a long and prosperous relationship with the Aquaculture Industry and specifically, the South Coast of the province, for many years. Many of our local businesses service the industry in many ways. From motors to boats, to pumps, to trucks, those in the aquaculture sector have sought out our business community for whatever their needs are. Grand Falls-Windsor has benefitted greatly from this relationship and our shopping centers and restaurants are frequented by our friends from the South Coast weekly. Our town also meets the needs of the South Coast socially, medically, and in other ways. The Aquaculture Industry is an important part of the economy on the South Coast and here in Grand Falls-Windsor as well.

Avalon Laboratories Inc.

Booth #38

Exhibitor: Rodney Mercer



Avalon Laboratories was incorporated to service the laboratory needs of various industry and government sectors in Newfoundland and Labrador. From oil and gas to mining, municipal water testing to food safety, Avalon Laboratories provides a broad suite of analytical services.

With a nationally accredited full-service laboratory we can reduce both the expensive transportation fees and the lost time associated with sample shipments to the mainland thereby shortening the turn-around times for results.

Our laboratories are conveniently located bringing analytical and field services closer than ever before. With clients spanning every industry, we have become the largest commercial laboratory, and the first of its kind, in Newfoundland and Labrador.

Atlantech Canada Ltd.

Booth #40

Exhibitor: Doug Wright



Atlantech® Companies has thirty years of experience focused on the land-based aquaculture and seafood processing sectors - providing water recirculation (RAS), water treatment and effluent treatment designs, project management, packaged systems and individual equipment components.

Atlantech provides professional engineering / design services and project management services and provides in-house manufacturing of specialty water recirculation, water filtration and water treatment / disinfection system components.

I.A.S. Products Ltd.

Booth #41

Exhibitor: Tim Langdon and Lionel Linke



With over 30 years in the industry, IAS Products designs and manufactures aquaculture equipment used by finfish and shrimp/prawn farmers worldwide. Our product range include:

FEEDING SYSTEMS Feed broadcast, feed handling and feed monitoring and control equipment for maximum feed spread to optimize FCRs and reduce feed handling and labour costs.

UNDERWATER LED LIGHTS SeeBrite™ underwater LED lights are available in a full range of sizes, output levels, and LED light spectrums to address photo maturation control and fish monitoring requirements.

UNDERWATER CAMERAS Rugged, versatile underwater cameras built for extreme environment operating conditions.

Realtime Aquaculture

Booth #42

Exhibitor: Tim Stone



At Realtime Aquaculture, we provide an end-to-end solution for farm environmental monitoring, including a cloud platform and innovative sensors that communicate wirelessly underwater. Our technology enables data-driven aquaculture where knowledge drives better decisions.

Advanced Aquacultural Technologies, Inc.

Booth #43

Exhibitor: Gary Miller



Advanced Aquacultural Tech comes to the table with nearly 30 years of commercial RAS production of Hybrid Striped Bass. We offer facility design consultation based on experience in equipment development, facility design and construction, regional full line processing facility design, operation and distribution. We offer a modular Rotating Biological Contactor (RBC) capable of water flows of 2.27 m³/min (136.27 m³/hr). A three stage assembly provides 1885 m² surface area for nitrification and requires only 0.75 Kwh (1.0 hp) of energy.

Pennecon

Booth #44

Exhibitor: Scott Penney



Pennecon is a leading provider of integrated solutions across a diverse portfolio: heavy civil, industrial, services & maintenance, and marine. From breaking new ground to commissioning and ongoing site maintenance, we deliver the best solutions, service, and quality at every stage of the project. Powered by a diverse team, from coast to coast across Canada, we are united by our passion and determination to deliver results on the most complex jobs and challenging environments.

From roadways and bridges to hydroelectric facilities and wind farms, Pennecon's Heavy Civil team has worked on some of Canada's largest and most challenging construction projects; Pennecon Industrial offers a full portfolio of multi-discipline services highlighted by steel fabrication, mechanical and electrical construction, and welding.

GRI Simulations Inc.

Booth #45

Exhibitor: Ashley Burke



GRI Simulations Inc. (GRI) is a software development company that focuses on real-time 3D simulation, visualization, and integrated engineering technologies for critical marine activities. These technologies help to enhance the safety, security, and productivity of marine systems and operations.

Beginning with the Virtual Remotely Operated Vehicle (VROV) Simulator System, GRI has provided instructional platforms for the training of ROV pilots with unparalleled dynamic realism. This gives ROV pilots realistic simulations to enhance safety and productivity as well as giving valuable stick-time so as to minimize risk to personnel and ROV equipment in a cost-efficient way. With the introduction of IDEA-FDK, GRI has enabled VROV simulations in customizable field layout designs, promoting the environmental and operational objectives of oil and gas projects.

SGS Canada Inc.

Booth #46

Exhibitor: Maryana Glavan



SGS is the world's leading inspection, verification, testing and certification company. We are recognized as the global benchmark for quality and integrity. With more than 95,000 employees, we operate a network of more than 2,400 offices and laboratories around the world. SGS is a recognized authority for monitoring both wild caught and aquaculture supply chains and works with the leading seafood certification standards (GFSI plus GAA BAP, MSC COC and ASC Farm, GlobalGap) manufacturers, retailers and food service organizations to enhance food safety, quality and sustainability. We offer digital solutions to increase supply chain transparency and meet regulatory requirements.

Fisheries and Oceans Canada

Booth #47

Exhibitor: Sharon Kenny



The Aquaculture, Biotechnology and Aquatic Animal Health Section is within the Aquatic Resources Division of the Science Branch of Fisheries and Oceans Canada, Newfoundland and Labrador Region. The section has a team of scientists, biologists, technicians and graduate students who conduct research on aquaculture and biotechnology related issues. The section is stationed at the Northwest Atlantic Fisheries Centre located in St. John's. Scientific investigations conducted in the section are directed toward providing information and advice to the aquaculture industry through research and development projects and input into regulatory needs and support for the industry as a whole.

COLD HARVEST EXHIBITOR LAYOUT



**September 23rd – October 1st
has been declared**



Aquaculture Week in Newfoundland and Labrador



With an endless ocean of opportunities, Newfoundland and Labrador is leading our country in aquaculture development. Join us as we showcase our many accomplishments over the past year.

Farming our Oceans with Pride

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Cold 2018
Harvest

NAIA Completes Another Round of Shoreline Clean Ups

By: Amber Willcott and Miranda Caley, CCNL Green Team Members, and Melanie Collier, Michael Coombs, NAIA Summer Students



The Conne River shoreline clean up is always a great success with a small amount of debris.



Jennifer Caines and Amy Negrijn of Northern Harvest Sea Farms and NAIA summer students even cleaned the isolated beaches by boat in Pools Cove.



NAIA's Green Team and students enjoyed spending the afternoon with the Conne River Green Team at their shoreline clean up event.

Marine debris is any man-made, solid material that enters waterways directly through littering or indirectly via rivers, streams and storm drains. Nearly 80 percent of marine debris originates from land-based sources leaving debris in oceans or on shorelines. This poses a threat not only to the environment, but to the organisms that live in or around oceans who may mistake debris for food. Although there has been significant progress in making the switch to biodegradable material, the amount of non-biodegradable material left in oceans is on a rise— which is why making individuals aware of this issue is more important than ever. Countries across the globe are fighting to get rid of the debris that is growing each day. Informing the public is key to not only making people aware of this issue, but ultimately limiting the debris that ends up in our oceans.

Aquaculture in the Coast of Bays has continued to grow in leaps and bounds and we rely upon the sea and a suitable environment to produce premium seafood. NAIA, in partnership with the Conservation Corps NL and our industry and community partners successfully completed seven shoreline clean ups throughout the summer. These events took place in Miawpukek First Nation, Milltown-Head of Bay d'Espoir, Hermitage-Sandyville, Harbour Breton, Morrisville, Pool's Cove, and St. Alban's.

At each shoreline clean up, volunteers are divided into groups and designated a specific area within the community to collect debris. Once every beach is cleaned in each community, the type, quantity, and size of debris is tallied and recorded. Finally, the type and amount of debris as well as the number of participants, is compared to that of previous years and compiled into a final report. This year, results show that 231 volunteers collected approximately 275 bags of debris and 238 pieces of large debris. (large rope, styrofoam, steel, metal, etc.) Since these annual clean ups began in 2007, the amount of debris on our beaches has continued to decline.

Each year, communities, industry, and volunteers alike express their gratitude for the large-scale clean-ups that NAIA organizes all along the coast.

“Miawpukek First Nation is extremely thankful to everyone who participated in the 2018 shoreline clean-up. Your continued support and interest in keeping our shorelines free of debris is

appreciated and ensures that our environment remains healthy for the next seven generations.

Working together not only contributes to our environment, it contributes to building stronger healthier communities. Events such as this are special because it brings communities together.”

Chief Misel Joe – Wela’lin.

“The Town of St. Alban’s has been involved with NAIA’s annual shoreline cleanup for over ten years. Each year residents and businesses take pride in partnering in such an important event. It is so important to the environment to keep debris off our shoreline and beaches. Thank you to NAIA and its staff for organizing this event every year. Special thanks and appreciation to our residents, organizations and businesses for continuing to support keeping our environment debris free.”

Gail Hoskins, Mayor of St. Alban’s

“Clean beaches and shorelines build community pride and helps make our planet a nicer place to live in. Partnerships in community events like these are a vital part of community building and tend to strengthen municipalities. I would like to sincerely thank everyone involved and keep up the great work!”

Georgina Ollerhead, Mayor of Harbour Breton

These shoreline clean-ups would not be possible without the help of our industry and community partners, and residents within our communities. We would like to extend a sincere thank you to the following: Conservation Corps NL, Miawpukek First Nation, MAMKA, Town of Milltown – Head of Bay d’Espoir, Town of Hermitage – Sandyville, Town of Harbour Breton, Town of Morrisville, Town of Pool’s Cove, Town of St. Alban’s, Nova Fish Farms, Cold Water Fisheries, Cold Ocean Salmon, Barry Group Inc., Kelly Cove Salmon, Marine Harvest, Connaigre Fish Farms, Hermitage Processing Inc., Cooke Aquaculture, SIMCorp Marine, Northern Harvest Sea Farms, Tay-Aus Diving, Milltown – Head of Bay d’Espoir Recreation Committee, Milltown – Head of Bay d’Espoir Heritage Society, Milltown Lion’s Club, Hermitage Lion’s Club, Harbour Breton Recreation Committee, Harbour Breton CYN, Elliot Premises, Youth Ventures South Coast, Marine Institute - COB NL Regional Aquaculture Office, Coast of Bays Contracting, Morrisville Recreation Committee, Pool’s Cove Recreation Centre, St. Alban’s Recreation Committee, Newfoundland and Labrador Hydro, Roti Bay Boat Club, Oceans Learning Partnerships, and community residents. It is because of the support we receive from all of you that helps us improve our environment, strengthen community spirit, and make them fun family events. We hope to see you next year! ✨



The Harbour Breton shoreline clean up saw a huge turn out of industry and community residents.



NL Hydro staff were a great help at the event in Milltown - Head of the Bay.



Residents of Pools Cove seemed to enjoy the first NAIA shoreline clean up in their community and were happy to lend a hand.



Entreprises Shippagan Ltée Group of companies



with partners



Come see us at our booths



Atlantic Canada Cleanerfish Workshop Delivered in Newfoundland and Labrador



By: Darrell Green, Research and Development Coordinator, Newfoundland Aquaculture Industry Association

Each year, the Newfoundland Aquaculture Industry Association develops industry research and development priorities for industry and consolidates these through the Strategy for Targeted Aquaculture Research in Newfoundland and Labrador (STAR-NL). Over the past few years, one of the constant highest priority salmonid items has been related to Integrated Pest Management (IPM) strategies for sea lice. Sea lice has been a challenge for salmon farming wherever it is being done. Integrated Pest Management for sea lice is a concept similar to that used to manage other pests in agricultural operations worldwide. Mange mites in swine, fleece maggots in sheep and cyst nematode in potato farming are examples of the many pest challenges that require an integrated approach to management.

Within this individual priority item there are specific sub-category priorities or action items identified. One of these, biological control of sea lice using cleanerfish, has been an active area of focus over the past 7 or 8 years. Cunnners and lumpfish have been the two species of cleanerfish prioritized as opportunities for development in NL and the team at the Dr. Joe Brown Aquatic Research Building at Memorial University has been leading the development of cleanerfish breeding, hatchery, husbandry and transport techniques. Over the past few years Cold Ocean Salmon (Cooke Aquaculture, NL) have been working with the JBARB to test the efficacy of these cleanerfish in their salmon cages. Fifty-five thousand lumpfish were deployed into COS salmon cages in Newfoundland and Labrador this year. The company hopes to have all their current salmon net pens stocked with cleanerfish in the near future. Grieg NL Seafarms and Maine Harvest Atlantic Canada have also been involved in this research at the JBARB. A joint project by MAMKA and Netukulimk Fisheries is also underway near Conne River, to develop the use of wild-captured cunnners as biological sea lice control. Currently

the group is gathering information on wild populations to develop models for the sustainable harvest of the species for stocking into salmon farms in the near future. But even with all this development work ongoing, the supply of cleanerfish in Newfoundland and Labrador will likely fall short of the demand over the next 5 years, unless lumpfish culture and cunner fisheries develop rapidly. With future plans to use cleanerfish by all 3 of our salmonid companies, demand could reach between 1.4 million and 2.0 million cleanerfish in five years.

With this in mind, and in consultation with Memorial University and our member salmon aquaculture companies, NAIA organized the two-day Atlantic Canada Cleanerfish Workshop in St. John's this past August. The workshop was aimed at identifying and alleviating challenges facing cleanerfish culture and capture, organizing industry resources for cleanerfish development and helping to fill our current

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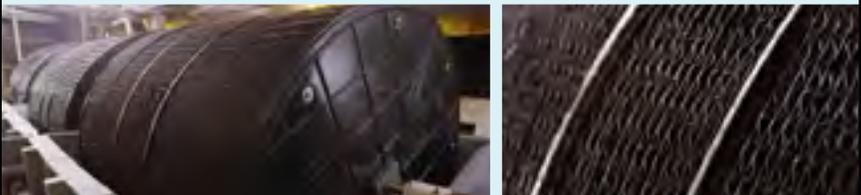
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Atlantic Canada Cleanerfish Workshop CONTINUED

knowledge gaps. In all these areas the workshop was very successful in meeting its goals.

In terms of knowledge, industry identified gaps in areas such as timing of wild stock spawning, broodstock husbandry, broodstock selection, juvenile diets, fish transport, use of vaccines, fish welfare in cages, supplemental diets in cages, disease profile of wild-collected fish, wild cunner populations and regulatory requirements for collection and use.

Thanks to our steering committee of Danny Boyce of JBARB, Elizabeth Barlow of Marine Harvest Atl. Canada, Sheldon George of Cold Ocean Salmon and Jillian Westcott of the Fisheries and Marine Institute of Memorial University we were able to assemble a group of world renowned cleanerfish experts to come to Newfoundland and Labrador and present on the current state of knowledge in cleanerfish development.

The Atlantic Canada Cleanerfish Workshop presented a vast amount of information, on both scientific and practical research, from academic and industry experts from both here in Canada and other salmon aquaculture jurisdictions, which was very well received by the 100-plus people in attendance. Even some of our international experts were impressed with the level of expertise assembled and the caliber of the presentations.

Presentations included industry leaders in cleanerfish use explaining how and why cleanerfish came to be used in other jurisdictions. We heard of the efficacy of cleanerfish use in Norway, Faroe Islands and Great Britain. We were told about trials using cleanerfish in NL in 2016 and 2017; both of the successes and the knowledge gaps we have identified based on these trials. We saw a video presentation on a highly successful lumpfish hatchery in Norway which supplies the industry. We learned about the factors affecting the costs of production in UK and other areas. We were instructed on broodstock husbandry, breeding and juvenile husbandry

protocols in Norway. Presentations were given on current research into lumpfish behavior, feeding and optimal fish health and welfare (hides / enclosures) and how it relates to grazing in salmon cages. We learned about cleanerfish transport and cage site use protocols in Faroe Islands and in Norway. Lectures were given on health consideration for cleanerfish from the Faroe Islands and Norway and we heard how vaccine development and efficacy is progressing. We heard from major feed manufacturers speaking on cleanerfish diets (in nursery and in cages), and we learned of Canadian governmental regulations for access to wild fish for aquaculture purposes and transfer permitting. Finally, question and answer sessions allowed for active discussion and sharing of knowledge among all in attendance.

Following the successful delivery of this key industry workshop the NAIA is planning to organize action on some of the recommendations which came from the workshop. An industry / stakeholder working group is in the planning stages and we hope to launch this panel over the coming weeks.

The NAIA would like to thank our sponsors for making this workshop possible; the Department of Tourism, Culture, Industry and Innovation, Skretting Canada and Entreprises Shippagan Ltée.

NATIONAL / INTERNATIONAL EXPERT SPEAKERS:

- Marine Harvest (Norway, Atlantic Canada)
- Cooke Aquaculture (NL)
- Dr. Joe Brown Aquatic Research Building (NL)
- University Of Swansea (UK)
- Dorset Cleanerfish Ltd. (UK)
- Piscine Energetics (BC) (Also remove comma)
- Netukulimk Fisheries (NL)

Darrell is the Research and Development Coordinator (RDC) for NAIA. He has worked in the aquaculture industry since 1997. He has management experience in commercial aquaculture and had worked on aquaculture research projects involving cod, halibut and blue mussels at Memorial University, before joining NAIA in 2007. In his current capacity, Darrell plans, initiates and manages NAIA R&D projects on behalf of, and in partnership with, NAIA member aquaculture companies. ✨

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Aquaculture Sustainability – Urban Food Security and Rural Community Stability

By: Laura C. Halfyard, President NAIA and General Manager, Sunrise Fish Farms Inc.

Yes, Virginia there is a Santa Claus” like the 1897 Christmas letter to The Sun (New York) newspaper and editor Francis Church’s response about belief, hope and faith in society, we also found in a recent survey that most of our NL consumers support and point to the economic importance of our NL aquaculture industry. Aquaculture is an essential sustainability pillar for both our rural AND urban communities, to feed and employ our future NL children.

Global needs are for both wild and farmed seafood for population sustainability, but sometimes there is a disconnect between urban users and rural producers. Often children and adults are unaware or dissociated from their food sources, expecting nice cello-wrapped packages in stores. This is in contrast to less than 50 years ago when we hunted, fished, farmed and gathered berries for sustainability. In rural NL, some homes still have freezers with wild (moose, turrs, fish, berries) and farmed (beef, chicken, salmon, vegetables) foods,

while urban populations are more closely tied to fresh and frozen produce in stores, with limited home reserves. Changes in international food distribution and marketing trends for seasonal produce from numerous countries are in contrast to recent “Eat Local” movements to encourage local production, as was family sustainability two generations ago by necessity.

Maclean’s magazine (Sept. 2018) asked “What’s killing rural Canada”? This article reflects what I’ve observed in rural Newfoundland, Vietnam and France. Once critical employment sectors leave, then populations decline (especially for youth and elders), along with schools, health care and other services (e.g. gas stations and stores). But the reverse has been noted in south coast and northeast NL regions with increased salmon and mussel farming activities.

Sustainability can mean different things for NL, for its aquaculture and wild fisheries. Food security, regardless of where we source it globally, can mean we continue to grow



Sunrise Fish Farms Inc. crew beginning a continuous longline mussel harvest in Shoal Arm; all crew live, work and contribute to communities around the farm.

our NL and Canadian salmon and mussel industries. This will feed into economic sustainability of our rural communities. Without aquaculture, these communities will see a steady population decline, as is happening to communities primarily reliant on the wild cod fishery. My home community now has a shuttered fish plant, with off-loaded wild fish being trucked to more efficient plants, and the town population continuing to decline and age. Rural communities will suffer, while urban centres will continue to be service centres, and source its salmon and mussels from grocery stores that can bring it from Chile, Norway, etc. – the plight of rural communities and not investing in the NL salmon/mussel industries will go largely un-noticed by urban shoppers.

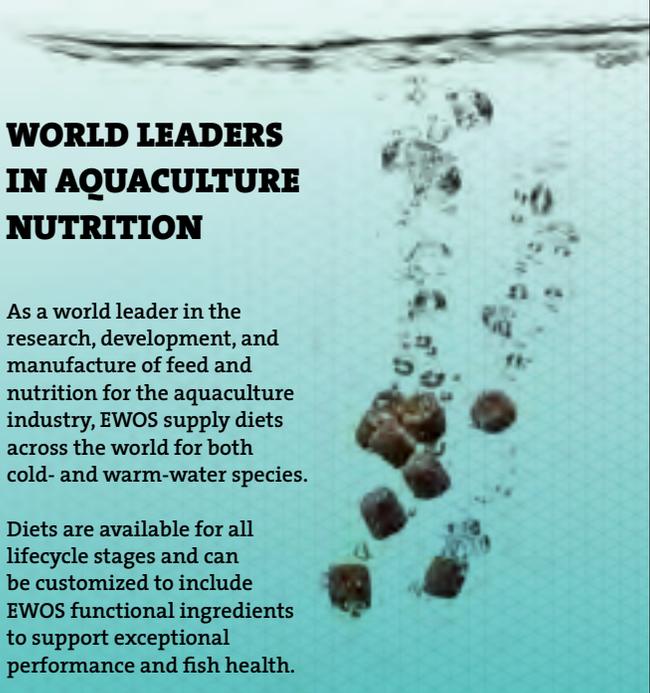
Our wild fishery continues to struggle for accurate fishery and harvesting models, while fishing quotas may get traded off for other federal commodities and priorities of larger Canadian populations. But aquaculture, like agriculture, is a sustainable provincial resource. Land based salmon farming has thus far not been viable on the global market, with models failing due to economic costs (i.e. not due to technology as it is already used in the hatchery phase). Salmon farming will continue elsewhere in the world, as a global commodity. Without salmon and mussel farming, NL would essentially become a Canadian wildlife reserve where a few tourists visit in the summer and those with wealth can experience a false reality of rural outport life. We have seen failures of NL and Canadian wildlife and fisheries management strategies (e.g. moose, caribou, seals, cod, capelin). There is absolutely no guarantee that wild salmon stocks would recover, as the international fisheries will continue, along with climate changes, ballooning seal populations, etc.

What will the next 25 years bring? Yes, there will continue to be challenges of escapes and disease, as also occur in terrestrial Agriculture (e.g. feral pigs, fox, Infectious Laryngotracheitis (ILT) in poultry), but these are managed and are not often targeted by consumers and the media to stop agriculture. Risks are sometimes greater for small agriculture farms than large commercial operations with better husbandry and disease control protocols. For aquaculture, like agriculture, the scale of production and technology must change to keep pace with global needs, environmental stewardship and labour services. We must also strive to enhance the potential revenues of our NL aquaculture farming through value-added products that carry Canadian branding for high, sustainable quality. Aquaculture and agriculture will both remain pillars for rural community stability for urban consumer food security. ✨



Mussel seed collection in Woodford's Arm site being checked by Trenton Johanson, Farm Manager and Cocci, Italy (equipment supplier).





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In Their Own Words

High School Students in Coast of Bays Get Hands-On Work Experience in Local Aquaculture Companies

Author: David Tipton, Manager Operations and Outreach, Coastal Explorers Field School



In 2018, sixteen high school interns were hosted at nine ocean science and technology companies in St. Alban's, Harbour Breton, Pool's Cove, Corner Brook, Clarenville, Harbour Grace, Mount Pearl, and St. John's.

Interns were engaged in hands-on field work and projects including development of underwater camera platforms, research and testing of 3-D scanning technology, invasive species monitoring, corporate sales, collection and testing of samples for fish health research, electrical systems design, welding and fabrication, and engine repair.

Through these dynamic learning experiences, young people in the province gained practical and marketable skills and were exposed directly to a range of careers and entrepreneurial ventures in the oceans sector.

Here's what interns working with the aquaculture sector in the Coast of Bays had to say about their experience, the industry, and their future:

"Aquaculture in our region is a growing sustainable industry that will continue to provide increased employment within the sector here in the Coast of Bays. Ocean Science and Technology (OSAT) internships gave us the opportunity to see first-hand the aquaculture sector, helped us to understand the industry and exposed us to the vast amount of career opportunities that exist right here in our backyard!"

*Coast of Bays Interns,
Final Presentation*

"I loved going out on marine sites in boat, seeing the scenery, and learning about all the different job opportunities that come along with aquaculture. The opportunities that aquaculture could

offer me are chances to travel, lots of training and learning opportunities. This field would give me a stable future. I would have a work home life balance with this job."

*Reanna George, OSAT Intern,
Cold Ocean Salmon, St. Alban's*

"I grew up around trades people, and doing mechanics. Working alongside those in the maintenance sector of aquaculture, helped me to build on my mechanic and people skills. This job would provide the benefit of staying close to home that means close to my family which is important to me."

*Hunter Skinner, OSAT Intern,
Cold Ocean Salmon, St. Alban's*

"I enjoyed my time at the Barry Group because the other workers are very easy to get along with and like to have fun



Ocean Science and Technology Summer Interns are ready to hit the water with Cold Ocean Salmon in St. Alban's. Pictured: Cameron Strowbridge, Jared Johnston, Hunter Skinner, Ava Marshall, Reanna George.



Interns aboard a feed barge explore the Pool's Cove marine cage site with mentors from Northern Harvest Sea Farms. Pictured: Tanya Savoury, Amy Negrijn, Ava Marshall, Reanna George, Hunter Skinner, Jennifer Caines, Jared Johnston, Cameron Strowbridge, Heather Bennett

with their work. I learned many things from the maintenance crew. I enjoyed the hands on work with the machinery and doing electrical work, because I've grown up helping and learning from my dad."

Cameron Strowbridge, OSAT Intern, Barry Group, Harbour Breton

"This summer I had one of the best experiences of my life. I gained marvelous insight into my future career which is in electrical engineering. The internship helped my confidence in my career path. I feel prepared going into my program."

Jared Johnston, OSAT Intern, Barry Group, Harbour Breton

"I had such a great time learning about aquaculture and all the different jobs and roles that come together to make everything work in perfect harmony. Some prospects for me are site manager, veterinarian, hatchery or sea site technician. I really enjoyed the hands on work and working outside. I'd even be close to home which would be good because I don't really want to leave."



Ava Marshall loved working on the water and learned how to sample and weigh salmon with Northern Harvest Sea Farms.

Ava Marshall, OSAT Intern, Northern Harvest Sea Farms, Pool's Cove

"Our host companies guided us along our journey, by providing us with hands on work experience and showing us great mentorship. This experience is something all of us will remember for



Cameron Strowbridge grew his interest in welding and fabrication working with mentors from the maintenance team at Barry Group.

a life time. Special thanks to the Barry Group, Cold Ocean Salmon, Northern Harvest Sea Farms and all the employees who were willing to share their knowledge each and every day."

Coast of Bays Interns, Final Presentation ✨



Hunter Skinner further developed his mechanical skills repairing outboard engines as part of his summer internship with Cold Ocean Salmon.



Reanna George gets some experience measuring and weighing salmon samples with Cold water Salmon at the Olive Cove marine site.



Jared Johnson has a strong interest in electrical engineering. He developed and applied his skills helping wire and repair components of the production line with Barry Group in Harbour Breton.

Cooking with Chef Steve Watson

Grilled Farmed Atlantic Salmon Tails with Fall Vegetables Capers and Lemon Zest

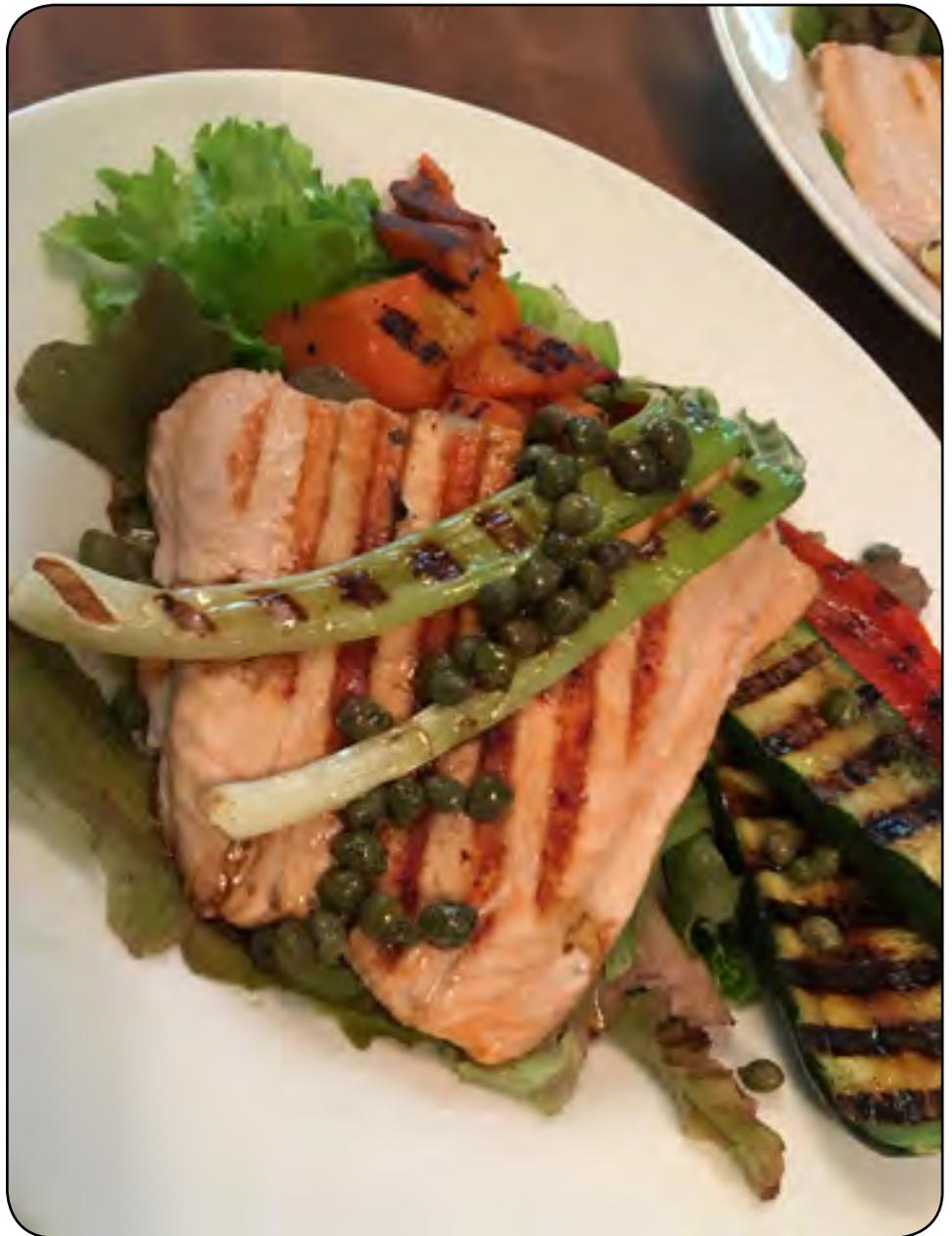
Ingredients:

2 x 8 oz. Atlantic Salmon Tails
4 tsp. Capers
1 Lemon
4 Green onions
3 Sweet peppers
2 Zucchini's
30 ml. olive oil
30 ml. balsamic vinegar
30 ml. chopped fresh thyme
15 ml. water
Salt and pepper

Directions:

Cut zucchini diagonally into 5 millimeters thick slices and brush with 5 ml of the oil. Seed and cut peppers lengthways into 8 pieces. Grill vegetables, in batches if necessary, under high heat for 4 – 6 minutes on each side or until tender but firm. Transfer to a serving bowl. Whisk together capers, remaining oil, vinegar, thyme, water, and salt and pepper to taste. Pour over hot vegetables and toss to coat.

Season salmon tails with salt and pepper and lemon zest. Grill on electric indoor grill for 5 minutes on high heat. When cooked, place on top of warmed grilled vegetables. The vegetables can be covered and refrigerated for up to one day. Serve warm and enjoy! ✨



Chef Steve Watson served as an apprentice in London, and worked in Scotland, Belgium, France and Germany before moving to Canada in 1977 to study North American cooking. He taught culinary arts at the Cambrian College in Sudbury, ON before joining the Canadian Pacific Hotels chain in 1988. He recently retired as Territory Sales Manager and Executive Chef with Agropur, and has taken on a new passion of working as a tour guide with McCarthy's Party in St. John's, NL. He's also a devoted family man and a prominent member of the local community. Steve epitomizes the definition of a volunteer, including his work with NAIA and his quarterly submissions to the Cold Harvester, and spends countless hours giving back to the people of a province he now calls home. ✨

Couturier on Culture

Celebrating Global Aquaculture – The Future is Bright

Cyr Couturier is an aquaculture scientist and program chair 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. He is a Board and Executive member of several aquaculture & development associations, including NAIA (past-president), CAIA (president), CAHRC, etc. He has worked in aquaculture development in over 18 countries. The views expressed herein are his own. Contact: cyr@mi.mun.ca or follow on Twitter @aquacanada



By: Cyr Couturier

The United Nations recently published its State of World Fisheries and Aquaculture 2018 (SOFIA 2018). Most folks look forward to this biennial publication with much interest as it provides a reasonably accurate portrayal of the status of global fisheries stocks, and the growing aquaculture sector. What is more, there is a critical look at the major issues surrounding fisheries and aquaculture, and the report highlights efforts to improve on these industry “warts” as I like to call them.

Here are some of the highlights extrapolated from the SOFIA 2018 report:

- Aquaculture continues to grow around the globe and is the major source of seafood consumed by humans on the planet (now exceeds 50% consumption).

- Capture fisheries continue to stagnate in total volume, following a 40 year trend of stable values around 90 million tonnes.
- Seafood farming is on target to reach 65% of all seafood by 2030.
- Over 3 billion people have a daily meal of seafood (over 1 trillion meals per year).
- Some 20 million men and women rely on aquaculture as their primary source of employment and income. When including the entire seafood value chain, this number likely exceeds 100 million people.
- The annual global value of seafood trade exceeds \$300 billion USD, larger than the single economies 100 nations.

continued on next page

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COUTURIER ON CULTURE continued

- The value at first landing of aquaculture is approaching \$200 billion USD and exceeds that of capture fisheries by a significant amount.

The report reviews major issues trending in the fisheries and aquaculture sectors and progress towards achieving the UN's sustainable development goals. The good news is that aquaculture supports the goals of reducing environmental impacts in our oceans, improving livelihoods of coastal dwellers, while providing mitigation and adaptation strategies to climate impacts on fisheries production.

There are ongoing challenges of course, the sector does need to find solutions to production issues primarily facing the marine shellfish and finfish farming sectors. Many of the issues relate to animal and environmental health. But,



Cover of the SOFIA 2018 report, released July 2018 by the United Nations. Copies available for free at: <http://www.fao.org/publications/sofia/en/>.

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these challenges are essentially opportunities for the sector to innovate, create solutions, and to continue to produce sustainable, healthy aquatic protein. The world is counting on us to do so. Now, more than ever, is the time for academics and researchers alike to focus not on the negatives of fish farming, but to contribute to the improvement of the sector, for it is literally the future of seafood. ✨

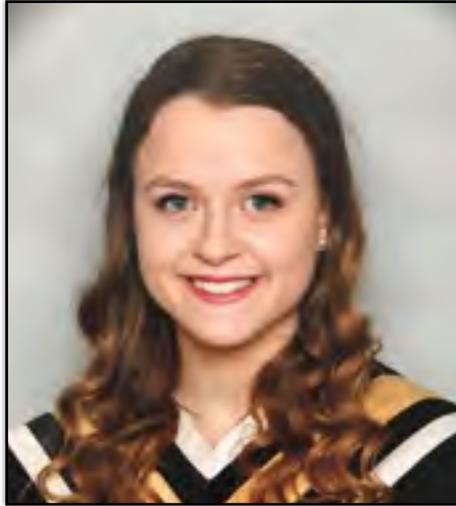
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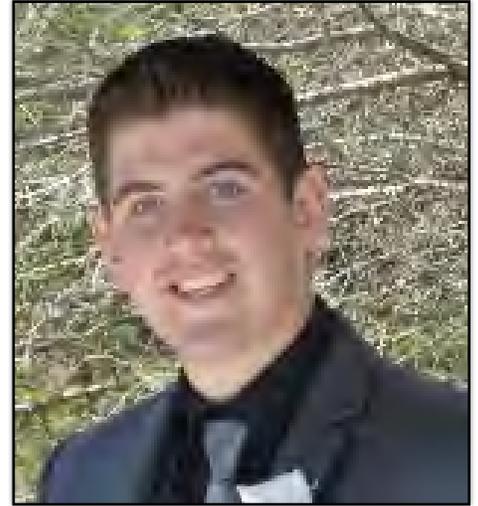
NAIA Post-Secondary Scholarship Recipients



Congratulations to Jake Hollett on being awarded the \$500 NAIA Scholarship award for 2018.



Congratulations to Jillian Rideout on being awarded the \$250 NAIA Scholarship award for 2018.



Congratulations to Gavin Thorne on being awarded the 2018 the \$250 NAIA scholarship.

The Newfoundland Aquaculture Industry Association (NAIA) is pleased to announce the winners of its 6th Annual Scholarship for graduating students from high schools in Newfoundland and Labrador. The competition was held in the spring/summer across the province and a number of submissions were received.

Three scholarships valued at \$500 and two at \$250 will be awarded to students pursuing a post-secondary education in marine or aquatic related studies. (sustainable aquaculture, marine biology, marine environment technology, ecology, nautical science, engineering, etc.)

Congratulations to the award winners Jake Hollett, Gavin Thorne and Jillian Rideout!

Jake Hollett attended Lewisporte Collegiate in Lewisporte, NL and will be awarded the \$500 scholarship towards his entrance to Marine Institute of NL in the fall. Gavin Thorne attended Baccalieu Collegiate in Old Perlican, NL and is also attending Marine Institute in the fall. Jillian Rideout attended Grose Morne Academy in Rocky Harbour, NL and will be attending Acadia University in Nova Scotia. Both Gavin and Jillian will be awarded \$250 towards their studies. Special thanks to all other candidates for their contributions.

This annual scholarship competition for high school graduating students is made available with proceeds raised at the Joe Brown Silent Auction during the NAIA Conference and Trade Show. ✨



Welcome BCSFA ED

On behalf of the NAIA Board of Directors and staff, please join us in welcoming John Paul Fraser as the new Executive Director for The BC Salmon Farmers Association. Mr. Fraser has a deep background in public and government communications. He was B.C.'s deputy minister responsible for Government Communications and Public Engagement until last year. Welcome aboard! ✨





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Newfoundland and Labrador is one of very few places in Canada with plenty of aquaculture space available. It also offers an excellent investment environment. Various international investors have already recognized this and are currently partnering with local companies to grow the industry . . . and their return on investment.

The Newfoundland Aquaculture Industry Association (NAIA) offers a constructive and personalized approach to help you develop positive relationships with experienced, reputable local partners. Please contact NAIA to learn how we can help.

For more information contact: Mark Lane, Executive Director
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