Celebrating 20 Years
COLD HARVEST 2013 HIGHLIGHTS
Reflecting on the Past, Embracing a Promising Future
The Government of Newfoundland and Labrador supports the development of the aquaculture sector to enhance economic opportunities in communities along our coasts. It is committed to the long-term economic and environmental sustainability of the industry through the provision of infrastructure, aquatic animal health expertise, as well as financial and technical support.

Newfoundland and Labrador has the technology and expertise to foster the sustainable development of the salmonid, blue mussel and aquaculture sectors, to become the largest producer of quality aquaculture products in Canada. Through the continued cooperation between industry and all levels of government, this goal is achievable!

The right place...
The right people...
The right time...
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!

Greetings from Minister of Fisheries & Oceans

Greetings from Minister of Fisheries & Aquaculture

Greetings from the Desk of NAIA's ED, Cyr Couturier

NAIA Welcomes Danielle Farrell & Katie Collins

Annual Fisheries Scholarship Announced

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Labour Shortages in NL - What's A Business to Do?

Cooking with Chef Watson

The Road to Certification - Demonstrating Sustainability

Safe Snowmobiling Tips from Transport Canada

Vase Tunicate Found on the Burin Peninsula

Dr. Laura Halfyard Retires from Marine Institute

Message from Jennifer Woodland, President of NAIA

Congratulations

Cold Harvester 2013 Sponsors & Supporters

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!
As Canada’s Minister of Fisheries and Oceans, it is a sincere pleasure to welcome you to the Newfoundland and Labrador Aquaculture Industry Association’s 20th annual conference and trade show.

The aquaculture industry is an increasingly important component of Canada’s production of fish and seafood. This is an industry that creates wealth for provinces because aquaculture relies almost exclusively on export markets for its revenues. In fact it is estimated that approximately 60 per cent of all Canadian aquaculture products are sold to foreign markets.

Aquaculture is an industry that is helping meet growing global demands for fish and seafood and also creating jobs and growth in many communities in Newfoundland and Labrador, as well as right across Canada. Here in Newfoundland and Labrador alone, the aquaculture industry provides close to 1,000 jobs and has a total economic value estimated at more than $141 million.

Of all the provinces and territories, Newfoundland and Labrador has the fastest growing aquaculture industry in Canada, producing both shellfish and finfish. It is also the largest producer of steelhead trout.

As the aquaculture industry continues to expand, our government will provide management and regulation to ensure wild fish stocks are protected, and that aquaculture in Canada is developed in an economically viable and environmentally sustainable manner. That will enable the industry to continue to bring economic and social benefits to Canada and Canadians.

We look forward to continued consultations with the industry to ensure that we build on the progress to date and confirm Canada’s place as a world leader in sustainable aquaculture.

I hope you have a productive conference and trade show.

Sincerely,

The Honourable Keith Ashfield, P.C., M.P.
Minister of Fisheries and Oceans
As Minister of Fisheries and Aquaculture for the Province of Newfoundland and Labrador, I would like to congratulate the Newfoundland Aquaculture Industry Association on its 20th annual conference and trade show. Celebrating such a milestone anniversary speaks to the strength of the industry and how it is growing and developing positively for the benefit of Newfoundlanders and Labradorians.

Aquaculture is one of the fastest growing industries around the world. Canada's own growth is undoubtedly being led by this province – led by your aquaculture interests!

In the past two decades, we have come to rely heavily on the seafood that is being produced by this industry. As time goes on, we will become more and more reliant on this viable seafood option as global demand increases. This will undoubtedly present great opportunities for our future, of which I am confident we are in a position to pursue. It will be important though that we continue to proceed in a safe and ecological manner with emphasis on best practices.

Our province's aquaculture industry has surely risen to the occasion and will continue to rise as a beacon of success in rural and coastal communities.

I am very confident that 2013 will see unrelenting success. This is made possible through the strong working relationship that has been developed between industry and all levels of government. We must continue working together to further cultivate this important industry and make it a permanent part of who we are as a province, and as a people.

I wish everyone the best and hope you find this year’s conference both informative and valuable. I look forward to working with each of you in the coming year.

Thank you,

HON. DERRICK DALLEY, MHA
The Isles of Notre Dame
Minister of Fisheries & Aquaculture ★
The theme for this year's 20th anniversary Cold-Harvest conference is "Reflecting on the past, embracing a promising future". In terms of reflecting on the past, it is interesting to note that the aquaculture industry in Newfoundland and Labrador has had a long variable history of development spanning over 40 years. The first efforts were aimed at mussel culture and scallop culture during the late 1960s and 1970s, mostly developing seed collection and growing technology with the support of Memorial University. The world’s first sea scallop farm was established in 1980 in Little Mortier Bay, NL, and the following year the first commercial mussel farming operation was established in Garden Cove, Placentia Bay, NL after years of experimental work by the University. Through the 1980s and much of the 1990s several species including mussel, scallop, trout, salmon, cod, char, clams, oysters, eels, etc. were under development and experiencing variable successes in terms of commercial development. By the year 2000, there was still very little in the way of truly commercially successful finfish or shellfish operations in our province. This was in spite of the fact most other provinces in Canada had growing commercial finfish and shellfish farming industries at the time. We just could not get to a level of producing several thousand tonnes of any species in a commercially reliable fashion by the turn of the century.

In the late 1990s, the Newfoundland Aquaculture Industry Association (NAIA), in collaboration with the provincial government led an exercise to develop a “strategic plan” that identified the key barriers preventing commercial expansion of our industry in this Province. The plan also identified some of the major steps that were required to bring commercial success to our Province in aquaculture. It was decided to focus on species that had the greatest potential for being commercial and for creating employment and sustainable farming operations in NL, these being Atlantic salmon, steelhead trout, and blue mussels. Cod was included as potential future commercial species. There have been critics of this plan since it was developed however it is interesting to note that many of the actions in the plan have now come to fruition in the past 10-12 years. We are the third largest producing Canadian province in terms of aquaculture output, and soon likely to become number two. Without going into the details, we can also point to the NAIA as playing a big role in this success along with our provincial partners led by the Department of Fisheries and Aquaculture, and our federal lead agency, Fisheries and Oceans Canada. They do deserve a vote of thanks in helping our industry reach its goals of commercial success, in spite of differences in opinion on how to achieve those goals over the years! The industry in this Province is also greatly appreciative of the contributions by the ACOA over the past 20 years or so towards R and D, commercial development and commercialization support for our sector; without their support we really would not have the level of success we are currently seeing.

The NAIA has been part of the success of the industry in this province, commencing with its predecessor the Newfoundland Aquaculture Association in 1985 and led by the industry pioneers in finfish and shellfish culture of the day. Several are still in the business today, earning a living in aquaculture. In 1993 it became evident the association needed full time help so it incorporated itself as the NAIA, hired an executive director and began to act as a single voice and advocate for industry. NAIA undertook to coordinate the environmental and larval monitoring program for the burgeoning mussel industry from 1993 to 2002, and it also participated in the development of and implementation of the strategic plan in 1999 and onwards. It has been an active and effective representative for the industry over the past 20 years. Now that we have reached commercial success in terms of shellfish and finfish production, the NAIA will continue to have an important role in assisting its members to remain competitive, grow their markets, and to promote the industry across our Province and beyond. The future is indeed promising and we look forward to continuing to serve
you, the members, in achieving your goals of producing environmentally sustainable, healthy seafood products in support of the rural regions of the Province.

On a personal note, it is indeed a pleasure for me to be back with the NAIA as Executive Director while Miranda Pryor is on maternity leave with her second child. This is my third temporary stint as ED for the NAIA since 2006, after two terms as president, and a board member for the past 18 years. I am extremely proud to be given the opportunity to serve the members again in this capacity and to continue to support the efforts our industry to be a world leader in aquaculture. I look forward to working with you all over the next while as we forge ahead towards a promising future. ✭

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**Aquaculture Events Calendar**

**International Boston Seafood Show**
Boston, MA  March 10 – 12, 2013

**13th Aquaculture Insurance & Risk Management Conference**
Istanbul, Turkey  April 4-5, 2013

**Aquaculture Canada 2013**
Guelph Ontario  June 2 – 5, 2013

**Aquaculture Europe**
Trondheim, Norway  August 9 – 12, 2013

**Aqua Nor**
Trondheim, Norway  August 13 – 16, 2013

**World Seafood Congress 2013**
St. John's, NL  Sept 28 - October 4, 2013

To include your event on the NAIA website, please email roberta@naia.ca ✭

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NAIA Welcomes Danielle Farrell
By: Roberta Collier, Regional Coordinator, NAIA

Danielle was hired in January through the NL Works program for a twenty-five week placement offered by the Department of Advanced Education and Skills, to work as Project Coordinator from the satellite office in the St. Alban's.

She recently graduated from the University of Prince Edward Island with a Bachelor of Science in Foods and Nutrition, and completed a Dietetic Internship. Danielle is excited to be working with NAIA and to have the opportunity to utilize her nutrition background. She hopes to build on and strengthen the existing NAIA resources by adding a nutrition perspective to the NAIA website, magazine and the various seafood shows that NAIA participates in throughout the year.

Danielle will also be assisting in preparation for events such as the Annual Cold Harvest Conference and Trade Show, NAIA/MI workshops, The Cold Harvester Magazine, and promotional events. Welcome aboard Danielle! ✯

New Office Coordinator for St. John’s Office

On behalf of the NAIA board of directors & staff, we would like to welcome Katie Collins as our new Office Coordinator in the St. Johns office. Katie, who has more than twenty years of experience in an office environment, graduated from Compu College (with honors) from an Accounting, Payroll & Business Administration Program. She has experience working in the Mechanical, Construction, and Salon Industries and for the past 10 years has worked in the fishing industry as a Fish Payroll Supervisor. She will continue in this role part time while in her position at the NAIA overseeing our finances and office administration. Feel free to welcome Katie at Cold Harvest 2013! ✯

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ACT FOR AQUACULTURE

Act for Aquaculture is the creation of individuals who work in Atlantic Canada’s salmon farming industry with a goal to promote positive awareness of the industry through accurate information. The purpose of this website is simple. We want to challenge myths and misinformation about our industry – particularly those involving salmon farming. We have received support from the Atlantic Canada Fish Farmers Association and the Newfoundland Aquaculture Industry Association.

Please visit www.actforaquaculture.ca for more information.
Annual Fisheries and Aquaculture Scholarship Winner Announced

Fisheries and Aquaculture, January 2013

The fifth annual Department of Fisheries and Aquaculture Scholarship was presented by the Honourable Derrick Dalley, Minister of Fisheries and Aquaculture, to Brandon Fitzpatrick of St. John’s recently. The scholarship is valued at $1,000 and is awarded to a student from Newfoundland and Labrador graduating high school and pursuing a post-secondary education. The scholarship was created to promote and create awareness of the province’s fishing and aquaculture industries among youth.

“Fostering an understanding of the province’s fishing and aquaculture industries with youth is an important initiative of our government,” said Minister Dalley. “This year’s recipient of the Fisheries and Aquaculture Scholarship showed real talent and enthusiasm. Brandon’s essay was well researched and well written. Young people are the future of the seafood industry in Newfoundland and Labrador, and I commend Brandon for taking the initiative to learn about the province’s fishery. I offer him my sincere congratulations and wish him well in his future studies.”

The Department of Fisheries and Aquaculture Scholarship, established in 2008, provides assistance to a student with the cost of post-secondary education. Graduating students who wish to apply for the scholarship must submit a 2,500 word essay that describes what they feel is the biggest issue facing the province’s fishing and/or aquaculture industry and provide suggestions on how that issue can be addressed. Students must also demonstrate strong academic standing and participation in extracurricular activities throughout their final year of high school.

Brandon Fitzpatrick is a graduate of Bishop’s College in St. John’s, with a 90 per cent grade average. He was involved in various school activities such as rugby, hockey and volunteered as a laboratory assistant. Brandon coached with the St. John’s Minor Hockey Squirt Program and mentored the Under Water Robotics Team at Holy Cross Junior High, among other activities. He is currently attending Memorial University.

“Congratulations to Brandon Fitzpatrick on being chosen as the winner of the 2012-13 Department of Fisheries and Aquaculture Scholarship,” said John Dinn, MHA for Kilbride. “It is increasingly important that we educate students of the significance of our province’s fishing industry. This scholarship is a fine example of the great work the Provincial Government has undertaken in respect to youth awareness in this sector. I am pleased to see young people taking advantage of this worthwhile initiative and I wish Brandon the best of luck in his future post-secondary studies.”

The annual Department of Fisheries and Aquaculture Scholarship represents one of a number of initiatives aimed at stimulating youth interest in the issues facing fishing and aquaculture. Others examples of Provincial Government initiatives include the Dr. Wilfred Templeman Memorial Scholarship for graduate students, financial support for the Students on Ice educational expeditions to the Arctic and the Antarctic, and support for student placements at the Centre for Fisheries Ecosystems Research at Memorial University of Newfoundland’s Fisheries and Marine Institute.

Applications for the 2013-14 Department of Fisheries and Aquaculture Scholarship are now being accepted. The deadline to apply is June 28, 2013. The application can be found at www.fishaq.gov.nl.ca/forms/scholarship_application.pdf.

The Honourable Derrick Dalley, Minister of Fisheries and Aquaculture, presenting the 2012-13 annual Department of Fisheries and Aquaculture scholarship to Mr. Brandon Fitzpatrick of St. John’s.
Canada’s seafood farmers, suppliers and regional associations know exactly who they are and how they want their industry to be perceived: Competitive. Sustainable. Growing. Producing high-quality, safe, competitively priced and nutritious seafood.

But is this how the U.S. marketplace actually views the industry? To better understand the current perception of Canada’s aquaculture industry, CAIA recently commissioned a survey of U.S. retailers to gather information on their orientation towards Canadian farmed fish and seafood - with particular focus on their seafood sustainability sourcing policies.

The research found that most U.S. retailers highly esteem the Canadian aquaculture industry’s ability to produce high quality seafood. However, many do not know enough about what species are available from Canada. They also agreed that while the consumer demand for farmed fish and seafood was going to grow, environmental controversy may slow the speed of that growth. To better inform U.S. retailers and consumers about the Canadian industry and its products, the study recommended that the aquaculture industry should establish a cohesive brand and communications strategy.

Many individual companies across Canada are already investing heavily in trying to improve industry perceptions and to encourage consumer demand for farmed seafood. For example, at the CAIA National Forum in Ottawa this past November, Andrew Lively of True North Salmon spoke about their work with U.S. retailers to train seafood counter staff to address consumer questions and concerns more effectively. Other companies are also engaging in similar activities. And simultaneously, regional associations are raising awareness and appreciation for our industry in the places where we operate and the products we produce. As a consequence of these initiatives, perceptions of the Canadian industry and its products will only continue to improve.

However, is there more we can do to strengthen our efforts to build a strong aquaculture industry identity for Canada? And thinking beyond our own backyard, is there an opportunity to collaborate with the capture fisheries to build a strong identity for Canadian seafood?

Support for a more collaborative approach to seafood marketing was offered by John Sands of Supreme Lobster at the June 2012 Seafood Value Chain Roundtable (SVCRT) meeting. A key supplier of seafood in the Las Vegas area, Mr. Sands spoke about what it takes to succeed in the Las
Vegas market - and how Canada can capture greater market share in the U.S. He urged the Canadian industry to create a national marketing initiative to promote the many advantages of Canadian fish and seafood products, both wild and farmed.

Collaborative industry marketing is not a novel idea in the seafood sector. In Norway, the Norwegian Seafood Export Council works to increase demand for - and awareness of – all Norwegian seafood. As the world’s largest joint marketer of seafood, the Council carries out several hundred activities in more than 20 different markets each year. All of these activities are financed by the Norwegian seafood industry itself. Likewise, the Alaska Seafood Marketing Institute works to increase the positive awareness of the Alaska Seafood brand. And here in Canada, we’ve seen the benefits of such regional and sub-sector marketing collaborations. For example, PEI mussels are named specifically on menus in key U.S. markets due in part to joint marketing activities by producers of that province.

The potential to grow awareness and demand for ALL Canadian seafood products (in both domestic and global markets) through a unified marketing approach has been discussed - but it has not yet been fully explored. Nonetheless, collaboration at a national level is evolving. At its December 2012 meeting, the SVCRT created a new working group to explore the formation of a Canadian seafood marketing alliance. While still in its very early days of development, a mandate and terms of reference for the working group will be created for SVCRT consideration and direction. As a member of the working group, I am looking forward to examining the potential for such an alliance and considering the benefits to both harvesters and farmers alike.

Building the Canadian seafood industry identity will be essential to strengthening our competitiveness in global markets. I am encouraged by the momentum building here in Canada to explore the benefits of these marketing collaborations.

We all know exactly who we are and what we want to be. Let’s get there together by telling the Canadian story. To contact Ruth Salmon at CAIA or for more information please visit www.aquaculture.ca ⭐

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Novartis Animal Health Canada, Aqua Health Business introduces a new reduced dose Forte micro to North America. The same great protection in a new smaller 0.05 ml dose.
Do you know someone in your town that has an innovative green idea and could use $15,000 to further develop it? MMSB’s Solid Waste Management Innovation Fund provides financial support for green innovators who are finding creative ways to make waste reduction products and services useful in Newfoundland and Labrador.

The Solid Waste Innovation Fund is a $15,000 non-repayable contribution for the development of new or improved technologies, products, services, or processes that support the management of solid waste in Newfoundland and Labrador, at any stage of the waste management hierarchy (reduce, reuse, recycle, or recover). Funding will cover eligible costs to a maximum of $15,000. Provinceially owned and/or operated businesses, industry associations, post-secondary institutions, and not-for-profit organizations are all eligible. Please help spread the word about the Solid Waste Management Innovation Fund to anyone who may be interested in this funding program. We appreciate your help in making this program a success and a greener future in our province.

The deadline for proposal submissions for 2012-2013 is February 27, 2013. Visit MMSB’s website for more information: www.mmsb.nl.ca/solid-waste-innovation-fund.

If you would like to discuss the Solid Waste Management Innovation Fund and how it may benefit your innovative green project, please contact Ashley Burke, Business Development Officer, Email: aburke@mmsb.nl.ca, Tel: 709.753.0958, Toll Free: 1.800.901. MMSB 🌿

DID YOU KNOW?
Visit NAIA’s Facebook page for information and news on latest happenings, events, and job opportunities. Like our page at https://www.facebook.com/pages/Newfoundland-Aquaculture-Industry-Association-NAIA/
A Closer Look at Student Research

We hope to highlight these projects in each edition of the magazine and showcase our students.

Replacement of Fish Oil with ω3 Rich Camelina Oil in Diets for Atlantic Cod, Atlantic Salmon and Rainbow Trout

By: Stefanie M. Hixson*, Christopher C. Parrish, Matthew L. Rise, Derek M. Anderson, Ocean Sciences Centre, Memorial University of Newfoundland, St. John’s, Newfoundland, Canada A1C 5S7 • Email: scolombo@mun.ca
Stefanie Hixson is a Ph.D. Biology candidate, Ocean Sciences Centre, Memorial University of Newfoundland. Supervisor: Dr. Chris C. Parrish

The false flax, camelina holds significant potential as a fish oil replacement in aquaculture feeds. The lipid content in camelina (40%) and high amounts of α-linolenic acid (ALA) (40% of fatty acids) make it a potential replacement of fish oil. Five experiments have been conducted to determine the suitability of camelina oil as a lipid source for cod (three trials), rainbow trout and salmon. Camelina oil replaced 40% and 80% of fish oil in diets for cod, and 50% and 100% for rainbow trout and 100% for salmon. The first cod trial (initial mass 130 g) showed no significant differences in weight gain (54.5±6, 54.6±4, 61.1±4 g), growth rate (SGR) (0.83±0.03, 0.84±0.02, 0.87±0.002 % day-1), and hepatosomatic index (HSI) (6.38±2, 6.51±5, 6.42±2 %) between the control, 40% and 80% camelina diets, respectively, after a 9.5 week trial. The rainbow trout trial showed no significant differences in weight gain (125±4, 123±6, 136±19 g), SGR (1.62±0.1, 1.61±0.2, 1.59±0.2 % day-1), and VSI (12.4±1, 12.2±1, 12.5±1%) between the control, 50% and 100% camelina diets. Cod and rainbow trout seem to be tolerant of full and partial substitutions of fish oil with camelina oil. Growth and lipid analysis of the salmon trial is currently underway. ❮

Table 1: Fatty acid profile of Atlantic cod muscle after 6 weeks*

<table>
<thead>
<tr>
<th>Fatty acid</th>
<th>Fish Oil</th>
<th>Camelina (40)</th>
<th>Camelina (80)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:0</td>
<td>19.5 ± 0.6a</td>
<td>18.4 ± 0.8b</td>
<td>18.5 ± 0.5ab</td>
</tr>
<tr>
<td>18:0</td>
<td>3.8 ± 0.03a</td>
<td>4.5 ± 0.4b</td>
<td>4.1 ± 0.4ab</td>
</tr>
<tr>
<td>18:2ω6</td>
<td>3.0 ± 0.05a</td>
<td>3.6 ± 0.8a</td>
<td>4.9 ± 0.8b</td>
</tr>
<tr>
<td>18:3ω3</td>
<td>0.4 ± 0.001a</td>
<td>1.3 ± 0.01a</td>
<td>2.4 ± 0.08b</td>
</tr>
<tr>
<td>20:4ω6</td>
<td>2.3 ± 0.3</td>
<td>2.4 ± 0.2</td>
<td>2.3 ± 0.4</td>
</tr>
<tr>
<td>20:5ω3</td>
<td>19.0 ± 0.6</td>
<td>18.0 ± 0.7</td>
<td>17.0 ± 0.2</td>
</tr>
<tr>
<td>22:5ω3</td>
<td>2.5 ± 0.2</td>
<td>2.3 ± 0.07</td>
<td>2.1 ± 0.6</td>
</tr>
<tr>
<td>22:6ω3</td>
<td>30.5 ± 2.2</td>
<td>30.2 ± 1.2</td>
<td>30.6 ± 2.0</td>
</tr>
<tr>
<td>ΣSFA1</td>
<td>24.4 ± 0.5</td>
<td>23.9 ± 0.8</td>
<td>23.4 ± 0.5</td>
</tr>
<tr>
<td>ΣMUFA2</td>
<td>13.9 ± 1.7</td>
<td>14.7 ± 1.7</td>
<td>14.6 ± 2.0</td>
</tr>
<tr>
<td>ΣPUFA3</td>
<td>61.0 ± 1.3</td>
<td>61.0 ± 1.3</td>
<td>61.8 ± 2.3</td>
</tr>
<tr>
<td>Σω3</td>
<td>53.5 ± 2.0</td>
<td>52.8 ± 1.8</td>
<td>52.9 ± 1.6</td>
</tr>
</tbody>
</table>

*Data expressed as area percentage of FAME (Fatty Acid Methyl Ester), values are mean (n=6) ± SD. 1 Saturated fatty acid; 2 Monounsaturated fatty acid; 3 Polyunsaturated fatty acid. Different superscripts indicate significant differences between groups.

Stefanie Hixson, Ph.D. Biology candidate, Ocean Sciences Centre, Memorial University of NL.
Cleaner Fish

Developing Tools and Solutions to Mitigate and Control Sea Lice on Cultured Atlantic Salmon

By: Danny Boyce, Jennifer Monk, John Evely and Denise Tucker - JBARB-MUN. Program Funding DFA-ASDP.

In the summer edition of The Cold Harvester in 2012, we reported on phase 1 of this exciting and new project which focused on collection, transport, broodstock holding, diets and feeding, population size data, gonad sampling and general observations of population comparisons with the cunner (Tautogolabrus adspersus). This article is a continuation of the project’s progress and will focus on hatchery production.

Phase 2 is focusing on Hatchery Production Objectives.

- Maintain and monitor growth and health of broodstock
- Obtain fertilized eggs from captive broodstock.
- Establish hatching protocols.
- Establish rearing protocols using conventional marine finfish rearing methods.
- Establish protocols for weaning and growing fish for use as cleaner fish.
- Establishment of an international linkage with others companies and institutions

Broodstock Holding and Spawning

Two populations of cunner, one from Portugal Cove, Conception Bay, and one from Southern Harbour, Placentia Bay were collected and transported to the Ocean Sciences Centre.

Upon arrival at the OSC each population was housed in separate tanks. Water temperature and oxygen measurements were recorded daily for both tanks using an Oxy-Guard Handy Gamma™ temperature and oxygen meter. Both populations are being held under an ambient photoperiod with a daytime light intensity of 40 – 60 lux. These cunners are fed a diet of bait fish including squid, herring, and mackerel. This choice of feed takes in to consideration the logistical requirement that a commercial feed supply be available year round. It is also consistent with the long term goal to condition and spawn cunners in captivity. Since it has been found that female cunners in particular seek out energy rich fish remains in the wild, it would follow that this food supply should be beneficial for this purpose. The cunners were fed to satiation twice weekly during daylight hours, with alternate baits chosen for each feeding.

Both the Placentia Bay and Conception Bay stocks began to spawn in June. Temperature in these tanks was initially set at 8.5ºC but was gradually increased to reflect ambient temperatures of 14-16ºC.

Spawning

Both populations began releasing eggs, that measured 0.8-1.0 mm diameter, and milt in early June, with the first batch of fertilized eggs collected on June 13, 2012. Released eggs are fertilized by the milt directly in the holding tanks during the spawning process. Fertilized eggs are buoyant and will float on the surface of the water and as such can easily be collected via an external egg collector (Fig 1). Any egg batches collected were checked for fertilization rates symmetry and clarity. The volume of eggs collected was measured volumetrically with the amount of floating eggs...
versus sunken eggs recorded (Fig. 2 & 3) and fertilization rate (Fig. 4).

Incubation Period

Batches of fertilized eggs were incubated in 50 liter conical incubators supplied with UV’d, filtered seawater. Each incubator was equipped with a 300µm banjo screen; an airstone provided gentle aeration to ensure movement of the eggs and to prevent the screen from becoming clogged. Water was supplied to each incubator at the surface at a rate of 2-3 lpm and a temperature of 15°C. Egg development was monitored throughout the incubation period with development progressing as expected (Fig 5).

Larval Transfer and Tank Set-up

At 100% hatch all hatched larvae were collected and transferred to 500L tanks in the first feeding room. Each tank was equipped with a 300µm center drain initially and as the larvae grew, this was increased to 500µm at 56dph and to 900µm at 72dph. Airstones were placed on either side of these center drains to provide gentle aeration, which kept larvae and prey items circulating within the tanks. To ensure proper swim bladder inflation, surface skimmers were added to the tanks at 3dph and were cleaned regularly to keep surface tension low.

Larval tanks were monitored daily for oxygen, temperature and nitrogen with oxygen levels being between 110-120 % and temperature maintained at 13-14ºC.

Initially larval flow rates were set at 0.8 lpm and were increased gradually over the larval period to a maximum of 4.5 lpm as needed to maintain tank cleanliness as feed amounts increased.

Figure 1: Tank equipped with an external egg collector.

Figure 2: Volumetric measurement of floating (fertilized) vs. sunken eggs (dead).

Figure 3: Volume of floating vs. sunken eggs collected.

Figure 4: Fertilization rates of eggs- first time spawners in captivity.

continued
Cleaner Fish CONTINUED

Figure 5: Embryonic development of cunner (Tautogolabrus adspersus) from 0 days post fertilization to 0 days post hatch.

Figure 6: Newly hatched cunner (Tautogolabrus adspersus).

Figure 7: Standard length (mm) of cunner (Tautogolabrus adspersus) from 1dph to 120 dph.

Standard larval rearing at the JBARB is to add clay as a 'greening' technique, this has been shown to provide the desired turbidity to diffuse light while providing background contrast for prey items and has the added benefit of keeping bacterial counts to a manageable level. Clay was added to the larval cunner tanks twice daily prior to the morning and afternoon feedings.

**Larval Rearing - Feeding**

At hatch, the larvae were small, measuring between 3.2-3.5 mm in length and appeared very primitive. They didn’t appear to have a functioning mouth or eye pigmentation and had a large yolk sac (Fig.6). As a result, larval feeding was initiated at very low levels. Initially larvae were fed once a day (9am), origreen enriched rotifers, at 1000 prey per liter. Once the larval yolk sac was depleted and the...
larvae began feeding, a second feeding was added (3pm). Larvae were monitored closely during this period and as feeding became more aggressive a third feeding was added (9pm) and feed amounts were gradually increased to a maximum of 9000 prey per liter per feeding.

Once, the larvae reached 9.0mm in length they were gradually switched from Skrettings Origreen enriched rotifers to Skrettings Origreen enriched Artemia, which is a larger prey item. Artemia feed amounts ranged from 1000 prey per liter once daily to 1500 prey per liter three times daily. When the larvae were fully weaned onto Artemia they were co-fed dry food 30 to 60 minutes prior to the addition of Artemia. This was done to ensure the larvae were familiar with the dry food prior to the start of the weaning process. When the larvae reached 12 mm in length Artemia was gradually decreased and the larvae were weaned onto dry food. This process occurred over a period of about ten days and all larvae were weaned by 76 dph. Larval sampling for this project was kept to a minimum in an effort to eliminate any possible stressors. Larvae were sampled at key points in development to ensure swim bladder inflation, yolk sac depletion and growth. Newly hatched larvae measured 3.0-3.5 mm in length and were 5.0 cm. at 120 dph (Fig. 7). Figure 8 shows the development of cunner (Tautogolabrus adspersus) larvae form 0 dph to 105 dph.

**Juveniles**

Progress is continuing into the juvenile stage. The juveniles are currently 2 grams in weight and we are experimenting with a type of shelter, which appears to work well for juvenile cunners. It consists of a PVC pipe with 2 inch holes drilled through it (Fig. 9). These ‘hides’ were then suspended along the sides of the tanks enabling the fish to swim inside.

![Figure 8: Development of cunner (Tautogolabrus adspersus) larvae from 0 dph to 105 dph.](image)

![Figure 9: Cunner juveniles swimming through PVC shelter, but still visible to investigators.](image)
Aquatic invasive species (AIS) continue to raise concerns for local fisheries, aquaculture and native ecosystems in Newfoundland. Since the DFO/MUN AIS survey and monitoring program began in 2006, 7 invasive marine species have been identified in Newfoundland coastal waters; each year distributions broaden and densities increase. Warming trends in ocean temperatures may facilitate the survival and spread of additional non-indigenous species and provide favorable environmental conditions for increased reproduction and spread of currently established populations. A brief summary of the AIS survey & monitoring program follows for the 2012 season.

Green crab was first discovered in Placentia Bay in 2007. Green crab are widespread throughout Placentia Bay including the islands, and throughout Bay St. George. Small numbers were found in Rocky Harbour, Bonne Bay in 2011, and have also been reported on the southwest coast. Atypical warm coastal waters in 2012 appear to have allowed an extended reproductive season, and a longer active season for feeding. Reports were received in 2012 from the west coast; including 3 additional areas of Bonne Bay and 4 in Bay of Islands.

From 2006 to 2011 golden star tunicate has been identified in 10 locations (7 in Placentia Bay, 2 on the west coast, and 1 in Conception Bay). In 2012 golden star was found in 7 additional locations in Placentia Bay and 1 additional harbour in Conception Bay. Small populations were observed in eelgrass beds, covering eelgrass blades in several locations in Placentia Bay. A mitigation attempt was implemented in Foxtrap, Conception Bay during the winter of 2011 to eliminate or control the golden star population. No golden star was found in Foxtrap during the spring and summer but small amounts had returned by the fall.

The violet tunicate is still found only in Belleoram harbour. Despite several mitigation attempts the colonies have now dispersed to additional wharf structures inside the harbour and to the outside breakwater. Several vessels also have the invasive tunicate attached. Its increasing distribution within the harbour will make management of the species more difficult.

The vase tunicate was discovered for the first time in Newfoundland waters in Burin, Placentia Bay on September 19, 2012 during a wharf and breakwater survey. Follow-up surveys
in October and November found vase tunicate in nearby harbours (Little Bay and Marytown). The greatest density was observed in Little Bay with growth on a variety of substrates including wharves, boats, eelgrass blades, ropes and buoys. The Newfoundland Aquatic Invasive Species Committee expressed the immediate need for a rapid response plan to prevent the further movement of vase tunicate into surrounding harbours and its spread to aquaculture sites. Movement of affected boats is considered the primary threat to spread of the species at this time and the cooperation of boaters in the areas of Marytown, Burin and Little Bay in ensuring vessels are clean before moving throughout the bay is key.

In August 2012 the oyster thief was found in Arnold’s Cove, Spanish Room and Woody Island, Placentia Bay. This is the first record of this species in Newfoundland. The algae were found washed onto beaches and were without holdfasts which attach them to surfaces. In November a whole specimen was found in Marytown, Placentia Bay in shallow water at the border of a kelp and eelgrass bed. Samples were preserved for potential DNA analysis to determine its origin.

A meeting to discuss regulatory plans on December 5 allowed federal, provincial and academic groups and industry stakeholders the opportunity to discuss the current status of these species, their current and potential impact in Newfoundland and the development of regulations to help prevent introduction and spread and/or manage AIS. All groups recognize the need for a rapid response plan after AIS have been detected. More information on AIS in Newfoundland and Labrador can be found at www.nfl.dfo-mpo.gc.ca/AIS-EAE. ✤
2013 EXHIBITOR PROFILES

Workplace Health, Safety, & Compensation Commission  Booth #: 1
146-148 Forest Road, St. John’s, NL, A1A 3B8
Tel: (709)778-1219 Fax: (709)778-1117 Toll Free: 1-800-563-9000
Email: janet.hancock@whscc.nl.ca
www.whscc.nl.ca
Exhibitor: Karen Gosse

Serving approximately 12,000 injured workers and more than 18,500 employees, the Commission is an employer-funded, no fault insurance system that promotes safe and healthy workplaces, provides return-to-work programs and offers fair compensation to injured workers and their dependants.

Marine Institute, Memorial University of Newfoundland  Booth #: 3
155 Ridge Road, P.O. Box 4920, St. John’s, NL, A1C 5R3
Ph: (709)778-0200 Fax: (709)778-0535
www.mi.mun.ca
Exhibitors: Alicia Anderson & Heather Manuel

The Marine Institute (MI) is Canada’s most comprehensive centre for education, training, applied research and industrial support for the ocean industries. For the aquaculture industry, the Marine Institute’s offers a range of education programs from on-site short technical courses, to the Technical Certificate in Aquaculture, the Advanced Diploma in Sustainable Aquaculture and the new Master of Technology (Aquaculture) (www.mi.mun.ca/programs). Our Centre for Aquaculture and Seafood Development also provides a complete range of services for seafood processing and aquaculture industries in the areas of applied research, product and process development, technology transfer, advisory services and education and training (www.mi.mun.ca/casd). The Marine Institute’s new Community Based Education Delivery Unit (CBED) offers industrial response training in communities across Newfoundland and Labrador and in other areas of Canada. The unit’s main office is located in St. John’s with regional offices located in Lewisporte and Iqaluit, Nunavut. CBED supports key training priorities by organizing, facilitating, and leading training in aquaculture, environmental, fish harvesting and food processing sectors (www.mi.mun.ca/cbed).

TriNav Fisheries Consultants Inc (TFC)  Booth #: 6
NL Lumsden: John Melindy, Tel: (709)235-0007, Email: jmelindy@trinav.com
NL St. John’s: Paul Pinhorn, Tel: (709)754-7060, Email: ppinhorn@trinav.com
NS Dartmouth: Dave Bollivar, Tel: (902) 832-2285, Email: dbollivar@trinav.com
Exhibitor: John Melindy

TriNav Fisheries Consultants Inc (TFC) is a professional and well-established Atlantic Canadian fisheries and business consulting firm that has provided services to the fishery, aquaculture and other marine related industries for many years. TFC offers a team of qualified professionals consisting of experienced economists, seafood brokers, resource management consultants, coastal...
management, biologists and strategic planners, all of whom are familiar in dealing with the changing needs of the marine industry. A unique feature of the company is that it can provide individuals who specialize in economic development, strategic planning, aquaculture, fish processing, community development and fisheries management and who have extensive experience within the fishing/ marine industry. The company’s fisheries and economic development consulting work has provided key personnel with excellent experience working and communicating with industry stakeholders, fishermen, marine farmers, processing plant owners, industry representatives worldwide.

Hoskin Scientific
4210 Morris Drive, Burlington, ON L7L 5L6
Tel: (905)333-5510  Fax: (905)333-4976
Email: jgouthro@hoskin.ca
www.hoskin.ca
Exhibitor: Jennie Gouthro

Hoskin Scientific Limited has been supplying testing and monitoring instruments since 1946. Although our range is broad, we focus on three main markets including:

- Environmental Monitoring
- Geotechnical & Materials Testing
- Test & Measurement Instrumentation

The Environmental Monitoring section - provides sales and service for water quality, flow and level and data acquisition equipment. We are the Canadian exclusive representatives for such products as YSI Instruments (meters and multiparameter sondes), Onset (Inexpensive dataloggers for air, water and soil), Turner Designs (wide sections of Fluorometers for laboratory and field use), SonTek/YSI (Acoustic Doppler current meters and profilers), Sutron (Data Acquisition Loggers and Telemetry (GOES, Satellite, Radio) equipment) and Wildco (Oceanographic and Limnology sampling equipment) etc. Hoskin Scientific is the National Warranty Repair Centre for all YSI instruments. Hoskin services all of Canada with offices in Vancouver, Burlington, Montreal and several satellite offices newest addition Nova Scotia.

Silk Stevens Limited
18 High Street, Grand Falls-Windsor, NL A2A 1C6
Tel: (709)489-2900  Fax: (709)489-0237
Email: abennett@silkstevens.ca
Exhibitors: Aaron Bennett & Tony Adams

Silk Stevens Limited is a professional engineering and business consulting firm established in 2006. The firm specializes in the design of RAS Fish Hatcheries, including new and retrofitted facilities. In addition, the firm provides services relating to Civil/Mechanical/Electrical/Structural design for various types and sizes of commercial and industrial applications. Silk Stevens also has a wealth of environmental expertise and offers environmental assessment services in a variety of aquatic and terrestrial settings. Coupled with a network of exceptional Associates in all of the major engineering and science fields.

Continued
Silk Stevens provides a strong and stable platform for growth, sustainability, and excellence in engineering and client satisfaction. Silk Stevens is built on the belief that our clients and staff are our most valued assets. As a company, we are committed to meet and exceed our client’s needs through delivering technical excellence. Teamwork, creativity, quality and integrity centred around client needs and client input is key to long-term growth and stability.

**Department of Innovation, Business and Rural Development**

P.O. Box 8700, St. John’s, NL, A1B 4J6  
Tel: 709-729-7000  Fax: 709-729-0654  
Email: pfarwell@gov.nl.ca or ghoskins@gov.nl.ca  
Exhibitors: Percy Farwell and Gail Hoskins

The Department of Innovation, Business and Rural Development, Government of Newfoundland and Labrador, is the lead agency for stimulating economic and business development throughout the province. Working in cooperation with individuals, business, industry, academia, development groups, and all levels of government, the department continually strives to increase productivity and economic prosperity, and attract investment to the province. This collaborative approach helps shape the programs and initiatives that support the growth and diversification of strategic sectors, ensuring the province remains competitive provincially, nationally, and globally.

While still focusing on traditional industries, there are tremendous economic opportunities in sectors such as ocean technology, aerospace and defence, aquaculture, agrifoods, environmental industries, information and communications technology, life sciences, manufacturing.

To find out more about the Department of Innovation, Business and Rural Development and its programs visit www.ibrd.gov.nl.ca

**Aquaculture Research Section**

P.O. Box 5667, St. John’s, NL A1C 5X1  
Ph: 709-772-4514  Fax: 709-772-5315  
Email: sharon.kenny@dfo-mpo.gc.ca  
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. Research conducted...
Aquaculture in Rural NL: Our Communities, Our Future

Winter 2013  Reflecting on the Past, Embracing a Promising Future

The NAIA REGISTRATION DESK will be open during the following hours:

- **Tuesday, Feb. 19:** 5:00 pm - 8:00 pm
- **Wednesday, Feb. 20:** 9:00 am - 12:00 pm AND 2:00 pm - 5:00 pm
- **Thursday, Feb. 21:** 8:30 am - 12:00 pm

**TRADE SHOW EXHIBITS:** A list of exhibitors and sponsors is included in the Cold Harvester magazine and insert. All nutrition breaks, student displays and the Joe Brown Silent Auction will take place in the Trade Show area in Salon E-F. Please show your support by visiting this area during the breaks. Exhibit spaces must be completely cleared by 3:30 pm on Thurs., Feb. 21 to prepare for the Aquaculture Gala Banquet.

**NAIA'S ANNUAL GENERAL MEETING** will take place on Wed., Feb. 20 at 12:00 pm in Salon D. All NAIA members are encouraged to attend - lunch will be provided to attendees. Please RSVP at the registration desk.

All delegates are to always wear their **NAME BADGES** as this will serve as their entrance ticket to all events. As an incentive to GO GREEN, NAIA will be collecting them following the sessions on Thur., Feb. 21 for anyone wishing to have them recycled! Each name tag received will be entered to win a prize!

**ANNUAL FUNDRAISER:** NAIA staff and volunteers will be selling tickets on a basket of goodies and also holding a 50/50 draw to raise funds for The Arthritis Society NL: Juvenile Arthritis Exercise Program for Kids and Backpack for Newly Diagnosed Kids. Be sure to get your tickets while supplies last!

**JOE BROWN SILENT AUCTION FUNDRAISER:** NAIA staff and volunteers will also be organizing our annual silent auction in the trade show area and funds raised will be distributed to a student who currently is or will be enrolled into an aquaculture program. Anyone wishing to donate an auction item can drop it off at the registration desk. All items are sincerely appreciated.

### SEE CONFERENCE INSERT FOR THE COLD HARVEST 2013 PROGRAM AND HIGHLIGHTS

**Environmental Science at DFO provides the scientific foundation for sound decision-making on the sustainable use and the conservation/protection of fish, fish habitat and aquatic ecosystems. Such decisions are based on an understanding of how marine and freshwater ecosystems function and how they are affected by human activities. Efforts are directed towards understanding the capacity of fish habitats to sustain fish production and the effects of human activities on fish, human use of fish, fish habitat and aquatic ecosystems. We provide scientific support required for decision-making in DFO and the federal government by: Acquiring scientific knowledge through targeted research and by gathering, integrating and interpreting scientific information from internal and external sources; and providing peer-reviewed scientific advice, and science-based products and services such as publications, data and information, software, and other tools and services.**

**Aquatic Invasive Species Program**

Aquatic invasive species (AIS) have already been responsible for significant devastation of some native fish species and fisheries in Canada. Annually, the problem is responsible for billions of dollars in lost revenue and control measures. Canada, with its huge freshwater resource and extensive coastline, is especially vulnerable to this threat. The Environmental Science knowledge base and scientific resources play an invaluable advisory role to the govern-
Joe Brown Silent Auction fundraiser (continued)

All prizes must be collected and paid for at the deadlines listed below. The auction items will be divided into two lots:

**AUCTION LOT #1:** Location: Tradeshow Area
- Tues., Feb. 19, 7:00 pm - 9:00 pm and Wed., Feb. 20, 9:30 am - 4:00 pm
- Payments & Pick Up - Registration Area: Wed., 4:00 pm - 5:30 pm

**AUCTION LOT #2:** Location: Tradeshow Area
- Thurs., Feb. 21, 8:30 pm - 2:30 pm and 6:00 pm - 8:00 pm
- Payments & Pick Up - Hospitality area following the banquet and live entertainment.

**EVENING SOCIAL:** Wed., Feb 20 at 8:00 pm. Are you up to a challenge? Check the conference registration area for more information.

**HOSPITALITY SUITE:** Located in Salon D is for conference delegates only and will be opened on Tues. evening from 9:00 pm - 12:00 am, Wed. evening following the social at 10:00 pm and Thurs. evening following the banquet until 12 am.

**AQUACULTURE BANQUET:** (Salon E-F) Will take place on Thurs., Feb. 21 with the reception beginning at 6:00 pm. Tickets must be purchased at the Registration desk in advance. Be sure to arrive early for your last chance to bid on our lovely Dr. Joe Brown Silent Auction items on display in the tradeshow/hospitality area.

**STICK AROUND FOR LIVE ENTERTAINMENT BY COMEDIAN JOHN SHEEHAN, RIGHT AFTER THE BANQUET!**

**AQUACULTURIST OF THE YEAR:** This award honors individuals for outstanding contribution to NAIA and/or the development of the aquaculture sector in the Province. NAIA would like to congratulate last year’s winner: Ms. Joan Strickland! Look forward to the new winner which will be announced during the Aquaculture Banquet on Thurs., Feb. 21.

**PROGRAM NOTES FOR SPEAKERS AND STUDENT POSTERS:** Posters will be on display in the Exhibition Area (Salon E-F): Set-up time is 9:30 am on Wed., Feb. 20. Presenters are asked to be available at their poster during the nutrition breaks. Posters should be taken down by 3:30 pm on Thurs., Feb. 21.

**SPEAKERS:** Oral presenters are asked to meet the session chair in the presentation area no less than 15 minutes prior to the start of the session.

**MEDIA ROOM:** A room can be made available for media related activities, please see registration desk if required.

**CHANGES IN PROGRAM:** NAIA reserves the right to adjust or change any aspect of the Conference Program in whole or in part if deemed necessary.

John Sheehan

*Live Entertainment – Thursday, February 21st following the Aquaculture Gala Banquet (Salon EF)*

John has performed at the Winnipeg Comedy Festival, The Halifax Comedy Festival, and four times at The St. John’s Comedy Festival. He has been featured twice on CBC radios’ The Debaters, and has opened for international comedy stars Louis CK, and Gerry Dee. John has also toured Alberta with The St. John’s Comedy Festival, and headlined Yuk Yuks clubs in St. John’s, Halifax, Calgary, and Ottawa. A sought after corporate comedian, his client list includes Labatt, ReMax, Government of Canada, Sobeys, NL Credit Union, and Memorial University, just to name a few. His popular routine "drunk updates", featuring increasingly intoxicated calls to his friend Mike, has been aired several times nationally on CBC radio, as well as CBC television.

**Special Thanks to our Cold Harvest 2013 Committee!**

- Chris Hendry
- Paul Rose
- Danny Boyce
- Leonard House
- Gail Hoskins
- Allison Stagg
- Brooks Pilgrim
- Sean Macneill
- Janelle Arsenault
- Rebecca White
- Laura Halfyard
- Judy Dobson
- Miranda Pryor
- Cyr Couturier
- Darrell Green
- Roberta Collier
- Katie Collins
- Danielle Farrell
- Tammy Stewart

SEE BACK INSIDE COVER AND INSERT FOR A LIST OF COLD HARVEST SPONSORS AND SUPPORTERS.
Aquaculturist of the Year Award Recipients

The Aquaculturist of the Year award honours individuals for outstanding contribution to NAIA and/or the development of the aquaculture sector in Newfoundland and Labrador.

Award Eligibility
Any former or current individual NAIA member engaged in aquaculture-related activities in Newfoundland and Labrador is eligible to be nominated to receive the Aquaculturist of the Year Award.

Email roberta@naia.ca for more information or visit www.naia.ca

Good Luck to this year’s Nominees!

2013
Winner to be announced at the Aquaculture Banquet Gala, February 21st, 2013.

2012
Joan Strickland
St. Alban’s, NL
Since the early 1990’s, Joan has faced many challenges & has helped manage the reins from SCB Fisheries to North Atlantic Sea Farms to Nature’s Sea Farms, and eventually to Northern Harvest Sea Farms.

2011
Clyde Collier
St. Alban’s, NL
Clyde has worked in the salmonoid sector for over 25 years. He has worked at all levels of the industry including production and policy at federal and provincial levels.

2010
Geoff Ball
Botwood, NL
As one of the first commercial scale mussel farmers in NL, Geoff began a small mussel farming operation along with his sawmill business, B & B Forest Products Ltd.

2009
Boyd Pack
Milltown, NL
Boyd has been involved with the industry for well over 20 years, with his first introduction to aquaculture in the early 1980s in the Coast of Bays Region.

2008
Cyr Couturier
St. John’s, NL
As lecturer and researcher at the Marine Institute, Cyr is well known both locally as well as abroad for his involvement in aquaculture development.

2007
Jennifer & Doug Caines
Pool’s Cove, NL
They started Shell Fish Farms in Pool’s Cove in 1984. With over 20 years in the business, they now manage and work on site with Northern Harvest Sea Farms.

2006
Juan Roberts
Triton, NL
Juan has been farming mussels for over 20 years in Green Bay, NL. His passion and dedication to the business are not easily surpassed.

2005
Job Halfyard
La Scie, NL
After 30 years of teaching and the role of principal, Job started a variety of businesses in his home town including several mussel farms in the Green Bay and Connaigre Bay areas.

2004
Pat Dabinett
St. John’s, NL
Pat has more than 25 years of experience in Research, Development, & Commercialization of the shellfish industry in Newfoundland & Labrador.

2003
Jonathan Moir
St. John’s, NL
Moir was involved with the development of a fledgling cod-aquaculture culture grow-out program using commercial fishermen, aided by the Sea Forest Plantation company in St. John’s, NL.

2002
Terry Mills
Botwood, NL
Terry was the first recipient of the award and is owner of Norlantic Processors. He was recognized for his pioneering and successful involvement in the mussel aquaculture business for almost twenty years.
Labour Shortages in NL - What’s A Business to Do?

Start Where You Are

Tina Pomroy, MBA, CHRP, is the President of Pomroy Consulting Inc. – a Human Resources Management consulting and coaching company. For more information, please email Tina at tinapomroy@hotmail.com. For information about Lean programs, email David Haire, VP of Canadian Manufacturers & Exporters, at david.haire@cme-mec.ca.

By: Tina Pomroy, MBA, Canadian Human Resources Professional (CHRP)

Labour shortages. Lack of skills. Attraction and retention strategies. What’s it all about and what is a business to do?

A business is only a successful business when it has the people to do the job. The aquaculture industry is like so many other industries in Newfoundland and Labrador and Atlantic Canada – it has a growing labour shortage, and businesses need help finding solutions. With limited human resources and geographic challenges, innovative solutions are required to support industry growth. Knowing your real skill requirements or labour gaps is key to a successful attraction strategy.

The first action a business can take when facing a labour shortage is to assess current business processes. Are processes efficient? Can steps or actions be changed or eliminated to improve service delivery and possibly reduce time it takes to perform a task? Are all employees clear about steps to take for each task or activity? Making business process improvements can free up staff to do other things. One approach for streamlining business operations is the lean approach. Adopting lean practices will reduce waste, standardize processes, save time, reduce mistakes, and save money, AND possibly reduce your labour shortage.

Once business processes are streamlined, an organization can evaluate current roles and skills. As the external environment changes, so does your business; hence, skill and knowledge requirements can be modified. In addition to market shifts, your employees can change. They may have more training and learning, hence more skills and knowledge, in different areas than when they were first put into a role. Their personal situations may have changed and they may want a different schedule. Assess what is required for your business, and then assess your current workforce skills, knowledge, and desires.

After you have your current processes and skills evaluated and make alterations to improve efficiencies, you can determine the real skills or labour gap for your business.

Attraction is marketing for labour. Repeat customers cost less to attract than new customers. Productive employ-
ees that stay cost less than hiring new ones to replace those that leave. Successful attraction requires successful retention. When your company is an employer of choice or has a desired employer brand, it is more likely candidates will want to work with you. Businesses that effectively manage and lead employees will typically have higher retention rates than those that do not. It is critical in this labour environment to keep the people you need and want in your business. Create retention strategies as part of your attraction efforts. People want to work with a company that provides good leadership, pays competitive rates, rewards effectively, offers opportunities for professional and personal growth, and is socially responsible. Excellence in operations and human resources management will help retain your people.

Lean processes and excellence in leadership and management will make attraction less difficult. However, we are operating in a market with less labour. Internal solutions will not completely satisfy all businesses.

Having strong business foundations will allow an organization to more effectively adopt attraction strategies. Some attraction strategies are:

- hiring people that do not have the skills and train them – labour markets could include high school students, income support recipients, retired population, women re-entering the workforce
- immigration
- attracting expats back home
- enticing someone from a similar organization with a better package or fit
- employee referral programs
- outsourcing to recruitment agencies
- collaborating with industries or other companies to find creative, customized solutions

**Training**

Providing training to available labour may seem costly; however, it has been used as a successful strategy to attract employees. The key with this approach is to have solid retention strategies so you don’t lose the employees once they are trained. Additionally, not all labour markets are available or want to work a typical work schedule. For example, the retired population have worked their entire lives. If they choose to return to work, they may want flexibility and plenty of time off.

**Immigration**

Immigration is growing in Newfoundland and Labrador. Companies have successfully recruited groups of immigrants from other parts of the world such as Philippines, Thailand, and Russia. When taking this approach, know the requirements, your responsibilities, the immigrants’ rights, deadlines for permits, and make a long-term plan. Again, have effective retention strategies in place before hiring immigrants. If an immigrant arrives with his or her family, a family on-boarding program will decrease the risk of the immigrant leaving your company.

**Attracting Expats**

Expat attraction strategies need to be assessed before committing to them. It is difficult and expensive to lure an expat back home when he or she has settled into life in another geographic location. Typically, when an expat wants to come home, they seek opportunities. Having a well-known and respected employer brand will attract them to you. However, getting involved with an industry or business association is a great way to determine if you can be involved in larger scale expat attraction efforts.

**Recruiting from Other Companies**

Enticing a person from another similar company to work with you can be frowned upon. If you believe in karma, it could happen to you. A successful strategy, though, is to always be recruiting even when there are no open positions. When you meet people at industry or business events, in your community, or on your travels, always be ready to hand the person a business card or LinkedIn information for how to research your company and learn about open positions. Put the choice to work for your company in the potential candidate’s hands. As with other strategies, demonstrate being an employer of choice and you won’t have to entice someone to work for you – they will want to work for you anyway.

**Employee Referral Programs**

Employee referral programs (ERPs) can be an effective recruitment strategy to gain access to passive job seekers. Like Google says in its ERP, “Good people know other good people.” The key to making an ERP a competitive advantage is to

- be strategic, for example, include only hard to fill positions in the ERP
- design a standard, efficient process
- ensure employees are clear about how it works and how they will be rewarded
- provide employees with the information you want potential candidates to know

continued
Outsourcing to Recruitment Agencies

Outsourcing recruitment efforts can incur high costs. However, for particularly difficult positions, the benefits could outweigh the costs. A recruitment agency has systems, knowledge and contacts that many companies do not have. If choosing this strategy, ensure the agency used has knowledge and experience in your industry and an understanding of your company and any geographical advantages or drawbacks. As with any new hire, it is critical to not only hire for skills but for all around fit – and that includes a desire to live in the area required to work with your company.

Industry Collaboration

When a company faces extra challenges, such as geography, low-paid jobs, or seasonal work, it is important to identify the benefits of working with your company and living in your community to find pools of people that want that lifestyle. Creative solutions, such as collaborating with other industry partners and stakeholders, need to be assessed. Additional-ly, compensation sometimes seems like a deterrent for some jobs. Assessing your compensation strategy so that it is in alignment with attracting the right workers to your industry, community, and company is imperative. It is not necessary to compete with the highest wages in the province. However, it is necessary for employees to be able to cover their cost of living. Evaluating compensation costs against possible attraction costs is prudent to determine the most cost effective strategy.

The labour market and business environment in NL is in a state of flux and all businesses need to adapt. Companies need to critically assess what is possible. Be innovative. Be open to new ideas and ways of thinking. And start where you are. Maximize the talent you have before acquiring more. Your ability to see labour market challenges as opportunities for growth, improved efficiency, and diversity will be your success factor.

MORE FISH with less feed

The most efficient farmed animal has become even more efficient! The new grower feed OPTILINE PREMIUM is based on metabolic activators that increase the salmon’s utilization of digestible energy. The result is higher slaughter yields and more edible fish.

Shorter production time
Lower FCR
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FLEXIBLE RAW MATERIALS
Optiline Premium is formulated based on MicroBalance™.

METABOLIC ACTIVATORS
Optiline Premium is the first feed to contain metabolic activators that help reduce visceral fat and increase fillet fat content. The improved distribution of fat provides higher slaughter yields and the fillets get larger and tastier with increased levels of omega 3.

The efficiency improvement in resource utilization gives a more sustainable feed with 6 % higher growth than normal.

The numbers below represent average FCR’s (kg of feed to produce 1 kg meat):

<table>
<thead>
<tr>
<th>Animal</th>
<th>FCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lamb</td>
<td>5.30</td>
</tr>
<tr>
<td>Pig</td>
<td>2.63</td>
</tr>
<tr>
<td>Chicken</td>
<td>1.79</td>
</tr>
<tr>
<td>Salmon</td>
<td>1.15</td>
</tr>
</tbody>
</table>

Strengthen the salmon’s position as the most efficient farmed animal.

GREAT NEWS

NAIA recently became a member of the Canadian Manufacturers & Exporters (CME) and one of the membership benefits is exclusive use of the trademarked Manufactured Right Here logo. NAIA associate and regular members may also be entitled to these benefits. If interested in learning more, please contact Roberta@naia.ca

a nutreco company
Ingredients:
- 4 oz Atlantic salmon, smoked
- 8 eggs
- 2 cups frozen spinach, thawed and drained
- 4 small baby new potatoes
- 1 medium yellow onion, sliced in thin rings or semicircles
- 1 clove garlic
- 1 tbsp olive oil

Method:
Over medium heat, sauté onions in olive oil until tender and browned. Add garlic and sauté a little longer. While the onions are sautéing, cook the potatoes in the microwave for 5 - 8 minutes or until tender (but not overdone). Slice in thin rounds. Add thawed, drained chopped spinach to onions and stir then layer the potatoes on top.

Remove the skin from the Atlantic salmon, flake the salmon with a fork and spread it over the potatoes. Whisk eggs and pour them over the layers, shaking the skillet and using a spatula to help distribute the eggs to the bottom. Cook on the stove top for 10 mins, then move to 400 degree oven for another 20 minutes or until eggs are set and lightly browned on top. Slice into 4 quarters and serve with a mixed green salad. Serves 4. ENJOY! ✯
The Road to Certification – Demonstrating Sustainability

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

Certification seems to be catching on in Newfoundland and Labrador as a tool for demonstrating that our aquaculture production is responsible. Third-party certification is when an unbiased, independent third party evaluates (audits) the compliance of an operation to a set of defined standards - such as the Best Aquaculture Practices (BAP) standards, British Retail Consortium (BRC) food safety standards, or the Canadian Organic Aquaculture Standard.

There are a number of reasons why certification is important. For example, quality management systems help businesses to improve the efficiency of their processes, reduce operating costs and assess their level of risk. Eco-certification or organic product certification typically provide a marketing or price advantage, and can improve a business’s reputation or a sector’s public image.

However certification to a third-party audited standard is not the only game in town in terms of demonstrating environmental and social responsibility. For example, this year the Canadian Aquaculture Industry Alliance (CAIA) is examining the feasibility of using an FAO-based responsible aquaculture certification model. The analysis looks at whether or not we can effectively evaluate the level of governance of aquaculture in Canada, as well as the level of compliance with governmental regulation, against the FAO Code of Conduct for Responsible Fisheries (including aquaculture). The assessment is ongoing and has been benchmarking the NL and PEI mussel sectors, and the Ontario rainbow trout sector, against the FAO Code. We hope to hear more about the results of this important initiative over the coming months.

Here at NAIA we have been busy with our own certification initiative aimed at helping our member companies become leaders in certification. The first element of the NAIA certification initiative was the offering of workshops for both finfish and shellfish sectors. These workshops explained certification and standards options for the aquaculture industry including a detailed examination of each standard. Part 2 of the initiative consisted of having benchmark audits performed for each operation to the company’s chosen certification standard. This also included a report outlining gaps in preparedness.

The third component of this initiative included funding and technical support for certification implementation and auditing of the mussel sector as well promotion of the organic certification achieved by the mussel sector. This final component is still ongoing.

We would like to thank the Department of Fisheries and Aquaculture, the Department of Innovation, Business and Rural Development and the Atlantic Canada Opportunities Agency for funding this initiative. Acknowledgement also has to be given to Global Trust / SAI Global who were contracted for much of this initiative.

Aside from this project my fellow Research and Development Coordinators (RDCs) and I were trained in internal auditing and Environmental / Quality Management Systems (ISO 14001 / ISO 9001). This project allows the RDCs to act as a resource for smaller companies seeking certification.

Current Certifications

In order to demonstrate sustainability and food safety, aquaculture companies in Newfoundland and Labrador, from both the finfish and shellfish sectors, have been gearing up to become certified to several different eco and food safety standards.

NAIA is proud to have played a vital role, though the certification projects mentioned above, in helping the mussel sector achieve Organic certification (certification pending at press time) through the Canadian Organic Aquaculture Standard. The standard is a complete system designed to ensure the protection of the aquatic ecosystem. While most people know that the nature of mussel farming here in Newfoundland and Labrador is inherently environmentally friendly, organic status is a way to demonstrate this. Each NAIA member mussel farming operation has at least part of their production
certified as organic. As there is still a good market for non-certified mussels, some farmers still offer this product.

Gray Aqua Group has chosen the Safe Quality Foods (SQF) standards to substantiate their food safety claims and have been certified to this program for several years now. This standard is recognized by the Global Food Safety Initiative; a program that many retailers and other buyers have been demanding to a greater extent lately. And recently Gray Aqua Group has also achieved BAP certification for their farm sites.

Northern Harvest Sea Farms have also seen merit in the BAP program, and have been the subject of several milestones within this program. In March 2012 a Northern Harvest farm site in NB was the first BAP certified salmon farm in Atlantic Canada. The following month, Northern Harvest, with the processing plant in St. George, NB, became the world’s first 2-Star salmon operation. In September the first Newfoundland sites were certified and in November Northern Harvest became the world’s first three-star certified salmon operation, after partnering with Skretting Canada which is also now BAP certified. Three-star is, until a hatchery standard is released, the highest level achievable under the program. To date seven Northern Harvest farming sites in NL and NB have received certification under the program. “Northern Harvest is moving ahead as a leader in salmon certification” said Best Aquaculture Practices Vice President of Development Peter Redmond.

Cooke Aquaculture has been active in the certification arena for several years now and their hatchery, seawater and processing operations hold several certifications. Nell Halse of Cooke Aquaculture says “Cooke Aquaculture has been committed to working towards third party certification since 2008 when we had our first hatcheries certified to the Seafood Trust CQS and Eco label. Since that time we have achieved certification for our hatcheries and processing plants and many of our farms. This has allowed us to developed unique relationships with preferred customers who wish to sell Seafood Trust Eco labeled salmon. This opportunity is especially important for retailers who have established policies for sourcing sustainable seafood.”

Cooke has also achieved BRC Certification for four of their processing facilities. The BRC Certification complements their Seafood Trust Certified Quality Salmon and Seafood Trust Eco Label certifications. The British Royal Consortium is a global leader in product safety and quality certification, is known and trusted around the world and is recognized by the Global Food Safety Initiative.

This past year has been an active one with respect to certification as many of our producers have taken up the challenges that implementing certification can offer. Hopefully the next few months will give our producers who are new to certification a chance to evaluate these programs and the benefits that their certification can offer.

For more information on the NAIA and ACAIRDN certification and standards initiatives please contact me at: 709-754 - 2854 (Bus.) or 709-728 - 1314 (Cel). ✉️
Safe Snowmobiling Tips from Transport Canada

Snowmobiling is a sport enjoying immense popularity. There are currently over 700,000 registered snowmobiles in Canada and over 161,000 km of snowmobile trails.

Snowmobilers should always follow these common sense snowmobiling safety tips to ensure a safe and happy snowmobiling season:

**SAFETY DOS & DON'TS**

**ALWAYS:**
Before you set out:
- Inform others of your destination and estimated arrival time.
- Inspect your snowmobile for mechanical integrity.
- Wear suitable clothing to prevent hypothermia – remember that children are particularly susceptible to the cold.
- Carry first aid and survival kits.
- Check local avalanche conditions in avalanche-prone areas; there is a web site for this at www.avalanche.ca.

**On the trail:**
- Ride within your capabilities.
- Use snowmobile trails whenever and wherever practical.
- Stay on the right side of the trail.
- Reduce speed in unfamiliar territory.
- Exercise care when crossing roadways and railway tracks.

**At night:**
- Slow down! Your headlight limits how far ahead you can see. The slower you are travelling, the less distance you need to stop.
- Avoid driving along road shoulders where lights from either snowmobiles or vehicles can cause confusion.

**Over lakes and rivers:**
- Be aware of ice conditions and, if in doubt, check with local authorities or your local club.
- Wear flotation-type clothing.
- Remember also to treat the outdoors with respect and be considerate of wildlife!

**NEVER:**
- Never drive a snowmobile if you are impaired by alcohol or drugs. “Don’t drink and drive” applies to snowmobiles as to any motor vehicle.
- Never ride on railway tracks.
- Never ride alone.
- Never leave children unsupervised with “kiddie” snowmobiles.
- Never leave young children alone in cutters.
- Never travel with babies.

**REMEMBER, SAFETY IS EVERYONE’S BUSINESS!**

For further information or to offer any comments, contact:

**Transport Canada** Road Safety Directorate, Transport Canada, 330 Sparks Street,, Tower C, Place de Ville OTTAWA, Ontario K1A 0N5. Tel: 1-800-333-0371 (Toll-free) 1-613-998-8616 (Ottawa region) Fax: 1-613-998-4831 E-mail: RoadSafetyWebMail@tc.gc.ca Website: www.tc.gc.ca/roadsafety

**Canadian Council of Snowmobile Organizations (CCSO)** Telephone: 1-514-252-3002 • Fax: 1-514-252-0361 • www.ccsccso-ccom.ca

**International Snowmobile Manufacturers Association (ISMA)** • www.snowmobile.org

Imagine an alien species with slick translucent skin silently invading while going undetected by unsuspecting natives. Sounds like a scene from a science fiction movie; however, during a harbour and breakwater dive survey in Burin, Placentia Bay on September 19, 2012 this sci-fi fantasy proved all too true with the first discovery of the alien invasive tunicate (vase tunicate) in Newfoundland waters.

The vase tunicate is a large solitary tunicate species with a translucent outer tunic (often pale green or yellow in color) that can grow up to 15 cm in length. They grow in dense aggregations on a variety of natural and man-made structures including boats, buoys, ropes, wharves and kelp species. They are prolific spawners with each female producing up to 10 000 eggs per life cycle.

The vase tunicate has been detested by the mussel aquaculture industry in the Maritime Provinces of PEI (since 2004) and Nova Scotia (since 1997) as they extensively foul mussel socks. The extra weight of the tunicates makes retrieval of mussel lines difficult, and can result in stripping of the lines during harvesting. In the Maritimes eradication of the vase tunicate on aquaculture sites has been unsuccessful and growers have had to learn to live, and deal with the invaders. Vase tunicates have greatly increased the cost and labour associated with harvesting and processing mussels causing some farms to shut down operations.

The discovery of vase tunicate in Burin raised immediate concerns by federal, provincial, academic and stakeholder groups. Follow-ups to the initial discovery were carried out in October and November to determine if nearby harbours were also affected. Vase tunicates were also found in Little Bay and Marystown, which are in close proximity to Burin. Surveys in surrounding harbours did not detect vase tunicate. The largest and most extensive population was found in Little Bay with tunicate growth on boats, wharves, ropes, buoys, kelp and eelgrass blades within the harbour. Samples collected during all 3 surveys showed the animals were reproductive.

A meeting held on October 26, 2012 allowed federal, provincial and academic groups, and industry stakeholders an opportunity to discuss potential impacts of vase tunicate to Newfoundland, mitigation or management options and ways to prevent its spread to other harbours. Since this species is a major fouling organism it is important that fish and shellfish harvesters prevent its introduction to farms through implementation of a best practices plan. Thorough cleaning and disinfection of all gear and boat hulls should be done before moving from an affected area. Any large organisms or bilge water removed should be disposed of on land, or in an appropriate waste receptacle.

Boat traffic is considered to be the primary threat to the spread of vase tunicate from currently affected areas in Newfoundland. The cooperation of boaters in keeping their vessels clean and using appropriate antifouling methods is key in the battle against this alien invader.

More information on AIS in Newfoundland and Labrador can be found at www.nfl.dfo-mpo.gc.ca/AIS-EAE. ✋
After a long and distinguished career, primarily in science education and extension support, Dr. Laura Halfyard has retired from the Marine Institute of Memorial University. Laura started her career as a science teacher in the Newfoundland vocational school system in the late 1970s followed by high school science instruction in the early 1980s. She then took up a position as a faculty member at the Fisheries College in the early 1980s. She completed her Masters of Science at Stirling University in the late 1980s while teaching at the college, which by then had become the Fisheries and Marine Institute. She later completed her PhD in fish nutrition, also from Stirling in 2002 while teaching and conducting research at the Marine Institute of Memorial University.

Laura has played a pivotal role in the education and training programs offered at the MI in sustainable aquaculture, from one of our first instructors to extensive engagement in a whole range of subsequent program activities, from community-based, on the farm courses for shellfish and finfish farmers, to our post-graduate programs in science and the business of aquaculture. Through all of this, she mentored several graduate students (MSc and PhD levels) in the fine art of conducting aquaculture research, most of her students being from developing countries in need of capacity building for their own purposes.

Through her involvement in training and education, she became involved in several education and training programs for under-developed countries in need of training skills development across the globe, most notably in Vietnam, Malawi, Sri Lanka, and Cambodia. In 2011 she was given a special award in recognition of the 10th anniversary of Tra Vinh Community College and the 5th anniversary of Tra Vinh University in Vietnam for her efforts in assisting the college in developing aquaculture, agriculture and post-harvest programming.

Laura has been actively engaged through her career in encouraging, mentoring and supporting women to enter into a career in science and industry technical support. She was president of Women in Science and Engineering in Newfoundland and Labrador, for several years, and is currently a past president. She mentored several high school women in science over the years as part of her efforts in this area of interest.

Over the past several years, her activities in aquaculture education and training have focused on assisting and coordinating with the NAIA in the development of junior and high school curriculum and awareness programs for our Province’s schools. As well, she took on the lead of promoting industry-based education and training programs since 1999 at the MI. Her enthusiasm for the youth and the career opportunities presented to them in the sector in our Province is evident by her contributions to these efforts over the past 15 years.

Laura is not retiring from aquaculture, but rather is focusing her efforts on the family mussel farming business over the next little while, and so we expect to see her around for many more years.

The NAIA wishes Dr. Halfyard a happy retirement from the University, and looks forward to working with her in the future on her new career path in our industry. ✴️
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Master of Technology Management (Aquaculture)
MSc Aquaculture (thesis)

For more information visit www.mi.mun.ca/aqua

Contact:
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ccfi@mi.mun.ca
www.ccfi.ca

An initiative of Memorial University of Newfoundland funded by the Government of Newfoundland and Labrador
On behalf of the Newfoundland Aquaculture Industry Association’s Board of Directors, welcome to our 20th annual conference and trade show! That’s right, 20 years. Two decades celebrating Newfoundland’s contribution to providing healthy and environmentally sustainable seafood for consumers.

This industry in Newfoundland has come a long way in 20 years. We have faced many challenges over the past two decades and meeting and overcoming those challenges has helped us learn and improve. Whether it is ferry delays while getting stock into or product out of the province, our harsh weather conditions, or highlighting the need for additional services and supplies for our sector – we have learned and continued to grow.

Since our last conference, our finfish sector has experienced new challenges. Confirmation of ISA, infectious salmon anemia led to quarantines and cull orders and caused some confusion in the community and media. Although it is devastating to receive confirmation of ISA and for companies to have to quarantine a farm, the reality is that fish health protocols and early detection enabled the companies affected to deal with the situation appropriately. Our handling of ISA is a success story. The real damage comes when anti-farming activists take a well-known, natural fish health issue and spread misinformation about our industry and our people rather than listen to the fish health experts and veterinarians.

Public scrutiny about aquaculture has been the way of life for most jurisdictions involved in aquaculture – particularly salmon farming. Our salmon farming sector has attracted a lot of attention because of our growth and successes in recent years. Now that we are on the radar, we can expect to be the target of misinformation campaigns but also of many good questions from the public and from the media.

It is now our job to ensure we keep ourselves and our staff educated on the facts. We provide top quality, healthy, nutritious, and environmentally sustainable seafood. We need to take pride in our story and get involved in telling it whenever we can. Sign up and use the “Act for Aquaculture” website: www.actforaquaculture.ca. It is a great resource and will give you the heads up when your support is needed. We have many times more supporters than critics and those who truly care for the environment and their health stand by our products. This new way of life for us is just another challenge that needs to be managed. The more press on aquaculture means we have more outlets to get the truth out there. Our
story is a good one and we should be proud. Stay informed, stand proud and have your say.

Another development we have to be proud of is the increase in environmental certifications our local companies have achieved or are working towards. Our major finfish companies have achieved international certification for their operations and products. Many shellfish operators will soon be marketing their product as certified! This is positive news as more and more consumers are eating up Newfoundland’s farmed seafood products.

All of this brings me back to our conference and this year’s theme “Reflecting on the Past, Embracing a Promising Future”. How incredibly fitting. Please make sure you do reflect on the past. Remember the days of small scale production, little employment opportunities and an industry trying to get noticed. As we look around today at the economic driver that this industry has become in our rural communities directly and indirectly, the educated and experienced workforce we’ve developed and the amount of beautiful product we provide, I hope you will be as proud as I am. Let’s keep telling our story and embrace our promising future. ✨

**DID YOU KNOW??**

The “takeCHARGE OF YOUR TOWN Challenge” is back! Does your town have what it takes to be the takeCHARGE Champ?

The takeCHARGE of Your Town Challenge is a fun, community-based challenge that aims to engage communities across Newfoundland and Labrador and promote saving energy and saving money. Each town will have a “Town Champion” who will act as a team captain throughout the challenge. As a team, each town will accumulate points by completing a series of challenges that will take place between October 4, 2012 and April 26, 2013. The town with the highest points at the end of the challenge will win the grand prize – $7,500 towards a community project!

Visit townchallenge@takechargenl.ca for more information.
CONGRATULATIONS!

It’s a Girl!

Steward May awarded Queens Diamond Jubilee

Steward May, Mayor of Belleoram, NL received a very high honor recently when he was presented with the Queen’s Diamond Jubilee Medal in recognition of his many years of devoted activism in his community, and specifically in the Coast of Bays region. Tracey Perry, MHA Fortune Bay - Cape La Hune visited Belleoram to present Steward with this very well deserving award. (See photo)

Steward, a very well-liked, well-known individual who lives in Belleoram, NL, has volunteered for many years in various groups and organizations in the Coast of Bays region. Some of the groups and committees he has participated include: Belleoram Town Council, Royal Canadian Legion – Branch 59, Belleoram Harbour Authority, Belleoram Recreation Committee, Belleoram Firefighters, Coast of Bays Corporation and Joint Mayors and Aquaculture Sub Committee, North Shore Development Corporation, Mose Ambrose Citizen Health Group, Fortune Bay North Shore Family Resource Centre, English Harbour West Army Cadet League #3065, and Central Steering Committee of the Strategic Social Plan. He is also lay minister with the St. Lawrence Anglican Church and the St. Michael & All Angels, was church warden and treasurer of the parish council, and member of the Loyal Orange Lodge #55, member of the Rural Secratariat for Springdale-Grand Falls - Harbour Breton, and also participates in the English Harbour West Lions Club. Well done Steward! Congratulations!

On behalf of the NAIA Board of Directors and staff, we’d like to send out sincere congratulations to Miranda and Kevin (and Ethan) on their newest addition to their family, little Ms. Elisha Pryor Andrews born on January 4, 2013 weighing in at 8lbs. ✿
Newfoundland Aquaculture Industry Association

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Newfoundland and Labrador cultured seafood products are highly regarded for their delicious flavour and fresh quality. Our cold water products are processed immediately after harvesting according to strict Canadian standards, ensuring top-quality results for you each and every time!

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: Cyr Couturier, Executive Director
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