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Watermark

News from the Aquaculture Association of Canada

November 2015 Issue 20151110

President's Message



It's a pleasure to be back in saddle again with a new, energetic Board of Directors for AAC. The Board consists of about 75% newer and 25% experienced members, and includes representatives from academia, university, government, and the supply sector, as well as members from across Canada. This is truly a representative Board to take care of your business, the Members.

The recent Aquaculture Canada 2015 meeting held in Nanaimo was certainly an exciting event. A number of landmarks were achieved: largest fund raising for the Student Endowment Fund ever (over \$13,000), the first time offering of Aquaculture in the Classroom (be sure to visit the YouTube presentation on our webpage), largest delegate attendance since 2002 (358 in 2015, 562 in 2002), and so on. Please see the meeting report for further details on this truly national event for Canadian aquaculture.

The outlook for 2015-2016 is promising with renewed interest in the AAC to continue its primary objectives of fostering an aquaculture industry in Canada, to promote the study of aquaculture and related science in Canada, to gather and disseminate information relating to aquaculture, and to create public awareness and understanding of aquaculture. In order to do so, however, we want to hear suggestions from you, the Members, as to how we can better fulfil these objectives. Please contact me directly or any Board members to provide your input.

Plans are underway already for next year's conference and trade show, which will be held in St. John's, NL, 18-21 September 2016. Mark it in your calendars.

Cyr Couturier, AAC President

president@aquacultureassociation.ca

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Updates

AC 2015 Recap:

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In the News

Farmed Seafood Recipe

Aquaculture Canada 2016

Aquaculture Canada 2016 will be held at the Delta hotel in St. John's, Newfoundland from September 18th - 21st 2016. AC 2016 will be co-hosted with the Newfoundland Aquaculture Industry Association (NAIA). The meeting will jointly hold Aquaculture Canada 2016 and Cold-Harvest 2016 together.



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BCSFA Marine Environmental Research Program



The BC Salmon Farmers Association's Marine Environmental Research Program has posted a Call for Proposals for 2016 research initiatives. You can find more information on the application process on the Association's Research and Innovation webpage. Please find the link below and feel free to share it with your contacts!

<http://bcsalmonfarmers.ca/research-innovation>

This is the second call for proposals for this newly formed program, under the guidance of the BCSFA Science Advisory Council. Please note that the deadline for applications is December 1, 2015. If you have a project idea that fits within the Association's research priorities please apply. Applications can be multi-year, with multiple partners.

For further information or questions please contact:

Joanne Liutkus, M.Sc.

Research and Development Coordinator

BC Salmon Farmers Association

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Office: 250 286 1636 Ext. 222

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201-909 Island Highway, Campbell River, BC V9W 2C2

AAC Bulletin 2016

Attention Members:

AAC is planning a new Bulletin for early 2016, and we invite you to share your aquaculture activities with us.

Tell us about your new research project, innovation or technology, education and training program or present an article on a recent aquaculture development topic. Details for authors are included in the attached instructions.

Please provide your 1,500 word submission with graphs and / or photos by Dec 31, 2015 for inclusion in the Bulletin.

Organizational members please contact us if you would like to place an ad in this publication. Please note that AAC reserves the right to determine what material is appropriate for publication.

For more information, contact Catriona McLanaghan (info@aquacultureassociation.ca)

AAC Awards 2015

Research Award of Excellence

Dr. Céline Audet (see below for her award profile)

Student Scholarship Awards

Stacy Murray (UNB Saint John)

Brenna Collicutt (Vancouver Island University)

Student Presentation Awards

Best Oral Presentation

Jing Lu (Dalhousie University)

“Use of *Camelina sativa* oil and solvent-extracted meal for Atlantic salmon fry (*Salmo salar*)”

Best Poster Presentation

Angela Fortune (University of Victoria)

Optimizing benthic extraction of nutrients within an integrated multi-trophic aquaculture (IMTA) system using the California sea cucumber, *Parastichopus californicus*

Travel Awards

Katharina Correa

Forest Dussault

Minhao Fu

Daria Gallardi

Melissa Holborn

Song Lin

Xiang Lin

Jing Lu

Stacy Murray

Agnieszka Stadnik

Yangfan Zhang

Congratulations to all AAC Award Winners this year!



Student Endowment Fund

On behalf of the Aquaculture Association of Canada's (AAC) Board of Directors, we would like to sincerely thank members for your contributions toward the AAC's Student Endowment Fund. This year we reached a record for the SEF with \$13,056.88 raised! This includes funds raised from the student BBQ event, silent auction, raffle, and generous donations. We would specifically like to thank Marine Harvest Canada for providing the salmon BBQ trailer and the sensational salmon burgers and tacos in effort to raise funds toward the SEF. We would also like to thank WestJet for donating two tickets anywhere WestJet flies. Thank you to the many others that donated items for the live and silent auctions and everyone that participated. The generosity was remarkable. We sincerely thank you for your immense contribution toward the AAC students.

Each year, the AAC provides approximately \$8,000 in funds per year for student travel to the AAC conference, presentation awards and scholarships. The donations and member participation helps immensely with this initiative, and allows us to continue to grow and nurture the future of aquaculture in our country.

On behalf of the AAC, the Board of Directors offers our sincerest gratitude and thanks for your generosity in support of the AAC students!



AC 2015 Recap

Student Perspective

The Aquaculture Association of Canada has yet again had another well planned and productive conference. One theme of the conference was the need of education for the general public on the importance of and safety of aquaculture products, as well as the importance of seafood as a part of a healthy diet. It has been well established that capture fisheries cannot be expected to feed a growing population. Unfortunately, despite the global “blue revolution” (cultured fish surpassing captured fish), Canadian aquaculture has not been increasing in production. This leads to another reoccurring theme of the conference: the need for consistent and streamlined regulations. A new national Aquaculture Act may aid in the development of new farms and in the recruitment of potential investors for the industry. New growth must be developed in a sustainable manner; however, sustainability can only be achieved with knowing baseline environmental conditions. It was also identified that these baseline environmental conditions can be difficult to measure in both the freshwater and marine environment largely due to natural variability or previous impacts. An additional theme was the excellent job that Canada has been doing in research (such as innovative feed formulations, genetic techniques, reuse of waste products and disease control) and conferences such as this are a great method for the harmonization of these tools. So let’s use these tools and continue producing some of the best farmed seafood the world has to offer. Vive la revolution bleu!

Stacy Murray

M.Sc. Candidate

University of New Brunswick- Saint John

Student Perspective

Ocean acidification is a “hot” topic in Atlantic Canada. Recent laboratory experiments have been developed to test the response of different coastal invertebrates to increased acidification. Clams and mussels appear to be more affected in their shell deposition compared to scallops and sea urchins. However, both sea urchins and lobsters showed behaviour aimed to get away from waters with increased acidity. Therefore decreased pH and increased acidity have the potential to affect eastern Canada coastal invertebrate physiology and behaviour.

A workshop was organized in New Brunswick to address climate change and its consequences for aquaculture*. Work groups were created and each group discussed a different aspect of climate change. PEI and NB were identified as areas at risk; the need for a federal (for all Canada) organization responsible for guiding information about climate change was highlighted. A similar workshop is being organized and will follow shortly for the Pacific regions.

Daria Gallardi
Ph.D. Candidate

Memorial University of Newfoundland

***Editor’s note: The AAC will publish the results of the workshops in a Special Issue later this year**



Keynote speaker, Mr. Alf-Helge Aarskog, Chief Executive Officer of Marine Harvest ASA addresses delegates on “Leading the Blue Revolution”.



Plenary speaker, Mr. Wally Stevens, Director of Global Aquaculture Alliance addresses delegates on “Responsible aquaculture and Global markets “

Plenary speaker, Dr. Jake Rice, Chief Scientist- DFO, addressed delegates on “Sustainable Aquaculture and the Ecosystem Approach” (photo not available)

Editorial: AC 2015 Blue Revolution 2.0 Major Themes

Current and future seafood needs

Nearly 40 million tonnes of additional seafood will be required by 2030 to feed our growing population, which is expected to increase to 9 billion by 2050. Today only 2% of our food is produced in the ocean, which suggests we are not utilizing this resource to its full potential. Seafood is a healthy source of protein and essential fatty acids. The financial burden on the health care system continues to rise; with obesity and an aging population issues that need to be addressed. Awareness of healthy and sustainable food, and the over exploitation of fisheries, are key factors that have opened a critical window of opportunity for the aquaculture industry.

Challenges

Knowledge and industry advancement do not come without their challenges; however, they are often disguised as opportunities to evolve into a stronger and more productive industry. Climate change, global warming, energy use, emissions, fish escapes, fish health and welfare, sea lice management, medicine use, and sustainable feeds are current challenges faced by the industry. This creates an important space for dialogue among industry, academia, and government. These relationships are particularly important for creating a new federal Aquaculture Act. The lack of modern legislation for aquaculture has inevitably impacted Canada's progression in the industry, in comparison to countries such as the United States, Chile, and Norway. An updated Aquaculture Act may also help improve public opinion on aquaculture, which is important as business is driven by the consumer. As individuals, we can advocate for aquaculture and provide science-based information and be transparent in our practices to improve the public's understanding and perception on growing finfish and shellfish for food.

Growth and change

We are invited to rise to the challenge of growing sustainably to meet the global demand for seafood. While growth is important, it is not to exploit and prevent future generations from continuing and prospering. This will require global leadership, an open accountable regulatory process, use of a science-based approach, establishing sound frameworks, co-ordinating regulatory oversight, all in a cohesive effort to foster the industry. There is a need to develop a modern regulatory system, evaluate past practices and new technology with production and sustainability in mind. This will create additional jobs and present new opportunities for aboriginal and rural communities; and education will play an important role in this development. The Aquaculture Association of Canada is fostering to industry, academia, and government, with a mandate to transfer information between the various sectors of the aquaculture community and to create public awareness and understanding. The annual conference is designed to stimulate conversation, inspire, focus our efforts and unite industry, academia, and government. AC 2015 was a nurturing environment for discussion, collaboration, and development, which will contribute to food security and sustainability for the future.

Stefanie M. Hixson

*Watermark Editor
AAC Board of Directors*

Research Award of Excellence 2015: Céline Audet



Écophysiologiste, Céline Audet a été engagée comme chercheur à l'INRS-Océanologie en 1987 et a joint les rangs de l'Université du Québec à Rimouski en 1999 lors de la fusion de l'INRS-Océanologie et du département d'océanographie de l'UQAR pour former l'Institut des sciences de la mer de Rimouski. Depuis son arrivée à Rimouski, elle s'est impliquée dans nombre de projets en biologie marine, aquaculture et pêches en collaboration avec ses collègues universitaires et gouvernementaux. Tous ses projets ont été réalisés avec le précieux apport de ses étudiants aux cycles supérieurs. Elle en a formé plus d'une cinquantaine dont plusieurs qui

travaillent maintenant à développer l'aquaculture dans différentes régions du monde. Ses recherches sur le poissons diadromes, les poissons marins et la crevette nordique ont fait l'objet de 85 publications scientifiques à ce jour. Dans le domaine de l'aquaculture, ses plus récents travaux ont porté sur la sélection génétique et les interactions gènes x environnement chez l'omble de fontaine et sur l'élevage larvaire de la plie rouges, mais les recherches qui la passionnent le plus sont toujours celles en cours et à venir! Fortement impliquée dans son milieu, elle a participé à plusieurs instances visant à rapprocher les secteurs universitaire, gouvernemental et industriel. Depuis 2006, elle dirige un réseau de recherche universitaire, Ressources Aquatiques Québec, dont la mission est de soutenir le développement du secteur de l'aquaculture et des pêches. De 2009 à 2015, elle a également dirigé un programme de formation FONCER du CRSNG << Programme de formation en aquaculture continentale et marine >> qui a permis de financer plusieurs étudiants aux cycles supérieurs canadiens et étrangers intéressés à parfaire leur formation dans ce domaine. Membre de l'Association aquacole du Canada depuis 1993, elle en a assumé la présidence en 2012-2013.

Céline Audet has a genuine passion and curiosity for all things related to fish physiology and ecophysiology. After her post-doctoral studies, she was hired by INRS-Océanologie in 1987 and she joined the Université du Québec- Rimouski in 1999 when INRS-Océanologie and the Department of Oceanography at UQAR were merged to create the Institut de la Mer de Rimouski. Since early on in her career, she was involved in numerous research projects related to marine biology, aquaculture, and fisheries, she collaborated widely with her colleagues from universities and government laboratories. All of these projects were influenced greatly by the presence of many graduate students. Over the years, she trained more than 50 graduate students, of whom many are now involved in aquaculture development in different regions throughout the world. Her research on diadromous and marine fishes and crustacean species were part of some 85 scientific publications. In relation to aquaculture, her more recent work has been focused on genetic selection and genetic/environmental interactions in brook charr as well as on larval rearing in winter flounder; the most exciting work is always the one to come! She has worked within numerous organisations with an objective to improve communication among universities, governments and industry. Since 2006, she has been Chair of a Provincial research network, Ressources Aquatiques Québec, which has for objective to support the development of aquaculture and fisheries in Québec. From 2009 to 2015, she also chaired a CREATE (NSERC) training program Programme de formation en aquaculture continentale et marine that has trained a large range of Canadian and non-Canadian graduate students in the many aspects related to aquaculture. Member of the AAC since 1993.





In the News

Nova Scotia to unveil new aquaculture regulations (Oct 25 2015)

<http://www.cbc.ca/news/canada/nova-scotia/aquaculture-regulations-nova-scotia-new-1.3286654>

Province of NL confirms major aquaculture project for Placentia Bay (Oct 26 2015)

<http://www.cbc.ca/news/canada/newfoundland-labrador/aquaculture-placentia-bay-marystown-1.3288596>

Canadian Researchers Embark on C\$9.9M Coho Salmon Genomics Project (Oct 28 2015)

<https://www.genomeweb.com/research-funding/canadian-researchers-embark-c99m-coho-salmon-genomics-project>

Research, development lagging in Nova Scotia, Atlantic Provinces Economic Council (Nov 2 2015)

<http://thechronicleherald.ca/business/1320334-research-development-lagging-in-nova-scotia-apec-meeting-told>

Grieg Seafood: Partnership, educated media, improving salmon farming image in Canada (Nov 2 2105)

<http://www.intrafish.com/news/article1424170.ece>

Aquaculture provides economic and social benefits to B.C.'s coastal communities (Nov 5 2015)

<http://www.theglobeandmail.com/partners/advbcsalmonfarmers0515/a-good-catch/article27121513/>

Climate Change Threatens Food Security, United Nations Expert Warns (Nov 5 2015)

<http://canadajournal.net/science/climate-change-threatens-food-security-united-nations-expert-warns-37481-2015/>

Marine Harvest Invests \$40 million in recirculating systems (Nov 6 2015)

<http://www.thefishsite.com/fishnews/26680/marine-harvest-invests-40-million-in-ras/>

Conferences and Events

Aquaponics course (Dec 27-29 2015) - Whitby ON

Canadian Conference for Fisheries Research (Jan 7-9 2016) - St. John's NL

World Aquaculture Society (Feb 22-26 2016) - Las Vegas Nevada USA

Science Atlantic Aquaculture & Fisheries and Biology Conference 2016 (Mar 11-13 2016) - TBA

4th International Symposium on Genomics in Aquaculture (April 20-22 2016) - Athens, Greece

Aquaculture UK 2016 (May 25-26 2016) - Aviemore, Scotland

17th International Symposium on Feeding and Nutrition in Fish (Jun 5-10 2016) - Ketchum Idaho USA

Aquaculture Canada & NAIA 2016 (Sep 18-21 2016) - St. John's NL

Farmed Seafood Recipe.... Party Edition

Farmed Atlantic Smoked Salmon Dip with bagel chips

You'll need:

- 1/4 cup mayonnaise
- 120 g cream cheese
- 1 tablespoon capers
- 1 tablespoon red onion, diced small
- 1 to 2 teaspoons fresh lemon juice
- 1/2 teaspoon horseradish
- 60 g thinly sliced smoked salmon
- 60 g chopped smoked salmon
- 1 tablespoon chopped fresh parsley
- Bagel chips, for serving



Photo credit: marthastewart.com

Directions:

In a food processor, combine mayonnaise, cream cheese, capers, red onion, lemon juice, horseradish, and 60 g smoked salmon. Process until smooth, about 20 seconds. Transfer to a small bowl and stir in remaining 60 g smoked salmon. Top with fresh parsley and serve with bagel chips. Enjoy and share with friends!

Do you have a favourite farmed seafood recipe to share with fellow members? Submit to shixson@ryerson.ca to feature in the next Watermark

Aquaculture Association of Canada 2015/2016 Board of Directors

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Do you have suggestions for the next issue? Email: shixson@ryerson.ca

