



LOOKING FORWARD

Aquaculture a perfect fit for many coastal communities in the province



- **AQUACULTURE ASSOCIATION OF CANADA**
Quebec City, October 2004
St. John's, July 2005

- **EUROPEAN SEAFOOD MARKET**
Targeting mussel sales

- **PLACENTIA BAY**
"Smart Bay"

- **ATLANTIC CANADA'S**
AQUACULTURE DATABASE
R&D AquaBase

21st Annual Meeting of the Aquaculture Association of Canada

17-20 October 2004 • Fairmont Château Frontenac • Québec City

To Your Health! Farming Freshwater and the Seas

À votre santé! Nous cultivons la mer et l'eau douce

THE NATIONAL FORUM ON SCIENCE, TECHNOLOGY & BUSINESS OF AQUACULTURE

POSTER SESSION AND SPECIAL SESSIONS ON:

- Canadian Freshwater Aquaculture Symposium
 - 🌿 First Nations and Aquaculture
- North American Mussel Marketing & Production
 - 🌿 Aquatic Animal Health
- Food Safety & Risk Communications
- 🌿 Advances in Production of Shellfish, Finfish & Alternate Species
 - Integrated Aquaculture

INDUSTRY TRADE SHOW

SOCIAL SCHEDULE INCLUDES:

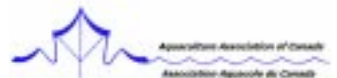
- 🌿 President's Reception
- Aquaculture Banquet, "Frontenac de la Nouvelle France"
- 🌿 Aquaculture BBQ and Silent Auction in support of the Student Endowment Fund
- Daily tours of beautiful Québec

CO-HOSTED BY:



Agriculture, Pêcheries
et Alimentation

Québec



REGROUPEMENT
DES MARICULTEURS
DU QUÉBEC

CONFERENCE INFORMATION & REGISTRATION:

www.aquacultureassociation.ca



AAC – An outline

The Aquaculture Association of Canada was incorporated in February 1984.

.....3-6

this
issue

the industry



The Cold Harvester is a partnership between Transcontinental Media and the Newfoundland Aquaculture Industry Association. The Cold Harvester, which serves the Newfoundland aquaculture industry, is published four times per year.

For information on advertising, contact **Bob Windsor**, Industry Publications Division account executive
tel: 709-570-1533
fax: 709-722-2228
web site:
www.transcontinental-media.ca

André Préfontaine
President

Kerry Hann
Group Publisher

Ron Ennis
Managing Editor

Melvin Burry
Layout Editor



P.O. Box 8660, St. John's, NL
Canada A1B 3T7
tel: 709-722-8500
fax: 709-722-2228
e-mail:
kerry.hann@transcontinental.ca

Canada Post Publications
Sales Agreement # 1442716



On Track

Mussel growers to help define 'What is a Quality Mussel?'

..... 10



Database

'AquaBase' balancing networking, security and confidentiality.

..... 24

Guest Editorial

Richard Harry, Executive Director of the Aboriginal Aquaculture Association shares his perspective on aquaculture.

..... 8

Couturier on Culture

Aquaculture accounts for a small but significant portion of the byproducts produced in Canada.

..... 12



Pilot Project

The Information Seaway™ is an initiative of CCMC.

..... 20

Column

Aquaculture: Strategic growth industry for rural development.

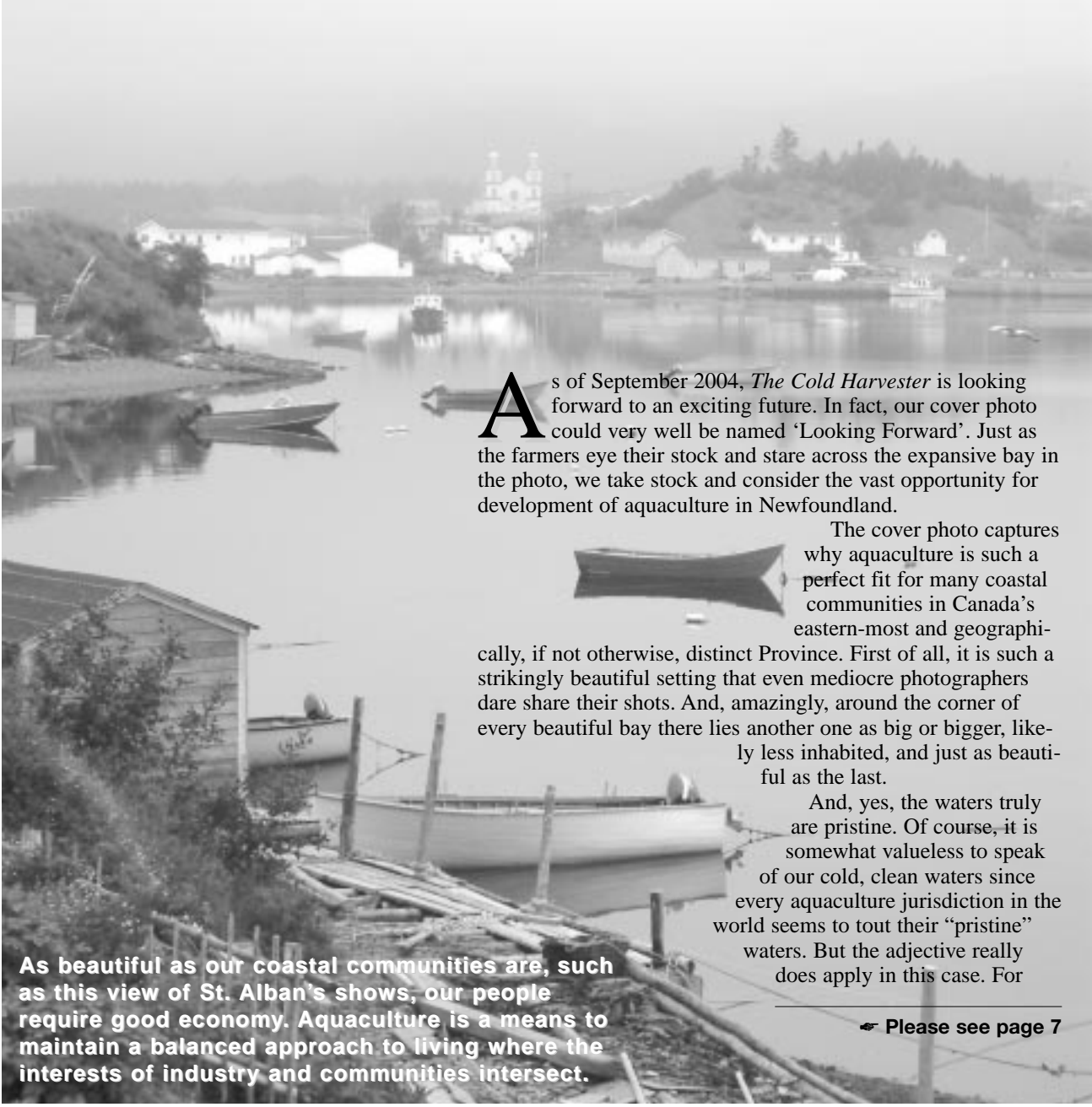
..... 32



NAIA Executive Director

MIKE ROSE

Looking forward, like Richard Harry



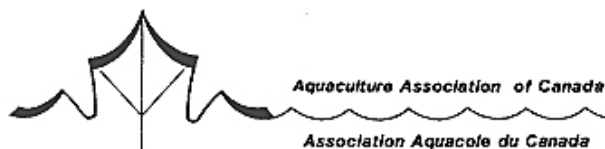
As of September 2004, *The Cold Harvester* is looking forward to an exciting future. In fact, our cover photo could very well be named 'Looking Forward'. Just as the farmers eye their stock and stare across the expansive bay in the photo, we take stock and consider the vast opportunity for development of aquaculture in Newfoundland.

The cover photo captures why aquaculture is such a perfect fit for many coastal communities in Canada's eastern-most and geographically, if not otherwise, distinct Province. First of all, it is such a strikingly beautiful setting that even mediocre photographers dare share their shots. And, amazingly, around the corner of every beautiful bay there lies another one as big or bigger, likely less inhabited, and just as beautiful as the last.

And, yes, the waters truly are pristine. Of course, it is somewhat valueless to speak of our cold, clean waters since every aquaculture jurisdiction in the world seems to tout their "pristine" waters. But the adjective really does apply in this case. For

As beautiful as our coastal communities are, such as this view of St. Alban's shows, our people require good economy. Aquaculture is a means to maintain a balanced approach to living where the interests of industry and communities intersect.

➔ Please see page 7



The Aquaculture Association of Canada – An Outline

BY CHRIS HENDRY
Vice President, AAC

The Aquaculture Association of Canada (AAC) is a national organization of producers, suppliers, students, scientists, educators, and government representatives that is concerned about the promotion of knowledge pertinent to the aquaculture of finfish, aquatic plants and shellfish. The AAC was incorporated in February 1984 when John Anderson, David Aiken, Joel de la Noüe, Charles Schom, and Terence Jackson – all pioneers in Canadian aquaculture – decided that the aquaculture industry in Canada needed a vehicle to disseminate information. This was timely, since the industry's development and knowledgebase were each approaching an exponential growth rate. In establishing this not-for-profit association, to be based in St. Andrews, NB, the founders had the foresight to know that it would be of great and direct benefit to the aquaculture sector and all its supporting organizations.

The AAC is managed by a Board of Directors and association office staff. The Board of Directors is charged with managing the business affairs of the Association, and each year, at least three members of the Board of Directors are renewed for a two-year term by an Election of Directors (mail-in ballot) by the membership. Since 1984, the AAC has had representation on the Board from industry, academic institutions, government agencies (provincial and federal), and students, and from all across Canada. The Board executive is selected by and among the Board of Directors, and consists of a President, Vice-President, President-Elect, Treasurer, and Secretary. Several people involved in aquaculture in Newfoundland and Labrador have served on the AAC Board of Directors since its inception, including Arnie Sutterlin (formerly Memorial University), Cyr Couturier (Marine Institute), Jay Parsons (formerly of Marine Institute), Joe Brown (Ocean Sciences Centre), Marc Kielley (Canadian Centre of Fisheries Innovation, and formerly of NAIA), and Chris Hendry (Department of Fisheries and Aquaculture). The association office staff currently consists of Susan Waddy (Association Office Manager and Managing Editor, *AAC Bulletin*), Chrissy McGregor (Office Administrator), and Terry Hutchinson (Legal Counsel – Clarke Drummie).

The objectives of the AAC under its Articles of Incorporation are:

- (1) to foster an aquaculture industry in Canada, to promote the study of aquaculture and related science in Canada, to gather and disseminate information relating to aquacul-



When not toiling as Vice President of the AAC, Chris Hendry supports the development of the Newfoundland aquaculture industry through the Department of Fisheries and Aquaculture.

ture, and to create public awareness and understanding of aquaculture;

- (2) to promote, support, and encourage educational, scientific, and technological development and advancement of aquaculture in Canada;

- (3) to gather and disseminate technical and scientific information on aquaculture development in Canada and throughout the world;

- (4) to conduct seminars for the presentation, exchange, and discussion of information, findings, and experiences on all subject and techniques related to aquaculture;

← Please see page 4



AAC meet and greet at Aquaculture Canada 2003.

AAC carries out objectives through annual meetings across the country


From page 3

- (5) to encourage the teaching of all phases of aquaculture and the training of aquaculture and the training of aquaculturists in accredited colleges and universities in the field of aquaculture; and

- (6) to encourage private industry and government agencies, both provincial and federal, to support education, research and development.

AAC carries out these objectives primarily through annual Aquaculture Canada IOM meetings, where workshops, seminars, contributed papers and posters and discussions take place. Aquaculture Canada IOM has taken place annually in cities all across Canada, from Victoria, BC to St. John's, NL at various times of the year. In addition, the AAC has also co-hosted or jointly held these meetings in conjunction with local or other organizations with similar audiences, including the Aquaculture Pacific Exchange (Victoria, 1999 and 2003), the World Aquaculture Society (Vancouver 1984, Halifax 1990), Aquaculture Association of Nova Scotia (Halifax 1990, 2001, Yarmouth 1994), Atlantic Aquaculture Fair (St. Andrews 1991), the Great Atlantic Shellfish


← Please see page 5



AQUACULTURE


RAINBOW

NET & RIGGING LIMITED



- Various Floats & Buoys
- Ropes/Mooring Ropes
- Shellfish Plastic Socking/Mesh
- Anchors & Hardware

- Various Custom Built Cages
- Net Pens & Predator Covers
- Fully Rigged Seine Nets
- Professional Net Treatment Facility



Dartmouth • St. George • Carbonear • Deer Island • Yarmouth

Head Office: 109 Simmonds Dr. Dartmouth, NS B3B 1N7 Canada

p. 1.902.468.7503 f. 1.902.468.3969 www.rainbownetrigging.com



AAC's 2003 Board of Directors with DFO senior staff.

Association consists of several committees

From page 4

Exchange (Moncton 2000) the Canadian Aquaculture Industry Alliance (Ottawa 1996), the PEI International Shellfish Festival (Charlottetown, 2002), and AANF and NAIA (St. John's, 1989, 1998). The 2004 annual meeting will take place in Quebec City, QC from October 17-20, 2004, and is co-hosted by the Regroupement des mariculteurs du Québec (RMQ), the Association des aquaculteurs du Québec (AAQ), the Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec (MAPAQ), and AAC. In addition, Aquaculture CanadaOM 2004 will be hosted at the same venue with AquaNet IV, with a combined banquet and a half day of sessions.

The Association also publishes the *Bulletin of the AAC*, and proceedings of the annual general meeting are published under the *AAC Special Publications* series. These publications ensure that important topics covered at the meetings and elsewhere can be distributed in a timely manner to those who can best apply the knowledge contained therein. Furthermore, the AAC, in conjunction with the Marine Institute of Memorial University of Newfoundland, hosts the AQUA-L electronic discussion group, which provides a forum for global exchange on current aquaculture issues and concerns. There are currently 1,500 subscribers from over 30 countries on the list. The Aqua-L list was created nearly 20 years ago by Ted White and colleagues at the University of Guelph in 1986, turned over to AAC in the early 1990s and is the longest continuously operating international discussion list devoted to aquaculture. Dissemination of information is further accomplished with discounts on other aquaculture-related publications with AAC membership, including *World Aquaculture* magazine, *Northern Aquaculture*, *Fish Farming*, and *Hatchery International* magazine. In addition, membership offers reduced registration fees at World Aquaculture Society meetings, which provide opportunities for global aquaculture networking.

The AAC also consists of several committees that conduct specific business to fulfilling the purposes of the Association.

- The **Election Committee** is responsible for all matters pertaining to the conduct of the annual election, including the slate of nominees, the ballot and the tabulation of votes cast by the membership.
- The **Finance Committee** is responsible for evaluating the financial aspects of proposed projects and activities of the Association.
- The **Rules Committee** studies the Letters Patent, Bylaws, Policy, Rules and Regulations of the Association and recommends necessary changes.
- The **Time and Place Committee** selects the time and place of the next unscheduled annual meeting of the Association.
- The **Arrangements Committee** makes all necessary arrangements for the annual meeting identified by the Time and Place Committee. The **Program Committee** assembles a program of scientific, technical, educational, and other activities for the annual meeting.
- The **Publications Committee** is responsible for the various publications of the Association.
- The **Awards Committee** is responsible for recommendation and administration of the various awards of the Association, described in the following paragraph.
- Finally, the **Student Affairs Committee** encourages the active participation of students in the affairs of the Association and recommends appropriate activities and pursues those approved by the Board to promote the development of aquaculture education.

As already mentioned, the AAC makes much effort to both recognize the achievements of individuals in aquaculture in Canada and foster the growth of students into the Canadian aquaculture sector. The former is accomplished

➔ Please see page 6

AAC encourages students' development in aquaculture

From page 5

through two special awards offered annually by the AAC: the Honourary Lifetime Achievement Award (HLAA) and the Research Award of Excellence (RAE). The HLAA recognizes individuals who best exemplify the aims and objectives of the Association, and previous recipients have included Drs. Neil Bourne, David Aiken, René Lavoie, William Pennell, and this year, Ovila Daigle. The RAE recognizes high quality, innovative current research that has had a significant impact on the aquaculture industry in Canada, and recipients have included Drs. Santosh Lall, Joe Brown, Joel de la Noüe, Tillmann Benfey, and this year, Edward Donaldson.

In the case of students, the AAC has several means of encouraging their development in aquaculture. First of all, AAC provides travel awards to eligible students to help cover costs of attending the annual meeting. Since its inception, the AAC has helped more than 200 students attend its annual meeting. The advantages of student attendance at annual meetings are numerous, including the opportunities to meet other students, making useful contacts, and interacting with potential future employers. It is always noted too that student presentations are among the highest quality at

the annual meetings. As such, the AAC provides presentation awards at the annual meetings, each for the best student oral and best student poster presentations. These awards acknowledge the high quality and great work done by students in their academic programs. Additionally, the Association has recently begun the annual AAC Student Scholarship, which helps successful recipients cover costs incurred during their academic program. So far, the AAC has awarded seven national Student Scholarships, and is currently accepting applications for the next year. All of these student awards are funded, wholly or in part, by the AAC Student Endowment Fund which is maintained through voluntary sponsorship and donations from individuals and companies across Canada.

With almost 1,000 members in over 15 countries worldwide and attendance at the annual meetings surpassing 500 in recent years, it is evident that the objectives of the AAC are being realized, and its contributions to the Canadian aquaculture sector in doing so are apparent.

Further information on the AAC can be found on the Association Web site, www.aquacultureassociation.ca.

IOM Aquaculture Canada is an Official Mark of the Aquaculture Association of Canada and may not be used without permission.



Newfoundland contingent holding up the wharf at AAC 2001 in Halifax.

Looking forward, like Richard Harry

From page 2

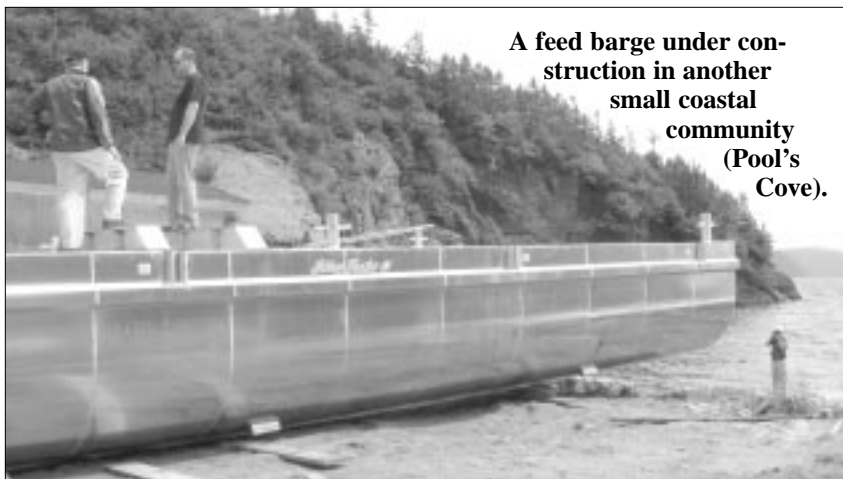
example, the water depth at the site in the cover photo is no less than 100 feet, and it ranges to as much as 150 feet. Yet, on a clear day the bottom features are visible with deep hues of blue and green.

Remarkably, during the summer of 2003, site manager Doug Caines (far left in cover photo), was heard to complain that the water was 'too' clear. Not a bad complaint in the scheme of things!

Here in Newfoundland and Labrador we have a great deal in common with guest editorialist Richard Harry. From Canada's western-most Province, Richard is Executive Director of the Aboriginal Aquaculture Association. You'll read his excellent opinion piece in this edition of *The Cold Harvester*. Advancing the reasonable case for sustainable aquaculture development, Richard writes, "For many in our association, aquaculture represents a significant opportunity ... we see a future in aquaculture for many First Nations on the coast: one which respects our culture, and tradition, which protects the environment, and which creates a sustainable economy that will allow our people to build meaningful jobs and careers in their traditional homes."

Aquaculture is a means to maintain a balanced approach to living, where the interests of communities and industry intersect. Like the interests of the Aboriginal Association, the interests of many of our coastal communities are highly compatible with an industry that reflects their culture and traditions. As much as any people throughout the world, Newfoundlanders and Labradorians respect and live their lives close to the environment. Unfortunately, the once prolific north Atlantic cod have virtually disappeared leaving behind a trail of broken dreams along our coasts. Finfish aquaculture development is currently holding out new hope for reviving coastal communities such as St. Alban's, Pool's Cove, and Belleoram.

To assist the aquaculture industry grow responsibly in Newfoundland, we are looking forward to the continuing strong support provided by our Provincial government. If aquaculture was similarly embraced by the federal government, by partnering to provide essential programs such as National Aquatic Animal Health and Farm Risk Management, investors could be much more confident about building a responsible, strong industry in appropriate rural Canadian regions. Seems like that message has fallen on deaf ears. Perhaps, as we all look forward to a successful Aquaculture Association of Canada (AAC) conference in Quebec City, our time is coming. That would be the optimistic thing to say, of course, but it has been said many times before. It is troubling to know that for well over a decade industry stalwarts have been pleading the case in Ottawa for programs to enable sustainable development. Should we look forward to a change of political tactics?



A feed barge under construction in another small coastal community (Pool's Cove).

Rather than conclude on a somber note, let me attempt to provide optimism and good cheer. Although it remains an uphill course, we are very optimistic about the future of our industry. NAIA hopes you all have an enjoyable and productive AAC 2004 in Quebec City. And, please seriously consider visiting us in July 2005, when AAC 2005 takes place in St. John's (across from George Street). Look forward to meeting you there!



Controls & Equipment Limited

P.O. Box 13817, Stn. A, 45 Pippy Place

St. John's, Newfoundland, A1B 3X2

Phone: (709) 753-2048 Fax: (709) 753-2303

Email: randy@controlsandequipment.com

Manufacturer & Supplier of Control Systems and HVAC Sales and Service

We are a systems integrator of custom automated control systems for the industrial and commercial market. With 25 years behind us and hundreds of successful installations we have the experience, expertise, products, technical training and support to make your next project a winner.

• Design, supply, commissioning, setup, service and training of the following:

- Building Controls & Automation - Energy Performance
- Contracts - HVAC Control Systems and preventative maintenance contracts - Aquaculture Control Systems - Gas Detection Systems - Programmable Logic Control Systems (PLC) - Marine Control Systems and Devices - Motor Control Systems - Telemetry Systems (SCADA) - Fish Processing Devices - Process Control Systems - Municipal Works Control Systems - CSA

GOING BEYOND YOUR EXPECTATIONS!!!

GUEST EDITORIAL



Richard Harry is Executive Director of the Aboriginal Aquaculture Association (AAA). The AAA was founded in 2003 to promote and assist the involvement of First Nations in aquaculture and to promote aquaculture development that supports First Nations communities, culture and values. Based in Campbell River, British Columbia, members include First Nations working in a wide range of aquaculture endeavours, including the supply and service side of the industry. Richard Harry, the Executive Director of the Association is a member of the Homalco First Nation, where he served as Chief for twenty years. He is a founding member of the newly established Centre for Aquatic Health Sciences.

It has been said that there are two sides to every story, although in the case of salmon aquaculture in BC it is often one side that dominates the news. Chief Cranmer's opinion editorial "Fish Farms are damaging BC waters" is the most recent example of this trend.

As the founder of the Aboriginal Aquaculture Association, a group that brings together First Nations to promote and assist the involvement of First Nations in aquaculture and to promote the type of aquaculture development that supports First Nations communities, culture and values, I would like to share another perspective on aquaculture – an industry that has created environmentally sustainable jobs and opportunities for the people of the coastal region.

The perception that aquaculture cannot be done in a manner which protects the natural environment creates a major barrier to First Nations becoming involved in an industry which, in our view, represents an opportunity for coastal First Nations to build sustainable economies, rather than relying on government handouts and our declining commercial fisheries. Let me illustrate my point by talking about the experience of the Kitasoo Nation where the vision, experience and hard work of leaders like Percy Starr – an Order of Canada recipient – and Archie Robinson Sr., has resulted in positive change.

In the remote coastal community of Klemtu, about 200 km north of Port Hardy, there has not been a commercial sockeye fishery for close to a quarter of a century. The local cannery closed in the late 60s. The band looked at the environmental impacts of salmon farming and decided that with proper siting there was no danger. From 1989 – 1993 they operated a fish farm at Lochalsh Bay in Jackson Passage proving they could farm with little impact on the environment or their traditional way of life. In 1998 after a long period of careful negotiation they entered into an agreement with Marine Harvest – a Campbell River-based business owned by one of the world's leading aquaculture firms.

As a part of their agreement with their industry partner, a research team of Kitasoo people track the abundance and diversity of marine life in proximity to the salmon farms regularly testing clams, sea cucumber and prawns to detect the presence of substances that could harm these species. Divers check the ocean floor and marine life in the sea around the farms. After five years, the biological diversity of the ocean under the sites has not been found to have decreased at all. In fact, there even appears to have been a

modest increase. Shellfish and crab are abundant and are fished – and eaten – today by Kitasoo people, as they always have been.

Salmon farming now constitutes the major share of the Kitasoo economy, creating significant employment in the farming, harvest, transport and primary processing sectors. This has provided opportunities for the youth to both work and remain in their community, where unemployment used to run at 90 per cent. As part of the agreement with the company, salmon from the three farms at Klemtu are processed at a local plant operating six months of the year and employing about 60 Kitasoo people. Their future goals are to

➔ Please see page 9

How Jobs Get Done.

DAEWOO - THE LEADER IN FISHING INDUSTRY LIFT TRUCKS

Atlantic Canada's distributor for
DAEWOO (lift trucks...parts...service...
and attachments.

We also service and supply parts and
attachments for many of the industry's
leading fork lift manufacturers



In Newfoundland -
In New Brunswick -
In Nova Scotia -

John Robertson
Larry Farquhar

(709) 727-0046
(506) 333-1902
(902) 478-0146

Atlantic Rentals is the Maritime choice for your material handling needs. From warehouse to rough terrain to variable reach forklifts, we provide top quality lift trucks from the industry's leading manufacturers. Our professional service team is trained to serve you and our Material Handling Consulting Service will help you find the right lift truck fleet for the job. To contact our Material Handling division simply call us toll-free 1-800-663-5516 or visit our website at www.atlanticrentals.com

Newfoundland
Nova Scotia

New Brunswick
P.E.I.



expand the number of salmon farms from three to six, to further integrate processing and transportation, to diversify fin fish species, and to explore shellfish aquaculture.

On behalf of the members of our Association, we investigated claims that salmon were fed a diet of medicated food. We learned salmon are the only type of livestock which can only receive antibiotics to treat illness when prescribed by a veterinarian: over the life cycle of a salmon 97 per cent of their feed is free of antibiotics. Like many others on the coast we were concerned about sea lice and, while there is no question we will learn more from the research now underway, an evaluation of the scientific expertise – which Chief Cranmer calls for – shows us that the scientists working on this issue from the government and industry side include a team of men and women with exemplary academic credentials: many have PhDs, one has earned the Order of Canada.

Today aquaculture is one of the key areas of opportunity for our coast. This opportunity must be developed in a true partnership with industry, each respecting the other. Government has a role to play also, building research capacity on the coast, and investing in training. In another example of our Association members working in partnership with industry, 10 students of the Kitkatla Nation have recently completed the First Nations Salmon Farm Technician program – a program the North Island College held on site in their village. These graduates are already employed outside the community in the industry, and anxiously waiting for site approvals within their traditional territories so that they can come home to work.

For many in our Association, aquaculture represents a significant opportunity. Chief Cranmer may choose another path for the Namgis First Nation – and we respect that decision – but we see a future in aquaculture for many First Nations on the coast: one which respects our culture, and tradition, which protects the environment, and which creates a sustainable economy that will allow our people to build meaningful jobs and careers in their traditional homes.



Aquaculture is the best opportunity to derive livelihoods from the sea far into the future.



This large group attended a public information session presented by Cooke Aquaculture in the community of Belleoram on the south coast of Newfoundland. Just as Richard Harry says, the industry creates environmentally sustainable jobs and opportunities for the people of our coastal regions.



Look to the left of this picture (onshore) ... a commercial lobster fisherman from a nearby community keeps his gear and fishes next to this large salmon farm. Peaceful coexistence.

NAIA On Track With ISO Quality Assurance Program

Mussel growers to help define *'What is a Quality Mussel?'*



Peter Marshall, IFQC's Managing Director, sits attentively during the most recent TAC meeting held in St. John's.

The Newfoundland Aquaculture Industry Association (NAIA) is on track with the development of an International Standards Association (ISO) accredited, quality assurance program for the mussel sector. Mike Rose, NAIA Executive Director and Chair of the Technical Advisory Committee (TAC) governing development of the industry standards, states, "We completed the second exhaustive, day-long meeting of our TAC in early August. Leading up to our third face-to-face meeting in September we are beginning to gather feedback regarding the critical question of 'What is a quality mussel?'"

In June 2004, NAIA announced it had entered a five-year strategic partnership with IFQC Ltd. (Ireland) to develop an independently audited quality assurance program based on the internationally recognized ISO 65 standard. IFQC originates from Ireland, with operational projects in Ireland, Scotland, England, Northern Ireland, France, Canada, Argentina, Australia, and New Zealand. The Irish firm is guiding the Newfoundland-based TAC in the development of the program. Once the standard is approved, and registered internationally, companies can apply to be independently audited for certification.

"IFQC differs from other certification bodies we looked at," Rose points out, "in that it has no political affiliations, is market focused and has proactively developed market-led

← Please see page 11



Readers have asked about this beautiful photo which was featured on the cover of the last edition of *The Cold Harvester*. The photo was taken by Cyr Couturier at Tommy's Arm, a site owned and operated by Badger Bay Farms (Juan Roberts).

food quality programs across a number of sectors.” IFQC’s accreditation certificates are recognised in over 40 countries and, as Rose points out, there may very well be a trend toward this kind of certification in North America. “The major reason for selecting IFQC is that they led the development of the world’s first fully integrated shellfish quality assurance program in Ireland.”

“The initial focus of the TAC was review and development of best practices for on-farm safety, management and harvesting procedures,” explains Rose, “but we are now expanding our review to cover processing standards. This all raises the pivotal question of ‘What is a quality mussel?’” Rose indicates that the TAC is seeking the expert advice of mussel growers regarding the definition of quality mussels. “Growers know their product better than anyone and their advice regarding quality specifications will assist us greatly.” Mussel quality factors may include: growing environment; farm husbandry; harvesting and processing techniques; appearance and size of



Growers Juan Roberts and Terry Mills (facing) review harvesting standards during a TAC meeting for the ISO 65 quality program.

meat and shell; taste and texture; etc.

ISO 65, the international standard for product certification, is recognized by major food retailers and food producers as the benchmark for food quality assurance programs across the globe. It is the standard designated by the Global Food Safety Initiative retail consortium whose North American members include Sobey’s, Loblaw’s, WalMart (USA), Kroger, and Price Chopper. ISO 65 accreditation confirms the integrity of food quality claims for food buyers and consumers.



Mussel grower Juan Roberts successfully building his sales network at the Boston Seafood Show.



Terry Mills in the wheelhouse on a recent voyage to inspect ice damage at his Bully’s Cove mussel farm.

Wedgwood Insurance Limited

Insurance you can TRUST
Protection you can AFFORD

Wedgwood Insurance Limited is a
Newfoundland owned company serving
Newfoundlanders for over 20 years.

PROUD MEMBERS OF THE NAIA

- Aquaculture stock mortality our speciality
- Special programs for members of the NAIA and their employees
- All classes of insurance, including Home, Auto, Commercial Property & Auto, Bonding, Marine, Life, Health & Accident

Phone: 753-3210 Fax: 753-4406

E-mail: jpenney@wedgwood.nf.net



COUTURIER ON CULTURE

BY CYR COUTURIER.
MARINE INSTITUTE OF MEMORIAL
UNIVERSITY

'Adding Value in Aquaculture – Post-harvest wastes, biotechnology and nutraceuticals'

Byproduct Utilization from Fisheries and Aquaculture

On a global scale, aquatic food production, including farming and harvesting wild stocks, yields in excess of 125 million tonnes annually, fresh weight. Of this, more than 75 per cent is utilized for food, but a significant portion, estimated between 10 and 30 million tonnes is not employed for human consumption and is discarded after harvest and processing. The amount of this “byproduct” depends on the continent: North America rarely utilizes 50 per cent of fish material caught whereas south east Asia realizes 100 per cent utilization in many areas. These figures do not include FAO estimates of in excess of 40 million tonnes from fishery

bycatch that is discarded directly at sea and not available for further human useage.

In Atlantic Canada, over 320,000 tonnes of fish byproducts are discarded yearly as a result of post-harvesting practices, representing about 50 per cent of the catch weight. In Newfoundland, the numbers are in the order of 120,000 tonnes per year of post-harvest byproduct. The numbers for aquaculture are smaller, with greater utilization of the raw material and a smaller proportion of byproduct being generated. Aquaculture accounts for a small but significant portion of the byproducts produced in Canada, estimated anywhere from 10,000-50,000 tonnes depending on sources.

← Please see page 13



Industry plants such as the North Atlantic Sea Farms processing facility in St. Alban's are assessing their post-harvest practices for efficiencies and options.



Developments of new technology for byproduct extraction and production is an ongoing issue. (Couturier photo)



At the instigation of Boyd Pack (related to his own business plans), seen here in his St. Alban's office, NAIA is currently assessing waste management strategies on behalf of the aquaculture industry.



Giovanni Casanova (1725-95). Italian churchman, musician, soldier, spy, diplomat, and writer who was the centre of scandals, usually involving women. Regularly consumed oysters, known to be rich in zinc, an essential component necessary to maintain high sperm activity.

Fishery Byproducts

From page 12

The Atlantic Fishery Byproducts Research & Development Centre was recently established to attempt to commercialize byproduct utilization in our region. The Centre is headquartered at the Marine Institute and involves researchers from across Atlantic Canada and Quebec (contact Nigel Allen, Nigel.allen@mi.mun.ca for further details).

Fishery Byproducts can be defined as "products derived from seafood processing operations that are not produced for human consumption." These products can be from either farmed or wild sources. This is distinguished from products derived from further processing of raw material such as protein meal from crustacean waste, or soup bases from fish waste.

Some familiar examples of fishery related byproducts include:

- Chitin and chitosan from crustacean wastes such as shrimp or crab
- Natural pigments derived from crustacean shell waste
- Glucosamine from crustacean wastes
- Fish silage
- Fish leather

The same products are also derived

from farmed aquatic animals from post-harvest. While byproducts from capture fisheries will continue to dominate the wastestreams from aquatic food production, there are certain advantages of byproducts from farmed sources:

- Consistency in quality
- Reliable supply, available year round
- High value products


Some additional examples of aquaculture byproduct uses in the world include:

- Biopolymers for use in surgical procedures
- Fish blood protein for biomedical purposes
- Protein hydrolysates employed as feed attractants for baits or fish feeds
- Enzymes from fish guts
- Bivalve shell waste for environmental remediation
- Bivalve shell waste for enhancing habitat and seed collection
- Bivalve shell waste use in soil conditioners
- Bivalve shell waste as an additive to cement
- Bivalve shell waste as a poultry feed additive
- Jewelry (pearls) and ornamental pieces

There are even historical records of

the byssal threads from farmed Mediterranean mussels being harvested for weaving the clothing of royalty. Their high tensile strength, smooth and resilient nature, golden hue, and water resistance make them ideal candidates

← Please see page 28




To advertise in the next issue, contact

Bob Windsor

Ph: 709-570-1533
Fax: 709-722-2228
E-mail: bwindsor@optipress.ca

MUSSEL STRENGTHENING

Shellfish Industry 'limping along'
– Government must encourage investment



Expanding markets could see Newfoundland go from three to four million pounds a year to around 30 to 40 million pounds a year. Without difficulty, Newfoundland's productive waters, such as Terry Mill's secluded Charles Arm, can meet growing world demand for quality mussels.

BY JEFF DUCHARME
The Sunday Independent

The province's mussel industry is healthy enough, but future growth hinges on its ability to attract new investors and strengthen the existing shipping network, industry representatives say.

Mike Rose of the Newfoundland Aquaculture Industry Association says government has done well in promoting the fact the province is "open for business" when it comes to aquaculture, but it needs to do more to attract new money.

He says incentives are critical in ensuring the industry's survival and growth.

"It might not be able to get over that hurdle, no question about it, Rose tells *The Sunday Independent*. He calls the aquaculture industry "tough and global."

"I actually think that, in spite of that, the aquaculture industry in this province will still move forward. It will limp along simply because the world-wide growing demand for seafood is so significant."

But Rose doesn't want to see an industry limp its way forward – not when it could be blazing a trail. The province has a "mish-mash" of investor programs, he says,

← Please see page 15



Karl Kenny, President
The Icewater Shellfish Company Ltd.

■ PLEASE NOTE: This article originally appeared in the September 5, 2004 edition of *The Sunday Independent*. It is reprinted here with the permission of the author, as well as the Managing Editor.

‘...logistics are important especially when you’re dealing with a commodity-based product where the difference between profit and loss is pennies’ – Karl Kenny

From page 14

adding what’s needed is an investor-incentive program that’s simpler to navigate and take advantage of.

Subsidies, he says, aren’t what the industry is after. “(Government) gets it back in the form of direct taxation,” says Rose. “They get it back in the form of direct and indirect employment. They get it coming back in retail and employment taxes.”

In 2003, aquaculture in the province was worth \$16 million, down from \$20.5 million in 2002. Mussels account for approximately 33 per cent of the industry; the remainder is cornered by salmon (38 per cent), along with steelhead trout and codfish. Rose predicts the industry could be worth as much as \$290 million by 2010 with mussels accounting for \$20 million of that amount.

Of course, that kind of growth will hinge on getting the product to market fast – and fresh, says Karl Kenny, president of Icewater Shellfish, the province’s largest mussel company, capable of producing over 2,500 tonnes of blue mussels a year. “...logistics are important especially when you’re dealing with a commodity-based product where the difference between profit and loss is pennies,” says Kenny.

“One penny is a percentage point when you’re selling something for a buck a pound.”

An unreliable ferry service and an air-cargo network that doesn’t always have enough capacity complicates things, says Kenny, but it’s not a matter of life and death.

Antiquated attitudes are another matter. “It’s the age-old problem of Newfoundland, I mean the sooner we get our heads wrapped around (it and) stop shipping out cod block and start to add some value to the product, there’s going to be benefits to everybody, the growers, the fishermen, the processors, everybody,” says Kenny.

His company is awaiting federal government approval of a new vacuum packaging system that will extend the shelf life of mussels to a couple of weeks from a few days. If companies such as Kenny’s can lead the way and crack the \$300-million European mussel market (the province currently sells a tenth of its production in Europe), the potential for Newfoundland is huge.

“If this breaks loose and we’re able to pioneer the way and show that there is a profit potential over there, Newfoundland could go from three to four million pounds a year to around 30 to 40 million pounds a year.”

A New Breed of Extraordinary Horsepower Worldwide Recreational Marine

Cummins MerCruiser Diesel is... a Joint Venture between Cummins Marine and Mercury Marine with a long term vision to provide boat builders with a complete integrated system for vessel propulsion, power generation, controls and information for diesel engines.

The combination of products, services, and expertise is unique in the diesel marine industry. The CMD product line includes sterndrive and inboard engines.

Cummins MerCruiser Diesel has the engine you need and unmatched service to back it up!

Charting A New Course...Worldwide.

Cummins MerCruiser Diesel

122 Clyde Ave., Donovan's Industrial Park, Mount Pearl
Tel: (709) 747-0176 Fax: (709) 747-2283
Toll Free Parts Hotline 1-800-218-9284





Richard Stead is the Canadian Councillor, Seafood, at the Canadian Embassy in Brussels. He visited NAIA's office in St. John's on September 14, 2004. He met with companies to assess how his office and other Canadian posts in Europe can develop business plans which reflect and support the direction and intentions of Canadian seafood exporters.



Deborah Peterson, Trade Relations, DFAIT, Ottawa, and Louis Arsenault, Senior Market Development Officer (Seafood), Agriculture and Agri-Food Canada, Moncton, accompanied Richard Stead during his Newfoundland visit.

The European Union Seafood Market

A rapidly changing opportunity

BY THE COLD HARVESTER STAFF

The 2004 European Seafood Exposition (ESE) was held in Brussels, Belgium from May 4 – 6, 2004. It has been reported as the largest and most active show since the ESE began in 1993. The Canadian seafood industry from coast to coast to coast was well represented with 19 booths representing over 35 Canadian seafood suppliers. Included among the booths was that of Icwater Shellfish Company Ltd., a NAIA member targeting retail and food service sector markets in Belgium, France and the Netherlands for its modified atmosphere packed blue mussels. This was the largest Canadian presence ever at the ESE.

A number of events were organized to capitalize on the large Canadian contingent in Brussels. The Canadian

SHUR-GAIN

People, Knowledge, Outstanding Fish...
the Shur-Gain Aquaculture experience.

Signature **SALMON FEED**

REGIONAL OFFICE 64 Ottawa Street, P.O. Box 1630 Summerside, PEI C1N 2V5 Ph: (902) 888-5200 Fax: (902) 436-6516	SALES OFFICE 90-1 Lattée Road St. George, NB E5C 3H6 Ph: (506) 755-1700 Fax: (506) 755-1706	MANUFACTURING 494 Willow Street Truro, NS B2N 6X8 Ph: (902) 893-9449 Fax: (902) 893-468
---	--	--

1-800-565-9440 | www.shurgain.com

← Please see page 17



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: **Mike Rose, Executive Director**
Newfoundland Aquaculture Industry Association, P.O. Box 23176, St. John's, NL A1B 4J9
mike@naia.ca Tel 709.754.2854 Fax 709.754.2981

www.naia.ca

AQUACULTURE

Cultivating Your Investment

The Government of Newfoundland and Labrador has embraced aquaculture as a perfect fit for our geography, our environment and our culture.

Strengthened by clear and sustainable environmental policies and a streamlined licensing system, we have created a favourable investment climate.

The right place....

The right people....

The right time....

Newfoundland and Labrador is open for
Business.... Aquaculture.



GOVERNMENT OF
NEWFOUNDLAND
AND LABRADOR

Department of Fisheries and Aquaculture
58 Hardy Avenue, P.O. Box 679
Grand Falls-Windsor, NL A2A 2K2

Phone: (709) 292-4100
Email: aquaculture@gov.nl.ca

Fax: (709) 292-4113
Website: www.gov.nl.ca/fishaq

