



# Atlantic Canada Aquaculture Industry Research & Development Network

# ACAIRDN

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*The Atlantic Canadian Aquaculture Industry Research and Development Network is a unified voice for the Atlantic Canadian Aquaculture Industry in matters of R&D, providing leadership, coordination and communication for the direct benefit of the industry.*

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Our R&D efforts here on PEI continue to be led by the strongly voiced priorities of our members from all sectors of the aquaculture industry. Interactions with traditional fisheries and Aquatic Invasive Species (AIS) are the topics of two finalised projects reported here. Education about AIS, funded by the IASPP, and research into new mitigation methods continue, however a new area of concern is the effects that land use is having on water quality and therefore on aquaculture operations.

## Project Highlights

### Completed Projects

#### **Interactions between the rock crab (*Cancer irroratus*) fishery and mussel aquaculture productivity in Prince Edward Island**

This three year ACRDP project was initiated to address mussel industry concerns raised regarding the possible impacts the rock crab (RC) directed fishery could have on the abundance of RC around cultivated mussel sites. The goal of this project was to provide good scientific advice to allow informed decisions on the part of DFO Fisheries Management regarding the interactions of mussel aquaculture and the RC directed fishery. Its four objectives were:

- To determine whether rock crabs are effectively attracted to mussel socks on a long line;
- To examine whether there is a decline in the abundance of rock crab on and under mussel lines during and following the directed fishery;
- To verify the widespread assertion that rock crabs are beneficial to mussel long line productivity;
- To evaluate the impact of the green crab on mussel line productivity.

This project ended March 2008, the process of data analysis and drafting of the final report is presently underway. Some preliminary results include:

- Rock crabs are attracted by mussel leases, probably due to higher food availability and habitat complexity;
- Rock crab abundance seems to decrease with time (spring to fall). This may be an effect of the RC directed fishery and lobster fishery (due to harvesting, by catch mortalities and/or trap attraction); however, it may also be due to a seasonal behaviour pattern (natural migration) and/or a population movement in response to changing environmental conditions in some bays;
- Rock crabs captured in traps are bigger in average then rock crabs collected in mussel leases;
- Rock crabs have effectively an effect on the epifauna biomass (quantitative measurement) and on mussel attachment (qualitative measurement).

Some potential next steps include:



- A repeat survey in Malpeque Bay to compare with the 2005 and 2006 survey data in order to assess if liming of the mussel lines has had any effect on the RC population;
  - A repeat of the epifauna study in areas affected by invasive species with a focus on the effects of RC on tunicates;
  - Further assessment of the green crab's effects on the epifauna in comparison with the RC.
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## Investigation into the management of invasive species for the PEI oyster aquaculture industry

This project, run over the summer and fall of 2007, was a proactive approach to growers' concerns about the potential spread of invasive tunicate species to traditional oyster growing areas and to the increase in the oyster drill population and its impacts on the oyster population.

Objective one was to investigate the impact of invasive tunicate species on suspended oysters and gear and to determine possible control techniques. This included determining if normal husbandry practice with two floating bag systems can control fouling, whether standard lime and vinegar treatments were effective for submerged oyster cages and the frequency and timing of treatments for each system.

The second objective was to investigate the oyster drill in PEI environmental conditions, to determine if trapping is an effective control measure, compare three trap designs for trapping efficacy and to test the effects of lime, brine and vinegar immersion on the viability of egg cases and adult drills.

Some initial results from the project: The Oyster Gro and floating bag systems were successful at controlling tunicate fouling when turned every 2 weeks, and oysters had good growth and low mortality; however the submerged cages were difficult to treat, an immersion in lime solution worked best for the solitary tunicates.

The oyster drill was most active in late August – early September, 24 drills laid approximately 89 groups of egg cases from July to October and consumed 301 oysters and 10 mussels. The wire trap design attracted the most drills, followed by A-frame and then Minnow trap. The effects of treatments on egg cases were not high enough or consistent enough to recommend as a control method and the adult drills survived all treatments.



## Active Projects

### **Atlantic Innovation Fund Update: Development of Techniques and Mitigation Strategies for the Management of Invasive Tunicate Species Fouling Aquaculture Farms (DMS)**

**Objectives:** This Atlantic Innovation Fund is divided into three research platforms: detection, prevention and treatment.

- i) **Detection** (Module 1) – Proposes to develop an effective tunicate diagnosis method
- ii) **Prevention** (Module 2) – Proposes to discover and develop an environmentally sound and sustainable anti-fouling compound for both products and equipment
- iii) **Treatment** (Module 3) – Proposes to:
  - a. Develop new treatments for the mitigation of tunicates
  - b. Deliver mitigation agents to mussel socks
  - c. Develop lease and bay level mitigation strategies

#### **Module 1 (Detection)**

**DNA Extraction & Purification:** DNA has been successfully extracted from the vase tunicate, clubbed tunicate, golden star and violet tunicates and the research team have developed preliminary methods to detect the presence of tunicates in seawater. By using different genetic materials the species, life stage and activity can be determined with a high level of sensitivity.

#### **Module 2 (Prevention)**

**Sample Collection & Processing:** Over three hundred marine invertebrates and algae samples have been collected from Atlantic Canada and Florida, USA. The team is interested in marine samples that do not show any fouling because they may contain a natural product that deters the settlement of tunicate larvae. To date, 175 samples have been processed (freeze dried, extracted and fractionated). Sample data is maintained in a secure database along with GPS coordinates of the collection site, field notes and photographs.

#### **Module 3 (Treatment)**

**Lab & Field Work:** This is the first field season for Module 3. Using a flow through mobile research unit, made available by DFO, the mortality process of both clubbed and vase tunicates will be investigated. The efficacy of treatment options such as ultrasound, laser, enzymes and other environmentally safe chemicals is being assessed. Delivery Systems developed through the AIS Development Fund have been evaluated by professional engineers. The team, in cooperation with growers and engineers, will then further refine selected equipment to increase the efficiency of the technology.

Funding: ACOA (Atlantic Innovation Fund), PEI Aquaculture Alliance, Aquaculture and Fisheries Research Initiative (AFRI), PEI Atlantic Shrimp Corp. Inc., UPEI-AVC, PEI Department of Fisheries and Aquaculture and the Department of Fisheries and Oceans

### **Productivity Improvement Fund**

In collaboration with the PEI Aquaculture Alliance, through a combined investment, Fisheries and Oceans Canada (DFO), the Atlantic Canada Opportunities Agency (ACOA), and the provincial Department of Fisheries, Aquaculture and Rural Development (DFARD) have created the **PEI Mussel Aquaculture Productivity Improvement Fund (PIF)**. This program has been established to enhance the productivity of



this sector which is being impacted by the Aquatic Invasive Species, particularly the vase tunicate and clubbed tunicate species. The PIF will assist the industry in designing, building and purchasing new equipment and technologies to enhance the productivity of the mussel sector on farms and in processing plants.

“Our growers and processors have showed great leadership in combating the tunicate challenge on PEI,” said Randy Gidney, President of PEI Aquaculture Alliance. “The tunicates have become a daily consideration in this industry, and this support from the federal and provincial governments will assist in the efforts to bring this issue to a manageable level.”

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## Reproduction, environmental tolerances and recruitment related to tunicate population abundance

Objectives:

- Investigate the reproductive biology of *C. intestinalis* in PEI waters with the aim of determining the optimal time and effort of active treatment.
- Evaluate environmental tolerances of tunicate early life stages in order to determine their level of vulnerability to natural and/or treatment conditions.
- Document the effects of water flow on the recruitment ability of *C. intestinalis*.

Funding & Partners: ACRDP (DFO), PEIAA, PEI Shrimp Corp.

### **The International Tunicate DNA Bank**

Since invasive tunicates spread on a global level, it is crucial that invasive species researchers have efficient access to tunicate DNA from around the world. A group of researchers at the Atlantic Veterinary College at the University of Prince Edward Island are helping to make that happen. Founded in 2007, the International Invasive Tunicate DNA Bank maintains tunicate DNA from samples collected throughout the world. Funding for the DNA Bank is currently through the Canadian Aquatic Invasive Species Network (CAISN).

The DNA Bank relies on researchers all over the world sending tunicate samples from their area so that the collection becomes as comprehensive as possible. DNA is extracted, analyzed and frozen. An online database can be searched for a list of available samples; which are then sent to researchers upon request, free of charge.

The Goals of the DNA Bank are:

- To create a comprehensive collection of invasive tunicate DNA
- To make this collection available to all researchers
- To facilitate more efficient molecular research
- To foster collaborations amongst researchers



## **Provincial R&D Updates**

## **New Brunswick**

### **Project Highlights**

#### **Active Projects**

As we have reported in previous newsletters, the NBSGA has begun a 3 year project to gather oceanographic information and engineering requirements to assist our industry in the development of open ocean aquaculture. To date, all of the oceanographic equipment has been ordered and received. We have had challenges in sourcing strain gauges that will provide data capturing capabilities and will meet our environmental conditions, however a supply has been identified, and these items have been ordered. Project staff have met with industry representatives to identify sites for equipment placement in spring 2008, and we look forward to seeing some results right away. Dr. Alex Hanke is the project oceanographer, with extensive experience in aquaculture oceanography and data acquisition. If you would like to know more about this project, please contact Caroline at [c.graham@nbsga.com](mailto:c.graham@nbsga.com)

The NBSGA has been successful in its submission of an ACRDP proposal, which will involve collaboration with the Oceanography group at the St. Andrews Biological Station, under the direction of Dr. Fred Page. The project, entitled, Review and Analysis of Environmental Performance Data for Salmon Farming industry in Southwestern New Brunswick will involve the collection and analysis of historical environmental performance data of the salmon farming industry in New Brunswick, as well as the collection of sediment samples to investigate temporal variability in the current environmental monitoring program. A large amount of production and environmental data has been accumulated as a result of the extensive environmental monitoring conducted by the industry; however, this data has not been analyzed to determine how the industry has been performing over time. In addition, additional monitoring requirements that are being imposed on the industry have not incorporated temporal aspects of site recovery, or the relationship between feeding and sulfide measurements. These factors may be useful for mitigation measures. This project will therefore address the needs of the New Brunswick salmon industry to demonstrate its environmental responsibility to regulators and the public and will help finalize the PBS framework. It will also provide an initial foray into the development of an ongoing regular review of the industries environmental performance and the knowledge gained will be useful in considerations of mitigation and remediation.



**Tours Now Available**

The NBSGA is once again offering Aquaculture Tours to the public, beginning in June. These tours are open to anyone interested in learning more about our industry in southern New Brunswick, and will be held on June 28<sup>th</sup>, July 19<sup>th</sup>, August 23<sup>rd</sup> and September 13<sup>th</sup>. Group tours may also be arranged. More information can be found by contacting Caroline at 506-467-7199, or by email [c.graham@nbsga.com](mailto:c.graham@nbsga.com). To book your tour, contact Quoddy Link directly at 506-529-1200.



**Project Highlights****ACAIRDN Research and Development Workshop 2008**

The 2008 ACAIRDN Research and Development Workshop was held in March in conjunction with the NAIA's Cold Harvest annual conference, at the Albatross Motel, Gander, NL. The purpose of this workshop was to facilitate the development of new R&D projects by promoting the ACAIRDN R&D Priorities Matrix, broadcasting the priorities outlined in it and by creating a forum for the discussion of the development of R&D based on industry priorities. By focusing attention on industry R&D priorities and educating stakeholders as to the value and the status of ongoing R&D projects ACAIRDN hopes to encourage funding agencies, government researchers, academia and industry to increase their involvement in aquaculture R&D.

The 2008 R&D Workshop agenda included:

- updates on R&D activities in Newfoundland, New Brunswick and Prince Edward Island (Nova Scotia did not have an RDC at the time)
- a presentation on Knowledge Mobilization by the Harris Centre
- a presentation on research being done at RPC in NB
- an update from DFO on recently announced money in the federal budget available to the aquaculture industry
- a facilitated discussion of how ACAIRDN can better serve the R&D needs of the aquaculture industry.

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Attendee viewpoint: Gehan Mabrouk is Acting Section Head of Aquaculture, Biotechnology and Aquatic Animal Health, Science Branch, with DFO, NL.

“This R&D workshop was an excellent way to get everybody in one room and talk about how we can collectively drive the development of R&D here in NL and throughout Atlantic Canada. To maintain a sustainable aquaculture sector, through high quality research and education, these kinds of workshops are definitely needed.”

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Workshop attendees represented DFO, DFA, CAIA, Memorial University, the Fisheries and Marine Institute, the Ocean Sciences Centre, NRC-IRAP, the Leslie Harris Centre, the NB Research and Productivity Council and others. Industry representation included Sunrise Fish Farms, SIMCorp, St.



Anthony Basin Resources Inc., Cooke Aquaculture, Dover Fish Hatchery, Sapphire Sea Farms and Natures Sea Farms.

The facilitated discussion focused on ways in which ACAIRDN can encourage the development of R&D and foster innovation within the aquaculture industry through the development and distribution R&D priorities and other activities. A series of questions were posed by the facilitator and discussed by the group. The questions set for discussion were:

1. How do we develop our capacity to determine industry challenges / R&D priorities?
2. How do we get the word (priorities / challenges) out to researchers ? (DFO, universities, etc.)
3. How do we get SMEs thinking about R&D and innovation?
4. How do we develop projects based on industry challenges?
5. How do we effectively match industry's challenges / projects to funding programs?
6. How do we communicate the results back to industry in a meaningful way (something they can use)?
7. How do we foster innovation based on the results of R&D?
8. Is the ACAIRDN working? How can it be improved?

The discussion based on these questions was very helpful to the RDCs as they continue in their role of providing leadership, coordination and communication in support of research and development in Atlantic Canada.

ACAIRDN would like to thank Michael Clair of the Leslie Harris Centre, Dr. Ben Forward of the Research and Research and Productivity Council (RPC) and Geoff Perry (DFO, NL region) for their presentations. We would also like to thank all other attendees for their participation.

For more information on this Workshop or to receive a copy of the proceedings of this workshop contact the RDC in your area.



## Active Projects

### Mussel Seed Quality Project

Since 2005 one of the primary priorities of mussel growers in Newfoundland has been to ensure that a consistent supply of good quality mussel seed is readily available to the industry. With an expanding industry, due to expansion of current growout sites and the development of new sites, it is important that this aspect of infrastructure be invested into since it is projected that there will be shortfalls in seed supply which could slow the potential for growth.

The steering committee for this project has recently met and outlined the work plan for the coming year. The focus this year will again be the identification of new sites, but this will be combined with an examination of seed quality at existing seed collection sites. Sites of interest were identified in Bonavista Bay, Trinity Bay, Bay of Islands, Green Bay, Notre Dame Bay, Port Au Port Bay, and Hare Bay (Northern Peninsula). This list of sites is now being narrowed as work is expected to begin soon.



The Mussel Seed Quality Project is a NAIA initiative, in partnership with Fisheries and Oceans Canada (DFO), and the Fisheries and Marine Institute of Memorial University. Funding support for this project is provided by DFO's Aquaculture Collaborative Research and Development Program (ACRDP), the National Research Council – Industry Research Assistance Program (NRC-IRAP), the Canadian Centre for Fisheries Innovation (CCFI) and the Department of Fisheries and Aquaculture (DFA).



## Environmental and oceanographic data - Coast of Bays

Environmental and oceanographic data on the Fortune Bay / Bay D'Espoir area available to aquaculture site managers, for management of current sites and the planning of new sites, is limited and are not archived in an accessible form. Parameters such as water temperature, salinity, dissolved oxygen, current speed and direction, wind speed and wave height are fundamentally related to the overall production performance of individual aquaculture operations in terms of site management. Such information is also essential for the industry as a whole when planning strategies related to biosecurity, environmental sustainability, bay management areas and costal zone management and would be instrumental in the planning of aquaculture sites. Such informational infrastructure would also likely stimulate further investment in the Coast of Bays region by companies outside the province and outside the country.

NAIA has just began to develop a project to provide a system to provide real-time and archived data on marine environmental conditions in the Coast of Bays region. This system will help in planning new aquaculture sites and managing existing farms, and will include information on ocean temperature, salinity, currents, tides, weather and other information useful to aquaculturists and other marine resource users.

A steering committee to guide this initiative has been formed, including individuals from industry (Nature's Sea Farms, Cold Ocean Salmon), government (DFO, DFA, NRC) and academia (MI, MUN). The Canadian Centre for Marine Communications, who spearheaded the SmartBay project in Placentia Bay ([www.smartbay.ca](http://www.smartbay.ca)) has also been engaged to help NAIA develop and deliver this project. For more information contact Darrell Green at NAIA.



## Completed Projects

### Aquatic Invasive Species (AIS) initiative

Based on recent experiences in other areas of Atlantic Canada, Aquatic Invasive Species (AIS) pose a significant potential threat to the Newfoundland shellfish industry. Although we still have not found any economically harmful invasive species on any aquaculture site in the province finding golden star tunicate, violet tunicate and green crab in NL waters illustrates that the threat to our industry is real. The recently completed (March 2008) NAIA initiative, funded through the Government of Canada's Invasive Alien Species Partnership Program (IASPP), has been very valuable in providing an extra level of security for industry by proactively dealing with AIS before they become a problem.

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Species of concern:

Clubbed tunicate (*Styella clava*)  
 Violet tunicate (*Botrylloides violaceus*)  
 Golden star tunicate (*Botryllus schlosseri*)  
 Green crab (*Carcinus maenas*)  
 Oyster thief (*Codium fragile*)  
 Carpet Tunicate (*Didemnum vexillum*)  
 Vase Tunicate (*Ciona intestinalis*)

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Part of this NAIA initiative was a campaign to educate users of the aquatic resource, such as recreational boaters, sports fishermen, aquaculturists and fish harvesters, of the consequences of AIS establishment and methods to control their spread. Over 700 copies of an AIS Identification guide produced as part of this initiative have been distributed. The id guide has been very well received, particularly within government

departments, and we have filled several requests for laminated copies to be distributed by groups working in and around marine environments such as the Canadian Food Inspection Agency, Fisheries and Oceans Canada and the Newfoundland and Labrador Department of Fisheries and Aquaculture. This AIS guide, along with a presentation on AIS given by the NAIA RDC, was directly responsible for the discovery of European Green Crab in NL waters in the summer 2007.

Seven hundred copies of an AIS booklet with added information on AIS have recently been produced and NAIA has been working with the MUN Botanical Gardens to produce one thousand copies of a consolidated IAS Booklet (aquatic invasive species and invasive plants). Other outputs of this project, such as signage and articles in the Newfoundland Aquaculture publication "The Cold Harvester" will continue to inform marine resource users on the issues around AIS well into the future.

Another important and extremely productive component of this project was the establishment on a NL AIS Advisory Committee, co-chaired with DFO, NL region. The Committee has been essential as a conduit of information between the various groups involved in AIS in Newfoundland. By involving a broad range of interests, from federal and provincial governments, academia and industry, we have been able to greatly raise the profile of AIS throughout the province. This committee has also encouraged the development of management strategies for several species and for AIS in general. A proposal to continue this vital committee was submitted to the IASPP for the fiscal year



2008 – 09. We hope to hear whether this proposal will receive funding over the next few weeks.

With input from the Committee, NAIA organized a Newfoundland Invasive Species Workshop in November of last year. This Workshop was successful in engaging people from a wide range of backgrounds and interests, and raising the profile of AIS even more. Attendance included representation from the federal government (Fisheries and Oceans, Environment Canada, Canadian Food Inspection Agency, Transport Canada), the NL provincial government (Dept. of Fisheries and Aquaculture, Dept. of Environment and Conservation), academia, (Marine Institute, Ocean Sciences Centre) and industry (Cooke Aquaculture, Sunrise Fish Farms, Norlantic Processors, Fish and Food Allied Workers,

Newfoundland Transshipment). The workshop included presentations from DFO, NAIA, MUN and Transport Canada and covered information on why we should be concerned about AIS, which species are of concern, how can we prevent the introduction and spread, and how we can manage areas in which AIS have been found

This project was supported by the Government of Canada's Invasive Alien Species Partnership Program (IASPP), and the National Research Council – Industry Research Assistance Program (NRC-IRAP), with in-kind contributions from DFO, DFA, the Marine Institute (Memorial University), the Ocean Sciences Centre (Memorial University), the Canadian Food Inspection Agency and Transport Canada.

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**Request for collaboration:** Phil Sargent, a Ph. D. student of Dr. Annie Mercier at the Ocean Sciences Centre of Memorial University, is about to embark on a research project on gastropod predators of invasive tunicates, and is looking for collaborators. For more information on this project please contact the NAIA RDC.

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## Upcoming Meetings & Events

### **XIII International Symposium on Fish Nutrition and Feeding**

June 1 - 5, 2008

Fish and crustacean nutrition: present knowledge and future perspectives

[www.isfnf2008.com.br](http://www.isfnf2008.com.br)

### **NAIA Blue Mussel Showcase Event**

June 9 - 11, 2008

Various communities throughout the Green Bay region of Newfoundland

<http://www.naia.ca/docs/BlueMussel%20Showcase-Invitation.pdf>

### **2008 Fish Health Section Meeting**

July 9 - 12 Charlottetown, Prince Edward Island

- hosted by the Atlantic Veterinary College – University of Prince Edward Island,

<http://www.upei.ca/FHS-AFS2008/>

### **NAIA Finfish Aquaculture Showcase Event**

September 17 - 19, 2008

Various communities throughout the Coast of Bays region of Newfoundland

[www.naia.ca/](http://www.naia.ca/)

### **Aquaculture Europe 08**

September 15 -18, Krakow, Poland

[www.easonline.org/index.php?option=com\\_content&task=view&id=82&Itemid=1](http://www.easonline.org/index.php?option=com_content&task=view&id=82&Itemid=1)

### **Third Nordic Cod Farming Conference**

September 30 - October 1, 2008 Reykjavik, Iceland.

- prior to the Icelandic Fisheries Exhibition. It aims to give an overview of cod farming activities, an insight into research in Nordic countries and to define future challenges.

[www.fiskeldi.is/codconference.html](http://www.fiskeldi.is/codconference.html)



**BC Salmon Farmers Association (BCSFA)**

On March 20th, 2008 the British Columbia Salmon Farmers Association held a **Research and Development workshop** in Campbell River. After surveying the BC salmon farming industry for their research and development priorities in late 2007 / early 2008 the industry was left with a set of broad reaching priorities that needed to be translated into actual research projects. To this end the British Columbia Salmon Farmers Association held their Research and Development workshop in Campbell River on March 20th, 2008. With this goal in mind the BCSFA invited a clear cross section of people involved in the industry.

In attendance were production specialists, geneticists, fish health experts and environmental monitoring specialists. This variance of experience and expertise was drawn from both federal and provincial agencies such as Fisheries and Oceans Canada, the Ministry of Agriculture and Lands and the Ministry of Environment. Additionally there were researchers from the University of Victoria and Simon Fraser University as well as personnel from institutions such as the Center for Aquatic Health Science and a number of consultants. Of course there was a strong contingent of industry people from all facets of the industry.

Each group was assigned a number of priorities to work on based upon the expertise at the table. During the discussions at each table the priorities were broken down into their key research components; what would need to be dealt with in order to address the priority, what resources would be needed for the key element, and what types of expertise as well. Each member of each table group brought their unique perspective to fully explore the priorities with many distinctive viewpoints expressed. A final task asked of those in attendance was to combine these three items, key research elements, resources and personnel to see if there were any research projects that became apparent. For nearly all of the priorities there were a number of research projects that became obvious.

The BCSFA was pleased with the outcome of the workshop. Notes from the workshop will be combined into a document that will be accessible via the BCSFA website. This document will assist in outlining a research strategy for the industry allowing for the most efficient use of limited research and development funding.

The BCSFA would like to thank all of the participants in the workshop for the time and their efforts. For more information please contact Norman Penton.

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## **BC Shellfish Growers Association (BCSGA)**

### **BCSGA Environmental Stewardship Initiative**

During recent winter storm seasons, many BC shellfish farms experienced increasingly high winds that damaged or destroyed farm infrastructure, or blew equipment, trays or broken foam flotation from rafts. This lost equipment then becomes an unacceptable sight for anyone walking the beaches - and add workload and economic losses to farmers, and fuel a significant negative PR campaign against the industry. In the long term, there is a need to develop new infrastructure and husbandry practices that can withstand persistent high winds – with the ultimate goal of zero losses and therefore zero industry equipment and debris being found on beaches. A comprehensive Environmental Stewardship Initiative has been developed over the recent winter season, including various components that will address the issue of lost farming equipment and damage to farm infrastructure. Short, medium, and long-term goals have been created and are being actively pursued. Independent grower beach clean-up activity has occurred throughout the season, but two specific industry-wide beach clean-up events have taken place recently (March 10th - Okeover Inlet / April 5th - Baynes Sound). These are fun team-building efforts that result in significant clean-up of beaches... and result in a good social BBQ at the end of the day.

### **New Raft Construction**

On January 31st, the Centre for Shellfish Research (CSR) hosted a Growers' Raft Design workshop which enjoyed a great turnout and excellent input into what a "next-generation" deepwater shellfish raft should look like. As a result, a new design prototype will be built by a BCSGA member company in May and drawings and materials list will subsequently be provided to BCSGA members. We hope that this raft, built modularly and with rigid roto-molded flotation, will become a new standard within the BC industry, and solve many of the issues associated with losses of equipments and damage to infrastructure due to high winds.

### **ACRDP Funded Shellfish Projects**

There are currently at least four shellfish-related projects that have been submitted to the recent ACRDP Call for Proposals. We are told that this funding cycle may be only the second time in ACRDP Pacific history where not all eligible projects will be funded because there is simply not enough cash to do so. The BCSGA perceives this as an indication that our industry is becoming more sophisticated in terms of R&D project proposals, and also that there simply isn't enough money available to satisfy all R&D needs. At the next ACRDP committee meeting in May there will be very hard decisions to make in terms of which projects to fund.



## BCSGA Mechanical Clam Harvester Project

One of the above mentioned ACRDP proposals in progress is a BCSGA submitted project to conduct an environmental assessment of hand vs. mechanical clam harvesting. The primary goal of this project is to complete an evaluation of the operational performance, with respect to environmental ‘risk’, of using a mechanical clam harvester that has been designed to extract cultured clam stock from beach substrate in a way that is projected to be more efficient, and hence more cost-effective, than that of currently employed manual harvesting methods.

## Centre for Shellfish Research

The Island Coastal Economic Trust (ICET) recently announced a contribution of \$1 Million to the proposed CSR Deep Bay Field Research Station. A total of \$4.3 of the \$8 Million project is now raised and this recent announcement is expected to be good leverage to raise the rest of the funding - and it is hoped that construction will begin this summer. The BCSGA hopes that this facility will be a great opportunity to highlight BC's shellfish farming industry, raise the bar in terms of technical R&D capacity, and deliver much-needed tangible research results to the industry.



## Shellfish Hatchery Feasibility Study

Everyone agrees that the BC shellfish industry is lacking hatchery capacity in BC – the hard question about this reality is how it will be funded. On February 29th, the CSR hosted a Hatchery Feasibility Study Workshop to gain input from stakeholders about how a shellfish hatchery in BC might be developed and managed. The CSR feasibility study report will examine variables such as ideal business model, potential funding sources, potential locations, etc... The CSR’s Deep Bay Field Site is one option for a hatchery to locate (though not necessarily the best). Also, the CSR sees the opportunity with students from Malaspina to participate in hatchery management and training as a great opportunity. It was estimated that in 2006 and 2007, half (50%) of the industry in BC got half (50%) of the seed that they ordered. Adding another facility would be good for diversification of productive capacity – and insurance for when hatcheries aren’t working due to environmental



variables (such as the dreaded *Vibrio tubiassi* that caused so much grief in US hatcheries in the past couple years). The biggest challenge to getting a hatchery in BC is funding – and it needs up-front commitment from industry to make it viable.

If you have any questions on subjects related to the BC shellfish farming industry, please give David McCallum a call at (250) 890 7561.

