



PEI Atlantic Shrimp Corp. Inc.
Harvester Sector
Projects Summary 2000 - 2012

The following projects from the harvesting sector have been funded by the PEI Atlantic Shrimp Corp Inc.:

1. Fishing Master Class IV Course
2. Train the Trainer Programs
3. Marine Emergency Duties Training - Phase I
4. Professionalization Awareness Project
5. Professionalization Steering Committee Expenses
6. Marine Emergency Duties Training - Phase II
7. Professionalization Awareness Project II
8. Starfish Trap Construction Predator Control and Monitoring Project
9. Professionalization and Human Resources Development Strategy
10. Fishing Master Class IV Course
11. Marine Emergency Duties Training - Phase III
12. Professionalization Interim Board of Directors
13. Basic Lobster Science Training Program
14. Standard First Aid and Instructor Training
15. Joint Bluefin Tagging Project
16. Marine Emergency Duties - MED-A1
17. Professionalization Support Program
18. Fishing Master Class IV Course - Phase II
19. Marine Emergency Duties - A4
20. Professionalization Technical Support Project
21. Regional Workshops
22. Professionalization Interim Board of Directors - Phase II
23. Marine Emergency Duties Training A-1
24. Oyster Production and Health Monitoring
25. Industry Communication for Validation
26. PEI Aquaculture Industry MED Safety Training
27. Interim Office Support Project
28. Ultrasonic Tagging of Lobster to Quantify Seasonal Migratory Movements between LFAs 24 and 25 - Western Northumberland Strait
29. Halibut Trap Design and Testing **cancelled**
30. Interactions between rock crab (*Cancer irroratus*) populations and mussel aquaculture
31. PEI Shellfish Industry Occupational Health and Safety Codes of Practice
32. Radio Operator Course - Maritime Commercial Training
33. Study on the Impact of Bar Clam Harvesting on Lobster Habitat
34. HFA 16G Acoustic Sounding and Herring Test Fishery

(Cont'd...)

35. HFA 16 C/E Herring Acoustic Sounding and Test Fishery
36. Strait Talk: Public Consultations on the State of the Marine Environment and Fisheries of the Northumberland Strait
37. Atlantic Canada Aquaculture Industry Research and Development Network
38. Study on the impact of scallop harvesting activities on coastal habitats and associated species
39. Innovative Scallop Culture Gear Development Project
40. Restructuring of the PEI Fishermen's Association Ltd.
41. Financial Assistance to Attend the 2006 ICCAT Meeting
42. Marine Emergency Duties - A1 Training
43. Website Development - PEI Fisherman's Association
44. Development of Techniques and Mitigation Strategies for the Management of Invasive Tunicate Species Fouling Aquaculture Farms - **Module I** - *Development of an Effective Tunicate Diagnosis Method for Commercialization.*
45. Investigation into Control Strategies for Invasive Species - The Oyster Drill, the Violet Tunicate, the Clubbed Tunicate and the Vase Tunicate - On Oyster aquaculture operations.
46. Development of Techniques and Mitigation Strategies for the Management of Invasive Tunicate Species Fouling Aquaculture Farms - **Module II** - *Discovery and Development of an Environmentally Sound and Sustainable Anti-fouling compound.*
47. Development of Techniques and Mitigation Strategies for the Management of Invasive Tunicate Species Fouling Aquaculture Farms - **Module III**- *Development of Tunicate Treatment Technologies for Direct Application.*
48. Policy for Commercial Aquaculture Diving in PEI.
49. Development of Expanded Training Initiative for PEI Fishers
50. Support Funding to Hire a Fisheries Research & Liason Officer for the PEI Fishermen's Association.
51. Restructuring of the PEI Fishermen's Association Ltd - Phase II - Implementation.
52. WHMIS Training for the PEI Aquaculture Industry.
53. Pre-Assessment of the Prince Edward Island Lobster Fishery for Marine Stewardship Council Certification.
54. PEI Shellfish Reorganization Project.
55. Blue Fin Tuna Fishers Workshop.
56. Fisheries Skills PEI - 2008 Training Project.
57. Support for a Research and Development Co-ordinator for the PEI Aquaculture Alliance.
58. Investigation of Trapping as a Population Control Strategy for two nuisance species on Oyster Aquaculture Operations.
59. Reproduction, environmental tolerances and recruitment related to tunicate population abundance.
60. Herring Fishing Area E/G Acoustic Sounding and Test Fishery Project for 2008.

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1. Fishing Master Class IV Course

Proponent: PEI Fishermen's Association

Project Number: 00-HAR-01

Project Status: Complete

Project Start/Completion Date: 22 January 2001 - 23 March 2001

Project Objective:

To provide commercial fishery vessel captains with an opportunity to attend Holland College Marine Centre and obtain the qualification of Fishery Master Class IV. Transport Canada regulations require all vessel captains carrying passengers (charters) to be qualified as Fishing Master Class IV.

Summary of Outcome:

33 vessel captains successfully completed the Fishing Master Class IV course conducted by Holland College Marine Centre.

Total Project Cost: \$82,200.00

Funding provided by PEI ASCI: \$19,500.00

Other Funding Partners: HRDC - LMDA -Skills Investment - \$ 50,160.00
Course Participants - \$ 12,540.00

Project Contact: Ruth Inniss - Coordinator, PEI Council of Professional Fish Harvesters
Tel:(902) 894-3901

2. Train the Trainer

Proponent: PEI Council of Professional Fish Harvesters

Project Number: 00-HAR-02

Project Status: Complete

Project Start/Completion Date: 19 February 2001 - 31 December 2001

Project Objective:

To train participants involved with the fish harvesting industry to promote the "Professionalization of Fishers" to the fish harvesting industry.

Summary of Outcome:

14 participants completed the "Train the Trainer" courses and will be utilized by the PEICPFH to assist in the promotion of the "Professionalization of Fishers" to fish harvesters on Prince Edward Island.

Total Project Cost: \$41,649.42

Funding provided by PEIASCI: \$41,649.42

Project Contact: Ruth Inniss - Coordinator, PEI Council of Professional Fish Harvesters
Tel: (902) 894-3901

3. Marine Emergency Duties - Phase I

Proponent: PEI Council of Professional Fish Harvesters

Project Number: 00-HAR-03

Project Status: Complete

Project Start/Completion Date: November 2000 - March 2001

Project Objective:

To train commercial harvesters and small vessel owners and qualify them in Marine Emergency Duties Basic Safety course (MED-A1) as required by Transport Canada regulation.

Summary of Outcome:

12 courses were conducted by Holland College Marine Center with a total of 441 participants qualifying during the period January - March 2001.

Total Project Cost: \$110,478.74

Funding provided by PEIASCI: \$42,497.74

Other Funding Partners: HRDC - \$36,691.00
Participants - \$31,290.00

Project Contact: Ruth Inniss - Coordinator, PEI Council of Professional Fish Harvesters
Tel:(902) 894-3901

4. Professionalization Awareness Project

Proponent: PEI Council of Professional Fish Harvesters

Project Number: 00-HAR-04

Project Status: Complete

Project Start/Completion Date: 19 October 2000 - 31 March 2001

Project Objective:

To contract the consulting firm of Options Inc., Beach Point, PEI to conduct a focus group with 20 PEI fish harvesters, selected at random, to determine the strengths and weaknesses of a professionalization program for fish harvesters on PEI.

Summary of Outcome:

The information gained from the focus group was utilized to develop the plan to communicate the concept of professionalization to all fish harvesters on PEI. The concept was presented to PEI fish harvesters at 12 public meetings held throughout PEI during the period December 2000 - March 2001.

Total Project Cost: \$8,526.41

Funding provided by PEIASCI: \$8,526.41

Project Contact: Ruth Inniss - Coordinator, PEI Council of Professional Fish Harvesters
Tel: (902) 894-3901

5. Professionalization Steering Committee Expenses

Proponent: PEI Council of Professional Fish Harvesters

Project Number: 00-HAR-07

Project Status: Complete

Project Start/Completion Date: 19 October 2000 - 31 March 2001

Project Objective:

To provide financial compensation for the cost of travel expenses for members of the Professionalization Steering Committee to attend meetings and training whilst promoting the initiative of Professionalization.

Summary of Outcome:

The financial support provided by the PEI Atlantic Shrimp Corp. Inc., was essential to allow steering committee members to attend meetings and training sessions necessary in the promotion of Professionalization in the fishing industry to PEI Fish Harvesters.

Total Project Cost: \$2,063.25

Funding provided by PEIASCI: \$2,063.25

Project Contact: Ruth Inniss - Coordinator, PEI Council of Professional Fish Harvesters
Tel: (902) 894-3901

6. **Marine Emergency Duties Training - Phase II**

Proponent: PEI Council of Professional Fish Harvesters

Project Number: 01-HAR-03

Project Status: Complete

Project Start/Completion Date: 1 April 2001 - 31 March 2002

Project Objective:

To qualify commercial fish harvesters in Marine Emergency Duties Basic Safety course (MED-A1) as required by Transport Canada regulation.

Summary of Outcome:

40 courses were conducted by Holland College Marine Center during the period of 1 April 2001 - 31 March 2002 with 1,430 participants successfully completing the Marine Emergency Basic Safety course - MED-A1.

Total Project Cost: \$328,756.90

Funding provided by PEIASCI: \$128,556.90

Other Funding Partners: HRDC - \$100,100
Participants - \$100,100

Project Contact: Ruth Inniss - Coordinator, PEI Council of Professional Fish Harvesters
Tel: (902) 836-4192

7. Professionalization Awareness Project - II

Proponent: PEI Council of Professional Fish Harvesters

Project Number: 01-HAR-04-II

Project Status: Complete

Project Start/Completion Date: 01 April 2000 - 30 June 2001

Project Objective:

The development of funding proposals and partnerships for the implementation of the professionalization plan agreed upon at the professionalization conference held in Charlottetown, PEI, pm 23/24 March 2001.

Summary of Outcome:

A funding proposal was developed and forwarded to HRDC. Funding was approved through the Federal/Provincial Labour Market Development Board. This project commenced 23 July 2003.

Total Project Cost: \$13,869.76

Funding provided by PEIASCI: \$13,869.76

Project Contact: Ruth Inniss - Coordinator, PEI Council of Professional Fish Harvesters
Tel: (902) 894-3901

8. Starfish Trap Construction Predator Control and Monitoring Project

Proponent: PEI Shellfish Association

Project Number: 01-HAR-08

Project Status: Complete

Project Start/Completion Date: 06 May 2001 - 30 November 2001

Project Objective:

To design and test starfish control methods as a means of protecting broodstock and small spat on collectors.

Summary of Outcome:

Traps were constructed using the Whayman-Holdsworth design. Traps were fished daily in Paugh's Creek, Smelt Creek, Bideford River and the east end of the Reserve. Starfish trapped in 2001: Small - 127,628; Medium - 50,577; Large - 31,424. Traps continue to be used.

Total Project Cost: \$56,103.30

Funding provided by PEIASCI: \$41,543.30

Other Funding Partners: Employment Development Agency - \$14,560.00

Project Contact: Susan Milligan or Alvin Broome
Tel: (902) 831-3374

9. Professionalization & Human Resources Strategy

Proponent: PEI Council of Professionalization Fish Harvesters

Project Number: 01-HAR-09

Project Status: Complete

Project Start/Completion Date: 23 July 2001 - 28 June 2002

Project Objective:

The development of a professionalization program and a human resources development strategy for the Fish Harvesters sector of PEI.

Summary of Outcome:

The information and feedback received from surveys, meetings and consultation with PEI fish harvesters will be beneficial in planning the human resources requirements and training requirements for the future of the fish harvester industry.

Total Project Cost: \$55,875.76

Funding provided by PEIASCI: \$12,037.76

Other Funding Partners: HRDC - \$41,535.00
CCPFH - \$2,303.00

Project Contact: Ruth Inniss - Coordinator, PEI Council of Professional Fish Harvesters
Tel: (902) 894-3901

10. Fishing Master Class IV Course

Proponent: PEI Fishermen's Association

Project Number: 01-HAR-10

Project Status: Complete

Project Start/Completion Date: 21 January 2002 - 15 March 2002

Project Objective:

To provide commercial fishing vessel captains with an opportunity to attend Holland College Marine Centre and obtain the qualification of Fishing Master Class IV. Transport Canada regulations require all vessel captains carrying passengers (charters) to be qualified as Fishing Master Class IV.

Summary of Outcome:

36 vessel captains successfully completed the Fishing Master Class IV course conducted by Holland College Marine Centre.

Total Project Cost: \$89,400.00

Funding provided by PEIASCI: \$21,000.00

Other Funding Partners: HRDC - LMDA - Skills Investment - \$54,720.00
Course Participants - \$13,680.00

Project Contact: Ruth Inniss - Coordinator, PEI Council of Professional Fish Harvesters
Tel:(902) 894-3901

11. **Marine Emergency Duties Phase III**

Proponent: PEI Council of Professional Fish Harvesters

Project Number: 02-HAR-03

Project Status: Complete

Project Start/Completion Date: 1 April 2002 - 28 June 2002

Project Objective:

To qualify commercial fish harvesters in Marine Emergency Duties Basic Safety course (MED-A1) as required by Transport Canada regulation.

Summary of Outcome:

5 courses were conducted by Holland College Marine Center during the period 1 April 2002 - 28 June 2002 with 206 participants successfully completing the Marine Emergency Duties Basic Safety course - MED-A1.

Total Project Cost: \$52,299.73

Funding provided by PEIASCI: \$23,459.73

Other Funding Partners: HRDC- \$14,420.00
Participants - \$14,420.00

Project Contact: Ruth Inniss - Coordinator, PEI Council of Professional Fish Harvesters
Tel: (902) 836-4192

12. Professionalization Interim Board of Directors

Proponent: PEI Council of Professional Fish Harvesters

Project Number: 02-HAR-011

Project Status: Complete

Project Start/Completion Date: March 11 2002 - 2 June 2003

Project Objective:

Provide financial support to cover the expenses for the Interim Board of Directors to attend meetings, seminars, conventions and training both within PEI and other areas of Canada necessary to promote the professionalization initiative to fish harvesters on PEI.

Summary of Outcome:

Some members of the Interim Board of Directors attended conferences and training in Ottawa, Nova Scotia, New Brunswick and Newfoundland. The financial support provided has been very helpful to the successful promotion of professionalization to fish harvesters on PEI.

Total Project Cost: \$25,913.26

Funding provided by PEIASCI: \$25,913.26

Project Contact: Ruth Inniss - Coordinator, PEI Council of Professional Fish Harvesters
Tel: (902) 894-3901

13. Basic Lobster Science Training Program

Proponent: Native Council of PEI

Project Number: 02-HAR-012

Project Status: Complete

Project Start/Completion Date: November 21 - 29, 2002

Project Objective:

To train a core group of Aboriginal persons involved in the fishery and support positions in basic lobster science. Topics will cover basic lobster biology, developing skills to improve the quality of the lobster product and a general overview of the lobster industry from harvest to processing and marketing.

Summary of Outcome:

Eleven (11) participants took part in a seven day training program provided by the Canadian Aquaculture Institute.

Total Project Cost: \$16,906.00

Funding provided by PEIASCI: \$14,756.00

Other Funding Partners: HRDC - \$1,750.00
Native Council of PEI - \$400.00

Project Contact: Jordan Crane, Fisheries Coordinator for the Native Council
Tel: (902) 892-5314

14. Standard First Aid and Instructor Training

Proponent: PEI Council of Professional Fish Harvesters

Project Number: 02-HAR-013

Project Status: Complete

Project Start/Completion Date: 13 January 2003 - November 2004

Project Objective:

To provide 12-15 fish harvesters with First Aid Instructor Training.

Summary of Outcome:

The PEI Council of Professional Fish Harvesters contracted the Canadian Red Cross to train 13 fish harvesters in First Aid Instructor Training.

Total Project Cost: \$24,480.52 (Slippage on project redistributed to 'Unallocated Funds').

Funding provided by PEIASCI: \$28,474.00

Project Contact: Ruth Inniss - Coordinator, PEI Council of Professional Fish Harvesters
Tel: (902) 894-3901

15. **Joint Bluefin Tagging Project**

Proponent: PEI Fishermen's Association

Project Number: 02-HAR-14

Project Status: Complete

Project Start/Completion Date: 08 August 2002 - 31 December 2002

Project Objective:

To place three electronic tags on Bluefin Tuna during the 2002 fishing season. The electronic tags will allow DFO scientists to track the migration patterns of the bluefin tuna and the transmission of this data via satellite without the requirement to retrieve the tag.

Summary of Outcome:

The project was only able to place one electronic tag on a bluefin tuna. Clarence (Mickey) Fraser successfully tagged a bluefin tuna on 28 August 2002.

Total Project Cost: \$42,277.00

Funding provided by PEI ASCI: \$7,277.00

Other Funding Partners: **PEI Fishermen's Association** - In-Kind - tuna fishermen vessel time - \$15,000.00; **United Tuna Fishermen of PEI** (In-Kind - tuna fishermen vessel time) - \$15,000.00; **Department of Fisheries & Oceans** (In-Kind - Tuna Tagger) - \$ 5,000.00

Project Contact: Ruth Inniss - Coordinator, PEI Council of Professional Fish Harvesters
Tel:(902) 894-3901

16. Marine Emergency Duties - MED-A1

Proponent: PEI Council of Professional Fish Harvesters

Project Number: 02-HAR-015

Project Status: Complete

Project Start/Completion Date: 01 August 2002 - 30 April 2003

Project Objective:

To qualify commercial fish harvesters in Marine Emergency Duties Basic Safety course (MED-A1) as required by Transport Canada regulations.

Summary of Outcome:

10 courses were conducted by Holland College Marine Centre during the period 01 August 2002 - 30 April 2003. 862 participants successfully completed the Marine Emergency Duties Basic Safety Course - MED-A1.

Total Project Cost: \$230,094.65

Funding provided by PEI ASCI: \$27,834.65

Other Funding Partners: HRDC - \$142,060; Participants - \$60,200.00

Project Contact: Ruth Inniss - Coordinator, PEI Council of Professional Fish Harvesters
Tel: (902) 836-4192

17. Professionalization Support Project

Proponent: Council of Professional Fish Harvesters

Project Number: 02-HAR-016

Project Status: Complete

Project Start/Completion Date: 1 July 2002 - 31 March 2003

Project Objective:

To promote and maintain the professionalization initiative within the fish harvesting industry of PEI and to organize and coordinate the training of PEI Fish Harvesters.

Summary of Outcome:

Developed in consultation with Transport Canada a One Day Marine Emergency Duties course MED-A4 for PEI Shell Fishers. Purchased and conducted First Aid & CPR courses throughout PEI. Purchased and coordinated First Aid Instructor courses for PEI Fish Harvesters, and continued promotion of the concept of professionalization and training to the fishing industry. Development of training requirements for new entry clients into the fish harvesting industry.

Total Project Cost: \$80,502.00

Funding provided by PEIASCI: \$15,421.00

Other Funding Partners: HRDC; PEIFA / PEIGA Shrimp Fund; CCPFH

Project Contact: Ruth Inniss - Coordinator, PEI Council of Professional Fish Harvesters
Tel: (902) 894-3901

18. Fishing Master Class IV - Phase II

Proponent: PEI Fishermen's Association

Project Number: 02-HAR-017

Project Status: Complete

Project Start/Completion Date: 13 January 2003 - 14 March 2003

Project Objective:

To provide commercial fishery vessel captains with an opportunity to attend Holland College Marine Centre and obtain the qualification of Fishery Master Class IV. Transport Canada regulations require all vessel captains carrying passengers (charters) to be qualified as Fishing Master Class IV.

Summary of Outcome:

24 vessel captains successfully completed the Fishing Master Class IV course conducted by Holland College Marine Centre.

Total Project Cost: \$62,077.00

Funding provided by PEIASCI: \$14,221.00

Other Funding Partners: HRDC - LMDA -Skills Investment - \$43,776.00
Course Participants - \$4,080.00

Project Contact: Ruth Inniss - Coordinator, PEI Council of Professional Fish Harvesters
Tel: (902) 894-3901

19. Marine Emergency Duties Training - MED-A4

Proponent: PEI Council of Professional Fish Harvesters

Project Number: 02-HAR-018

Project Status: Complete

Project Start/Completion Date: 23 December 2002 - November 2004

Project Objective:

To train fish harvesters employed in the shellfish industry in Marine Emergency Duties - A4 Training as regulated by Transport Canada.

Summary of Outcome:

The PEICPFH contacted Holland College to provide 136 fish harvesters with MED- A4 training, as regulated by Transport Canada.

Total Project Cost: \$8,893.10 (Slippage on project redistributed to 'Unallocated Funds').

Funding provided by PEIASCI: \$16,200.00

Project Contact: Ruth Inniss - Coordinator, PEI Council of Professional Fish Harvesters
Tel: (902) 894-3901

20. Professionalization Technical Support

Proponent: PEI Council of Professional Fish Harvesters

Project Number: 03-HAR-019

Project Status: Complete

Project Start/Completion Date: 01 April 2003 -February 2004

Project Objective:

To provide technical support to maintain and manage the web-site and data base for the Professionalization of Fish Harvesters.

Summary of Outcome:

The financial support provided by the PEIASC allowed the PEICPFH to hire one person to provide technical support for the management of our website and database for the registration of Island harvesters in regards to courses, and future development and training coordination.

Total Project Cost: \$27,520.00

Funding provided by PEIASCI: \$27,520.00

Project Contact Ruth Inniss - Coordinator, PEI Council of Professional Fish Harvesters
Tel: (902) 894-3901

21. Regional Workshops

Proponent: PEI Council of Professional Fish Harvesters

Project Number: 03-HAR-020

Project Status: Complete

Project Start/Completion Date: April 2003 - November 2004

Project Objective:

To consult fish harvesters on PEI prior to the transfer of registration services from the Department of Fisheries & Oceans to the PEICPFH.

Summary of Outcome:

The consulting firm of Smith, Green & Associates was contracted to conduct six regional workshops. Workshops were conducted in seven locations prior to the vote on Professionalization by PEI fish harvesters. Voter turnout was very low in all locations and has not given a true reading on where the industry stands on this issue. The coastal sector has voted to go ahead with professionalization.

Total Project Cost: \$10,345.15 (Slippage on project was redistributed to 'Unallocated Funds')

Funding provided by PEIASCI: \$11,285.00

Project Contact: Ruth Inniss - Coordinator, PEI Council of Professional Fish Harvesters
Tel: (902) 894-3901

22. Professionalization Interim Board of Directors Expenses Phase II

Proponent: PEI Council of Professional Fish Harvesters

Project Number: 03-HAR-021

Project Status: Complete

Project Start/Completion Date: 12 August 2003 - 14 January 2005

Project Objective:

To acquire funds to compensate the Interim Board of Directors for expenses incurred by them attending meetings and other related functions.

Summary of Outcome:

This project enabled the board members to attend meetings, conferences and training both on PEI and in other areas of Canada, especially around the Southern Gulf of St. Lawrence. Without this support the board members would not have had the opportunity to meet and attend important conferences.

Total Project Cost: \$22,525.00

Funding provided by PEIASCI: \$22,525.00

Project Contact: Ruth Inniss - Coordinator, PEI Council of Professional Fish Harvesters
Tel: (902) 894-3901

23. Marine Emergency Duties MED-A1

Proponent: PEI Council of Professional Fish Harvesters

Project Number: 03-HAR-022

Project Status: Complete

Project Start/Completion Date: August 2003 - April 2004

Project Objective:

The PEI Council of Professional Fish Harvesters purchased, coordinated and administered the MED Basic Safety Training Course - A1 to ensure it's availability to all PEI commercial fish harvesters so that they meet Transport Canada regulations.

Summary of Outcome:

The MED A-1 training project was completed in March of 2004. During the October 2003 - March 2004 period, 163 fishers participated in this training program at the Holland College Marine Centre.

Total Project Cost: \$153,640.00

Funding provided by PEIASCI: \$16,520.00

Other Funding Partners: HRDC - \$90,520.00; Participants - \$44,800.00; PEICPFH (In-Kind) - \$1,800.00

Project Contact: Ruth Inniss - Coordinator, PEI Council of Professional Fish Harvesters
Tel: (902) 894-3901

24. Oyster Production and Health Monitoring

Proponent: PEI Shellfish Association

Project Number: 03-HAR-023

Project Status: Complete

Project Start/Completion Date: 27 October 2003 - May 2005

Project Objective:

To develop a monitoring program that will enable coastal zone management strategies to be implemented to optimize oyster production and decrease mortality, mainly in relation to overwinter survival. This will include the evaluation and monitoring of the population structure and physiologic health of the oysters and their habitat in Bedeque Bay; and the evaluation and monitoring of the environmental and anthropogenic factors in relation to population health.

Summary of Outcome:

Many different aspects relating to the health of the oyster fishery were studied as part of this research project. The two main areas of concern for the health of the oyster population are siltation occurring in the spring of the year and the decrease in condition index observed throughout the study period. Increased siltation occurred in 2005 and anecdotally in 2003, the year of heavy mortalities. In both years there were heavy rainfall events occurring after late March. The amount of siltation quantified in 2005 was dramatic and may have had an effect on the filtering capabilities and energy status of the oysters as they resumed filtering in the spring as water temperatures increase. The condition index decreased from fall of 2003 and spring of 2005. Oysters rely on resources stored in the fall to maintain them over the winter as their feed capacity is greatly reduced in cold water.

The study showed that the death of oysters occurs in late April/early May and not during winter months. Oxygen and salinity levels were adequate in both years of the study. Sea lettuce did not appear to play an important role in covering the oysters during the winter season. Video footage showed a minimal amount of sea lettuce on oyster beds. The cause of the mortality event in 2003 was likely multi factorial, with increased silt deposition and decreased condition index as important factors that may contribute to a mortality event. Further monitoring in these areas is needed to better understand oyster productivity and survival.

Total Project Cost: \$337,075.00

Funding provided by PEI ASCI: \$25,000.00

Other Funding Partners: Canadian Centre for Fisheries Innovation (CCFI); PEI Dept. of Fisheries and Aquaculture **AFRI Program**; **Department of Fisheries and Oceans Canada** (FSCP and in kind); **Atlantic Veterinary College** (in kind); **PEI Dept. of Fisheries and Aquaculture** (in kind); **PEI Shellfish Association** (in kind)

Project Contact: Frank Hansen
Tel: (902) 831-3374
Email: peishellfish@pei.aibn.com

25. Industry Communication for Validation

Proponent: PEI Council of Professional Fish Harvesters

Project Number: 04-HAR-024

Project Status: Complete

Project Start/Completion Date: February 2004 - November 2004

Project Objective:

To fund a mail-out including postage and printing to all registered harvesters on PEI advising them of the upcoming validation vote. This project ensures that all eligible fish harvesters on PEI will be advised of meeting times and venues as well as further information on the professionalization initiative.

Summary of Outcome:

The PEICPFH conducted a communications mail-out to all core and crew fish harvesters on PEI. The mail-out was conducted in early July 2004 with packages mailed to 3,742 participants. The printing of all material was conducted by Kwik-Copy, the postage by Canada Post and the envelopes were addressed by the Department of Fisheries and Oceans at the PEI Regional office in Charlottetown.

Total Project Cost: \$4418.99 (Slippage on project redistributed to 'Unallocated Funds')

Funding provided by PEIASCI: \$4725.70

Project Contact: Ruth Inniss - Coordinator, PEI Council of Professional Fish Harvesters
Tel: (902) 894-3901

26. PEI Aquaculture Industry MED Safety Training

Proponent: PEI Aquaculture Alliance

Project Number: 04-HAR-025

Project Status: Complete

Project Start/Completion Date: March 2004 -

Project Objective:

The objective of this initiative was to provide local, industry-relevant Transport Canada mandated Marine Emergency Duties courses, and to encourage industry participation in the marine safety courses by way of reduced registration costs for Alliance members. The aquaculture industry on PEI is a significant contributor to the Island economy, employing 1500-2000 individuals each year. In an effort to sustain this employment rate, it is imperative that the PEI aquaculture industry has appropriate training mechanisms readily available in local Island communities.

Summary of Outcome:

Due to changing requirements for operators of commercial marine vehicles the Prince Edward Island Aquaculture Alliance made application to the PEI Atlantic Shrimp Corp. Inc in February of 2004, for funding in an effort to encourage industry participation in Transport Canada's Marine Emergency Duties Courses, levels MED A1 and A3. The Shrimp Corp funding support assisted growers in receiving this certification by off-setting the costs of training, for these required upgrades. Since 2004, 85 industry members have been certified MEDA4 and one MEDA1. These courses offered safety training including: hazards and emergencies, firefighting, life saving, survival and rescue, all of which have proven extremely valuable to all members operating vessels less than 20 miles from shore. Without the support of the PEI Atlantic Shrimp Corp the Prince Edward Island Aquaculture Alliance could not have offered this assisted training to its members. The project has been a success and has resulted in a higher level of professionalism within the industry.

Total Project Cost: \$52,800.00

Funding provided by PEIASCI: \$28,650.00

Other Funding Partners: Industry (unspecified) - \$24,150.00

Project Contact: Jean MacDonald - Executive Director, PEI Aquaculture Alliance
Tel: (902) 368-2757

27. Interim Office Support Project

Proponent: PEI Council of Professional Fish Harvesters

Project Number: 04-HAR-026

Project Status: Complete

Project Start/Completion Date: April 2004 - January 2005

Project Objective:

This project will enable the PEI Council of Professional Fish Harvesters office to remain open and functional until the end of 2004. The transfer of registration will secure permanent funding for this however, the earliest the transfer will take place will be 01 January 2005 as communication with the industry in all three Gulf of Saint Lawrence provinces is still ongoing.

Summary of Outcome:

This project enabled the PEI Council of Professional Fish Harvesters' office to remain open for one year. The office provided the infrastructure to continue work on the professionalization initiative on PEI and in the Southern Gulf of St. Lawrence.

Total Project Cost: \$44,926.00

Funding provided by PEIASCI: \$44,926.00

Project Contact: Ruth Inniss - Coordinator, PEI Council of Professional Fish Harve
Tel: (902) 894-3901

28. Ultrasonic Tagging of Lobster to Quantify Seasonal Migratory Movements between LFAs 24 and 25 - Western Northumberland Strait

Proponent: PEI Fishermen's Association

Project Number: 04-HAR-027

Project Status: Complete

Project Start/Completion Date: July 2004 - March 2005

Project Objective:

This project will involve the tagging of lobsters with individually identifiable acoustic tags which will allow tracking of individual lobster movements for more than a one year period. This project is an extension of DFO's acoustic tagging project for lobster between LFA 23 and LFA 25. PEI fishermen have also expressed interest in obtaining further information on the movement of lobster between LFA 24 and LFA 25. However, budgetary constraints at DFO require that additional tags and receiver be purchased. This project will assist in obtaining critical scientific knowledge to enable better management decisions for conservation and sustainability of the lobster resource in LFA 25.

Summary of Outcome:

Forty coded acoustic tags and a mobile receiver were purchased. In order to inform PEI lobster fishers of the project and obtain their cooperation in reporting caught tagged lobsters, an information kit prepared by the PEIFA was distributed to approximately 280 fishers at ports in the western end of PEI that were engaged in the LFA 25 fall season. Under the direction of DFO biologist Bruno Comeau, 20 lobsters were tagged in LFA 24 (Sea Cow Pond area) in September 2004; another 20 lobsters were tagged in LFA 25 (Miminegash-Skinners Pond area) in October 2004. Due to weather conditions, tracking exercises were not possible, though follow up searches will be conducted during the 2005 lobster season, as tags should remain functional for a one year period.

Total Project Cost: \$40,005.00

Funding provided by PEIASCI: \$25,000.00

Project Contact: Ken Campbell - Communications, PEI Fishermen's Association
Tel: (902) 566-4050

29. Halibut Trap Design and Testing

Proponent: PEI Fishermen's Association

Project Number: 04-HAR-028

Project Status: Cancelled

Project Start/Completion Date: July 2004

Project Objective:

The overall aim of this study is to adopt and/or develop a commercially viable and conservation-oriented baited Atlantic halibut pot suitable for inshore vessels. Specifically, this study will analyze and utilize experiences of other groundfish potting fisheries; conduct a preliminary entranceway study to test four different entranceways that have been used in other commercial groundfish fisheries; if the preliminary entranceway is successful, conduct a comparative study using halibut pots and other traditional harvesting methods; conduct underwater observations during the preliminary and comparative studies to monitor fish performance and behavior; present all resulting information at a workshop/report in the fall/winter of 2005.

Summary of Outcome:

Co-financed by the PEIACSI, AFRI and CCFA the first of three phases of this project was completed and final reports submitted. Phase Two of the project was necessarily deferred beyond 2005 due to an unfortunate accident to the participating fisher. Subsequently, CCFI was unable to secure continuing funding for the project and, without continuing financing available, the project was necessarily cancelled.

Total Project Cost: n/a

Funding provided by PEIACSI: n/a

Project Contact: Ken Campbell - Communications, PEI Fishermen's Association
Tel: (902) 566-4050

30. Interactions between rock crab (*Cancer irroratus*) populations and mussel aquaculture

Proponent: PEI Aquaculture Alliance

Project Number: 04-HAR-029

Project Status (Active or Complete): Active

Project Start/Completion Date: December 2004 -

Project Objective:

For a number of years, concerns have been raised by PEI mussel growers as to possible impacts of the rock crab fishery within the cultivated areas. One assumption is that baited traps used in the fishery increasingly lure rock crabs away from the aquaculture sites, thereby reducing the crab abundance and also potentially the longline productivity. PEI mussel growers claim that rock crab remove fouling organisms (e.g. sea grapes, algae and unwanted mussel) spat from mussel socks/lines. In addition, growers maintain that the movement of rock crabs on socks helps reduce/remove excess silt/mud from socks and through agitation, cause the mussels to cling/adhere to the socks tighter. By scientifically testing that assumption, the results obtained could set a working base to improve the rock crab fishery management measures and thus ensuring that both industries can realize their full potential.

In keeping with this information, DFO biologists and the mussel industry propose a collaborative project that will evaluate the dynamics of rock crab in relation to aquaculture sites. Specific objectives are:

- Are rock crabs attracted to mussel socks on longlines?
- Is there a decline in rock crab abundance under mussel lines during and after the directed fishery?
- Are rock crabs beneficial to mussel operations?

Summary of Findings/Project Outcome (for Complete projects):

n/a

Total Project Cost: \$351,500.00

Funding provided by PEIASC: \$19,328.40*

* The original project was approved for \$18,000. An additional \$1328.40 was approved on April 20, 2005 to cover auditing fees for the duration of the project.

Other Funding Partners: Aquaculture Collaborative Research and Development Program (\$235,000); Fisheries and Oceans Canada (in-kind), Atlantic Veterinary College(in-kind)

Project Contact: Jean MacDonald - Executive Director, PEI Aquaculture Alliance

Tel: (902) 368-2757

31. PEI Shellfish Industry Occupational Health and Safety Codes of Practice

Proponent: PEI Aquaculture Alliance

Project Number: 04-HAR-030

Project Status (Active or Complete): Active

Project Start/Completion Date: December 2004 -

Project Objective:

As the setting of a safety standard will soon become a requirement for the shellfish industry on Prince Edward Island the PEI Aquaculture Alliance will be undertaking, with funding assistance provided by the PEI Atlantic Shrimp Corporation, a project to develop an industry Occupational Health & Safety Code of Practice.

This code will be developed by the industry in partner with a local consulting agency and will provide practical application methods for the shellfish industry. 1Upon completion of the OH&S Codes of Practice a copy will be forwarded to Diane Clark for official approval and recognition by Occupational Health & Safety. Industry members will be responsible for implementing the codes of practice on site and the compliance monitoring will be detailed within the code based upon consultations and discussions with Occupational Health & Safety staff.

The PEI Aquaculture Alliance will be responsible for providing the presentation of information to the shellfish producers and their employees upon completion of the code.

Summary of Findings/Project Outcome (for Complete projects):

n/a

Total Project Cost: \$28,635.00

Funding provided by PEIASC: \$22,135.00

Project Contact: Jean MacDonald - Executive Director, PEI Aquaculture Alliance
Tel: (902) 368-2757

32. Radio Operator Course - Maritime Commercial Training

Proponent: Western Gulf Fishermen's Association

Project Number: 05-HAR-031

Project Status (Active or Complete): Complete

Project Start/Completion Date: April 2005 - December 2005

Project Objective:

The ROC-MC course is required by Industry Canada for operators of vessels participating in the commercial fishery. Also, those fish harvesters participating in the commercial fishery i.e. the transportation of tourists, must have completed a Fishing Master IV certificate. Part of this FMIV training is the ROC-MC. The fishing Master IV certificate is mandated by Transport Canada. This project will be coordinated by the WGFA and will take place at the Holland College Marine Centre.

Summary of Findings/Project Outcome (for Complete projects):

This course was conducted by Holland College Marine Centre - Summerside on Thursday, December 15, 2005. Eight members of the Western Gulf Fishermen's Association completed the Radio Operators Course - Maritime Commercial.

Total Project Cost: \$2,600.00

Funding provided by PEIASC: \$1245.73 (Approved for \$2,600.00)

Project Contact: Craig Avery, President - Western Gulf Fishermen's Association
Tel: 902.887.3883 Email: avery@pei.sympatico.ca

33. Study on the Impact of Bar Clam Harvesting on Lobster Habitat

Proponent: Western Gulf Fishermen's Association

Project Number: 05-HAR-032

Project Status (Active or Complete): Complete

Project Start/Completion Date: July 13, 2005 - December 2005

Project Objective:

The Western Gulf Fishermen's Association (WGFA) initiated this project in order to determine the impact of bottom dragging activities on lobster habitat in the Western Gulf area. This project will document the before, during, and after habitat impact of the mechanical bar clam harvesting in this area. The sea floor areas have been carefully chosen by lobster harvesters and DFO scientists and will be photographed and documented to verify any impacts. The data collected will be used by the WGFA during discussions with DFO around the issuance of new bar clam harvesting licenses. This project will also make recommendations for the possible necessity of scientific research on the effect of sand and silt polluting the seawater. The results of this project will allow WGFA members to make more informed on lobster habitat conservation in the area.

Summary of Findings/Project Outcome (for Complete projects):

This project enabled the WGFA to conduct a study on the impact of bar clam harvesting on lobster habitat in the Alberton-Malpeque Bay region on the North shore of PEI. The region was divided into two experimental areas: one area off Hogg Island where commercial bar clam harvesting activity was being done and one control area off Cascumpeque Bay where there was no bar clam harvesting activity taking place. The report on the findings prepared by Michel Comeau, Lobster Biologist, DFO Moncton is available by contacting Rory McLellan at 902-436-3121.

Total Project Cost: \$56,450.00

Funding provided by PEIASC: \$34,062.32 (Approved for \$34,250.00)

Project Contact: Craig Avery, President - Western Gulf Fishermen's Association
Tel: 902.887.3883 Email: avery@pei.sympatico.ca

34. HFA 16G Acoustic Sounding and Herring Test Fishery

Proponent: HFA 16G Herring Group

Project Number: 05-HAR-033

Project Status (Active or Complete): Complete

Project Start/Completion Date: August 2005 - December 2005

Project Objective:

Herring Fishing Area 16G Herring Group will conduct an acoustic sounding and test fishery project in participation with DFO Science - Gulf Region during the 2005 inshore herring fishery in HFA 16G. The main objective of this project is to collect information through the acoustic sounding & test fishery process that can be analyzed by DFO Science - Gulf Region and assist them in compiling a better stock assessment of herring biomass in the HFA 16G and hopefully allow DFO Science to provide a more accurate prediction of herring stocks for the future of this fishery.

Summary of Findings/Project Outcome:

This project enabled HFA 16G to conduct acoustic soundings, on 19 trips, during the months of August and September, 2005. In addition, six experimental nets (test fishery) were conducted at night on August 18th, 22nd, 23rd, and 30th and the 5th and 12th of September. All information gathered from the project was processed by DFO-Science-Gulf Region in Moncton, for the production of detailed nightly maps of the fishing tracks, activities and biomass detected, and for further analysis of herring stocks.

Total Project Cost: \$43,000.00

Funding provided by PEIASC: \$13620.00 (approved for \$16,000.00)

Project Contact: Terry Carter - HFA 16G Herring Group
Tel: 902-687-3147

35. HFA 16C/E Herring Acoustic Sounding and Test Fishery

Proponent: Western Gulf Fishermen's Association

Project Number: 05-HAR-034

Project Status (Active or Complete): Complete

Project Start/Completion Date: September 2005 - January 2006

Project Objective:

This project has two objectives:

- (1) to obtain estimates of the relative size of herring schools in designated areas, and
- (2) to obtain indices of age-classes entering the population.

The acoustic recording units provide an objective method of estimating school size and combined with a system of reporting catch locations provide an abundance index for herring in each area. The strength of age-classes entering the fishery is important because the numbers and biomass of new age-classes entering the fishery have the most influence on changes in determining the appropriate fishing levels from year to year.

Summary of Findings/Project Outcome (for Complete projects):

The herring Acoustic Sounding and Test Fishery Project was conducted in Herring Fishing Area 16 C/E during the fall commercial fishery in August and September, 2006 with extra test fishing and sounding done outside the regular season in September and October, 2006. The project was done in collaboration with DFO Science under the direction of Claude LeBlanc, Gulf Region.

A gillnet fishing boat, the *Sting Rae*, with captain Kenneth LeClair from Tignish PEI, was equipped with specialized acoustic sounding gear to measure the nightly herring schools present on the fishing grounds during the fall gillnet fishery. In addition to regular nets, a variable mesh experimental gillnet with mesh sizes 2in., 2 ¼ in., 2 ½ in., 2 5/8 in., and 2 ¾ in. was used to sample all size ranges. The experimental net was set on five occasions between August 29th and October 13th, Acoustic logging of biomass data started on August 21 and was completed on October 13th.

Nightly biomass estimates were variable and require further analysis by DFO Science to be incorporated into their stock assessment and biomass estimates which will be reported to industry at the Regional Assessment Process meetings.

Total Project Cost: \$9,000.00

Funding provided by PEIASC: \$4,000.00

Project Contact: John Rochford - Western Gulf Fishermen's Association (c/o PEI Fishermen's Association

Tel: 902-566-4050

36. **Strait Talk: Public Consultations on the State of the Marine Environment and Fisheries of the Northumberland Strait**

Proponent: Northumberland Strait Ecosystem Initiative Working Group

Project Number: 05-HAR-035

Project Status (Active or Complete): Complete

Project Start/Completion Date: December 2005 - April 2006

Project Objective:

Under the Oceans Action Plan of Fisheries and Oceans Canada, the Northumberland Strait Ecosystem Initiative was initiated in early 2005 with the formation of a region-wide Working Group to examine the causes of drastic in fish landing in the Northumberland Strait. Subsequently, the Working Group - composed of some 30 industry, environmental, academic, federal and provincial representatives – determined the need for broad public consultation on the condition of the Strait and what might be done to restore it to a healthy, productive condition.

The goals of the consultation are to (1) gather information concerning the current state of the Northumberland Strait; (2) Uncover local perceptions as to changes the Strait has undergone, how and why they occurred; (3) identifying ways and means for restoring the Northumberland Strait waters and the aquatic life which it supports; and (4) provide recommendations for research initiatives that will lead to collectively addressing the problems identified.

Meetings will be held throughout the three Maritime Provinces with four public consultations on Prince Edward Island beginning the first week of February, 2006. Venues are Montague, Charlottetown, Summerside and Wellington. The Working Group has contracted organizers, facilitators and rapporteurs to conduct the meetings and ensure that any person with an interest in the condition of the Northumberland Strait has the opportunity for comment and input.

A wide series of scientific examinations will get underway immediately following the public consultations. The Working Group in early 2007 will submit the results and recommendations for action to government.

Summary of Findings/Project Outcome (for Complete projects):

The "Strait Talk" project consisted of four public meetings in Prince Edward Island (parallel with similar meetings in New Brunswick and Nova Scotia) to attain public input and direction for scientific and socio-economic research on factors affecting the decline in the marine fishery in the central portion of the Northumberland Strait.

These consultations were attended by some 200 Islanders - fishers, aquaculturists, shell fishers, business persons, municipal and provincial representatives and interested citizens. Meeting format consisted of small groups utilizing the services of facilitators and recorders to ensure each individual was given the opportunity to express their opinion and that opinions all be recorded. An enormous amount of information was collected, all of it pointing to serious ecological problems in the Strait and the consequent socio-economic issues affecting individuals and communities.

Under the auspices of the Northumberland Strait Ecosystem Initiative Working Group, a "Report on Consultations", prepared by GTA Consultants, has been distributed to participants and is available on

the DFO web site. This report will now drive the direction of a series of scientific, socio-economic and ecosystem studies on the Strait for the next twelve months.

Operating under the authority of the Minister of Fisheries and Oceans for Canada and the Environmental Overview and assessment process, the Northumberland Strait Ecosystem Initiative is among the first of its kind in Canada, a holistic and multi-faceted approach to ecosystem investigation.

Total Project Cost: \$26,500.00

Funding provided by PEIASC: \$6,000.00

Project Contact: Ed Frenette - PEI Fishermen's Association
Tel: 902-566-4050

37. Atlantic Canada Aquaculture Industry Research and Development Network

Proponent: PEI Aquaculture Alliance

Project Number: 06-HAR-036

Project Status (Active or Complete): Complete

Project Start/Completion Date: June 2006 - 2008

Project Objective:

The Prince Edward Island Aquaculture Industry provides an economic impact to the Island's economy of approximately 70 million dollars annually, providing some 2500 livelihoods for Island families. Currently the Atlantic Canadian Aquaculture Industry is faced with many challenges that impede the potential growth and profitability of this sector. The Atlantic regional Aquaculture industry must continue to better organize and coordinate its efforts to reduce inter-provincial competition and gain economies of scale in order to strengthen its global competitiveness and profitability.

Under this project, the Prince Edward Island Aquaculture Alliance (PEIAA) has made application to NRC-IRAP to establish and participate, via a R&D Coordinator (RDC), in the Atlantic Canada Aquaculture Industry Research and Development Network. The Network will be a unified voice for all the Atlantic Canadian Aquaculture Industry in matters of R&D, providing leadership, coordination and communication for the direct benefit of the industry. Through this network, the RDCs have not only been a valuable tool for industry but also for the funding agencies and government regulators as a point source for updates on current R&D science initiatives and issues within the industry.

Summary of Findings/Project Outcome (for Complete projects):

The impact that the RDCs and ACAIRDN have had and are having on industry is clearly reflected in the number of projects and the level of R&D funding that has been secured for the benefit of industry. This is indicative of the leadership role the associations are playing in aquaculture research and development.

The RDC's work with researchers and industry to develop new R&D projects, assist in the delivery of R&D activities, and communicate R&D results to industry, researchers, academics and funding partners.

The RDCs assist their associations' members by participating in the development and organization of conferences and workshops that communicate R&D issues and result in improved networking of the RDC with researchers, academics, and industry.

Deliverables

The ACAIRDN newsletter communicates ongoing R&D efforts underway in each of the Atlantic Canadian provinces and the activities of the Network. Subscribers include industry, government, academia and researchers.

The R&D priorities of the four aquaculture associations have been compiled into the Coordinated Priority Matrix.

The ACAIRDN Funding Resource document describes all of the funding programs for aquaculture in Canada and provides contacts for each program. This is intended for industry members to have a better realization of the programs that could benefit their company as well as provide better access to them.

The ACAIRDN website - AquaBase (www.aquabasecanada.ca) is a portal for ACAIRDN materials (such as the ACAIRDN Funding Resource, ACAIRDN newsletter and Coordinated Priority Matrix). The website serves as a tool for communication and an information resource for clients and other interested parties.

AquaBase, the database developed and maintained by ACAIRDN, now contains over 550 records from all four Atlantic Canada provinces. The database is fully searchable and can be accessed via the website.

ACAIRDN Annual Research Workshop was held in Halifax in January 2007 as part of Soctian Pride, Gander in March 2008 as part of Cold Harvest.

Proactive technical materials on topics such as Aquatic Invasive Species (AIS), which have significantly increased public awareness about AIS. Other facts sheets have provided direct, sustained lines of reasoning to refute claims by opponents of aquaculture in areas such as nutrition, environmental sustainability, animal welfare and food safety.

The RDCs ability to network together, and with other Associations, has been identified as one of the success of ACAIRDN. They meet regularly with other aquaculture associations; in fact both BC Salmon Farmers and Shellfish Growers are now associate members of the network. These collaborative initiatives have directly reduced duplication ensuring that available research funding is used efficiently and effectively.

Total Project Cost: \$94,574.00/year for 2 years

Funding provided by PEIASC: \$12,000/year for 2 years

Project Contact: Jean MacDonald, Executive Director
PEI Aquaculture Alliance
Tel: 902-368-2757

38. Study on the impact of scallop harvesting activities on coastal habitats and associated species

Proponent: Western Gulf Fishermen's Association

Project Number: 06-HAR-037

Project Status (Active or Complete):

Project Start/Completion Date: August 2006 -

Project Objective:

To determine the impacts of dragging on macrofauna and infauna - emphasis will be mainly be on scallop and lobster, but with quantification on the rest of the epibenthic megafauna and infauna. The study will occur in the physical habitat of northwestern PEI.

Summary of Findings/Project Outcome (for Complete projects):

n/a

Total Project Cost: 49,112.00

Funding provided by PEIASC: \$13,270.00

Other Funding Partners: WGFA - In kind \$3000.00
DFO/University of NB - St. John \$15,000.00
Fisheries Science Collaborative Program \$17,842.00

Project Contact: Fred Beairsto
Tel: 902-566-4050
fred@pei.sympatico.ca

39. Innovative Scallop Culture Gear Development Project

Proponent: Northumberland Strait Diversification Sea Scallop Research Group

Project Number: 06-HAR-038

Project Status (Active or Complete): Pending Fulfilment of Conditions

Project Start/Completion Date: July 2006 -

Project Objective:

From 2000 to 2002, the Botsford Professional Fishermen's Association (BPFA) from New Brunswick experimented with Hillsburn cages which had been designed and used in Nova Scotia. The survival and growth of scallops in the cages were encouraging when the cages were properly placed on the bottom. Conversely, if the cages were not descended carefully they had a tendency to tip over which was detrimental to the scallops. In 2003, BPFA deployed three new cage designs that were constructed specifically to avoid being tipped over. Results were encouraging with each of the new design showing stability. However additional studies are required to determine the ideal design. It was concluded that bottom culture cages should be constructed so that the last compartment is at least 15 to 20 cm (6 to 8 inches) from the bottom and compartments should be spaced 8 to 10 cm (3 to 4 inches) apart. The stable and low maintenance bottom culture cages greatly interest Prince Edward Island (PEI) scallop fishermen. Many PEI fishermen are also welders and have tools to construct their own fishing gear and could therefore construct bottom cages suitable to their area. A group of 41 fishermen from eastern PEI formed a corporation called "Northumberland Strait Diversification Sea Scallop Research Group". They applied for and have received funding to improve the scallop bottom culture cage. They are also planning to design the cages in such a way as to provide habitat to bottom dwelling animals such as lobsters. In other words the cages would act as temporary artificial reefs.

Summary of Findings/Project Outcome (for Complete projects):

n/a

Total Project Cost: \$112,000

Funding provided by PEIASC: \$15,000.00 (over 3 years). *PEIASC funding is conditional on the financial support of the other project funders.*

Other Project Funders: AFRI, ACOA, and DFO.

Project Contact: Ronald MacLean
Tel: 902-962-2203

40. Restructuring of the PEI Fishermen's Association Ltd.

Proponent: PEI Fishermen's Association

Project Number: 06-HAR-039

Project Status (Active or Complete): Complete

Project Start/Completion Date: October 2006 - January 2007

Project Objective:

Pending.

Summary of Findings/Project Outcome (for Complete projects):

With financial assistance from the PEIASC, Solutions 1 Consultants, Charlottetown, was the firm engaged by the PEI Fisherman's Association to research, investigate and prepare a written report and presentation on the restructuring requirements of the Association to be more effective in its role in the regional fishing industry.

Over the course of four months, the consultant analyzed incorporation documents and existing bylaws; interviewed board members, staff and Local board members; held discussions with federal, provincial and industry representatives; and reviewed various other organizational structures and processes.

Following a critique of existing issues, he developed a 56-page report of recommendations which was presented to the PEIFA annual convention in January 2007.

The report was well received by the convention delegates. The PEIFA has since established a working group to examine the report in detail, make certain adjustments and it is expected that changes to the organization will be voted on by the rank-and-file membership prior to the opening of the 2007 fishing season.

The PEIFA gratefully thanks the PEI Atlantic Shrimp Corporation for its generous contribution to this project.

Total Project Cost: \$21,200.00

Funding provided by PEIASC: \$14,840.00.

Other Project Funders: PEIFA

Project Contact: Ed Frenette
Tel: 902-566-4050
managerpeifa@eastlink.ca

41. Financial Assistance to Attend the 2006 ICCAT Meeting

Proponent: PEI Fishermen's Association's Large Pelagic Advisory Committee

Project Number: 06-HAR-040

Project Status (Active or Complete): Complete

Project Start/Completion Date: October 2006 - January 2007

Project Objective:

Pending.

Summary of Findings/Project Outcome (for Complete projects):

Walter Bruce, representing the PEI Fishermen's Association as co-chair of the Large Pelagics Advisory attended the meeting as part of the Canadian delegation. As a representative on the delegation he was able to participate in the general sessions, specific discussion forums on stock status, statistical reporting and compliance requirements, as well as multi-lateral discussions and negotiations on establishing quota levels and quota allocations. Although the total western Atlantic quota was reduced in accordance with the scientific advice, Canada was able to fend off some of the demands for increased quota from Mexico as well as negotiate some extra quota from the U.S.A. and the possibility of a charter arrangement for further quota. In view of the strong lobbying from other countries at these meetings it is very important for PEI and Canada that we are represented and have an effective and strong delegation.

Total Project Cost: \$4895.00

Funding provided by PEIASC: \$3395.00

Other Project Funders: PEI Department of Agriculture, Fisheries and Aquaculture

Project Contact: Walter Bruce
Tel: 902-357-2638

42. Marine Emergency Duties Training - A1

Proponent: Western Gulf Fishermen's Association

Project Number: 06-HAR-041

Project Status (Active or Complete): Complete

Project Start/Completion Date: December 2006 - January 2007

Project Objective:

To provide Marine Emergency Duty - A1 training to 36 small vessel operators and/or their crew members.

Summary of Findings/Project Outcome (for Complete projects):

The MED - A1 certification will become mandatory by Transport Canada, effective April 1, 2007, for all fish harvesters participating in the commercial fishery. The Western Gulf Fishermen's Association coordinated this project. The course was conducted by the Holland College Marine Centre between Dec. 11th - 20th, 2006. Thirty-three commercial fishermen completed this training course.

Total Project Cost: \$20,300.00

Funding provided by PEIASC: \$10,200.00

Other Project Funders: 36 Participants @ \$225/participant - \$8100.00
 WGFA (in-kind contribution) - \$2,000.00

Project Contact: Fred Beairsto
 Tel: 902-836-4192

43. Website Development - PEI Fishermen's Association

Proponent: PEI Fishermen's Association
Project Number: 07-HAR-042
Project Status (Active or Complete): Complete
Project Start/Completion Date: May 2007 -

Project Objective:

The PEI Fishermen's Association has engaged in a wholesale revision of its website for the benefit of members, the PEI fishing industry and the public, generally. The new web site will be user friendly with a more dynamic, diversified application. Members will be able to use the site as a one-stop electronic messenger for association news and views; direct contact to association personnel; interaction with other members; up-to-date information from governments regarding fishing plans, legislative and regulatory changes, meetings, etc.; a shopping portal for fishing industry items; and direct links to a variety of other industry-related sites ranging from weather forecasting to market information.

In addition to the site itself, the PEIASC contribution allows for modern training for PEIFA staff as well as installation of new hardware that will allow for easy administration of the site. It is expected that the new PEIFA web site will become the primary focus for information distribution to Island fishers in a very short time, filling a serious gap in the expansion needs of the association. The new site can be found at www.peifa.org.

Summary of Findings/Project Outcome:

This project assisted the PEI Fishermen's Association to improve and modernize its information delivery to members and the general fishing community through the enhancement of the PEIFA website (www.peifa.org). The project provided funding for the initial construction of the web site and ongoing improvements to its architecture as well as training of staff to deliver regular updates to the site. Adjustments to the web site will be continued by the association following full utilization of project funds.

Total Project Cost: \$ 8,850.80

Funding provided by PEIASC: \$ 8,850.80

Project Contact: Ed Frenette - PEI Fishermen's Association
Tel: 902-566-4050

44. **Development of Techniques and Mitigation Strategies for the Management of Invasive Tunicate Species Fouling Aquaculture Farms - *Module I - Development of an Effective Tunicate Diagnosis Method for Commercialization.***

Proponent: PEI Aquaculture Alliance

Project Number: 07-HAR-043

Project Status: Complete

Project Start/Completion Date: 2007 - 2011

Project Objective:

This four year project was initiated in response to the challenges of managing invasive tunicate species within the Atlantic Canadian aquaculture industry. Module I is one of three modules of the ACOA AIF multi-disciplinary project led by members of industry, researchers and government organizations. In this module it is our intent to develop a tunicate diagnostic kit through molecular probe techniques and experimentation with newly innovated bead-based flow cytometry technology.

Summary of Findings/Project Outcome:

- To provide the aquaculture industry with sustainable, efficient and environmentally sound methods of tunicate diagnosis, prevention, and treatment
- Four year (2007-2011) \$3.6 million cash budget.
- Steering and scientific committees with joint federal (DFO, ACOA, NRC)– provincial (PEIDFA) – academic (UPEI, AVC) – industry representation
-

The research modules

- Module One: Tunicate detection using DNA/RNA
 1. Species specific DNA detection techniques have been developed.
 2. Field based detection kits in research/development.
- Module Two: Environmentally sound anti-fouling agent
 1. An active anti-foulant compound derived from the local environment identified
 2. Some field trials done, also assessed against barnacles
- Module Three: Treatment technologies
 1. Focused on underwater treatment technologies

Future work

- Module One: Tunicate detection using DNA/RNA
 - o Keep the expertise developed in DNA detection
 - o Continue to develop and assess field assays and field based detection kits.
- Module Two: Environmentally sound anti-fouling agent
 - o Partner with marine paint / equipment manufacturers
- Module Three: Treatment technologies
 - Continue investigating air injection to allow existing spray systems to be modified for underwater treatment

Potential partners

- o UPEI Industrial Liaison Office (Three Oaks Innovation)
- o AFRI, PEIASC
- o Provincial (DFARD, PEI Bio Alliance, Innovation PEI)
- o Federal (DFO, ACOA, NSERC, NRC-IRAP,)

Total Project Cost: \$730,520 (over 4 years)

Funding provided by PEIASC: \$ 58,500.00 (\$14,625 - per year for four years)

Project Contact: PEI Aquaculture Alliance
Tel: 902-368-2757

45. Investigation into Control Strategies for Invasive Species - The Oyster Drill, the Violet Tunicate, the Clubbed Tunicate and the Vase Tunicate - On Oyster aquaculture operations.

Proponent: PEI Aquaculture Alliance
Project Number: 07-HAR-044
Project Status (Active or Complete): Complete
Project Start/Completion Date: TBD

Project Objective:

Oyster Drill

- To determine when the oyster drill becomes active following winter and control by trapping may be initiated.
- Time period when the oyster drill is fecund and treatment options for egg cases.
- Comparison of the efficacy of a variety trap designs for controlling oyster drill populations and study of the effectiveness of trapping (by studying population reduction) as a control method.

Tunicate Fouling

- Study of impact of tunicate fouling on floating bag oyster aquaculture systems, and of utilization of the bag flipping technique (desiccation) as a control method for tunicate fouling.
- Study of known treatment methods (lime, vinegar and water pressure) as control methods for tunicate fouling on submerged oyster bag systems.
- Study of the impact of tunicate fouling on newly set oysters on oyster collectors, and the effect of treatments on the collectors to control the tunicate fouling.

Summary of Findings/Project Outcome:

Oyster Drill

- Oyster drills were active from early June (and possibly before) to the end of October.
- The peak feeding period for the oyster drills was between late August and early September.
- From July to late October, 24 oyster drills laid 89 groups of egg cases.
- From July to late October, 24 oyster drills consumed 301 oysters and 10 mussels (or 12.5 oysters per drill).
- Bottom samples did not give any indication that trapping was successful as a control option. A shorter follow-up trial is required in the summer of 2008 to compare the oyster drill

population.

- The wire cage trap was the most effective at trapping oyster drills in Foxley River, followed by the A-frame design and then the minnow trap.
- The highest number of oyster drills caught in one trap (wire cage) was 94.
- The treatments utilized (hydrated lime, vinegar and brine immersions at 1, 5 and 10 minutes) on egg cases were not effective enough to be recommended as a control method.
- All adult oyster drills immersed in solutions of hydrated lime, vinegar and brine for one, five, and ten minutes survived with no apparent impact from the treatment.

Tunicate Fouling

- The OysterGro units worked to control tunicate fouling in all three tunicate-infested areas (March Water, Savage Harbour and Montague River) when turned bi-weekly for 24 hours.
- The floating bags were also successful at controlling tunicate fouling in the three areas when turned bi-weekly, although the cages did not perform well at exposed, high energy sites.
- September was a good time to effectively apply treatment to the submerged cages in March Water (clubbed tunicate infested area). Lime immersion was better for controlling the clubbed tunicates than the vinegar spray.
- There was no treatment that was more successful than the others for controlling the colonial tunicates on the submerged cages in Savage Harbour. All treatments, lime immersion, vinegar spray and washing performed equally to control the colonial tunicates. All the cages had some fouling on them at the end of the trial. This may have been due to new recruitment and rapid growth of the newly recruited tunicates following treatment.
- A double application of lime immersion, first in August and then again in September was required to control vase tunicates on submerged cages in Montague River. Hydrated lime was the more successful treatment for controlling the vase tunicate. It is possible that a third treatment would have reduced tunicate fouling even more.
- Regular inspection of gear and crop is necessary to monitor tunicate fouling and determine when treatment of the submerged cages is necessary.
- The oysters in the OysterGro units had slightly better growth than the other units and were in better physiological condition than the oysters in the submerged cages, based on condition index.

Total Project Cost: \$ 46,000.00
Funding provided by PEIASC: \$ 2,300

Project Contact: PEI Aquaculture Alliance
Tel: 902-368-2757

46. Development of Techniques and Mitigation Strategies for the Management of Invasive Tunicate Species Fouling Aquaculture Farms - *Module II - Discovery and Development of an Environmentally Sound and Sustainable Anti-fouling Compound.*

Proponent: PEI Aquaculture Alliance
Project Number: 07-HAR-045
Project Status: Complete
Project Start/Completion Date: 2007 - 2011

Project Objective:

This four year project was initiated in response to the challenges of managing invasive tunicate species within the Atlantic Canadian aquaculture industry. Module II is the second of three modules of the ACOA AIF multi-disciplinary project led by members of industry, researchers and government organizations. Preventing new introductions and controlling the further spread of established species are the most effective means of addressing the threat of these organisms to aquatic systems. In this module it is our intent to develop an environmentally sound and sustainable anti-fouling agent derived from Atlantic Canadian marine natural products.

Summary of Findings/Project Outcome:

- To provide the aquaculture industry with sustainable, efficient and environmentally sound methods of tunicate diagnosis, prevention, and treatment
- Four year (2007-2011) \$3.6 million cash budget.
- Steering and scientific committees with joint federal (DFO, ACOA, NRC)– provincial (PEIDFA) – academic (UPEI, AVC) – industry representation
-

The research modules

- Module One: Tunicate detection using DNA/RNA
 1. Species specific DNA detection techniques have been developed.
 2. Field based detection kits in research/development.
- Module Two: Environmentally sound anti-fouling agent
 1. An active anti-foulant compound derived from the local environment identified
 2. Some field trials done, also assessed against barnacles
- Module Three: Treatment technologies
 1. Focused on underwater treatment technologies

Future work

- Module One: Tunicate detection using DNA/RNA
 - o Keep the expertise developed in DNA detection
 - o Continue to develop and assess field assays and field based detection kits.
- Module Two: Environmentally sound anti-fouling agent
 - o Partner with marine paint / equipment manufacturers
- Module Three: Treatment technologies
 - Continue investigating air injection to allow existing spray systems to be modified for underwater treatment

Potential partners

- o UPEI Industrial Liaison Office (Three Oaks Innovation)

- o AFRI, PEIASC
- o Provincial (DFARD, PEI Bio Alliance, Innovation PEI)
- o Federal (DFO, ACOA, NSERC, NRC-IRAP,)

Total Project Cost: \$ 607,556.00 (over 4 years)

Funding provided by PEIASC: \$ 48,500.00 (\$12,125 - per year for four years)

Project Contact: PEI Aquaculture Alliance
Tel: 902-368-2757

47. **Development of Techniques and Mitigation Strategies for the Management of Invasive Tunicate Species Fouling Aquaculture Farms - Module III - Development of Tunicate Treatment Technologies for Direct Application.**

Proponent: PEI Aquaculture Alliance
Project Number: 07-HAR-046
Project Status: Complete
Project Start/Completion Date: 2007 - 2011

Project Objective:

This four year project was initiated in response to the challenges of managing invasive tunicate species within the Atlantic Canadian aquaculture industry. Module III is the final module of the ACOA AIF multi-disciplinary project led by members of industry, researchers and government organizations. In this module it is our intent to expand on research and technologies developed in the first two modules of the project, in order to design industry applicable tunicate fouling treatment methods.

Summary of Findings/Project Outcome:

- To provide the aquaculture industry with sustainable, efficient and environmentally sound methods of tunicate diagnosis, prevention, and treatment
- Four year (2007-2011) \$3.6 million cash budget.
- Steering and scientific committees with joint federal (DFO, ACOA, NRC)– provincial (PEIDFA) – academic (UPEI, AVC) – industry representation
-

The research modules

- Module One: Tunicate detection using DNA/RNA
 1. Species specific DNA detection techniques have been developed.
 2. Field based detection kits in research/development.
- Module Two: Environmentally sound anti-fouling agent
 1. An active anti-foulant compound derived from the local environment identified
 2. Some field trials done, also assessed against barnacles
- Module Three: Treatment technologies
 1. Focused on underwater treatment technologies

Future work

- Module One: Tunicate detection using DNA/RNA
 - o Keep the expertise developed in DNA detection
 - o Continue to develop and assess field assays and field based detection kits.
- Module Two: Environmentally sound anti-fouling agent
 - o Partner with marine paint / equipment manufacturers
- Module Three: Treatment technologies
 - Continue investigating air injection to allow existing spray systems to be modified for underwater treatment

Potential partners

- o UPEI Industrial Liaison Office (Three Oaks Innovation)
- o AFRI, PEIASC
- o Provincial (DFARD, PEI Bio Alliance, Innovation PEI)
- o Federal (DFO, ACOA, NSERC, NRC-IRAP,)

Total Project Cost: \$ 1,788,708 (over 4 years)
Funding provided by PEIASC: \$ 143,000.00 (\$35,750 - per year for four years)

Project Contact: PEI Aquaculture Alliance
Tel: 902-368-2757

48. Policy for Commercial Aquaculture Diving in PEI

Proponent: PEI Aquaculture Alliance
Project Number: 07-HAR-047
Project Status (Active or Complete): Active
Project Start/Completion Date: 2008

Project Objective:

The objective of this project is to collaboratively produce a Codes of Practice for diving operations as part of aquaculture on PEI. These codes will allow Island aquaculturists and their workers to identify and control situations or hazards that could cause harm while diving. The finished codes will become part of the overall PEI Aquaculture Occupational Health and Safety Code of Practice.

Summary of Findings/Project Outcome:

The Diving Codes of Practice have been finalised and were agreed by the respective stakeholders involved in their development. The final copy was submitted to WCB for inclusion in the PEI Aquaculture Code of Practice. This document has been printed and circulated to industry members.

Total Project Cost: \$ 9,200.00
Funding provided by PEIASC: \$ 4,600.00

Project Contact: Peter Warris - PEI Aquaculture Alliance
Tel: 902-368-2757

49. Development of Expanded Training Initiative for PEI Fishers

Proponent: PEI Fishermen's Association & Prince County Fishermen's Association

Project Number: 07-HAR-048

Project Status (Active or Complete): Complete

Project Start/Completion Date: September 2007 -

Project Objective:

The Prince County Fishermen's Association (PCFA) in cooperation with the Prince Edward Island Fishermen's Association (PEIFA) is initiating a project called Fisheries Skills PEI - Development and Expansion Project. The purpose of this undertaking is to further develop and expand the successful Island wide fisheries training program that took place in the winter of 2007. This present initiative will involve:

- Developing a fisheries training and implementation schedule for the upcoming season (fall 2007/winter 2008)
- Negotiating course costs, times and locations with training institutions.
- Preparing the funding application to Service Canada for tuition, travel and child care support for Island fishers.
- Developing a training pilot for a fisheries marketing information course.

Summary of Findings/Project Outcome:

The project was supervised by the executive of PCFA and PEIFA Training Committee. A fisheries training and implementation schedule for the upcoming season (fall 2007/winter 2008) was completed. Course costs, times and locations with training institutions were negotiated. The funding application to Service Canada for tuition, travel and child care support for Island fishers was completed.

Total Project Cost: \$ 7,250.00

Funding provided by PEIASC: \$ 6,750.00

Project Contact: Ron Caissie - PEI Fishermen's Association, Tel: 902-854-2743
Shelton Barlow - Prince County Fishermen's Association, Tel: 902-859-2537

50. Support Funding to Hire a Fisheries Research & Liaison Officer for the PEI Fishermen's Association

Proponent: PEI Fishermen's Association

Project Number: 07-HAR-049

Project Status (Active or Complete): Complete

Project Start/Completion Date: January 2008 -

Project Objective:

The objectives of this project are (i) to encourage the direct involvement of PEI fish harvesters in the development, structure and participation of scientific projects pertinent to their industry utilizing their traditional knowledge of the marine resource; (ii) providing the PEIFA with a recognized science support program to the fisheries science community and funding agencies; and (iii) to improve the general communication and respect between Island fish harvesters and their association through increased liaison activity at the local level.

Summary of Findings/Project Outcome:

This project allowed the association to hire Ms. Laura Ramsay to the position of Fisheries Research and Liaison Officer on a one year contract. With her background in marine biology, Ms. Ramsay developed and, in conjunction with association members and government, implemented a number of science projects on various commercial fish species. In addition, she was able to keep members informed and up to date on issues of resource management and research developments on fishery issues. Following completion of the project Ms. Ramsay was retained in a full-time, permanent position with the association.

Total Project Cost: \$62,000

Funding provided by PEIASC: \$50,000

Project Contact: Ed Frenette - PEI Fishermen's Association
Tel: 902-566-4050

51. Restructuring of the PEI Fishermen's Association Ltd - Phase II - Implementation

Proponent: PEI Fishermen's Association
Project Number: 07-HAR-050
Project Status (Active or Complete): Complete
Project Start/Completion Date: January 2008 -

Project Objective:

Given the rapid increase in membership of the PEIFA resulting from the implementation of the provincial *Certified Fisheries Organizations Support Act*, the definite need to restructure the organization to meet the needs and demands of members is recognized. Accordingly, a private consultant will be contracted to review and critique existing by-laws and operations and to recommend necessary changes to better meet the needs of the marine harvesting community.

Once this work is completed it will be necessary to hold a series of membership meetings to both inform members of proposed changes as well as holding a formal, special meeting to vote on by-law changes as prescribed by provincial law. Once complete, the new by-laws will be submitted to the provincial Attorney general for endorsement and implementation.

Summary of Findings/Project Outcome:

This project was the culmination of a restructuring process undertaken by the PEIFA to modernize and make governance more efficient and effective. The project consisted of a series of meetings by a member committee reviewing and developing by law changes, then a special general membership meeting to vote on by law changes as recommended. The process was completed and by law changes were endorsed by the provincial Attorney General.

Total Project Cost: \$9,500

Funding provided by PEIASC: \$8,000

Project Contact: Ed Frenette - PEI Fishermen's Association
Tel: 902-566-4050

52. WHMIS Training for the PEI Aquaculture Industry

Proponent: PEI Aquaculture Alliance

Project Number: 07-HAR-051

Project Status (Active or Complete): Complete

Project Start/Completion Date: January 2008 -

Project Objective:

The project would fund the training of two industry members as qualified WHMIS (Workplace Hazardous Materials Information System) trainers. These individuals would then train Association members in the correct handling of control products such as lime, vinegar and other chemicals.

Objectives:

Phase 1 - Train two people as qualified WHMIS trainers.

Phase 2 - Use these qualified trainers to train PEI aquaculture staff/crew in WHMIS.

Phase 3 - Continue to train new staff as required on an ongoing basis at a lower cost than currently available WHMIS training.

Summary of Findings/Project Outcome:

This project funded the training of industry members as qualified WHMIS (Workplace Hazardous Materials Information System) trainers. These individuals then trained Association members about WHMIS and its correct application in the workplace.

Objectives:

Phase 1 - Train industry related individuals as qualified WHMIS trainers.

Phase 2 - Use these qualified trainers to train PEI aquaculture staff/crew in WHMIS.

Phase 3 - Continue to train new staff as required on an ongoing basis at a lower cost than currently available WHMIS training.

Results

Phase 1: Three people completed the train the WHMIS trainers course and can train the aquaculture industry workers. Materials were both supplied and prepared for use in the courses. A participants workbook was prepared and a test to be administered at the end of the course.

Phase 2: A total of thirteen courses were held, with 162 people trained, tested, and issued WHMIS certificates.

Phase 3: These train the trainer skills will be able to be used long term in the industry and additional courses will continue after the life of this project which will accommodate the turn over rates of the seasonal workers.. Further courses are planned for the winter / spring of 2010.

Total Project Cost: \$15,237.50

Funding provided by PEIASC: \$10,737.50

Project Contact: Linda Duncan, Executive Director
Tel: 902-368-2757

53. Pre-Assessment of the Prince Edward Island Lobster Fishery for Marine Stewardship Council Certification

Proponent: PEI Fishermen's Association & PEI Seafood Processors Association
Project Number: 08-HAR-052
Project Status (Active or Complete): Complete
Project Start/Completion Date: January 2008 -

Project Objective:

The PEI Atlantic Shrimp Corporation Inc. approved a project submitted jointly by the PEI Fishermen's Association and the PEI Seafood Processing Association, in conjunction with the PEI Department of Fisheries and Aquaculture, for a Marine Stewardship Council (MSC) pre-assessment of PEI lobster in Lobster Fishing Areas 24, 25 and 26A. The pre-assessment will be conducted by Tavel Inc. Of Halifax, an independent fisheries consulting firm retained by the MSC to assess various fish stocks to determine whether or not such stocks meet the MSC sustainability standard.

This pre-assessment will advise the industry if there are issues in the PEI lobster fishery that may affect its ability to attain full MSC certification and corresponding eco-label standard as a sustainable fishery. In the event it does not, the resource management regime may have to be altered to ensure sustainability and future access to international retail markets. If the pre-assessment is positive, then industry and government can go forward with a full, detailed assessment to attain the MSC stamp of approval.

To date, MSC has approved more than 1,000 fish products throughout the world and it is hoped that PEI's largest and most important fishery will meet the sustainability requirements of an independent assessment.

Summary of Findings/Project Outcome:

This was a joint project between the PEI Fishermen's Association and the PEI Seafood Processor's Association to conduct an initial evaluation of the sustainability of the PEI lobster stocks. The assessment was completed showing the industry the relative position it held in attaining full certification to the MSC sustainability standard. This pre-assessment is now being used as the major tool by the lobster industry in the sGSL in determining whether to proceed with a full certification assessment of sGSL lobster stocks under the MSC international code of acceptance.

Total Project Cost: \$15,000
Funding provided by PEIASC: \$10,000

Project Contact: Ed Frenette - PEI Fishermen's Association
Tel: 902-566-4050

Michael MacInnis - PEI Seafood Processors Association
Tel: 902-629-1555

54. PEI Shellfish Reorganization Project

Proponent: PEI Shellfish Association

Project Number: 07-HAR-053

Project Status (Active or Complete): Complete

Project Start/Completion Date: January 2008 - 2009

Project Objective:

Rory McLellan and Associates were retained to conduct an organizational review of the Prince Edward Island Shellfish Association operations. The scope of work encompassed a review of some secondary research and literature, key informant interviews with various stakeholder groups, and a telephone survey to investigate the perceptions and values with respect to the association and the industry as a whole. The main focus of the survey was to find better ways to serve the shellfish industry in Prince Edward Island.

Summary of Findings/Project Outcome:

The outcome of the study was the observation that more quality controls needed to be adopted to ensure the viability of this industry in the long term. Secondly that this be accomplished under the provisions of the "Natural Products Marketing Act" by the creation of a commodity marketing board or commission. This commission could provide a levy to fund the shellfish association in its enhancement and other activities as well as assure that quality oysters were provided to the market.

Total Project Cost: \$30,015

Funding provided by PEIASC: \$30,015

Project Contact: Clifford Bernard, President
Tel: 902-831-3374

55. Blue Fin Tuna Fishers Workshop

Proponent: PEI Fishermen's Association
Project Number: 08-HAR-054
Project Status (Active or Complete): Complete
Project Start/Completion Date: January 2008 -

Project Objective:

This project was designed to have a consultant analyze and report to a general meeting of tuna fishers on options to attain the best possible price for PEI landed bluefin tuna.

Summary of Findings/Project Outcome:

The analysis was conducted, options presented and a full day of discussion by active tuna fishers resulted in the development of a comprehensive harvesting plan to attain the highest value to PEI tuna fishers.

Total Project Cost: \$11,503

Funding provided by PEIASC: \$9,938

Project Contact: Ed Frenette - PEI Fishermen's Association
Tel: 902-566-4050

56. Fisheries Skills PEI - 2008 Training Project

Proponent: PEI Fishermen's Association & Prince County Fishermen's Association

Project Number: 08-HAR-056

Project Status (Active or Complete): Complete

Project Start/Completion Date: January 2008 -

Project Objective:

The Prince County Fishermen's Association (PCFA) in cooperation with the Prince Edward Island Fishermen's Association (PEIFA) is initiating a project called **Fisheries Skills PEI -2008 Training Project**. The purpose of this undertaking is to coordinate, promote and support an Island wide fisheries training program which has been developed. This present initiative will involve:

- Coordinating fishery training courses Island wide and providing a supporting role to assist fishers in accessing funding from Service Canada.
- Advertising courses to inform fishers of availability of training.
- Negotiating course costs, times and locations with training institutions. Emphasis will be on holding training in local communities where numbers warrant.
- Providing enhanced financial supports (additional 10% of course tuition) to fishers taking courses where tuition is in excess of \$500 per course.
- Developing a "Training Plan" for 2009 season

Summary of Findings/Project Outcome:

During the months of January, February, March and April Fisheries Skills PEI coordinated training for 332 individuals from all regions of Prince Edward Island, assisting to upgrade people with the skills they require to retain, advance or find employment in the fishery and marine industry.

In surveying the fisher participants, the feedback about the courses was positive. Fishers learned that job opportunities for individuals with marine skills do exist outside the fishery and many have expressed an interest in pursuing future training options. A training plan for the 2009 season was completed.

Total Project Cost: \$24,862

Funding provided by PEIASC: \$23,862

Project Contact: Ed Frenette - PEI Fishermen's Association
Tel: 902-566-4050

Shelton Barlow - Prince County Fishermen's Association
Tel: 902-859-2537

57. Silverside Pinfish Sorting Machine

Proponent: Donald E. Johnston

Project Number: 07-HAR-057

Project Status (Active or Complete): Complete

Project Start/Completion Date: May 2008 - December 2009

Project Objective:

The silverside fishery has been experiencing an unusually large influx of pinfish over recent years. Pinfish, which are sticklebacks, have a number of exterior spiny rays which create difficulty when processing the silversides for food purposes. These fish essentially render the silversides useless for human consumption.

The purpose of this project is to construct a prototype pinfish/silverside sorter. The goal is to reduce or eliminate pinfish in the silverside catch which is delivered to the packer.

The machine will attempt to take advantage of the physiological differences between the two species. When live fish are harvested, the silversides tend to be lively while the pinfish seem to just lay flat and don't jump around. The sorter will be constructed to allow feeding of the live fish through a hopper and the silversides will descend to the bottom of the sloped surface while the pinfish will lay flat and be removed by the rotating belt. It is essential to carry out this process while the fish are alive. Therefore, the sorting will be done while harvesting from the silverside trap on the water. The initial prototype will require a number of adjustments to ascertain the optimum elevation and rotating speed to achieve separation of the two species. It is hoped that after the initial trials that the system could be mechanized to make the procedure more efficient and utilize less manpower.

After the process has been "tweaked" to peak efficiency, other fishers will be welcome to view and copy the machine to provide an overall benefit to the silverside fishery.

Summary of Findings/Project Outcome:

Total Project Cost:

Funding provided by PEIASC: \$30,000 (over 1 year)

Project Contact: Mr. Donald E. Johnston
Tel:

58. Support for a Research and Development Co-ordinator for the PEI Aquaculture Alliance

Proponent: PEI Aquaculture Alliance
Project Number: 07-HAR-058
Project Status (Active or Complete): Complete
Project Start/Completion Date: May 2008 -

Project Objective:

The objective of this initiative is to support a Research & Development Coordinator (RDC) for the PEI Aquaculture Alliance to continue its participation in the Atlantic Canada Aquaculture Industry Research and Development Network (ACAIRDN); a collaborative voice for the Atlantic Canadian Aquaculture Industry in matters of R&D, providing leadership, coordination and communication for the direct benefit of the industry.

The aquaculture industry in Atlantic Canada is a highly technical industry, built on 30 years of research and development. ACAIRDN has been instrumental in assisting industry with this ongoing need for research at the local, provincial and regional level by providing scientific and technical support to the boards, management, staff, and members of the associations who often times do not have a background in technical science or do not have the time or facilities to undertake research. The RDCs also act as the industry liaison with government departments, academia and the public on a daily basis. The linkage of a network of RDCs enables the industry associations to work more closely together to develop and deliver projects of mutual interest that led to significant improvements for the industry.

Summary of Findings/Project Outcome:

1. Identify Research Priorities

The R&D Priorities Matrix currently contains 205 separate industry priorities, separated into 22 broad categories. This has been requested by a number of different organisations to assist in the development of their regional research priorities (e.g. DFARD, DFO-ACDRP and AMD).

This year the RDC's have developed or assisted in the development of at least 22 applications for research projects, workshops and missions, specifically addressing these industry priorities.

2. Project Management and Delivery

The impact that the RDCs and ACAIRDN have had and are having on industry is clearly reflected in the number of projects and the level of R&D funding that has been secured for the benefit of industry. This is indicative of the leadership role the associations are playing in aquaculture research and development. The RDCs have been involved in over 20 of projects which are directly related to industry priorities.

**3. Workshops **

The RDCs organised and coordinated eight workshops this year, double the deliverable target. They focused on both general R&D updates and specific issues of key interest to the industry.

4. Industry Member Communication

The RDCs meet with Industry SMEs on a regular basis and have exceeded the minimum of 12 visits or face to face meetings.

5. Research to Support Bio-Security Policy

NAIA hosted a regional biosecurity workshop which brought together industry members and experts in fish health management to examine current industry protocols and to help drive the development of regional practices that will result in optimal biosecurity. Subsequent to the workshop and a request to DFA for an update on infrastructure (action item), the DFA secured a consultant who is now examining infrastructure needs for the finfish industry.

6. Research Database

AquaBase is a fully searchable database of aquaculture related literature. It was developed to address the "grey" area of reports and publications produced by Industry Associations and other organisations that are not always accessible through traditional journals or academic libraries and to maintain a database of such industry led research, starting with research that has been completed over the last five years.

7. Network Collaboration

Network Meetings: The RDCs meet at a minimum bi-monthly with the purpose of discussing research initiatives and ongoing activities and potential collaborations.

Interprovincial Communications: ACAIRDN has initiated regular conference calls with RDCs from other associations in Canada, as well as the RDC from the Maine Aquaculture Association. The purpose of the calls is to foster communication between RDCs, and to invite contributions to the ACAIRDN Newsletter.

Newsletter: The ACAIRDN RDCs have distributed the two issues of the Newsletter, and have issued a call for content by February 27 to ensure completion of this edition prior to March 31, 2008. The ACAIRDN Website (www.aquabasecanada.ca) has been launched, and copies of the Newsletter are available online.

Total Project Cost: \$74,883.54

Funding provided by PEIASC: \$20,607.47

Project Contact: Linda Duncan, Executive Director

Tel: 902-368-2757

59. Investigation of Trapping as a Population Control Strategy for two nuisance species on Oyster Aquaculture Operations

Proponent: PEI Aquaculture Alliance
Project Number: 07-HAR-059
Project Status (Active or Complete): Complete
Project Start/Completion Date: June 2008 - 2012

Project Objective:

The objective of the project is to determine whether trapping can be used by oyster aquaculture operations as a practical and effective population control measure for two nuisance species, the oyster drill (*Urosalpinx cinerea*) and the starfish (*Asterias vulgaris*). For each species one or two volunteer growers will set traps around their affected leases. Each trap will be of standard design and tagged with a unique ID number. Each trap will be lifted, emptied, restocked with bait and examined for damage at least once a week. The number and sizes of the trapped animals will be collected by the growers as they empty the traps. Effectiveness will be measured by plotting the total number of animals trapped each week across the whole season. The size of the animals caught will also be recorded to assess any effects on population distribution. The trial will be repeated in the same areas next year to compare population levels after the winter. Oyster mortality will also be assessed in the trial leases to determine if any correlations can be reached with trapping success.

Summary of Findings/Project Outcome:

Trapping for oyster drills was judged by the grower to be an effective means of controlling the local population; this is supported by the seasonal results of the trials. However the results do not allow for any conclusions regarding the long term effects on the broader population. Grower concerns regarding baited traps attracting an increased number of starfish, as well as other predators (moon snails) would need to be addressed before any wide scale trapping for starfish is undertaken. Intensive trapping may be an effective, sustainable way of controlling the local population of these two nuisance species; however the results of this project cannot support any specific conclusions.

Total Project Cost: \$4,485 (year 1) and \$1,322.50 (year 2)

Funding provided by PEIASC: \$5,807.50 (\$4,485 year 1 and \$1,322.50 year 2)

Project Contact: Linda Duncan, Executive Director

Tel: 902-368-2757

60. Reproduction, environmental tolerances and recruitment related to tunicate population abundance

Proponent: PEI Aquaculture Alliance

Project Number: 08-HAR-060

Project Status (Active or Complete): Complete

Project Start/Completion Date: May 2008 - 2012

Project Objective:

The mussel industry in PEI has been negatively impacted by invasive tunicates since their arrival. These impacts continue to intensify and could potentially be devastating, including closure of aquaculture operations with a resulting loss of employment and economic spin off. The objective of the project will explore some aspects of tunicate biology which could be exploited to minimize tunicate abundance in aquaculture sites through more passive approaches. These will include:

- An investigation of the reproductive biology of *C. intestinalis* in PEI waters to discover potential predictors of spawning capacity (number of potential offspring) and spawning period to assist growers with treatment applications by determining the optimal time and effort of active treatment
- An evaluation of the environmental tolerances of tunicate early life stages in order to determine their level of vulnerability to natural and/or treatment conditions. Certain areas in PEI seem to be unique in the fact that they have been exposed to tunicates in the past; however, the tunicates have not successfully established. These areas will be examined to determine water quality parameters inconsistent to those where tunicates have successfully established. Once identified, their effect on egg fertilization and latter developmental stages, such as larval recruitment and development, will be documented.
- An investigation of the effects of water flow on the recruitment ability of *C. intestinalis*. Field observations are suggesting that tunicate recruitment varies largely within small geographical areas, and may be influenced by water flows specific to lease location or bay location. The effect of water flow on tunicate recruitment will be evaluated with the aim of reducing recruitment by creating unfavourable conditions for recruitment.

Other partners: ACRDP, DFO, PEI DFARD, PEI Aquaculture Alliance

Summary of Findings/Project Outcome:

Several aspects of *Ciona intestinalis* reproduction were investigated. Firstly the spawning frequency and fecundity were evaluated in aquaria with flow trough natural seawater. Results suggest that single individuals spawn daily implying that *C. intestinalis* are continuous spawners. Although, gamete output for single individuals was variable from day to day, a mean output of 2351.79 ± 1831.70 eggs/ind./d (mean \pm SD) was documented. This number is higher than those previously documented in the literature. Secondly, a series of parameters were evaluated as potential fecundity predictors. Results indicated that gonad dry weight (ovaries) was the best fecundity predictor for our application. Larger gonads produced more eggs. However, because individual size of the tunicate also influences gonad size precautions should be taken if this predictor is to be used for spatial or temporal comparisons. In this case gonadosomatic index (GSI) would be a better predictor as it standardizes in relation to tunicate size. Lastly, a spatial and temporal evaluation of *C. intestinalis*

reproductive status was conducted. Results showed that peaks in GSI correspond to previously documented recruitment peaks. Additional caution should be taken when evaluating GSI because our investigations suggest that tunicate density influences gonad size, which has a direct effect on GSI values.

A comparative study of the sub-watersheds of Orwell Bay and Brudenell-Montague Rivers was also conducted to identify and better understand the principal factors responsible for the non-establishment of tunicates in Orwell Bay, despite past introductions into the system. Results showed that the Orwell system was shallower, slightly warmer and had higher turbidity levels than the Brudenell-Montague system. Conversely, the Brudenell-Montague system showed higher salinities and Chlorophyll a concentrations. Characteristics identified as potentially playing a role in the non establishment of *C. intestinalis* in the Orwell system are: high turbidity; higher current speeds; shorter retention time; higher erosion potential; and more agricultural land use within the watershed. Laboratory trials were conducted to evaluate the effect of turbidity on early life stages of *C. intestinalis*. Results showed that turbidity, in terms of inorganic matter, had a negative impact on fertilization of gametes, recruitment and juvenile survival of *C. intestinalis*. Turbidity levels in the receiving waters therefore play a role in the success of establishment of *C. intestinalis*.

Finally, the effect of water flow on the recruitment ability of *C. intestinalis* was evaluated with a focus on current speed limits for successful recruitment. Our results suggest that recruitment takes place when minimal water flows are present (below 2.5 cm/s) allowing sufficient contact time for attachment. This would suggest that the best recruitment time within an embayment is at slack tide. There are however complex hydrodynamic currents that can be produced around structures that may allow for prolonged contact time with the surface to allow for recruitment at higher flow speeds. Further investigations would be needed to document the hydrodynamic interactions between common structures (culture gear) and current speeds to fully understand the recruitment dynamics.

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