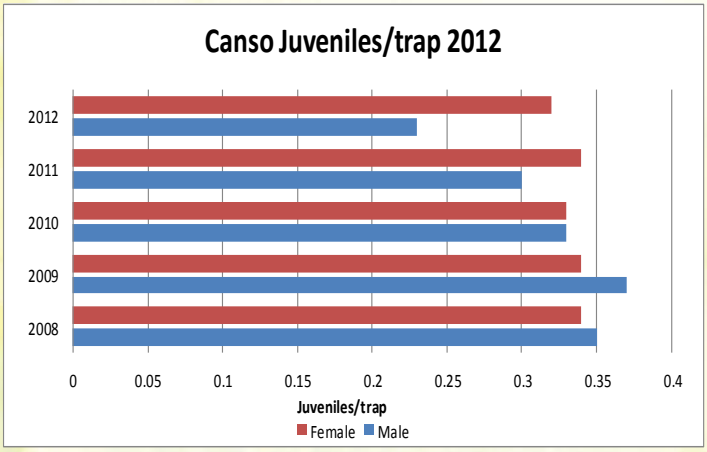
Guysborough County Inshore Fishermen's Association

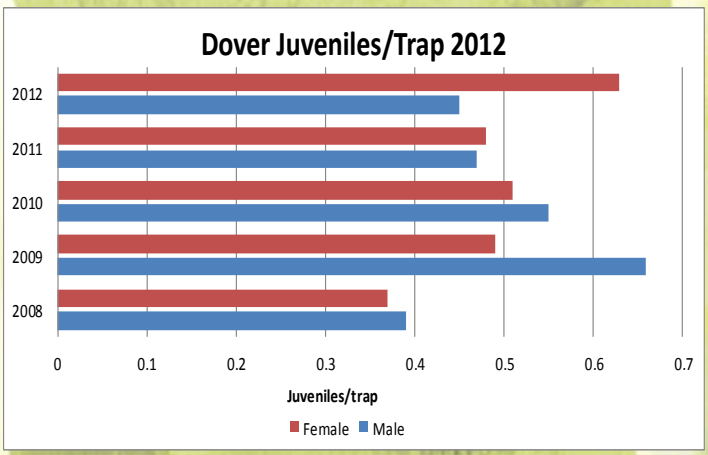
GCIFA Lobster Research

Sea Sampling

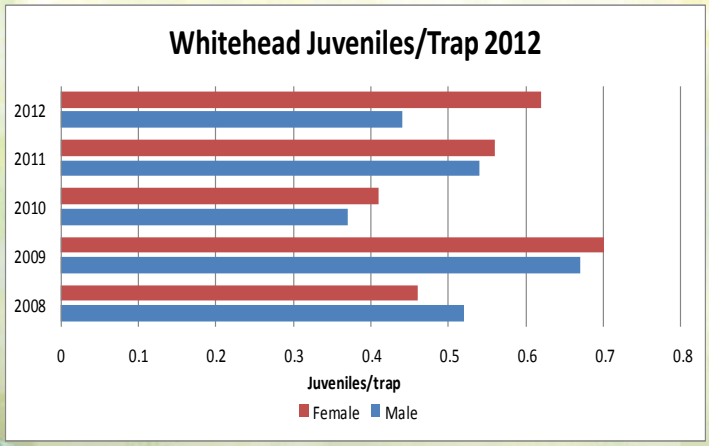
Port	# of days sampled	Average Lobsters /traps	Average Carapace (mm)	Average Sex Ratio, Male: Female (berried females included)	Average # of berried females
Canso	4	1.8	89.5	45:55	81
Dover	4	2.8	87.2	43:57	113
Whitehead	3	3.5	88.9	39:61	161
Queensport	3	1.8	87.2	42:58	90
Port Felix	4	2.4	88.6	38:62	117
New Harbour	3	4.2	91.4	32:68	183
Drumhead	2	4.5	90.0	38:62	198



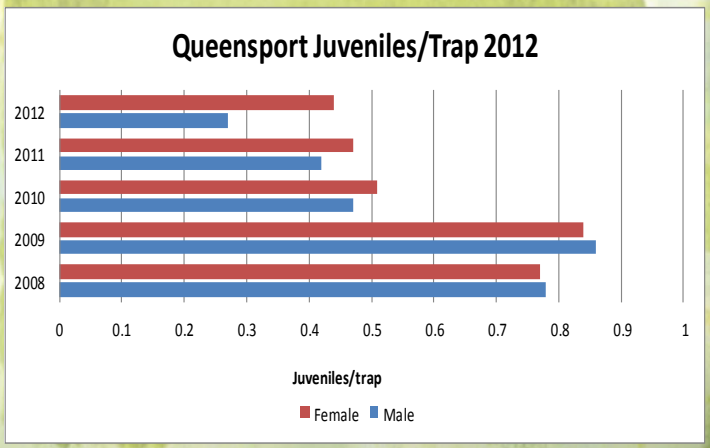
This graph shows the number of juveniles per trap during sea samples in Canso.



This graph shows the number of juveniles per trap during sea samples in Dover.

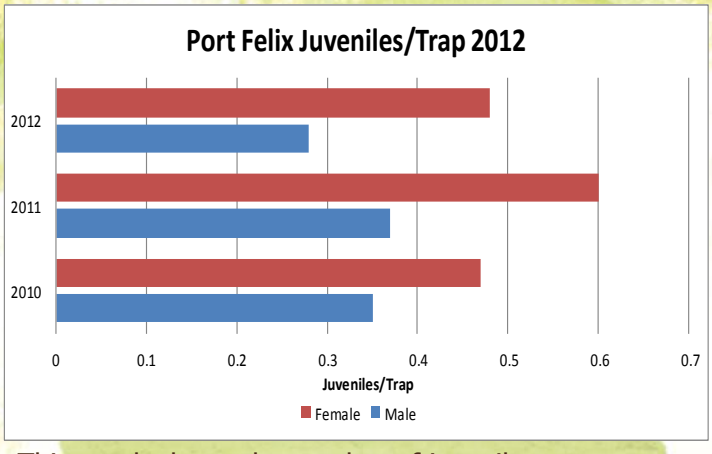


This graph shows the number of juveniles per trap during sea samples in Whitehead.

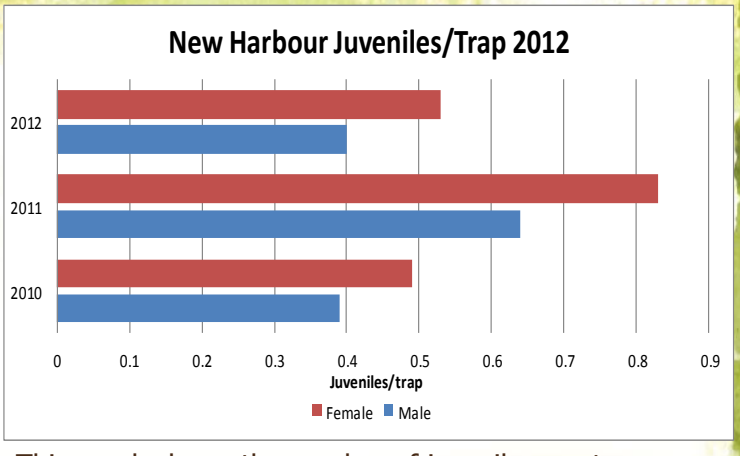


This graph shows the number of juveniles per trap during sea samples in Queensport.

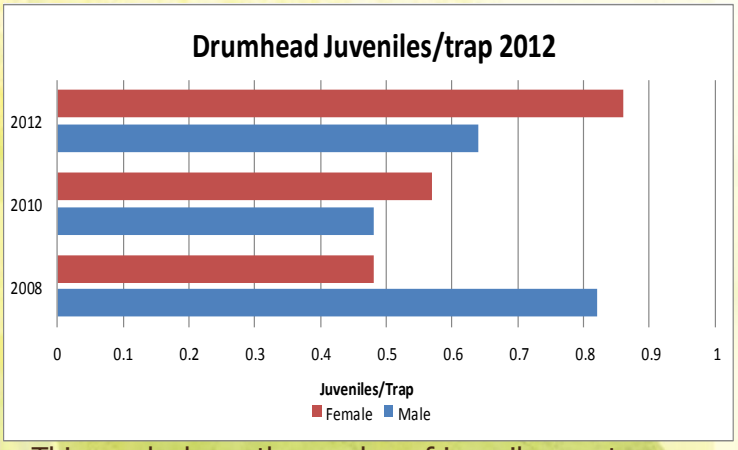
"Why did the lobster blush? Because he saw the ocean's bottom!"



This graph shows the number of juveniles per trap during sea samples in Port Felix.



This graph shows the number of juveniles per trap during sea samples in New Harbour.



This graph shows the number of juveniles per trap during sea samples in Drumhead.

In most ports the male juveniles have gone down in the last few years. With water temperatures rapidly increasing over the last few years, the male juveniles may be molting just before or during lobster season. This means that the males would not trap causing the decline in male juveniles. While doing the Blood protein/Molt Study with Fishermen's Market International, we did notice that male juveniles were going to molt during the season. This adds to our theory as to why the male juveniles are not trapping.

Lobster Node

The Lobster Node Project was continued again this season as well as a few other projects. GCIFA did genetic sampling for Laura Benestan of the Universite Laval, Quebec. We also did Morophometric Sampling for Marthe Harr of UNBSJ. We will continue to work on this project to collect as much information as we can on berried females; their egg development stage and health.

Blood Protein/Molt Study

Sarah Delorey and Buzz Roberts did Blood Protein and Molt sampling for Fishermen Market International last spring. It was the first sampling done and we hope to continue the sampling next year so that we may be able to compare our observations. Some of our observations were that the males (juveniles and markets) were molting before and during the spring, however we will need more years for a proper analysis.

Coop student Justin Delorey putting leg of lobster in tube of ethanol for Genetic sampling

Buzz Roberts, Frank Sullivan, Gordie Rhynold and Robert Feltmate Helping with Canso Collectors 2012

Students Gaining Experience

This season we had three grade 11 co-op students from Canso Academy and one grade 12 student from Guysborough Academy.

Matthew Munroe, Michael Leblanc and Justin Delorey came out on the boats and did research as part of their course. Kayla Newell worked in the office for experience as part of her co-op program. The coop program allows students to gain hands on experience in fields of interest. All of the students were excellent and we wish them the best of luck in the future

		Stage I	Stage II	Stage III	Stage IV
May 7/12	Canso	5%	95%	0%	0%
May 22/12	Canso	0%	100%	0%	0%
June 14/12	Canso	1%	97%	2%	0%
June 25/12	Canso	0%	14%	52%	**34%**
May 8/12	Dover	0%	100%	0%	0%
May 29/12	Dover	3%	74%	23%	0%
June 16/12	Dover	4%	93%	2%	1%
June 25/12	Dover	3%	66%	1%	**31%**
May 18/12	Whitehead	0%	96%	4%	0%
May 29/12	Whitehead	12%	88%	0%	0%
June 20/12	Whitehead	1%	90%	1%	**8%**
May 9/2012	Queensport	4%	96%	0%	0%
June 15/12	Queensport	12%	88%	0%	0%
June 25/12	Queensport	0%	43%	0%	**47%**
May 1/12	New Harbour	21%	79%	0%	0%
May 25/12	New Harbour	9%	90%	1%	0%
June 8/12	New Harbour	10%	78%	12%	0%
April 26/12	Port Felix	72%	9%	0%	0%
May 18/12	Port Felix	18%	74%	8%	0%
May 28/12	Port Felix	8%	89%	3%	0%
June 11/12	Port Felix	6%	92%	2%	0%
June 1/12	Drumhead	12%	83%	5%	0%
June 13/12	Drumhead	6%	92%	2%	0%

This past spring the water temperature on average was 3-6 degrees warmer than last year. 2012 was the first year we saw a large amount of stage IV egg development during the lobster season. In 2010 we had approximately 1% in all ports showing a stage IV egg development. This could mean many berried females were being handled at a vulnerable time, which may affect egg production

Stage 1: New Eggs (Black)

Stage 2: Eyed Eggs

Stage 3: Mature Eggs

Stage 4: Larvae Released/ Mossy

Artificial Collectors

The fall of 2012 was very exciting for the collectors. We had nine lobsters in Canso and seventeen in Whitehead. Here are the numbers:

2012	Canso	Whitehead
<10 mm	1	0
10-15 mm	1	3
15- 20 mm	1	0
20-25 mm	1	0
25-30 mm	0	1
30-35 mm	0	5
35-40 mm	3	4
40-45 mm	1	2
45-50 mm	1	2
Total	9	17

The lobsters that are highlighted are lobsters that have ones we consider to be young of the year. There is no determined carapace length for a young of the year lobster since water temperature affects the molting process, therefore in each region a lobster could molt more depending on the water temperature. As of now we believe that the young of year is up to 17mm carapace length.

Young of the year lobster found in Canso Collectors 2012 measuring 8.2mm carapace length

Animals found in a Canso collector 2012

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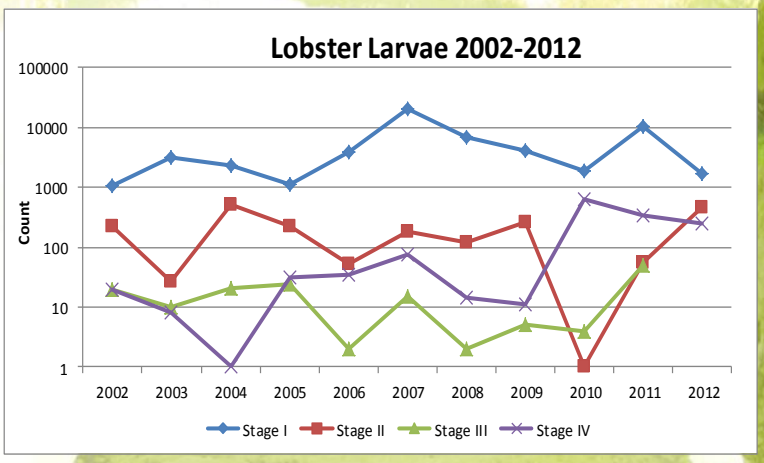
Larval Tows

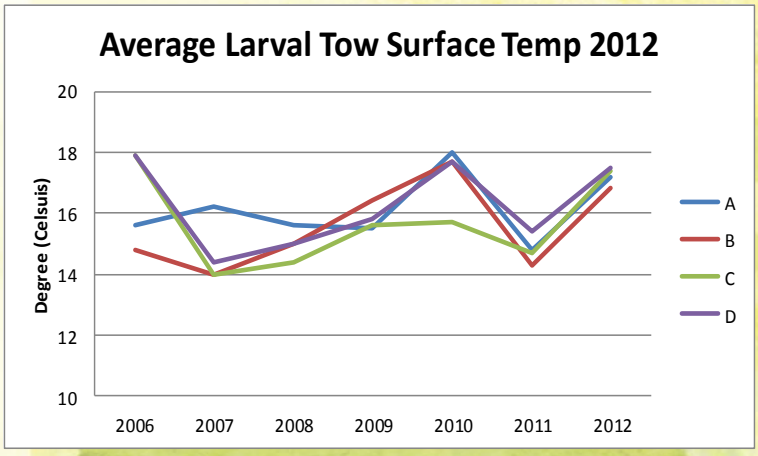
Sarah Delorey and Candace Nickerson during larval tows in Canso. GCIFA hired Candace Nickerson of New Harbour under our Provincial Summer Student grant for 14 weeks. Candace was a great asset and has returned to St FX taking her Aquatic Resources

The lobster larvae graph shows the number of larvae in each stage. We saw lots of Stage IV's as well as an increase in Stage II's. Most berried females had released and were clean by the end of the season therefore we may have missed the first larvae release.

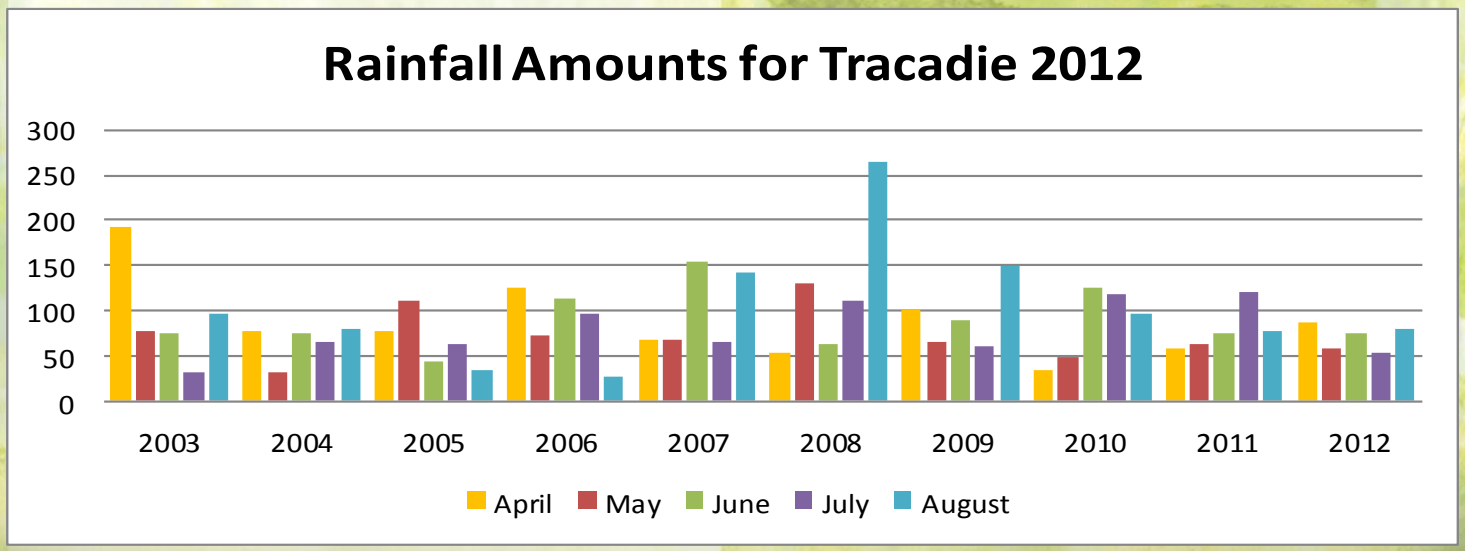
The temperature graph shows the surface temperature taken during larval tows for Canso (A&B) and Port Felix (C&D) As shown there was an increase in temperature in 2012.



Lobster Larvae Count 2002-2012

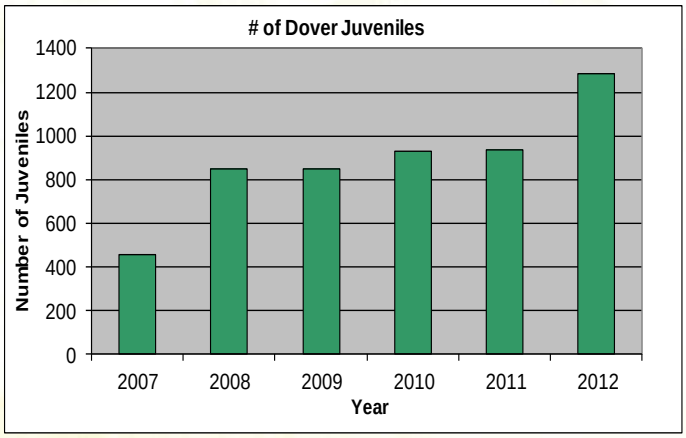


Surface Temperature for all larval tow locations 2012

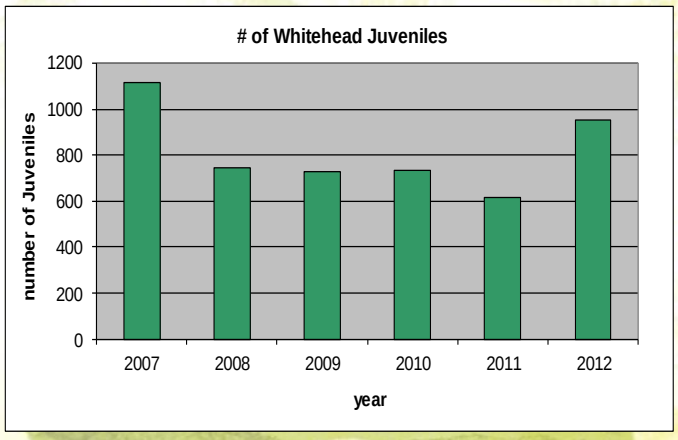


This graph shows total rainfall amounts from http://climate.weatheroffice.gc.ca/. In 2003 rainfall amounts were 281.8mm and gradually climbed to 623.5mm in 2008. They are gradually dropping off to 352.2mm in 2012.There is a theory that high rainfall amounts may cause a higher mortality rate for lobster larvae since it changes the salinity in the water column and stage I and II larvae may not be able to move to better salinity for survival. If this theory is true then we should start to see our lobster landings gradually increase in approximately 2014.

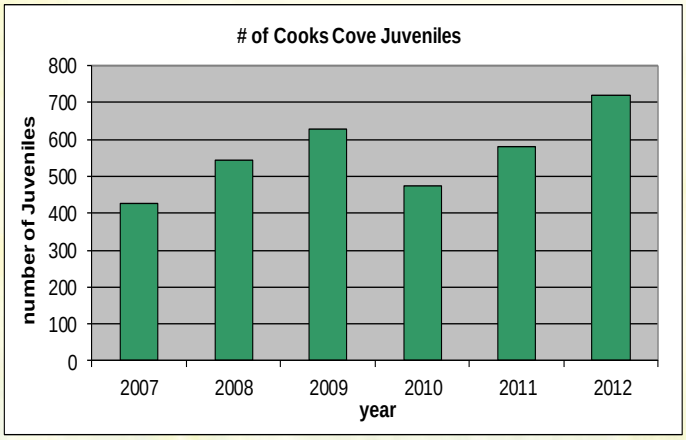
Juvenile Trapping



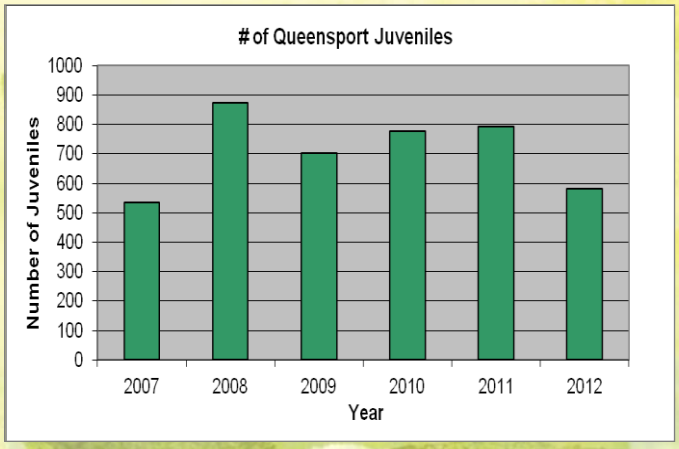
This graph shows the number of juveniles (under 82mm) for each year in Dover.



This graph shows the number of juveniles (under 82mm) for each year in Whitehead.

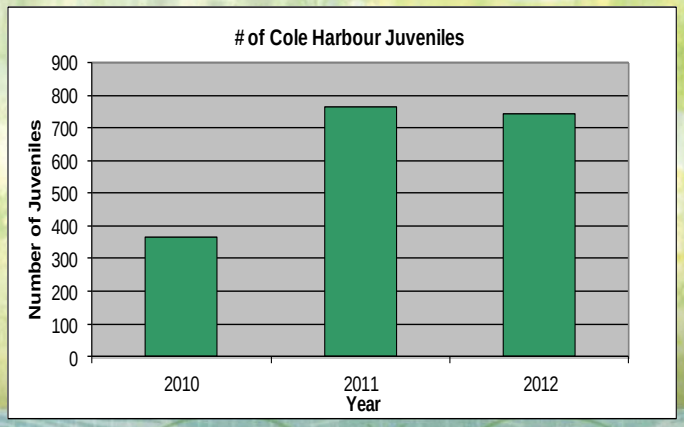


This graph shows the number of juveniles (under 82mm) for each year in Cooks Cove.



This graph shows the number of juveniles (under 82mm) for each year in Queensport. In 2012, only August and September samples collected; There was a small decrease in juveniles in 2012 possibly due to lobsters molting for a second time due to extremely warm waters

Candace Nickerson with a large sculpin that was caught and released during a sea sample in Drumhead with Frank Manthorne



This graph shows the number of juveniles (under 82mm) for each year in Cole Harbour.