



Summer days call for beach boil-ups!

The Coastal Current

A Quarterly Newsletter Keeping You Current on Marine Protected Areas Issues in Your Community

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July 2010

Does V-Notching Really Work?

Cathy Whiffen, an undergraduate in the Biology Department at Memorial University, recently released her honours thesis on v-notching as a lobster conservation measure. Entitled *The Reproductive Potential of V-Notched American Lobsters in Newfoundland: Does V-Notching Work?*, her paper is worthwhile reading for anybody interested in lobster conservation.

The objective of Whiffen's study was "to determine whether v-notched American Lobsters contribute significantly to egg production in Newfoundland." She used data collected from 32,066 lobsters by harvesters and scientists at seven locations in Newfoundland, including Eastport. Data for the study was provided by DFO Oceans Division and collected as part of the ACOA lobster conservation project and the Eastport MPAs monitoring program. Carapace lengths were used to calculate egg production so that the reproductive potentials of v-notched and non-notched lobsters could be compared.

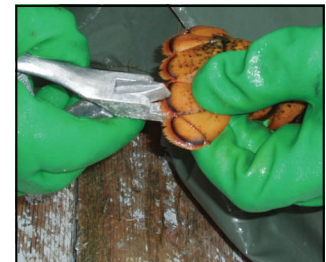
Whiffen's paper starts with an overview of conservation in the Newfoundland lobster fishery, We know from previous research that larger lobsters produce more eggs than smaller lobsters. They also produce larger eggs that provide better nutrition for the developing lobster larva. But does v-notching really work?

Whiffen says it does. In her study she found that lobsters in the size class 112 -115.9 mm contributed the most to the total reproductive potential— 15% of the eggs from only 1.08% of the lobsters! Her data showed that the 347 lobsters included in that size class contributed more eggs than 7,756 lobsters in the 80 - 83.9 mm size class. She explains that because v-notching increases the size range of lobsters, the effect is to increase the number of large lobsters—the ones with highest reproductive potential.

Another encouraging finding is that v-notching increases the reproductive potential of a

population. From 2004 to 2008, V-notched lobsters contributed, on average, a substantial 42% to the reproductive potential for Newfoundland.

In her discussion of the findings Whiffen suggests that further research needs to be done. While acknowledging that every protected lobster has a dollar value for harvesters, Whiffen believes that more v-notching would result in long-term economic gain. To obtain the complete paper or talk to Cathy Whiffen about her work, e-mail her at cwhiffen@mun.ca



V-notching protects a female lobster from the fishery until the notch grows out. It's illegal to keep a v-notched female, even when she is not carrying eggs. (DFO photo)

Gilbert Bay MPA Science Review

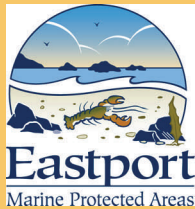
In May, 2010, DFO Science Branch released a Science Advisory Report on the Gilbert Bay MPA Monitoring Program. The review gives an independent assessment of the science being done in the Gilbert Bay MPA. This process ensures that the data collected is scientifically

defensible and can be used with confidence by those who manage the MPA. The results are very good in some respects but also highlight some concerns.

The good news is that the monitoring program is working quite well. The report states

that "The five indicators currently being used to monitor the Gilbert Bay cod population, and their respective sampling and analytical protocols, are appropriate and sufficient to monitor the MPA against its Conservation Objective(s)."

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The report also says that “Data from the five indicators currently being used to monitor the Gilbert Bay cod population are sufficient to assess the status of the Gilbert Bay cod population.” The report does suggest that some minor modifications to existing protocols and data analysis can improve the overall program.

The report also confirms a trend that has been showing up in the monitoring program data over the past couple of years: a decline in abundance of Gilbert Bay cod, and the possibility that this might continue due to a decline in reproductive potential. DFO Scientist Corey

Morris has been working with the Gilbert Bay Program for years, doing telemetric tagging and fish sampling. He says “There is an important issue facing the Gilbert Bay cod population, which is the reduced abundance of breeders. From a science monitoring perspective, we see it in our research CPUE, size distribution, sonic telemetry, possibly even in the abundance of eggs over time. We are currently using genetics to identify potential causes of population reduction and identify where it is occurring.”

The Science Advisory Report makes several suggestions for

further research that may be undertaken in order to more fully understand this problem and address it. The document will certainly provide valuable guidance for the Gilbert Bay MPA Steering Committee in their upcoming management plan review.



Hook and line is a low-impact and effective way to sample Golden Cod. (DFO photo)

Eastport MPAs 2009 Monitoring Program

The results from the 2009 Eastport MPAs Science Monitoring Program paint the same picture of the lobster population as in years past. The commercial catch per unit effort (trap haul) remains steady at levels that have been maintained for the past decade. The at-sea sampling from the commercial fishery showed a healthy population with lots of large male and female lobsters. The majority of the very large females with v-notches were also berried, a good sign for the future. Lobster tagging conducted in the fall showed a healthy population spread out

over all size groups both inside the MPAs and in the areas adjacent to the MPAs. The average size inside the MPAs continues to be larger than the adjacent areas as does the proportion of berried females. The MPAs continue to house many very large male and female lobsters which are the strong ‘breeders’ in the population.

The 2010 Eastport MPA Monitoring Program has been ongoing since May. John and Flossie Rogers in St. Chad’s, Carson and Sandy Burden in Salvage, and Boyd Squire with Wade Turner in Newman

Sound, are doing the at-sea sampling this year. We also encourage people to send tag information to the community coordinator (677-2486) as well as any reports of wolfish sightings. A special thanks to all the crews who collect this important data and send in tag information.



Carson Burden baits a trap in Broom Close. (MPA photo)

MUN Research on Lobster Fecundity

MUN researcher Jens Currie, working with David Schneider, Robert Hooper and Kate Wilke, is doing some important new work on the subject of lobster fecundity. Up to now, the mathematical equations used to determine the reproductive potential (number of eggs) of a lobster were developed by collecting, counting

and weighing many thousands of the tiny eggs. This is tedious work for the researchers, none too agreeable for the lobsters, and the eggs are lost. Currie has developed “non-invasive” techniques using measurements and digital image analysis to estimate fecundity. Further work has enabled Currie to predict size-fecundity equations

from latitude (latitude being an index for water temperature). Want to know more? Contact Jens Currie at jcurrie@mun.ca.



How many eggs? (DFO photo)

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