

Mosquito Control

Bi-Monthly Report on Mosquito Control

Introduction

The General Director of the Greater Moncton Pest Control Commission (GMPCC) has requested that by-monthly reports be compiled and distributed to member municipalities and citizens. These reports are to include a synopsis of the activities and status of the mosquito control project. I am pleased to submit this report for the months of May and June, 2005

General Program Notes

In order to meet certain conditions of the Operating Permit issued by the New Brunswick Department of Environment and Local Government, the starting date of the Assistant General Director (AGD) was advanced to the beginning of April. The term of the AGD is now extended to six months of the year in order to better meet regulatory requirements and make adequate program preparations. During this first month, all landowners where the GMPCC desires to conduct mosquito control needed to be contacted in order to acquire written consent to conduct the work. This particular effort was started in the fall of 2004 but needed to be completed as a number of landowners could not be contacted or did not respond during the initial attempt.

This spring delivered a challenge as the GMPCC needed to temporarily move its base of operations. The GMPCC shares facilities with the Codiac Transit Commission who were not able to make the facilities available to the GMPCC due to a labour dispute with their local union members. The GMPCC was able to set up temporary operations through the generous provision of facilities by the City of Moncton and then later the Town of Riverview. The GMPCC was able to return to its own facilities on May 20th.

The GMPCC relies on university students to meet staffing needs. The schedule of the students does not always match up with the way that the larvae start to emerge in the marshes. This year, larvae had already been out in the marshes for two and a half weeks prior to the staff coming on board. Many staff returned from last year and therefore only four new staff needed to acquire certification for biting fly control. The new staff was relied on heavily for surveillance needs while the veteran staff carried the burden of larvicide requirements. Overall, the month of May, despite its record breaking amount of rainfall, was cool and thereby slowing the developmental rate of the mosquitoes, giving staff adequate time to gain control of the coastal marshes of the Petitcodiac River.

The remainder of this report will outline some particular points of interest.

Larval Abundance

As noted earlier, larval emergence was well underway before staff was in place. In order to ensure that adequate resources could be utilized to gain control, surveillance methodologies were altered. At the beginning of the program, confirmation only of larval presence was required in order to justify larvicide. No efforts were made to calculate an initial breeding index as time restrictions did not allow it. Another change in surveillance for this year is that representative areas of the marsh sites are being sampled instead of the whole marsh. This removes the large amount of time required for surveillance that was required in the past. Spot checks are still made throughout the marsh to ensure that larvicide is only used where required, keeping costs under control and still respecting the principles of Integrated Pest Management (IPM).

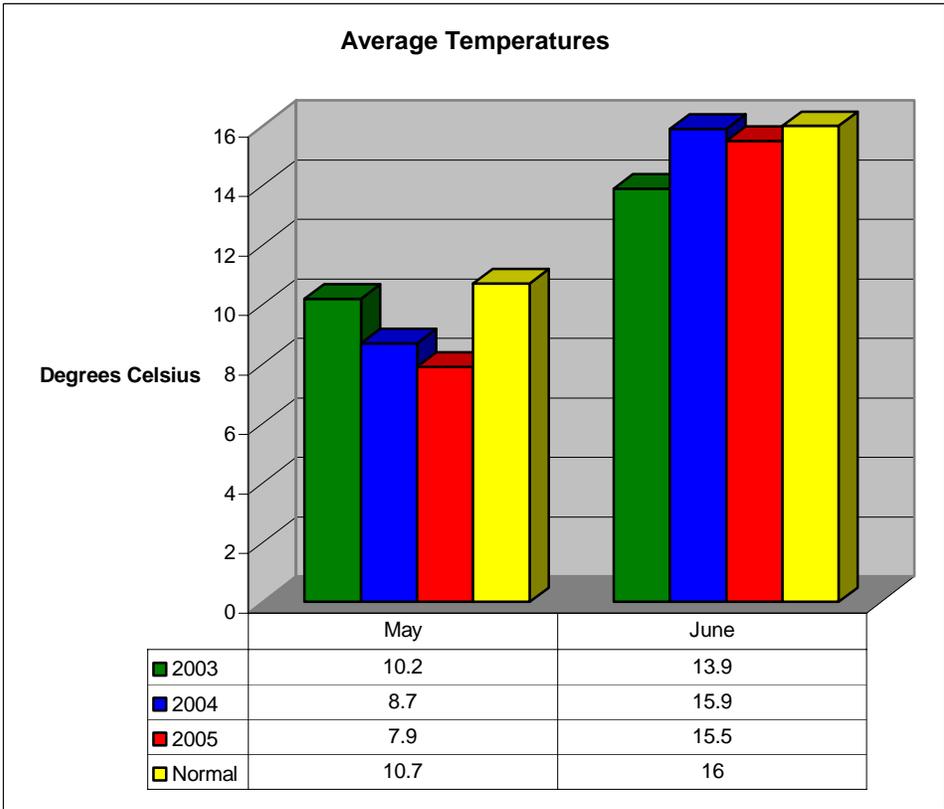
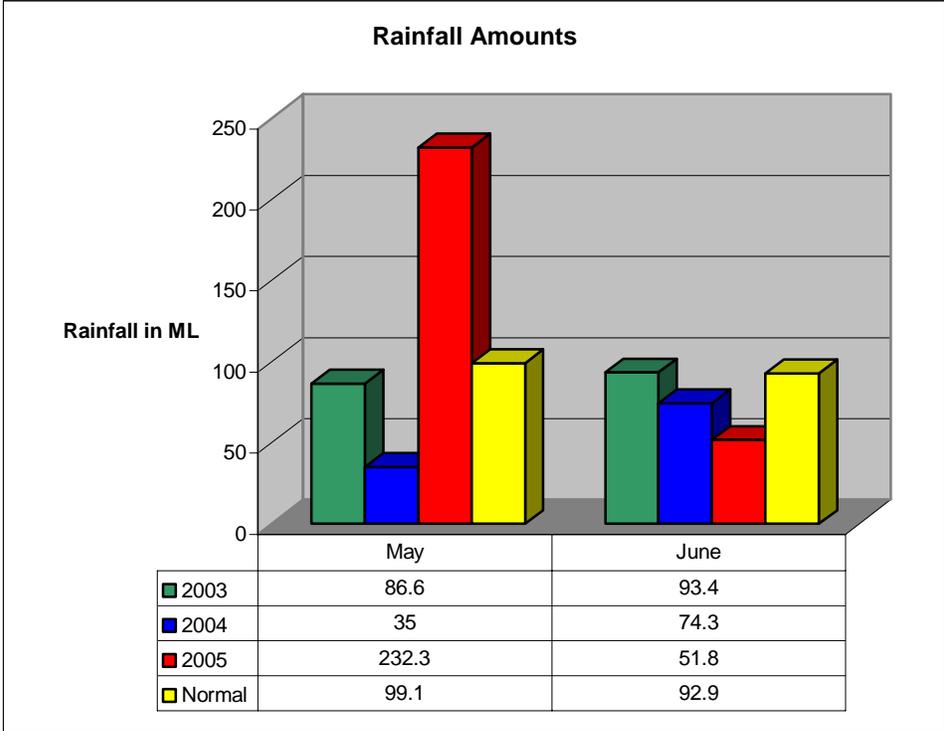
Due to the changes in surveillance protocol, comparisons between this year and previous years cannot be made. The Breeding Index indicated in the table below is a loose comparison of larval presence between each of the participating communities.

<u>Municipality</u>	<u>Larvae/Dip</u>	<u>Breeding Index</u>
Moncton	0.5017	710.23
Riverview	0.9372	926.02
Dieppe	1.2824	1211.67
Other	0.5666	25.5

Weather Patterns

There is a large contrast in the amount of precipitation received during the month of May from the same month in 2004. In 2004, Greater Moncton received 35mm of rain which is 64.7% below normal. This set the region, up at the time, for a very dry season as marshes were already devoid of normal amounts of standing water at the beginning of the season. In 2005, Greater Moncton received 232.3mm of rain which is 134.4% above normal and the most ever recorded for this area in the month of May. The results were large amounts of standing water, flooding of local streams, re-flooding of large marshes after the initial snow melt and sustained standing water sources in woodlands.

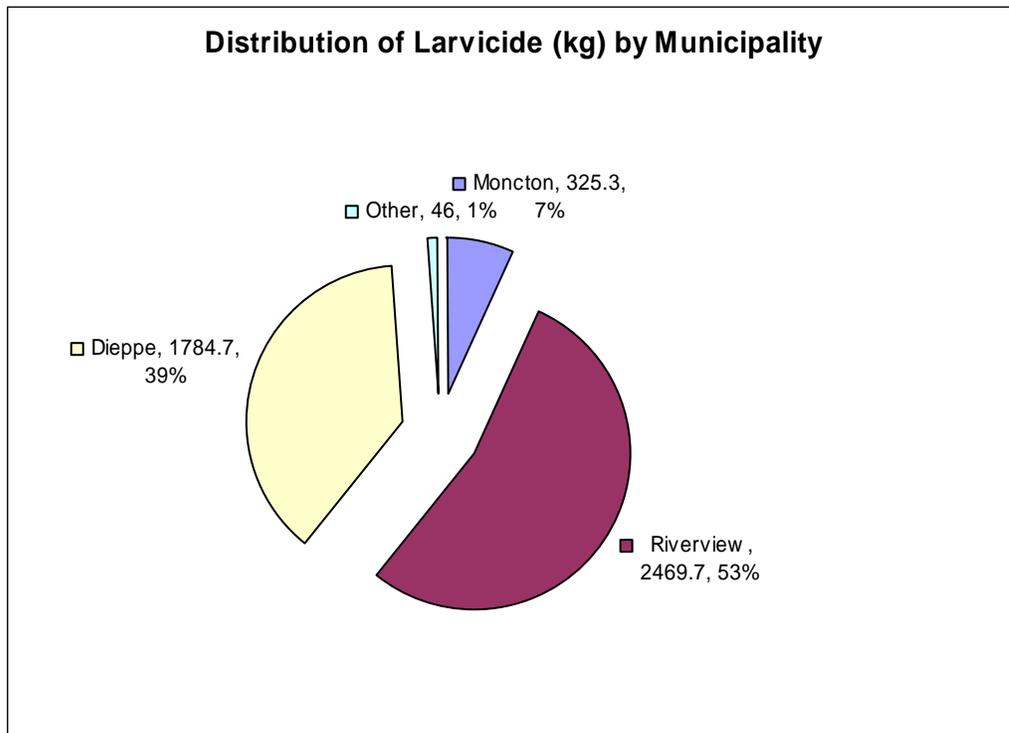
During the first week of May when temperatures were above normal, there was concern as to the ability of the GMPCC to be able to adequately respond to the already present larvae. During the second week of May, temperatures dropped and remained low for the rest of the month, thereby slowing the developmental rate of the larvae and allowing enough time for staff to respond adequately to the situation.



Larvicide Distribution

The GMPCC only utilizes larvicides based on the active ingredient *Bacillus Thuringiensis Israelensis* (BTi). Distribution of larvicide is required when mosquito larvae have been determined to be in the water and in the appropriate life cycle stage. The quantity of larvicide required is based on larval concentrations but mostly on the surface area of the larval development site. Due to the dramatic increase in precipitation when comparing the month of May in 2004-2005, standing water sources were much more extensive in 2005. One particular site in a marsh fronting the Town of Riverview required significant quantities of larvicide in 2005 where it required minimal control efforts in 2004. This particular marsh does not have much relief in its surface and it will either be flooded entirely or almost completely dry except for a large pond area where mosquito larvae are not sustained. The impact is that in a year of close to or above normal precipitation, a large area will require larvicide and thereby have a greater impact on our inventory.

As a general note of comparison, the GMPCC used more larvicide in the month of May 2005 than it did for the whole 2004 season.



Adult Mosquito Trapping

The GMPCC does not have anyone on staff qualified to conduct mosquito identification this year. Consequently, a full scale trapping program is not in place. A limited scale trapping program has been initiated where numbers of adults trapped in three different sites will be carried out. The first night of trapping revealed that counts between Moncton (57) and Dieppe (64) area very close to each other when examining areas of similar habitat. The Riverview (28) site did not have a wooded area nearby and did not provide attractive resting sites similar to the other areas. Also, the results are reasonably comparable to 2004, two weeks earlier in the season. This is very encouraging and indicates that control efforts made during the month of May 2005 were effective.

The trapping sites are the Fox Creek Golf Course in Dieppe, the transition between Centennial Place and Centennial Park in Moncton, and a residential yard on Ashburn Avenue, Riverview.

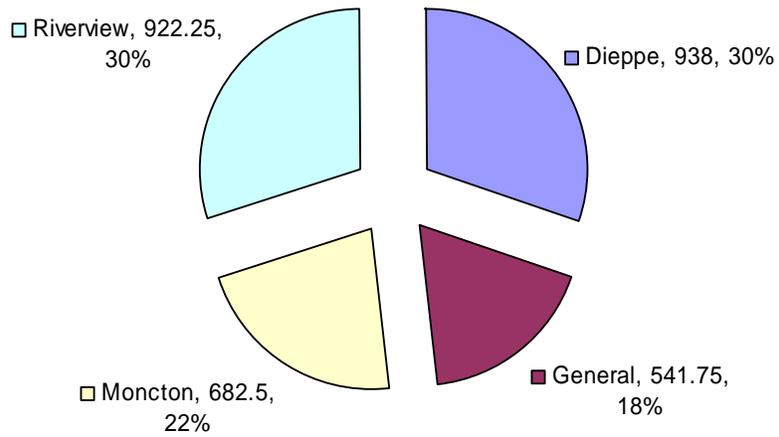
Public Education

In order to make the activities of the GMPCC more apparent to the residents of the region, a display was set up in local malls during the month of June. The display included posters and photos of the Commission's activities as well as information on Bti based larvicides and promotion of natural mosquito predators. A presentation was also made to the Petitcodiac Kiwanis Club.

Distribution of Resources

Tracking hours for each major program component and the location where it is conducted is performed. The following charts indicate how many hours are attributed to the program components and their distribution. These hours do not include those of the AGD or any of the Executive management. The GMPCC now staffs an Office Clerk whose duties are attributed to the general operations of the Commission.

Distribution of Hours by Municipality



Distribution of Hours by Project

