

# Science Day 2001

Issue 2

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Miramichi River Environmental Assessment Committee

## MREAC Newsletter

On October 4<sup>th</sup>, 2001, MREAC convened its annual science workshop at the Wharf Inn. Speakers addressed the theme: “The Direction of Travel – The Miramichi System”. The intent was to provide a ten-year retrospective to see if conditions are improving, worsening or remaining static. The findings were mixed; some positive, some negative and some including new concerns.

A long-standing friend to the Miramichi and eminent scientist, Dr. Vlado Zitko of DFO St. Andrews, provided an overview. In summarizing, Dr. Zitko was impressed with the volume of work taking place on the Miramichi fresh water systems and he encouraged follow-up when results indicated a problem. He noted that, by comparison, almost no work was being conducted on the Miramichi estuary and bay and recommended work in this area.

Ten other papers were presented from delegates representing government, universities, colleges and industry to round out the day-long program. The good news is: acid precipitation is on the decline for the Miramichi and several commercial fish stock species, including lobster, are currently healthy. With reference to industry; industrial closures, advancement in industrial processes and improved treatment facilities (e.g. Heath Steele Mine, UPM-Kymmene, and Weyerhaeuser) has resulted in improved discharge quality to both water and air.

The bad news is; with a trend of increased air and water temperatures fish are being stressed in our rivers; Striped bass are an ongoing concern with their limited spawning habitat; the Rainbow smelt landings are down dramatically; and Endocrine Disrupting Compounds appear to be impacting Atlantic salmon.

Changing environmental conditions were outlined in a paper by Fisheries and Oceans delegate, Mr. Daniel Caissie. Mr. Caissie noted an upward



Dr. Vlado Zitko

trend in annual precipitation, earlier peaks in the spring flood conditions, and more severe low flow conditions in late summer. These conditions appear to be adversely impacting the growth rate of fish.

“The intent was to provide a ten-year retrospective to see if conditions are improving, worsening or remaining static.”

Scientists and other interested members and stakeholders continue to encourage this type of annual event as an opportunity to network and for the cross-fertilization in science activities. More information about this workshop is available through the MREAC office.

## Long Time Member Recognized

Dr. Vlado Zitko has been an invaluable member of MREAC’s technical advisory group from the committee’s start in 1989. While Dr. Zitko retired from the Department of Fisheries and Oceans in December of 2001, he will continue his volunteer support to MREAC. In recognition of his thirty-five years of science research on the Miramichi, Vlado was presented with a mounted “feather wing” salmon fly, tied by local artisan Eileen Murphy.



Classic Salmon Fly–  
“Evening Star” by  
Eileen Murphy  
Miramichi, NB

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# Swim Watch Results 2001

Since 1993, MREAC has been sampling beaches and swimming holes throughout the Miramichi to determine the water quality for 'body contact recreation' (i.e. swimming and other water sports that get us wet). Results from 2001 were generally good with only a few exceptions. The good results may reflect the exceptionally dry summer. It has been noticed that much bacterial contamination washes in streams and rivers following a heavy downpour of rain. This type of rain event was a rare occurrence in 2001. For many fresh water locations the water level was so low that swimming wasn't even an option.

The six sites shown in the following table are all 'acceptable' (i.e. <100 fecal coliforms per 100 mL sample) with the one exception as shown. None of the samples were 'acceptable within range' (i.e. <200 fecal coliforms per 100 mL sample).

The one Middle Island sample that was 'unacceptable' (i.e. >200 fecal coliforms per 100 mL sample) was taken on August 22, 2001 in early afternoon on an outgoing tide. By viewing models of the

sewage plume from the Chatham sewage treatment plant we get a very plausible explanation for this isolated occurrence. The sewage plume wraps itself across the north side of the island under these conditions that exist for only an hour or two, twice per day throughout the tidal cycle. We fully expect the new South Side sewage treatment plant will remedy this problem.

Twenty-one other sites were sampled along the length and breadth of the Miramichi from Bloomfield Ridge to Baie du Vin, from Hay Island to Wayerton. Results showed the occasional elevated count but the overall results were good and it is only after repeated high counts that action (e.g. beach closure) needs to be considered. Follow-up sampling showed acceptable results at the sites in question.

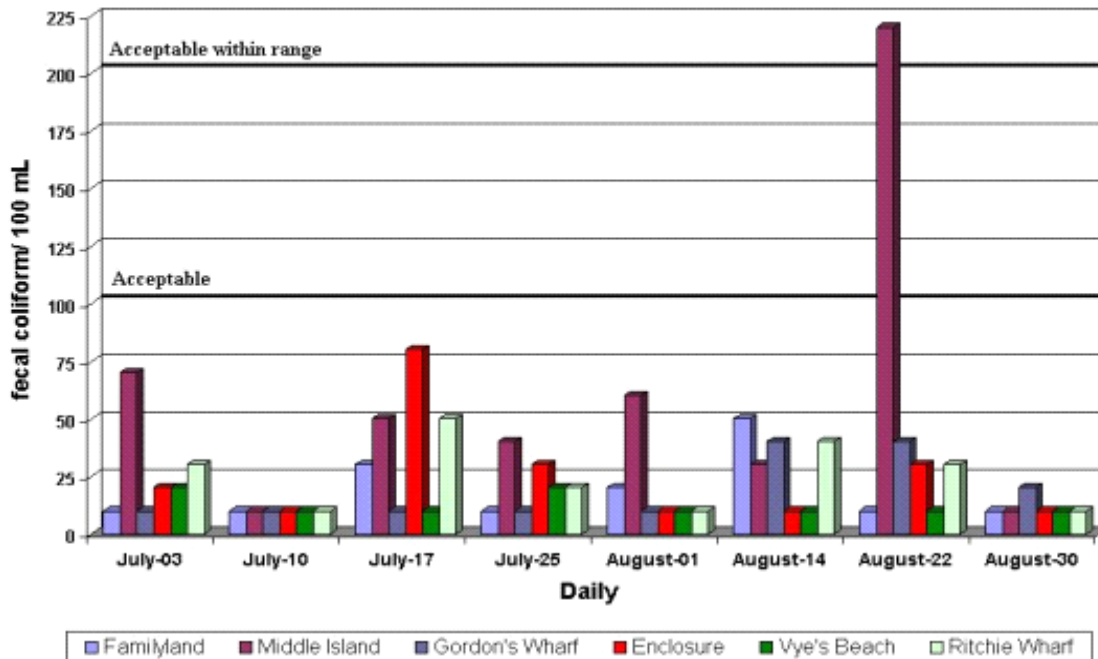
MREAC partners with New Brunswick Health and Wellness in this program and we thank them for their ongoing support. We also receive support from the Environmental Trust Fund to conduct this program. MREAC continues to welcome inquiries about specific sites

(see list) and may be in a position to add additional sites. Interested parties should contact the MREAC office.

*Other Swim Watch sample sites are:*

- \* Baie du Vin Beach
- \* Baie Ste. Anne
- \* Barnaby River
- \* Blackville
- \* Blissfield
- \* Bloomfield Ridge
- \* Boisetown
- \* Burnt Church
- \* Carroll's Crossing
- \* Chelmsford
- \* Doaktown
- \* Fitzpatrick's Shore
- \* Hackett's Beach
- \* Hay Island
- \* Oak Point
- \* Renous River
- \* Red Bank
- \* Somer's Bridge
- \* Sullivan's Beach
- \* Taxis River
- \* Wayerton Bridge

**Miramichi Watershed  
Swim Watch Results 2001**



# Cains River Environmental Monitoring

The Cains River is a large tributary of the Miramichi, draining the southern limit of the watershed. MREAC focused its environmental monitoring on the Cains River in 2001. Partners in this project included the provincial Department of Environment and Local Government, Fisheries and Oceans Canada, the Atlantic Salmon Federation and MREAC.

MREAC's purpose was to complete a general assessment of environmental quality on the Cains, but more specifically to determine the quality of fish habitat. Retired fisheries biologist and resident of the Miramichi, Mr. Bill Hooper, assisted MREAC in designing a program that looked at water temperatures, fish abundance and variety, and the type of sediment on the river bottom. Early results show a healthy system in many respects but elevated water temperatures over the summer give real cause for concern. The water temperature chart shown below reflects data from one of five monitoring units placed in the Cains during the summer of 2001. This "thermister" was located near the Grand Lake Road where it crosses the Cains.

The readings show very warm temperatures at periods throughout the summer. In mid-July there were seven consecutive days that exceeded temperatures of 25°C. This was followed a few days later by a period of 15 consecutive days exceeding the 25°C mark, extending almost to mid August. Several fresh water fish species, including Atlantic salmon and Brook trout, are stressed at these temperatures and seek out cooler pools for refuge. The high air temperatures throughout the summer of 2001, along with the very limited rainfall, resulted in similar conditions throughout much of the Miramichi.

Of special note, the unauthorized and illegal introduction of Chain Pickerel to Despres Lake posed a threat to the Cains River along with the entire Miramichi system. As a bog lake, Despres Lake has seepage into Salmon Brook, a smaller tributary of the Cains.

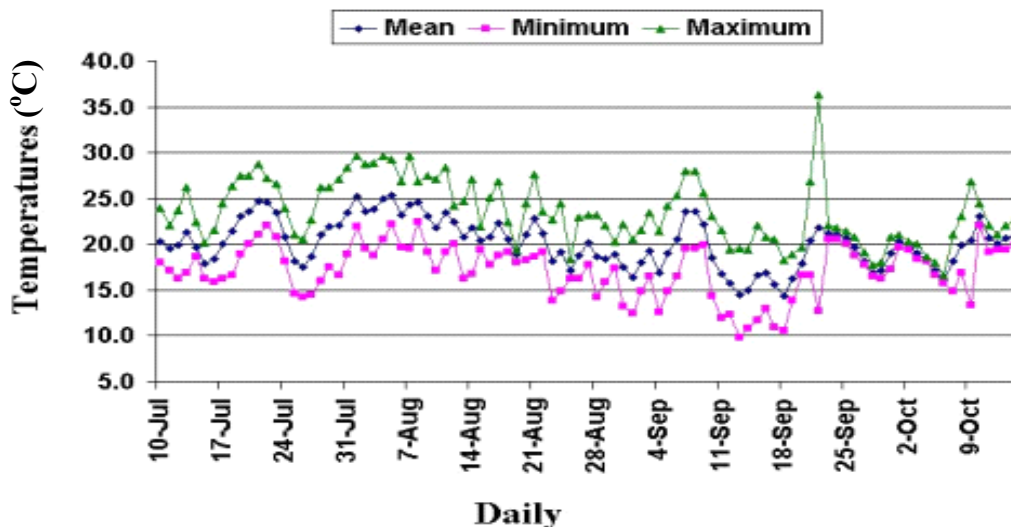


MREAC crew on the Cains River

The concern was that Chain Pickerel could spread to other parts of the Miramichi, seriously competing with native fish, particularly Brook trout and Atlantic salmon. Pickerel are predators to other fishes and highly tolerant to most environmental conditions. The problem, we understand, was resolved when the Department of Natural Resources & Energy treated the entire lake with rotenone, to eradicate pickerel or other introduced fish. Natural Resources & Energy staff informs MREAC that there are no naturally occurring fish in Despres Lake due to its high acidity resulting from nearby bogs.

MREAC will continue its interest in the Cains River into 2002 and try to identify critical cold-water streams that will offer some relief to the elevated temperatures. The thinking is, that by somehow protecting cooler water streams we can improve the survivability of resident and anadromous fish. Additional information on this project is available through MREAC.

**Cains River Temperature Data 2001**  
**@ Grand Lake Rd.**



# MREAC Programs 2002/2003

MREAC is currently revising its action plan. The following program list reflects its current programs:

## River Watch / Air Watch

### Water Quality

- Swim Watch
- Sanitary Shellfish Project

### Public Awareness & Information

- Web Site
- Newsletter
- Media contacts
- Monthly speakers forum
- Public presentations

### Environmental Monitoring and Research

- Science Day/Workshops
- Sub-watershed Monitoring
- Fish Habitat Protection
- Special studies

### Waste-stream Management

- Industrial
- Municipal
- Rural
- Agricultural

### Community and Land Use Planning

- Living by Water
- Derelict Vehicle
- Special Projects

### Environmental Management Planning

### Climate Change & Air Quality

### Wider Ecosystem Based Programs

- Atlantic Coastal Action Program
- Southern Gulf of St Lawrence Coalition on Sustainability
- Gulf of St Lawrence Research Network
- Gulf of St Lawrence Estuarine Research Society



## River Watch Air Watch

Please help protect the Miramichi Watershed and Airshed through the River/Air Watch program.

If you see anything that concerns you about the environmental health of the Miramichi region call:

778-8591 or 1-800-567-4837  
(1-800-56RIVER)

This is a program of the Miramichi River Environmental Assessment Committee (MREAC)

In case of an environmental emergency call 1-800-565-1633



## Contributing Partners



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Your Environmental Trust Fund at Work



Weyerhaeuser



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