

Soil & Water Conservation Society of Metro Halifax (SWCSMH)

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Ref.: hrmgrants2006july04 (7 pages + 1 exhibit= 8 pages)

To: **Chair and Members, HRM Grants Committee**

**-and on regulatory/ethical aspects to the-
Human Resources Services (per the Regional Council
Administrative Orders 40 & 41)**

From: S. M. Mandaville Post-Grad Dip., Professional Lake Manage.
Chairman and Scientific Director

Date: Hand delivered to offices of the Municipal Clerk and the Human
Resources Services on Tuesday, July 04, 2006

Subject: Request for total professional ethics among the recipient
groups of your public grants when they utilize parts of our
scientific research and/or data!

I thank you for reading this informal document carefully. If you need further clarification, I will be pleased to make a personal presentation but I will not tolerate any contradictory claims and/or arrogance the way Ms. P.J. Temple showed me during year 2004 (had I foreseen it, I would have taped the phone discussions)!

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- Cc:** His Worship Peter Kelly MBA
Councillor Gloria McCluskey
Dan English, CAO
Tony Blouin PhD, Manager-Water Quality, EMS
John Sheppard PEng, Manager, Environmental Services, EMS
Austin French MCIP, Project Manager, Regional Planning
Wayne Anstey QC, Dy. CAO
Mary Ellen Donovan LLB, Director, Legal Services
Councillor Krista Snow
Brad Anguish MBA PEng, Director, EMS
Paul Dunphy MCIP, Director, Planning & Development
John O'Brien, Manager, Corporate Communications
Betty MacDonald, Director Business Planning & Information Management

Preamble:

The cumulative problems have snowballed on `yours truly', even on a personal level, over the last seven (7) years.

Aspect-I: My personal and/or my scientific team's Intellectual Property (IP) and cases of potential plagiarism *vis-à-vis* groups that you fund:

I herewith plead that from now on your Committee of the Regional Council follow the highest professional ethics that atleast some of us international and/or acclaimed scientists are imbued with.

When you fund organizations, kindly make sure that none of them are impinging on my personal as well as on my team's Intellectual Property (IP) rights and/or outright plagiarizing our predominantly volunteer science without taking my written permission! HRM should require them to sign a legal document that they would not plagiarize and/or impinge on other's IP rights (true scientists never impinge)!

I only find out 2-7 years down the road, and indirectly, that several of your fortunate recipients freely utilized some of our leading, mostly volunteer-based, limnological research and none of them ever offered us even symbolic `honorariums' although all of your recipients benefited, some extensively. Several of them do not even volunteer but have contractual employees!

Though now and then, some groups funded by you, usually Dalhousie University students working for them, did indeed approach me for free handouts although a significant portion of our research is also conducted by `yours truly' as a total volunteer.

I do not hire others to conduct my scientific research most of the time, especially since it is too specialized anyway (and even **HRM's Dr. Tony Blouin** has never conducted it throughout his career per my extensive inquiries as well as discussions with him over years).

Aspect-II: HRM was severely cautioned about similar cases relating to its highly paid routine consultants on numerous occasions over the last seven (7) or so years:

Even some taxpayer-funded consultants to the HRM have severely exploited parts of our research. I had complained on around fifty (50) different occasions via lengthy emails and/or phone calls to several senior staff inclusive of Dr. Tony Blouin, John Sheppard PEng, Kulvinder Dhillon PEng, and Mayor Peter Kelly MBA.

The entire Regional Council and most professional staff of HRM were also notified in a mass mailing about 1-2 years ago as well.

The former CAO, George McLellan MBA CMA, following atleast 20 or so emails that I sent and/or Cc'd him, gave a written commitment that it would not happen any longer and that is extensively displayed in our web space as well. But the former CAO's office has not kept the written commitment and their support staff can be extremely **arrogant** when I used to call them (I am not sure if the present CAO has the same support staff as well).

If this continues, I will not hesitate to have an independent person from, say the media (or someone with a legal background), intercede but it is all extremely frustrating and time consuming.

Aspect-III: Notification to other levels of Government as well as local universities who are affiliated with some of your funded groups:

I have notified other levels of Government and local universities as well inclusive of the massive Environment Canada whose staff is also part of some volunteer groups that you fund (some of those groups have employees as well and are quite familiar to `yours truly`).

Aspect-IV: Anyone with even a Grade-12 education should understand the simple covenants that I routinely attach to some of our first ever research in advanced limnology which no one else in Nova Scotia appears to have conducted to date:

The covenants dictated to me over several years by two professors specializing in Intellectual Property (IP) Law at Dalhousie University generally read as:

“These continuous archiving efforts are as a result of intense volunteerism and are not intended for any other's benefits! The primary purpose is to document the water quality. Consult the owner, S.M. Mandaville at "limnes@chebucto.ns.ca" for clarifications/permissions (email is the preferred communication medium).”

A great part of our research is conducted by total volunteers, and unlike some groups funded by your committee, e.g., the Bedford Watershed Advisory Board (BWAB), our work is not conducted by external consultants. It appears that the BWAB had hired the large AMEC engineering group to samples lakes which was funded by your committee in 2004 and/or 2005.

This was notwithstanding claims made by former Bedford Councillor, Mr. Len Goucher, several times at the Regional Council; even one scientist-member of the BWAB, who consulted me a few times, also said that they were not actually conducting the work and he was extremely honest unlike the successful politician.

In addition, our work is too specialized and local consulting firms do not have international acclaimed scientists unlike our team anyway.

Aspect-V: When during year-2004 your committee rejected our proposal for utilizing scientifically supported scallop shells methodology to treat the sporadic fecal problems at the once popular Maynard Lake beach in Dartmouth, your staff did not even do their job to see the background since it was indeed senior HRM environmental engineer, Renee Roberge PEng, who literally `bugged me' to try that methodology (see Exhibit-A):

I am herewith inserting the 1-page article that Renee had sent me, unsolicited, around year 2003 or so. If you observe closely, you will see some handwriting at the top; any forensic expert will testify that it was Renee's handwriting. I DID NOT approach her for it!

I spent a whopping one hundred (100) or more hours volunteering in that particular phase alone to date, all as a volunteer; my professional time is chargeable at the same or higher rate as a senior professional engineer although I am a moderate acclaimed applied limnologist (I am unaware of any senior professional engineer on HRM's staff who has received international acclaim in anything)!

Aspect-VI: HRM's senior bureaucrats had been approaching me asking advice, handouts, and scientific documentations/handbooks; those include Dr. Tony Blouin and Renee Roberge PEng among several others (I saved some of their emails but phone calls are usually not recorded):

The total value of scientific info and handbooks that I gave belonging to me and to my scientific team to the HRM as well as to the former Halifax County will be easily worth half a million (\$ 500,000) in 2006 dollars based on the huge amounts of money that HRM pays its favourite consultants! We have rarely been reciprocated, alas!

I even tried to assist a personal friend of Tony Blouin who went back to Turkey on the request of Tony which I even forgot about until recently when I was cleaning out my vast email records.

Aspect-VII: The 'disease' of impingement on IP rights even runs internationally, allegedly (see the case of USA/Canada vs China):

Many of you may be aware from the media that a major long standing contention between the USA and Canada vs China is that the Chinese are routinely impinging on the IP of North American science and technology! That has been extensively publicized on all major American and Canadian news networks.

Hence it is imperative that we in beloved HRM follow what we Canadians preach directly to even the Prime Minister of China when he visited our great country of Canada months ago!

Exhibit-A: Article sent to me by Renee Roberge PEng of HRM's EMS Department around 2003:

Provinciana Water & Wastewater Report, OCTOBER, 2002

www.mpsw.ca

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School science fair winners pioneers in water clean-up research

By Catherine Roberts
MPWWR

Three Grade 12 students from J.L. Bray High School in Halifax could be making history with a water purification system that they've discovered.

Andy Tremier, Leo Fares and James Beaton-Johnson started their tests last October after seeing a television clip from Japan that showed how scallop shells had purified a farmer's watering hole, which was polluted by animal fecal waste.

Their teacher, Gene Deltis, helped the students run some experiments and encouraged them to make their project at the 2002 Adventus BioTech Challenge, held last May at Pier 21 in Halifax. The trio won second place and \$1,500.

The director of the NRC, Dr. George Brown, was so impressed by their efforts that he established a new award category — The Youth Innovation Fellowship Awards — commemorating the award's 30 year anniversary.

With the award came the use of lab spaces in the National Research Council, its library, equipment and resources. Dr. Laura Brown was also instrumental in the role and was a mentor for the students. Brown provided the NRC facilities, helped to interpret test results and introduced the students to different experiments, such as gram-staining.

The students also garnered support from the municipality and Mayor Peter Kelly. Kelly hired the students for the summer, giving them a truck and supplies they would need to continue their research on a larger scale. They were given access to a Water Pollution Control Plant in Schville, N.S., for some of their research.

Shantone's Lobster Pound in Hubbards, N.S., supplied the students with free scallop shells for their experiments and Penco Farms loaned them new state-of-the-art probes so they could test for pH levels, conductivity, light and temperature.

The three young researchers set up their first field tests in a local river, the Molman, from Spryfield. They divided the river into four sections, placing cages constructed from chicken wire in each section — three cages held 100 scallop shells each and a fourth remained empty as a control.

"They've been trying to clean it (the Molman River) up for years," says Tremier. "We wanted to see if the shells would work on the water — and it did!"

Readings were taken below the cages and Tremier says through the ratio of water to shells was right, the results were "quite amazing."

"The pH went and everything — we couldn't believe it," she says.

Wishing to add a technical component to the project, the students approached Apple Canada. The makers of Macintosh computers gave the students the use of a laptop computer with optical wireless technology. The students were able to send their data back to the research facility from the test locations on the river.

Further studies at the NRC included static experiments — dropping a scallop shell into a beaker filled with 500 millilitres of polluted water and waiting to see what would happen. Control beakers, containing polluted water without a shell, were also used and compared with the experimental ones.

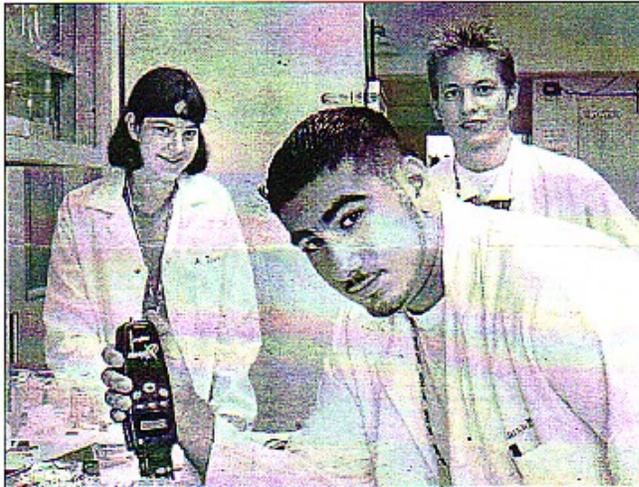
"We would test it every 24 hours. The results showed the pH level go to a neutral 7, a drop in conductivity meant that we were getting rid of the metals in the water and the light reading went down, so we're getting rid of sediment as well," says Tremier. "The visible difference was amazing."

The main point though, and the part that most amazed the three students, was the drop in fecal coliform counts.

"They go down drastically," says James Beaton-Johnson. In one experiment they tested a sample of sewage water, which contained more than 5,000 fecal coliforms per 100 millilitres. Twenty-four hours after adding a scallop shell to the water, the fecal coliform count was down to 130. The limit for swimming water is 200.

The students conducted more detailed experiments on enriched shells and observed that the enriched and the normal shells had the same effect, drastically reducing fecal coliform counts.

"The implications of this research is that we may have an all



Andy Tremier, Leo Fares (foreground) and James Beaton-Johnson conducting clean water experiments with scallop shells in a National Research Council laboratory this summer in Halifax.

natural, renewables resource that can un-pollute water, for public beaches, sewage treatment, etc.," says Fares. "On a world-wide basis, like in Third World countries where there's not really clean water, they can just have some scallop shells that are basically used to purify water."

Their next experiments were to determine why the shells worked. The shells' cleaning action may have to do with their composition and structure. The students looked at the shell's surface with an atomic force microscope and found it has a microscope-like structure with deep ridges and grooves, which could possibly trap and remove or break bacteria.

Calcium Carbonate, the main component of the shells, was determined to help neutralize the pH level of the water.

"It's a sort of acting as a buffer system," says Tremier.

The students are trying the same experiments on clam and mussel shells, carefully documenting their findings. Next year, the students are hoping to go to Paris for an international science fair.

"We're all into the sciences in our school. And it's great to have to use our knowledge of science. Most people there will be in the classroom, and sure they'll use their science there, but they don't actually get to use it after school," she says. "It's great to know that you found something that could help so many people. I just hope it doesn't get forgotten about — that we can actually use it in day-to-day situations."



J.L. Bray High School students, in Halifax, N.S., could be making history with a water purification system that they've discovered. Mayor Peter Kelly supplied tools and equipment, including this pickup truck, to aid in their research.

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