

Ground Water Contamination in New Brunswick

Gil Stern once said, "Man is a complex being. He makes deserts bloom and lakes die."

Today, progress has given man the capacity to perform micro-surgery, to create nuclear fission and to reach previously unattainable heights in computer technology. All of this has raised peoples' expectations of science and led to a "blind" faith in its ability to improve quality of life. The marvels that science can bring are unquestionable yet progress, as we know it, has also brought us to the brink of environmental disaster. Toxic waste disposal, water contamination, acid rain and various other forms of pollution are all being addressed by scientists, yet, many of their efforts are lost in the lobby with government and business interests, who seem more concerned with "economics" than quality of living. There is no doubt that a solution to environmental problems must be found, and such a solution must be cost-efficient. If we do not search for solutions to these concerns now, the "cost" may be too much in the future.

This week's feature brings to our attention a serious environmental issue that affects many New Brunswick farmers. When reading such a feature, it is my hope that the reader will choose to be more caring than the "N.I.M.B.Y." (Not In My Back Yard) mentality that has placed environmental concerns low on the priority list of government, business and society as a whole. Because this feature deals with a problem in New Brunswick, it is in the "back yard" of all concerned citizens.

On September 8th, 1985, the C.B.C. ran a feature program on "Sunday Morning." This program raised questions about the presence and consequences of ground water contamination in both Carleton and Victoria counties of New Brunswick.

The program dealt with the notion that; people in the potato belt of New Brunswick are worried about the quality of their water and the health of their families. Let us consider some of the evidence that supports these fears.

The rate of still births in New Brunswick is much higher than the national average; as well, the province has the highest rate of the crippling birth defect "spinabifida". Most of the cases of stillbirths have come from Carleton and Victoria counties. For more than a decade there has been suspicion that these defects could be related to the massive spray program in the potato belt. In reaction to these fears, a provincial task force was set up last year to see if such concerns were valid. The task force reported as follows: Chairman Frank White pointed out that, "we were unable to demonstrate in the forestry sector, evidence of a problem; however, we did clearly demonstrate evidence of a potential problem in the agricultural area, and, this pattern was generally located within the St. John River valley which is the prime agricultural area in the province."



Credit: Conservation Council
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Coupled with the findings of this report, figures have emerged that point to widespread well-water contamination within the very same area. David Coon of the Conservation Council of New Brunswick references this point: "In a year-long study of well water quality in Carleton County, all 292 wells tested for fertilizer residues contained some level of nitrates. Ethylene thiourea (ETU), the chemical breakdown of fungicides, was detected in 21 percent of the wells monitored prior to the growing season, and in 69 percent while spraying was underway." Unfortunately, as Mr. Coon notes, scientists as yet, cannot determine what level of exposure, danger to health will occur. They can establish what level will cause death or illness but any connection to birth defects has not been medically proven. (However, there are obvious possibilities that some connection between contaminated water and birth defects does exist.) Within the very same C.B.C. program, case histories were brought forward to substantiate doubts that many farmers and environmentalists have about such a connection.

Three-year-old Rebecca Holland of Victoria County is paralyzed from the waist down. She is a victim of spina bifida and her parents believe that there is a connection between her birth defect and the spraying that occurs around their land.

Only a few kilometers east of the Hollands' farm is the small community of Picadilly. In this small town lives Haley Thomlinson, another victim of spina bifida. Again, her parents are convinced that the spray program may have led to her birth defect.

These examples cannot be ignored.

Medical scientists don't know what causes spina bifida, they only have theories, it may be genetic, it may be nutritional, it may be environmental. Regardless of the questions the medical profession has, it is irrefutable that cases of spina bifida are most concentrated in the potato belt of New Brunswick.

directly related to the use and abuse of pesticides and fertilizers.

Farmers are becoming increasingly alarmed at the increasing level of contamination found in their water supply.

Public discussion of this issue has been kept to a minimum. In a recent letter to the Minister of Health, the National Farmers Union eloquently stated the position of its members: "We are not the designers of the technology we are using, nor are we its masters. We are interested in finding the best possible system for agricultural production in New Brunswick from the standpoint of producing healthy, nutritious food and protection of our environment."

The contamination of drinking water by agricultural chemicals is not a new phenomenon. However, awaiting some outbreak of disease related to this contamination is not a desired outcome. Government, farmers and concerned citizens must address this issue now, before it is too late.

As David Coon warns: "traditionally nitrates have been of concern because when converted to nitrates in the human gut, they have the ability to reduce the uptake of oxygen in infants, causing 'blue babies'. Since no drinking water cases of blue babies have been reported in Canada where the level of nitrates has consistently been below 10 parts per million (ppm), the health department is using this as its maximum acceptable concentration. Eighteen percent of the wells surveyed in Carleton County exceeded this guideline." What has our health department done to address this problem — very little!

Agricultural pollution is a very sensitive topic. Farmers need high yields to stay alive and the Department of Agriculture suggests the use of fertilizers and pesticides will enhance these yields. Because it is an integral part of the St. John River Valley economy, agriculture faces a constant "Catch 22" situation. Politicians are unwilling to make the legislative control policies that will help clean up the ground water and farmers must face a daily battle to survive, a battle which places environmental concerns alongside food on the table. A scenario none of us wish to see may develop, spina bifida may become more concentrated in this area, birth defects may rise, and further contamination may close down some farm operations completely, all because the problem is not being addressed in the present.

The problem of pollution must once again be placed on the agenda of issues for the 1980's that must be addressed; if not, we may not get the chance to marvel further at the progress science and technology have brought mankind.

(due to the nature of the issue, opinion has been included. These opinions are those of the author and do not necessarily reflect those of New Brunswick farmers, students and the Brunswick staff.)

R. Hutchins
Features Editor

According to a recent provincial health department report, 20 to 70% of the well water in the potato belt is contaminated with nitrates and ethyl thiourea, substances suspected of causing birth defects. These chemicals seep down through the soil and enter wells through the natural water table.

This whole issue is a potential disaster to the farmers in the potato belt. What really compounds the problem is the reluctance of government to change, the reluctance of agriculture to change, the dependency relationship farmers have to technology and their need to sustain high yields just to survive!

As part of the C.B.C. documentary, Charles Gallagher, an M.L.A. from Carleton County and the Provincial Health Minister, spoke on the issue of ground water contamination; "to me it is a concern, it is not alarming, we did tests and found there was organic content in the wells of some farms. I was expecting we might have found more than we did. We use a lot of chemicals in Carleton County. If the nitrates in the well water are from fertilizers, we had better find out about it." There are many concerned who fear the issue of contamination is far greater than Mr. Gallagher has led people to believe. As David Coon points out, "we are dealing with an environmental disaster and a serious public health threat. At this point, no one is publicly drawing any connection between the hazardous waste task force findings and the well water test results in Carleton and Victoria counties; no one is willing to add two and two together because they might come up with four!" Although much of the evidence put forward is circumstantial, it does dictate an obvious need for further study.

Unfortunately, the answer is not yet available.

Like the forest industry, the agricultural industry fights bugs and other pests with chemicals. Last year, New Brunswick farmers bought 300,000 kilograms of pesticides to protect crops fuelled by 50,000 tons of fertilizer. What is not known is whether these chemicals pose a long-range health risk. However, as we have seen, the new fear of ground water contamination can be