

PRESENT AND FUTURE WATER QUALITY
OF THE NIAGARA RIVER

The Niagara River is the source of water for the public water supplies for thousands of people in Western New York and the Ontario peninsula. It is also a source of fish for the many sports fishermen of this area, fish that we should be able to eat without fear.

In the recent past, there have been major environmental problems in Lake Ontario. The mercury, mirex, and PCB problems are familiar to everyone. All of these toxins have originated at least in part in the Niagara River drainage basin.

Local health officials have correctly stated that public water supplies that take water from the river meet the Environmental Protection Agency-New York State drinking water standards. However, NYPIRG and New York State Department of Environmental Conservation reports along with studies made by investigators such as Dr. Hite of the University of Indiana, Dr. Proctor of the University of Texas, Dr. Sweeney, formerly of Great Lakes Laboratory, and Drs. Block and Paigen of Roswell Park Memorial Institute in Buffalo, have reported hundreds of potential toxins in the Niagara River and its immediate watershed.

What does this apparent conflict mean? Are the health officials ignorant of what is in the river? Are these environmental experts spreading needless panic? The answer to both questions is, "No." Our environmental scientists are genuinely concerned with their findings in the river. They are even more concerned with some of their findings in area fish. Our health officials know that a steady diet of miscellaneous organochlorines is not beneficial to general health. However, they do not have enough solid data to justify the expenditure of vast sums of money by local industry and government.

As laboratory scientists, we have a view of the problem that lies somewhere in between enforcement and research. We see two problems that have to be resolved. The first is that our water standards and priority pollutant list is compound- or element-specific. This means that the standards list known chemicals such as lead, sulfates, endrin, or DDT. The water is tested and if none of the materials on the list are found to be above the specified limits, the water is reported to be safe to drink. Unfortunately, the toxins in the Niagara River watershed are waste from industrial processes or sewage treatment plants. Once these materials enter the river system, many break down into other compounds or react with natural components of the river to form new compounds. In many instances, it is very difficult to determine what a compound is and almost impossible to determine what its original form or source was.

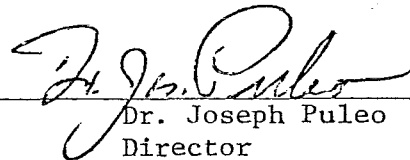
Our second problem is the relation between the toxins in our water supplies and health. This is the crux of the controversy. Our current water supply standards are based on the World Health Organization standards. These standards were developed about twenty years ago and have been changed very little since then. They were designed to protect users from being poisoned. Their relation to our health is relatively short term. They do not completely meet our needs today. We need a set of water standards that will give long term protection from the hazards of long-term, low-level exposure. We want water safe for a lifetime. Our health officials and our environmental scientists will agree that unfortunately, we do not have the medical and epidemiological data that we need to write such a water standard. We know that it will take years.

We ask that our state representatives consider the following proposal:

We recommend that a major research facility be located here on the Niagara Frontier. Ideally, it would function through the IJC and have both United States and Canadian input. Its first responsibility would be to develop toxicity

mutagenicity tests that would be sensitive to total toxins in water rather than specific toxins. The facility's long term work would be to study the effects of Niagara River water and its known toxins on organisms and the relation of these studies to human health.

We are not talking about a couple of million dollars to the State University of New York at Buffalo Medical School or Great Lakes Laboratory for a five year grant. This is a big problem that has taken years to be recognized. It is going to take a great deal of talent and many years for us to learn how to live with these toxins and ^{to develop} ways to control or eradicate them. In this way, we can enhance the water quality of the Niagara River and our respective Canadian and United States populations can continue to enjoy the cascading water both for its awesomeness as well as its potability.



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