# the CELA newsletter

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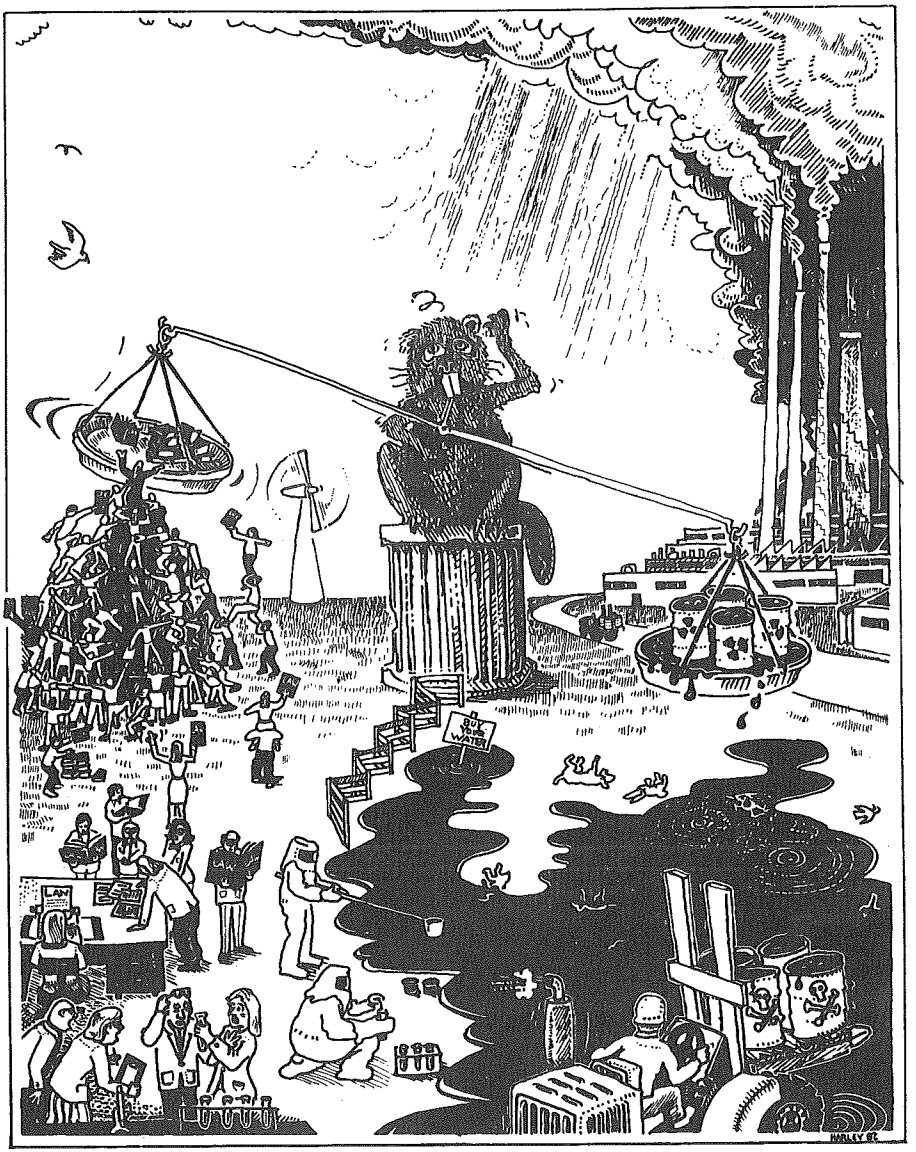

**The CELA Newsletter**
**La Section Nouvelles de L'ACDE**

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EDITORIAL

# OVERSIMPLIFICATION OF ISSUES IN NOVA SCOTIA COURT DENIES CITIZENS ADEQUATE HEARING

*(A group of citizens petitioned the Nova Scotia Supreme Court to restrain Nova Scotia Forest Industries from spraying certain areas of the Province with phenoxy herbicides. The hearing was held before Judge M. Nunn in May, 1983. The Court denied the petition and awarded the defendants damages.)*

The question before the Court centered on the impact of phenoxy herbicides on human biology. The action was brought by a group of citizens against Nova Scotia Forest Industries to prevent them from spraying the herbicides. To win the injunction, they had to prove that the spraying of forests in areas where they lived would harm them. In the course of their action the group touched on harm to the greater population of Nova Scotia and on alternative non-chemical forms of forest management. The Court found that the plaintiffs failed to prove with sufficient rigour that spraying of phenoxy herbicides posed a serious risk to their health and, in the Court's judgment, such spraying operations do not endanger the health of the population at large. The injunction was denied.

Several years of working in the field of environmental toxicology has sensitized me to the difficulty of describing with scientific rigour, exactly how environmental contaminants impact on human health. Lack of scientific precision, however, does not in any way diminish the significance or reality of the impact; nor does it prevent us from defining the problems using our broad understanding of ecological processes. I have grave reservations about the Court's decision because it failed to acknowledge what kinds of questions science can address precisely and what kinds it can only address more loosely. The Court believed it was deciding a case answerable by hard scientific data, when in fact the case is unanswerable in those terms. And, by excluding evidence deemed non-scientific, the Court automatically biased itself in favour of the defendant and herbicide spraying.

The bias is not unique to this decision; the bias continually challenges those who wrestle with environmental issues. Much as we all would like to have hard scientific data to resolve these issues, we are handicapped by the approach science uses to obtain so-called hard data. Science takes the complexities of environmental contamination and its impact on human biology and simplifies it to the point it can ask a direct question: Does a phenoxy herbicide administered to a laboratory mouse or monkey cause cancer, birth defects or death? This kind of

answer can be obtained with great scientific rigour. The problem comes in trying to extrapolate such hard facts to the distant and complex problems of phenoxy herbicides released into the natural environment.

There, conditions vastly differ. Instead of a homogeneous population of mice or rats, all eating the same food and all living in identical cages, a heterogeneous human population is scattered about. Some are old, some are fetuses, some eat nutritiously, some don't. All are exposed to a varying mix of chemical contaminants from their food, water and air. How can you make any extrapolation? You can't. The laboratory data tell us only that the phenoxy herbicides are poisons, period.

This so-called hard fact of science has nothing to say about the nature of impacts on humans or other species exposed to these herbicides under the conditions of forest spraying - except that people are exposed to a poison.

The question before the Court boiled down to one of safety, and safety is also a matter of exposure. Phenoxy herbicides may be poisons, but they do not threaten, if they remain in their drums. The defendant contended that the exposure levels resulting from the spraying are acceptable. That is, in the opinion of responsible authority, the amounts of herbicide that might be ingested by residents are insignificant to their health. How do we know exactly what the exposure levels are and how people's biology will react? That information has yet to be obtained with any degree of scientific certainty. The only real data we have are some epidemiological studies, to which both plaintiff and defendant turned. Two such studies, done on populations previously exposed to phenoxy herbicides sprayed on forests, measured the incidence of cancer in one population and birth defects in the other.

In the larger sense, these studies were attempts to measure the impacts of phenoxy herbicides on human biology. Both studies were limited by the inherent problems of working with heterogeneous human populations. For example, what end-points do you use to measure impact? Epidemiologists depend on laboratory experiments with animals to guide them as to what health problems humans might develop. But, they cannot ask animals how they feel, so they generally use drastic end-points - gross birth defects, cancer, liver failure, death. There is no way they can explore in animals the range of human afflictions, both mental and physical, that can be engendered by chemical exposure. Chemicals are known to cause vague aches, malaise, behavioural abnormalities, insomnia and digestive upsets, all disabling. This group of afflictions is perhaps much more widespread than the more publicized effects such as cancer and birth defects.

Yet, because of the limitations of animal studies and the difficulties clinicians have in defining vague ills, only the serious and often fatal end-points of chemical exposure enter statistical tables and thence epidemiological studies. Epidemiology thus excludes from its domain a large part of environmental and human reality. It narrows the questions down to whether spraying phenoxy herbicides cause cancer or birth defects.

The way the court case was structured the burden was on the plaintiffs to prove that phenoxy herbicide spraying causes harm to humans. The plaintiffs were placed in the position of having to cite any evidence that was available and they spent a great deal of time trying to convince the Court that the results of the two epidemiological studies showed there indeed was a health impact. Ignoring the broader issue of difficulty of obtaining any information at all, the Court sided with the defendant who had no difficulty, in the Court's opinion, of showing the two studies were not carried out with scientific rigour. Yet, the defendant was not required to present any hard data that environmental exposure to phenoxy herbicides does not impact on human biology, that harm is not done.

What is harm, when does harm start? Let me illustrate with one well-defined end-point, cancer. Does harm begin when a person is diagnosed with cancer, or does it begin 10-25 years earlier when the individual is exposed to phenoxy herbicides? It takes that long and possibly long-term exposure to stimulate a cancer to grow to a clinically recognizable stage. Is not the harm to one's personal biology incurred on initial exposure? Damage to one's cells, although such damage does not manifest itself immediately or in a form that can be identified by a doctor, to me is biological reality, and the kind of question the Court should have addressed.

In making their case, the plaintiffs raised the broader question of whether spraying is really necessary, or whether there are non-chemical alternatives. This broad question was confronted by the much narrower and seemingly well-defined science of forest management, championed by the defendant's witnesses. Several government scientists from departments of forestry and professors of forestry lauded forest management and the high productivity thereby achieved. In their views, sound forest management demands herbicide spraying to destroy non-productive trees. Alternative techniques of manual clearing were dismissed as not being cost-effective.

In the broader sense, forest management is moving towards a mono-forest consisting only of a few types of trees, defined productive. There is insufficient scientific

evidence that mono-forests will be successful in the long run and indeed many forest ecologists have challenged this approach to forest management. Some of these reservations were expressed by the plaintiffs' witnesses who commented, for example, that so-called non-productive trees brought valuable nutrients to the surface and in general contributed to the ecological stability of a forest. Their reservations, however, were countered by the defendants' authoritative witnesses who declared that only forest management with its chemical spraying can ensure trees and jobs.

Curiously, the Court was unable to discern that much of what these professional foresters so confidently espoused, was really opinion. Apparently, because of the impressive credentials of the witnesses, such opinion underwent metamorphosis into objective and hard evidence.

Science does not really understand how a forest works, the ecological principles remain shrouded in mystery. We know, in general, about the interaction of species, nutrient flows and other features, but specifics are lacking. We do know that forests cut in Canada over the last 100 years have resulted from thousands of years of forest evolution. The plaintiffs, in effect, asked a realistic question, whether or not we humans have the wisdom to match that long history of complex forest biology. Again this broad question was defeated by simplifying it to issues of chemical sprays, suppression of undesireable species and accelerated growth of desireable species - all issues that a limited science can answer confidently.

The Court accepted these narrow arguments as "the weight of responsible scientific opinion" and rejected the plaintiffs suggestions that non-chemical approaches to forest management are ecologically sounder, as "unsupported allegations".

Is the Court the proper place to resolve these issues or should they be left to the more fluid and open arena of the political process. The plaintiffs had already been rebuffed by that process. Stated public policy on forests is that by the year 2,000 the forest industry will increase its harvests by 40 percent. This objective requires accelerated cutting and accelerated destruction of so-called undesirable trees. Government decision-makers are not going to be receptive to cancelling spray programmes that the professional foresters deem essential to reach those objectives. One can only wonder, however, if a court of law should become merely an extension of political policy. Or, should the courts be a place where citizens can challenge a public policy on a broader basis than narrow and selected scientific facts used to support that policy? That apparently was the hope of the plaintiffs,

but they found their terms of reference repeatedly narrowed to that base of accepted hard facts.

In justifying this framework of hard scientific facts in which the decision was made, the judge declared, "If science itself is not certain, a court of law cannot resolve the conflict and make the thing certain." Thus, with certitude, the Court could dismiss what seemed like any scientific uncertainty, e.g. the possibility of a birth defect in a baby born to a mother living near a forest sprayed with phenoxy herbicides being caused by the spray. But, paradoxically, in opting for only indisputable facts, the Court allowed the defendant to win on a conclusion that lacks any scientific validity.

Let me illustrate what I mean in the following way. What would you say if I, as a scientist, published a scientific paper with no data and then drew a conclusion? "Bad science" you would say; without hard scientific facts, you don't draw conclusions. Yet, the conclusion of the defendant, allowed by the Court, is bad science. Scientists can prove, for example, that it gets dark at night because their light-sensitive meters register zero. This is their hard fact. But should these scientists be allowed to step beyond their hard fact and conclude that because they measure no light, their methodology has accurately described the situation. Why should a court of law, claiming that it bases its decisions on hard scientific evidence, be trapped into agreeing with such non-logic?

The way Judge Nunn's decision was structured it clearly showed that the Court was unable to distinguish between questions science can and cannot answer and between hard scientific data and soft scientific conclusions. That is, the defendants presented no evidence that spraying of phenoxy herbicides into the environment will not impact on human health, nor could they. Scientific data on direct impacts are obtainable by current scientific methodology.

The Court also erred in allowing the defendants to define the case in terms of the hard scientific data, data which didn't really address the question posed by the plaintiffs. Thus, the nuances and complexities of what happens when a toxic herbicide is broadcast into the environment were downplayed in the Court's decision. They need not have been. Human perception and experience based on a diversity of data and understanding lead one to the conclusion , there is indeed an impact of the herbicides on human biology and the biology of other members of our ecological system.

I would like to make one final observation. Nova Scotia Forest Industries initiated the action by plans to spray the environment with toxic herbicides. Why is this kind of court case structured so that the recipients of the spray are burdened with the task of proving that they

will be harmed? Shouldn't the initiators of the action prove that what they do does not harm?

Ross Hume Hall

(Dr. Ross Hume Hall is a Professor of Biochemistry at McMaster University in Hamilton, Ontario. He is the author of A New Approach to Pest Control in Canada (July, 1981), and a co-author, with Dr. Donald Chant, of Ecotoxicity: Responsibilities and Opportunities (August, 1979). Both of these articles were prepared under the auspices of the Canadian Environmental Advisory Council.)

## THE HERBICIDE CASE: Background History

The story of the Nova Scotia spraying controversy began in the 1970s when a protracted legal and political battle was waged by opponents to the spruce budworm spraying program. Those opposed to the spray program managed to convince the government that the potential hazards of the proposed pesticide spraying far outweighted any of the supposed benefits, despite intense lobbying by the forestry industry.

However, the proponents of chemical spraying, the Nova Scotia forestry and paper industries, were not to be chastened for long. In 1980, a proposal was made to spray 2,4,-D at Big Pond, Cape Breton. The proposal was stopped from going any further by a temporary court injunction. This was later followed by an out-of-court settlement.

On June 21, 1982 the battle began again. The Nova Scotia Department of the Environment issued permits to three pulp companies allowing aerial and ground spraying of both 2,4,-D and 2,4,5-T on 15,000 acres of forest throughout the province. Opposition from communities bordering the proposed spray sites was immediate, and of sufficient force to persuade the Minister of the Environment, Greg Kerr, to temporarily suspend the aerial spray program.

Anti-spray groups continued to lobby and to distribute educational material on chemical herbicides. A poll taken in mid-July revealed that 90% of Nova Scotians surveyed opposed spraying. Despite this result, spraying commenced on mainland Nova Scotia on July 22, 1982.

When anti-spray groups discovered that the Minister of the Environment had changed all aerial permits to ground permits without re-application, they realized that the forest industries planned to extend their spray program to include areas that were not previously included. As proof of this, newspaper notices appeared on August 4th, announcing that spraying would also begin in Eastern Nova Scotia and Cape Breton.

One week later, a group of concerned residents living near several of the proposed spray sites obtained a temporary injunction on spraying from Judge Burchell of the Nova Scotia Supreme Court, Trial Division. At this time, the judge disallowed a suit in public nuisance, and ruled that standing was permitted only to plaintiffs whose property actually bordered spray sites. The anti-spray groups learned of the issuance of further spray permits, and, at the last minute, more plaintiffs applied for and received standing.

The interlocutory injunction hearing lasted six days as Nova Scotia Forest Industries called upon expert witnesses to give testimony. Finally, on September 10, 1982, Judge Burchell granted an interlocutory injunction. An appeal was launched by the company. On December 6, the decision was publicized: the injunction was not overturned although it was set aside as unnecessary because weather conditions rendered spraying impossible.

In the interim period, between the original injunction hearing and its appeal, the Department of the Environment had ordered N.S.F.I. to cease injecting mature hardwoods with herbicides. Two months later (December, 1982) it was discovered that the company had resumed their injecting program only a few days after receiving these directives.

For their part, anti-spray groups came in for criticism from elected officials. In late August, 1982,

Forests Minister, George Henley, accused the groups of being funded by subversive and foreign elements. Because of this, the groups opened their accounts to public scrutiny only to reveal funding from such diverse sources as fairs, raffles, and bean suppers. In February of 1983, Deputy Environment Minister, E.L.L. Rowe questioned the motives of environmentalists, and associated them with violence and civil disobedience.

In March, 1983, the case moved closer to trial. On March 25, Judge Merlin Nunn ruled against the plaintiffs request for jury trial, stating that the complex and technical issues to be brought out made the case appropriate for a judge sitting alone. Expert witnesses were revealed and discoveries held in April. Finally, on May 2, 1983, the trial began in Sydney, Nova Scotia.

(Taken from "Forest Herbicides on Trial", edited by Peter Cumming, Herbicide Fund Society Public Relations Committee, Gabarus, Nova Scotia.)

## The Chemicals in the Controversy

Debate in the Nova Scotia Herbicide Case has centered around the chemicals 2,4-D and 2,4,5-T.

In current forest management practices, these chemicals are sprayed to protect the growth of softwood trees which are used for pulp production. The chemical spray causes an increase in the production of certain enzymes in broad-leafed plants; this produces "overgrowth", which in turn leads to the demise of the plant.

The phenoxy herbicides 2,4,-D and 2,4,5-T are inevitably contaminated with as many as 75 possible dioxins (PCDDs). The dioxins are byproducts of the manufacturing process. 2,3,7,8-tetrachlorodibenzeneparadioxin (TCDD), which is the most toxic form of dioxin, is considered to be the deadliest of all man-made chemicals. Members of the dioxin family are nearly insoluble in water, although they dissolve in organic solvents like alcohol or oil. One of the most worrisome features of dioxin is that it bioaccumulates, that is to say, it can collect in living organisms at higher concentrations than in the surrounding ecosystem.

Dr. Alan Poland of the McArdle Lab for Cancer Research, at the University of Wisconsin, reported in the November, 1982, issue of Nature that his investigations show that TCDD is a potent "tumor promoter" in rats and mice. He said that the excessive multiplication of cells in the skin of mice is strikingly similar to that evoked by TCDD in human skin. Although his research doesn't specifically

label TCDD as a carcinogen, Dr. Poland says "TCDD, in conspiracy with other environmental factors, brings on cancer."

In other research, Dr. Bertram Carnow, an occupational health consultant and an editor of the Journal of Occupational Medicine, examined a group of 47 men who had been exposed to dioxin after a railroad accident in 1979. His findings from the 2-year study show that 5 of the men, or 10.6% of the sample, have developed skin cancers; the expected incidence in the general population is about 0.17% a year. He concludes that "The only safe level of dioxin is non-detectible."

Dioxin has been associated with several infamous names. Agent Orange, a herbicide used by the U.S. military in Vietnam, contained dioxin. An explosion at a chemical plant in Seveso, Italy, in 1976, scattered dioxin on the inhabitents of the town. (It is worth noting that in the summer of 1983, five executives of Icmesa, the corporation wich was responsible for the chemical plant in Seveso, were given 3-year suspended sentences for their part in the catastrophe. It is the first time in judicial history that company executives have been convicted for not taking steps to prevent an ecological catastrophe.) Dioxin was one of the many ingredients in Love Canal's chemical soup. Perhaps the case most closely related to the Cape Breton situation is that of Alsea, Oregon, where an increased rate of miscarriage was linked to forest spray practices.

An information booklet published by the Herbicide Fund Society states that "Studies have shown dioxin to cause chloracne; liver and kidney abnormalities; endocrine, gastro-intestinal, and central nervous system problems; blood changes; alterations in lipid metabolism; carcinogenicity, fetotoxicity, teratogenicity, and embryotoxicity; and suppression of the immune system, this latter leaving the door wide open to all manner of illnesses." It is in an effort to reduce the likelihood of such events that the plaintiffs in the Nova Scotia case have put their livelihoods and property at stake by attempting to bring an end to the spray program.

Adrienne Crowder

# PRECEDENT-SETTING HERBICIDES DECISION HANDED DOWN IN NOVA SCOTIA: LAW REFORMS NEEDED

On September 15, 1983, Mr. Justice Merlin Nunn, of the Nova Scotia Supreme Court, ruled against 15 Cape Berton landowners who had sought an injunction to prevent Swedish owned Nova Scotia Forest Industries Ltd. from spraying the herbicides 2,4-D and 2,4,5-T on Crown Land in that province. The Court ordered the landowners to pay the company's costs which are estimated at $250,000. The company was also given the green light to call a hearing to quantify any damages they may have incurred while the temporary injunction was in effect.

The Court's decision totalled 182 pages of which the first 140 pages summarized the evidence given by 35 plaintiff witnesses and 14 defendant witnesses. The last 40 pages dealt with Mr. Justice Nunn's discussion of the legal issues raised, an analysis of the scientific evidence and his decision in the matter.

The causes of action raised by the plaintiffs were (i) private nuisance, (ii) trepass to land, (iii) the rule of Rylands v. Fletcher, (iv) riparian rights, (v) the right of landowners to groundwater free of chemical contamination and (vi) breach of the Fisheries Act.

However, the Judge basically telescoped all allegations into one question: "Have the plaintiffs offered significant proof that there is a serious risk of health and that such serious risk of health will occur if the spraying of the substances here is permitted to take place." His answer and ultimate decision was that the "totality of evidence in this regard does not even come close to establishing any probability, let alone a strong probability, of risk to health to warrant the granting of quia timet injunctive relief." Thus the plaintiffs had not met the burden of proof which required that they show that the herbicides, on the balance of probabilities, would cause adverse health effects.

Mr. Nunn wrote that a Court of law is no forum for the determination of matters of science. However, this percept did not prevent him from coming to the conclusion that "I am satisfied that the overwhelming currently accepted view of responsible scientists is that there is little evidence that, for humans, either 2,4-D or 2,4,5-T is mutagenic or carcinogenic and that TCDD /dioxin/ is not an effective carcinogen, and further, that there are no-effect levels and safe levels for humans and wildlife for each of these substances."

In order to come down so heavily in favour of the defendant, Mr. Nunn criticized the plaintiffs expert witnesses as being "protagonists defending a position, thereby losing some of their objectivity". The defendant's witnesses, many of whom had testified for Dow Chemical on numerous occasions, were found to be "professional" and Mr. Justice Nunn stated that he did not detect any sense of partisanship. One defence witness who strapped a cloth saturated with 2,4,5-T to his thigh for two hours was found to be an "impressive witness". So was another defence expert who expressed no concern with dioxin even though he had a fat sample taken from his body with 5 parts per trillion TCDD.

Once Mr. Justice Nunn found that no risk to health had been proved, he decided that he need not consider the matter of riparian rights or groundwater rights. He also rejected trespass on the basis that "none had been proved as probable to occur".

Finally, in a statement which could be taken as a warning against similar litigation, the Court stated that "to some extent this case takes on the nature of an appeal from the decision of the regulatory agency and any such approach through the Courts ought to be discouraged in its infancy"*.

The reverberations of this precedent-setting case are already occuring accross the country. Charles Caccia, newly appointed Federal Minister of the Environment, has personally called for a shift in the onus of proof to industry to show that chemicals are safe rather than on private citizens to demonstrate they are harmful. Nine environmental, legal and church groups in Toronto (including CELA) have called for a shift in the onus of proof, reforms to cost rules and the long-overdue enactment of an environmental Bill of Rights.

Since Justice Nunn's ruling, Dow Chemical has decided that it will no longer sell 2,4,5-T in the United States. This announcement was followed only hours later by a decision by the U.S. Environmental Protection Agency to ban all uses of the chemical.

Meanwhile, the 15 Cape Breton landowners have appealed the cost award and are still contemplating whether or not to appeal the decision itself.

Toby Vigod

*Underlining added by the author of the article.

# THE HUMAN SIDE OF THE NOVA SCOTIA HERBICIDE CASE

On Friday, October 28th, 1983, Elizabeth May, a member of the legal team, and a committed participant, in the Nova Scotia herbicide case, visited Toronto to speak at the Annual Meeting of The Law Union and to hold a joint press conference with Anne Johnston, the Chairperson of the Toronto Board of Health.

At the press conference, Anne Johnston outlined her Board's rationale for becoming involved in the herbicide spray issue. The City of Toronto banned the use of 2,4-D to control undesired plant growth within city parks in 1980; 2,4,5-T is banned throughout the Province of Ontario. The Board feels that this ban should extend across Canada.

The current process of chemical registration at the federal level is unacceptable, Anne Johnston said. She feels that more of the responsibility for registration should be shifted from Agriculture Canada to Health and Welfare. It is the Board's position that the burden of proof should not fall on citizens, and Judge Nunn's cost award in the Cape Breton case is prohibitive.

To aid the plaintiffs in the Nova Scotia case, Ms. Johnston placed a money tree in the lobby of Toronto City Hall. To date she has raised in excess of $2,000. In addition, she has challenged the Ottawa and Vancouver Boards of Health to match her fund-raising effort.

Elizabeth May expressed the deep gratitude of her group for the response of the citizens of the City of Toronto, the Board of Health's appeal and newspaper ads placed on the plaintiffs' behalf by Pollution Probe. With the exception of one instance where a member of the anti-herbicide group sold a piece of waterfront property in Cape Breton to raise $15,000 for court costs, all of the funds raised to date by the spray groups (approximately $180,000) has come from small individual contributions. Their expenses to date have all been met, but they must now raise funds to cover the costs and damages awarded against them by Judge Nunn. The group has decided to appeal the award of costs, and the damages hearing will be held before Judge Nunn at some future date.

A spokeswoman for the defendent, Nova Scotia Forest Industries (NSFI), suggested their legal costs alone could be as high as $200,000. During the Herbicide Case, NSFI made no attempt to economize on legal costs. Pre-trial discovery of the plaintiffs' witnesses sometimes required as many as three lawyers to fly to Vancouver, Portland, San Francisco, Boston or Washington. At the damages hearing NSFI will present evidence of the damages that they have suffered because of their foregone income while they were unable to spray. It is quite probable that this will be a lengthy and costly hearing.

Elizabeth said that the anti-spray groups have until mid-November to determine whether they will appeal the Judge's decision. She said that the case has placed a great deal of strain on the plaintiffs. Although they have no doubt that they have very good grounds for appeal, the human questions of personal and familial stress, and the further financial burdens that would be placed on the group, must be taken into consideration. The costs and damages award alone could well mean the loss of the plaintiffs' property, homes, and livelihoods.

The plaintiffs are weighing the responsibility they have to the public to appeal this decision because of the prohibitive precedent it sets for public interest advocacy. There are also serious implications for aboriginal rights in the decision. "If we let this lie as it is, it will mean people will never go to court again. Canada will be left with this decision on the record.", Elizabeth said. Representatives of Vietnam War veterans who are in the midst of a large class action suit about their exposure to the defoliant Agent Orange (which contains 2,4,5-T and 2,4-D) were present at the hearing as observers. The Nova Scotia decision also bears on the status of their case.

During the month-long trial, which was held in Sydney, Nova Scotia, Elizabeth, another plaintiff, and counsel for the plaintiffs, stayed in a tiny apartment which was located over a pizzaria. Elizabeth said the warmth of the local support made up for the cramped conditions and leaking roof. Warm meals were always ready for the weary group on their return from court, fresh flowers arrived regularly from a nearby florist, a neighbouring woman offered to do the laundry, and a local office supplier only charged $75 for a month's use of a desk, chair, typewriter and other office supplies. When the anti-spray group gave a free concert to thank their supporters in Sydney, they were heartened by a turnout of 7,000 people. This support was also shown when over 5,000 people attended a flea market held in Margaree Harbour, a small town with a population of only several hundred.

Before the plaintiffs made their decision to seek an injunction against the spray program, they considered taking other routes. They offered to provice volunteers to the industry to clear encroaching vegetation by hand. They asked the Premier of Nova Scotia, John Buchannan, to allow them to bring scientific experts into his office to speak with him about the possible impacts of the spray program. He refused their request, admitting that he was under considerable pressure from the forest industry.

NSFI is owned by Stora Kopperbergs Berglags Aktiebolag (Stora Kopperbergs), a Swedish-owned company. Interestingly,

Sweden banned the use of 2,4,5-T in 1978, and imposed such severe restrictions on the use of 2,4-D that it too has virtually dropped out of use. 2,4,5-T has also been banned by the U.S., Denmark, Italy and the Netherlands, as well as the provinces of Ontario, B.C. and Saskatchewan. When the Nova Scotia decision was handed down, Swedish papers carried front-page stories on the decision. The president of Stora Kopperbergs apparently said that the case proved that 2,4,5-T is safe and should be re-registered!

Elizabeth and plaintiff, Chief Ryan Googoo, have been invited to Sweden for a two-week visit in mid-November. All their expenses are being paid by the Swedish Friends of the Earth, the Swedish Indian League, the Torsby Environmental Group, and other Swedish environmental groups. Their itinerary will include a visit to Stora Kopperberg's plant at Falun, where their case has received union support, and a visit to the Swedish town of Ulum, to visit victims of pesticide spraying.

Because 2,4,5-T is no longer being manufactured by DOW Chemical, and may no longer be sold in the U.S., NSFI is currently seeking stockpiles of the chemical so that they will be able to commence their spray program in 1984. It is Elizabeth's hope that the public can bring the necessary pressure to bear upon the government to deregister 2,4,5-T in Canada before the new spray season. This was the message that she brought with her to Toronto.

Sarah Miller
and Adrienne Crowder

**The following are some suggested ways of helping the plaintiffs:**

1) Send them financial support; donations sent to the following address will receive a tax-deductible receipt:

FORESTRY COMMITTEE
Ecology Action Centre
Old Provincial Archives Building
Dalhousie University
Halifax, N.S. B3H 3J5

2) Write to the Hon. Charles Caccia and the Hon. Eugene Whalen to (a) ask that 2,4,5-T be de-registered in Canada; (b) seek reform of the registration process to allow public input; and (c) add your support to the establishment of a National Pesticides Advisory Board. The address are as follows:

Hon. Charles Caccia
Ministry of Environment
Centre Block, Rm. 101-S
House of Commons
Ottawa, Ontario

Hon. Eugene Whalen
Agriculture Canada
930 Carling Avenue
Ottawa, Ontario

3) Send a copy of the above letter to your MP or MLA.

4) Write letters to your provincial Attorney General and the editor of your local newspaper calling for reform of costs provisions in public interest cases.

5) Write your MP supporting an Environmental Bill of Rights which would make access to the courts easier and less threatening financially.

6) Write pulp Companies telling them to hire workers not herbicides.

7) Tell the government of Nova Scotia to listen to its citizens, not multinational industries.

8) If you live outside Nova Scotia, write the government of Nova Scotia saying that as a tourist, you want a clean, healthy province, and that no province in Canada should function as a dumping ground for chemicals banned elsewhere.

## HAZARDOUS SUBSTANCES: Citizens Organizing Conference in Aurora

On September 24 and 25, representatives of 19 citizens groups from across Southern Ontario met in Aurora to discuss ways of dealing with hazardous waste problems.

The conference was funded by Environment Canada and organized by Jackson, Weller and Associates of Kitchener, with the assistance of the Concerned Citizens of Whitchurch Stouffville (CCWS). The decision to hold a conference of this nature developed from an idea put forward earlier this year by the CCWS when they decided that a meeting of all Ontario citizens groups concerned with hazardous waste issues was essential in the long-term fight to protect the environment.

Unanimously, the 19 groups committed themselves to work together to support each other in protecting their cumunities. Specifically, they agreed to form an organization which will likely be modelled on the Citizens Clearing House on Hazardous Wastes in the United States. This clearing house was begun by Lois Gibbs, who first became involved in the hazardous waste issue when she lived in the Love Canal area of Niagara Falls, New York. Ms. Gibbs was a speaker and resource person at the conference.

It was decided that the new organization will have a dual role. Firstly, it will gather and distribute information. This will include compiling lists of citizens groups, technical experts and government contacts, publishing a newsletter, and putting together a speakers list and materials on technical questions. Secondly, the organization will focus on the education of elected representatives, and lobbying them when necessary, in an attempt to change the manner in which hazardous wastes are presently dealt with. For the time being, the organization will be located at the offices of Jackson, Weller and Associates. For further information, contact either John Jackson or Phil Weller at 25 Glen Road, Kitchener, Ontario (519-744-7503).

## Right-to-Know Symposium held in Toronto

On October 26, the Canadian Environmental Law Research Foundation (CELRF) presented a one-day symposium on "Hazardous Substances and the Right to Know".

Speakers representing environmental organizations, labour, industry and government addressed the issue of regulating disclosure of information on hazardous substances. The major argument lies between the public's right to information on the one hand, and the protection of industrial trade secrets.

John Jackson, a past member of the Windsor Occupational Health and Safety Board, and the author of a report on the right to know which was commissioned by the Toronto Board of Health, told the audience how the City of Philadelphia passed the first right to know legislation in North America in January, 1981. Under this legislation, businesses are required to "disclose which substances on a list of toxic chemicals they use, manufacture, store or discharge into the air". This data is then made publicly available at Philadelphia City Hall, along with information on the health effects of the chemicals involved.

Anne Johnston, Chairman of the Toronto Board of Health, spoke about a proposed hazardous substance disclosure by-law which is currently being considered by Toronto's City Council. To quote from Ms. Johnston's speech, the by-law "would ask that industrial and commercial enterprises complete a disclosure form and return it to our City Clerk....The form shall list substances to be reported ....Substances on the list could be added or deleted.... The companies will have to fill out a section on disposal, what and where, as well as intermediate "produced" products. A Material Safety Data Sheet for each designated substance would be required, containing 1) the nature of the substance, 2) precautionary and protective measures, and 3) remedial actions in case of exposure." All this information would be available to the public.

Business interests object to the disclosure of information about the chemicals they use in their operations because they fear that their competitive margin will be lost if this data is made publically available. However, as Dr. Bill Louch, of the Canadian Centre for Occupational Health and Safety, pointed out, essential confidential data can be withheld from the public, while still allowing the nature of the chemical substances being used to be disclosed. Also, Michael Nash, a Hamilton lawyer and the author of the Canadian Occupational Health and Safety Law Handbook, suggested that existing patent laws can be used by industries to protect their vital trade secrets.

Several interesting issues were raised at the symposium. For example, does the public's right to know also include a right to be told? Even if information on the chemicals being used by industries is made publicly available, who, if anybody, would alert the general public to the possibly hazardous effects. Also, given the vast number of chemical substances in use, and, in many cases, their unknown long-term effects, both individually and synergistically, who should be responsible for compiling research data, and who should carry the costs for such research.

The CELRF conference pointed out that there is still much to be learnt about hazardous substances and their regulation. It provided an opportunity for interaction between the

divergent groups, and showed that there is a basic willingness on the part of all concerned parties to continue to search for better ways of tackling the problems that arise from widespread chemical use in our society.

## A CRITICAL LOOK AT ONTARIO HYDRO

Paul McKay, Electric Empire - The Inside Story of Ontario Hydro (Between the Lines, Toronto, 1983)

Lawrence Solomon, Breaking Up Ontario Hydro's Monopoly (Energy Probe, Toronto, 1982)

Electric Empire and Breaking up Ontario Hydro's Monopoly both provide a stinging indictment of the past behaviour and current activity of Ontario Hydro, while setting out recommendations to resolve some of its problems.

Electric Empire begins with a detailed 71-page examination of the history of Ontario Hydro which clearly demonstrates that the imperial ambitions and devout belief in the necessity of continued growth in electrical demand has been characteristic of Hydro since the beginning. Despite an unfortunate tendency toward rhetorical overkill and adverbs in the early pages, Paul McKay proves that Hydro's current problems with its nuclear program are:

- unneeded heavy water capacity
- serious equipment problems
- onerous and expensive uranium contracts

and that these are logical outcomes of the institutional imperatives embedded in Hydro's history and structure. As should have been apparent long ago, any system predicated on continued exponential growth will inevitably get into trouble.

Part II of the book contains an analysis of some of these troubles, specifically, the environmental, social and economic costs of nuclear and coal-fired generation. This is followed by a discussion of Hydro's marketing, financing and forecasting problems, and of the current attempt by the provincial government to "keep the promise" by rescuing the faltering nuclear dream and starting a new cycle of massive electrical expansion.

The final part of Electric Empire contains the author's prescriptions for change. These include a refocussing of utility activities upon small-scale hydro and a re-orientation of provincial energy policy towards energy conservation and the principle of soft energy paths. McKay also proposed a number of changes in the structure and operation of Ontario Hydro. These changes would be supervised by a permanent selected Committee on Energy affairs and a Citizens Utility Board.

Breaking Up Ontario Hydro's Monopoly is a much shorter publication, with a more specific purpose. Written by Larry Solomon, a researcher with the Toronto office of Energy Probe--a group which has attained the status of official opposition with respect to Ontario Hydro--the study is the latest in a long series of Energy Probe documents concerned with energy issues in Ontario. It consists of two parts: a 50-page critique of Hydro past and present and 31 pages of suggested reforms.

Solomon clearly documents some of the serious problems currently faced by Hydro and, more importantly, the degree to which it is effectively beyond the control of the provincial government, a point also stressed by McKay. A series of quotations from MPPs bordering each page provide poignant accompaniment to the discussion of unsuccessful attempts over the last decade to assert control over the utility with:

- three Royal Commissions
- three Select Committee Inquiries
- annual appearances before the Ontario Energy Board, and
- Task Force Hydro

The recommendations in Breaking Up are similar but somewhat more radical than those in Electric Empire. Essentially, these amount to stripping Hydro of all but its transmission facilities, giving most power stations to the municipal utilities and setting up a Crown Corporation to manage existing nuclear plants. While McKay would convert Hydro into seven regional PUCs and give the grid to the Ministry of Energy, Solomon would leave the grid to Hydro and give all non-nuclear capacity directly to the municipal utilities. Both authors would like to see increased emphasis on small-scale power

production, some form of public review of the electric system and rate reform, although the details of their proposals in these areas differ.

These two books are not the only recent studies to suggest changes in the structure and functioning of Ontario Hydro. In fact, it is rather curious that neither book so much as mentions a major study done by Hooker and van Hulst for the Porter Commission which proposed sweeping changes in Ontario Hydro's structure and mandate.* The attitude toward Hooker and van Hulst's work, hopefully, will not set a precedent for future writers in the field since their recommendations are very similar in spirit to those of McKay and Solomon.

While their direction is clear and laudable, the proposals in these books with respect to:

- decentralization of decision-making power
- encouragement of conservation and small-scale generation
- more rational power rates, and
- more accountability

are not presented in enough detail to explain their effectiveness. Nor is it entirely clear to what degree their proposals would resolve the huge problems facing utilities today or curb the expansionist fervor of electricity planners.

In a sense, the books prove that the battle to demonstrate the possibility of alternative energy sources has been superseded by a focus upon implementation issues as well as the social, political, environmental and other impacts of the alternative proposals. This shift, from determining feasibility to assessing desirability, is a healthy development; it is also true, however, that it is a difficult step to take. The reason for its difficulty is the same as the reason for its importance: it puts energy issues where they belong -- squarely in the political arena.

John Robinson

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*Hooker, C. and R. van Hulst
"Institutions, Counter-Institutions and the Conceptual Frmaework of Energy Policy Making in Ontario". Report prepared for the Royal Commission on Electric Power Planning, Toronto, 1977. Much of the argument in this report is repeated in Hooker, C. et al., Energy and the Quality of Life. Toronto. University of Toronto Press. 1981.

## THE CANADIAN ENVIRONMENTAL LAW ASSOCIATION
## CELA
## L'ASSOCIATION CANADIENNE DU DROIT DE L'ENVIRONNEMENT
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The Canadian Environmental Law Association was founded in 1970 in order to fight further degradation of the environment through the use of existing laws and proposals for law reform.

Through our Toronto offices, lawyers with the Association provide advice and information to approximately one thousand complainants annually, which in many instances results in positive action by government agencies or in the complainants obtaining further legal advice and assistance through the CELA panel of lawyers.

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