

Acid News

A newsletter from The Swedish NGO Secretariat on Acid Rain



TIME TO START AGAIN!

After a brief break, the Secretariat is now in operation again. In the coming six months, the Secretariat will be the responsibility of one person, employed on a full-time basis. We are counting on continuing our activities as previously, which is to say establishing and passing on contacts, producing and distributing information, and carrying through various projects. Four issues of "Acid News" are scheduled for this period, and you are now holding the first of these in your hand.

On behalf of the Secretariat, we should also like to stress the great urgency of mutual exchange. In order to make "Acid News" interesting, we are dependent on information and tips on what is happening on the Acid Rain front elsewhere in the world. So if you read or find out about anything which might be of general interest, please don't hesitate to get in touch with me at the Secretariat. Write or ring!

In the hope of friendly and rewarding cooperation,

CHRISTER ÅGREN
(the new) Coordinator

THE SWEDISH NGO SECRETARIAT ON ACID RAIN

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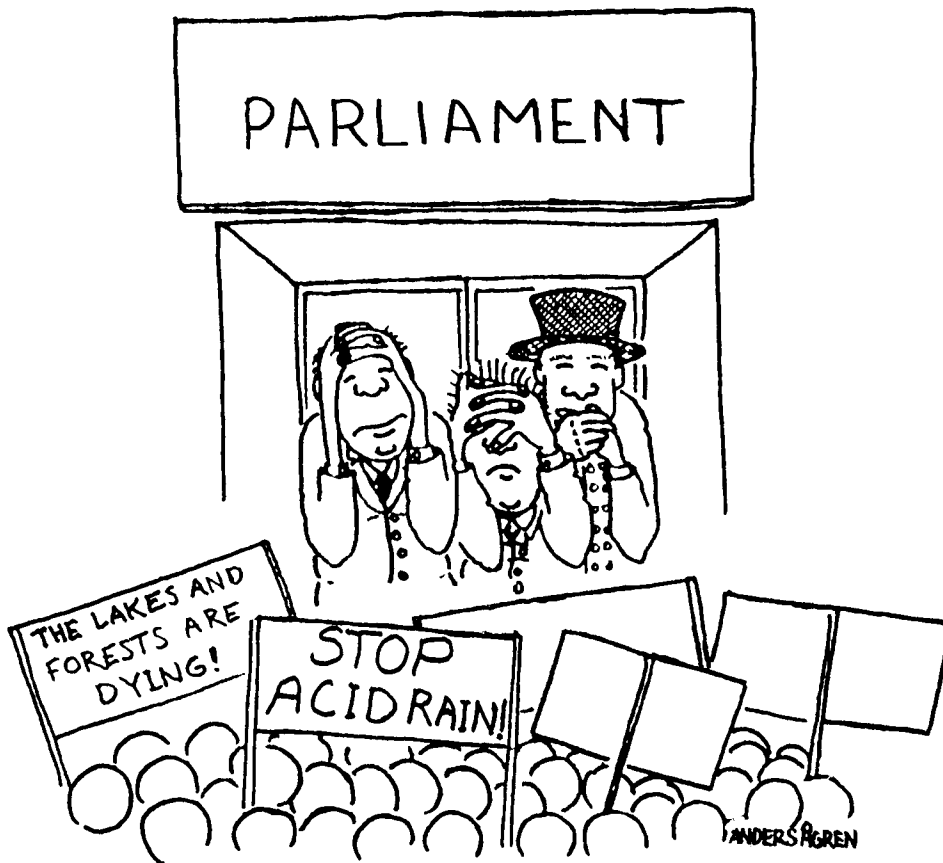


INTERNATIONAL ACID RAIN WEEK; 18-24 APRIL 1983

The International Youth Federation for Environmental Studies and Conservation (IYF) is proclaiming this week an International Acid Rain Week. The idea is that as many organisations and local groups as possible should devote themselves to Acid Rain issues at that time.

Groups can become involved in various ways, depending on their particular starting-points. Those who have not previously done anything on this theme can devote themselves to various kinds of internal training. Groups that have already passed that stage can devote themselves instead to opinion-forming activities, for example public lectures and debates, the writing of articles, or various actions to attract attention and achieve a higher level of public awareness. And, above all, to voice demands, and exert pressure on decision-makers at all levels.

Is this something of interest for your organisation/local group?



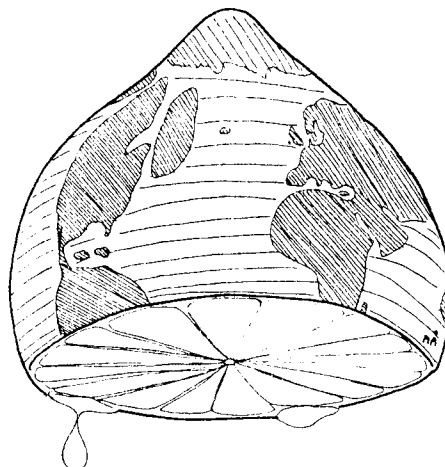
THE ECE CON- VENTION COMES INTO FORCE

Now 24 countries (of the 30 and more who were signatories) have at last ratified the ECE Convention on Long Range Transported Air Pollutants (LRTAP). This means that the Convention will come into force as from 16 March this year. An initial meeting with the executive body for the Convention, EB, will be held during the spring of 1983, probably in the last week of April.

With the Convention behind us, we now put still greater weight behind our demands for a powerful reduction of sulphur discharges in Europe.

SAURER REGEN

All german-speaking addressees will receive, at roughly the same time as this "Acid News" a new German book on Acid Rain, written and published by Verlag Kölner Volks-Blatt in collaboration with the Katalyse Umweltgruppe Köln.



The book describes the various effects of Acid Rain, with particular emphasis on the forests of West Germany. It also gives an account of the causes, and points to several different possible ways of reducing discharges of sulphur dioxide (SO₂) and nitrogen oxides (NO_x). A discontinuation model has also been constructed, illustrating how West Germany can reduce its discharges of sulphur to a minimum by the year 2000.

The book is entitled "Saurer Regen - Ursachen, Folgen, Gegenmassnahmen", and is of 120 pages. The price is DM 8.80 (environment organisations are entitled to a 30% discount!).

It can be ordered from:
VERLAG KÖLNER VOLKSBLATT
Tel.: 0221/213685

PALMSTR. 17
D-5000 KÖLN 1
WEST GERMANY

THE FORESTS ARE DYING

Several publications have turned their attention recently to the enormous problems presented by the death of forest land in Central Europe. The main causes are, in all probability, discharges of air pollutants, above all sulphur dioxide and nitrogen oxides. The trees are injured both directly by the high contents of sulphur dioxide in the air, and by the secondary effects of soil acidification caused by Acid Rain.

It is estimated that by now between 1 and 2 million hectares of forest land in Central Europe have been hit!

If you are concerned to read more about this, here are some tips:

– **BILD DER WISSENSCHAFT**, No. 12, Dec. 1982 (DM 7.80)

Contains several very good articles plus a large fold-out map showing what areas in West Germany are affected. Order from:

Deutsche Verlags-Anstalt, Postfach 209, D-7000, STUTTGART 1, BRD

– **UNSER WALD**, No. 6, Dec. 1982 (DM 3)

A special issue on the theme of Acid Rain, with the emphasis on damage to forests.

Order from:

Verlagsgesellschaft Unser Wald, Marienstr. 3, D-3000 HANNOVER, BRD

– **ALLGEMEINE FORTZEITSCHRIFT**, No. 45, Nov. 1982, pp. 1365-1368

Contains an interesting article by Karl Friedrich Wentzel, "Ursachen des Waldsterbens in Mitteleuropa".)

(We unfortunately do not have the address.)

TIME, 8 Nov. 1982, pp. 38-44, contains a good article entitled "The Silent Scourge" by Russ Houle. This article covers several aspects of the Acid Rain problems, with a certain emphasis on North America.

Dying spruce in the Ruhr-area. Photo: C. Ågren ▷



△ Dead spruce in Giant Mountain, Czechoslovakia.
Photo: Hans Bibelriether



THE STOCKHOLM CONFERENCE 1982

BY

ARMIN ROSENKRANZ

The 1982 Stockholm Conference: Summary and Highlights

The Stockholm Conference on Acidification of the Environment was convened by the Swedish government in June, 1982, on the tenth anniversary of the U.N. (Stockholm) Conference on the Human Environment. It was attended by 22 of the 31 member-states of the U.N. Economic Commission for Europe that had signed the **ECE Convention of 1979 on Long Range Transboundary Air Pollution**. Almost three years had passed since the signing of that Convention, and the Convention had neither come into force (lacking the necessary 24 ratifications), nor had any concrete acid rain abatement action been taken under a unanimous ECE Resolution to carry out the obligations arising from the Convention, pending its entry into force.

The Swedish government hoped that an international conference at this time would precipitate enough ratifications to bring the Convention into force, and would provoke national and international acid rain abatement action. The convenors succeeded in stimulating the needed ratifications. They also achieved a unanimous statement that "further concrete action is urgently needed within the framework of the Convention to reduce air pollution, including long range transboundary air pollution" (acid rain). Whether this call for action will result in actual abatement is, of course, another matter.

The Conference was preceded by a gathering of international experts – mostly scientists, technicians and pollution control officials – who rejected emphatically the argument that not enough is known about the nature and effects of acid rain to take remedial action. Indeed, the experts concluded that annual acid depositions above 0.5 grams per m² have acidified surface waters in sensitive areas, and that all measures which reduce total emissions will also reduce the damage now being done to acid-sensitive lakes and streams. They concluded, further, that currently available control technologies can reduce emissions at an acceptable cost.

Representatives of ECE member States and of various international organizations addressed the Conference. Virtually all representatives described their nations' progress in controlling SO₂ pollution, and several joined in Sweden's call for concerted international action to effectuate the ECE Convention. Most notable among these was the Federal Republic of Germany, represented by its senior minister and a large official delegation. West Germany, which had been a reluctant signatory of the ECE Convention 2 1/2 years earlier, now fully supported the Scandinavian call for international action, and urged all nations to fight air pollution **at the source**, using the best available technology. This was the first time that a major polluting nation indeed, the leading industrial nation of Western Europe – allied itself strongly with Sweden and Norway in their fight against transboundary air pollution and the acidification of the environment.

West Germany, of course, was pursuing its own interest in abating the recently-identified damage to its forests and timber industry, which several German scientists have attributed to acid rain. This new-found threat to forests has substantially broadened the significance of the acid rain/acidification problem throughout the ECE region. It has also broadened the economic stakes involved, and the number of countries that could be adversely affected. Concerted international action would not merely save some Scandinavian lakes; it could prevent serious damage to the forests of all Europe, and North America as well.

Other notable developments at the Conference were the absence of most of the Eastern European countries, including Eastern Europe's heaviest polluters – Poland, Czechoslovakia and the Soviet Union; the new solidarity and environmental progressiveness of the European Economic Community; the isolation of the United States and the United Kingdom; and the Conference's strong final statement. These, and some subsidiary matters, will be treated in greater detail below.

A Word should be added here about the Conference's atmosphere and arrangements, as an indication of the importance attached to it by the Swedish government. The King of Sweden opened the Conference, and spoke briefly about Sweden's interest in an international solution to the acidification problem. Conferencees and foreign observers were guests of the Swedish Prime Minister, the Speaker of the parliament and the City of Stockholm at elaborate dinners and receptions. More

*Armin Rosencranz, a lawyer and political scientist from Inverness, California, U.S.A., recently directed the German Marshall Fund Study of Transboundary Air Pollution at the Environmental Law Institute, Washington, D.C. He attended the Stockholm Conference as an observer.

than 60 foreign journalists covered the Conference and interviewed participants. And a BBC TV crew chose the Conference as the site for a forthcoming documentary on the acid rain problem.

II. The West German Turnaround

The most remarkable and unexpected development at the Stockholm Conference was the West German "turnaround". West Germany is the second largest air polluter in Western Europe, with a current annual atmospheric load of 3.5 million tons of SO₂ and 3.1 million tons of NO_x. In the negotiations leading to the **ECE Convention of 1979 on Long Range Transboundary Air Pollution** and the EEC "SO₂ Directive" of 1980 – setting Community-wide ambient air quality standards for SO₂ and suspended particulates – West German representatives dragged their heels and presented a host of objections. At the Stockholm Conference of 1982, the West German position seemed to have shifted 180 degrees. West German Interior Minister Gerhart Baum delivered one of the strongest speeches of the Conference, calling upon all states, in Chancellor Schmidt's name, to fight air pollution **at the source**.

During the past 18 months, West German scientists have established a "progressive dying of forests" – especially spruce and fir trees – in large parts of Germany and central Europe, and have pointed to SO₂ and acid rain as a probable cause of this degeneration. The West German reassessment may also have been influenced by the growing power of the Green Party.

Whatever the reason, West Germany's anti-pollution stance at the Conference was clear and decisive. Herr Baum urged all states to follow his country's example and to equip new and rebuilt plants with the best available pollution control technology – notably flue gas desulfurization (f.g.d.) systems. He indicated that West Germany would press for emission controls within the EEC, and urged the same policy on the Executive Body of the ECE Convention.

Baum also pledged his government to a 50% reduction in SO₂ and NO_x emissions over the next 10 years, through a) mandatory use of

f.g.d. systems on both new and **existing** installations; b) an amendment to West Germany's basic Clean Air regime – the "TA-Luft"-requiring "the latest state of technology" in all installations; and c) promoting and EEC-wide strict regulation of motor vehicle emissions, aimed at reducing exhaust gases by 50%.

Baum emphasized West Germany's dependence on international control efforts, since his country both imports and exports about half of its total SO₂ pollution. This too, is a marked change from West Germany's earlier almost exclusive reliance on its own control efforts.

Helmut Kohl, the new Christian Democratic Chancellor, may not carry out the Schmidt-Baum program in every particular, but the damage to West Germany's forest products industry and the strength of the West German environmental movement are likely to limit any inclination Kohl may have to dismantle his predecessor's work.

adoption. The Eastern European countries are not, however, accustomed to disclosing sensitive energy data to international bodies. The Soviet Union also might not have been eager to expose itself to pressure from its continental neighbors to improve its sulfur control program, to establish concrete abatement goals, and to exchange emissions data with ECE member states.

In any case, the Swedish government was obviously disappointed at the poor representation from Eastern Europe. East Germany was the only one of Eastern Europe's major polluters to attend the Stockholm gathering. Hungary and Romania were also represented (indeed, the Hungarian environmental protection department head, Mr. E. Szenes, was elected Vice-Chairman of the meeting), but Poland, Czechoslovakia, the Soviet Union and Bulgaria were all notably absent, and the Romanian delegate did not address the Conference.



Lake Härsevätten, a strongly acidified (pH=4.2) lake in SW Sweden.

III. Non-Participation By The Soviet Bloc

European countries – especially Poland, Czechoslovakia and East Germany – contribute about one-third of Scandinavia's sulfur imports, and hence its participation in the ECE Convention of 1979 was critically important. That Convention grew out of an initiative by President Leonid Brezhnev at the 1975 Helsinki Conference on Security and Cooperation in Europe. Thus, the Soviet Union and its allies had a strong stake in the Convention's

Eastern Europe's intentions regarding "further concrete action" (in the words of the Stockholm Conference's unanimous final statement) will be more clearly revealed at the February, 1983 meeting in Geneva of the ECE Senior Advisors on the Environment, representing all signatories to the 1979 Convention. There, Sweden and Norway, perhaps supported by West Germany, will undoubtedly press for binding amendments to the Convention imposing concrete SO₂ abatement measures on member states.

IV. The EEC's Solidarity and New Interest in Air Pollution Control

Apparently prompted by the forthcoming Stockholm Conference, and eager to present a united and progressive front there, the Council of the European Communities voted last spring to collectively deposit instruments of ratification of the ECE "Acid Rain" Convention of 1979 with the U.N. by July 15, 1982. Since thirteen nations have already ratified the Convention, this collective EEC action, together with two or three other pending ratifications, will undoubtedly provide the 24 necessary ratifications to bring the Convention into force by the end of 1982. (The Convention will go into force March 16, 1983. Editors comment.)

The Netherlands and Denmark have recently been the most environmentally progressive countries within the Community, but have generally had to give way to West Germany, France and the United Kingdom regarding Community-wide pollution control directives. The EEC "SO₂ Directive" of 1980, scheduled to take effect in February, 1983, had been on the Community's agenda for five years before it was finally adopted. It sets a modest air quality standard for SO₂ and suspended particulates, and most countries are expected to have little trouble complying. The significance of the SO₂ Directive of 1980 is that it establishes beyond doubt the **competence** of the EEC and of its Commission to act in behalf of member-states in the area of air pollution.

The new West German aggressiveness regarding international air pollution control will undoubtedly stimulate the Commission's efforts in disseminating new German-backed directives on motor vehicle emission controls and on uniform, Community-wide "best available" technological controls on emissions from stationary sources (i.e. power plants and industrial boilers). If all air pollution sources in the Community were subject to the same mandatory control requirements, sources with existing "best available" technological controls would no longer operate at a competitive disadvantage.

Quite possibly the "action" in European control of transboundary

SO₂ and acid rain pollution will shift away from the ECE – which is hampered by Eastern Europe's unenthusiastic participation and presumed reluctance to establish concrete abatement requirements – and toward the EEC, which has both the power and a new motive to act in this area.

V. The Isolation of the United States and the United Kingdom

The United States is the largest SO₂ polluter and acid rain exporter in North America and the United Kingdom is the largest SO₂ polluter and acid rain exporter in Europe. Both countries seem largely unaware of the serious environmental and economic consequences of acidification, and insensitive to the damage their pollution causes to neighboring countries.

The United States government's stand toward acid rain abatement underwent a fundamental retreat after the election of President Reagan. The British government's attitude has always been to delay action as long as possible and to give away as little as possible. Both governments' postures were revealed in their representatives' statements at the Stockholm Conference, and resulted in their isolation from the Conference's momentum and thrust.

Neither government sent its senior minister. The U.S.A. was represented by Kathleen Bennett, Assistant EPA Administrator for Air, Noise and Radiation. The United Kingdom was represented by Giles Shaw, Parliamentary Under Secretary of State for the Environment.

Mrs Bennett offered the Reagan Administration's by-now familiar claim that we don't know enough about the acid rain phenomenon to act, and that more research is needed. (She noted that \$18 million was spent on acid rain research in Fiscal Year 1982). She took issue, implicitly, with the findings of the international experts, who had met in Stockholm the previous week and had concluded that current acid deposition rates in Europe and North America are higher than sensitive streams and lakes can tolerate. The experts also concluded that all measures which reduce total

emissions will also reduce the damage now being done to those sensitive lakes and streams. By contrast, Mrs. Bennett temporized and equivocated: We do not yet "know where and when to reduce emissions and by how much". In her formal presentation, she said that we need to wait **three to five years** for these findings, and then to devise specific cost-effective control strategies.

Later, at a press conference, Mrs. Bennett seemed to back away completely from any new acid rain control efforts, and that the New Source Performance Standards authorized by the Clean Air Act of 1977 will bring about continual and adequate reductions in SO₂ emissions through the gradual replacement of old unregulated plants with new scrubber-equipped ones. She mentioned that the United States now has 88 scrubber-equipped power plants, with 40 more under construction. She neglected to add that the Reagan Administration has been seeking to undermine and weaken the Clean Air Act of 1977.

Speaking for the United Kingdom, Giles Shaw echoed both Mrs. Bennett's call for additional research, and her complacency with the status quo. Shaw characterized acidifications as "a problem of great complexity" affecting "certain limited areas of the world." He spoke proudly of the United Kingdom's steady reductions in air pollution over the past 30 years and observed that further controls might prove unnecessary in the face of expected future reductions stemming from the use of clean fuels (nuclear power and natural gas). He questioned whether acid deposition would be reduced by reducing emissions at the source (thereby contradicting both the international experts' findings and the position of the West German government). He suggested, instead, that "a large reduction in emissions in one country may have only a marginal effect in another country." Moreover, reducing emissions at stationary sources might be far less cost-effective than reducing motor vehicle emissions, according to Shaw.

Like Mrs. Bennett of the U.S.A., Shaw implied that adequate progress in SO₂ emissions reduction could be achieved under existing pollution control practices and policies, **viz** increased reliance on nuclear power and natural gas, con-

tinued energy conservation, and normal technological advances. He equated Britain's "best practicable means" standard with Herr Baum's call for applying the "latest state of technology" to control emissions at the source. (The former is a highly particular and wholly discretionary standard, varying from case to case, whereas the latter is a universal standard, that the West German minister urged to be applied uniformly throughout the ECE region.)

Shaw concluded his address with a call for continued and careful national and international research and asked rhetorically, "How can we justify the additional costs, how can we justify the energy penalties of emission control on existing facilities, unless we can be sure of commensurate advantages?"

Notwithstanding their official spokespersons' announced preferences for further delay, the United States and United Kingdom delegations joined in the Conference's unanimous final statement calling for "urgent action" to reduce acid-causing emissions. They also joined, inadvertently or perhaps cynically, in the Conference's specific endorsement of f.g.d. as a control strategy which should be used in all new and rebuilt power stations, and in the Conference's characterization of tall stacks as "an obsolete abatement mechanism for sulfur emissions." (Dispersion through tall stacks is the linchpin of Britain's air pollution control regime.) The Conference obviously could not effectuate its will, and the American and British delegations may have decided that they would lose nothing by a show of sportsmanship. Indeed, Canadian and Dutch representatives on the Dutch-chaired committee that drafted the Conference's conclusions and final statement reported informally that the American representative tried for several hours to water down the statement, but, seeing that he was completely out of step with the rest of the group, abruptly capitulated and said his delegation would support the majority's conclusions.

One somewhat promising element in the British picture is the recent elevation of Leslie Reed, a former scientist-diplomat at the Department of Environment, to the post of Chief Alkali Inspector. Reed formerly represented the United Kingdom at both OECD and ECE environmental meetings. As Chief Alkali Inspector,

he now directs Britain's day-to-day regulation of the major sources of air pollution – viz. power plants and industrial works. Reed can be expected to bring to his new job the international perspective that he gained in his earlier diplomatic work – a perspective that may be particularly relevant to the problem of long range transboundary air pollution.

A parenthetical word should also be added regarding France's presentation at the Stockholm Conference. Represented by its ambassador to Sweden, the French government explained that sulfur pollution was being steadily reduced by expanded reliance on sulfur-free nuclear power and by technological progress. Implying that no specific abatement action was necessary, the French representative said he trusted that technological progress would help to achieve further reductions. The French, too, joined in the unanimous final statement.

For the eleven European OECD-nations, the estimated cost of crop damage due to SO_2 , is about \$ 500 million/year. ▽

Photo: C. Ågren



VI. The Participation of Non-Governmental Organizations (NGO's)

The Swedish government invited more than a dozen representatives of non-governmental environmental organizations from northern Europe and the United States. NGO activities at the Conference were coordinated by Mats Segnestam, director of the Swedish Society for the Conservation of Nature. Through several press releases, two press conferences and the opportunity to present the final address during the Conference's general debate, the NGO contingent undoubtedly played an important role at the Conference.

In his address to the Conference, the NGO spokesperson, David Hawkins of the U.S.A. Natural Resources Defense Council (and former Assistant Administrator of E.P.A.) took sharp issue with the United States position that further measures to reduce acid deposition should not be taken until research is completed, and with the United Kingdom argument that we are not sufficiently sure of the benefits of new control programs to justify new control measures. He characterized

these arguments as "specious, dangerous, and in direct contradiction to the **ECE Convention of 1979 on Long Range Transboundary Air Pollution.**" He added that these arguments had just been soundly rejected at the international expert meetings held in Stockholm June 21 – 24, 1982.

The NGO statement urged all governments to

- so reduce their total sulfur load that the level of 0.5 grams of sulfur per m² (identified at the expert meetings as the critical threshold) is not exceeded;
- greatly reduce and prevent sulfur and nitrogen oxides pollution by conserving energy, burning fuels of low sulfur content, using desulfurized fuels, and employing the best available technologies to control emissions;
- make full use of ECE Convention Articles 5 and 8 requiring notification and consultation between upwind and downwind countries on activities likely to increase transboundary air pollution;
- reject liming as a solution to the acidification of lakes and streams.

While welcoming the recent decision of the Council of the European Communities (EEC) to ratify the ECE Convention collectively and individually, the NGO's urged the Council to 1) instruct the Commission (EEC staff) to forcefully implement those sections of its SO₂ Directive of 1980 which treat **environmental** as well as health effects; 2) adopt a Directive limiting the sulfur content of heavy fuel oils; and 3) adopt a Directive reducing motor vehicle emissions, especially nitrogen oxides and hydrocarbons.

The NGO statement and address concluded by observing that "Europe and North America must each be regarded as common airspaces, where harmonious rules governing emissions must apply. Moreover, we note with alarm that both of these regions appear to be contributing to the increased pollution of the air over the Arctic – the one area that both regions share."

VII. The Conference's Conclusions and Final Statement

Since the Conference's unanimous conclusions have already been referred to, they need only be summarized here. First and foremost, the Conference concluded that further concrete action is urgently needed to reduce air pollution and acid rain. Such action should take the form of concerted programs, within the framework of the ECE Convention, to reduce sulfur and nitrogen oxides emissions, using the best available technology which is economically feasible. The statement pointedly noted that desulfurization has been **proven** as a main SO₂ control technology, and urged its use in new and rebuilt installations, such as power plants. (This conclusion is especially remarkable since only two of the countries represented at the Conference – the United States and West Germany – currently use f.g.d.)

The final statement went out of its way to characterize high stacks – Britain's main control strategy – as "an absolute abatement mechanism for sulfur emissions."

The scientific findings of the expert meetings were all incorporated by reference, including the findings

that any reduction in emissions will benefit sensitive areas, and that cost-effective emissions control technologies are widely available. The London Times report on the Conference observed, "Those scientific findings could cause a great deal of inconvenience to the British and American Governments in future, particularly after a 1979 Convention on Long Range Transboundary Air Pollution, including a provision for mandatory consultations on request between upwind and downwind countries, comes into force." (July 2, 1982)

One positive result of the Conference is that the ECE Convention of 1979 is about to come into force. As noted, the Convention requires polluting countries to consult with victim countries regarding plans or activities that could affect transboundary air pollution.

Beyond that, the Swedish organizers of the Conference and the drafters of the Conference's final Statement were preaching largely to the already converted. The minimally controlled heaviest polluters of Eastern Europe did not attend the Conference, and – led by West Germany's new consciousness of the acid rain menace – the countries of the European Economic Community, including the United Kingdom, already have emissions controls on the EEC agenda. In bilateral negotiations with the United States, Canada has already offered to reduce SO₂ emissions by 50% over the next ten years.

Of all the delegations at the Conference, the United States was the most recalcitrant. One may hope that some of the Conference's stridency and sense of urgency will have been brought home to Washington by the United States delegates.



The Acid Rain Caravan

**A personal account of a
six-week
experiment in mobilizing
citizens to
fight for an end to acid rain**
by Lisa Dunn and Kai Millyard

Probe Post Vol. 5, No. 3, October 1982

This past summer, two Canadians, three Americans, 35,000 pieces of literature, 15,000 "Stop Acid Rain" buttons, hundreds of T-shirts, a number of slide shows, projectors, displays, research files, and posters, and a pH meter were crammed into a bus which left from Toronto on a six-week tour of Ontario, Quebec and the northeastern United States. We called ourselves the Acid Rain Caravan, and for six weeks our converted white school bus carried us 4,000 miles through cities and towns as we tried to persuade citizens of both countries to urge their governments to stop acid rain.

The Acid Rain Caravan was the brainchild of US consumer activist, Ralph Nader. During a speaking tour of Ontario last February, Nader argued that an immediate grassroots movement was needed to make governments stop what he called "unpremeditated chemical warfare." Because the American public is much less informed about acid rain than are Canadians, Nader thought the caravan should concentrate on education and mobilization in the United States.

The caravan was planned and sponsored by the Public Interest Research Groups of New York State and Ontario. (These groups were founded by Nader and operate from university campuses across North America.) Support for the caravan was also received from the Canadian Coalition on Acid Rain, the Federation of Ontario Naturalists, the Pollution Probe Foundation, Quebec's *societe pour vaincre la pollution*, and the US National Clean Air Coalition.

Because we wanted to take the caravan to those places that are most sensitive to, and have suffered most from, acid rain, we spent one week in Ontario and Quebec, three weeks in New York State, and two weeks in Maine, Massachusetts, Vermont, and New Hampshire. The chemistry of the soils and bedrock make the region extremely sensitive to sulphur dioxide (SO₂) emissions (the largest component of acid rain). While some SO₂ is emitted in the region we visited, most of it comes from the American midwest. The state of Ohio, for example, produces twice as much SO₂ as New England, New York and New Jersey put together.

We scheduled our visits to coincide with county fairs, craft shows and other local events. We also concentrated on places where local individuals or groups had agreed to arrange the day's events. On arriving in a new town each day, we set up our information table and displays in a busy place, such as a shopping mall or local tourist attraction, and if possible we used our bus as an eye-catching backdrop. Our literature was free, buttons usually brought donations and "Stop Acid Rain" T-shirts were sold for six dollars each. The caravan staff, comprising Bob Belfort of Buffalo, Mark Jackson and Harriet Kaplan of New York City and Kai Millyard and Lisa Dunn of Toronto, wore the bright yellow and red "Stop Acid Rain" T-shirts as uniforms.

As well as handing out literature and talking to people, we provided writing paper and envelopes for people to write on-the-spot letters to their

congressmen. The information we provided always stressed that the acid rain problem is well enough understood, and that the technology exists to solve it – what is needed is immediate legislative action.

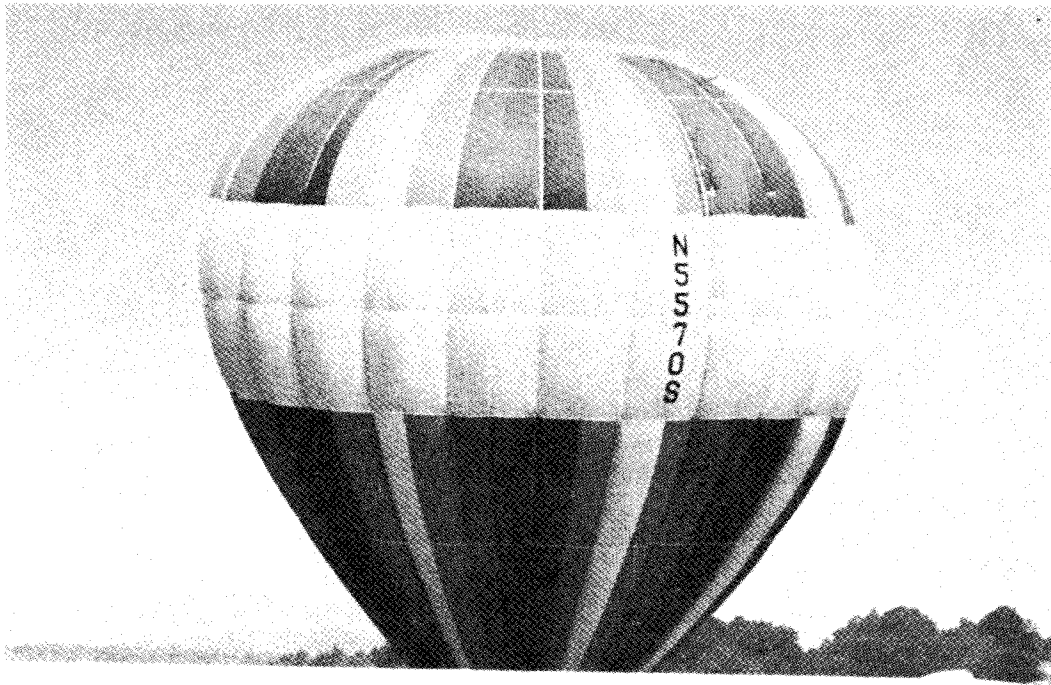
On most days, we held a press conference with local groups and politicians. A special press release addressing the problems caused by acid rain in each particular area was issued for each conference. In rural districts, for example, we explained how acid rain harms aquatic life, agricultural soils and drinking water; in towns and cities, we pointed out that it damages buildings, monuments, cars, and human health. Everywhere we stressed that if coal must be burned by industries and power plants, it can and should be burned cleanly.

The news conferences often centred on the presentation of an "acid rain umbrella" (donated to the caravan by the Federation of Ontario Naturalists) to a local official as "a symbol of the protection your area needs from acid rain." Twenty-three umbrellas were given away to mayors, congressmen and other politicians.

In the US, we criticized the Reagan administration regularly, concentrating on the damage to Canadian-US relations caused by the acid rain issue. The Canadian caravaners described the extensive damage to Canadian lakes and crops as examples of the fate that is in store for the northeastern states if action is not taken.

As part of our campaign against the Reagan administration's policies, we frequently referred to a recent

The enormous hot-air balloon should rise, and then release 1000 smaller balloons, each of which had a postcard attached. Photo: Kai Millyard.



Harris Poll which revealed that 83 percent of Americans supported at least as strong, or even stronger, enforcement of clean air legislation. The opponents of pollution control and clean air regulations often argue that it will cost too much. Our most persuasive rebuttal to that argument was to point out that we are all paying for acid rain now, in the form of damage to valuable natural resources and man-made materials. Once the issue is presented in this way, most people agreed that they would rather pay "up front" through pollution control than allow the costs to be borne by declining fishing and tourist industries, dying lakes, reduced forest productivity, damaged buildings and cars, and increased human health problems.

For us, the most rewarding of the caravan's activities were the evening presentations. Whether at a public forum, college class or environmental group meeting, these presentations were an opportunity to talk to a large group of people directly and to answer their questions. After long days of sending our message through reporters, talking to microphones and playing to cameras, we looked forward to real discussion with individuals. (The people who came to the evening presentations were usually more interested and concerned about acid rain than were the individuals who passed by our display table during the day.) Quite often we showed films at the campgrounds where we were staying; we hung a sheet on

the side of the bus and watched the film under the stars. After some presentations we had an entire group of people writing letters to their government representatives. The most memorable event of the trip was our stop in Brimfield, Massachusetts, where the local organizers combined our visit with their own protest against a recent proposal for a liquid industrial waste treatment and disposal facility. Most of the population of the tiny town came out to see our displays and listen to the press conference. Two members of a local Indian tribe performed an anti-acid rain ceremony, which consisted of chanting and bell-ringing. Then the caravan bus led a fifty-car procession to the site of the proposed plant, which is still a

farmer's field. Awaiting us was an enormous, brightly-coloured hot-air balloon. There were also 1,000 smaller balloons, each of which had a postcard attached. The idea was that the hot-air balloon would rise to the height of the stacks of the proposed plant, and then the 1,000 helium-filled balloons would be released. The organizers hoped that people finding the cards and reading the warnings about pollutants from the plant would send them back to the organizers so that they could make a map of one possible path that emissions from the smokestacks might take.

It was exciting for us to see a group of ordinary Americans so aware of many environmental and political issues as a result of a heated "not-in-my-backyard" battle. The town was an oasis of active, concerned citizens, and they treated us like visiting dignitaries.

The regional variation in knowledge about acid rain was remarkable. In Rochester, New York, for instance, one woman who saw our bus thought we were a travelling rock

group called "Acid Rain Caravan." When she found out what we really were, she decided not to buy a T-shirt after all. Some people thought acid rain was caused by nuclear power, and many did not realize that the Great Lakes are not likely to be acidified.

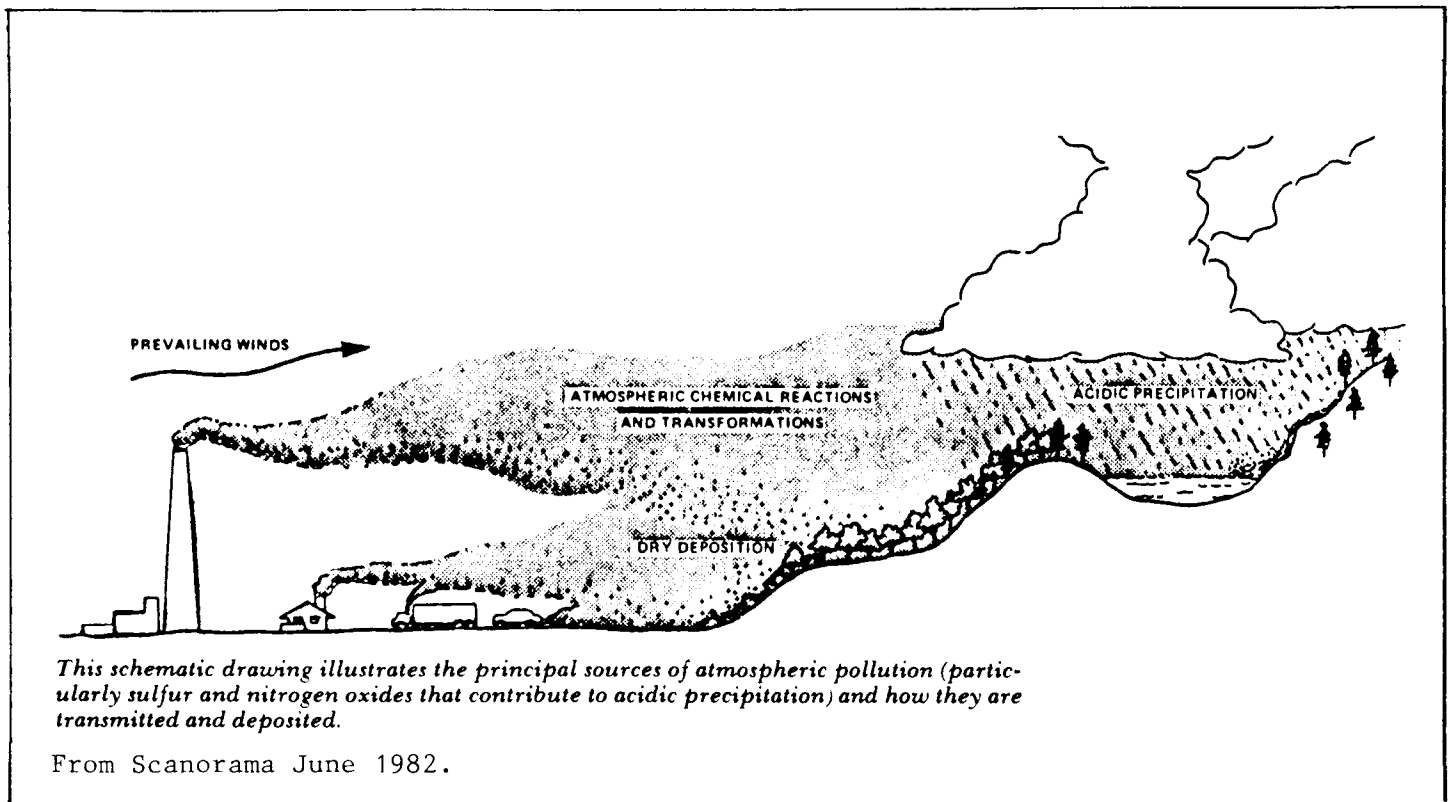
It's hard to know what effect our campaign had on individual politicians, since we did no direct lobbying. We are hoping that the literature we left with local organizers, the heightened public awareness and the letters we encouraged people to write will help to keep the pressure on the remaining hostile or uncommitted representatives through the fall and into the new year.

All and all, public response to the caravan and the issue was strong and favourable. Canadians were clearly the best informed, but the Americans we talked with were not far behind. If everyone who said they would write a letter indeed did, thousands will have been written.

As a media event, the trip was also a success. More than 60 radio and 30

television appearances and 50 stories in the press took our message to more than five million people. Reporters almost always supported us and were usually well informed. The success of the caravan and the fact that voting on the Clean Air Act has been delayed until next summer have encouraged us to begin planning Caravan II. This time, however, it may make more sense to go into the US midwest. Even though a campaign in such sensitive territory where the public is less well informed will be a huge challenge, the region is politically very important, and the experience gained this year leads us to believe we can have an influence. As the effects of acid rain spread into those regions (especially Michigan), and as people realize that it's too expensive *not* to clean up, we hope to be there, mobilizing the 83 percent of American voters who want stronger pollution controls but who may not know how to get them.

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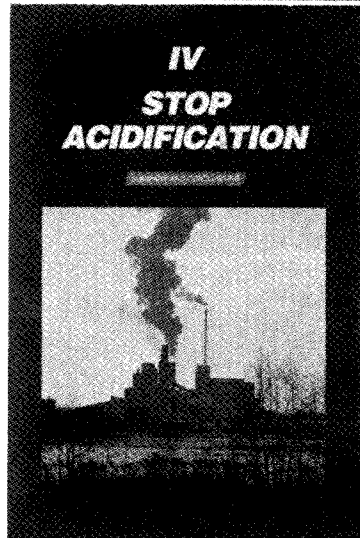
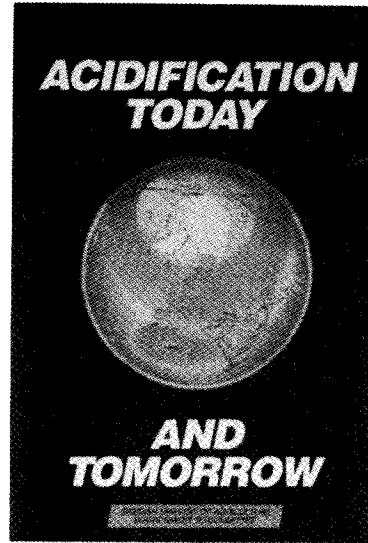


THE CLASSIS OF 1982

Under this head, the New Scientist (Vol. 97, No. 1339) had several of its book reviewers describe which books published in 1982 they considered best. Eric Ashby wrote:

"I don't read science books for pleasure, but two have nevertheless given me pleasure, though I had to read them in the course of duty; and a third merits (almost) that solemn word "momentous". They all concern the state of the environment. My first choice is the report of a committee: entitled **Acidification Today and Tomorrow**, and published by the Swedish Ministry of Agriculture, it is about the emotive issue of acid rain in Scandinavia. It is a model of popularisation: accurate, clear, objective, every conclusion backed by quantitative data set out with stunning elegance (if only our Royal Commissions could aspire to such standards!); and for the sceptic (and the acid rain problem teams with sceptics), a general list of references."

This book is available (a limited number only) at the Secretariat (see "Acid News" No. 5/82), and can be ordered from it free of charge by Non-Governmental Environment Organisations.



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