

# VERMONT ENVIRONMENTAL REPORT

Published monthly by The Vermont Natural Resources Council, a non-profit citizens' conservation organization supported by membership dues and contributions. 26 State Street, Montpelier, Vermont 05602 [802] 223-2328 Chairman, Jonathan Brownell Executive Director, Seward Weber, Editor, Nathaniel Frothingham

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## Eric Schumacher

### SCHUMACHER ADDRESSES OCTOBER 25TH CSSV CONFERENCE IN PUTNEY

Eric Schumacher, the German-born, British economist, addressed a conference on Saturday, October 25th, in Putney, sponsored by the Conservation Society of Southern Vermont (CSSV).

Schumacher was one of four speakers drawn together to explore this subject, "Environmental Behavior and Social Institutions," a weighty theme, a theme that boiled down to a consideration of the present condition of man and his chances for survival in this century.

Over 300 people from all over New England attended the CSSV event. They were not disappointed.

Schumacher was a Rhodes Scholar, an economic advisor to the British Control Commission in postwar Germany, and for twenty years prior to 1971, the top economist and head of planning at the British Coal Board. His credentials are impeccable, but he is no ordinary economist.

Schumacher has written a book entitled *SMALL IS BEAUTIFUL: Economics as if People Mattered*. It was published in 1973. It is a widely-quoted, seminal volume and it is being passed from hand to hand as a new gospel.

This is what Schumacher told his audience in Putney.

"We have given up our two great teachers," declared Schumacher. "These teachers are living nature and human values."

Schumacher's economic ideas are based, (in the tradition of Tolstoy, Gandhi, Lewis Mumford and others) on a religious view of man. Schumacher spoke about men and women as "the sons and daughters of God." "Man," said Schumacher, "was a moral being in relationship with God, a social being in relationship to his neighbors, and an individual confronting his own identity."

The problem with our present world, according to Schumacher, is the absence of "joyful, constructive labor." Schumacher is not talking solely about unemployment. He is talking about the lack of meaningful human relationships and the corresponding lack of meaningful work. The size of our institutions, he believes, is frustrating our moral impulses and destroying our humanity.

Schumacher is non-declamatory. He clothes his ideas in parables.

He told the story of a housing development in Britain that was built on agricultural land. The result was not expected. The families who occupied the new housing project took up intensive gardening. There was a five-fold increase in the amount of food produced. "We cannot afford agriculture," concludes Schumacher, "we can only afford horticulture" with a heavy dose of 'TLC' (tender, loving care) thrown in for good measure.

Schumacher looks at the spectacle of America in the 1970's. "Here is a country numbering less than 6% of the world's population and using more than one-third of the world's resources. If we could afford one USA," observes Schumacher, "we could not afford two of them. And you haven't abolished poverty."

Schumacher explains the root of our problems, questions of scale. We have built here and in England vast industrial conurbations. In this country, an urban megalopolis stretching from Boston to Washington and from San Francisco to San Diego. Schumacher explains why these conurbations exist. They exist because of in-

# schumacher

dustry's need for large numbers of workers, and this need in turn exists, because of the desire to manufacture goods to supply an enormous consumer market. Markets and manufacturing, the size of one, feeds the size of the other. Schumacher calls these concentrations of people "the astonishing pattern of urbanization that is making our countries sick."

Toward the end of his remarks, Schumacher held up two symbols. He talked about a Florentine cathedral that had been inspired, not by the powerful families, but by a conscious civic act. What was impressive about this cathedral was its beauty, its permanence, its enduring value. Against that symbol are the monuments of our own age, the London office skyscraper, built of the cheapest possible materials, in the shortest possible time, for the largest possible profit. In the short term there was money to be had; in the long term this was just another example of the "economic calculus that is ruining the world."

## EDITOR'S NOTE

THERE WERE FOUR SPEAKERS AT THE PUTNEY CONFERENCE AND FOUR STIMULATING PRESENTATIONS. WE CHOSE TO DESCRIBE THE REMARKS OF ERIC SCHUMACHER BECAUSE HE WAS THE VISITING SPEAKER. WE COULD NOT DESCRIBE THE ENTIRE CONFERENCE FOR REASONS OF SPACE.

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## update...

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● THE ARTS AND CRAFTS SERVICE is dead. Governor Salmon in explaining his decision wrote: "There is no question that the Arts and Crafts Service has provided valuable service to craftsmen. However, because of the limited funds available, the Education Department was forced to choose between programs and services for our elementary and secondary youth in Vermont and programs for our adults..." Salmon added: "I regret the present economic climate dictates these actions."

● THE VERMONT FOOD COMMISSION is winding up its work. The last of its public meetings is Wednesday, November 19th, in Bennington. The Commission will make its final report to Governor Salmon in December. Minutes of the Commission's hearings suggest that the final report will discuss the need for greater agricultural diversity, the need to test out innovations in food processing and storage, the need for farmers to employ co-operative arrangements more fully in buying supplies and marketing products, and the need for legislative action to protect agricultural land.

● JOHN FARMER, an official at the Agency of Development and Community Affairs, says that Parsons and Whittemore still want to construct a pulp mill on the Connecticut River. "It is still on," reported Farmer. This is how he explains the delay. Parsons and Whittemore is reviewing the pollution abatement technology. "They want to work out the environmental concerns," says Farmer. "Technology is changing so fast that the way they decide now could be obsolete two years from now." Farmer doesn't credit reports that the mill may be delayed from 3-5 years. He thinks it will be up and going in a couple of years.

● VERMONTERS who have gazed across the Connecticut River near Putney will soon see the removal of two familiar landmarks. Up until the end of 1974 a billboard or sign was legal if it was further than 666 feet from an interstate highway. Now, under an amendment to the Highway Beautification Act of 1965, if a sign is visible from an interstate, it must come down. The two landmarks in question are the enormous signs for "BASKETVILLE" and "SANTALAND" on the New Hampshire side of the Connecticut River. About 1300 off-premise signs and billboards are coming down in Vermont, and the removal program, originally scheduled for completion at the end of 1975, will be finished by the spring of 1976.

● THE VERMONT FOUNDRY AND MACHINE COMPANY, INC., the successors to Patch-Wegner, Inc., may face court action from the Vermont Attorney-General's office. The Rutland firm was to have complied with an anti-pollution agreement on October 31st, 1975. Patch-Wegner was mentioned prominently in an August, 1975 report on air pollution by the Vermont Public Interest Research Group. The VPIRG report was critical of the State's Air Pollution Section, claiming that the Section failed to effectively enforce the State's emission control standards.

**1975**

# **Annual Meeting**

## **1. Day's Program**

### **"VERMONT'S WOODLAND RESOURCE" TO BE DISCUSSION TOPIC AT 1975 VNRC ANNUAL MEETING**

Three members of the Governor's Task Force on "Wood as a Source of Energy" will make a presentation to VNRC members at the 1975 Annual Meeting on Saturday, December 6th, at the Old Board Restaurant in Burlington.

The morning session of the Annual Meeting will begin with registration at 9.30 a.m. (A map and a reservation form are printed on page 4. The \$5.00 registration fee covers the cost of lunch.) During the morning session, Council members will vote on by-law changes, elect new Directors, and decide the future direction of the Council in the year ahead. (An article on page 3 explains proposals for changes in the by-laws that have been approved by the Board of Directors at its October meeting. The names of prospective members of the Board together with biographical information appears on pages 2 and 3).

The featured speakers after lunch will be Representative Sam Lloyd (D. Weston), Chairman of the Governor's Task Force on Wood as a Source of Energy, Dr. William Beardsley, Assistant to the President of Green Mountain Power Corporation, and Mr. Leo Laferriere, General Manager for Ward Lumber Company in Waterbury. All three men were members of the Governor's Task Force. In their report, issued last August, the Task Force found that the use of wood could have a significant impact in meeting Vermont's energy requirements. The Task Force further found that the use of wood could lead to improved forest management, could reduce unemployment, and could cut the cost of paying for imported fuels. The report concluded that these benefits could be obtained without serious environmental consequences.

In their presentation to the Annual Meeting Mssrs. Lloyd, Beardsley and Laferriere will address this subject: "Vermont's Woodland Resource: The Task Force Report and Beyond." They will begin by enumerating the findings and recommendations

of the Task Force. They will describe some of the problems and opportunities that exist in realizing the potential of wood for energy production. And finally they will look at a long list of topics that need to be considered. Some of these topics are: the new technology for tree harvesting and the effects of that technology on the environment; wood as a substitute for non-renewable resources; pilot projects for testing wood as a fuel for electrical generation or wood as a fuel for heating; taxation, and the effects of our present taxing system on proper forest management.

In considering the question of taxation and proper forest management the three-man panel will comment on the study and recommendations that were made by Richard Cowart, a VNRC intern last summer. Cowart, who is a candidate for a combined law and planning degree at Berkeley, California, spent much of last summer conducting research into the problems of Vermont's woodlands. Cowart has made a proposal for changing the method of taxing woodlands in a way that would encourage sound management, while at the same time softening any loss of tax revenues to local municipalities.

Following the presentation, and a question-and-answer period, the Council will show a 20-minute film from the Weyerhaeuser Corporation. This film which has had excellent reviews examines the question of forest management and the new timber harvesting technology that has recently been developed. The Annual Meeting will adjourn by 3.00 p.m.

## timber

VNRC members are encouraged to attend this meeting and to register early so that a lunch can be reserved and so that they may receive copies of the summary and recommendations of Richard Cowart's report.

A summary of Cowart's report and recommendations will be sent to all VNRC members who register for the Annual Meeting and to others who request a copy.

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## 2. ELECTIONS

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### VOTE FOR SIX (6) -- VOTE FOR TWO (2) NOMINATIONS TO THE VNRC BOARD OF DIRECTORS

At the Annual Meeting at the Old Board Restaurant in Burlington on December 6th, VNRC members will elect six (6) at-large Directors to the Board and two (2) Directors representing member organizations. All terms shall be for three years, except for one at-large position. That position was vacated by William Cowles and will be for one year.

#### AT-LARGE NOMINATIONS (vote for six)

##### **ANTHONY ADAMS (ESSEX JUNCTION)**

Practising architect in Burlington; Vermont native; B.A. from Princeton University; B.Arch. from Rensselaer Polytechnic Institute; Member of the VNRC Executive Committee; Served on the VNRC Townscape Advisory Committee.

##### **STAN ALLABEN (LONDONDERRY)**

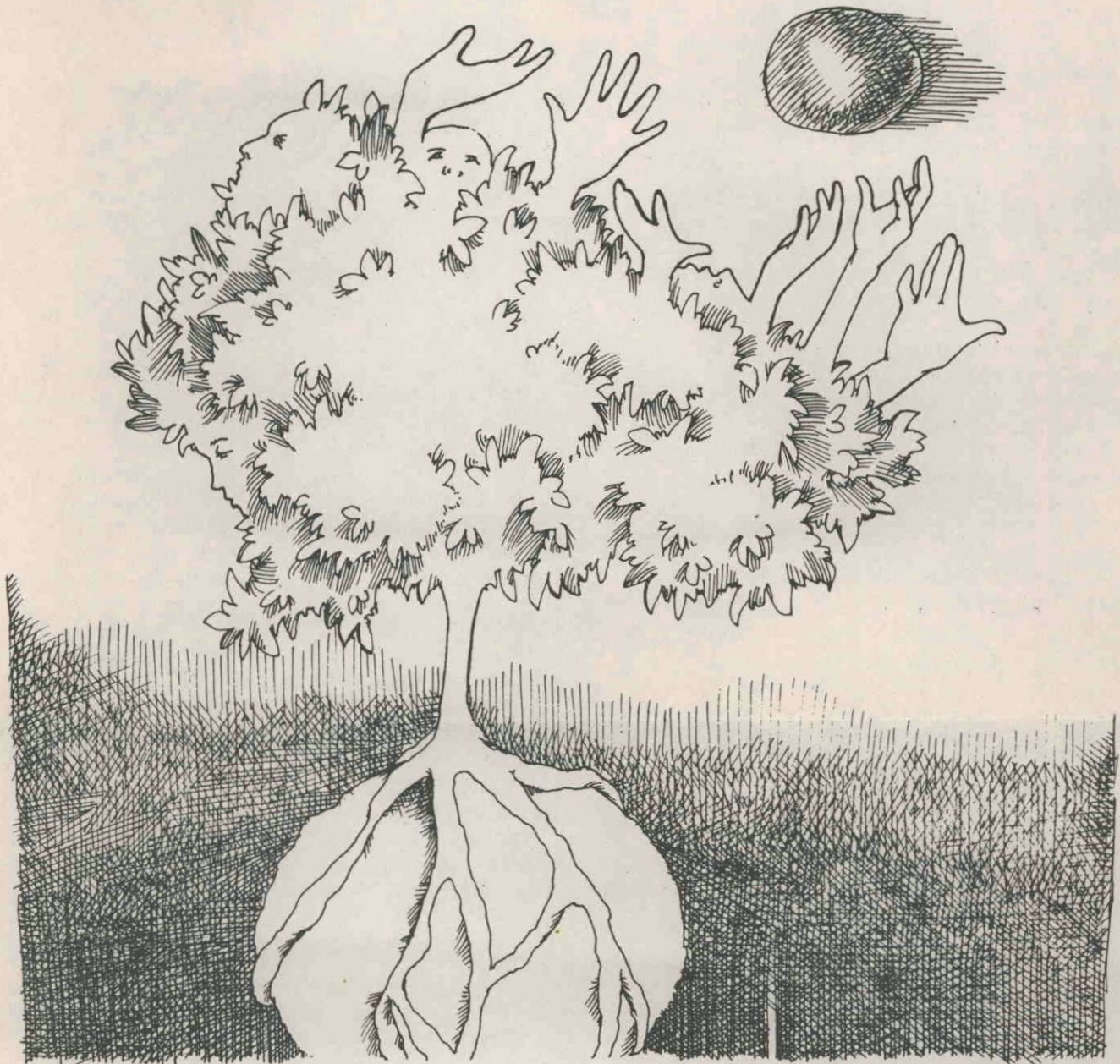
Co-owner of Viking Ski Touring Center and President of Nordic Traders, Inc.; B.S. in Business from University of New Hampshire; Chairman of the Southern Vermont Group of the Sierra Club; Member of the Executive Committee, Northeast Chapter, Sierra Club.

##### **ARMAND BELIVEAU (ST. GEORGE)**

Consultant with IBM; Vermont native; B.S. in Electrical Engineering from UVM; St. George Selectman; Commissioner to Chittenden County Regional Planning Commission; Chairman, Scenery Preservation Council; Played a key role in the preparation and subsequent adoption of a plan for transferable "development rights" in St. George.

##### **SERGE GAGARIN (PERU)**

Consulting engineer specializing in pollution abatement equipment; Associated with Sikorsky Helicopters for many years; Active sportsman.



# **AEROSOLS :**

## **Is There A Hazard ?**

THIS FOUR-PAGE SECTION IS A "SPECIAL REPORT" FROM THE NOVEMBER 1975 ISSUE OF THE MONTHLY PUBLICATION OF THE VERMONT NATURAL RESOURCES COUNCIL, THE VERMONT ENVIRONMENTAL REPORT. DRAWINGS ARE BY BARBARA CARTER.

# aerosols

## SPECIAL REPORT:

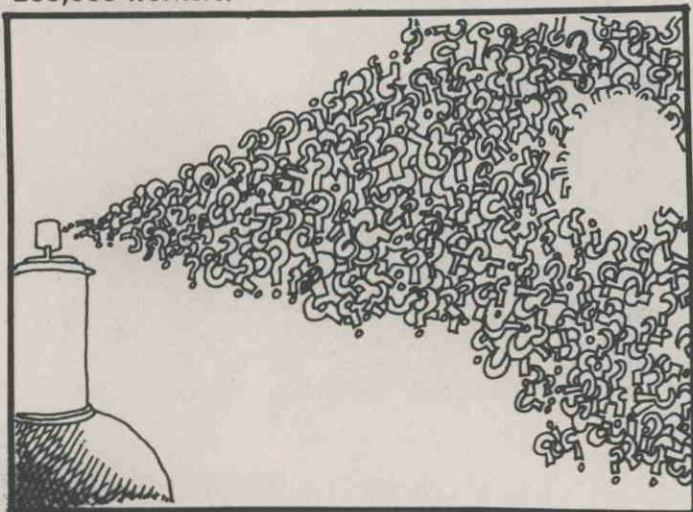
### THE AEROSOL CONTROVERSY: DOES A CLEAR HAZARD EXIST?

There is a growing body of evidence, from university research, from government studies, from records of consumer accidents and consumer misuse, to suggest that aerosol spray products constitute a major environmental and consumer hazard.

That the general public is largely unaware of these hazards is proved by the continued popularity of aerosol products. Over 3 billion aerosol units were sold in the United States in 1973. The Center for Science in the Public Interest reports that "about 95% of Americans come in contact with an aerosol spray product in their homes daily." There are plenty of these products around. The Center says that 45 aerosol units can be found in the average American home (1972).

The industry has found countless products that can be packaged in aerosol containers. These products are almost always more expensive than the non-aerosol alternative. Products that once were spread on, rubbed on, brushed on, or painted on, can now be sprayed on simply by depressing the plastic button on the top of an aerosol can.

Success in the marketplace has been enormous. Aerosols are a major business. In 1974, the industry directly dependent on fluorocarbon materials used in aerosol products, in refrigerants, and as blowing agents, contributed in excess of 8 billion dollars to the U. S. Gross National Product and employed an estimated 200,000 workers.



These are some of the reasons why aerosols have been cited as a consumer health and safety hazard.

- (1) Aerosol containers can explode and accidental explosions have caused serious injury and death.
- (2) Aerosol containers are subject to deliberate mis-use, and there have been over 200 deaths in the United States, mostly among young people, from this cause.
- (3) Aerosol containers are a temptation to children, and there are documented cases in which children have died or have been injured seriously by aerosol container accidents.
- (4) Aerosol containers may dispense ingredients that have possible toxic effects.

Aerosol ingredients are of two kinds: the active ingredient, that is, the substance that is being dispersed (hair spray, paint, shoe polish etc.) and the so-called inactive ingredient, the propellant itself. What the public may not understand is that when a deodorant, or a paint, or a whipped topping is applied, BOTH the deodorant, the paint, the topping AND the propellant is released. For a long time it was imagined that the fluorocarbon propellant was a benign material. New evidence based on the work of Dr. Willard Harris at the University of Illinois indicates that fluorocarbons can enter the bloodstream and can depress the heart's ability to contract and can produce abnormal rhythms.

That these chemicals DO enter the bloodstream in greater or lesser amounts through the lungs is demonstrated by the research findings of a team of three medical investigators who published their work in the February 1975 issue of *CANCER RESEARCH*. These investigators describe the aerosol mist as a suspension so fine that "substantial fractions of the resultant particles are of a size that can be inhaled into the lower respiratory tract." The study goes on to say: "Very few of these propellants or dispersed materials have been tested or certified as being safe to inhale." Only a few of the many ingredients of aerosol cans have been tested for their carcinogenic properties. What is known, however, is that some of the commonly used sprays contain substances that are suspected of producing cancer in humans.

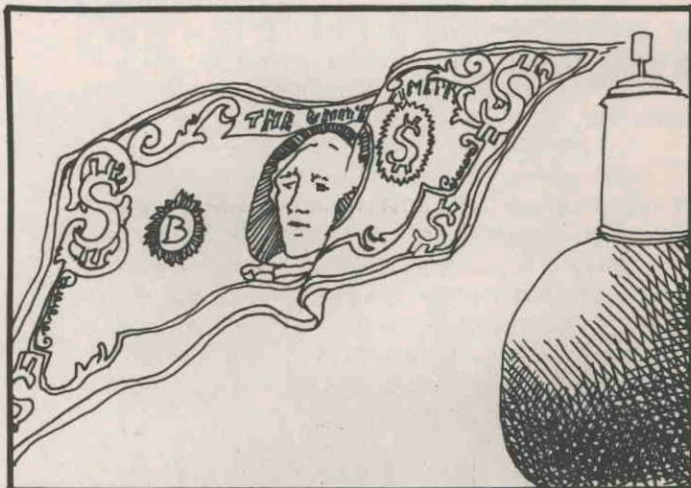
Quite apart from concerns that have been raised about the health and safety factors of aerosol products are the increasingly disturbing reports of the potentially devastating effect of fluorocarbon release upon the environment.

The earliest report of the possible impact of fluorocarbon release came from the research in 1973 of two professors at the University of California at Irvine. What Professors Molina and Rowland offer us in their hypothesis is a bird's eye view of a technological blunder of cosmic proportions, a time bomb that is activated by thousands of apparently innocuous decisions, the use of a deodorant, a spray-on paint, or a cheese topping.

This is the story.

We tend to forget that the aerosol container is a recent invention. It was only after World War II that the aerosol industry came into its own. Three developments were wanting. **FIRST**, a light container. This was made possible by an Interstate Commerce Commission ruling that increased the allowable pressure in thin-walled containers from 25 to 40 pounds per square inch. **SECOND**, a successful valve. This came on the scene through the genius of Robert Henry Abplanalp who designed a plastic valve assemblage that could be mass-produced. **THIRD**, a safe propellant. What was needed here was a compound that had special properties. It needed to be non-flammable; it needed to be safe; and it needed to be "inert," that is, it needed to resist combination with other chemical substances. What the chemists at Dupont Corporation concocted was a synthetic compound known by the trade name "Freon" in the chemical family of the fluorocarbons.

It is precisely those properties that make Freon and the fluorocarbons such an effective propellant in aerosol cans that at the same time conspire to make them such a potentially-devastating environmental agent. That fluorocarbons do not readily combine with other chemical substances is fine in an aerosol product, but that these propellants are "inert" is not so fine, in fact, it would appear to be plainly hazardous when they are released into the atmosphere. What Professors Rowland and Molina postulate is this: that when these gases are released into the atmosphere, they do not break down, they do not disintegrate. Instead, over a period of months, even years, they slowly rise in the atmosphere and eventually collect high above the earth in the ozone layer.



Ozone is a minor, but extremely important, constituent gas in the atmosphere. It is mostly concentrated in the lower stratosphere, between 13 and 15 miles above the earth. The important fact to remember about ozone is that it forms a protective shield. It envelops the earth and screens out more than 99% of potentially-lethal ultra-violet radiation.

What happens when the fluorocarbons reach the ozone is fairly easily explained. According to the Rowland-Molina prediction, these fluorocarbon gases, which were inert, which don't break down, ARE AFFECTED by ultra-violet radiation in the mid-stratosphere. They DO BREAK DOWN under these circumstances, and in breaking down, they release what Professor Rowland describes as a "highly reactive chlorine atom." It is this atom that apparently goes to work to attack the ozone shield. One atom of chlorine can destroy as many as 100,000 molecules of ozone before that chlorine atom drifts low enough in the atmosphere to be itself removed by rainfall.

If scientists who concur in the "ozone depletion theory" are right, we are witnessing a dangerous phenomenon at work. Diminish the ozone layer and scientists predict a rise in the incidence of non-fatal, human skin cancer. Diminish the ozone and you conceivably threaten most forms of plant and animal life. The frightening thought is this: we may already have passed a point of no return in terms of small-scale ozone loss. We may have burned holes in the ozone shield already. It takes months, even years, for fluorocarbons to collect, and it will take years to verify the full extent of the possible damage to the ozone shield.

Whether or not we are facing an enormously grave PRESENT risk and whether this risk calls for regulation, these are the questions that are dividing the scientific and governmental community.

Spokesmen for the chemical industry insist on the need to avoid hasty judgements based on inconclusive evidence. To its credit, the aerosol industry is supporting a \$3--\$5 million research program under the auspices of the Manufacturing Chemists Association. Also to its credit, certain companies, like Johnson Wax have withdrawn aerosols that use fluorocarbons as propellants from the marketplace.

These regulatory steps have already been taken.

On May 23, 1975 Oregon became the first state in the nation to pass a bill that bans the sale of certain aerosol sprays after March 1, 1977. The delay in the "effective date" of the Oregon bill is to give the State Legislature an opportunity to review any new scientific data.

In August 1975 Governor Hugh Carey signed a bill that empowers the New York State environmental commissioner to ban the sale of aerosol spray products by 1978.

Legislators in 13 other states and in Congress have introduced bills to ban, restrict or conduct research on fluorocarbon aerosols.

Here in Vermont at least five legislators are sponsoring a bill that will be considered in the 1976 General Assembly. This bill would ban the sale of certain fluorocarbon aerosol sprays after March 1, 1977.

In June 1975 an interagency task force comprised of experts from 15 federal agencies issued its report on the fluorocarbon-ozone question. This report concludes that there is "legitimate cause for concern" that fluorocarbon gases are damaging the earth's protective ozone shield.

On July 16, 1975, Commissioner R. David Pittle of the federal Consumer Product Safety Commission chose to break with his fellow Commissioners. At issue was a petition from the Natural Resources Defense Council that asked for an outright ban on fluorocarbon aerosols. The majority ruling was to deny the Natural Resources Defense Council petition. Commis-

sioner Pittle would have granted the petition. This is what he said in his minority, dissenting opinion.

The problem is very difficult. The adverse economic consequences from banning fluorocarbon propellants would be great and it is tempting to continue to study the problem until greater certainty can be achieved. However, I believe that the evidence we already possess is substantial, and the possibility of achieving greater certainty quickly enough to avoid an increase in the level of risk is slight. Balancing this against the magnitude of the risk, the inability of individual consumers to protect themselves against it, and its effect on future populations, I believe there is no doubt that this Commission should begin regulatory action at once. Therefore, I would grant the petition.





**HUGO B. MEYER (WOODBURY)**

Operator of Bardill "Sustained Yield" Tree Farm; B.A. from Stanford University; MBA from Harvard; Chairman, Central Vermont Regional Planning Commission; VNRC Treasurer and Member of Executive Committee; Lifelong interest in forestry.

**WILLIAM JACOBUS, JR. (ESSEX JUNCTION)**

President, Northern New England Council of Trout Unlimited; National Vice-President, Trout Unlimited; Past President, Vermont Chapter, Trout Unlimited; B.S. in Physics from Stevens Institute of Technology; Vermont Commissioner on the New England Interstate Water Pollution Control Commission; Active member of Ducks Unlimited.

**MEMBER ORGANIZATION NOMINATIONS**

**DAVID B. FIRESTONE (BARNARD)**

Nominated by Vermont Law School; Professor of Environmental Law; B.S. in Mechanical Engineering from Wayne State University; J.D. from Harvard Law School; Active member of the Vermont Institute of Natural Science.

**CHARLES W. JOHNSON (STOWE)**

Nominated by Central Vermont Audubon Society; State park naturalist for the Vermont Department of Forests and Parks; B.A. from Wabash College; M.S. in Zoology from the University of Illinois; Previously employed as wildlife technician and park manager; Vice-President, Central Vermont Audubon Society.

**RICHARD W. CARBIN (BARNARD)**

Nominated by Ottauquechee Regional Planning and Development Commission; Executive Director, Ottauquechee Regional Development and Planning Commission; B.A. and graduate work in Political Science from Rutgers University; Chairman of the Board, East Central Vermont Area Agency on Aging; Chairman of the Woodstock Housing Committee; Member, Windsor County "RSVP" Advisory Council.

**MICHAEL WEINBERGER (HARTLAND)**

Nominated by Vermont Chapter, American Institute of Architects; Practising architect in Woodstock; B. Arch. from University of California, Berkeley; Assistant Professor of Design, School of Architecture, Rensselaer Polytechnic Institute; Member, Vermont Institute of Natural Science, Audubon Society and Sierra Club.

## 3. By-Laws

VNRC members will be asked to vote on three important revisions to the Council's Articles of Association and By-Laws at the Annual Meeting on December 6th. IF APPROVED, the following changes will be made.

**TAX STATUS**

The Council's tax status would be changed from 501(c)(3) to 501(c)(4). This change would permit the Council to engage in lobbying and other legislative activities. The Council envisions a limited lobbying role confined to issues of prime environmental importance.

At the same time, a special VNRC Education Fund would be established with a 501(c)(3) status. All contributions beyond the initial \$10.00 in annual membership dues would be deposited in the Education Fund. Monies in the Education Fund would be used to support the traditional activities of the Council and would not be used for legislative activities. If the change-in-tax proposal is adopted a member will not be able to deduct the

initial \$10.00 paid as membership dues, but all contributions beyond that amount would be tax-deductible.

**DUES STRUCTURE**

According to a proposed by-law change, annual membership dues for individual members would increase from \$7.50 to \$10.00, and for family members from \$10.00 to \$12.50. All other membership categories, including the \$5.00 student/limited income membership, would remain the same.

**QUORUM AT DIRECTORS' MEETINGS**

A quorum for meetings of the Board of Directors would be changed from a majority (12 members) to 8 members.

All of these by-law revisions were approved at the October 22nd meeting of the Board of Directors and have been recommended for approval to the membership.