# Vermont Environmental Report

PUBLISHED MONTHLY BY THE VERMONT NATURAL RESOURCES COUNCIL, A NON-PROFIT, CITIZENS' CONSERVATION ORGANIZATION, SUPPORTED BY MEMBERSHIP DUES AND CONTRIBUTIONS. VNRC, 26 STATE STREET, MONTPELIER, VERMONT, 05602. (802) 223-2328. CHAIRMAN: DAVID R. MARVIN; EXECUTIVE DIRECTOR: SEWARD WEBER; EDITOR: NAT FROTHINGHAM.


# NUCLEAR POWER: The Achilles Heel WHAT TO DO WITH THE WASTES??

*The nuclear issue in Vermont is alive with controversy once again. These are just some of the developments.*

- *In November, 1976, the Vermont Yankee Nuclear Power Corporation filed a petition with the federal Nuclear Regulatory Commission (NRC) asking to "increase the capacity for storage of spent fuel assemblies in phases from 600 fuel assemblies to 2000 fuel assemblies at Yankee Station."*
- *On January 7, 1977, the State of Vermont filed a petition with the NRC asking to intervene in the Vermont Yankee application proceeding. Three public interest environmental groups have also filed for intervenor status on the Vermont Yankee application proceeding.*
- *On February 8, 1977, over 50 members of the Vermont House introduced H.261 that would require legislative approval before a nuclear waste storage or re-processing facility could be built in Vermont. While H.261 does not affect the Vermont Yankee application currently under review by the NRC, it does clearly speak to the problems of atomic waste storage and disposal.*
- *On Town Meeting Day, March 1st, 1977, at least 23 towns will have referendums on the question of nuclear power. These towns will vote on the question of whether or not to exclude the construction and operation of commercial nuclear plants and the transportation, storage and disposal of wastes from commercial reactors on and in the land, the air and the water of these towns.*

For the promoters of nuclear power, there is no more vexing problem, for its opponents, no greater curse, than the question of what to do with the long-lived radioactive wastes from nuclear power plants. Some of these wastes must be contained for hundreds of thousands of years, -- for 100 times as long as all recorded human history.

A small part of this unfolding drama over the storage and disposal of atomic wastes, a theatre piece of international dimensions, is now being acted out in Vermont as the result of two almost simultaneous developments.

The first development is the November, 1976 appli-

# atomic wastes...

cation from the Vermont Yankee Nuclear Power Corporation to the federal Nuclear Regulatory Commission. Vermont Yankee is asking for an amendment to its operating license. It argues that it needs to increase its storage capacity at its Vernon site from the current limit of 600 to an upper limit of 2000 fuel rod assemblies. According to Vermont Yankee this need will be particularly acute over the next ten years.

The second development pertains not to storage, but to the long-term disposal and containment of atomic wastes. This involves a nationwide search now being conducted by the Energy Research & Development Administration (ERDA) in 36 states, including Vermont, to identify potential rock formations suitable for the long-term containment of high-level atomic wastes.

It seems hardly accidental that these two issues, storage and long-term disposal, should be confronting Vermonters simultaneously. These issues are related and they are beginning to assume an urgency of national as well as of statewide significance.

This is the problem facing Vermont Yankee. The three commercial reprocessing plants for nuclear wastes, at West Valley, New York, at Morris, Illinois, and at Barnwell, South Carolina, are not in operation. The West Valley plant has gone out of business. The $64 million General Electric Midwest Reprocessing Facility at Morris, Illinois, has been de-commissioned, and the new facility at Barnwell, South Carolina, has not been issued an operating license. This situation is having serious consequences for existing nuclear power plants. At Vermont Yankee, spent fuel assemblies are accumulating at a rate of 100 per year. There are 512 spent fuel assemblies now being stored at the Vernon site. The current operating license sets an upper limit of 600. Some kind of decision on future waste storage has become imperative.

In its application to the Nuclear Regulatory Commission (NRC), the Vermont Yankee Nuclear Power Corporation has listed three alternatives. The alternative favored by the Corporation itself is to increase the storage capacity for nuclear wastes at the Vernon site to an upper limit of 2000 spent fuel assemblies. This would cost an estimated $1.8 million. A second alternative is to negotiate a contract or contracts to store spent fuel assemblies at one or more of the existing, licensed nuclear power facilities. This is an unlikely possibility because the storage problem is an industry-wide phenomenon and existing nuclear installations are jealous of preserving any reserve capacity they presently possess. Even if this option was available, it would cost an estimated $15 million. A third alternative spelled out by Vermont Yankee in its application, is to operate the Vernon nuclear plant at reduced power, or to shut down completely. These costs would be great. The replacement costs for Vermont Yankee power, in just one year, in 1977 would amount to $15 million.

The Vermont Public Interest Research Group (VPIRG) has joined the New England Coalition on Nuclear Pollution and the Conservation Society of Southern Vermont in an intervention petition filed with the U.S. Nuclear Regulatory Commission, challenging Vermont Yankee's spent fuel expansion application. "Our petition to intervene raises numerous technical questions about Yankee's proposal to triple on-site spent fuel storage," VPIRG Director Whitey Bluestein said. "While technical questions remain unanswered, the real question is whether or not Vermont Yankee will become a long-term waste storage site."

Bluestein raises a number of questions about the advisability of storing over 2000 spent fuel assemblies at the Vernon site. He asks: "Will there be sufficient water to cool the additional spent fuel rods?" "What procedures will be used to remove the old racks and install the new racks?" "Will the fuel pool's structural integrity be jeopardized by either higher pool temperatures or the additional 500,000 pound weight of the new racks and the 1400 more fuel rods to be stored in the pool?" "Will the new racks be able to withstand a dropped rod or an earthquake?" "What is the additional radiation exposure to workers and the public?"

Bluestein also points out that Yankee's NRC application provides no commitment to find any location for, or method of disposing of, spent fuel from the plant, and says that this indicates that Yankee is actually creating an indefinite spent fuel storage facility at Vernon. Citing the petition from the three

public interest groups, Bluestein argues that the Vermont Yankee site is not suitable for long-term waste storage due to its location in the relatively seismically active New England Piedmont Tectonic Province, the potential for contamination of the Connecticut River and the failure of Yankee to provide an environmental review of the proposal for indefinite spent fuel storage at Vernon. "Long-term on-site waste storage should not be allowed to creep in through the back door," the VPIRG Director concludes.

A second development that affects the disposition of atomic wastes in Vermont is the nationwide search currently underway in 36 states, including Vermont, to identify suitable long-term disposal sites for high-level radioactive wastes.

State officials most directly involved with this search effort here see no reason to jump to premature conclusions. They point out that Vermont is one of the 17 states of **lowest** priority in the ERDA search. Interim State Geologist, Charles Ratte, reports that the ERDA effort in Vermont is being confined to nothing more than a search of the literature. This means an examination of geologic maps. This quite modest activity is in sharp contrast to what is happening elsewhere. In the 13 states of **highest** priority, ERDA is conducting intensive field work that includes core drilling in rock formations. In another six states of **intermediate** importance to ERDA, serious geologic studies, including possible field work are underway.

State Director of Occupational Health & Safety, John Froines, backs up Ratte's assessment of ERDA activity in Vermont. Froines describes the ERDA interest here as strictly preliminary. In December, Gov. Salmon asked Environmental Secretary, Martin Johnson, to assemble a Task Force to study the problem. This Task Force is composed of State officials at the Agency of Environmental Conservation, together with representatives from the State Nuclear Advisory Committee. What seems clear is that the possibility of Vermont being identified as a site for the disposal of high-level radioactive wastes is extremely remote.

And yet, in all of this, there are sharp questions being raised. Charles Ratte characterizes it this way. "Vermont is a nuclear waste producer. If we do not want wastes, we have got to get rid of the sources of wastes. We are looking at all facets of nuclear waste."

"I am not out searching for sites," Ratte insists. But then he adds. "We do have the kind of rock they are looking for: granitic bodies, metamorphic rock." And he goes on to ask these questions. "Are those granitic bodies stable in depth?" "Are they waterproof?" And another question. "Would the existence of a long-term nuclear waste disposal site in Vermont cut down on the hazards involved in the transportation of radioactive materials in open trucks on open roads?"

The prevailing concern of the State officials most directly involved is that the technical problems as well as the intricate questions of federal and state relations be thoroughly examined. John Froines summed it up this way: "We on the Committee have agreed not to prejudge it (the ERDA search effort in Vermont) but to look at it as objectively as possible."

# NATIONAL WILDLIFE WEEK in MARCH

The National Wildlife Federation (NWF) has announced the 40th annual observance of "Wildlife Week", -- between March 20th and March 26th. The theme for this year's observance is symbolized by the NWF's poster which pictures a bear and cubs standing in a rushing stream with a caption that reads: "WE ALL NEED CLEAN WATER." In underscoring this theme, Thomas Kimball, Executive Vice President of the National Wildlife Federation said: "Every living thing must have water to survive. When water is polluted it threatens man and wildlife alike. To meet our national goals of water clean enough for swimming, boating and wildlife protection by 1983 and no more dumping of pollutants in waterways by 1985, everybody must get behind this effort."

The National Wildlife Federation is circulating a number of materials to schools throughout the nation, including a 16-page "Educational Kit" which makes suggestions for classroom study, experiments, and projects. Write for copies of the NWF materials to: VNRC, 26 STATE STREET, MONTPELIER, VERMONT, 05602.

# WATER QUALITY part 3

*This is Part Three of an exchange between* **VER** *Editor, Nat Frothingham, and members of the "Sewage Task Force" at the Institute for Local Self-Reliance in Washington, D. C. In this series, the* **Vermont Environmental Report** *will be referred to as* **VER** *and the Institute for Local Self-Reliance will be referred to as* **ILSR.** *This discussion may not be reproduced in any form without the permission of the Institute for Local Self-Reliance, 1717 18th Street, NW, Washington, D. C., 20009.*

## 11. Planning

**VER: In your judgment is a decision on whether or not to build a sewage treatment facility a "legitimate" planning issue?**

ILSR: Planning sewage treatment facilities is a highly critical tool in community development. Where sewer lines go is the place where you are going to have future development. Many communities across the nation are presently caught up in the problem of "sewer moratoriums." Developers, builders, contractors, in short, the whole real estate industry, are pushing to lay more sewer lines. This issue is particularly crucial in areas where the soil is not good for percolation, where onsite soil absorption systems are a problem. So where a community puts its sewer lines is a critical, critical aspect of overall development and planning. When you extend a sewer line into a previously undeveloped portion of a city, town, or village, the whole area is going to start hooking into it. It is probably one of the most important first aspects of community planning.

## 12. Saving Water

**VER: How would you assess the potential for water conservation in the United States? What part would an effective water conservation program play in resolving the problem of treating/disposing/recycling human wastes?**

ILSR: A switch to non-water toilets would save a maximum of 50 percent of the water that we currently use. We have already mentioned that. But let's be clear. We are not talking about breaking up existing sewer lines. The wastewater plant at Blue Plains in the Washington, D.C. area has a maximum capacity of 302 million gallons per day. That maximum has already been reached. We see the installation of non-water toilets as a way to allow existing systems to function at their "rated" capacity. So the two approaches are compatible. What we are saying is that new sewer lines and new treatment plants should not be built until the full potential of non-water systems is developed.

Quite apart from the 30 to 40 percent savings that can be realized through the use of a waterless toilet, are the tremendous number of ways that water conservation can be practiced now, in the interim.

People can change the rate of flow in their shower heads, or install aerators in their kitchen faucets. Inexpensive, plastic, ball-bearing-equipped nozzles can cut showerhead flows in half, anywhere from six gallons per minute to three gallons per minute. These devices cost literally fifteen or twenty cents apiece. The same enormous potential for water conservation can be realized with low-flow toilets as well. The Washington Suburban Sanitary Commission has a booklet on available flow control devices. These steps, in addition to fixing existing sewer lines to prevent rain water infiltration through the ground into broken pipes, then into sewers, would cut down up to thirty, perhaps forty percent, of the need for expansion of sewage treatment plants.

## 13. Scatteration

ENVIRONMENTAL ALERT! - ENVIRONMENTAL ALERT! - ENVIRONMENTAL ALERT!

FEBRUARY 1977

## THE PHOSPHATE BILL, H-48

H-48, a bill to ban phosphorus in household detergents and to provide 100% federal and state funding for tertiary sewage treatment (nutrient stripping) has been introduced into the 1977 General Assembly. On February 3, the Phosphate Bill was favorably reported out of the House Natural Resources Committee (11-0) and is now in the House Appropriations Committee. It will soon make its way to the House floor to be voted on (it is expected to pass easily), but it will then go to the Senate where it will face the tough opposition of Sen. Melvin Mandigo (R-Orleans-Essex), Chairman of the Senate Energy and Natural Resources Committee.

## WHAT WILL H-48 DO?

The rapid deterioration in the quality of our lakes is evident to most Vermonters. During the last ten to fifteen years, increased amounts of nutrients (primarily phosphorus) entering Vermont's lakes have caused a rapid increase in the growth of algae and weeds. This enrichment of lakes by nutrients which results in an abundance of nuisance weeds and algae, is referred to scientifically as accelerated eutrophication. This problem, due in part to increased amounts of phosphate-laden sewage entering our waters, has become so severe in parts of Lake Champlain and other smaller bodies of water that swimming and almost any other recreational use of the water has been severely curtailed.

The Phosphate Bill is aimed at alleviating this situation by removing phosphorus in household detergents and thus reducing the amount of phosphorus entering our lakes. Briefly H-48 will:

* Substantially reduce the phosphorus entering our lakes and thus help to slow down the rapid algae and weed growth. It is estimated by scientists studying Lake Champlain that the Phosphate Bill would reduce phosphorus input by 25%.

* Result in an immediate improvement to the problem of accelerated eutrophication as opposed to 10 to 15 years from now if Vermont were to rely solely on tertiary treatment plants to remove phosphorus.

* Save the average Vermont family $6-8 per year due to reduced treatment plant operating maintenance costs. It has been shown that non-phosphate detergents do not cost any more than phosphate ones.

## WOULD THE PHOSPHATE BILL ADVERSELY EFFECT ANY VERMONTERS?

The answer to this question is an emphatic NO! H-48 specifically exempts all agricultural, food, industrial, and manufacturing operations, since these types of industries must often use phosphate detergents to insure proper cleaning (an example being dairy milk tanks).

Thus the law only affects household detergents. But will the Phosphate Bill require the average family to live with "ring around the collar" for the rest of their lives? Again the answer is NO - non-phosphate detergents have been shown to clean just as well if not better than ones containing phosphates

Proctor & Gamble, leader of the fight against Vermont's (and other states) phosphate bills (under the title of the Soap & Detergent Association) recently emerged with some strange contradictions as their lobbyists testified before the House Natural Resources Committee. The lobbyists claimed that non-phosphate detergents just couldn't do the job, while Proctor & Gamble is heavily advertising their non-phosphate detergents "ERA" and "DAWN" as the most effective cleaners on the market. The fact is that Proctor & Gamble lobbyists have been delaying phosphate bills across the country with half-truths and misrepresentations until P&G had a firm grip on the non-phosphate market.

## WHAT CAN YOU DO TO HELP?

While the Phosphate Bill is expected to pass the House, it will die in the Senate (as it did a year ago) without your help! Sen. Melvin Mandigo (R-Orleans-Essex), Chairman of the Senate Energy and Natural Resources Committee, is already plotting the demise of the bill by introducing one of his own. Sen. Mandigo's bill would attack the phosphate problem from a different angle, namely by building tertiary sewage treatment plants in

every major municipality across Vermont. While his piece of legislaion would certainly help the eutrophication problem, it would do so at an extremely large cost to Vermont taxpayers and will not help at all those communities that are too small and cannot afford to build treatment plants. Sen. Mandigo's legislation cannot affect the building of sewage treatment plants in a reasonable amount of time, and time is of the essence to the waters of Vermont! Because of its large cost and impracticality, Sen. Mandigo's bill is not likely to pass. It will, however, delay or prevent the consideration and passage of H-48, the Phosphate Bill.

It is vitally important for the passage of H-48 and the future quality of our lakes that you write your representatives in Montpelier. Express your support for the Phosphate Bill and urge them to see that this legislation is enacted into law. Also a letter to the Senate Energy and Natural Resources Committee in support of the Phosphate Bill, asking for their prompt and favorable action on it, would help insure the passage of this important piece of legislation.

Letters to your representatives and senator should be addressed to THE STATE HOUSE, MONTPELIER, VT. 05602.

Letters to the SENATE ENERGY AND NATURAL RESOURCES COMMITTEE should be sent to SEN. HENRY MANCHESTER, CLERK.

See inside for.....

**HOW YOU CAN HELP**

clean up your

lakes & rivers

**TODAY!**

For further information, write or call:

Anne Riegelman
LAKE CHAMPLAIN COMMITTEE
383 College St.
Burlington, Vt. 05401

Leigh Seddon
VPIRG
26 State St.
Montpelier, Vt. 05602
Tel: 223-5221

# water...

VER: **If the sewerless alternative promises effective pollution control at a lower cost, then what is holding back the effort to move in this direction?**

ILSR: First of all, we should remind readers that the decision to promote the construction of sewers was partially a political decision. The 1972 Amendments to the Water Quality Act reflect the Nixon Administration's concern for support from the construction unions, and the construction grants program grew out of these short-sighted concerns.

Let us also look at two of the principal concerns of planners, particularly in rural areas. Planners are concerned about what they call "scatteration." For quite some time scattered settlement in rural places has been held in check by the requirements for a septic permit. Such requirements have insisted upon adequate soils with suitable drainage. This requirement has limited developments to relatively good soils and has forced the development of the best agricultural lands. Now, if sewerless alternatives were suddenly found to be acceptable, people could settle virtually anywhere they wanted. Planners are distressed at the thought that people could settle at distances from fire, water, transportation, electric, police and school services. The cost of providing these services to such scattered development would be considerable.

Second, health codes and water quality standards would need to be enforced at every installation. This enforcement requires alot of manpower. Planners and sanitation officials fear that people with sewerless systems would be careless about their construction and maintenance. People might sell their homes. Would the next owner be responsible in caring for an alternative system?

So planners see a logic in a common, uniform sewage system. It controls scattered development and it eases the problems of enforcing health codes and water quality standards.

We recognize these advantages of centralized sewerage systems, and are in full agreement with the concerns of planning agencies. However, there are other ways to satisfy these concerns while at the same time providing us with other additional benefits.

We strongly endorse 208 Planning and all other efforts at comprehensive planning. We believe that growth can be balanced and the effects of scatteration can be controlled.

With respect to ensuring good water quality, we are impressed by the work of the Experimental Program set up by the Appalachian Regional Commission in Boyd County, Kentucky. In Boyd County, aeration units were installed in individual homes, but these units are owned and maintained by the local sanitation authority. The maintenance of such units could be the responsibility of the homeowners, perhaps on a rotating basis. Collective maintenance could ensure good operation and encourage greater citizen participation in water quality and conservation efforts.

# 14. Success??

VER: **Can you cite specific examples where communities have made a successful shift to sewerless alternatives?**

ILSR: No, most communities are shifting in the opposite direction. The most we know about, are communities that are fighting to retain their existing decentralization in the midst of pressures to "sewer-up." These pressures are "on" in most of rural America. And 50 percent of rural America presently uses septic tanks and soil absorption systems.

# 15. Money Saved

VER: **Can you estimate the savings in dollars that would result from a nationwide commitment to sewerless alternatives?**

ILSR: The metropolitan Washington, D.C. sewer and wastewater treatment system will cost about two billion dollars. The entire (Washington, D.C.) advanced treatment effort will cost about $70 million a year just to operate. If, on the other hand, 250,000 in-house toilets were installed, it would cost $500 million and the annual operating costs would be roughly 10 percent of the cost

# water quality...

of running the water-based system. These are gross figures that we are familiar with in the Washington, D.C. area.

# 16. Existing plant

**VER: What can be done about employing sewerless alternatives in communities that are already committed to traditional water-based sewage treatment systems?**

ILSR: Even when sewerless toilets are adopted, there still will be wastewaters generated that will need treatment. So existing sewer lines will be useful. Our point is that sewer lines will need not be as large, and similarly, the treatment plant will not need to be as large, when waterless toilets and water conservation are employed. Less volume means less costly treatment and sometimes easier treatment. In fact, the less wastewater you have to treat, the more innovative treatment options there are available. The "Smallscale Waste Management Project" at the University of Wisconsin has discussed these options.

*This series will come to a close in the March issue of the* VER, *at which time we shall print a full resource list, prepared by the Institute.*

# NATURAL AREAS: A Rich Resource

One of the key elements of "Stage Three" of the VNRC Natural Areas Project has now been completed. It is Robert Klein's slide-tape presentation, entitled, **Natural Areas: Saving a Precious Resource,** and it had its premiere showing on Friday, January 28th before an audience of Vermont legislators of the House Natural Resources Committee. That House Committee has been considering a bill, H.8, that would establish a "Register" of Fragile (Natural) Areas and an Advisory Committee to identify and protect such areas.

Since last August when Klein began his work on Stage Three of the Natural Areas Project, he has engaged in a wide range of activities. He has explored a host of legal mechanisms for protecting natural areas; he has entered into negotiations with individual landowners; and he has mounted the beginnings of a public education program to explain natural areas and gather support for their protection.

The 25-minute slide-tape that Klein has been assembling since September, 1976, is an important feature of this public education effort. It is, in sum, a gentle walk through the rich fragments of this State's rare, irreplaceable, and often, fragile, natural areas. There is the black gum forest in Vernon, Molly Bog in Stowe, the seven-acre virgin hardwood forest at Gifford Woods in Sherburne, the bird populations and breeding habitats on the Lake Champlain islands, and the fine examples of arctic-alpine vegetation on Camel's Hump and Mt. Mansfield.

To tell his story, Klein has summoned a cast of Vermonters who know, value, and can therefore explain the rich diversity of these irreplaceable natural treasures. There is Henry Potter, a naturalist and farmer from Clarendon; Maynard Miller, a retired farmer and past Selectman from Vernon; Jim Wilkinson, Vermont's Commissioner of Forests & Parks; Jo Chickering, who with her husband owns a natural area, and Dr. Hub Vogelmann, Professor of Botany at the University of Vermont, who did the pivotal early work in natural areas and who issues a call for care, concern and action at the close of the slide-tape presentation.

**Saving a Precious Resource** is narrated by Nat Frothingham. There is specially-composed music, -- Fred Wilber playing the piano and David Champoux on the guitar.

Klein plans to show his slide-tape to an audience at the Agency of Environmental Conservation, at the University of Vermont, to regional planning commissions, and to other groups of interested people. He will be available at the end of his presentation to discuss issues and answer questions.

**For further information, or to arrange a showing before a group of interested persons, please contact: Robert Klein, Director, Natural Areas Project, VNRC, 26 State Street, Montpelier, Vermont, 05602, or call, (802) 223-2328.**

# RESOURCES


## Alternatives


**WATERLESS WASTE TREATMENT SYSTEM** -- The Clivus Multrum composting system is now available from Don Schramm, RFD 2, Enosburg Falls, Vermont, 05450. Telephone: (802) 933-2209.

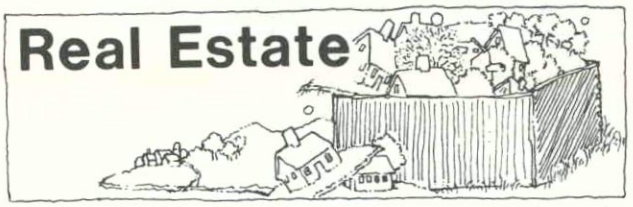
## Professional Services

**J.P.R. ASSOCIATES INC. CONSULTING FORESTERS,** Registered Land Surveyors & Environmental Planners. Box 1195, Stowe, Vermont, 05672. (802) 253-7220.

## Gardening

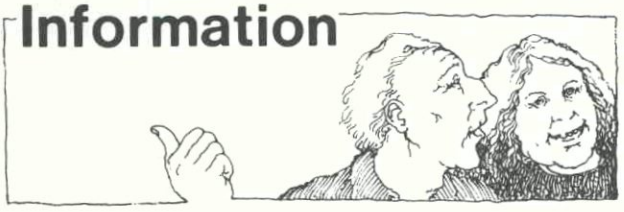
**55 LIVE HERBS, 83 HERB SEEDS, 89 IMPORTED VEGETABLE SEEDS,** Beans, Peas, French Shallots. Instructions, Recipes. Catalogue 25 cents. **JARDIN DU GOURMET,** 88 Danville, Vermont, 05828.

## Real Estate



**JEFFERSONVILLE, VERMONT.** Smuggler's Notch area. 60 acres. Woods, meadows, outstanding views, privacy. Overlooks Mansfield, Madonna, Sterling range from elevated site. Restrictive covenants. Private road, electricity. 90 minutes Montreal. $50,000. Norman J. Fisher, 197 East Mill Road, Hatboro, Pa., 19040. (215) 675 1214.

## Information



**BOOKS ON ENVIRONMENT.** Out-of-print books on land-use planning, forestry, ecology, natural history, Vermontiana. Inquiries invited. Lists available. **AJE BOOKS,** Box 254, Rutland, Vermont, 05701.

**INFORMATION & PRICES** on the last of the true low-energy **Philco-Cold Guard refrigerators** available from: Energy Conscious Alternatives, R D 2, P.O. Box 273, Williston, Vermont, 05495, (802) 862-9352.

## Wanted


**WANTED: PRODUCTS AND PRODUCT IDEAS** that will save People 30% or more over all present fossil-fuel using alternatives. Please submit to: **Energy Conscious Alternatives,** R D 2, P.O. Box 273, Williston, Vermont, 05495, (802) 862-9352.

**WANTED: Young Adults** -- Summer Conservation Work. Aged 16 & over, Student Conservation Assn. P. O. Box 550, Charlestown, N.H., 03603. **Also:** Young Adults, ages 15 to 18, Write: Mr. Bill Snow, Youth Conservation Corps, Dept. of Forests & Parks, Montpelier, VT., 05602.

# expositions... meetings...

MARCH 9th -- "EXPOSITION ON VT. GEOLOGY"

On Wednesday, March 9th, the Vermont Geological Society will sponsor an "Exposition on Vermont Geology" at the Tavern Motor Inn on State Street in Montpelier.

There will be more than twenty informational displays assembled by the Vermont mineral industry, the Vermont Geological Survey, the United States Geological Survey, the Agency of Environmental Conservation, and the Vermont Natural Resources Council.

The Exposition will open at 9.30 a.m. and will run until 4:30 p.m. There will be a series of three talks on Vermont Geology. These talks will begin at 10:30 am and will run until noon. They will be repeated from 3:00 to 4:30 p.m. in the afternoon. The subject of these talks will be the glacial and bedrock geology, and hydrology of Vermont and will discuss the related environmental and economic implications.

The Exposition is being presented by the Vermont Geological Society in order to give the public an opportunity to see and hear about the geology of the State and the many ways that this geology affects our daily lives.

**Open Invitation: "Attend VNRC Board Meetings"**

Members of the Vermont Natural Resources Council are invited to attend the regular meeting of the VNRC Board of Directors. These are the dates of the Board Meetings for 1977:

May 12th -- (Thursday)
July 14th -- (Thursday)
Sept 14th -- (Wednesday)
Nov. 16th -- (Wednesday)

Specific times and locations will be published in future issues of the **Vermont Environmental Report.**


# VNRC

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