

Vermont Environmental Report

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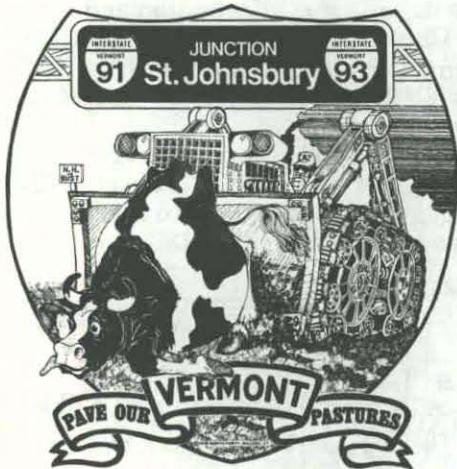
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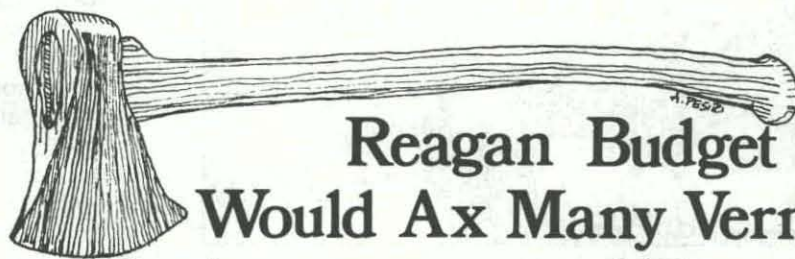
TEMPORARY SETBACK IN I-93 LAWSUIT

On March 10th, VNRC and other parties seeking an injunction to prevent completion of I-93 near St. Johnsbury withdrew their appeal to the Second Circuit Court of Appeals in New York. VNRC, Green Mountain Grange No.1, the Vermont State Grange and four St. Johnsbury farmers took their case to the higher court after U.S. District Court Judge Albert Coffrin refused to grant an injunction. But in the course of the argument on appeal, it became clear that the Second Circuit Court felt that Judge Coffrin had denied a motion for a Temporary Restraining Order (which is not appealable) rather than for a Preliminary Injunction.

To avoid having the case thrown out on a legal technicality, Harvey Carter, attorney for the plaintiffs, decided to withdraw the appeal and file a new motion for a Preliminary Injunction with the District Court. If that motion is denied, Carter will refile the appeal before the Circuit Court. The District Court will hear the case on March 26th.



Our thanks to Roger Fox and Marc Lacroix for permission to reprint this cartoon. The design is available on T-shirts from Fox, East Hardwick, Vermont 05836.



Reagan Budget Cuts Would Ax Many Vermont Environmental Programs

Reagan's budget proposals, elections to Congress and Cabinet appointments all indicate that the environmental movement is "undergoing some profound changes," according to Agency of Environmental Conservation Secretary Brendan Whittaker. But Whittaker said in a press conference on March 16th that Vermont is so far ahead in environmental programs that it will come through the Reagan cuts "in very good shape." He spoke of "renewed vigor of the States" and a "renewed role for the private sector, groups and volunteer efforts." But despite the "chin up" attitude of Whittaker and other Agency officials, it is clear that the Reagan budget proposals announced on February 18th and March 10th would deal a powerful blow to many Vermont environmental programs:

- Wastewater treatment plant construction grants. This program provides Federal funds for 75% or more of the cost of constructing municipal sewage treatment plants. Reagan wants to rescind \$8.4 million of the current \$23 million budget, and he has recommended no funding for FY82 and a 1/3 cut for FY83, 84 and 85. Dollarwise, this is the most substantial cut, but its impact would be heightened if Congress approves proposed changes in the eligibility requirements for the construction grant program. John Ponsetto, Water Resources Commissioner, said Reagan plans to channel sewage treatment money into major metropolitan areas, which would virtually eliminate the program in rural states like Vermont. "Obviously, that's one we're going to fight," said Whittaker.

- "208." Both Carter and Reagan voted to cut the "208" program, which provides funds for abatement of non-point pollution. Reginald LaRosa, Director of the Environmental Engineering Division, said 208 was basically a "program to develop programs" and that although "there

were additional things we could have done," it was scheduled for termination in FY83 anyway.

- "314." Reagan has recommended no further funding for the 314 Clean Lakes program, which gave assistance to States and municipalities for algae and weed control.

- Heritage Conservation and Recreation Service. The new administration has proposed zero-funding for FY82 and rescission of all remaining FY81 monies. The Vermont Department of Forests, Parks and Recreation uses HCRS funds to acquire land, upgrade the State park system and develop outdoor recreation facilities. The FY81 rescission would cost Vermont \$2 million and would affect plans to acquire additional park land (including 440 acres in the Camel's Hump area). It would also jeopardize 25 municipal outdoor recreation projects which have expended \$75,000 - \$100,000 in anticipation of Federal reimbursement.

- YCC, YACC. The Youth Conservation Corps and the Young Adult Conservation Corps would be scrapped under the Reagan plan. The YCC is a summer camp where 15- to 18-year-olds receive on-the-job training in park and forest maintenance. The YACC is a similar program for young adults which funds 20 full-time one-year internships.

- Water Resources Planning Act. Monty Fischer, Manager of the Lake Champlain Basin Program, said that Reagan's plans to gut the funding for this Act would "essentially shut down all federally-assisted water research and planning activities" in Vermont. The cuts would eliminate the national Water Resources Council, the seven regional river basins commissions (including the New England River Basins Commission) and State funds for water resource planning grants.

- The State Energy Office. Recommended cuts in the FY82 budget (Reagan Cuts, Page 8)

THE CONSERVATION EQUATION

New power plants >> higher electricity costs >> greater incentives to conserve >> lower demand for electricity >> less need for new power plants

Mathew Rubin

Utility executives and some public officials claim that we have nearly exhausted our ability to conserve energy and that we must build new generation and transmission facilities in order to meet future electrical needs. In fact, we have just begun to tap the potential of conservation, and in the next few years, we can expect a decline in growth rates which may enable Vermont to avoid both the high cost and the environmental impacts of new power plant construction.

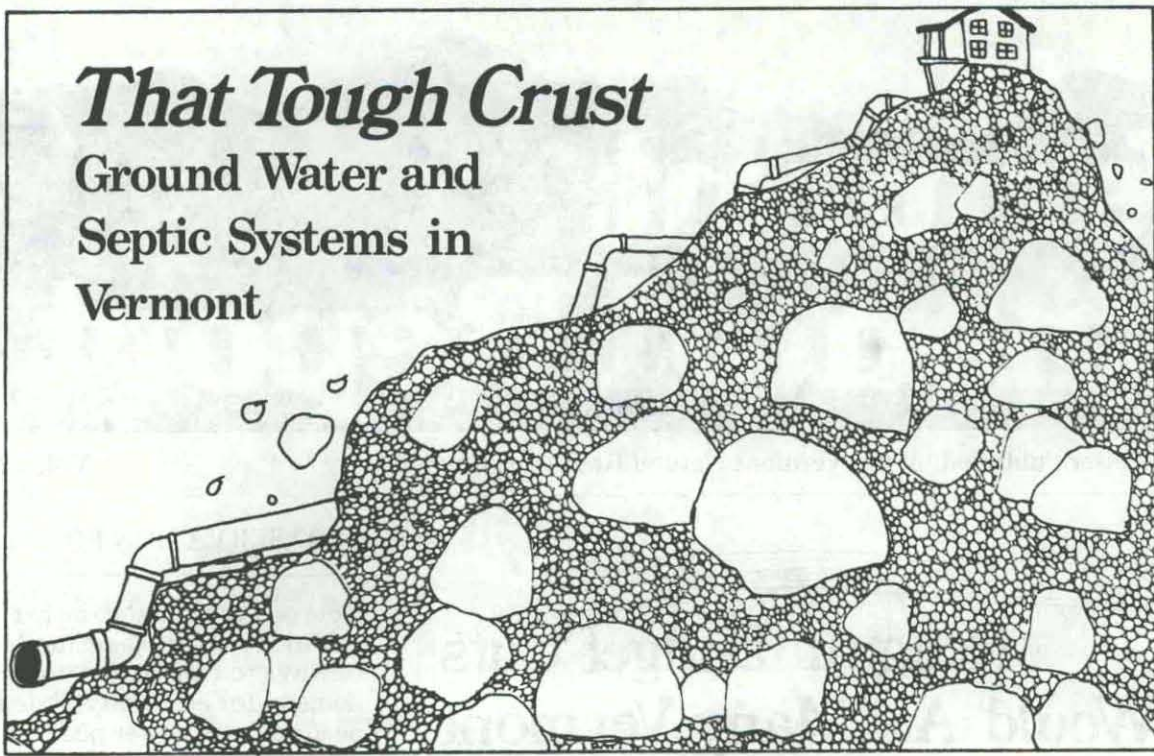
Since 1972, Vermont's electrical consumption has grown at the rate of 2.3% per year. Commercial and industrial customers have accounted for three-fourths of this growth. These customers have had little incentive to conserve, since they pay an average of less than four cents per kilowatt-hour for electricity. In the past eight years, commercial and industrial rates have actually declined by 13% relative to inflation.

There's been no reduction in residential use, either. Since 1972, residential rates have risen only 8% faster than inflation. Electrical consumption by Vermont homes has increased by 1.4% per year, which closely parallels population growth. Our much-touted "energy conservation" has in reality been only a change from the large yearly increases of the 1960's to a constant per capita use.

Present wholesale electric rates average 2½ cents per kilowatt-hour, but rates will rise sharply as new sources of power come on line. Power from Seabrook and Hydro Quebec will cost six cents per kilowatt-hour wholesale, the MMWEC oil-fired plant will produce electricity at seven cents per kilowatt-hour and the Burlington wood chip plant's power will cost eight cents. The Central Vermont Public Service Corporation estimates that rates for business will rise 60% in the next two years alone. Will there (Conservation, Page 8)

That Tough Crust

Ground Water and Septic Systems in Vermont



Ground water protection is one of America's most critical environmental concerns. The Green Mountain State is blessed with an abundant supply of subsurface water, but well water contamination is becoming more common and one of the major causes is septic system failure. This article is the second in a five-part series on ground water prepared by the Vermont Natural Resources Council under a public information grant from the Environmental Protection Agency.

That tough crust -- it's a famous characteristic both of Vermont and of Vermonters. Dense metamorphic rock, scoured by glaciers and littered with glacial debris, is a basic fact of life in this state. Bends and bulges in our bedrock foundation hampered early transportation and industrial development, and a thin cover of rock-strewn soil has foiled more than one generation of Vermont farmers.

Vermont's soils determine where and how we build our homes and businesses. Any building designed for human habitation must have a way to safely dispose of wastes. In Vermont, about 50% of the population relies on private septic systems. These systems use a settling tank and soil to remove impurities from wastewater. But systems which use the wrong soils can contaminate ground or surface water.

Nearly all of Vermont's soils are the wrong soils. Most of them are glacial till, which geohydrologist David Stoner says can be "about as permeable as concrete." When sewage effluent is applied to these soils, it's liable to bubble up and run off instead of slowly filtering down to the water table.

A typical private sewage disposal system consists of a septic tank and a leachfield. When you flush your toilet or empty your kitchen sink, the water goes into your septic tank. Solids settle into the bottom of the tank and the liquids flow out of the tank and into the leachfield where they are distributed by perforated pipes. Soil in the leachfield removes most pollutants from the effluent and cleansed water percolates down to the water table, or seeps into a stream, or evaporates into the air, or is absorbed and transpired by plants.

Soil is the most important component of the system. It must be neither so permeable that it allows wastewater to pass untreated into the aquifer, nor so impervious that it channels sewage effluent into surface water bodies.

The location of the septic system is also crucial. It must be high enough above the water table so that ground water will not engulf the leachfield, and it must be far enough from local wells to discourage traffic between the two. The system should be installed by someone trained in soil identification and site analysis. It must be tailored to fit both the needs of the household and local conditions.

Even a system that is properly located and installed will break down if it's not maintained.

The solids that collect in the bottom of the tank must be pumped out and disposed of periodically, and the homeowner should not overburden the system by using too much water or by clogging the tank with disposable diapers and tampons and food wastes.

A septic tank that fails is a health hazard as well as an aesthetic problem. Untreated effluent is high in nitrogen, which can cause methoglobinemia (blue babies). Human wastes also contain pathogens (disease-causing bacteria and viruses) which, under the right conditions, can travel to nearby wells.

In addition to organic wastes, some rather nasty chemical contaminants are showing up in Vermont's ground water. Geohydrologists have found small amounts of halogenated hydrocarbons in some of the state's aquifers. Halogenated hydrocarbons come from common household chemicals like septic tank and drain cleaners and spot removers, and some of them are known carcinogens.

If your septic system is leaking household wastes into the water, you may not know until the damage is done. A smelly pond that never seems to drain or unnaturally lush vegetation in a certain low spot in your yard are good indications of a bad situation underground. But if untreated wastes trickle down instead of up, the can contaminate an aquifer and leave no visible signs of failure.

If a faulty system doesn't reveal its presence on the surface -- and often even if it does -- the problem may go undetected and uncorrected for years. Vermont has no coherent system for preventing, finding and fixing failures. Act 250 sets certain minimum requirements for large-scale developments, but there is very little monitoring of compliance with Act 250 permit conditions. Smaller developments fall under State subdivision regulations and local health ordinances. But local ordi-

nances governing septic system construction and installation are optional in Vermont, and many communities have rejected them because they appear to limit opportunities for growth. Even towns which adopt health ordinances don't necessarily enforce them. Local health officers are usually medical practitioners who have little or no training in septic system design and construction. They may not know what to look for or what to do about what they find.

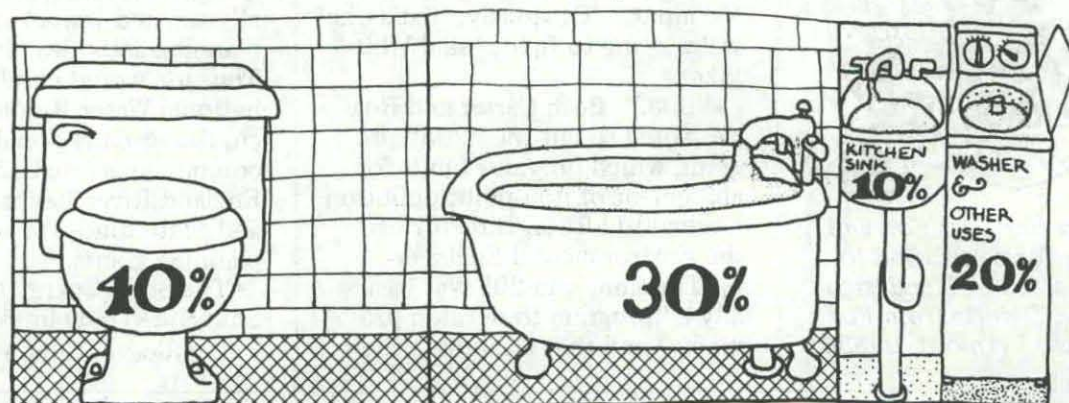
Act 250 and State subdivision regulations govern new construction, but only active enforcement of local health ordinances can alleviate problems with existing systems. Outdated and inadequate septic systems may be the worst polluters of surface and subsurface water. Owners of older homes who dig up their yards in search of the source of itinerant effluent often find that their "sewage system" is no more than a large earthen pit or a straight pipe that empties into a lake, a river or even a neighbor's yard. But since there is almost no data on private existing septic systems, we don't know if such occurrences are the exception or the rule around the state.

We need a comprehensive ground water protection program which will provide for better monitoring of septic system installation and operation and stricter enforcement of local health ordinances. But individual homeowners can help protect Vermont's aquifers by making sure their septic systems work properly. If you live in Vermont, chances are your septic tank sits in shallow sand or gravel soil or in crusty glacial till. It needs all the help it can get. Don't clog it with household garbage that rightfully belongs in the compost heap. Avoid chemical septic tank cleaners which create more problems than they solve and which are the main sources of halogenated hydrocarbons.

You can also save wear and tear on your septic system by reducing water consumption. 99.9% of household sewage is water. You can conserve water by installing flow restrictors on faucets and shower heads, buying washing machines with "suds savers," avoiding water guzzlers like garbage disposals and automatic dishwashers, and periodically checking your plumbing for leaks.

However, the biggest water-waster in your home is your toilet. Around forty per cent of household sewage comes from the toilet: we use enormous quantities of good drinking water to dispose of very small quantities of waste. If you are building a new home, you may want to consider a low-water or no-water toilet. If you have an older home, you can cut down on water use by flushing only when it's really necessary and by putting weighted plastic bottles in your toilet tank which will displace two or more quarts of water every time you flush. There are several public and private agencies which can help you discover other ways to protect Vermont's aquifers by saving water and making sure your septic system does its job. For information and referrals, call Mary Hooper, Director of VNRC's Sewage Planning Project, at 223-2328, or write her at VNRC, 7 Main Street, Montpelier, Vermont 05602.

When it comes to soils, Vermont's been left with the crusts, but with a bit of Yankee thrift and ingenuity, we should be able to make them work for us a long, long time. MM



WHERE
THE
WATER
IN
YOUR
SEPTIC
TANK
COMES
FROM

Technology and Maple Syrup or What's Going On in the Sugar Bush?

Francis Whitcomb

Making maple sugar and syrup is an extremely labor-intensive task which yields a very small financial return for the amount of time and energy invested. Currently, maple syrup contributes only about 1-1½% of the value of Vermont's agricultural production. But as Francis Whitcomb reports, recent technological innovations are making maple syrup and maple sugar production more profitable. Some day it may be more than (as one local barb says) "a good excuse for the farmer to get out of the barn in the early spring."

"Sinzibuckwud," meaning "drawn from wood," is the Algonquian word for maple syrup. The Ojibways called the sugar maple "sheesheegummawis," meaning "sap flows fast." The original inhabitants of this continent used maple sugar as a high energy food and as a fruit preservative. They sprinkled it on meats the way white people used salt. Legend and ceremony were intricately involved with the source and production of maple syrup and maple sugar. According to one legend, the maple tree once gave off pure syrup, but when the god Nenawbozhoo tasted it he found it was much too good and easy to obtain. So he diluted the sap of the maple until the sweet flavor was quite faint. "Now," he said, "my nephews will have to labor hard to make sugar from sap, and it will be much more valuable to them."

The nephews of Nenawbozhoo do indeed labor hard in the bush during early spring to produce this unique natural food. But by their efforts and ingenuity, they have changed the industry from one of small, primitive enterprises to a mixture of small and large commercial and cooperative operations. Recent technological developments and innovations have done much to reduce labor and combat the rising costs of production.

These changes represent a break with the past. Maple production had declined steadily since 1860, when there was a peak of 40,000,000 pounds of sugar and 1,610,000 gallons of syrup. The decline was due to competition from cane sugar and to a decreasing labor supply. Labor shortages began during the Civil War and continued in the post-War period as farmers' sons and daughters headed for factory jobs in the cities or mines and homesteads in the West. In the early twentieth century, the decline in the number of farms accelerated the drop in production until the 1950's, when revived interest and new research brought about a technological revolution. Old Nenawbozhoo would suck his sweet tooth in wonder to see what his nephews have learned and done.

Innovations began with the development of the evaporator and the sugar house in 1870 (before then, most sap was "sugared off" in iron kettles!). The perfecting of tubing systems in the last thirty years has eliminated

35 to 40% of the labor involved in traditional syrup- and sugar-making. Since 1973 and the rapid rise in energy and equipment costs, research has concentrated on reducing fuel and labor costs and increasing quality control, sales and the sugar content of the sap.

Sophisticated technology is out there in the sugar bush today. A sap pre-heater installed over your flue pan or in the stack will increase efficiency up to 15%. Vapor compression is a costly process, but it can save many dollars in an operation of 30,000 taps or more. It was developed during World War II to make fresh water from salt water. Reverse osmosis is becoming popular for 3000 taps and up. It removes up to 80% of the water from sap by circulating it through a series of membranes while the sugar molecules in the sap remain behind to flow into your evaporator in a more concentrated solution. These machines start at \$10,000, but they can pay for themselves in a few years. Attaching vacuum pumps to tubing systems has been known to double the production of sap from each tap, thereby increasing the average yield from one quart to one-half gallon of syrup. Vacuum systems will pay for themselves in one year, and the number of producers using them has increased greatly in the past few years.

Because of their genetic heritage, recently-planted saplings may dramatically improve the efficiency of future sugar-making. Selected and grown at a State nursery, these are "sweet" trees, propagated from mature maples that produce much sweeter sap. Since the concentration of sugar in sap averages between 1.5% and 3%, you have to boil off a tremendous amount of water to make syrup. This takes energy in the form of wood, oil, wood chips, pellets or gas. Therefore, the creative thrust of research is to increase the amount of sugar in the sap before it reaches the evaporator. To illustrate how important this is, suppose your trees produce sap with an average concentration of only 1.5% sugar. You have to boil off 57 gallons of water to make one gallon of syrup. Your neighbor down the road collects sap of 3% sugar. He has only 28 gallons of water to boil off. That's quite a savings in fuel and time. He'll make more money than you. Research has also shown that sweeter trees produce a greater volume of sap. The

planting and propagation of genetically sweeter trees will give your children and grandchildren cause to thank you when they are boiling off the crop for the year 2020.

Meanwhile, research, innovations and adaptations continue in laboratories, experiment stations and in the sugar bush. Here in Vermont, the Proctor Maple Research Farm, UVM's Maple Research Lab and the Aiken Maple Lab in Burlington are investigating everything from the source of maple flavor to the effects of land-use policy and taxation on the maple industry. It's easy to obtain publications and research reports from the University of Vermont Extension Service by writing: Publications Department, Extension Service, Morrill Hall, UVM, Burlington, VT 05405.

New developments in marketing and promotion will also improve the health of the maple industry. Most of the syrup produced in North America now comes from Canada. Last year, 5000 American syrup-makers produced 973,000 gallons of syrup to Canada's 2,802,000 (Vermont accounted for 315,000 gallons of that total). Since U.S. producers cannot supply the domestic market, large quantities of syrup are imported from Canada, and Canadian prices have a strong influence on the price of American syrup. In order to improve and control the quality of maple syrup, protect consumers in both Canada and the U.S., and promote the sale of pure maple syrup, producers and packers from both nations recently formed the International Maple Syrup Institute. In addition, the Vermont Department of Agriculture has established the "Vermont Seal of Quality" to signify pure, high quality products. Producers who use the IMSI logo or the Vermont Seal must produce 100% pure maple syrup and sugar under the best of conditions. Of course, reputable Vermont sugar-makers have always guaranteed their syrup, but in this modern world of wide-ranging competitive markets, an easily-recognizable symbol gives greater assurance to the consumer.

The Vermont Maple Sugar Makers Association, established in the early 1900's for the purpose of promoting and improving maple products and equipment, is a very active organization of about 500 members. The membership includes small, backyard enterprises as well as large commercial producers and packers. The directors from each county meet five times a year to discuss and respond to the latest developments and problems in research and marketing and to assess the current needs of the industry.

The Vermont Maple Industry Council, in conjunction with the North American Maple Syrup Council, is comprised of representatives from the State, the Extension Service and maple packers and producers. The Council supports research, sales and legislation concerning maple, and also funds the *National Maple Syrup Digest*, a

publication carrying articles and advertisements of interest to people in the industry.

A most vital ingredient of the whole sugaring operation hasn't been mentioned yet. You can spend many hours and dollars and learn all there is to know about sugaring, but all that is just a drop in the bucket if the weather doesn't cooperate. Last May, we had plenty of sunshine and water, which means more sugar this spring. We've had fair snow cover this winter, which means the ground hasn't frozen too hard or too deeply. But we've just finished the warmest February on record. Eight days of temperatures in the 60's and 70's could result in a short sap run. The best conditions are freezing nights and moderate days of not much more than forty degrees. However, just a few days ago, one of Nenawbozhoo's best prophets said that during all the years he had sugared, the four or five which had warm wet Februaries were the best sugar years. That's the word as of March 1st.

What about the future? The maple industry appears to have a good growth potential. There is a strong demand for maple products. It appears certain that a freeze-dried processing plant will be built in Vermont, and that could increase demand for syrup by 300,000 gallons a year! Freeze-dried products retain maple flavor very well and they greatly reduce shipping and storage costs. Vermont production would have to more than double, though, in order to supply its present market and a freeze-dried operation as well.

Some day soon, huge central evaporator plants may be built all over the Northeast. All folks will have to do is put up tubing and let the sap flow into a roadside tank where it will be picked up by a huge tanker for shipment to the plant.

For many of us, though, the whole sugaring process is part of our lives: the sweat, the heavy sweet aroma, the taste of hot syrup right out of the finishing pan, the delighted laughter of the kids as they eat maple "wax" just cooled on the snow, those moonlit nights when you've been boiling since early morning and you step outside to breathe in the cool, fresh air and watch the vapor rising in a roiling cloud up through the open ventilators in the roof. You can't beat it!

This article tells only part of the story of what's going on out there among the maple trees. Most of it boils down to two basic tenets of conservation: the reduction of waste through more complete and efficient utilization of a resource and obtaining the most beneficial use of a resource for people.

Francis Whitcomb and his family have 2500 maple taps on their farm in South Albany, Vermont. He represents the Vermont Maple Sugar Makers Association on VNRC's Board of Directors.



One hundred and seventy million cords -- that much wood stands in Vermont's forests. If it were all cut and stacked in a pile four feet wide by four feet high, the pile would stretch 250,000 miles. It would contain enough energy to supply all of Vermont's needs for many decades.

But the forest is not a pool of oil, useful only when consumed. Unharvested, it still provides a home for wildlife, water for homes and a place for rest and solitude. Vermonters will continue to rely on the forest for lumber, paper and firewood. But to reduce the forest to BTUs or board-feet misses its importance.

This report is the first step toward creating a Vermont forest resource plan. It describes the present condition of the forest as well as past uses and future pressures. It explains the problems Vermonters face, the opportunities they have and the choices they can make.

The report asks two sets of questions: First, what are our goals? What do we want from our forest resources? And second, what actions should the State of Vermont take to try to reach those goals? What should State Government do to influence the future use and development of the forest?

For the past several decades, the forest industry has been a relatively small but important segment of Vermont's economy. Since Vermonters have been harvesting only a fraction of the forest's annual growth, they have not had to worry about over-cutting or to choose between competing uses of wood.

With the advent of the energy crisis, however, that situation has begun to change. Home consumption of wood in Vermont has increased 14-fold in the last four years. Significant volumes of firewood are now shipped out-of-state. Public and private companies are planning to use wood to generate electricity, produce methanol, heat commercial buildings and fuel industries. Conventional forest industries are developing new technologies to harvest trees more efficiently and to manufacture products out of smaller or lower-quality trees.

While the regional and national demand for wood is increasing rapidly, some supplies of wood, particularly old-growth timber in the Pacific Northwest, are diminishing. Forest industry analysts predict that in twenty years, national consumption of wood may exceed current annual growth.

All of these factors are placing economic pressures on Vermont's forests. That pressure will increase in the years ahead. FRAC's Resource Policy Team decided to divide the issues involved in developing a forest resource plan into three parts. In each part, it would present scenarios describing what might happen in the future. It would evaluate the economic, social and environmental implications of each and suggest what actions State Government could take to encourage or discourage the realization of a particular scenario.

Issue Number One: Long-Term Maintenance of the Resource Base. Simply stated, the issue is *how much* wood can be cut while still retaining the forest's other values? The Report discusses three scenarios.

In the *Diminishing Resource Scenario*, har-

What Do We Want from Our Forests?

Darby Bradley

The Forest Resource Advisory Council was established in 1976 and charged with the task of devising a plan for the future use and development of the state's forest resources. The Council includes representatives of private industry, the University of Vermont, State Government and the Legislature.

In 1980, FRAC appointed a Resource Policy Team to examine the advantages and disadvantages of different wood uses and harvesting methods. The Team is preparing a report on the current situation of the state's forests and on some of the choices Vermonters must make concerning their present and future use. This article contains excerpts from an early draft of the FRAC report. The final report will be released in April.

Once the report is completed, FRAC members will meet with people around the state to solicit their views of what Vermont's goals should be and what role State Government should play in achieving those goals. FRAC will make its recommendations to the Governor and the General Assembly next fall.

vesting begins to exceed growth in twenty to thirty years and eventually leads to exhaustion of the resource. This scenario assumes the least interference by government and it would have substantial economic and forest management advantages in the early years. But over the long term, the environmental, social and economic consequences would be disastrous.

The *Gradual Sustained Yield Scenario* and the *Accelerated Sustained Yield Scenario* would both reach stability where the annual harvest approximated the annual growth. However, in the latter case, the forest would be deliberately over-cut in the early years in order to upgrade the quality of Vermont's forests more quickly. This scenario would also produce more economic benefits. The difficulty with the *Accelerated Sustained Yield Scenario* is that once Vermont's large inventory of low-quality trees was substantially reduced, greater governmental intervention would probably be needed to ensure that the over-harvesting did not continue indefinitely.

Issue Number Two: Strategies for Forest Management. The second set of scenarios addresses the question of *how* wood should be harvested. Under the *Biomass Scenario*, the forest would be managed to produce the maximum quantity of wood fiber (biomass) for energy and other products. Under the *Prime Wood Scenario*, the emphasis would be on producing high-quality trees.

The Resource Policy Team found that little governmental intervention would be needed in the *Biomass Scenario*, except to insure that there would be no undue impacts such as erosion and stream sedimentation. The *Biomass Scenario* probably means clearcutting, and since clearcutting is the most efficient harvesting method in terms of total production, the industry will naturally move in that direction. The most obvious adverse impacts would be aesthetic, although this scenario also raises significant questions about soil nutrient depletion and wildlife habitat.

The *Prime Wood Scenario* would upgrade the overall quality of Vermont's forests. However, since this would occur through selective harvesting, logging operations would be more difficult and expensive because of the need to prevent undue damage to residual trees. Greater governmental incentives and regulation might be required in order to achieve this scenario.

Issue Number Three: Alternative Uses of Low-Quality Wood. Vermont's forests currently contain a high percentage of low-quality wood. The removal of this wood could result in improved forest management, greater employment, more energy self-reliance and a stronger economy. The Resource Policy Team studied the economic, social and environmental implications of four types of uses for this wood.

The *Small Scale Wood Energy Scenario* focuses on residential, commercial and institutional heating systems using both firewood and pellets. Wood pellets, which look like pelletized animal feed, provide more even heat and fewer handling problems than firewood or wood chips, and they can be adapted to a completely automated heating system. The

chief impediment to this scenario is that it may require a nearly simultaneous development of both a wood pellet industry and a market for the product (a classical "chicken-and-egg problem").

Under the *Industrial/Utility Wood Energy Scenario*, Vermont would encourage the use of wood for the production of electricity and industrial process steam. Utility use might range from a 5-megawatt plant using 20,000 cords annually to a 50-megawatt plant burning 200,000 cords per year. Industrial users may generate both electricity and steam (co-generation), produce steam alone, or purchase waste steam from a utility.

A third scenario involves wood energy for *Methanol Production*. Methanol is a premium fuel which may be used for transportation, production of steam or electricity, space heating or chemical production. It is produced in large, capital-intensive industrial facilities which consume up to 500,000 cords of wood per year. This is the only immediate commercial opportunity for wood-derived energy which could directly reduce New England's dependence on imported oil used for transportation, but the number of people employed by this industry would be small compared to the size of the capital investment and the amount of wood used.

Finally, Vermont could use low-quality wood to manufacture particleboard, oriented strandboard and other forms of *Reconstituted Fiberboard*. This scenario would create more employment per equivalent amount of wood than the energy scenarios, and it would also result in the highest-value end-products. But fiberboard manufacturers place very strict limitations on the size and type of wood they use. Much of Vermont's large stock of low-quality wood does not meet these specifications. It will therefore be difficult to attract these industries to the state until further technological or product changes are made.

None of these uses are mutually exclusive. Each has different advantages and disadvantages for the state of Vermont, and each has serious impediments to development in this region. Because Vermont's supply of low-quality wood is not inexhaustible, Vermonters must choose which uses they want to encourage or discourage and to what degree.

The Vermont Forest Resource Advisory Council is asking Vermonters for their opinions on these questions. In the coming months, FRAC will be meeting with citizens throughout the state to discuss the information presented here and to listen to their views. Following the period of public comment, FRAC will present its findings and recommendations for a state forest resource plan to the Governor and the General Assembly. That plan will recommend specific actions to the Legislature and administrative agencies.

Darby Bradley is the Vice-Chairman of the Forest Resource Advisory Council and VNRC's Staff Attorney.

Commentary



The Act 250 Farmland Protection Myth

Ken Senecal

An article in the November/December issue of the *Vermont Environmental Report* implies that a case-by-case review through Act 250 has proven one of the most successful ways of preserving agricultural land in Vermont. But after working with 9(B), Act 250's farmland criterion, for eight years, I have found only a few instances in which a development was planned for active farmland. What I have found is that the farmland protection effort, combined with increased energy and construction costs, has fostered cluster planning (townhouses, condominiums or clusters of housing as opposed to the one building per lot development plan) so that there is more open space within each development than might otherwise be the case. There is also some evidence that public roads and sewage facilities are planned with farmland impacts in mind. But the limited jurisdiction of the Act over public projects, and over private projects in parts of Vermont that are under intensive development pressure, does not allow careful review of the activities that have the greatest impacts on farmland.

Dr. Mark Lapping has correctly pointed out that Vermont's farmland is being developed in increments. "We nickel and dime our farmland to death," he said. Commercial and industrial developments of under ten acres are exempt from Act 250 review in communities that have enacted zoning and subdivision regulations. This exemption was intended to encourage local control, and it has apparently served that purpose to some extent. But it limits Act 250's ability to protect farmland in communities that are subject to the heaviest development pressure.

There are many other examples of the inability of Act 250 to deal with farmland issues. Some are quite revealing. A few years ago, the District 5 Environmental Commission denied a request for an Act 250 permit to construct a housing subdivision in Morris-town because prime agricultural land was involved. The Environmental Board sustained the ruling. The developer then divided the land into larger parcels which were exempt from Act 250's

jurisdiction and requested permission to build an access road. Concluding that the farmland potential was destroyed when the land was subdivided, the District Commission granted a permit for the development of the very land that the Board had deemed to be "primary agricultural soils." In this case, criterion 9(B) actually encouraged the development of the land it was designed to protect.

Developing land without an Act 250 permit is really not very difficult, especially if one has the incentive of avoiding a farmland controversy. But suppose the Morristown property had not been developed. Would that have prevented the commercial, industrial or recreational development of adjoining property? Does it make sense to examine the use of one piece of property without reference to the present and future uses of adjoining lands? That is precisely what Act 250's case-by-case approach to farmland protection does.

Act 250 files show that land with farming potential is being developed, but it is not succumbing to the developer's bulldozer. The factors that determine whether or not land remains in farming have consistently "done in" the farming operation long before the bulldozer arrives. The rigorous use of 9(B) in isolation from local and regional plans and from the economic determinants of land use guarantees controversy. It is not a useful contribution to the protection of farmland.

We are told that 9(B) is being used to "educate" even if it fails to achieve its real purpose. Act 250 has indeed helped promote public understanding and acceptance of environmental concerns. But there must be a better way to "educate" the public than by dashing the hopes and aspirations of private property owners because someone puts the farmland insignia on their property. It is not the private property owner who is to blame for the loss of Vermont farmland. More often than not, it is the tax dollars we spend for roads and sewage systems which create irresistible pressures for conversion of farmland to other uses by driving up land values and property taxes.

ACT 250's CRITERION 9(B): PRIMARY AGRICULTURAL SOILS

A permit will be granted for the development or subdivision of primary agricultural soils only when it is demonstrated by the applicant that, in addition to all other applicable criteria, either, the subdivision or development will not significantly reduce the agricultural potential of the primary agricultural soils; or,

(i) the applicant can realize a reasonable return on the fair market value of his land only by devoting the primary agricultural soils to uses which will significantly reduce their agricultural potential; and

(ii) there are no nonagricultural or secondary agricultural soils owned or controlled by the applicant which are reasonably suited to the purpose; and

(iii) the subdivision or development has been planned to minimize the reduction of agricultural potential by providing for reasonable population densities, reasonable rates of growth, and the use of cluster planning and new community planning designed to economize on the cost of roads, utilities and land usage; and

(iv) the development or subdivision will not significantly interfere with or jeopardize the continuation of agriculture or forestry on adjoining lands or reduce their agricultural or forestry potential.

These and other purely economic factors, such as the value of farm products and increased energy costs, cannot be addressed effectively in a case-by-case review under Act 250.

Farmland issues must be addressed long before a permit application is filed. Instead of wasting our energies defending or inflating the myth of criterion 9(B), we should be asking why so few regional plans deal with farmland issues. Why do planners hide behind a case-by-case Act 250 review? Are State agencies really required to plan public projects to minimize farmland impacts? Why are we still unable to state specifically which lands are really worthy of protection? In the final analysis, it may be that Act 250 makes it too easy for people to duck the hard issues. It's easy to brand one property owner as a "bad guy," as a "developer," but it is difficult to put together a thoughtful program which requires consensus among many people. Since we have failed to get that consensus among farmers, much less politicians, one can appreciate the enormity of the task which lies ahead.

As for the future of Act 250 and criterion 9(B), I see only two workable possibilities: amending it so that it continues to encourage open space and cluster planning while deleting all references to prime farmlands, or amending it so that a development planned in conformance with local and regional plans presumably satisfies Vermont's interest in protecting farmland. Unfortunately, such an approach immediately calls into question the extent to which regional planning commissions have planned for farmland retention.

A farmland program must have some teeth in it and I assume that that is why so many people look to Act 250 for part of the solution to the problem. In my view, however, we have been far too quick to put teeth into the Act without any idea of what they were going to bite. The result has been turmoil and controversy with no identifiable benefit to farmland protection objectives.

Ken Senecal is an Act 250 consultant for developers, towns and environmental groups. He has served as Executive Officer of the Environmental Board and as a District Coordinator for Act 250.

Letters

We read with interest the article on wind systems in the January/February issue of the *Vermont Environmental Report*, but we were disappointed that it dealt only with large, utility-size machines which are still in the prototype stage of development.

Smaller home- and farm-sized machines designed to slow down the owners' electric meters should be of equal or greater interest to your readers, for a variety of reasons: they are now available commercially; they have been tested in hundreds of sites around the country; they can be installed anywhere in Vermont for \$2500 to \$4500 net after tax credits; they can pay for themselves in 5 to 10 years at many good wind sites in the state, and they do not pose the environmental problems which the Lincoln residents have raised regarding the big machines.

Further, two of the country's most respected manufacturers of these smaller wind systems are located in Vermont — Ener-tech in Norwich and North Wind Power in Warren — and both offer odometer rental programs which allow home-owners to measure wind speeds at their sites for under \$150.

Obviously these small systems are not for everyone. They are presently practical only at sites where winds average 10 mph or better. But anyone living at such a site should seriously consider a small system between now and 1985, when the tax credits expire.

Edmund Coffin
Ener-tech Corporation
Norwich, Vermont



No Milk Surplus in the Northeastern Region

Martin S. Harris, Jr.

To the Vermont dairyman, few problems loom larger on the economic horizon than the disquieting possibility that a major reshuffling of the Federal milk-price support system may be in the offing.

Spokesmen for the dairy industry share a near-unanimous pessimism that a continuation of the present 80% of parity Federal price support can be extended when the present legislation expires next year.

The reason is simple: more milk has been produced than consumed, and so the surplus has been bought up, under Federal law, by the Commodity Credit Corporation. As stocks of dairy products in CCC warehouses have grown to record levels, a wide range of voices has joined to argue that the present pricing system is encouraging over-production.

At the national level, the fact of a surplus is undeniable. At the regional level, however, quite a different picture appears.

There have been enormous production increases in the sun-belt states. In the 1965-1979 period, California increased its milk production by 4 billion pounds. But during the same period, New England's production fell off by 339 million pounds. In fact, Vermont was the only New England state to log an increase in the 1965-1979 period.

There is a milk surplus, but not in the Northeast. Nevertheless, the trend of statements and comments in the industry press and in the national media suggests strongly that the over-supply problem will be treated as a nationwide problem.

On the face of it, a reduction in the dairy support price would seem to offer something for just about everyone. Consumers would get cheaper milk; free-marketers would see the industry lose some of its regulatory shelter; government budgeteers would be able to reduce the expense of buying and storing surplus.

That theoretical figure, the average American dairyman, would simply cut back a bit on production and everything would balance off nicely and painlessly.

But as urban-area housewives will testify, there already exists a modest but nevertheless real shortage of fluid milk at the supermarket level: one must buy early in the day, before the limited supplies in urban retail outlets are used up.

To this existing shortage one must then add the deepening deficit in Northeastern milk production. To date, this deficit has been made up by trucking in from Midwestern states (who in turn draw from the Western surplus states); but increased energy costs

will clearly make this option increasingly expensive.

Should we then factor into the equation the impact on Northeastern dairymen (already a diminishing breed) the dampening effect of a price support drop, it is easy to visualize a situation with an even higher likelihood of drastic fluid milk shortages (and/or price increases) in supermarkets from Boston to Washington.

Clearly the Federal planners and dairy industry spokesmen, neither group particularly alert to the special conditions of Northeastern dairymen's operations (nor, in fact, to anything except overall national trends) have given very little credence to the above scenario.

Perhaps they should; if not for the sake of the dairymen involved, then for the sake of the 97% of the voting population who are consumers of dairy products.

(Excerpted from an article in Vermont Business World.)

Calendar

Monday, April 6

VNRC Brown Bag Lunch:
Jean Keller, VPIRG Codirector

Monday, April 13

VNRC Brown Bag Lunch:
Charles Johnson, State Naturalist

Monday, April 20

VNRC Brown Bag Lunch:
Merle Severy, farmer and President of the Vermont Association of Conservation Districts

Friday, April 24

"Wonders of the Freshwater World," a lecture by noted naturalists Drs. Lorus and Margery Milne, will be presented at the loft at the Vermont Institute of Natural Science at 7:30 p.m. Admission is \$2.00 for VINS members and \$2.50 for non-members. For more information, call 457-2779.

Monday, April 27

VNRC Brown Bag Lunch:
Ken Senecal, Act 250 Consultant, and Steve Kerr, Director of Agricultural Development for the Vermont Department of Agriculture.

Saturday, May 30th

A Whale Watch at Plymouth, Massachusetts from 8:30 a.m. to 4:30 p.m. will be led by Joe Van Os, a marine mammal and pelagic bird expert. Whale watchers can travel by charter bus from VINS in Woodstock or meet the group in Plymouth. Call 457-2779 for details.

Saturday and Sunday, June 6 & 7

Ninth Annual Vermont Bird Conference at Lyndon State College. \$40.00 includes programs, meals and lodging. Call 457-2779 for information and reservations.

Announcements

NATIONAL WILDLIFE FEDERATION SUMMER OUTINGS

Each summer, the National Wildlife Federation offers several vacation packages for adults, teens and youths. The week-long "conservation summits" combine education, recreation and outdoor adventure. Settings range from the Rocky Mountains of Colorado to New York's Adirondack Mountains. NWF also has a special summer camp for boys and girls aged 9-13. For information, write the National Wildlife Federation, 1412 16th Street, N.W., Washington, D.C. 20036 or call (703) 790-4363.

NATIONAL AUDUBON SOCIETY OFFERS SCHOLARSHIPS

The National Audubon Society Expedition Institute offers scholarships to graduate, college and high school students who are interested in the subjects of outdoor education and environmental studies. Financial aid will be awarded by July 31, 1981, and may be used for any Audubon educational program or other school, college or conservation education programs. Write the National Audubon Society, Expedition Institute, 950 Third Avenue, New York, New York 10022, for application forms.

Times-Argus Editorial--

Caution: Yankees at Work

Fasten your seatbelts, Vermonters. Here's the shrewd highway construction and maintenance game plan still being relentlessly pursued by your State government for the 1980's.

Step 1: Come hell or high water, stick to Vermont's decades-old interstate construction plan as if gasoline still cost 39 cents a gallon, farmland was still expendable as paper cups, and Vermont can't do without an 11-mile Interstate 93 link to New Hampshire costing \$37 million and wiping out two Vermont farms.

Step 2: As governor, strongly support completion of the I-93 link, then refuse to reappoint your Transportation secretary for failing to pay enough attention to local concerns about pending highway projects, including I-93.

Step 3: As Transportation Secretary, assure State lawmakers that no concrete work will be done on the project until spring. Then say "oops" when it turns out concrete work has begun on I-93 in the dead of winter after all and weeks before a hearing is to be held on

a suit asking that the I-93 project be stopped.

Step 4: As legislators, play dead when news of the "mistake" hits the papers.

Step 5: Keep on fighting to pave over or widen secondary roads where Vermonters don't want them paved over or widened, while continuing to break decades-old Route 7 highway improvement promises.

Step 6: Continue urging Vermonters to conserve gasoline by driving less, while spending more to persuade more tourists to drive to Vermont.

Step 7: Tie the State gas tax to the skyrocketing, decontrolled price of gasoline so the Transportation Agency can continue building and maintaining more roads Vermonters don't want or can't afford to use.

Step 8: Tell Vermonters all these shrewd steps are being taken for their own good.

Yankee ingenuity at work, 1980s style.

(Reprinted courtesy of the Barre-Montpelier Times-Argus.)

Welcome to VNRC!

VNRC is pleased to welcome the following new members who joined us in January and February: Mrs. Edward S. Blackwell, Dorset; Frank J. Lieberman, Woodstock; Mrs. Herbert Gasque, Dorset; Peter and Gail Haubrich, Plainfield, New Hampshire; Christopher L. Davis, Burlington; David D. Perkins, Manchester Center; Robert L. Hagerman, Morrisville; Mr. and Mrs. Charles Smiler, Montpelier; Sarah R. Swift, Brattleboro; Mr. and Mrs. William H. Vinton, Jr., Brattleboro; Carrye E. Schenk, Richmond; Rev. Carol Morrill Brock, South Royalton; Glenn A. Jarrett, South Burlington; Rev. David J. Bort, Arlington; Dorothy D. Barnes, Farmington, Connecticut; Jennifer Ely, Burlington; Don and Lois Kaufman, Warren; Berry Wall, Manchester Center; Peter Klinck, Burlington; Barbara Kelly, Burlington; Lois Blittersdorf, Pittsford; Mrs. George Williams, North Concord; Richard Herbert, Townshend; William Hendrix, Burlington; Melanie Robbins, Burlington; Catherine Whiting, Burlington; Richard G. Kelley, Danby; Sarah and Stuart Williams, Montpelier; Rosemary Rieser, Norwich; Leonard J. Cronin, Burlington; Dr. Donald C. Hunt, Middlebury; Raymond M. Gonda, South Burlington; Robert T. Nuner, Montpelier; Lynn Levine, Putney; Richard Burstein, South Royalton; Suzanne T. Winton, South Woodstock; Susan Clark, Shelburne; Peter W. Reit, New York, New York; Robert E. Howland, Waterbury; Lyndon State College Library, Lyndonville; Regional Office, Environmental Protection Agency, Boston, Massachusetts; Mr. and Mrs. Peter Parker, Altadena, California; Walter Trent, Bethel; Heidi Palola, Burlington; Gordon McCouch, Concord, Massachusetts; Julie Alden, Middlebury; Alexander T. Wilson, Brattleboro; Michael Kintner, Morrisville; Nancy Ecker-Williams, Colchester; George R. Vince, Bristol; Jan McNamara, Wilmington; Loring Starr, Washington, D.C.

The Council

HOW MUCH WOOD SHOULD A WOOD-CHIPPER CHIP?

Recent hearings before the Public Service Board on the Burlington Electric Department's proposal to build a 50-megawatt wood-fired power plant concerned the impact of chip-harvesting operations on Vermont's forests. James Wilkinson, former Commissioner of Forests and Parks, and David Marvin, former VNRC Board Chairman, testified on VNRC's behalf. They contended that chip-harvesting operations which use selection cutting could supply the needs of the wood-fired generator without undue adverse environmental impacts on the forest. They said, however, that it would cost more to produce chips this way, and that if the price for chips was too low, loggers might be forced to take short-cuts which could degrade the quality of the forest.

VNRC has developed a position on timber harvesting, including proposals to license chip-harvesters and to establish a coalition of timber-users, landowners, loggers, State officials and conservation organizations in order to promote better management of the state's forests.

Interested readers may obtain copies of the PSB testimony or the VNRC position paper on chip-harvesting by writing VNRC at 7 Main Street, Montpelier, VT 05602. Please enclose \$1.00 to cover the cost of photocopying the PSB testimony.

CONNECTIONS?

VNRC has recently drafted several project proposals in the areas of agricultural land retention, water quality, energy planning and environmental law services. We know from experience that we are more likely to receive a fair hearing from foundations or other potential funding sources if we have an entrée (in some cases, just a name is sufficient). If you have a friend or colleague who administers funds and who might be able to provide an audience for a VNRC proposal, we would appreciate your help in making the initial contact. Please call Seward Weber at 223-2328.

SEWAGE SOLUTIONS

For the past three months, Mary Hooper, Director of VNRC's Sewage Planning Project, has been appearing at public meetings throughout Vermont to discuss sewage treatment problems. Using VNRC's recently-completed slide/tape show, *Between a Rock and a Hard Place: Sewage Management in Vermont*, Hooper works with Town officials and individuals to help them resolve their sewage problems before they become unmanageable. If you'd like her to talk with your organization or Board of Selectmen, please call Mary Hooper at VNRC, 223-2328.

VNRC LAW CLERKS: INTERNS AND OUTTERNS

Connie Howe completed her legal clerkship with VNRC in January. Howe worked on the I-93 case and on the Environmental Law Manual, organized the Environmental Law Conference in December and researched a deferred-giving program. Her work contributed greatly to VNRC's Environmental Law Service and to the Council's ability to provide legal advice and assistance to its members.

Gail Osherenko has just begun a six-month clerkship with the Council. Osherenko worked in Washington for several years as an environmental lawyer for the U.S. Department of Justice, the Council on Environmental Quality and Congressman Anthony Beilenson of California. Her VNRC clerkship will help fulfill requirements for admission to the Vermont Bar. Ms. Osherenko will work with Staff Attorney Darby Bradley on I-93 and Berlin Mall litigation.

Watch for a report on the March 20th Community Energy Planning Conference in the May/June issue of the *Vermont Environmental Report*.

RENEWABLE RESOURCES

As a result of the first two notices, more than 85% of last year's 2400 Council members have renewed for 1981. We appreciate your prompt response and continued support. Special thanks to the more than 190 individuals, families and businesses who upgraded their memberships by \$10.00 or more.

Got an extra set of wheels that you can't move? Have you found that you can't sell your old buggy for its full book value? If you donate it to the Council, you can deduct its full value from your Federal income tax, and VNRC's busy staff could really use another car. If this idea appeals to you, please call Seward Weber at 223-2328.

REPORT FROM VNRC'S WINTER BOARD MEETING

VNRC committees must function more aggressively and independently if the Council is to remain strong and vital, according to Board Chairman Carl Reidel. At a VNRC Board of Directors meeting in Ferrisburgh on January 22nd, Reidel announced a new committee structure. He said that in the future, there will be standing or working committees and special task forces to deal with specific issues as they arise. He said that committees will be given more responsibilities and that committee chairmen will be expected to call their committees into session and deal with their agendas in cooperation with the Council staff, but not at the behest of the staff.

The Board adopted a financial plan for 1981, which projects expenditures of approximately \$196,000 and income of just over \$140,000. The \$56,000 planned deficit will have to be raised through the development program and through increases in project funding.

Maurice Arnold, Patricia Highberg and Kenneth Gayer were elected to the Executive Committee in addition to Council officers. The Board also discussed several by-law changes, including a proposal to elect Directors by the membership as a whole, using a mail ballot.

THE MENU FOR APRIL'S BROWN BAG LUNCHES

VNRC continues to host a series of informal noontime discussions with environmental leaders, State officials, legislators and others concerned with protecting the quality of Vermont's environment. We meet on Mondays from 12:15 to 1:30 p.m. in VNRC's conference room. Pack a lunch and give us a call if you'd like to join us. Dates, speakers and topics for April include:

April 6: Jean Keller, VPIRG Codirector, on the Clean Air Act

April 13: Charles Johnson, State Naturalist, on appropriate uses of public land

April 20: Merle Severy, farmer and President of the Vermont Association of Conservation Districts, on farmland, soil and water conservation

April 27: Ken Senecal, Act 250 Consultant, and Steve Kerr, Director of Agricultural Development for the Vermont Department of Agriculture, on Act 250 and farmland protection.

THE 1981 ANNUAL MEETING? ALREADY????????????????????

VNRC's 19th Annual Meeting is five months away, but we're already beginning to plan for it. In recent years, the all-day event -- a mixture of field trips, workshops, guest speakers, Council business and a hearty lunch -- has drawn several hundred people. If you'd like to be involved with planning this year's Annual Meeting, or if you know of a suitable location, please call or write Don Hooper at the Council.

PUT IN YOUR 2 CENTS WORTH

In the next few months, VNRC will take positions on two construction projects which involve complex energy and environmental trade-offs: the Georgia Hydroelectric Project and the Lincoln Ridge Meteorological Tower and Wind Turbine Generator. If you have testimony to offer, research to share with us, or a well-reasoned opinion, please write or call the Council.



VNRC is Looking for a Few Good Friends



With the budget-cutting ax aimed squarely at publicly-supported environmental and conservation programs, private organizations such as VNRC are already experiencing increased pressure to fill the breach. To do that, we need renewed support and new members. Here are two things you can do today to help: (1) If you are not a VNRC member, why not join the Council by clipping and mailing the coupon below? (2) If you are a Council member, or if you represent one of the more than 100 businesses and organizations which belong to VNRC, please pass this VER along to your friends. Tell them a little about the Council and urge them to join.

VNRC is a non-profit environmental group working to promote the wisest use of Vermont's natural resources. The Council does project work, legislative lobbying, and research and educational work on a variety of environmental issues including forestry, agriculture, sewage treatment, water, energy, land use planning and environmental law.

Name _____
 Street Address or RFD _____
 Town or City _____ State _____ Zip _____
☐ Please bill me.
☐ Enclosed is \$ _____ for a membership in the following category: ☐ Individual -- \$15.00
☐ Family -- \$20.00 ☐ Student -- \$5.00 ☐ Fixed or Limited Income -- \$6.00 ☐ Business -- \$75.00

Reagan Cuts

(Continued from Page One)

get would eliminate everything except the schools and hospitals program (which would be retained at half the present level of funding) and the vanpooling program (which is funded by the Department of Transportation). Energy Office Director Peg Garland said the rescission of all New England Regional Commission (NERCOM) monies as of April 1, 1981, will have the most serious consequences. The Energy Office uses NERCOM funds to keep track of fuel supply and distribution. Funding for the Energy Action Line, the Home Energy Audit Teams (HEAT) and the Energy Office's education, conservation and alternative energy programs would end on January 1, 1982, reducing the Energy Office staff to four people. Governor Snelling has requested a \$157,000 appropriation from the General Fund to keep the HEAT program alive, but the House Appropriations Committee turned down that request during the first round of debate.

• Rural mass transit. Reagan's proposal to eliminate all Federal subsidies for mass transit "would have a drastic effect on Vermont," according to Transportation Secretary Tom Evslin. Larger systems would probably survive, but Evslin said some of the smaller systems are up to 75% Federally-funded and that it would be very difficult for them to continue without Federal assistance. Evslin added that the cuts are "what Reagan has recommended and not necessarily what Congress will do." He said that Vermonters who want to see rural mass transit subsidies continue "ought to talk to Vermont's Congressional delegation very quickly and make as much noise as they can."

• State Planning Office. Ironically, the office responsible for assessing the impact of the Reagan cutbacks would itself be eliminated if the budget is approved. The Planning Office serves the Governor's Office as a "nerve center for policy issues." It drafted a State Land Use Plan in 1973 (required under Act 250 but never adopted by the Vermont Legislature). It also coordinated the State's role in the Pyramid and Juster Mall cases

and in hearings on the Burlington Electric Department's proposal to build a 50-megawatt wood-fired power plant. It is the only State planning office in the nation which is totally funded by the Federal Government.

This is by no means a comprehensive list of President Reagan's proposed cutbacks in environmental programs and, as Tom Evslin says, it represents "only what Reagan has recommended and not necessarily what Congress will do." The end-product of the President's proposals will depend upon what portion of the budget Congress approves and what percentage of the Federal shortfall the State of Vermont picks up.

Monty Fischer reports that some environmentalists are saying that "the President's advisers have a very clear idea of what environmental programs cost, but they have no idea what their value is." The future of environmental programs in Vermont will depend upon those of us who believe in their value. MM

WOOD VERSUS OIL HEAT

Jay Erikson

The Maine Audubon Society is studying the change in prices of wood and oil in the Portland area. Here are some of their findings to date:

In the period from October, 1975 to January, 1981, the price of a cord of dried, cut, split and delivered hardwood increased from an average of \$59.00 to an average of \$85.00. This 44% increase is less than the rate of inflation for the same period.

The same five-year period saw the price of No. 2 heating oil increase from 39¢ per gallon to \$1.10 per gallon. This is a 183% increase.

Five years ago, it cost \$2.95 to produce 1,000,000 BTUs with average quality wood. It took \$3.95 worth of oil. Under the same conditions, it now takes \$4.25 worth of wood and \$11.22 worth of oil.

Reprinted with the permission of the Maine Audubon Society.

Our thanks to Roger Fox and Marc Lacroix, Ann Pesiri and Laughing Bear Associates for the artwork which appears in this issue of the VER.

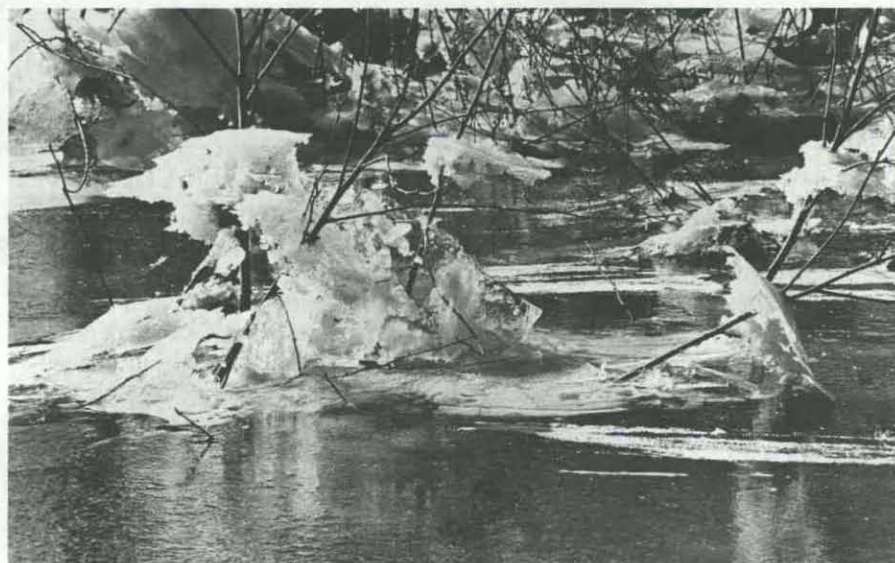


Photo by Donna Light

Conservation

(Continued from Page One)

continue to be 4% growth per year in the commercial sector?

It is important to understand that more than half of Vermont's electricity is used by businesses whose physical plants were built in the days of cheap energy. In the past few years, a whole industry has grown up around reducing electrical use in such plants. High-efficiency lighting, computer-assisted control equipment for heating, venting and air conditioning systems, waste heat reclamation and new types of insulation are all coming into commercial service. The rates paid by Vermont businesses are still low compared to most of the country, but as prices rise, we can expect increasing awareness of conservation options to be reflected in reduced growth rates.

In the residential sector, rising sales of energy-efficient appliances, wood stoves and furnaces solar hot water heaters and all types of insulation combined with higher standards for new home construction should temper the demand for electricity.

Most utilities have based their power planning on a continuation of current rates of growth and have taken little account of the effects of increased prices and new technologies. The economic prosperity of the electric utility industry has traditionally depended on investments in new generating facilities, so it is not surprising that they see this as the answer to the current situa-

tion. But conservation is coming to be recognized as the least expensive source of new electricity. As rates increase, more business, industrial and residential customers will conserve because it will be cheaper than buying additional power. We may invest millions of dollars in new power plants only to find that they produce far more electricity than Vermont really needs. In view of this, perhaps the most prudent policy would be to delay the construction of any new generation or transmission facilities until there is a demonstrated need for additional power.

Mathew Rubin is an energy consultant who lives in Montpelier.

VERMONT ENVIRONMENTAL REPORT

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