Vermont Environmental Report

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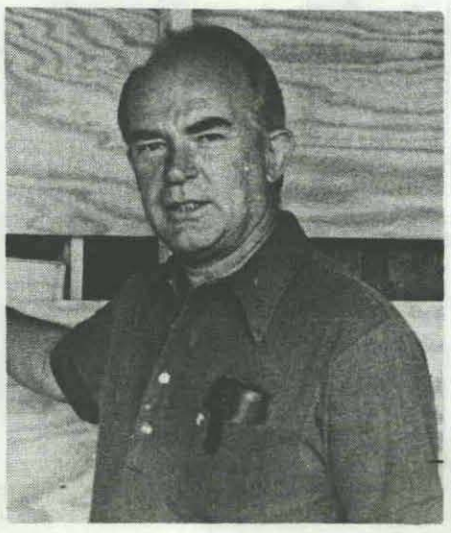
Vermont's Wood Energy Future

The Chips are Up, But the Chunks are Down

Vermont is an unquestioned leader in the field of alternative energy, especially wood energy. The numbers of conversions from oil, gas or electric heat to wood are astounding, even in a state that prides itself on innovation. Beginning with the Arab Oil Crisis in 1973, Vermonters began burning wood at the rate of 35,000 cords per year. By 1982, residential, industrial and institutional use of wood energy in Vermont surpassed 660,000 cords. The Vermont Energy Office's Wood Energy Division (now the Conservation and Renewable Energy Unit of the Public Service Department) has played an important role in this transition. Norm Hudson, a forester, and Dave Lamont, an engineer, work as a team in a program that many other states are trying to emulate. I asked Norm Hudson to take a peak into Vermont's wood energy future, beginning with the obvious question:

MM: "Why is wood energy so popular in Vermont?"
NH: "We grow 4.1 million cords of wood annually, and we use 1.5, so we have a surplus of 2.6 million cords annual growth. In addition to that, we have a standing inventory of 170 million cords. If you stack that 170 million cords four by four by eight, you'd have a pile 257,000 miles long -- enough to go from here to the moon or 10.3 times around the equator. There's a lot of wood out there."
MM: "Do you think our use of wood for energy will continue to accelerate, or are we reaching a point where those who are inclined to use wood are already doing so?"
NH: "Chunk wood use is levelling off, but chips are definitely on the rise, and the same with pellets. The use of wood chips for residential heating right now is probably less than .5%. There are only about 30 wood chip burners in the entire state. But when people realize the economy, safety and convenience of wood chips, they're going to switch."
MM: "I was under the impression that for the average homeowner, the only thing that is feasible in terms of wood energy is either a wood stove or a wood furnace. Are you saying that wood chips are now practical for residential



Norm Hudson

as well as commercial and industrial use?"
NH: "For the innovator, yes, that is true. If you have an oil or gas furnace -- and I do -- and assuming you have access to a woodlot and someone to do the chipping -- and I do -- you can add on this $1500 wood chip gasifier. Then all you have to do is visit it once a day to make sure the hopper is full and to shake the ashes off the grate."
MM: "Will that system be a substantial savings over oil?"
NH: "Oh yes. I expect that I'll save 35 to 40%."
MM: "What other advantages are there besides cost to wood chips versus a wood furnace?"
NH: "If you cut your own wood, it saves quite a bit of time. The book says that one person with a small tractor-mounted chipper can chip all the wood he would need in a normal heating season in one day. Talk to me in a couple of months and I'll be able to tell you how long it really takes. I'll need the equivalent of four cords to heat my house this year. I normally would burn six cords of chunk wood, but I'll burn the equivalent of four cords using chips because the chip burner is more efficient than a woodstove."
MM: "Why is a wood chip gasifier so much more efficient?"
NH: "When you're burning chunk wood, you've got a big area where the gasses that come off the fire have to mix with the oxygen. They mix haphazardly and therefore some of the volatiles -- some of the smoke -- goes up the chimney and out, and does not get burned."
MM: "So the efficiency comes from the fact that it's burning a gas that normally escapes up the chimney?"
NH: "That's right."
MM: "Does this unit have an automatic feed just like a regular furnace?"
NH: "This is automatic, gravity feed. You have to fill the hopper once a day. But then it just falls down and burns."
MM: "What about ash?"
NH: "It's conceivable that eventually there'll be automatic ash removal, but not today. The ash is very small, though -- less than for a standard woodstove -- and very granular. A lot of wood ash that comes out of a standard woodstove contains a lot of charcoal, which has something like 13,000 BTUs per pound."
MM: "How do pellets compare with chips?"
NH: "You pay a little more for pellets, but you get a little more convenience. They take less space, they're drier, they handle better. One of the things you need if you're going to deal with wood chips is real estate. They take up a lot of space."
MM: "Do they take more space than coal?"
NH: "Yes, because you're dealing with a lighter substance."
MM: "What about people who don't cut their own wood? Will they be able to call up their local fuel dealer and order a ton of wood chips some day?"
NH: "Yes, it's just a matter of time before wood chip delivery -- for residential and light commercial users -- becomes available. I've talked to a number of farmers about this. Farmers usually have large tractors, unloaders and other equipment. With a slight investment, they can utilize this equipment more fully. If a farmer has a woodlot with a lot of junk trees -- and most farmers do -- he can mount a $7000 chipper on the back of his tractor, and when he doesn't need it for tending crops, he can make some chips and sell them to his neighbors."
MM: "So you see chipping as being a decentralized industry?"
NH: "Yes, although there's also the potential for centralization."
MM: "How many Vermont industries or businesses are using wood chips or pellets for heat?"
NH: "Between 65 and 70, that we know of."
MM: "What kind of savings are they realizing by converting from oil or gas to wood?"
NH: "The Montpelier City Garage spent $7000 on their conversion, and their payback was less than one year. They've used pellets for two years. Another very positive experience was Doug Spates in Newport. He spent $17,000 converting a 3½ million BTU boiler, and he saved $19,000 in the first year. So he paid for it and made some money. He heats 60 apartments and about six stores in downtown Newport. Associated Memorials, a big granite shed in Barre, is on wood pellets, and they're very, very happy with them."
MM: "Where do they get their pellets?"
NH: "There is one person, Bud Bailey in Burlington, who has just started a company called New England Solid Fuels. He is negotiating a contract with BioShell of Canada to supply Maine, New Hampshire and Vermont. You can also buy directly from BioShell. The other thing that's happening is that Vermont Fibers

(Continued on page 2)

VERMONT WOOD FUEL USE
(in cords)

	Residential	Industrial	Utility	Commercial & Institutional	Total
1973	25,000	10,000	0	*	35,000
1974	85,000	12,000	0	*	97,000
1975	165,000	12,000	0	*	177,000
1976	250,000	15,000	0	*	265,000
1977	285,000	17,000	1,000	*	303,000
1978	320,000	80,000	15,000	*	415,000
1979	350,000	100,000	31,000	4,000	485,000
1980	450,734	173,475	39,660	10,000	673,869
1981	508,699	103,347	23,044	25,000	660,090

* Less than 1,000 cords
Prepared by the Vermont State Energy Office.

New Acid Rain Study May Provide "Missing Link"

Opinion is divided on the nature, extent and harmful effects of acid rain, but most scientists agree that:

- Acid deposition is rain, snow, fog or dry deposits containing significant amounts of nitric and sulfuric acids.
- These acids are formed when nitrogen oxide or sulfur dioxide emissions -- primarily from coal-burning power plants -- mix with moisture and undergo chemical transformation in the atmosphere.
- Vermont emits the smallest amount of sulfur dioxide of any state in the country, yet we commonly experience sulfate levels nearly as high as those in states where sulfur dioxide emissions are several thousand times greater.
- Most of Vermont's "sulfate episodes" occur in the summer, on days when the prevailing winds are from the southwest.
- Six states to the south and west of Vermont – Ohio, Pennsylvania, Indiana, Illinois, Missouri and Michigan -- account for 43% of SO_2 and 36% of NO_x emissions in the United States.

Nevertheless, many scientists -- and more politicians -- still contend that the case against acid rain is circumstantial, since we cannot establish a direct cause-and-effect relationship between *specific* sulfur and nitrogen oxide emissions in the Midwest and *specific* acid depositions in the Northeast.

Unfortunately, the sulfate particulates collected in Vermont all look pretty much the same. We can't tell an Ohio coal sulfate particulate from a downtown Burlington automobile exhaust particulate. Or can we?

New research by Dr. Kenneth Rahn of the University of Rhode Island may be an important breakthrough in nabbing a suspect for northern New England's persistent and troublesome "haze." Dr. Rahn claims that regional pollution aerosols (fine suspended particles) in both Europe and North America have discreet and different profiles, or "signatures," that remain recognizable during transport.

In a paper recently submitted for publication to Science magazine, Dr. Rahn describes his system of using "regional elemental tracers" to pinpoint the sources of airborn pollutants. Rahn maintains that the proportions of at least some elements in pollution aerosols vary according to the source area, since different regions have different types of industry, different fuel mixes, and varying degrees of pollution control.

To develop his regional signatures, Dr. Rahn combined information from several sites within each region, and verified it with additional sampling downwind. He measured the proportion of six different elements to selenium in each sample, allowing for possible sources of these pollutants in the earth's crust. Selenium was used as the denominator because it is found in similar concentrations at many different source areas, and consequently would not bias the ratios toward any particular region.

Rahn has derived a toral of 12 regional air quality "signatures" -- six from North America and six from Europe. The signatures have varying ratios of arsenic, antimony, zinc, indium, noncrustal manganese and noncrustal vanadium to selenium. New England, for instance, has a very low ratio of arsenic to selenium, which Rahn attributes to minimal coal influence. The Midwest coal signature, on the other hand, has an unusually strong signal of coal, while the Canadian smelter signal is enriched in arsenic and indium.

Rahn's most recent research differs markedly from an earlier study, which measured only ratios of noncrustal manganese to vanadium at Narragansett, Rhode Island, Watertown, Massachusetts, and High Point, New Jersey. As anticipated, pollution aerosols at High Point had a Midwest signature of high manganese-vanadium ratios. But in Rhode Island and Massachusetts, Rahn found ratios that were consistently "Eastern," even during high sulfate episodes.

In a statement issued in November, 1981, Dr. Rahn concluded that "Instead of a monolithic Midwestern source, the Northeast is now seen to have a rich variety of sources and transport . . . ."

Then in July, 1982, after extensive correspondence with Richard Poirot of the Vermont Air and Solid Waste Program, Rahn began analyzing test results from an acid rain monitoring program at UVM's Proctor Maple Research Center in Underhill, Vermont.

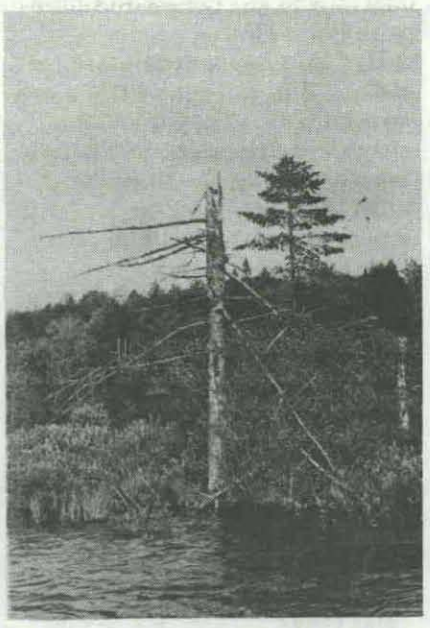
In the Science magazine article, Rahn again cites the Narragansett test results, but he contrasts them with the data from Underhill, where, he says, "the most common signature is New England (40%), followed by other East Coast (30%) and interior coal (25%)." He goes on to explain that the effective sulfate for the interior coal, mid-Atlantic and New England signatures are 21 ug/m^3 (micrograms per cubic meter), 7 ug/m^3, and 3 ug/m^3, respectively. Thus, while the "interior coal" signature dominates northern Vermont only 25% of the time, 75% of the sulfate measured during this time period is associated with the Midwestern coal signature.

Dr. Rahn's earlier research was challenged by other scientists. A 1983 report on Acid Deposition by the National Research Council, for instance, questions Rahn's findings on the grounds that the elements used as tracers may not be transported at the same rates and over the same distances as sulfates and nitrates. Also, sulfate is not a primary pollutant like manganese or vanadium. Sulfate particulates are formed when sulfur dioxide oxidizes in the atmosphere, rather than being emitted directly from the stack.

Dr. Kenneth Rahn concedes that "exploitation of regional tracers of pollution aerosols is still new," and that "Almost every aspect of the procedure is sure to be improved." But he remains convinced that the use of chemical tracers in aerosol holds considerable promise, and that it will ultimately be extended to determining the source areas of acid precipitation. The Vermont Air and Solid Waste Program and the Proctor Maple Research Laboratory deserve high praise for making a very significant contribution to Dr. Rahn's research. MM

Dr. Kenneth A. Rahn will be one of the featured speakers at a UVM symposium on acid rain in September. See the Calendar for details.

Hardwood Pond/On the Brink of Extinction



In the hill country of Elmore, Vermont -- just over the mountain from my house in Morristown – there's a 44-acre pond as wild as any in this part of the world. Ringed by shaggy spruce and hemlock which belie its name name, Hardwood Pond is home to great blue herons, a large beaver population, and an occasional moose. The nearest house is a mile away, by foot and four-wheel drive vehicle. Limited access protects this pond and its only permanent residents from speedboats, careless campers and late-night revellers. But isolation cannot shield Hardwood Pond from a different kind of trespass – one that hails from hundreds of miles away.

Like most Vermont lakes and ponds, Hardwood Pond receives precipitation laden with sulfuric and nitric acids. The prevailing winds from our nation's industrial heartland bring rain, snow and fog with an average pH of 4.00 to 5.00 (rain with a pH of less than 5.6 is considered acidic).

Hardwood Pond has a stable pH ranging from 5.64 to 6.44, but its alkalinity is dangerously low and declining steadily. In July, 1983, it was 1.39 mg/l (milligrams per liter).

"Any reading of less than 10 should be something of concern," says Jim Kellogg, a field biologist for the Vermont Department of Water Resources and Environmental Engineering. Kellogg, who does most of the sample collection and data compilation for the Department's acid precipitation lake monitoring program, has been collecting samples at Hardwood Pond since January, 1982.

"Most biological organisms need a certain amount of calcium carbonate to sustain life," Kellogg explains. As acid precipitation falls, it depletes the supply of calcium carbonate, which eventually translates into a lower "pH," or acidity/alkalinity ratio.

The effects of acidification on fish and other aquatic life are well-documented. Brook and brown trout, for example, will not reproduce in areas with a pH of less than 5.

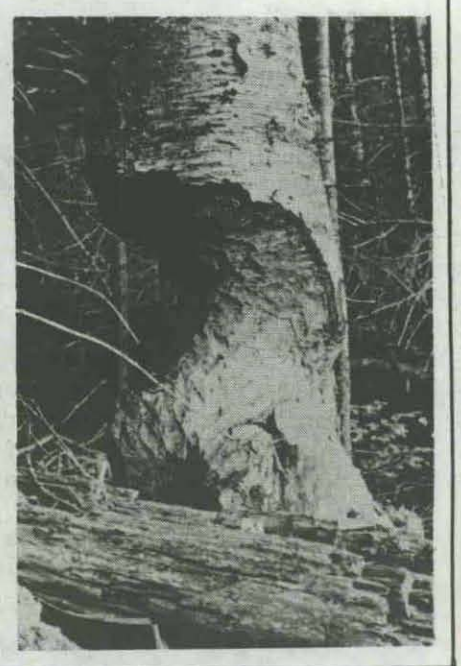
Aluminum toxicity also occurs in conjunction with acid rain. As the pH drops, aluminum comes unbound from the soil and leaches into the water. It is most toxic to fish and other living organisms at pH 5, making it, according to Kellogg, "primarily a problem not for for critically acidified lakes, but for those that are on the border."

Hardwood Pond is on the border. It is not, as Jim Kellogg points out, a classic example of an acidified lake. Vermont has three or four lakes -- including Little Pond in Woodford and Haystack Pond in Wilmington -- that can only support acid-resistant species. But it has many more like Hardwood Pond, with stable pH and declining alkalinity.

Hardwood Pond could remain in its present condition for years. Or it might be wiped out by a single acid-laden spring runoff.

"There's no way to tell how much time this pond has," Kellogg laments. He's concerned that most Congressional proposals for controlling acid-rain-causing sulfur dioxide emissions would take effect very gradually, over a 10- to 15-year period: "In 10 years, we could lose many more of these threshold lakes."

Jim Kellogg will lead a field trip/discussion concerning Hardwood Pond at VNRC's Annual Meeting at Johnson State College on Saturday, September 10. See page 5 for details. MM



Calendar

Tuesday, August 30, 9:00 a.m.
The first of three days of **Technical Hearings on a Proposal to Ban the Use of Herbicides Containing 2,4,D and Picloram,** at the Central Vermont Regional Library in Berlin. Vermont Agriculture Commissioner George Dunsmore will preside over the hearings, which begin with the testimony of Dr. Ruth Shearer, a consultant in genetic toxicology and one of the nation's leading authorities on this subject. All hearings are open to the public. For more information, call the Vermont Public Interest Research Group, 223-5221, or the Vermont Agriculture Department, 828-2420.

Thursday, September 8
Environmental Speakers' Day at Vermont Law School. Brock Evans of the Sierra Club, Don Hooper from VNRC and several other speakers will participate. For information, contact Vermont Law School, 763-8303, and and leave a message for the Environmental Action Group. No fee.

Saturday, September 10
VNRC's Annual Meeting at Johnson State College in Johnson, Vermont. An outstanding selection of field trips, plus keynote speaker **William Ruckelshaus.** See page five for details.

Wednesday, Sept. 14, 9:00-3:00
Alternative Funding for Parks and Recreation will be the theme for the 1983 Governor's Conference on Recreation at the Cortina Inn in Mendon, sponsored by the Vermont Department of Forests, Parks and Recreation and the Vermont Recreation and Park Association. The Conference will feature eight different sessions on new ways to fund facilities and organized activities. A new manual, **Funding Sources and Alternative Strategies for Meeting Recreation Needs,** will be used as a basis for many of the sessions, and copies will be available at the conference. For more information, contact George Plumb, Vermont Division of Recreation, Montpelier, Vermont 05602, 828-3375.

Tuesday-Friday, Sept. 23 - 30
The George D. Aiken Lecture Series presents **Perspectives on Acid Precipitation: A Technical Symposium on Acid Rain Transport and Transformation Phenomena.** A public lecture at the Ira Allen Chapel at UVM at 8:30 p.m. Thursday will feature Vermont Senator Robert Stafford and Canadian Minister of the Environment John Roberts. The Symposium is billed as a "state of the art discussion on transport and transformation phenomena in acid rain," and will feature Dr. Kenneth Rahn of the University of Rhode Island (see article on page 4) and Drs. Richard Klein and Hubert Vogelmann of the University of Vermont, among others. Registration is $75.00. For a program and registration information, write: University of Vermont, 123 Votey Building, Burlington, Vermont 05405.

Friday, Sept. 23-Sunday, Oct.2
UVM's Division of Continuing Education will present a seminar on **Conflict Negotiation and Mediation** with Bill Lincoln and Nancy Huelsberg over two weekends in late September and early October. Bill Lincoln is a nationally-recognized teacher, trainer and practitioner of negotiation and mediation who has led several very popular workshops on this subject in Vermont during the past year. This is a rare opportunity to take the full 40- to 50-hour course, leading to professional certification for participants who successfully complete an open book exam after the workshop. Lincoln and Huelsberg will teach both the theory and practice of using negotiation and mediation to resolve all types of conflicts -- from environmental issues to marriage disputes. Registration is $180.00 plus $15.00 for materials. For more information, call: University of Vermont, Continuing Education, 656-2088.

Friday, September 23
New ways to burn an old fuel -- wood -- will be featured at the **Seventh Annual Wood Energy Workshop** at Vermont Technical College in Randolph Center, sponsored by the Energy Unit of the Public Service Department, the Vermont Department of Forests, Parks and Recreation, and the Solar Association of Vermont. Workshops and demonstrations on chipping, chip-burning, wood pellets and small-scale electrical co-generation. Registration is $12.00, and lunch will be available. For information and a program, contact Dave Lamont or Norm Hudson at 828-2393.

Saturday, Sept. 24, 10:00-4:00
Shelburne Farms Harvest Festival. Shelburne Farms' annual celebration of the harvest will include exhibits and demonstrations on composting, woodlot management, sheep-raising, beekeeping, cheese-making, solar energy on the farm and many other subjects. Also on the schedule are special walking tours of the property, and entertainment by vocal and folk dance groups. All of this takes place on a unique 19th-century agricultural estate with Lake Champlain and the Adirondacks as a backdrop. $2.50 donation per car. Call 985-3222 for more information.

Friday-Sunday, October 14-16
The Land, the Sea and the People: Exploring Interdependence in New England, is the theme of the New England Environmental Education Alliance's Annual Conference at the Claremont Hotel in Southwest Harbor on Mount Desert Island, Maine. 50 field trips and workshops to choose from. Call Don Hooper at VNRC, 223-2328, for more information.

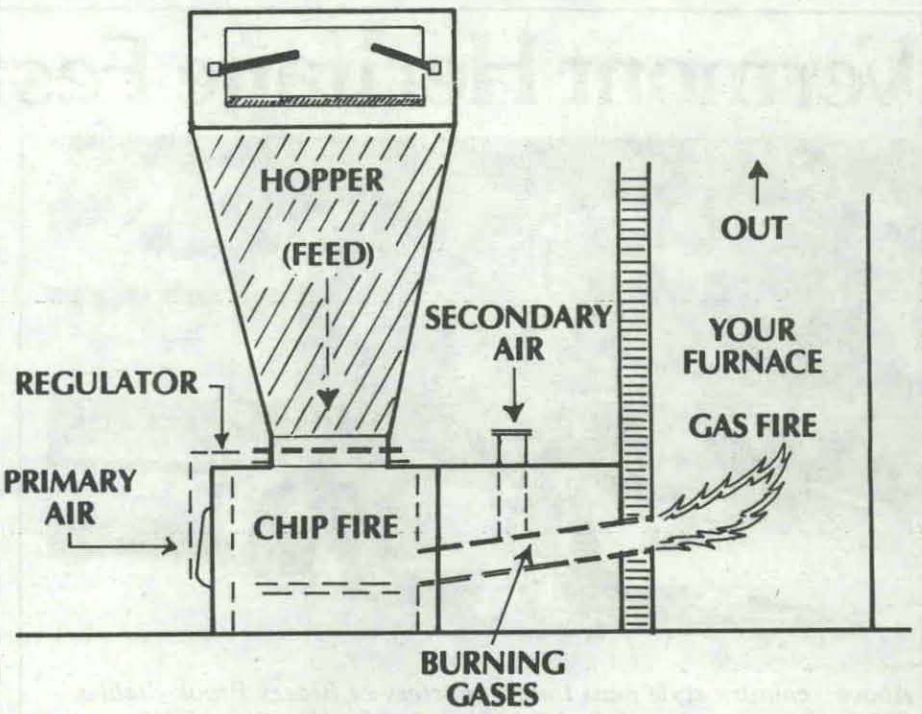


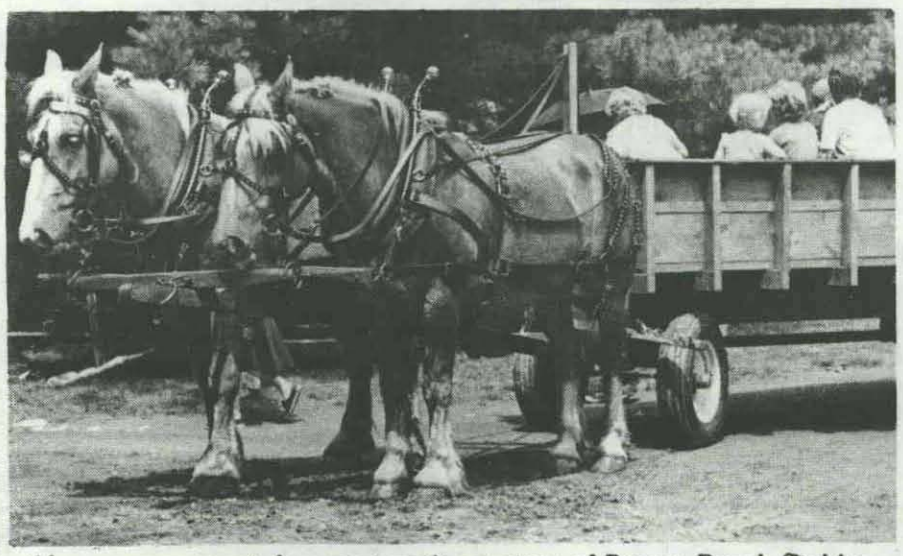
Diagram of a wood chip gasifier manufactured by EnerChip, Inc., of White River Junction, Vermont.

The Chips are Up

(Continued from page 1)
in Springfield, Vermont, which was making pellets from recycled cardboard until they burned down last year, is going to rebuild, and we expect that they will be on line come this heating season."
MM: "It seems like such a perfect industry for Vermont. Do you think we'll see more wood pellet plants here in the future?"
NH: "It's not likely that there'll be a wood pellet manufacturer in Vermont in the forseeable future. The reason is, first of all, that electricity is very expensive here. And secondly, mill residue -- like sawdust and chips -- is in short supply. In fact, farmers are running short of sawdust, so they're trucking it in from Maine and Pennsylvania."
MM: "Is that because Vermont has fewer sawmills?"
NH: "No, we have a lot of sawmills, but our mills are using the sawdust themselves -- they're burning it for heat. Now in Canada, they have a lot of waste sawdust because there's no point in burning it for energy. Electricity is cheap and abundant, and if they want more heat for their plants, they just put in another electric resistance heater. So in Canada, there's a very large supply of sawdust and chips that nobody wants. BioShell built a $5.7 million plant in Lac Megantic, Quebec, to utilize this mill residue."
MM: "Are pellets made entirely out of wood?"
NH: "Generally. They can also be made out of paper and cardboard. Vermont Fibers makes their pellets out of cardboard, and they add a little bit of paraffin to act as a binder and also to enhance the BTU output."
MM: "Do you have to make chips from hardwood?"
NH: "You can use hardwood, softwood, tops, leaves, bark -- in fact, there are more BTUs in bark than in wood. And the farther up the tree you go, the more bark you get."
MM: "Now, the new Burlington Electric plant will be burning wood chips, won't it?"
NH: "Yes, 500,000 tons a year."
MM: "That raises an interesting question. Do you forsee any conflict down the road between a growing use of stovewood and chips for residential and industrial heating in Vermont and the use of wood to produce electrical energy?"
NH: "That's a pretty tough question. But to start with, I think supply is the key. If we keep fairly good records of how much we're growing and how much we're using -- and I think we all will -- then we won't get into a conflict. When we begin to reach the point where we're cutting more than we're growing, then we'll have to be more careful."
MM: "What about air quality -- that haze over Montpelier on a cold January morning?"
NH: "If we burn wood efficiently, and we burn all the smoke, there won't be any haze. We can burn chips and pellets much more cleanly than chunk wood in most appliances. I have heard that Vermont Castings is coming out with a smokeless woodstove. That's the kind of technology we need. The traditional chunkwood stove is pretty archaic stuff."
"I can tell you a story that I think is interesting as the dickens. There's a guy by the name of Clover Sweet who runs a greenhouse in Bennington, Vermont. He has 25,000 square feet under glass. Normally, it would cost him $64,000 for number two oil to heat his greenhouse. $64,000 was too much, so he went to chunk wood. But he had to cut and split and stack 350 cords of chunk wood. He did that for two years, then decided there had to be a better way. So he bought a tractor and a small chipper, and started burning slab wood from local mills. He was only paying $3.00 or $4.00 a cord for it, and he could chip three cords – a 24-hour supply – in one-and-a-half hours. So he dropped his fuel costs last year from $64,000 to $12,000, and that included the cost of the slabs and the labor to feed the chipper. Now when you see that kind of economy, you can't tell me that chips aren't going to be around for a while."

Norm Hudson is a Wood Energy Specialist for the Conservation and Renewable Energy Unit of the Public Service Department.

Vermont Heritage Festival

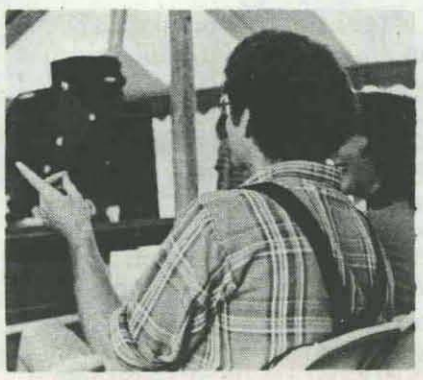


Above: country-style mass transit courtesy of Breezy Brook Stables.
Below: A tense moment during bidding for the Hearthstone II stove.

The sun never really came up on the morning of Saturday, August 6. Night gave way to a sky full of inky black clouds. By 10:00 a.m., it wasn't raining, it was pouring cats and dogs.

Down in Montpelier (and I do mean *down*) was Margy Erdman, organizer of this year's Vermont Heritage Festival, VNRC's annual fundraiser. But Margy was dauntless: "I figured this happens to other fundraisers, and you just go with it." She and Hester Fuller from WNCS did a spot radio announcement at 8:00 confirming that the Third Annual Vermont Heritage Festival was on!

It was still showering at 11:00, but the craftspeople, demonstrators and organizers calmly went about their business, setting up displays, tents and tables full of food.



"Then at noon, the sun broke through, people began to arrive, and Nancy Beaven began to sing," Margy recalls. "It was amazing!"

Though weather may have kept the crowds small -- the rain offered only temporary relief from this summer's blistering heat -- '83 was the year of the most successful Vermont Heritage Festival ever.

Jane Werley-Congdon and Anne Wattles preside over the dessert table.

Gross receipts were better than $7000, with Dick Hathaway's country auction, as usual, bringing home most of the bacon. Some of the "big ticket" items this year included: a Hearthstone II woodstove, a 17-foot Grumman canoe, Air North and Air Vermont passes, season passes at Mad River Glen, Camel's Hump and Catamount ski areas, a weekend tour with Vermont Bicycle Tours, a deacon's bench from Vermont Castings, a Gardenway cart, and a lightweight backpacking tent from Onion River Sports.

Nicholas Fitzhugh

Weather Hill Restoration's community of restored historic homes at Bent Hill Settlement in Waitsfield was as lovely a setting as ever, and many more people this year got the grand tour because of Breezy Brook Stable's hard-working team.

It seems that the craft demonstrations get better every year.

There were about 18 craftspeople demonstrating everything from flower-arranging to cabinetry, and their obvious enthusiasm drew a steady stream of wide-eyed admirers.

Musicians Nancy Beaven, John Isaacson, Paul Gills, George Woodard and Karen Dean wowed the festival-goers this year. Meanwhile, the Black Forest Cafe, Green Mountain Lamb Growers, Ben and Jerry's Ice Cream, Green Mountain Coffee Roasters and Vicki Schipa and MaryLou White put on another fantastic spread.

Betsy Bourdon spins a blend of lambswool and dog hair.

And Dick Hathaway, what can we say? May the sun always shine on 4 Kemp Avenue, may your garden grow ripe red tomatoes in the middle of July, and may the "Golden Voice of the Northeast" continue to flow like honey over the peaks and valleys of VNRC's annual cash flow profile .... MM

ThankYouThankYouThankYou!

We continue to be amazed by the hundreds of businesses and individuals who each year organize, demonstrate, fundraise, entertain and donate for the Vermont Heritage Festival. That kind of support keeps us going all year long. In addition to our gracious hosts, Carolynne and Gregory Schipa of Weather Hill Restoration, we'd like to at least mention here some of the people who made this year's festival a success: Dennis Church; Jon Gailmor; Nancy Beaven; Deane Davis; Smallwood Nursery; Hilary Frost; Sugarbush Valley, Inc.; WNCS; Hearthstone; Locker Room Sports; The Linen Shoppe; Rossignol Ski Co., Inc.; Parade Gallery; Jeffrey Burnett; China Barn; Edision's Studio; Breezy Brook Stable; Forgotten Furnishings; Potpourri; Valley Wines; Kids Klothes; Past Times; Vicki Schipa; MaryLou White; Golden Horse Lodge; Robert White; The Collection; Highland Lodge; The Jewelry Box; Weaver's Web; The Savoy Theater; Gray's; Robin's Peach Tree; Huntsman's; Buch Spieler; The Vogue Shoppe; Barnyard Chorus; D.W. Pearl's; Dr. William Murphy; Dr. Carl Reidel; Dr. Tom Hudspeth; Trillium; Patty Tragemann; Pompanoosic Mills; David Miskel; Origanum; Dave's Auto; Hunt's; Fly Fishing Shop; Four Seasons Garden Center; Audio Den; Daily Planet; O'Brien's; Hilson Home Center; Burlington Square; Camel's Hump Nordic Ski Center; Air Vermont; Chez Henri; Downhill Edge; Catamount Ski Area; Main Street Dance; Cheese Shop; Blue Toad; Dr. Terry Horan; Bolton Valley Ski Area; Onion River Sports; Sam Rupert's; Dirt Road Bobbin Mill; The Bread Basket; The Mad Sweeper; Crowley Cheese; Arthur A. Mill; Vermont Bicycle Touring; Blue Seal Feeds; Green Mountain Coffee Roasters; Warner Shedd; Joseph D. Fallon; Yarn Web; Quiltsmith; Harrington's; Woodbury's of Shelburne; The Shelburne Museum; Richard Farnham Associates; Kali-Yuga Kitchen; Merchants Bank; Thornapple Antiques; International Cheese; Lantman's IGA; Hart & Mead; Joyce Bordeaux; Chez Huguette; Susan Reid; Julio's; Sylvia Ferry; Sylvia Stewart; Mehuron's Market; Victoria's; Mad River Glen; L.W. Greenwood & Sons; Common Man Restaurant; J.P.'s Hardware; Lil & Gusti Iten; Gardenway; Rick & Valerie Norton; Manghi's Bread Bakery; The Learning Exchange; Canoe Imports; Brookside Industries; Racquet's Edge; Vermont Castings; John Isaacson & Band; Dick Hathaway; Ellwyn Neil; Green Mountain Lambgrowers; Black Forest Cafe; Ben and Jerry's; Church Street Center; Green Mountain Leather; The Toy Store; Valley Storehouse; The Mill Restaurant; Cabin Fever Quilts; Cold Hollow Cider Press; Bookstacks; Prime Factor Restaurant; Conant Custom Brass; University Mall; Air North; City Market; Senator Patrick Leahy; Creative Sound; Somer's Hardware; The Drawing Board; J.J.'s Wine and Cheese; Trash Unlimited; Tubbs Restaurant; Pat Pratt; Dakin's/Pagocycle; Northfield Wood Products; Lizzari's Photo; Great American Salvage; Bear Pond Books of Montpelier; Blake Lawrence; Chris Hadsel and Bill Mayer; Tempest Books and Records; The Fish Store; Green Mountain Gallery; Tulip Tree; Hide 'n Sheep; Klip 'n Curl; It's Only Natural; Clearwater Canoe; Jim Wilkinson; Vermont-Ware Carts; Norman Vandal; Tom Tintle; Earth Forms Pottery; The Town Shop; Knight's Small Cabinet Store; Brenda Laquer; Onion River Arts Council; Cabin Fever Contradance Band; Massage Associates; Gail Byers; Anne Brigham; Sue Prakelt; Pam and Raymond Pomfret-Stewart; Jared Wood; Dave Jillson; Liz Mulliken; George Chappel; Arnie Koss; Tom and Andrea Frazier; John Welter; Val and Harrison Snapp; Greg Betit; Irene and William Ecuyer; Ken Parrot; George Ainley; Alice Eickholdz; Betsy Eckfeldt Vandal; Sally Sweitzer; Bill Crain; Monty Herscovitch; Jeffrey Cowan; Doug Jaffe; Anne Flanagan; Jim Sebastian; Deedee Fitzhugh; Ed Cetrangolo; Curt Hooper; Kathy Smith; Chris Pike; Don Brown; Ann Day Heinzerling; Johns and Jane Congdon; Betsy Bourdon; Michael Pierce; Gisela Gminder; Wayne Ladd; Martha Osmun; Beggar's Banquet; The Den; Pat's Pioneer; Fayston Country Store; Phoenix Restaurant; Waitsfield Storage Company; Tucker Hill Lodge; Don Brown; Waitsfield Cable; WDEV; Barbara Kelley; Chuck Bergen; Anne Bailey, WFAD.

Book Review

Environmental Law for Non-Lawyers

David B. Firestone, Esq., and Dr. Frank C. Reed (Ann Arbor Science Publishers, 1983)

Don't let the textbook title scare you away. **Environmental Law for Non-Lawyers** makes very good reading. The authors -- a Vermont Law School Professor and a UVM Botany Department lecturer and researcher -- deliver on their promise to give the reader a working knowledge of FEPCA, RCRA and NEPA. But they also take on the whole history of public response to environmental problems -- from pesticides to population control. That's quite an achievement in 282 pages (including appendices).

The book is concise, clear and extremely well-organized. Chapter by chapter, it examines state and federal law concerning air and water pollution, land use, solid waste, toxics and energy. Each chapter outlines the nature and severity of a particular problem and chronicles state and federal regulatory responses. Numerous examples -- many drawn from Vermont -- help the reader grasp complex legal principles, and the straightforward prose is easy on the eyes and the spirit.

Environmental Law for Non-Lawyers belongs on the bookshelf of every state or town official or citizen activist who works within the frame of environmental law, but seldom sees the whole picture. For example, the authors' explanation of the limited role of the courts in administering the National Environmental Policy Act (NEPA) sheds considerable light on a process that has baffled more than one lay litigant. The most important aspect of NEPA, say Reed and Firestone, is the requirement that all agencies of federal government prepare detailed statements on the impact of major federal actions significantly affecting the quality of the human environment. However, merely requiring an environmental impact statement (EIS) does not guarantee environmental quality. As Firestone and Reed explain, the court interpretation is that substantive requirements of NEPA are directed to federal agencies; the court's role is limited to making sure that environmental values were considered in the balance of the agency decision-making process, not whether the agency decision is right or wrong with respect to the environment.

"There are many who contend that the procedural requirement of an EIS has little or no positive effect on the environment and . . . that the preparation of an EIS is a time-consuming chore which adds large amounts of lead time and other economic costs to any project," say Reed and Firestone. At the same time, "Some environmentalists claim that as agencies become accustomed to the EIS procedure and to what the courts require for compliance with that procedure, an agency can make any decision look reasonable on paper regardless of whether it is a good balance between the agency's program goals and NEPA's environmental goals."

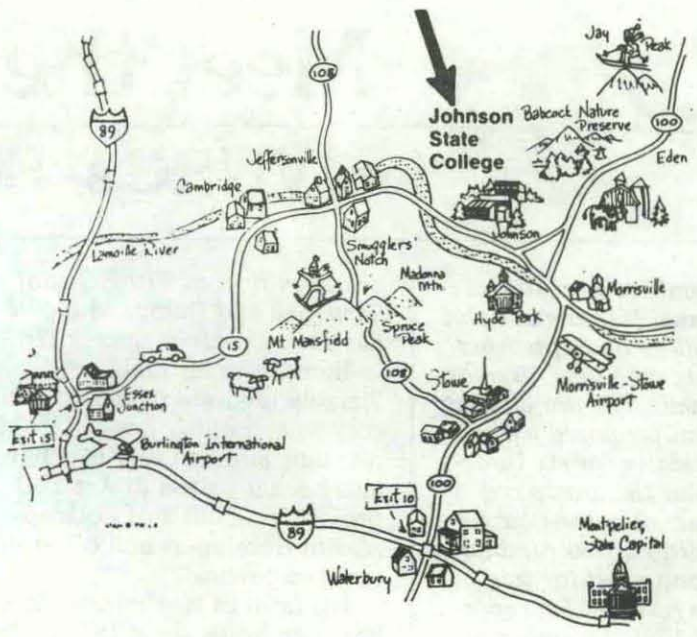
The authors' no-nonsense explanation of water pollution control laws is another classic. In less than three pages, they manage to make sense out of BOD, SS, TC, FC and pH as they relate to the requirements of the Clean Water Act. Also not to be missed is the section on the Clean Air Act's Prevention of Significant Deterioration standard. Firestone and Reed spell out the reasons why PSD, a political hot potato since it was adopted by Congress in 1977, is so important -- yet so controversial -- in unindustrialized areas with relatively pollution-free air.

The authors consistently trace the authority to regulate in a given area -- be it land use, water pollution or waste disposal -- to Congress' authority to regulate interstate commerce and the states' power to protect public health, public safety and the general welfare. This pinpoints the source of many continuing jurisdictional issues, such as the tension between state and local governments in Vermont over land use and development control. Firestone and Reed remind us that the power for local land use planning is a part of the state's police power. But most states -- including Vermont -- have delegated zoning power to local governments through "enabling acts" which permit local governments to zone but do not require them to do so.

It's hard to find anything negative to say about this book, except to note that perhaps some sections need further editing. There are a few distracting grammatical errors, and the authors' attempts to brighten very serviceable if unexciting prose don't always succeed. I like their answer to the question about why states, without compulsion, go along with federal objectives and requirements for solid waste management ("The answer is twofold: money and money"). But I don't care for their introduction to the chapter on International Law:

"Golly, dad, how come there are no fish in the lake anymore?" "Well son, our Canadian government believes it has something to do with air pollutants sent to us by the United States." "Is somebody going to do something about it, dad?" "I don't know son, I don't know."

The highest compliment I can pay Reed and Firestone's **Environmental Law for Non-Lawyers** is to acknowledge that at least half-a-dozen recent federal actions in Vermont make more sense to me having read it. I'm sure that after a year or two at 7 Main Street, this book will be very respectably dog-eared and defiled with marginal notations, coffee stains and other signs of heavy use. MM



VNRC's 21st Annual Meeting

It's true! VNRC begins its third decade of service to Vermont's environment in 1983, and the year-long celebration begins with a remarkable Annual Meeting at Johnson State College in Johnson, Vermont, on Saturday, September 10.

For openers, our keynote speaker is **William Ruckelshaus,** the newly-appointed Administrator of the Environmental Protection Agency. He'll be accompanied by U.S. Senator Robert T. Stafford, Vermont's Senior Senator and Chairman of the Senate Environment and Public Works Committee.

Registration will begin at 9:00 a.m. at JSC's Dibden Auditorium, followed by a business meeting and the keynote address. This is a switch from previous annual meetings, so read your invitation carefully.

We'll enjoy an outdoor buffet lunch around 12:30, weather permitting, and field trips will follow at 1:30.

This year's field trips and discussions offer an insider's view of the natural resources, and the issues surrounding them, in northern Vermont. For example:

• Dave Marvin, former VNRC Board Chairman and the current New England Tree Farmer of the Year will lead a tour of his 600-acre Butternut Mountain Farm in Johnson, which produces enough pulpwood, sawlogs, Christmas trees and maple syrup to support a family of four. Caution: This field trip will make you want to give it all up and grow trees for a living!

• Did you know that Wolcott, Vermont, has much in common with interior Alaska and northern Canada? At the Center for Northern Studies in Wolcott, students learn about cultural and natural resource issues of the Circumpolar North with one of New England's best examples of boreal forest and muskeg as their outdoor laboratory. Center staff will lead this field trip, which includes a trek to Bear Swamp.

• Hardwood Pond in Elmore is not unique. It's quite typical of high-elevation Vermont lakes and ponds, with stable pH and declining alkalinity. Learn why that's a problem on a field trip/discussion led by Jim Kellogg, a field biologist for the Vermont Department of Water Resources.

• And that's just a sampling. Other field trips include a visit to JSC's Babcock Nature Preserve with Professor John Wrazen, a tour of the nation's largest open-face asbestos mine in Lowell, a field trip/discussion concerning declining water quality on the Upper Lamoille River with Sterling College's Steve Wright, and a lively discussion dubbed, "You *Can* Get There From Here," or "The Future Ain't What It Used to Be," led by forester and VNRC Vice-chairman Mollie Beattie.

Read all about it in your personal invitation to VNRC's 21st Annual Meeting. If you don't receive an invitation and registration materials within the week, give us a call at VNRC, 223-2328. See you in Johnson!

Meet the Candidates
for VNRC's Board of Directors

VNRC members who attend the 21st Annual Meeting at Johnson State College on September 10th will elect nine new directors for the Council. The nominating committee has proposed a single slate of candidates for six three-year terms plus the unexpired term of former director Charles Ross. In addition, two candidates have been nominated for two directorships reserved for representatives of VNRC member organizations.

At Large

Mollie Beattie
(incumbent)
Grafton

Mollie Beattie has been a resident of Vermont for 15 years, a member of VNRC for eight years and a Board member for three years. She holds a Master's degree in Forestry from the University of Vermont, and is employed as a forester by the Windham Foundation in Grafton. In that capacity, she manages the Foundation's woodland and provides forest management services to the Ottauquechee Regional Land Trust and other conservation organizations. She also serves on the Executive Committee of the Green Mountain Chapter of the Society of American Foresters.

"In the next few years," says Beattie, "I would like to see VNRC accomplish the following:

(1) improve its role as a Council -- as a place for consultation, deliberation, and discussion -- for all organizations interested in the state's natural resources, economy and environmental future. I am especially interested in greater contact with member organizations, regional planning commissions and municipal organizations;

(2) a broad and thorough review of the structure of state law, policy and bureaucracy as they affect land use in Vermont;

(3) more research and reporting by committees and volunteers; and

(4) acquisition of permanent quarters for the Council.

Jonathan Bump
Westminster West

A native of South Hadley, Massachusetts, Jonathan Bump graduated from Amherst College in 1966 with a degree in Fine Arts. After brief service in the Navy, he attended Harvard Law School, where he received his degree in 1971. That same year, in the very early days of Act 250, Bump came to Vermont on a permanent basis to serve as the State's first Land Use Administrator. In 1973, he left State service and joined the Brattleboro law firm of Fitts, Olson, Carnahan and Bump, where he has been a partner since 1976.

Bump says his practice is "largely involved in the areas of corporate and tax law, estate planning and real estate. I have also been involved in Act 250 projects on behalf of both applicant developers and other interested parties."

His farm in Westminster West has been home since 1966, where he has a herd of about 80 polled Hereford beef cattle. Bump is the current President of the Vermont Beef Producers' Association as well as a director of the New England Hereford Association.

H. Kenneth Gayer
(incumbent)
Woodbury

H. Kenneth Gayer began his career as a college Biology teacher. During World War II, he became interested in science and research administration, and his interest led into 20 years of operations research on naval, atomic energy, civil defense and air force problems. Later, as a member of the Center for the Environment and Man in Hartford, Connecticut, and during seven years with the National Science Foundation in Washington, Gayer concentrated on applied research on environmental problems. He is now a part-time farmer in Woodbury, where he is active in town and regional planning.

Ken Gayer has served on the VNRC Board since 1980 and was named Treasurer in 1982.

Charles S. Houston
Burlington

Charles S. Houston graduated from Harvard College in 1935 and from Columbia Medical School in 1939. After five years as a flight surgeon in the Navy, he had a family practice for 10 years in Exeter, New Hampshire, and for five years in Aspen, Colorado. Dr. Houston came to Burlington in 1959, after five years in the Peace Corps. As Chairman of Community Medicine at UVM, he taught environmental health and various health care courses until the department was abolished. Houston retired in 1979 at age 65, but he has continued to teach environmental health in the undergraduate college.

Dr. Houston is a member of the Board of Directors of the Yosemite Institute and the Keystone Center. He is also Chairman of the Board of Snake River Health Services. He served on Governor Davis' Environmental Commission (which developed Act 250) in 1967-1968. During the same period, he served on the Advisory Commission to the Federal Water Pollution Control Administration. Houston has also served on the Vermont Pesticide Advisory Council for the last 12 years. He has published four books, some 50 medical papers and a large number of non-medical papers on mountains, environment and health.

Houston says his major interests lie in "translating medi-speak into ordinary English, so that non-scientists can understand health and illness better," and "teaching environmental health and helping people to grasp the immensity of the global revolution in social, technical, political and ethical issues, which is taking place with frightening speed."

David A. Jillson
Essex Junction

David Jillson's educational background includes a good deal of natural science: He holds a B.S. in Biology from Union College, an M.S. in Marine Sciences from the University of the Pacific, and a PhD in Biological Sciences from the University of Rhode Island. Jillson came to Vermont in 1977, and taught ecology at UVM for three years. Following a career change, he became Senior Biostatistician at the Vermont Health Department in Burlington.

Jillson's active association with VNRC has included an article for the Vermont Environmental Report, nearly two years on the Planning Committee, one year on the Land Use Committee, and fundraising for two Vermont Heritage Festivals.

"One of my major interests is land use planning," says Jillson, "where I am hopeful that ecological principles, as well as economic considerations, can help guide decision-making. I am attempting to realize my vision at the local level through my membership on the Essex Town Planning Commission -- an enlightening experience."

Donald Peddy
Cornwall

Donald Peddy graduated from Cornell University with a degree in Veterinary Medicine in 1967. He and his family moved to Burlington, Vermont, from Verona, New Jersey, in 1972, and then to the Middlebury area in 1976.

Dr. Peddy is active in the Vermont Veterinary Medical Association, where he was Chairman of the Small Animal Committee in 1980, President in 1981-1982, and a member of the Executive Board in 1980-1983. Dr. Peddy was also a member of the Cornwall School Board from 1979 to 1981, and Chairman of the Board in 1981. In 1982, he became a founding member of the New Haven River Anglers' Association, which is studying this river's insect life, fish population and acid rain. He has worked on streambank stabilization, litter clean-up, and childrens' education projects.

Says Peddy, "One of my greatest concerns is the destruction of cold water fisheries within our state. I hope that VNRC will assist the State agencies who are trying to develop constructive programs for healthy streams."

John P. Wiggin
(incumbent)
Woodstock

John P. Wiggin graduated from Colgate University with a degree in Anthropology and Sociology, and he received a Master's degree in Natural Resource Management from Yale Univeristy School of Forestry and Environmental Studies. He works as a forester for Laurance S. Rockefeller and the Woodstock Resort Corporation. He also directs the Woodstock Ski Touring Center.

John Wiggin serves on the Boards of the Ottauquechee Regional Land Trust and was first elected to the VNRC Board in 1980.

As a Board candidate three years ago, Wiggin offered to contribute his knowledge of forest management to further VNRC's educational activities. He has made good on his promise as the Chairman of VNRC's Forest Policy Task Force, where he's working on a pilot forest landowners' association with possible VNRC sponsorship.

Organizational

Dean Burrington
East Burke
Vermont Maple Sugarmakers' Association

Dean Burrington's family has been sugaring and dairying for six generations. The Burringtons work together on a sugaring operation with 600 taps, and sell maple syrup both wholesale and retail. They also operate a small sawmill.

Dean Burrington prides himself on sound forest management: "We have maple trees in all stages of development," he says, "from seedlings to large trees, which are being weeded and thinned for future generations."

Chester Eaton
Hartland
Vermont Association of Conservation Districts

Born and raised in Vermont, Chester Eaton has operated Auburn Star Farm in Hartland for the past 40 years. Chester Eaton and his son manage the 250-acre farm and a herd of 100 registered Holsteins. The Eatons produce an average of 750 gallons of maple syrup annually, tapping 1400 of their own trees as well as buying sap from other local producers. They also cut about 20,000 board-feet of lumber every year at a sawmill powered by a 40-year-old International diesel engine.

Chester Eaton is experimenting with no-till planting as a means of reducing soil erosion and improving crop productivity. He has 30 acres of grass in no-till soil.

The Council

Farewell to Donna and Sylvia

It may be the end of an era. Two extraordinary women -- Donna Pollard, Office Manager, and Sylvia Stewart, Membership Secretary -- resigned within a week of each other in early July. Sylvia left to embark upon a well-deserved retirement, and is presumably basking in the summer sun at Joe's Pond right now. Donna, who may be the world's fastest typist, has started a business out of her home in the woods of Worcester.

We understand their reasons for leaving, but we'll miss Donna and Sylvia very much. Between them, they gave more than a decade of service to the Council. Their competence, their patience, and above all, their indefatigable senses of humor, sustained us through some difficult times.

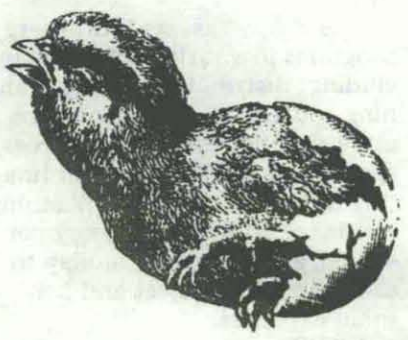
We are fortunate to have two very capable staff members to fill their shoes. Cherie Langer, a VNRC Secretary since 1980, has been promoted to Office Manager. Katherine Clark is our new Membership Secretary, and we hope to have a replacement for Cherie by press time.

Best of luck, Donna, Sylvia, Cherie and Katherine -- and thanks so very, very much! MM

VNRC BACKS INTO THE INFORMATION AGE

With some trepidation and initial skepticism, the Vermont Natural Resources Council has ventured into the big wide wonderful world of word processing. It started with an agreement to purchase a few hours a week on a Wangwriter owned by the Vermont Nature Conservancy. But computer phobia quickly turned into computer mania as more VNRC staffers discovered that with a word processor, you *can* make yesterday's deadline for that letter, legal brief, or VER article.

Within a few weeks, we completely outgrew this system. Fortunately, the Raytheon Corporation of Natick, Massachusetts, came to the rescue. Raytheon has very generously made us a long-term loan of an RDS-200 Information Processor with both word-processing and mathematical capabilities. We highly recommend this system for ease of operation and superb service. If you'd like a free demonstration, please call Cherie Langer, VNRC's Office Manager, 223-2328.



New Members

VNRC is pleased to welcome the following new members, who joined us in May and June:

Mr. and Mrs. Loren Palmer; Mr. and Mrs. Richard Timmerman; Peter W. Martin; Mr. and Mrs. Gary Lord; Mrs. C. Dale Mericle; Glenn D. Benoit; Dr. and Mrs. George Glanzberg and family; Eban Brown; Wayne Davis; James W. Runcie; Christopher Noel; Penelope Trinkhaus; Gwendolyn M. Brown; Jennifer Rood; Dick and Nancy Bell; Clark A. Page; George H. Gilmore; Mr. and Mrs. Thomas J. Miner; Lyman Allen; Mrs. Ruth F. Gottlieb; Ms. Mary Van Dyke; Ms. Catherine M. Nelson; Lewis Deane; Barbara Reed and Alan LePage; Mrs. Charles A. Hickcox; Chuck Schwer; Kathleen B. Bowen; Patricia Carr; Margaret B. Corbin; Alexander Fischer; Joseph L. Kassel; David and Carol Fitzgerald; Ray I. Pestle, Jr.; Charles D. Sjolander Family; Leonard F. Hoefler, Jr.; Cottage Industries.

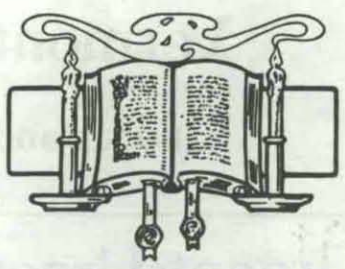
Bylaw Revisions

In addition to electing several new directors for the Council, VNRC members who attend the 21st Annual Meeting will be asked asked to vote on a proposed amendment to our bylaws. The Board has recommended the following new language for "Section 3: Nominations:"

(a) Only those persons whose names have been duly nominated in accordance with these rules, and who are willing to serve, may be elected as members of the Board of Directors at that annual meeting.

Nominations shall be submitted by the Nominating Committee established by the Board of Directors. Any member of the Council may submit additional nominations for at-large positions on the board, provided such nominations shall be filed in writing with the secretary of the Council at least thirty (30) days prior to the annual meeting, and shall be accompanied by a petition signed by ten (10) or more members in good standing of VNRC. The names of nominees shall be distributed to the membership prior to the annual meeting.

The purpose of the amendment is to guard against frivolous nominations. Under this proposal, persons wishing to serve would have to find at least 10 members willing to sign a petition on their behalf.



From the Executive Director:

Dear Member,

If you haven't responded to VNRC's 1983 Annual Appeal, please take a minute right now to learn about a special offer that could earn us an extra $10,000 this year.

Here's how it works: In June, a Midwest Foundation offered VNRC a challenge grant that will match, dollar-for-dollar, all new and increased contributions from members for one year. Thus, a member who has given, say, $50.00 a year for the last three years could generate a $50.00 match by contributing $100.00 this year.*

An enthusiastic response from our members could earn VNRC an extra $10,000, significantly increasing our long haul operating funds as well as pulling us out of our annual summer cash flow doldrums.

So please, if you haven't done so already:

1. Sit down and write out a check for the Annual Appeal that is significantly larger than the one you wrote out last year (you *did* write one out last year, didn't you?)

2. Think of all the people you know who are interested in the natural environment and who want to preserve Vermont's high quality of life. Use the coupon below to jot down their names and addresses, and mail it with your check to: VNRC, 7 Main Street, Montpelier, Vermont 05602.

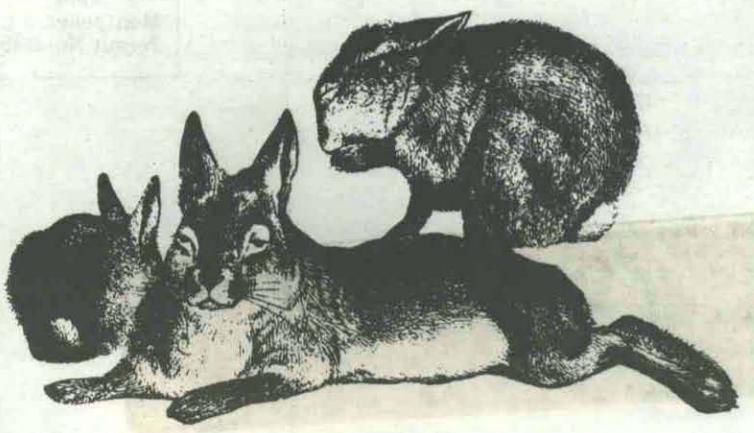
Thanks for your support!

Seward Weber

Seward Weber, Executive Director
Vermont Natural Resources Council

* *To trigger a matching grant, your total 1983 gift must exceed your largest annual gift for the past three years. If you don't remember how much you have given, we'll be glad to help. Just call Katherine Clark, our Membership Secretary.*

Get Hopping!



Here's My Tax-deductible Contribution to VNRC's 1983 Annual Appeal: $_____

And here are the names and addresses of some friends who share my interest in protecting Vermont's environment:

Name _____

Address _____

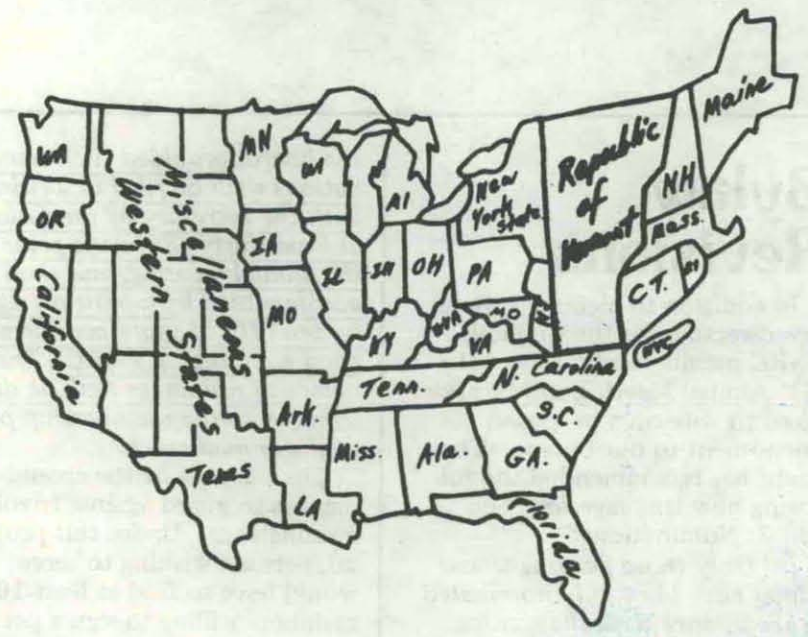
Name _____

Address _____

Name _____

Address _____

You may use my name in contacting these prospective members: ___ Yes ___ No



Vermont Perspective

Local and Regional News

Urgent•Urgent•Urgent•Urgent

This is it. We're down to the wire on the long struggle to set aside additional wilderness in Vermont.

David Wilson from Representative James Jefford's office says that Vermont's Congressional delegation will decide by early September on the final wording of the bill now before Congress (H.R. 2275 and S. 897). He hopes that the bill will reflect an agreement between pro- and anti-wilderness forces, but the delegation is prepared to act, with or without a compromise.

What's the rush? Washington pols tell us that unless a new bill is submitted by mid-September, it won't have any chance of clearing Congress by adjournment. And it's generally conceded that if the bill doesn't clear this session, it will be much more difficult -- if not impossible -- next time around.

A steady stream of calls and letters from Vermont is more important now than ever. "Even if you've written your Congressmen before, now is the time to write," says VNRC's Don Hooper.

The Council supports the original proposal to designate an additional 65,000 acres of wilderness in Vermont's Green Mountain National Forest; However, we've done our best to promote a compromise that addresses the concerns of snowmobilers, hunters, loggers and other users. Several negotiating sessions have been held over the summer, and one more round of talks is scheduled for the week after Labor Day.

If you don't feel you know enough about this issue to write and informed and persuasive letter, VNRC may be able to help. Write us for back issues of the **Vermont Environmental Report** or **VNRC Bulletins** featuring major articles on Vermont wilderness, or for a copy of a white paper prepared by the U.S. Forest Service.

If you have any interest in the wilderness issue, now is the time to make your concerns known to Vermont's Congressional delegation. Their addresses and phone numbers are listed below:

Senator Robert Stafford
United States Senate
Washington, D.C. 20510
Call collect: 951-6707

Senator Patrick
United States Senate
Washington, D.C. 20510
(800) 642-3193

Representative James Jeffords
U.S. House of Representatives
Washington, D.C. 20515
(800) 835-5500

Town Energy Planning: A Region-wide Approach

Paul Markowitz

Community energy planning in Vermont has acquired new vigor and purpose thanks to a program called the Vermont Town Energy Project. Funded by an ACTION Community Energy grant and operating out of the Center for Rural Studies at the University of Vermont, the Vermont Town Energy Project (VTEP) takes a region-wide approach to assisting communities in developing local energy programs.

VTEP presently involves a total of 18 towns in central Vermont and Bennington County. It will expand to Windham County in mid-August, bringing the total of target communities to 25.

The Project assists local energy programs in a variety of ways, including: distributing energy planning and action documents, creating regional energy task forces, sponsoring workshops, coordinating direct technical and planning assistance from state agency personnel, and providing money to each town for project and personal expenses.

VTEP emphasizes improving the effectiveness of town energy coordinators (volunteers appointed by the selectmen in each town) while bringing together other people from the community who are interested in working on local energy programs. In central Vermont, the initial target region, each of the nine towns has formed a town energy committee which involves a broad spectrum of community residents.

One of the key components of the VTEP is the formation of regional energy task forces comprised of town energy coordinators, agency officials and representatives from energy-related businesses. The Task Forces are designed to help town energy coordinators within a region pool their knowledge and experiences. They also bring agencies with energy-related services in direct contact with individuals at the local level who can apply those services to their community's needs.

Earlier this year, the Vermont Town Energy Project sponsored special workshops in five locations throughout the state in conjunction with the Extension Service's Town Officer Training Program. The workshops covered: (1) developing a town energy plan, (2) financing energy conservation in town and school buildings, and (3) bulk purchasing of insulation.

The principle reference for the Project is a guidebook entitled, **Town Energy Planning: A Framework for Action**, a 102-page document written specifically for local rural energy planning and action. This two-part booklet discusses the range of issues that can be pursued at the local level and describes several specific projects in detail. It also contains a model town energy plan, a model energy survey, and a town energy consumption profile.

For information about the Vermont Town Energy Project, or to purchase a copy of **Town Energy Planning**, write the Center for Rural Studies at the University of Vermont, 25 Colchester Avenue, Burlington, Vermont 05405, or call 656-3021.

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