

VERMONT



Environmental Report

Published by the Vermont Natural Resources Council

*Economy, Ecology,
Community:*

What's in Store for Vermont's Forest Lands?

Also in this Issue:

How Much Water for
Vermont Rivers?

Meeting the
Environmental Backlash
And More

Miles and miles
of wanderings through the
Green Mountain
National Forest



Blueberry Hill Inn
Goshen, VT 1-800-448-0707

Call for a free trekking guide.

Consulting Foresters Association of Vermont



The Consulting Foresters Association of Vermont (CFAV) is dedicated to promoting and strengthening the long-term conservation and management of Vermont's natural resources.

For more information and a free directory of consulting foresters in your area, please write to: Route 1 Box 326, Chester Vermont 05143.



The Leader in...

COPIER AND FAX EQUIPMENT

SALES ★ SERVICE ★ SUPPLIES

18 Avia Drive
Latham, New York 12110
(518) 785-6616
FAX: (518) 785-1190

432 Main Street, P.O. Box 902
Burlington, VT 05201
(802) 447-3577
FAX: (802) 447-3574

1011 Route 9
Wappingers Falls, New York 12590
(914) 297-0700
FAX: (914) 297-1584

437 State Street
Burlington, New York 12901
(607) 724-8888
FAX: (607) 724-8936

We'll Improve Your Image!

Get your final output run on our high-resolution phototypesetting equipment and have your work look its best!

Complete imaging services for PC and Macintosh computers. Output to RC paper or directly to film.

Camera, scanning, typesetting, and desktop publishing services available.

Give us a call for more information on your imaging needs!

Authorized Quark Service Bureau
Ampersand/RadType
308 Pine Street Systems, Inc.
Burlington, VT 05401
(802) 658-1497

We Guarantee Your Best Garden Ever!



Gardener's Supply is America's number one source for innovative gardening products. We are a company of gardeners, and our information-packed catalog is filled with hundreds of solutions to your gardening challenges.

You'll find seedstarting systems that guarantee healthy transplants, season extenders that can add months to your growing season, and ingenious tools to help you garden more easily. We also carry a complete line of organic fertilizers and pest controls for healthier soil and safer food for you and your family. With our energy-efficient greenhouses, you can even start your own small business growing seedlings, herbs, or cut flowers.

Call today, and let us help you get started on your best garden ever!



Write or call today for your FREE catalog

Dept. PVN3, 128 Intervale Road, Burlington, Vermont 05401 • (802) 863-1700

VERMONT ENVIRONMENTAL REPORT



Published by the Vermont Natural Resources Council

Spring/Summer, 1992

VNRC BOARD OF DIRECTORS

Chair: Sarah Muyskens, *Burlington*
Vice Chair: William Roper, *Middlebury*
Secretary: Margaret H. Laggis, *East Hardwick*
Treasurer: Peter Stein, *Lyme, N.H.*

Adam Albright, *Williston*
Mollie Beattie, *Grafton*
Tim Brookes, *Burlington*
Hollis Burbank-Hammarlund, *West Dummerston*
Richard Carbin, *Barnard*
Tony Clark, *Goshen*
Ann Clay, *Arlington*
Melissa Cunningham, *Woodstock*
Jane Ditley, *Bennington*
George Hamilton, *Marshfield*
Marcy Harding, *Jonesville*
Patsy Highberg, *Woodstock*
Bob Hoffman, *Barnet Center*
John Lippincott, *Saxon's River*
John Meyer, *Calais*
Andrew Nuquist, *Montpelier*
Greg Riley, *East Calais*
Cheryl Rivers, *Bethel*
Mark Schroeder, *Belvidere*
Leigh Seddon, *Montpelier*
Stephen Trombulak, *Middlebury*
Katherine M. Vose, *Burlington*

The Vermont Natural Resources Council is a non-profit environmental organization founded in 1963 to promote the wise use of Vermont's natural resources. VNRC does research, legislative lobbying, advocacy, and educational work on issues including forestry, agriculture, water, energy, wastes, and growth management.

VNRC is the Vermont affiliate of the National Wildlife Federation.

Credits: Masthead design and graphic consulting by The Laughing Bear Associates. Cover design by The Laughing Bear Associates. Vermont map on back cover by Ed Epstein.

Printed on 50% recycled paper.

What's in Store for Vermont's Forest Lands?

Thinking Like A Forest *The Ecological Perspective* 11

Timber management, logging, Northern Forests, forest health — how do we begin to understand Vermont's forest issues? An intellectual grasp of the forest requires the centering principle of ecology. By Mollie Beattie.

More Than A View *The Economics of Timber Management* 14

Only when timber management is economically viable can Vermonters be expected to own forest land as an investment in trees rather than in real estate. How do we get there from here? By Deb Brighton.

Forestry, Economy, Community *Insights from the Worcester Range* 18

VNRC's study of the forest economy of Central Vermont's Worcester Range brings some interesting facts to light. By Roger Sternberg.

Vermont Maple *Pure, But Not So Simple* 20

With Quebec's subsidies and organic marketing, Vermont is being forced to defend its niche in the maple market. By Enid Wonnacott.

How Much Water? *Sugarbush Brings "Minimum Flow" Debate to the Surface* 22

With many uses competing for Vermont's waterways, the debate now covers not only water quality by water quantity. By Christopher Kilian and Susan Clark.

Meeting the Environmental Backlash *Learning from the Other Side* 25

The so-called "wise use" movement springing up across the nation will test environmentalists' thoughts, words, and deeds. By Justin Brande.

The Inside Word 2

Executive Director Ned Farquhar.

Vermont Perspective 3

VNRC News and Notes 26

Bulletin Board 28

THE INSIDE WORD

HARD WORK AND GREAT RESULTS

Representing the Environment to the Legislature

Ned Farquhar, Executive Director

Contrary to many public reports, the Vermont Legislature did a good job on the environment this year. Most environmentalists realized early on that it would be a tough year for new environmental legislation, with the keen interest in the budget, health care, and family leave. And legislators wanted to finish the session quickly.

So our main objective this year was to make sure the Legislature would be informed of the devastating economic, community, and environmental effects of repealing or "streamlining" Vermont's existing environmental laws.

Chris Kilian, our legislative director, spent almost every waking hour explaining to legislators why proposed amendments to Act 200 and Act 250 would be bad for Vermont. **Andrea Colnes** took on clean air and energy issues; **Jim Shallow** worked hard supporting Vermont's Current Use program; and **Peg Elmer** brought an environmental perspective to legislative consideration of transportation issues. VNRC's legislative team did an excellent job of representing Vermont's forests, wildlife, water, and air — natural resources that can't protect themselves. As Executive Director of VNRC, I know I speak for the vast majority of our members (and many other Vermonters!) when I thank each of them for a job extraordinarily well done!



In the staff "hard work and great results" department, we have other thanks to give as well. **Susan Clark**, who has given VNRC and the *Vermont Environmental Report* the last seven years of her life, is leaving VNRC after this issue. No one has cared more and given more to VNRC over that time.

Those who read and view Susan's work know that she is a deeply insightful, highly capable editor and environmental thought-provoker. Those who have met her know that she is intelligent, warm, and wickedly funny, with a Vermont streak as wide as Lake Champlain. Susan will be missed by VNRC staff, Board, and members, but we hope to keep working with her as she broadens her commitment to the protection of communities and the environment in the future. We will run an interview with Susan in the next issue of the *V.E.R.*

We are sad as well to mark the departure for Seattle of **Deb Crespín**, VNRC's hard-working and creative Development Director for nearly four years. Deb has also given her heart and soul to VNRC during her time here, and the organization bears financial strength and management to show it. Deb's spirit, ideas, and attention to detail have been important to VNRC staff and Directors, and to many in our membership as well. We can't believe she's really leaving Vermont, and we'll miss her!

We have good staff news, as well. Former Environmental Secretary **Brendan Whittaker** is joining VNRC as field director of our northern forest project. **Bren** and **Dorothy** live in and love the community and forest of northern Vermont. Dorothy's roadside vegetable market deserves a visit next time you're on Route 102 near Maidstone! •

VNRC STAFF

Executive Director
Ned Farquhar

Administration and Development
Debra Crespín, Director of
Administration and Development
Marie Frohlich, Office Manager
Mary Morrison, Bookkeeper*

Communication and Education
Susan Clark, Editor, and
Director of Communication
and Education

Policy and Issues
Andrea Colnes, Policy Director
Peg Elmer,
Land Use Program Director*
Christopher Kilian,
Legislative Director
Jim Shallow, Forests, Wildlife, and
Public Lands Program Director
Brendan Whittaker, Northern Forest
Project Field Director
Enid Wonnacott,
Agriculture Program Director

Southern Vermont Office
Stephen Holmes, Southern
Vermont Program Director

*Indicates part-time staff

The Vermont Natural Resources Council is a non-profit environmental organization founded in 1963 to promote the wise use of Vermont's natural resources. VNRC does research, legislative lobbying, advocacy, and educational work on issues including forestry, agriculture, water, energy, wastes, and growth management. VNRC is the Vermont affiliate of the National Wildlife Federation.

The opinions expressed in the *Vermont Environmental Report* are not necessarily those of VNRC. VNRC reserves the right to refuse advertising that is not in keeping with the objectives of the organization.

VERMONT PERSPECTIVE

VNRC APPEALS SUGARBUSH PERMIT *Snowmaking, Trout Compete*

This winter, VNRC, the Vermont Group of the Sierra Club, and Trout Unlimited joined in an appeal of a permit issued by the Agency of Natural Resources (ANR) for construction of a dam and storage pond. At issue with the project — which would tap the Mad River for snowmaking at the Sugarbush ski area — is what minimum level of river flow must be maintained to protect fish and instream biota.

Sugarbush is seeking a permit to withdraw water from the river down to 0.5 cubic feet per square mile of drainage basin (csm). However, analysis by both ANR staff and the U.S. Fish and Wildlife Service has indicated that this rate could damage the aquatic ecosystem — particularly spawning habitat of naturally reproducing brown and rainbow trout. (See "How Much Water," page 22.)

"VNRC is not opposed to expanded snowmaking at Sugarbush," said VNRC Executive Director Ned Farquhar. "Two issues lie at the heart of our appeal: the continued health of

the Mad River, and our concern about the integrity of the Agency's decision-making process," he said. "Both set precedents that could undermine protection of water resources throughout the state."

During the Act 250 process on the proposal, ANR scientists argued that the lowest flow level that would ensure protection of the Mad River is the "February median flow" (a natural winter low-flow condition to which the aquatic biota have adapted) — a level which VNRC still supports. However, a review of the files on the project indicates that ANR policymakers overruled the Agency's technical staff, signing an agreement with Sugarbush to issue permits at lower flows, with no further public process or technical analysis.

Based on the agreement, the dam permit allows increased water withdrawal levels over time; the river would be studied and if damage were discovered, withdrawals would be scaled back. VNRC argues that the proposed study is of little value, however, owing to a lack of baseline data and to the study's narrow focus on trout rather than on the aquatic ecosystem.

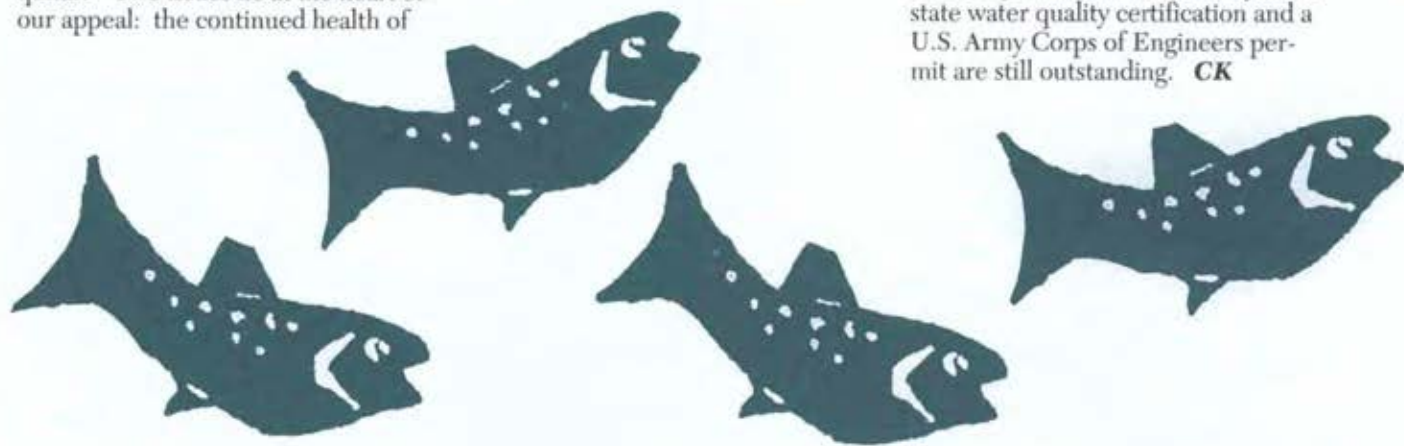
"The permit sets bad precedent for experimenting with Vermont's environment and economy," stated VNRC Policy Director Andrea Colnes. She added, "Aside from the fact that the study lacks a sound scientific basis, it is likely that even if damage is discovered, protecting investments would override protecting the river."

"VNRC is convinced that the higher, protective flows can be maintained while still providing for expanded snowmaking."

Andrea Colnes, VNRC

The issues of how much water is really needed for snowmaking at Sugarbush South, and whether storage alternatives have been properly considered, are also central to the debate. Sugarbush calls for a minimum flow of 0.5 csm, and a total of 380 million gallons/year of water. VNRC argues that convincing documentation for the request is lacking.

The dam permit is one of four permits required for the proposal. An Act 250 permit was issued last June; a state water quality certification and a U.S. Army Corps of Engineers permit are still outstanding. **CK**



LEGISLATIVE WRAP-UP

A Successful Defense, and Some Progress

In an address to a VNRC gathering at the end of this legislative session, Governor Howard Dean noted aptly, "We've accomplished as much this year in the environment by *not* doing things as by doing them."

Indeed, perhaps the greatest success of the session was stopping many attacks on the environment dead in their tracks. Environmentalists were also successful in advocating the passage of several bills of interest. VNRC was on the front lines on the issues below, as well as on Act 250, Act 200, Current Use, and water withdrawals, all covered elsewhere in this issue.

Phosphorus Discharges VNRC worked with the Lake Champlain Committee in support of S.196. As passed, the bill requires, and provides 100% funding for, treatment of municipal wastewater discharges into Lake Champlain to meet phosphorus

standards. Due to a compromise amendment, the bill also shifts the authority of the state-wide Agricultural Non-Point Source Pollution Program from the Department of Environmental Conservation to the Department of Agriculture.

Class C Zones H.904 sets up a planning-based approach to management of Vermont's water resources, setting deadlines for basin planning and requiring that new discharges only be sited where they can be accommodated in light of existing uses. The bill also upgrades water zones that are classified as "C" but not used for those purposes to "Class B."

Energy Planning S.109 establishes a comprehensive energy planning process for the State of Vermont requiring the State to implement policy based on the full costs, including environmental effects, of energy use and supply. It also establishes a state

agency energy planning process and sets minimum efficiency standards for certain types of light bulbs.

Bridge Projects Rules developed by the Agency of Transportation and under review by the legislature would have exempted river-crossings in the Local Bridge and Culverts Program from environmental review. VNRC successfully advocated the removal of this broad exemption.

Public Trust Due to the complexity of the public trust doctrine and other pressing issues, the Senate did not address public trust this year.

Clean Air S.352 would have brought Vermont into compliance with provisions of the federal Clean Air Act, and required Vermont to adopt California's automobile emission standards. However, it also would have undermined Vermont's air toxics regulations. Ultimately, the bill did not pass. **CK/SC**

LET THE LAWS WORK

Act 250 and Act 200 Survive Attacks

With Vermont's economy continuing its sluggish pace, and state regulations targeted by the vocal property rights movement, Vermont's land use laws have been facing increasing challenges. In the 1992 legislative session, lawmakers examined both Act 200, Vermont's new planning law, and Act 250, the 20-year-old development review statute. Both bills withstood the challenge.

S. 142, sponsored by Senator Granai (D-Chittenden), was introduced as a comprehensive "developers' wish list" and backed by the Vermont Ski Areas Association, Vermont Association of Homebuilders, Vermont Realtors Association, and Vermont State Chamber of Commerce.

VNRC and other conservation groups, along with the Environmental

Board, strongly opposed many of the changes suggested in S.142. "The bill would have limited public participation in Act 250, and would have tampered with a process which is working," noted VNRC Legislative Director Chris Kilian. "But I think what was most compelling to lawmakers was the lack of evidence that there was, in fact, a problem that the changes would solve."

Environmentalists presented convincing statistics: Only 2% of all development in Vermont is ever examined at the Environmental Board level; only 6% of all Act 250 projects are appealed to the Board; the vast majority of permits are issued in a timely fashion; and fewer than 2% of all projects are denied. Ultimately, the House Natural Resources Com-

mittee determined that because Act 250 is working, S.142 should be tabled. In fact, it was suggested that perhaps Act 250 should be strengthened rather than "streamlined."

Act 200 withstood a similar onslaught. Several bills which would have effectively repealed the law were stalled as a result of lack of Senate support. H.943, a House Agriculture Committee bill designed to eliminate the regional review process of local plans, stalled in the Senate Natural Resources Committee. Senators felt that the bill, which reached the committee in the late stages of the session, could not be given time priority. VNRC hopes that Act 200 will now be allowed the time to work, giving towns the opportunity to plan their futures. **CK/SC**

VERMONT PERSPECTIVE



"TO HELL WITH AN ELECTRONIC COLLAR!! I WANT A FREE CONDO TO SPEND NEXT WINTER IN....!!"

CARTOON BY SANDY READ, MANCHESTER JOURNAL

A HOME FOR THE BEARS

Experts Argue That Habitat Is Key

Bears are being found to be a lot more fragile than was originally thought. If we're looking to keep bears, we need to protect habitat."

This conclusion by Shrewsbury Land Trust Director Nancy Bell was one of the key messages at VNRC's Black Bear Forum, held in Manchester this March. Over 100 people attended a lively presentation by Bell, as well as Forrest Hammond of the Stratton Mountain Black Bear Study, and Charles Willey of the Department of Fish and Wildlife.

Reporting on the 1990-1995 *Black Bear Management Plan*, Willey noted, "Vermonters want bears. ... They want to keep these habitats as a

resource for future generations. And development is the biggest threat."

In 1989, the spectre of the huge Tamarack second-home proposal in Stratton and Jamaica, and the even larger Sunbowl proposal by the Stratton Corporation, prompted Stratton to fund a study of a bear travel corridor wedged between the two projects. Regarding the six-year study of thirty bears tagged with transmitters, Hammond said that it is too early to tell whether development will destroy bear populations. VNRC staff are still concerned that the travel corridor buffer proposed by Stratton may not be adequate to protect the bears.

Sunbowl hearings are scheduled to

begin again in May; having testified on bear habitat, VNRC will present evidence on water quality and run-off pollution issues. Meanwhile, the Tamarack developers — after last year's Act 250 permit denial — are trying to resurrect the project in a modified form. VNRC will continue to monitor both projects. **SH**

CURRENT USE CUTS

Property Tax Reform Needed

When the 1991 legislature failed to fund the Current Use program fully, Current Use entered a new era. The radical change meant that the 1992 legislative debate would center on the program's level of funding, and how to cut costs through program reform. The \$13 million program, which allows participating forest and farm land owners to be taxed on the use value rather than development value of their land, is credited with conserving and improving management of open land.

"Many studies have shown that undeveloped land pays more in taxes than it requires in services — so it is, in fact, subsidizing services to residential property," explained forester John Meyer. This year's debate focused on a VNRC and Vermont Farm Bureau proposal under which landowners would pay taxes based on use value times the town tax rate. If state underfunding occurred, the shortfall would be made up by the town.

At the close of the session, Current Use reform fell by the wayside as it became obvious that the only way truly to fix the program would be to reform the property tax system. Advocates then focused on the immediate funding needs of the program, and Current Use received \$9.7 million — roughly 72% of what supporters say it needs.

Just after the close of the session, Governor Dean appointed a much-needed commission to review the property tax problem. **JS**



**SHELBURNE
FARMS**
farmhouse
CHEDDAR CHEESE

*Made by hand exclusively from
the milk of our own Brown
Swiss cows. A great gift for
friends, family or clients!
Come to our Visitor Center &
Farm Store at the corner of
Bay & Harbor Roads.
Open daily from 10 - 5.*

*Or call/write for our free farm
product mail order catalog:
Shelburne Farms
Shelburne, VT 05482
802-985-8686*



**VERMONT
IMPORTANT
PAPER**

**Recycled Paper
Products for the Office!**

Vermont's first distributor of:
recycled copy paper • folders
envelopes • cover stock
pads • computer paper
quality letterheads

Contact us today for a price list
and samples at:

Vermont Important Paper
V.I.P.
P.O. Box 90
Cuttingsville, VT 05738
(802) 492-3304

**GREENSBORO
GARAGE**



Quality Sales and
Service for Over
20 Years

P.O. Box 116
Greensboro, Vermont 05841

Main Street
Greensboro, VT 05841
533-2221 533-7110

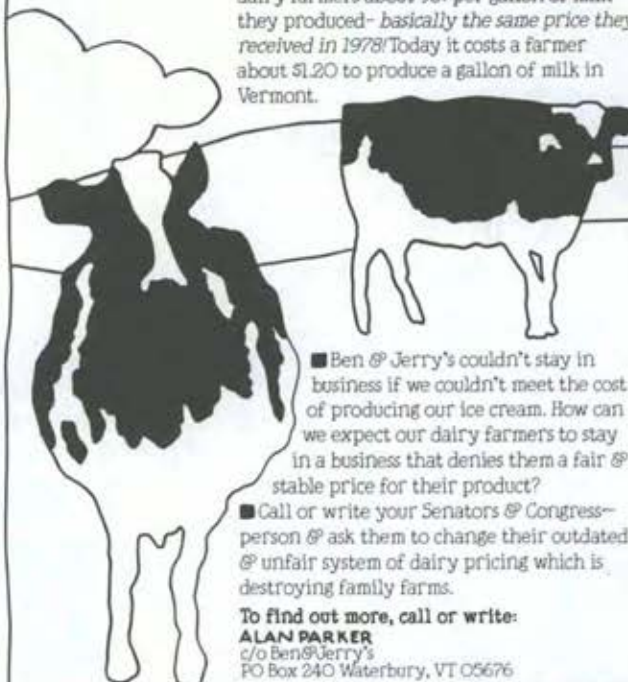
Route 15
Hardwick, VT 05843
472-6555

"Imported Cars Are Not Foreign To Us"

**CAN YOU IMAGINE
VERMONT
WITHOUT IT'S
DAIRY FARMS?
WE CAN'T.**

In the last 20 years, Vermont has lost nearly
half of it's dairy farms. We will continue to
lose our family farms unless the federal
dairy pricing problems are changed.

■ Earlier this year, federal policy allowed
dairy farmers about 98¢ per gallon of milk
they produced - basically the same price they
received in 1978! Today it costs a farmer
about \$1.20 to produce a gallon of milk in
Vermont.



■ Ben & Jerry's couldn't stay in
business if we couldn't meet the cost
of producing our ice cream. How can
we expect our dairy farmers to stay
in a business that denies them a fair &
stable price for their product?

■ Call or write your Senators & Congress-
person & ask them to change their outdated
& unfair system of dairy pricing which is
destroying family farms.

To find out more, call or write:
ALAN PARKER
c/o Ben & Jerry's
PO Box 240 Waterbury, VT 05676

BEN & JERRY'S®
MAKERS OF VERMONT'S FINEST ALL NATURAL ICE CREAM

TRANSPORTATION EFFICIENCY *Green Light*

In late November, Congress passed the Intermodal Surface Transportation Efficiency Act (ISTEA). Although ISTEA includes major opportunities to shift away from past emphasis on highways, the Vermont Agency of Transportation (AOT) will need prompting from citizens to take advantage of it, says VNRC Land Use Program Director Peg Elmer.

"ISTEA stresses planning that links land use development with transportation, and it places strong emphasis on local participation," noted Elmer. "We're enthusiastic about the law's flexibility in funding public transit and other alternative transportation. And it will permit Vermont to develop its own design standards for state and local roads." These are major changes initiated and won by a strong national coalition of organizations, including VNRC.

Vermont has a two-year jump on the state planning requirements of the law, because of the mandates of Act 200 and the Canby law, Vermont's two-year-old transportation law. But, Elmer said, "Citizens concerned about our environment shouldn't relax yet. We have gained some new tools to help us. Now we have to put them to work."

For example, while the AOT says that transportation funds will be devoted primarily to maintenance and repair, the big windfall in federal transportation dollars is still going, in large part, to new infrastructure — the Bennington Bypass, and Chittenden County's Circumferential Highway and Southern Connector.

"The percentage of funding being allocated to highways, as opposed to airport, rail or public transit, has dropped from 92% to 91%," said Elmer. "Clearly, AOT can do better."

With \$500,000 devoted to the Dorset-Burlington Route 7 Corridor Study, AOT insists the study will cov-

er alternatives, such as rail and public transit. The project is funded out of AOT's highway program, however, and proposes bypasses of each of the communities along Route 7.

Commenting on public participation opportunities in the Route 7 planning, Middlebury Town Planner Fred Dunnington noted, "The [AOT]

consultants gave scant and short notice of the first hearing in Middlebury. They have been responsive to criticism, however, and are working to gain better participation now. The key to success will be public process."

Call Peg Elmer at VNRC for ideas on getting involved in transportation issues in your area. **SC/PE**



GOVERNOR'S CONFERENCE CONVENES *Environmental Educators Tackle the Issues of the Future*

Over 200 Vermonters with an interest in environmental education convened this March in Burlington for the 1992 Governor's Conference on Environmental Education. Organized by the Vermont StateWide Environmental Education Programs (SWEEP), the conference was co-sponsored by the Office of the Governor's and the Vermont Department of Education.

With representatives from elementary, secondary and higher education, nature centers, government, as well as business and other sectors, the conference's working sessions gave participants a chance to network and to pool their thoughts on pressing en-

vironmental education issues. (See "A Green Blueprint for Environmental Education," *V.E.R.* Winter 1992.)

"Vermont is at a critical juncture in environmental education," said Megan Camp, a conference organizer. "The conference pulled together some of our best educators, to help define our vision for the future. Facilitated brainstorming brought out some wonderful ideas," she said.

A cross-section of conference participants is assisting professional writers on the conference report as this magazine goes to press. Featuring recommendations based on the results of the working sessions, the report is due out this summer. **SC**

FORESTRY IN THE LIVING ROOM *Local Meetings, Citizen Input*

What do all the attention and various programs focused on northern forest lands mean to the communities of that region? To answer this question and explore such issues as the role of the Northern Forest Lands Council, the Forest Legacy Program, and VNRC's Northern Forests Protection Project, VNRC organized a series of "living room meetings" held in homes throughout northern Vermont.

With a total of over 200 residents participating in more than fifteen meetings, many concerns were raised about the implications of the region's changing timber economy and increasing development pressures. A VNRC report, which will be available this summer, will summarize the fall, 1991 sessions. Issues of common concern to emerge from the meetings included:

- ◆ the problem of economic barriers to a competitive forest products industry;
- ◆ the importance of Current Use and the need for property tax reform;
- ◆ the need for better forest management;
- ◆ the importance of keeping public access to undeveloped forest lands;
- ◆ the impact of forest practices on forest health;
- ◆ the need to maintain local control and private landowner rights; and
- ◆ the need for improved forestry education programs.

"These living room meetings have been a critical part of VNRC's Northern Forest Project," said VNRC Policy Director Andrea Colnes. (See "Northern Forests Protection Project," *V.E.R.* Winter, 1992.) "Understanding the concerns of local residents and providing accurate information about northern forest programs is essential to making progress on this issue," she added.

VNRC has also completed the first phase of its northern forest mapping

project. Consulting forester Brendan Whittaker, in cooperation with the Dartmouth College Department of Earth Sciences, has completed initial analysis of satellite images of northern Vermont. The draft maps indicate vegetative cover type and chang-

es in forest cover that have occurred over the past twenty years.

Analysis of the draft maps will focus on providing information that characterizes the local forest resource and timber economy. A draft report is due out this summer. **AC/SC**



PHOTO COURTESY LEIGH SEDDON

HARVESTING THE SUN *VNRC Solar Home Tours and Information*

VNRC hosts a special celebration of Vermont's energy alternatives with "Harvesting the Sun," a tour event and publication focusing on Vermont's solar energy options.

On May 30, participants can take a close-up look at energy-efficient homes. Publicized through the media and directed mailings, separate tours will take place simultaneously in Montpelier, Middlebury, Brattleboro and Norwich. The tours will focus on state-of-the-art solar heating, cooling, and electricity systems.

Those interested in the topic who can not attend the May 30 tours can write to VNRC for a free copy of the brochure prepared in conjunction with this project entitled "Harvesting the Sun." Packed with facts and figures illustrating the benefits and availability of solar and related tech-

nologies, this brochure will be distributed to tour participants as well as to bankers, builders, legislators and others whose decisions affect the viability of these alternatives.

"Solar technologies have matured to the point where they offer practical and affordable alternatives to fossil fuels," noted Montpelier tour leader Leigh Seddon. "It makes environmental and economic sense in Vermont to incorporate solar design when building or remodeling."

The tours are sponsored by VNRC, the Vermont Departments of Public Service and Housing and Community Affairs, and VPIRG. Pre-registration and a \$5.00 fee (admitting a family of four) is requested. For more information, call (802) 223-2328. **Dan Lindner, Event Coordinator**

Socially Responsible Investing.

You don't need to compromise your beliefs to invest effectively. We offer investment opportunities that consider social and environmental issues.

Let Robert Guthrie introduce you to financial products, services and information with a social conscience.

CALL TOLL-FREE
IN VERMONT: 1-800-642-3138
NATIONAL: 1-800-272-3040

A.G. Edwards
INVESTMENTS SINCE 1887

126 College Street
Burlington, VT 05401

(802) 864-8000

5% for VNRC



ENVIRONMENTAL VARIETY STORE

EARTH ADVOCATE is dedicated to bringing you the best environmentally friendly products that are safe and non-animal tested. All of our merchandise is carefully chosen to help protect your family, neighborhood and Mother Earth.

When you order from our FREE MAIL ORDER CATALOG we will donate 5% of your purchase back to VNRC. Be sure to tell us you're a VNRC member.

EARTH ADVOCATE

Maple St., RD 2, Box 1072
Arlington, Vt. 05250
802-375-9307

MINUTEMAN PRESS



SELF-SERVICE COPIERS
QUICK FRIENDLY SERVICE
FREE COLOR PRINTING...
with Our Standard Colors:
Red, Blue, Green and Brown
REASONABLE PRICES

10 State Street, Montpelier
(802) 229-0660
FAX (802) 223-0366



ELMER CONSTRUCTION & DESIGN

- Energy Conservation Consultant
- Solar, Water, Wind
- Affordable Passive Solar Homes
- Cut heating bills with an add-on Sunroom
- Renovations, Winterizing

Cabot, Vermont
Free estimates
563-2035



Dufresne-Henry, Inc. Consulting Engineers

*...creating a better environment
through engineering solutions*



No. Springfield, VT
(886-2261)



Montpelier, VT
(229-0711)



St. Johnsbury, VT
(748-3946)



*"The hand that rocks the
cradle is just as liable
to rock the country."*

—F. McKinney Hubbard

Parenting and politics. Sexuality and spirituality. History and health. Northshire offers a comprehensive collection of books addressing women's issues and concerns, written by and for women.

Open 'til 9 pm Fridays

**NORTHSHIRE
BOOKSTORE**

Manchester Center, Vermont 05255
Open 7 days (802) 362-2200

NEED A *Change* OF STYLE?

CHECKOUT THE NEW ALL NATURAL FIBERS AT.....

THE VERMONT TRADING COMPANY!

151 N. MAIN ST. 2 STATE ST.
BARRE, VT. MONTPELIER
(802) 476-6865 (802) 223-4241



9,000 OUT-OF-PRINT BOOKS

Lilac Hedge Bookshop

NORWICH, VERMONT

Main St., across from Norwich
Inn, 1 mile from Hanover, N.H.
Open all year Thurs. thru Sun. 10-5

QUEEN CITY PRINTERS INC. CELEBRATING OUR 40TH YEAR.

QUALITY PRINTING SINCE 1951. QUEEN CITY PRINTERS INC.



701 PINE ST.
P.O. BOX 756
BURLINGTON, VT 05402-0756
802-864-4566 FAX 802-658-7792



Knoll Farm Country Inn

150 Acres preserved with
permanent conservation
restrictions through the
Vermont Land Trust.

A unique farm/inn
combination in a
beautiful rural setting,
accommodating guests by
day or week since 1957.

Call or write Ann Day,
Knoll Farm, Bragg Hill Rd.,
Waitsfield, VT 05673
(802) 496-3939



Practicing
natural
resource
stewardship
shares
benefits
for all.

James E. Wilkinson, Jr.
Natural Resource Consultant

125 Tremont Street
Barre, Vermont 05641

TELEPHONE
(802) 476-5359



THINKING LIKE A FOREST

The Ecological Perspective

Mollie Beattie

Thinking like a forest isn't easy, especially when our political viewpoint is two years—the time it takes for a white pine to make a cone.

ILLUSTRATION BY ED EPSTEIN

Mysterious, big, complex, diverse, and slow-moving, forests are a difficult idea. They are at once cathedrals, commodities, landscapes and ecosystems, making them hard to think about and harder to manage. Their sense of time and change are very different from our own, and so their patterns and responses are often imperceptible to our science. Their vast extent makes it hard for us to say where their boundaries are: Vermont's forests

or the forest? Perhaps it is the inscrutability of forests that puts such confusion in our work on their behalf.

There seems to be environmentalists on both sides of every forest fight. In Vermont, over the past year, some have sought injunctions against logging jobs in the Green Mountain National Forest, at the same time that others are fighting to save the Current Use program which requires

What damages the ecosystem is bad, what maintains it is essential, and what restores it is good.

timber cutting on every enrolled tract. Is logging good or bad?

Concerning the "Northern Forests," that immense, luxuriant expanse of woods from northern New York to northern Maine, there is currently a great rumble of activity — hearings, reports, articles, seminars and official speeches everywhere. But except for the evident consensus that great clamor is warranted, there seems to be little agreement about *why*. Is the issue about public versus private land ownership? About timber harvesting? About threats to continued timber industry ownership — or from it? About private property rights versus national parks? About the probability and impacts of rapid forest land subdivision? If the answer in the Northern Forests is, say, public land acquisition or landowner subsidies or timber practices regulation, what was the question?

Then, there is the confusion about the health of Vermont's woods. Each year, it seems, there is a new and virulent insect or disease whose damage pattern and potential is unknown. The alarm sounds: Pear thrips. Hemlock looper. Woolly adelgid. We wait, and wonder about the scary theory that these are not the primary predators but scavengers attracted by a forest already in decline from acid rain and, perhaps, global warming and ozone depletion. As always, though, the forest ecosystem is slow, by our measurements, to show its full response to these attacks. Only fragmentary conclusions are attainable and our concern is dissipated in a fog of conflicting theories.

An intellectual grasp of forests amid all this muddle requires a centering principle. The best one is an obvious one — that is, that the forest's primary value is neither economic nor spiritual but ecological. What damages the ecosystem is bad, what maintains it is essential and what restores it is good. Aldo Leopold was more eloquent about this principle: "A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise."

Thinking of the forest principally as an ecosystem helps to simplify the logging question; that is, to provide the beginning of a sound environmental position regarding the cutting of trees. If logging

will not cause significant loss of the ecological values of a forest, it is acceptable. If it can restore what people have lost or limited, such as wildlife habitat or water quality, it should be encouraged.

This perspective helps to separate short-term, commodity-minded rationales for logging from reasons of environmental (and therefore economic) sustainability; to separate the spurious from the sound. It is not forests that 'need' to be 'harvested,' it is people who need wood. In general, the forest

ecosystem will do just fine if left alone, and it can be a very reasonable landowner choice to do so. "Overmature" timber is not "wasted" in any ecological sense and landowners who choose not to harvest it are not environmentally irresponsible. Not all clearcutting is bad; nature sometimes clearcuts. What is true is that most of Vermont's forest ecosystem can readily tolerate timber cutting that mimics natural regenerative cycles, and that this takes great care — that is, it takes forest management.

Too often, "forest management" is misused as a euphemism for logging or

for what is really just timber farming. Its real definition is detailed planning for the continuous regeneration of trees and the protection of ecological values. A logging job not justified by a detailed analysis of a stand of trees, not guided by a plan for the maintenance of its non-timber values like wildlife habitat and water quality, and not performed with as much concern about the trees that are left as those that are taken, is *not* forest management. If clearcutting is selected as a cutting method for reasons of expediency, it is very likely to be a poor choice ecologically, and cannot be considered forest management. If its selection is guided by long-term concern for the ecosystem, and its timing, shape and size reflect that concern, clearcutting becomes an acceptable, sometimes beneficial, and relatively infrequent tool.

While land subdivision and development proceed, the case for forest management as good environmentalism gets stronger. As a long-term intimate relationship between landowner and land, forest management creates a human perspective critical to solving our society's environmental problems. As an ecologically sound way to enjoy revenue from otherwise undeveloped land, and thus



offset the considerable costs of owning it, forest management helps to withhold land from other uses that would eliminate wildlife habitat, outdoor recreation, special natural places and Vermont's exquisite and essential rural landscape. This is the point of Vermont's much-misunderstood requirement for forest management on all parcels enrolled in the Current Use program. As the forest holds much of Vermont's environment together, so forest management allows landowners to hold the forest together.

Looking at the Northern Forests principally as an ecosystem shows that holding them together must be our principal concern. What makes them so exceptionally valuable as an ecosystem is their size: 26 million acres of woods. If the Northern Forests are subdivided into more and more ownerships, also diminished will be our ability to think about and maintain them as a whole.

There are mounting subdivision pressures on the Northern Forests, the temporary relief of our current economic conditions notwithstanding. The owners of the very large timber tracts face a triple financial whammy of low wood values, high taxes and a yawning gap between the development values of some land and its timber revenues. Myopic political vision can see Vermont's Current Use program only as a "subsidy" for the land-rich and the timber industry. Such nearsightedness seeks to increase the pressure by limiting benefits for these owners, exactly the ones most likely to overcut, sell or develop land made unprofitable by tax bills. And for the industrial owners, there is always the possibility of shifts in the seas of corporate finance like those that produced the buyout markets of the 1980s. All of these factors will add to the centrifugal pull on the Northern Forests.

The Northern Forests conservation challenge is a new one to us: Given that the lands are generally privately owned and not for sale, what concessions can the public make to the landowners' financial plight in exchange for binding, long-term promises to keep the ecosystem intact, functioning and accessible for public appreciation? The public might offer help that is financial, policy and legal; the private owners might trade conservation easements for these. If the challenge is seen as that of finding

new, or at least new combinations of, land conservation strategies, it seems clear that the old solution of public land acquisition will not be the central one. Public financing and responsiveness in the market are not likely to maintain an adequate portion of a 26-million-acre ecosystem.

If the privately owned Northern Forests are to remain so, their management, in the proper definition of forest management, is essential; it will help Northern Forest landowners keep their land intact

and Northern Forest communities to enjoy a sustainable economy. It seems unlikely that we can hang on to the Northern Forests without ecological forestry.

Finally, forest health. The reason for our disjointed understanding of what is happening to our forests may be that the official justification for forest pathology research funding is usually the potential for dollar and job losses at the sawmill, the sugarhouse, and the fall tourist turnstiles. But if our concern is for the whole forest ecosystem, for the "biotic community" as Leopold called it, then the fatigue of under-

standing (and pronouncing the names of) each new pathological arrival is eased. The view becomes broader, the focus becomes syndromes, not episodes. Our attention goes to the probability of an ecosystem stressed and disrupted by atmospheric and stratospheric pollution, and by overcutting of some species. Environmentalists must then demand of scientists and policymakers and foresters their most cautious prescriptions in the face of such a real and scary possibility. At present, no one can answer even as to whether or not overall forest health is declining because there are only scanty previous data by which we might measure change.

None of this is to say that thinking like a forest is easy, especially in a state where the political term and viewpoint is two years, the time it takes for a sugar maple to add a fraction of an inch to its diameter or for a white pine to make a cone. But the effort is essential to this most intricate and baffling of systems that towers over us, whose edges we cannot make out, and whose responses to our encounters with it we will not live to see. ●

Mollie Beattie is a forester who lives in in Grafton, Vermont.



It seems unlikely that we can hang on to the Northern Forests without ecological forestry.

Only
when timber
management is
economically
viable can we
have "forest land"
rather than
"real estate."



MORE THAN A VIEW

The Economics of Timber Management

Deb Brighton

It's either building lots, timber harvesting, or state confiscation," former Vermont representative Henry Carse once wrote when asked about the future of forest land in Vermont. "If people insist hills are just for view, and trees should not be cut, forestry will die."

Although few people have put it this bluntly, this view has been the basis of an uneasy coalition in Vermont between those who would like to protect the timber industry and those who would like to protect the forests themselves. The idea is that only when timber management is economically viable can rational people own forest land as an investment in forestry rather than as an investment in real estate. Otherwise, we may lose the forest land — and with it, a way of life.

Scudder Parker, former Vermont senator from the Northeast Kingdom, explained it this way: "Vermont's remarkable beauty is tied to a thoughtful interaction between its people and the land. We cherish a clean environment, but we do not want to be someone's charming backyard. We want a thriving agriculture, a viable forestry industry. We want the land's beauty to be sustained and enhanced by our work, and we want to be shaped by the needs and secrets of the land."

Vermont's Use Value program, or "Current Use," has been supported by timber company representatives, retired school teachers, and dedicated birders alike because it boosts both the timber economy and land preservation efforts. Current Use makes forest management more economically



*Help us shape Vermont's natural history —
for generations to come.*

FROM _____

*Your first class stamp on this
envelope saves us postage and
makes your contribution
go even further.
Thank you.*



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS MAIL PERMIT NO. 260 MONTPELIER VT

POSTAGE WILL BE PAID BY ADDRESSEE

VERMONT NATURAL RESOURCES COUNCIL
9 BAILEY AVENUE
MONTPELIER VT 05602-9982



☐ **Yes!** I want to help the Vermont Natural Resources Council protect and preserve Vermont's environmental future. Enclosed is my additional contribution of \$_____.

___ \$25 Introductory

___ \$35 Regular

Please make your check payable to VNRC.

VNRC is a 501(c)(3) non-profit organization and depends on your membership support!
Your contribution is tax deductible to the full extent of the law. Minimum dues, \$10.00

Thank You!

NAME _____
(please print)

ADDRESS _____

TOWN _____ STATE _____ ZIP _____

PHONE _____



*Fundamental
to a healthy
future for
forests is fair
taxation
of the land.*

viable by replacing the property tax bill based on a parcel's potential selling value with a substantially lower tax bill based on the land's productive value.

But supporters realize the expensive Current Use program is in jeopardy and, even if it survives, it alone is not enough to ensure the future of forests. Whether the coalition can go together the next step is not as clear. Not everyone is willing to say what's good for the timber industry is good for Vermont; many people are looking for landowner commitment to maintaining the forest in exchange for public support.

John Meyer, a Vermont forester and manager of forest land for the Bardill Land and Lumber Company, is spending a great deal of his time worrying about public policy and taxation rather than either the forest or the trees.

"We have a resource that is uniquely positioned from a global perspective," he said. "We have desirable northern hardwoods grown only here and in Manchuria. We need to invest in it, and not destroy it," said Meyer. "However, unlike the farmer, we don't need good weather for three months; we need a stable policy environment for 100 years. Instead we have these policies from the government that seem to shift with the winds."

He mentioned recent changes in Current Use and the loss of special capital gains treatment of timber income as indications of shifting government policies. But other foresters seem even more concerned about possible future governmental policies due to changing public attitudes. The following alert was printed in the January 1992 issue of the *News Quarterly of the New England Society of American Foresters*:

"Controversy in the Northwest has spotlighted forest management and wildlife habitat management practices everywhere. We are feeling the presence of the Earth First! offshoot Preserve Appalachian Wilderness (PAW). They have already appealed several timber sales in the Green Mountain National Forest.... In addition to costly appeals we are seeing misinformation about forest management practices being passed around in conjunction with the Northern Forest Lands Study and Council activities. It is up to us, educated foresters, to get the right information to the public."

In fact, in response to each PAW appeal in Vermont the Forest Service admitted making mistakes and withdrew its decision. However, many foresters and Forest Service employees still fear unfounded actions by misguided environmentalists

will prevent timber cutting. Russ Richardson, who, after nearly twenty years struggling to survive as a consulting forester in New England moved his business to West Virginia, put it this way: "I'm afraid people with a warped sense of environmental ethics will dictate what you can and can't do. They'll say something like 'no chain saws can run

on Wednesdays or when there is a full moon."

In addition to needing a stable set of regulations, timber management would benefit from a better balance sheet. Private landowners in Vermont must compete with subsidized timber operations not only in

Canada, but also here in the U.S.; our national forests continue to put timber on the market at prices which don't cover the costs of management.

here in the U.S.; our national forests continue to put timber on the market at prices which don't cover the costs of management.

The accounting reports demanded by Congress which document the "below-cost" Forest Service sales only give an official idea of the magnitude of the subsidy. More is unofficially acknowledged by loggers, who laugh when asked to comment on the Forest Service's tendency to undercount the public timber which is sold — making the sale an even better bargain.

"What a private landowner is competing with is below-cost sales on public land," said forester David Marvin, former National Outstanding Tree Farmer of The Year. Marvin claims that his land in Johnson makes a profit each year — only if his management costs are not considered. "My dream was to live on the land, but I can't," Marvin said.

Without Current Use, most Vermont forest land could not turn a profit at all. Annual property taxes would regularly exceed the annual income possible from timber management. With it (assuming it is fully funded), the tax should be in line with forestry income. However, even this program does not make logs more valuable than second homes — particularly when federal policy is to encourage second homes by allowing the deduction of mortgage interest.

"I like to look at it in terms of opportunity costs," explained forest economist Paul Sendak. "If you were to take that land and figure out how much you could sell it for and how long it would take you to sell it, and if you instead were to invest that money at an interest rate — that's your oppor-

tunity cost. If you can't get that amount from your trees, you shouldn't be in forestry." He added that in many situations, landowners would find they probably shouldn't be in forestry.

"Unfortunately, the bottom line is that if you're looking at land as an investment in timber, in many cases you probably should cut and run," said David Brynn, Addison County forester. "But fortunately, almost everybody I work with looks at it in terms of their relationship with Mother Earth."

For many landowners, Current Use is an incentive to hang onto their land if they want to own it anyway. The better economic choice, however, is still to sell the land for development — at some point. As a result, many people concerned with preserving forest land for the long term feel the program is "renting development rights" and a more permanent commitment is needed. If the economic choice of selling out is still more attractive, can we really hope a landowner's "relationship with Mother Earth" will be enough to keep the land in forest?

The doubt is reinforced by recent land deals made by forest industry indicating the corporate management philosophy has little to do with forest management. While treating timberland as a non-strategic asset to be divested of for strategic debt management may be reassuring to shareholders, it is hardly an affirmation to Vermonters that public policy supporting the timber industry will guarantee that the forests will remain.

The most obvious way to guarantee and control the future of the forest is the purchase of either land or rights which are important to the public. David Robie, a partner in the Lyme Timber Company, explains that the returns from timber management on a sustained basis cannot justify the purchase price of land. Only after selling the development rights can the investment in forest management be justified.

"Land has many values," Robie said. "It's very hard to make a return when we pay for all these values which we are not interested in exploiting." The Lyme Timber Company makes conservation investments in land and timber; they purchase forest land outright, sell the development rights to a public or private conservation organization, and manage the timber.

Although public acquisition — whether of the land itself or of interests in the land — may be appropriate in some cases, in a state where 90% of the land is private, it is unlikely that public or charitable purchases would make a difference in the future of the majority of the state's forests.

"It would take a massive and expensive acquisition program to raise the percentage of public forest land much above its present 10%," according to the Vermont commissioners of agriculture and forests in a recent letter to Governor Dean.



It is unlikely that public or charitable purchases would make a difference in the future of the majority of the state's forests.

In addition, public acquisition is not universally popular. "The debate about public versus private tears me in two ways," said David Marvin. "I don't like to see land traded as an asset by people who don't care about our heritage, but I don't want it to be federal either."

Marvin's comment reflects the feeling of many others who see the U.S. Forest Service paralyzed by its inability to reconcile competing interests, lawsuits, and paperwork. The 1990 Report of the Governors' Task Force on Northern Forest Lands, which had the participation of Vermont, New Hampshire, New York and Maine, recognizes the need for some public land acquisition in the Northern Forest, but politely recommends that the federal government send money and stay in D.C.: "When public land is acquired, the Governors' Task Force believes there are many advantages for such acquisition to be by the states."

Another approach is regulation — either to limit development or to require stewardship. Zoning and wetlands regulations, for example, recognize that a landowner's actions may have implications beyond the property line. However, perhaps because of the dominant perception of land as private property, the opposition to regulating the use of land has been vigorous. One landowner, after eloquently likening the land to fertility during a public hearing, proclaimed regulations to be the ultimate castration.

David Robie suggests the time may be right for Transfer of Development Rights (TDR) programs to preserve the working land while offering compensation to landowners for the rights they give up. The idea would be to designate areas in towns where development could occur (receiving areas) and other areas where development could not occur (sending areas). Density coupons, assigned to landowners based on current development potential of the land, would be sold on the open market. Buying coupons would enable people to develop in the receiving areas; selling coupons would compensate owners of land in the sending areas.

"I think the real solution for northern New England is to go back to the original planning principles of tightly clustered development," Robie said. "With TDRs you can't have everything, but you can have nearly everything."

Although a fundamental principle of tax policy is neutrality, we have a long and complicated history of using the tax structure to influence behavior. The U.S. Forest Service's 1990 Northern Forest Lands Study suggests several possible tax changes in addition to use value taxation; those that are incentives are matched with a commitment to keep the land in forest:

- ♦ Reinstating capital gains treatment for timber if the landowner agrees not to subdivide for a certain amount of time;

- ♦ Giving tax advantages for donations of lands or easements for conservation;

- ♦ Disallowing mortgage interest deductions on second homes.

Further strengthening Vermont's Land Gains tax would make land speculation less profitable. In its extreme, the tax could reduce the return on land-as-commodity investments to the rate of inflation. Although it is not a popular belief among landowners, the appreciation of land value is due to the actions of society as a whole — whether as direct as an access road or as indirect as education and prosperity.

Well before property rights activists' so-called "wise use" movement, it has been argued that there is no constitutional right to profits anticipated in speculation, and that regulating the rate of return has been common practice when property is "affected with a public interest." (94 U.S. 113 (1876)).

Richard Babcock and Duane Feurer, writing in the *Land in America* anthology, suggest we look at our regulation of public utilities for an example of an industry in which the public regulates the rate of return as well as the services provided.

"If we are serious about reform in land use policy, the time has come to replace old rhetoric and exotic proposals with some ideas that have been around for centuries in respect to public regulation of transactions in other commodities far less affected with the public interest than is the case with land," Babcock and Feurer wrote.

As was concluded in the Northern Forest Lands Study, ensuring a healthy future for forests will probably depend on a combination of efforts. However, fundamental to the success is fair taxation of the land. This may mean that, rather than continuing a special Current Use program which is looked at as tax relief and therefore underfunded, taxation of forest land at its use value should be an integral part of our taxation system. There is probably not another single public effort which is likely to be as significant in protecting our forests. ♦

Deb Brighton is a forester and environmental consultant with Ad Hoc Associates in Salisbury, Vermont.

Our national forests continue to put timber on the market at prices which don't cover the costs of management.



FORESTRY, ECONOMY, AND COMMUNITY

Insights from the Worcester Range

Roger Sternberg

Its phantom nature does not allow the forest products industry the attention and capital it merits.

To the Vermonters who work in the state's forest industry, the smell of sawdust and freshly cut wood is as pleasing a scent as freshly cut hay is to farmers. These smells evoke the long tradition of Vermonters living with, and making their living from, their forests. We imagine loggers skidding logs through deep snow to the landing, or sawyers working a pine log on the mill carriage, precisely slicing off slabs which will become a floor, a table or a cabinet. These images mix aesthetics with a rural way of life, of sweat, and of economics.

Questions about the economic value of the state's forests led VNRC last year to study the Worcester Mountain Range of central Vermont. The study's premise was that a healthy local forest economy is critical if forest land is to remain undeveloped, to be used for timbering, wildlife habitat, recreation, or other purposes.

The study focused on Elmore, Worcester, Middlesex, and the eastern parts of Morrisville, Stowe, and Waterbury, with some interviews in nearby towns including Jeffersonville, Johnson and Hardwick. VNRC wanted to know the size and quality of the forests of the Range and how much its forests contributed to the local economy. Other goals of the study were to determine how many people were employed in the forestry sector, and what the forestry industry perceived as the obstacles and opportunities to improve the area's forest economy. The study included over two dozen interviews with businesses in the forest industry: both "primary processors," like sawmills, and "secondary processors" — companies which manufacture wood products from lumber.

Vermont Forests, Parks, and Recreation economists report that the state's small sawmills, run by one or two people, are on the decline, and VNRC's study bore this out. Small sawmill owners identified a number of problems: prohibitively high Workers' Compensation rates and other insurance costs, difficulty in paying competitive wages for top workers, and high costs of electricity needed for running the mills. While most of the small sawmill owners interviewed were experiencing hard economic times, Rick Barstow of Adamant

reported that his part-time custom milling operation was an important supplement to his other work as a carpenter and maple syrup producer. There may, then, be further economic opportunities for portable mills to fill the "niche" for localized milling as Barstow does.

The other mills in the study, although large by Vermont standards, were small in comparison to mills in the western states or Canada. Each mill employed 10-50 people and produced lumber in the millions of board feet per year. Owners of these businesses had obvious pride in their products, which ranged from hemlock post and beams to interior parts for pianos. One mill in Hardwick provides stock for the pieces in the game "Scrabble," from Vermont-harvested beech and maple.

Many of the mill owners and wood manufacturers also spoke with pride about the employment and economic boost they were providing for Vermonters. The 27 businesses surveyed in the study employed a total of 260 people and had combined gross sales of \$17,000,000 per year.

Interestingly, despite this level of commerce, the mills had a notable lack of visibility. It took, for instance, a careful set of directions to find the George F. Adams mill in Stowe — a mill which employs 35 people. Unfortunately, this "phantom" nature works against the industry by not allowing it the attention and capital it merits from both the public and private sector — a chronic problem of the industry for decades. Community leaders and planners might take note that forest industries may, in fact, fit well with local or regional goals for economic growth which is compatible with Vermont's rural character.

Mill owners and manufacturers identified a number of other problems affecting their long-term viability. Although no specific regulations were identified as problems, there was an overall concern raised about the cumulative impact of many regulations. Said one frustrated mill owner, "It's getting to the point where we need to hire a full-time person just to deal with all the regulations." Several heads of businesses complained that state government was more interested in en-

forcement than in assisting with compliance, adding that enforcement was inconsistent, depending upon the current state administration. Most businesses supported the idea of a state forest industry ombudsmen to help with compliance.

Interestingly, however, the escalating cost of health insurance, not regulation, was the primary concern of the industries interviewed. Mills reported annual increases of 20% for coverage of their employees. Kim Adams, president of the George F. Adams Company, saw health insurance costs as "the worst threat to the survival of small business that we have." Clearly, neither the forest industry nor their workers can sustain health insurance costs which double every five years, and the forestry community can only hope that state and federal government will identify remedies to the health care crisis.

Of the 114,000 acres of land in the study area, about 90% is forested. Of this acreage, 70-80% is productive for forestry; the other 20-30% includes the steep terrain of the Worcester Mountains which contributes to the area's recreational and scenic value. About 57,000 acres of the productive forest land contains mature sugar maple, yellow birch, and beech ("northern hardwoods") sawtimber — most of it of poor commercial quality.

Annual income to local landowners from the sale of timber, wood pulp, and wood chips is about \$185,000. Assuming harvesting and trucking to mills (but not milling itself) are done by local residents, the estimated contribution to the local economy increases substantially — to \$592,000. Information on firewood, maple syrup, and Christmas tree sales was not available, but could reasonably be expected to increase the estimate to \$600,000.

Like most of New England's forest lands, the Worcester Range has been picked over or "high-graded" in past harvests. According to U.S. Forest Service data, the current quality of the Worcester Range's sawtimber is poor and its value is accordingly low. However, wise forest management could result in a sustainable forest economy centered on hardwood sawtimber production.

Lloyd Irland, a forest economist from Maine, notes that northern hardwoods can substitute for tropical hardwoods which are being depleted at a rapacious rate. But this can only happen if our forests can be managed for long-term gain.

In Vermont, forest management plans required by the Use Value Appraisal ("Current Use") program generally call for the removal of poor quality wood, leaving higher quality wood to grow to an age of 80-100 years before harvest.

Although Current Use is successfully producing higher quality hardwoods, foresters reported that its success is significantly hampered by the lack of a market for the low-grade hardwoods which need

to be thinned out. As a result, says Elmore forester Jeff Soshnick, "loggers who are cutting low-grade hardwood find themselves stuck with cordwood on the landing which they can't sell — or sell at such a low price that they lose money doing it."

Based on discussions with experts in the forest and energy field, it seems that the best solution may be the use of wood chips for electrical generation and fuel for heating.

Unbeknownst to many Vermonters, both the state capitol and the state facilities in Waterbury are heated by wood chips. The East Montpelier Elementary School has converted to wood chips and has reduced its heating bill by a staggering 95%.

One of the key recommendations coming out of the Worcester Range Study is that VNRC and the State consider adopting an energy policy which endorses the use of Vermont's forests as a means for heating public and commercial facilities and generating electricity at a level consistent with maintaining healthy forests. The study also recommends that the State identify a permanent staff position within the Agency of Development and Community Affairs to increase the attention given to the forest industry. Other recommendations can be found in the written report now available from VNRC. •

Roger Sternberg, the principal author of the VNRC Worcester Study, is a forester in Chelsea.

If managed for long-term gain, northern hardwoods could be the substitute for tropical hardwoods.



VERMONT MAPLE

Pure, But Not So Simple

Enid Wonnacott

Vermont is well known for its production of maple syrup, and many other states have tried to capitalize on that marketing advantage. "Vermont Maid," the mass-marketed brand of pancake syrup — which is not made in Vermont and contains almost no real maple — shows the power of merely suggesting the Vermont name.

Even with such a distinct marketing edge, however, Vermont faces many pressures in maintaining its "pure" identity. The 1990 federal Nutritional Labeling Act is one example. The law calls for product standards that preempt existing state laws. In Vermont,

state regulation would be replaced with a Food and Drug Administration definition of maple syrup — allowing a lower density, and additives such as salt and preservatives.

"The purity and quality of Vermont syrup has always been our marketing advantage, and we want to keep our program unique," said Bruce Martell of the Vermont Department of Agriculture. Vermont has petitioned the FDA to put a two-year stay on the law.

Another threat comes from our northern neighbors. Canadian government subsidies of new sugaring operations, combined with weather changes, have resulted in a surplus of Canadian syrup.

"Quebec is the Saudi Arabia of maple syrup," according to *Burlington Free Press* columnist Sam Hemingway, "able to control market prices with the twist of a spigot." Given that there is no trade agreement with Canada for syrup, many producers are worried about the impact of Canada's 1-3 million gallon surplus. The Department of Agriculture reports that in 1991, bulk Grade A syrup fetched Vermont farmers \$1.35/lb. (dark amber) to \$1.65/pound (fancy), while this year's prices have dropped painfully to \$0.95/lb. across the board.

Vermont legislators made an attempt to address the problem this year with a bill, H.40, calling for

labels on syrup denoting the product's point of origin. Although H.40 did not survive the session, the Vermont Commissioner of Agriculture is likely to convene a task force to study Vermont-Canada maple syrup issues.

An additional pressure from Canada is the precedent they have established by marketing some of their syrup as "certified organic." The difference between conventional and organic maple syrup production is not as clearly defined as it is in vegetable farming, and it is difficult to promote the organic program. Meanwhile, however, Vermont producers who sell to larger out-of-state markets are put at a disadvantage without the certification.

Most producers believe that "organic" is inherent in the purity of Vermont's product. For example, whereas non-organic fungicidal pellets are allowed in Canada to keep tap holes open, they are banned in Vermont. The Vermont National Organic Farmers Association, the Vermont Sugarmakers Association, and the Vermont Department of Agriculture are drafting standards for the production of organic maple syrup. The standards are likely to address the use of synthetic fertilizers and pest controls in the sugarbush, to restrict which defoamers can be used, and to require a complete "audit trail" tracking the syrup from tree to can.

The past two years have been good ones for Vermont sugarmakers, offering a revival after several poor seasons. Martell estimates that 440,000 gallons of syrup were produced in Vermont in 1991 from 2,400 sugarmakers, with 1992 production figures even higher. The estimated 1991 direct, farm-gate sales based on a gallon price came to \$11,660,000 — a figure that could jump to \$50 million if the value added to syrup sold in smaller containers, as well as equipment sales and employment opportunities, are figured in.

Sugaring is the primary or supplemental income for many Vermont families. Indeed, many Vermont dairy farmers now depend heavily on sugaring to offset low milk prices. Vermont's ability to maintain its "pure" identity, and to label its syrup accordingly, will be key to the success of this vital link in our farm and forest economy. •

Enid Wonnacott is the Certification Inspector and State Coordinator of the Vermont National Organic Farmers Association (NOFA).

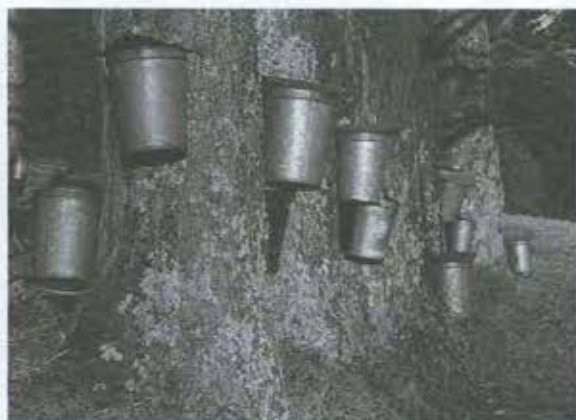


PHOTO BY CRAIG LINE

**Brand name
office products
for less!**

Authorized HON dealer



OFFICE FURNITURE
OFFICE SUPPLIES
FAX SERVICE
PACKING & SHIPPING SUPPLIES
RECYCLED PAPER PRODUCTS

COPYTEK
OFFICE PRODUCTS

1811 Corners Commercial Park, Williston, VT 1-800-839-3375 879-2400

Look!

Your ad could be here.

For ad rates
contact
VNRC at
9 Bailey Avenue,
Montpelier,
Vermont 05602
(802) 223-2328



Protection from the Sun

Introducing the Solar Boiler™
—your protection against the
rising cost of energy. This
state-of-the-art solar appliance
uses clean, renewable solar
energy to provide hot water,
cutting your water heating bill
by *two-thirds*. While the Solar
Boiler™ protects your budget,
it also helps protect our envi-
ronment. Over its lifetime it
will reduce the production of
air pollutants that cause acid
rain and global warming by
over 10 tons. The Solar
Boiler™ protection for you
and the planet.

The Solar Boiler™ comes com-
plete for \$1,850* with all neces-
sary hardware for installation
and a 10-year warranty on
collectors and heat exchanger.

Call or write today for details.

SOLAR WORKS

64 Main Street
Montpelier, VT 05602
1-800-339-7804 (in VT)
1-802-223-7804

*SB56 system complete with two 4 x 7
collectors and 60 gallon storage tank;
installation extra.

Photography and Video Production

Services for educational and
environmental organizations.

Michael Sacca

Underhill Vermont 05489
telephone 802.899-4675

*Working to create and nurture
a conservation ethic.*

To show you care

about Vermont's
songbirds, small mammals,
loons, turtles, and frogs ...

Look for the

Loon

on your Vermont Tax Form
and donate to the

NONGAME WILDLIFE FUND

or mail your donation to the:
Nongame & Natural Heritage
Program, Vermont Fish and
Wildlife Department
103 South Main Street
Waterbury, Vermont 05676



HOW MUCH WATER?

Sugarbush Brings "Minimum Flow" Debate to the Surface

Christopher Kilian and Susan Clark

Vermonters must now consider protecting not only water quality but also, water quantity.

"Water quality" was the cry that rallied environmentalists in Vermont and across the nation in the early years of the environmental movement. In the early 1970s, when the U.S. Congress was passing the Clean Water Act, the Vermont legislature enacted Act 252, a key water protection law. In the decades that have ensued, Vermont has made a priority of strengthening and clarifying protection of the quality of Vermont's waterways with a network of laws and regulations.

In recent years, however, a new, technically challenging and highly controversial water issue has come to the forefront of the environmental debate. Now, not only must Vermonters consider the protection of water quality; water quantity must also be considered.

"Water quality is a relatively easy concept to understand — fish can't survive in polluted water, and people can't drink it," notes VNRC Policy Director Andrea Colnes. "But water quantity gets us into more complex issues, because there are many important, competing uses of Vermont's waters, and it's not clear exactly how much water is needed to maintain healthy river ecosystems."

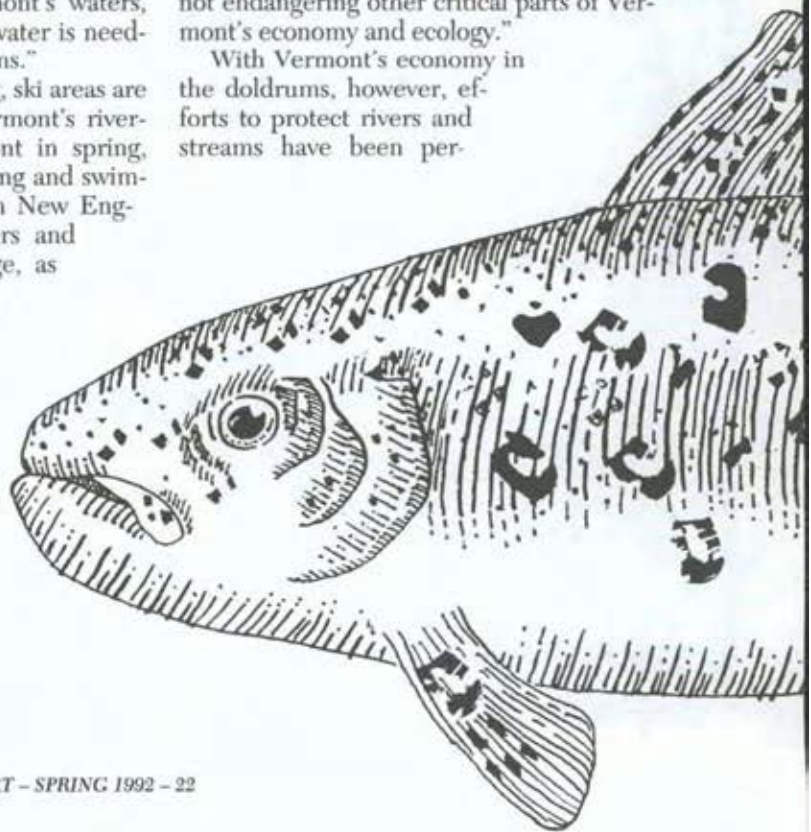
With vast increases in snowmaking, ski areas are demanding a greater share of Vermont's river-flow. Meanwhile, visitors to Vermont in spring, summer and fall expect fishing, boating and swimming opportunities to be the best in New England. Vermonters expect clean rivers and lakes as part of our natural heritage, as well as for use as water supply sources, while our burgeoning towns also demand enough flow in the rivers to dilute treated sewage. And hydropower projects cause flow rates and levels to fluctuate and often completely change the natural characteristics of waterways. Affected by virtually all of these human uses of Vermont's waterways are the natural characteristics of rivers, lakes and streams. As the pressure from competing uses increases, the

need to consider habitat needs for fish and in-stream aquatic life has become critical.

This winter, VNRC, the Vermont Group of the Sierra Club, and Trout Unlimited appealed a permit issued by the Agency of Natural Resources for construction of a dam and storage pond; the project would supply water from the Mad River for Sugarbush ski area snowmaking. (See "Vermont Perspectives," this issue.) VNRC is not opposed to use of the Mad River for snowmaking. However, the groups argue that Vermont law requires the integrity of aquatic ecosystems to be protected, and as a result, that Sugarbush should not be permitted to withdraw water below the "February median flow" (a natural winter low-flow condition to which the aquatic biota have adapted).

"Everyone wants to see a thriving Vermont economy, and clearly a big part of that picture will be successful ski areas," notes VNRC Executive Director Ned Farquhar. "We have to make sure that ski areas' needs are met reasonably, while not endangering other critical parts of Vermont's economy and ecology."

With Vermont's economy in the doldrums, however, efforts to protect rivers and streams have been per-



ceived by some as an attack on the ski industry's future. Indeed, in the Winter 1992 VSAA Reports, published by the Vermont Ski Areas Association, an article entitled "Snowmaking: A Necessity" states that "...ski areas face the risk of working with mother nature. That risk has become life threatening More snowmaking is critical. It is a matter of life and death."

No one disputes that some Vermont ski areas are in financial hot water. Vermont is not Colorado or Utah, and Vermont's topography, skier demographics, and natural weather conditions will not be able to sustain the industry at rates that compare to western states. Many ski areas developed heavily during the real estate boom of the Reagan years — incurring substantial debt which now must be repaid. A VSAA Reports "Financial Profile" of Vermont's ski industry from 1985-1990 shows that the ski industry's income from "goods sold" decreased by 49%, with the note that "the decreased cost of goods sold is attributable to the fall in second home sales." During the same time period, "Debt Service" increased 209%.

"Some Vermont ski areas borrowed heavily to build, and now, in a flat economy, they have to repay their debt," noted Farquhar. "The question is, what are the reasonable limits to the use of our rivers for snowmaking? And should the public subsidize the ski industry by risking a

percentage of Vermont's aquatic ecosystems?"

In the debate over how much water is enough to sustain the health of Vermont's waterways, environmentalists are concerned over the lack, to date, of hard scientific evidence on withdrawal impacts, and hence argue for maintaining a protective minimum standard. Taking out too much water can have disastrous effects; for example, if anchor ice forms, it can kill incubating trout eggs and other stream and river-bottom life, perhaps permanently damaging the stream ecosystem.

Vermont laws governing water withdrawals require that applicants demonstrate, before a withdrawal is permitted, that the aquatic ecosystem will not be harmed. Predicting the effects of a withdrawal on the ecosystem is extremely difficult.

One controversial method of predicting habitat impacts is the Instream Flow Incremental Methodology, or IFIM. The IFIM is a problem-solving framework with a set of comprehensive procedures for decision-making regarding minimum stream flow. The methodology does not generate a single solution, but predicts the impacts of different alternatives.

According to Kenneth Kimball, Research Director for the Appalachian

What are the reasonable limits to the use of our rivers for snowmaking?

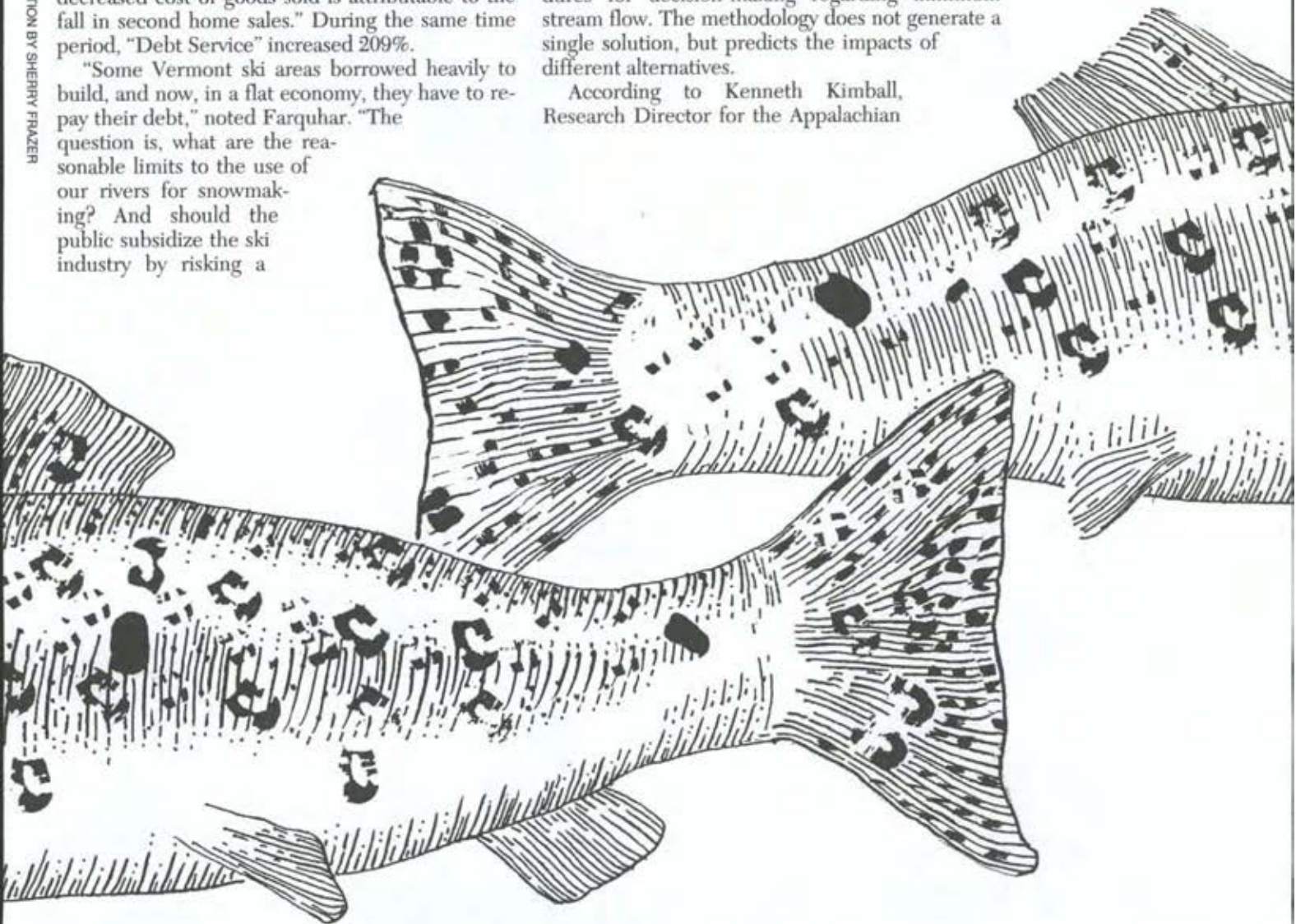


ILLUSTRATION BY SHERRY FRAZER

A clear and consistent regulatory standard would protect aquatic ecosystems and end the chaos in the permit process.

Mountain Club and VNRC expert witness in the Sugarbush case, "IFIM is meant for use as a negotiating tool and does *not* produce an exact scientific number as is commonly suggested by applicants. The opportunities for subjective interpretation of IFIM results are tremendous because the methodology estimates theoretical usable habitat area — it cannot measure the number of fish present.

"It is no accident that IFIM results consistently match applicants' anticipated water demands — IFIM is often used to justify rather than predict habitat impacts," Kimball said. Additionally, scientists have raised concerns over the lack of background data available for use in predicting impacts on aquatic ecosystems. Collection of such data to justify withdrawals below conservative standards would take years — years which applicants suggest they cannot afford.

In its decision this winter on an Okemo Mountain ski area request to withdraw water for snowmaking from the Black River, the Vermont Environmental Board determined, "The

IFIM study used by Okemo has significant limitations. These include the

lack of analysis of any invertebrate species that will also be affected by the water withdrawal. Aquatic insects, macro-invertebrates, non-game fish species, amphibians, reptiles, birds, mammals, and plant life were not considered in the IFIM analysis."

The decision continues, "Little evidence was provided that the use of the brown trout as the target species represents an adequate surrogate for information on the other natural aquatic biota. Decisions about river flow require consideration of an entire ecosystem, not just a single life stage of a single species."

The Board determined that a 6-8% loss of habitat resulting from the withdrawal as proposed would be a significant change to the natural condi-

tion of the river and would not be permitted. Additionally, the Board held that "[t]he fact that the river has already been degraded does not justify further degradation; if anything, it justifies a greater degree of protection."

Most importantly, in the Okemo case, the Board accepted the minimum flow standard suggested by the Conservation Law Foundation and the Connecticut River Watershed Council — February median flow — as the minimum flow which must be maintained in the river to protect the aquatic ecosystem.

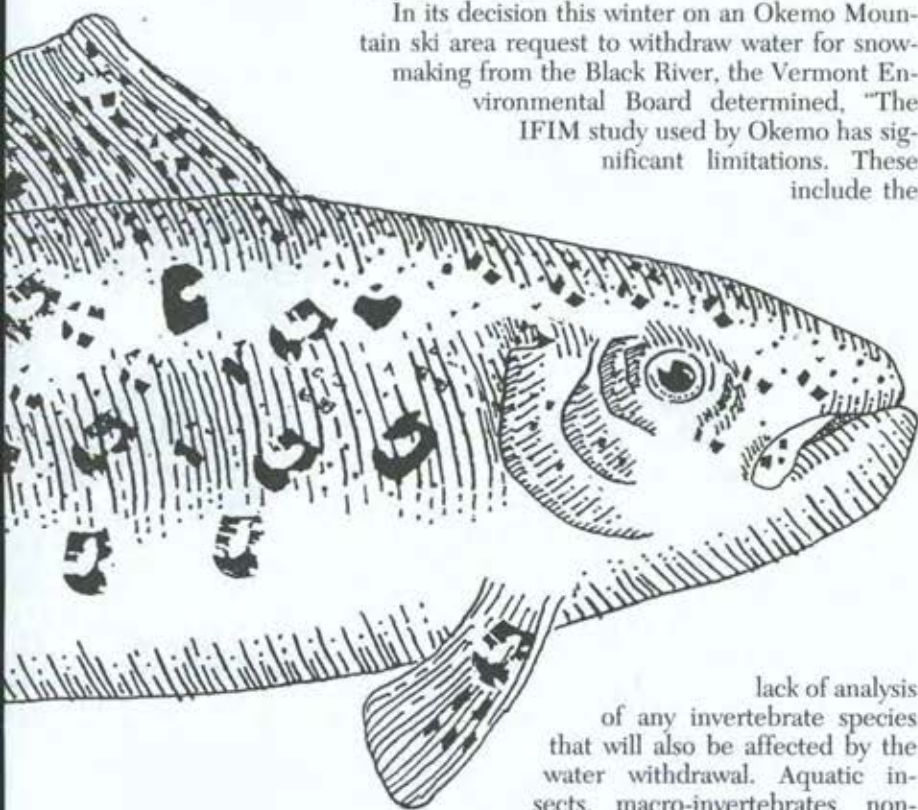
The complexity of ecosystem dynamics and the lack of scientific certainty underscores the need for a consistent state-wide policy on appropriate minimum flow levels for Vermont's waterways. Support for the protective measure is diverse: in April, a coalition including VNRC, the Vermont Federation of Sportsmen's Clubs, the Vermont Trappers Association, Trout Unlimited, and several other sporting and conservation groups, joined in a call for maintaining a minimum stream flow to ensure ecological protection.

Pointing to the Okemo and Sugarbush cases, rivers advocates suggest that without more scientific certainty, Vermont must apply a conservative standard which will protect aquatic ecosystems from risks of degradation. A clear and consistent regulatory standard would protect Vermont's aquatic ecosystems and put an end to chaos in the permit process.

Several standards have been proposed in different forums. Recognizing the need for consistent policy, the Agency of Natural Resources developed a "Draft Interim Procedure for Determining Acceptable Minimum Stream Flows." The draft fails to address the issue of a consistent standard, however, and the Agency continues to evaluate applications on a case-by-case basis.

In the legislature, Representative David Deen (D-Windham) sponsored a water withdrawals bill in 1991. After passing the House, however, the bill stalled in the Senate due to discussions regarding the inclusion of a specific regulatory standard. In the debate over the bill, the Agency of Natural Resources supported inclusion of the February median flow as the proper regulatory standard to be applied throughout Vermont, a position VNRC also supports. As the session wore on, however, it became clear that there was not time enough to come to an agreement on this complex scientific and political issue.

The issue will continue to be hotly debated, probably into next year's legislative session, as litigation progresses. Meanwhile, environmentalists will continue to argue that both the quality and the quantity of Vermont's fragile waters must be protected for generations to come — and for use by all Vermonters. ●



MEETING THE ENVIRONMENTAL BACKLASH

Learning from the Other Side

Justin Brande

From the late 1960s into the '80s, environmentalism grew and prospered. With ecology a relatively new concept, it was a heady period to live through. An extraordinary number of laws and regulations were created in the name of environmental protection, environmental education took shape in our schools and colleges, and signs of our success now surround us.

Within the last few years, a countervailing movement has arisen that will test our thoughts, words and deeds. Although organizing and growing much as we did over the last quarter century, this new movement has been angry, noisy and unsophisticated, coming from people who are frustrated by restrictive laws or by the loss of actual or anticipated profits. Two new books shed light on this negative, indeed, reactionary trend.

Free Market Environmentalism is in some ways sympathetic to environmental goals, but from a staunchly conventional economic point of view. Authors Terry Anderson and Donald Leal argue that the best way to achieve our goals is to use private property and the free market.

Anderson and Leal point out how mere legislation and regulation often have poor and even contrary results, as in managing the commons — oceans, air, water supplies. They stress the costly inefficiency of management by regulation, and the superiority of owner-operator efficiency. They argue compellingly for recompense for private landowners who provide us with recreation and aesthetics, while having to tolerate an all-too-often careless public. The authors' faith in the market is simplistic, however, and belied by the many abuses visited upon our suffering environment.

Dixie Lee Rae's *Trashing the Planet* is harder to take. Rae goes out of her way to belittle and berate "do-gooders" in general and environmentalists in particular — they're just plain blind to the wonders that science has brought us. Rae, as a zoologist and atomic scientist, has her facts and figures well marshalled. Environmentalists will find her faith in science and modernity surprisingly naive, however, and when she ascribes baser motives to her opponents, she is clearly off base.

Nevertheless, serious environmentalist should

pay attention to Rae, and those like her, when they are conscientious and capable. They are the best mirror for revealing weaknesses in our arguments.

Quite another aspect of the anti-environmental backlash is coming from the poobahs of industry. Principally in the lumber, mining and ranching industries, these angry, well-funded groups are set up to lock horns with regulations, regulators and environmentalists. The press has given considerable coverage to the new groups, which show sound instincts for muddying the waters by calling themselves "wise use" or "multiple use" coalitions.

Generally, there is little opportunity for discussion and compromise with these groups; they tend to be motivated by an economic fundamentalism that does not tolerate arguments in favor of spotted owl habitat, wetlands or wilderness preservation. Given their still poorly perceived ideas about the essential relationship of economics and biology, it's not surprising that their meetings with environmentalists are usually heated, acrimonious, and low on wise solutions or compromises. Nevertheless, we must hope both sides will use the stimulus of the confrontation to reexamine our premises, and then work for wise, sustainable results.

What we must look for as we pass through this environmental backlash — this rite of passage — is a renewed dedication to our mutual environmental education. We must provide it at all levels, as has been done with considerable success in the past, and we must rise to the backlash challenges by educating ourselves to a higher level.

Meanwhile, we must stand firm by a maturer, more sophisticated environmentalism. It is not enough for us to pass laws or levy fines; we must know and show how ecology, economics, law and ethics all intertwine for our mutual benefit.

Finally, we have the knowledge that if we are wrong, and go too far in our zeal for protecting our natural world, we still have all the pieces. Environmentalism offers us a second chance. If the anti-environmental extremists prevail, we could well lose that chance. •

One of VNRC's early directors, Justin Brande runs a homestead in Cornwall.

A countervailing movement has arisen that will test our thoughts, words and deeds.

VNRC NEWS & NOTES

GOOD ADVICE

*Farquhar, Muyskens
Appointed to Governor's
Commission*

It is essential that the State of Vermont protect its environment and sustain its natural resources; and ... the Governor desires the counsel of private citizens knowledgeable about the land, waterways, air, minerals, wildlife and vegetation that comprise the natural environment of Vermont...."

So reads the Executive Order signed by Governor Howard Dean this March establishing the Governor's Council of Environmental Advisors. VNRC was honored by Dean's decision to appoint VNRC Executive Director Ned Farquhar and VNRC Board Chair Sarah Muyskens to serve on the twenty-member Council.

"Governor Dean is looking for thoughtful critiques from a broad range of environmental interests, and we are very glad to be able to serve this function," Muyskens said. "Appointing this group, as well as the Council of Economic Advisors, is a smart move to ensure that no executive decision affecting Vermonters is made in a vacuum."

Farquhar was also appointed this spring to the Agency of Transportation's Vermont Rail Council. The Rail Council will examine the feasibility of commuter rail, enhancement of interstate passenger rail, and steps that the State can take to increase use of rail for freight.

"VNRC has a long-time interest in transportation alternatives," Farquhar noted. "We'd like to see the end of the U.S. love affair with the automobile begin here in Vermont." •



Above, left to right: Outgoing staff members Susan Clark and Deb Crespin and incoming staff member Brendan Whittaker.

COMING AND GOING

Fond Farewells and Hearty Welcomes For Staff

This spring marks changeover of several VNRC staff members. We offer brief details of their journeys below, with more on page 2.

In the Northeast Kingdom, VNRC enthusiastically welcomes **Brendan Whittaker** as our new Northern Forest Project Field Director. Former Vermont Secretary of Environmental Conservation, Bren is a forester as well as an Episcopal priest. No newcomer to the Council, Bren was involved with VNRC in its early years in the mid-1960s, and has served on our Board several times since then.

With this issue of the V.E.R., VNRC bids adieu to **Susan Clark**, Communication and Education Director and Editor of over seven years. Susan moves on to work as coordinator of the University of Vermont's

new Environmental Programs In Communities (EPIC) grant project.

Debra Crespin, VNRC Director of Administration and Development, also moves on this spring. We will miss her deeply as she pursues her career — and, we hope, also fits in plenty of backpacking — in Seattle.

In the Southern Vermont Office, we thank **Diane Newton** for her years of fine work as Research and Administration Coordinator; we know that she will continue her river conservation efforts as her new family also blossoms.

VNRC's publications already miss the talents of Communication and Education Assistant **Sylvia Plumb**; however, the Green Mountain Club has gained an excellent Communication Coordinator. •

TIME COMMITMENT

Your Help Wanted!

VNRC's Office Manager Marie Frohlich is a wonderful person to work with — friendly, creative, and with a great sense of humor — and she could use your help! If you have extra time, want to get exposure to VNRC's day-to-day workings, and can volunteer at either our Montpelier or Manchester office, give Marie a call!

We extend our heartfelt thanks this spring to **Kevin Opstrup**, who has volunteered extensive research and office support. Kevin will attend Duke University for a Master's in Environmental Management.

We also thank **Dan Lindner** for his help — well beyond the call of duty. Dan's organizing skills have been the key to success for the Solar Homes Tour described on page 8. And Dan is now wrapping the third edition of the our *Vermont Environmental Directory*, anxiously awaited by many in the environmental field.

Speaking of gratitude, Alec Webb and Megan Camp of **Shelburne Farms** get the all-out kindness award for generously allowing VNRC to use their lovely site to celebrate outgoing staff members. Thank you! •

PUBLIC RECOGNITION

Elmer Receives Public Transit Award

VNRC Land Use Program Director Peg Elmer was honored in May for her work in supporting transportation alternatives with an award by the Vermont Agency of Transportation from the Vermont Public Transportation Association.

Elmer has been active in promoting public transportation as a viable alternative through lobbying work, and by initiating networking among public transit professionals. •



*Above: Governor Howard Dean addresses VNRC's **Advocates for Vermont** group at a luncheon this spring. Dean fielded questions from the group on pressing environmental issues including Act 200, Act 250 and Current Use.*

Long-Lasting Environmental Protection

You can be a part of VNRC's future work in environmental advocacy and education by including a gift to VNRC in your will. It is one of the most powerful ways to ensure long-term protection of Vermont's natural resources.

Bequests to the **Vermont Natural Resources Council, Inc.** are added to VNRC's endowment, which is managed for socially responsible investment and maximum growth potential.

We would be pleased to talk with you about how to set up a bequest. Your support will make a significant difference toward ensuring a clean, safe and healthy Vermont.



BULLETIN BOARD

June 5-6

Hosted by Catalyst and held at Vermont College in Montpelier, **Economics As If People Mattered: How People Are Taking Control of Their Work, Home and Environment** will be a conference of inspiring models. Explore worker-owned and cooperative businesses, ecologically sound manufacturing, land trusts and co-housing, community planning, and more. Contact Catalyst, PO Box 1308, Montpelier VT 05601, (802) 223-7943.

June 19 and 20

Rural Vermont's **Keep the Barn Lights Burning** cassette features some of Vermont's finest performers including Jon Gailmor, Banjo Dan and the Midnite Plowboys, Dick McCormack, Pete and Karen Sutherland, Margaret MacArthur, and Mac Parker. Proceeds go to a loan program for dairy farmers. For tickets to 6/19 Burlington or 6/20 Montpelier concerts (\$8.00 each, both at the Unitarian Church) featuring a selection of these artists, or for a cassette (\$11.00 ppd.) call Rural Vermont at (802) 223-7222.

September 26-October 12

Mark your calendar for the Vermont Institute of Natural Science's 13th Annual **Wildlife Art Show**. Featuring sculpture, bird carvings, paintings, limited edition and antique prints, and more, the show runs from 10-5 daily at VINS in Woodstock. For more information contact VINS at (802) 457-2779.

October 2-4

Join the Vermont StateWide Environmental Education Programs (SWEET) for the environmental education event of the season: the **New England Environmental Education Alliance Annual Conference**, to be held this year at the Breadloaf Campus of Middlebury College in Ripton. For information on helping with conference organization, or for registration details, contact Linda Garrett at (802) 457-2779 or Deb Parrella at (802) 985-8686.

October 2-4, 1992

New England Environmental Education Alliance Conference

Painting the Town Green
Environment • Involvement • Empowerment

See text at
left for details ...



Dedicated to the Art of Your Environment



Offering Complete
Landscaping
Services

Serving Northern
and
Central Vermont

Alpine Landscape Co.

Terry Solomon
223-1161

The Vermont Book Shop

Middlebury 05753

Books

Hardcover &
Paperback

Records

LP, Tape, CD

(Toll free in VT: 1-800-0287-2061)



ORVIS

Serving Outdoor People Since 1856

- Fly Rods and Reels
- Fly Tying Kits
- Waders and Vests
- Flies
- Custom Shotguns
- Classic Clothing
- Rainwear
- Luggage
- Sporting Gifts
- Sporting Art

ORVIS

Historic Route 7A
Manchester, Vermont 05254
802-362-3750



O • BREAD BAKERY

Shelburne, Vermont

Hemmings Motor News

Antique Auto Publications

"the bible" of the old-car hobby since 1954



Visitors Welcome—West Road, Route 9, Bennington
Open Monday-Friday 9-5

Mailing Address: Box 100, Bennington, Vermont 05201

Also Publishers of *Special Interest Autos*,
Hemmings Vintage Auto Almanac.

V.E.R. Hot Spots

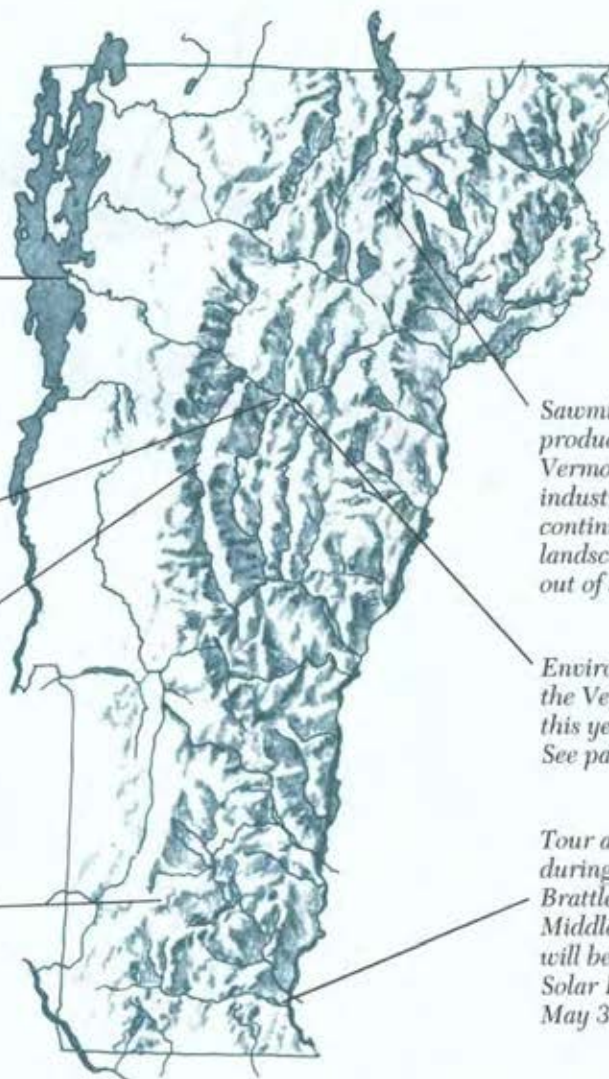
• • • • •

Over 200 educators broke new ground at the 1992 Governor's Conference on Environmental Education. See page 7.

Vermont's forest and farm land owners still depend heavily on the Current Use program. VNRC continued to work this year for changes in tax structure. See page 5.

Vermont's rivers — what's the necessary minimum flow? Can the Mad River meet the needs of snowmakers as well as of the trout population? See page 22.

Southern Vermonters have shown their interest in VNRC's black bear habitat protection efforts. See page 5.



Sawmills and forest products are among Vermont's "phantom industries." Will they continue to blend into the landscape, or will they fade out of sight? See page 11.

Environmental advocacy at the Vermont State House — this year, brushfire control. See page 4.

Tour a solar home during the sunny season! Brattleboro, Norwich, Middlebury and Montpelier will be the sites of VNRC Solar Home Tours on May 30. See page 8.

• • • • •

VERMONT

Environmental Report

Vermont Natural Resources Council
9 Bailey Avenue
Montpelier, Vermont 05602

Non-Profit Org.
U.S. Postage Paid
Burlington, VT
Permit No. 21

Spring/Summer, 1992