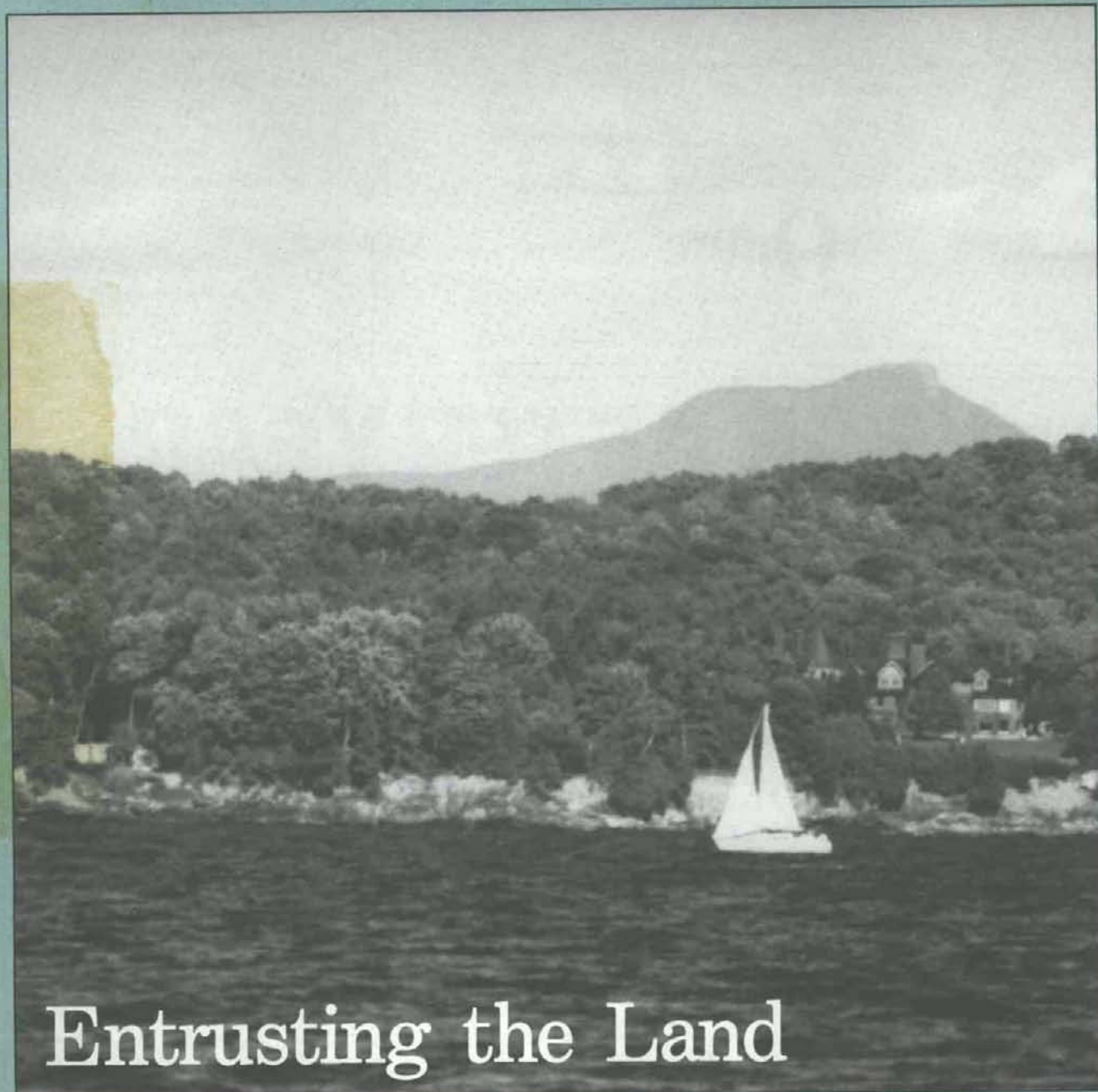


Vermont Environmental **REPORT**

Vermont Natural Resources Council

Summer 1986



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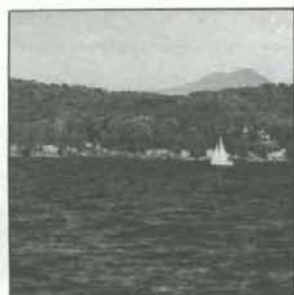
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Vermont Environmental REPORT

Summer, 1986

Published by the Vermont Natural Resources Council

Land Trusts and Vermont's Growing Land Conservation Movement	8
Vermonters are using a variety of innovative methods to conserve Vermont's "gems in the rough." By K. C. Golden.	
Washington Update on the Environment	14
A wide array of important environmental bills is now pending in the U.S. Congress. By Eric Palola.	
Special Insert: VNRC Membership Questionnaire	17
Now is the time to give us your views on Vermont's future—and the Council's role in it!	
Field Notes from Kenya	19
Reflections on African land use planning—made while changing a tire in the middle of Tsavo National Park surrounded by lions. By Jean R. Flack.	
Bringing It Home	22
Migrating birds show us that pesticide and deforestation problems in Latin America have direct consequences in Vermont. By Susan Clark.	
Books	24
<i>Pond and Brook: A Guide to Nature Study in Freshwater Environments</i> , by Michael J. Caduto. Reviewed by Doug Kievit-Kylar.	
From the Front Office	27
Executive Director R. Montgomery Fischer	
Vermont Perspective	3
The Council	2
Interns	26
Calendar/Bulletin Board	28



Credits

Cover photo: Shelburne Farms shoreline located on Shelburne Point is protected by conservation restrictions given by the Webb family to the Lake Champlain Islands Trust. Photo by R.M. Fischer.

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

VNRC is the Vermont affiliate of the National Wildlife Federation.

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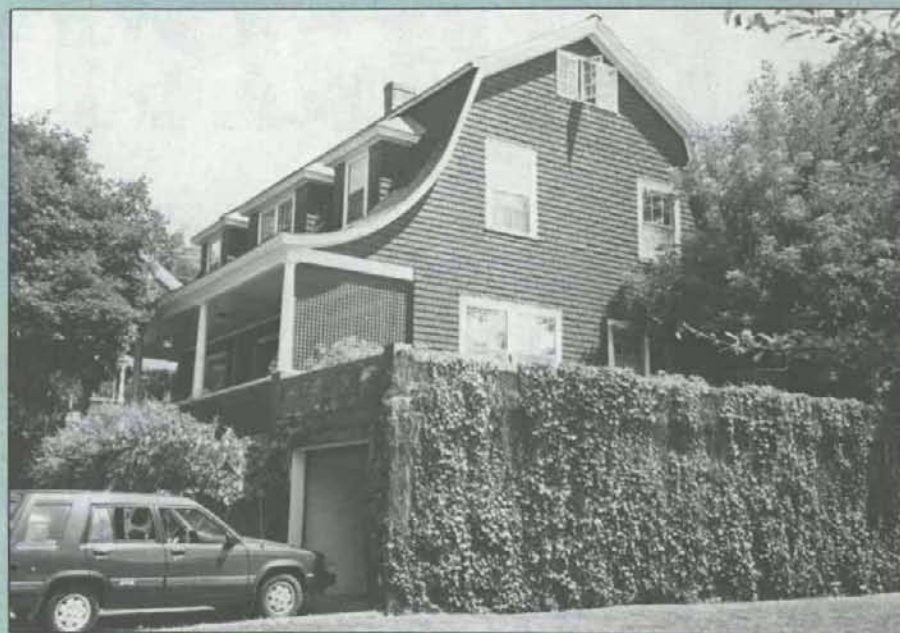
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A New Home for the Council

After over two decades of renting various office spaces around Montpelier, the Vermont Natural Resources Council will finally be moving into its own home. VNRC's new quarters, located on the corner of Bailey and Baldwin Streets in the Capital Complex, is just a block from the State House in Montpelier.

"The Board of Directors reached the decision to secure office and conference space after exhaustive examination of the building and its location, and we're very pleased with our new home," says VNRC Board Chair Sarabelle Hitchner.

VNRC staff hopes to move into the building this fall, once all necessary city and state permits are secured. We will have an Open House and a capital campaign kick-off at that time, and all members will be invited to explore our new quarters!

Although we are planning to move soon, financing this purchase will require much support from VNRC members and friends. VNRC's first-ever Capital Campaign is now being organized, and you will be hearing from us soon as to how you can best help make this project work.

According to Executive Director R. Montgomery Fischer, "The new space will allow staff members to work in a more productive atmosphere, and will promote better visibility for the Council. Its location is excellent. It's a short walk to the State House, and it's quickly accessible to the Interstate yet away from the noise of Main Street. And the timing of the move couldn't be better," he adds, "since we have recently achieved major successes in our advocacy work, and our membership levels are as strong as ever. Once in the new office, I hope that more members will use VNRC's excellent library, and that member organizations will use our conference space. This is a great move forward for VNRC!"

Developer vs. Deeryard

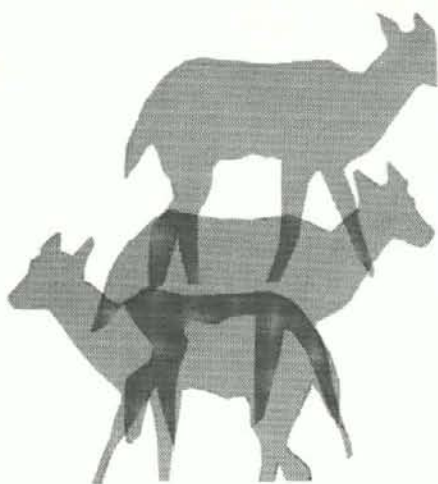
VNRC gained party status early this summer to an Act 250 case that could be a landmark in wildlife protection. The Southview Associates development group is appealing the District 3 Environmental Commission's denial this April of Southview's application to develop a well-recognized deeryard.

Southview had planned a 33-lot residential development on 88-1/2 acres in the towns of Stratton and Jamaica. But according to Vermont Fish and Wildlife biologist James DiStefano, approximately fifty deer—20% of the deer that winter over in the Stratton area—call this site home.

According to testimony gathered during extensive Act 250 review hearings, the deeryard area was once as large as 600 acres. As a result of development, however, the yard has been whittled down to 280 acres; further reduction or elimination of this prime cover could devastate the herd in this area.

The ecological value of wildlife areas is especially high in a region already under severe development pressures. University of Vermont resource economics professor Alphonse Gilbert estimates that the capitalized recreational value for hunting alone at the deeryard in question is in excess of \$3,100 per acre.

Act 250 takes wildlife into account via Criterion 8A, which protects "necessary wildlife habitat." According to VNRC's Associate Director Eric Palola, Act 250's wildlife protection powers are rarely invoked. This case could be precedent setting—not only for its ramifications on legal protection of wildlife, says Palola, but also because "here is a well-documented public resource which has bumped up against very limited private interests. This case may help us recognize



the need to identify habitat areas, so that we can avoid confrontation over a resource that by rights should have protection."

VNRC will monitor the appeal, although a recent postponement request by the developers may push the hearings back to September. A decision is expected later in the fall. SC

Killington and Madden Pond—Does the Suit Fit?

A significant decision recognizing the need for cumulative impact review of multi-stage development projects was made this spring, when the District 1 Environmental Commission demanded that Killington Ltd. and the International Paper Company provide a master plan and growth impact studies before opening a hearing on an Act 250 application. In a pre-hearing order to complete the application, the Commission called for details on the location, size, and nature of the entire development, and specifics on how the plan would meet the ten criteria of Act 250.

But the move was not one that Killington developers were ready to let go by without a fight. This May, Killington Ltd. filed a lawsuit against the Commission in Rutland Superior Court.

The case centers on the construction of Madden Pond, a four-acre snowmaking pond planned in Mendon, adjacent to a 3,000-acre remote area known as Parker's Gore. Although the Madden Pond project is relatively small, the Commission, supported by testimony of the towns of Shrewsbury, Bridgewater, the Ottauquechee-Two Rivers Regional Planning Commission and VNRC, argues that the pond represents a piece of infrastructure for a much bigger project. This contention is further supported by Killington's own assertions in previous hearings that the resort already had adequate water supplies to meet their snowmaking needs.

On the drawing board are eight to ten lifts, a base lodge, 2,000–3,000 condominiums, water and sewage systems, and a proposed 346-kilowatt transmission line to service the development and beyond.

Killington's appeal to Superior Court is an unusual one; 1985 Vermont legislation made it clear that appeals of District Environmental Commission decisions were to go to the Vermont Environmental Board, and not to Superior Court. Killington is basing its case on an obscure civil rights argument; whether the judge will consider the case remains to be seen.

Killington is asking the court to grant an Act 250 permit for Madden Pond without any further review, and in addition, to order that their legal costs be reimbursed. Barring this, the developers are asking to proceed immediately to an Act 250 review, or at least to a hearing on the merits of the project—again, without supplying information on development plans in Parker's Gore.

VNRC, together with the neighboring towns and regional commission, was granted party status before the court. The Council will continue to work with the groups to encourage full review of the Madden Pond project. SC

Department Hatches Hatchery Plans

Long in planning, the \$9 million dollar Kingsland Bay Fish Hatchery proposed for Lake Champlain has stirred considerable controversy. The hatchery's potential impacts on water quality in Hawkin's Bay—where hatchery effluent would be discharged—as well as issues of traffic and recreational uses of the Kingsland Bay State Park have been the topics of intense debate. On June 24, VNRC testified at the discharge permit hearings for the proposed hatchery.

The hatchery is slated to be located on a peninsula; drawing water from Kingsland Bay to the south, it would discharge approximately 11.5 million gallons per day to the north in Hawkins Bay. VNRC's concerns are centered on the proposed loading of roughly one and a quarter tons of phosphorous into the lake per year. Phosphorous is a common nutrient prevalent in fish feed.

Citing questions over wind and lake currents, as well as existing weed problems in the bay, VNRC Associate Director Eric Palola testified, "Perhaps the most disturbing aspect of the draft discharge permit is not what the hatchery produces, but where it is going. The treatment level, assuming everything works reliably, is admirable, but the characteristics of Hawkins Bay as the waste recipient are disturbing."

The Vermont Agency of Environmental Conservation, which is in the unique position of being both developer and regulator, has answered questions on water pollution through two studies made on lake water quality. However, citizens from Ferrisburg and Charlotte have questioned the reports' findings that Hawkins Bay can withstand any additional nutrient loading.

VNRC and the Lake Champlain

Committee have hired Dr. Robert Carlsen, a leading lake eutrophication researcher, to review the reports. Carlsen, who also testified at the June hearing, questioned the modelling used in the reports. He specifically contested the circulation estimates, the reports' exclusive focus on phosphorous discharges, and an apparently arbitrary ceiling of five parts per billion ambient increase in the bay as an acceptable nutrient load.

The Department of Water Resources is now in the process of revising the draft discharge permit. The Town of Ferrisburg has already hinted that any permit issued may be appealed to the Water Resources Board, on the basis that the State is in a fox-guarding-the-henhouse position and cannot objectively review its own application. If a permit is issued, then the hatchery application will proceed to the Act 250 process where other concerns can be addressed. VNRC is waiting for the Department of Water Resources' response to questions posed on the draft permit before taking a final position. EP

Effects of Water Law Trickle Down

The full effects of Vermont's new water quality law, passed in the spring, have yet to be felt—but it is anticipated that they will be far-reaching. Lawyers for VNRC, the Connecticut River Watershed Council, and the Natural Resources Defense Council (NRDC) have been considering whether the new laws will have any effect on the year-old lawsuit between their organizations and the Killington Ltd. and Sunrise Corporations.

The VNRC/NRDC suit was filed in July, 1985, in order to prevent Killington and Sunrise's use of land-spray irrigation for sewage disposal without a federal discharge permit. The Council en-

tered into litigation when review of technical evidence indicated that use of the technique on each of the three sites in question could pollute nearby streams.

Although the new law requires that the ski area come into compliance with the terms of a new discharge permit within five years, the intent of the suit is to bring the developers into compliance well before such a length of time—and opportunity for potentially damaging discharges—has passed.

The developers are now waiting for the federal magistrate to rule on their long-standing motion to dismiss the case. VNRC will argue this issue before the court in August, and hopes to bring the sites under the purview of a discharge permit before they are allowed to operate. SC

Talking Pesticides

Officials from major power and railroad companies, the Vermont Departments of Transportation and Agriculture, and conservation organizations including VNRC, have been meeting periodically since late this spring at the mediation table. The topic of discussion: strategies for minimizing the use of pesticides on managed rights-of-way. Mediated by the New England Environmental Mediation Center, the group was formed at the initiative of Agriculture Commissioner Paul Stone, whose department must regulate the use of pesticides in Vermont. The group consists of both supporters and critics of pesticide spraying.

Both sides of the table were taken off guard by the May announcement of Governor Madeleine Kunin's new pesticide policy. Environmentalists were generally pleased with the policy, however, which encourages the use of integrated pest management in agriculture, requires plans for reduction in pesticide

VERMONT PERSPECTIVE

use by state agencies, and also promotes the periodic collection of household hazardous waste. According to the Kunin policy, however, pesticide alternatives must be "cost-comparable" to their chemical counterparts.

Although the Public Service Board has already ruled that that landowners may request a non-chemical option, the challenge for the mediation group is to find agreement on strategies which fulfill the objectives in the Governor's policy statement. SC/EP

More Highway Questions

Field survey work has begun for photogrammetric mapping of the proposed Chittenden County Circumferential Highway (CCCH), a 16.2 mile alignment between Mallets Bay Avenue in Colchester and Route 15 in Essex. (See "Chittenden County Circumferential Highway—An Automobile Solution to an Automobile Problem?" V.E.R. Winter 1986).

The estimated cost of the proposed road, now up to \$85 million, has risen well beyond the \$50 million supplied by a Federal Highway Administration grant. To bridge that gap, the 1986 legislature approved a measure bringing the demonstration project under Vermont Department of Transportation administration. The proposed highway, now eligible for \$15 million dollars in interstate highway funds, will be included in the state five-year highway plan.

The final Environmental Impact Statement (EIS), due out in late summer, will address concerns raised during the fall 1985 comment period. The Act 250 application is expected to be filed by January.

Meanwhile, as highway officials gear up for Act 250 permit filing, various factions at state and local levels are working to mitigate the environmental and social impacts of the road.

State officials feel that direct impacts, such as those on wetlands, park land and neighborhoods, have been adequately addressed through the EIS process. Impacts such as new development at road interchanges, however, are only beginning to be addressed. With much of the Williston farmland between Mountainview Road and Interstate 89 already slated for development, the Vermont Department of Agriculture is working hard to preserve what precariously remains.

Agriculture Department officials have collaborated with the Ottauquechee Land Trust and other farmland preservation experts to form the "Secondary Impact and Mitigation Group"; the group is working to bring the indirect impacts of the highway under close scrutiny. "This is the first time that secondary impacts of major development will be addressed in the permit process," says Amy Jestes, Agriculture Resource Planner. "It is very exciting, and has potential to become a model for future highway development."

Transferable Development Rights (TDR) legislation may be used to condition the Act 250 permit. "A conservation easement through a TDR program could work well to permanently conserve the farmland in Chittenden County," says Jestes.

Farmland preservation is not the only issue presently on the negotiating table. Although the

state definition of a limited access highway precludes bicycle access, for example, cycling advocates are hopeful that the Circumferential Highway will not fall under the restrictions.

Mass transportation continues to be a key concern of Chittenden County environmentalists. Advocates are hopeful that the Act 250 process will condition the permit to reflect what were, ironically, the original objectives of the Highway Project. Says Jennifer Ely, Executive Director of the Winooski Valley Park District, "One of the principal objectives of the original Federal Grant proposal was to provide incentives to encourage increased bus ridership, car-pooling and bicycles." SM



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The Solid Waste Saga

Considering the variety of activity this summer on solid waste issues, there can be no argument that Vermont's "solid waste crisis" continues to be a top concern in the state. But environmentalists do not necessarily agree on whether all of the activity has moved us in the right direction.

Solid Waste Update:

Recycling—A Few Steps Forward, Another Step Back

Many hours of work went into this spring's passage of H.751, a recycling and solid waste management bill. But when the bill finally reached Governor Madeleine Kunin's desk for signature, environmentalists were dismayed to learn that her decision was to veto.

As outlined in past *VER*'s ("Statewide Recycling: A Few Steps Closer," *V.E.R.* Spring 1986) H.751 was designed to create a statewide solid waste management plan. The bill had a tumultuous passage through both houses of the legislature, and a much trimmed-down version finally reached Kunin's desk. The Governor had hesitations, however, which centered on a provision that would transfer the responsibility for environmental review of trash-burning and wood-fired facilities from the Public

Service Board (under Section 248) to the Environmental Board (under Act 250).

Environmentalists had supported the change, contending that District Environmental Commissions are best suited to carry out environmental review; but according to Kunin's June 9 veto message, the new language could create a loophole for "... facilities involving more than ten acres of land, if those facilities are located in municipalities with permanent zoning and subdivision bylaws."

Some parts of H.751 survived the veto, thanks to an Executive Order issued by the Governor on July 11. Aspects of the bill that will be carried out via the order include: promotion of recycling, waste reduction, and purchasing of recycled materials by state agencies; emphasis in the state's solid waste management plan on private-sector recycling, and consideration of source reduction, recycling, and alternative package labelling as waste management techniques; technical assistance to municipalities for improved solid waste disposal (within existing budget constraints); and mandatory consideration of recycling alternatives by those planning to build solid waste treatment facilities. Due to the veto, however, environmental review of new waste-to-energy and wood-fired facilities remains under Public Service Board jurisdiction.

The legal intricacies behind the veto are complex, and many recycling advocates do not support Kunin's "loophole" theory. "I am puzzled ... as to what your staff perceives the liabilities to be in signing this legislation. I certain-

ly think you can point to the will of the legislature, the agreement of intent signed by the reporters of the bill, and to the court's past interpretations on issues of statutory intent," wrote VNRC's Eric Palola in a June 5 letter to Governor Kunin. Said Palola later, "The bill was a modest but important move toward solving Vermont's solid waste problems. Now we'll simply have to address these, and other solid waste issues, in next year's legislative session."

Solid Waste Update:

Vicon—The Heat Continues

Construction continues in the heart of Rutland on Vicon Inc.'s mass garbage-burning facility. The State, however, still has yet to give its final approval for the project.

The Vermont Agency of Environmental Conservation (AEC) held a public hearing late in June on a "draft proposed amended air quality permit," to be issued to Vicon Recovery Systems for the waste-to-energy plant. More than one hundred people turned out for the four-hour hearing, and raised many questions about plant emissions and how they could be regulated safely.

A representative of Vicon Inc. suggested that the company be allowed credit, in the case of dioxin emissions, for building their stack nearly twice as high as



Illustrations by Edward Epstein, courtesy of Laughing Bear Associates.

VERMONT PERSPECTIVE

state standards call for. Dr. Richard Brooks, of the Environmental Law Center at Vermont Law School, spoke out against the idea, however; Brooks questioned the advisability of setting emission limits on a case-by-case basis without any overall regulatory scheme. It was also suggested that the Most Stringent Emission Rate requirement for this type of facility might require some composting, recycling, and hazardous waste removal before incineration. "This would allow for a more predictable, less variable emission, because of a more predictable, less variable fuel," argued Environmental Law Center Professor Frank Reed.

And in apparent frustration, one Rutland resident asked AEC officials simply to "tell us what to do." Rutland residents only want to be safe and protected from any risk to their health, he said.

To follow up on the meeting and on written comments, AEC representatives indicated that they would draft a responsiveness summary to all comments, and redraft the "draft proposed amended air quality permit." Another public hearing is expected before the permit is issued.

Solid Waste Update:

Conferring on Solutions

Vermont was well represented at the Fifth Annual New England Resource Recovery Conference and Exposition, sponsored by the New Hampshire Resource Recovery Association in early June. Solid waste experts from around the east, including Vermont state government officials as well as environmental advocates, gathered for three days to discuss "Solid Waste Management: Future Trends."

Source reduction advocates have long argued that there is an inherent and dangerous assumption that stems from managing waste for profit; that is: the more garbage we produce, the more money there is to be made, and the better off we are. Those famil-

iar with the ecological costs of solid waste disposal will quickly refute this assumption; but this June's conference did not entirely avoid falling into this "profit trap"—as evidenced by a disappointing lack of emphasis on source reduction as a waste management technique.

Still, there was good news and plenty of information available for conference-goers interested in composting and recycling. An exhibitor from Maine brought welcome success stories of organizing neighborhood-wide composting areas. On a larger scale, workshop attendees were inspired by a presentation on Minnesota's comprehensive solid waste program, which includes mandatory source separation and curbside pick-up of recyclables. And a representative of Massachusetts' New Alchemy Institute detailed a successful regional composting clearinghouse project, which included helping dairy

farmers make a profit from their manure piles.

"The conference made it clear that the waste management industry has a whole different way of looking at things," reflects conference-goer and VNRC staff Shelly McSweeney. "But the successes at the local level on these solid waste issues were an inspiration." SC

Correction

In the Spring, 1986 V.E.R. article "The Whole Herd Buy-Out," Donald George was incorrectly quoted as saying "New England is a deficit market . . . In Vermont, 25% of our fluid milk needs are imported from New York." That quotation should have read, ". . . In New England, 25% of our fluid milk needs are imported from New York." Our apologies.

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IN VERMONT'S BEAUTIFUL NORTHEAST KINGDOM

Land Trusts and Vermont's Growing Land Conservation Movement



By K.C. Golden

Art Williams probably figured it was a sure bet: if he willed his 128 lakeshore acres in Charlotte to the Boy Scouts and the Girl Scouts, it would remain in an undeveloped, publicly-accessible state—one which he had endured years of virtual destitution to maintain. But after Williams died a little over a year ago, the Scouts, facing financial difficulties of their own, decided to sell the Williams property.

With the help of the Ottawa-Quebec Land Trust (OLT), the Town of Charlotte was able to put together an offer of \$1 million to

acquire the land for public use: local residents pledged funds and credit to meet the \$300,000 down payment, and OLT would pay the remaining \$700,000 with financing from a local bank. Within twelve to eighteen months, the town was to issue a bond to buy the property from OLT.

But Charlotte wasn't the highest or best-capitalized bidder. A local developer offered \$1.05 million—in cash—in 60 days. Initially, it looked as though the Scouts would accept that bid, but the town and OLT mounted enough public pressure to dissuade them.

After several weeks of negotiation, OLT and the developer reached a compromise offer which has been accepted. The developer will purchase the land for \$1 million and develop three five-acre house sites and a ten-acre yacht club with 150 berths. If all the necessary permits are secured, the remaining 103 acres will be donated to OLT—undeveloped—

for recreational purposes. If all the development permits are not received, OLT will purchase the unpermitted portion of the property as per the agreement.

The disposition of the Williams property is a graphic example of both the potential of and the obstacles to local land conservation efforts. It exemplifies the kind of creative bargaining, cooperation, and compromise that is becoming the hallmark of the land trust movement in Vermont. And perhaps most importantly, it suggests that a well-organized, vocal private commitment to conservation is often the most effective mechanism by which the public can safeguard its interest in private land.

Entrusting the Land

The Land Trust Exchange is a national clearinghouse for the private land conservation community. According to Exchange literature, "the term 'land trust' applies

◆
Above: A "gem in the rough," Carlton's Prize, a small island located southwest of South Hero and steeped in American Revolutionary War legend, was the first acquisition of the Lake Champlain Islands Trust some eight years ago. The island was donated by Eleanor L. Roberts in memory of her husband, the late Harold C. Roberts. Photo courtesy of LCIT.

broadly to include local or regional, private non-profit conservation organizations working within their community, state, or occasionally a several-state area in the direct protection of lands of open space, recreation, or resource importance. Also included are publicly funded organizations using private funds for land acquisition and management and having private citizens as their board of directors."

Land trusts in Vermont are as varied in scope and kind as are the different public interests in land. Most trusts have a specific purpose or rallying point. The Nature Conservancy, for example, a huge nation-wide trust which owns or holds restrictions on some 57,000 acres in Vermont alone, concentrates on areas of special ecological significance. The Lake Champlain Islands Trust is "dedicated to securing the natural beauty of the islands and shoreline of Lake Champlain." The Ottauquechee Land Trust is concerned primarily with agricultural and forest lands; and the Burlington Community Land Trust exists to provide area residents with access to affordable housing.

The reasons land trusts come together are as varied as their constituencies. Enabling legislation allowed Burlington, Colchester, Essex, South Burlington, and Winooski to form the Winooski Valley Park District. The District is an intermunicipal organization which, if not technically a land trust, "has many of the same functions as a trust," according to Executive Director Jennifer Ely. It was formed over ten years ago to protect land along the Winooski Valley, and has established several public park areas near the river. "When you're talking about wildlife and other natural resource issues," says Ely, "it's important to be blind to town boundaries."

Many trusts have roots similar to the Shrewsbury Land Trust in southern Vermont. Community members originally rallied to protect a particular 300-acre parcel that was destined to be divided and developed. Through individu-

al gifts and innovative bargaining, the group successfully protected the property—and then lived on to work on other land preservation efforts in the area.

And probably the most common form of "land trusts" are the trusts made between friends. All over Vermont and the country, friends are coming together to buy common pieces of property to share, use and protect—land that each, individually, could not afford.



Where a government agency must focus on the mandatory and the permissible, land trusts are free to explore the possible.

But while their specific focuses and tactics may vary, all these trusts share a commitment to protecting the resource values in common lands that would otherwise be developed for private profit. They try to remove land from the speculative market and restrict its use to those activities which protect and enhance what they consider its most significant attributes.

"Nobody made land," says Tim McKenzie of the Burlington Community Land Trust. "It was there. It's a public resource. We're trying to protect it as a resource for affordable housing; others are doing it to protect farmland or open spaces. Either way, we're acting to protect the public interest."

But the efforts of private land trusts to protect lands for the public good are often misunderstood. Although land is conserved with the public in mind, land trusts are sometimes perceived as simply preserving "playgrounds for the rich."

Virginia Farley, Associate Director of OLT, disputes the perception. "Certainly anyone who has had any contact with our projects knows we're not an elitist organization," she says. "Encouraging public involvement in our work and keeping land affordable for farmers are two of our major

goals. We're responding primarily to public interest." And in fact, since most land trusts are tax-exempt non-profits (under Section 501(c)(3) of the Internal Revenue Code), their activities must serve a demonstrable public benefit.

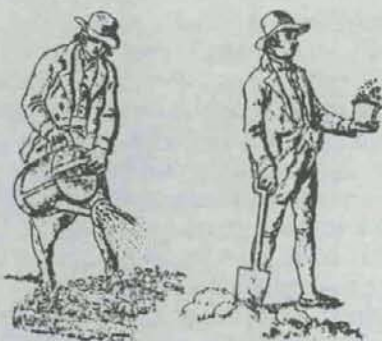
Beyond the acreage they conserve, land trusts are helping to cultivate a responsible land ethic that emphasizes the public interest in *all* land, public and private, developed and open. The efforts of these organizations and the diverse public and private entities with whom they work represent the expression of a fundamental choice about how Vermont will use its most basic resource: the land.

As Old As The Land

The idea of common public land may be nearly as old as the combination of people and land itself; and even the land trust concept is hardly a new one. It has been kicking around at least since the 1870's, when utopian economist Henry George articulated the notion that land is an intrinsically public resource and that its benefits should accrue in large part to society as a whole. In Great Britain, where even the national parks are in private ownership, the ideas of stewardship and accountability for private land to the wider community have governed land use policy for generations.

The land trust effort in the United States was born in New England in 1891 with the founding of the Trustees for Reservations in Massachusetts. However, according to a survey by the Land Trust Exchange, interest in land trusts as a conservation tool didn't really take off until the mid-1960's.

Between 1965 and 1975, the number of local and regional land trusts for conservation grew from 79 to 256. By 1985, the survey found no fewer than 535—and that figure did not even include "community land trusts" for housing, large national groups like The Nature Conservancy, and single location "preserves" which protect only one specific piece of



Tools & Techniques of the Land Trust Trade

•**Donation Gift of land** by its owner to a conservation organization, either to hold in trust or to re-sell and monitor under specific restrictions.

•**Conservation Easement or Restriction, Grant of Development Rights** A legal document granted to a government agency or private conservation group by a landowner which places certain restrictions on the use of the land (such as prohibiting commercial activity, limiting construction, etc.). The difference between the value of the property before and after the grant of the easement is tax-deductible as a charitable contribution.

•**Bargain-Sale** An owner agrees to sell property at less than its fair market value, and treats the difference between the selling price and the market value as a charitable contribution for tax purposes.

•**Limited Development** In order to finance acquisition or conservation of a piece of land, a land trust may allow a certain portion of the land to be developed under an overall protection plan.

•**Charitable Creditors** A financing tool whereby a donor in effect "guarantees" part or all of a bank loan by donating his/her credit to a conservation organization.

•**Remainder Interest** A donor may convey property to a charitable organization or government entity but retain the right to live on or use the property during his/her lifetime. The interest donated is called the remainder interest, and is tax-deductible.

property. These trusts own at least 289,000 acres of land and have negotiated conservation restrictions on another 397,000 acres. Almost 350,000 people nationally are members of these organizations.

Benjamin R. Emory, Executive Director of the Land Trust Exchange, sees the growth of land trusts as a major shift in direction for the land conservation movement. "While public agencies and national conservation organizations have typically played the major roles in preserving land for the future," wrote Emory in the November 1985 issue of *Parks and Recreation*, "local and regional land trusts are achieving more and more of today's important conservation successes."

Many land conservation experts maintain that the land trust boom is a result of governments' inability to conserve land for the public. Vermont's Ottauquechee Land Trust was, in fact, founded precisely because government efforts were not enough. OLT's 1984 annual report explains that the Trust "was established in 1977 when a group of citizens in the Ottauquechee Valley became convinced that state and local land use controls would not, by themselves, stem the loss of Vermont's farms, timberlands, and important natural areas."

Not only has public policy largely failed to relieve intensifying development pressure on the Vermont landscape, but in some cases it has exacerbated it. Richard Carbin, OLT's Executive Director, claims that the federal whole herd buy-out program (which he has called the "Vermont Landscape Termination Program") will greatly accelerate the demise of Vermont's farmland. (See the Spring 1986 *V.E.R.* for more on the whole herd buy-out.) State and local land use control mechanisms, including Vermont's well-known Act 250 review process, are also hard-pressed to keep pace with this development blitz. All over the state large real estate firms are conducting what Carbin calls "chain letter subdivision of land." These companies buy up large tracts of land, including

farms, and subdivide them into more marketable parcels. By dividing the land into no more than nine lots of at least ten acres each, they are exempted from many state and local environmental reviews. The land is then advertised in the large urban areas of the northeast at huge mark-ups, often two to three times the developer's purchase price. "Part of the marketing technique in selling these parcels," wrote Carbin in the July issue of *North by Northeast*, "is that the new owner is told he or she can further subdivide the land without environmental review. And so goes Vermont."

What's to Protect?

Most descriptions of Vermont are likely to include some reference to the state's "unique rural character" or its "scenic countryside." Vermonters agree that they live in a "special world." While such characterizations would seem to suggest that something about Vermont is worth protecting, they aren't very specific about what that something is.

Perhaps the answer lies in the fact that if you send someone something from Vermont, it's as likely to be pound of cheese as a picture postcard. Vermont is a rural landscape in active use. Land use patterns are the native architecture, and in them lies the best articulation of what Vermonters are doing.

Land conservation, such as that associated with national parks and preserves, often carries with it a connotation of idleness, of an approach to open spaces that attempts to minimize human participation. But this is not the key to land conservation in Vermont.

Keeping farmland affordable for young farmers, maintaining access to the state's vast recreational resources, ensuring that woodlands are well managed, promoting land use patterns that protect air and water quality, providing housing and land priced for Vermonters—and, yes, protecting land for land's sake—these are the kinds of conserva-

tion efforts that address themselves to the public resource values that make Vermont land so worthy of protection. And it is precisely this need to conserve a working landscape, for a variety of sometimes conflicting uses, that makes the private land trust model of conservation such a promising one for Vermont.

Part of the unique appeal of private land trusts is the simple fact that they are not the government. Vermonters bear a healthy suspicion for distant public authority, and may resent what they see as unwarranted governmental restrictions on their right to decide how to use their land. Land trusts rely more on personal contact, informal negotiation, and a cooperative approach to reconcile landowners' financial and other needs with the public interest in their property. As such, land trusts constitute a welcome alternative to the relatively impersonal processes of acquisition and regulation.

Furthermore, land trusts can exercise a flexibility in responding to urgent situations that government agencies frequently can not. They can become involved in decisions about how a piece of land will be sold and used at an early stage, often before the property even hits the market, whereas public entities must rely on the often cumbersome mechanics of regulatory bureaucracy. Where a government agency must focus on the mandatory and the permissible, land trusts are free to explore the possible.

A recent example of the relative speed and versatility of land trusts in responding to a specific conservation need is OLT's acquisition of first refusal rights on the 2,000-acre Martin Farm in Rochester. The Trust is hoping to buy the farm and then sell about 700 wooded acres of it to the U.S.

At right: Viable agricultural land on the Rhodes Farm in Brattleboro might have become a golf course or a housing development, but through Ottauquechee Land Trust efforts and a purchase agreement with neighboring farmers, the farmland will remain agricultural. Photo by Bill Schmidt.

Forest Service to help subsidize the continued use of the agricultural land. In a January 14, 1986 editorial, the *Rutland Herald* praised OLT's quick response: "As has been proved so many times, [the Martin Farm project] is the type of deal that is difficult for government agencies that have to operate within strict boundaries. It would take forever for a federal or state agency to purchase a chunk of woodland if it had to take hundreds of acres of tillage land in the deal."

The Public Role

While private land trusts are carving out an important niche in the land conservation movement, sympathetic public policy is still indispensable. Although federal land acquisition for conservation is at a virtual standstill, government nevertheless has a critical role: it can effect land use decisions through *regulation*, and through the provision of *incentives* either to develop or to conserve.

At the federal level, new incentives for conservation are beginning to emerge. The 1985 Farm Bill, for example, offers debt relief to farmers who remove highly erodible soils from cultivation, and withholds other subsidies from farmers who plow up these sensitive soils for the first time.

On the other side of the incentive coin, Senator John Chafee's (R-RI) "environmental zones bill" (S.1839) would eliminate tax breaks for development in a wide range of ecologically sensitive areas. And since land trusts rely heavily on charitable contributions of land, conservation restrictions, and "bargain sales," federal tax policies governing such donations are crucial to their survival and growth.

State regulations are also a key factor in conservation efforts. Under Vermont's "Current Use" program, for example, landowners agree not to develop their farm or forest land, and to create and comply with management plans for the property. In exchange, landowners receive a tax break, and the state reimburses towns for the lost tax revenues. Vermont also has a Land Gains tax to discourage unchecked speculation in land. And the state exerts an important regulatory influence on land use through environmental reviews like Act 250.

Locally, zoning bylaws (though they often meet with stiff resistance) can be instrumental in preserving land for agricultural production and recreational uses, as well as in reinforcing a development pattern that is historic to Vermont: small villages surrounded by active farms, productive woodlands, and scenic mountains.





Some Vermont towns, including Vernon, Warren, Middlebury, and Brattleboro, have even established local farmland protection funds for purchasing development rights on farms that come up for sale.

One of the most promising public policy developments in the protection of Vermont farmland is a series of recommendations issued this January by the Vermont Agricultural Lands Task Force. These recommendations, which have the support of Commissioner of Agriculture Paul Stone and Governor Kunin, call for the creation of a statewide agricultural lands resource program.

The program would include the formation of a State Agricultural Land Resource Board, which would identify important agricultural land around the state and formulate strategies for its protection and continued agricultural use. The Board would also administer an Agricultural Land Resource Fund which would be used for specific farmland protection efforts. A bill to establish this fund will be introduced in the 1987 Legislature.

The Task Force's report also calls for the direct involvement of the farm community, the pooling of private and governmental technical efforts, and close collaboration between state, regional, and

local authorities in both the identification and protection processes. This emphasis on broad participation and cooperation is generally considered to be the proposal's strongest point. "Without this kind of comprehensive approach to agricultural land protection," warns OLT's Richard Carbin, "Vermont will indeed have lost its most important resource: its landscape."

While most environmentalists broadly support this kind of integrated state effort, they also emphasize that the state's primary role should be to conduct systematic land use planning for the long term. Many feel that the state should avoid a "brushfire approach" to land conservation, concentrating instead on far-reaching land management that would alleviate the need to respond on a crisis-by-crisis basis.

Public Values, Public Choices

Unlike governmental institutions, land trusts excel at responding to individual land "crises," and the momentum behind land conservation efforts is strong. But behind the movement there also lurks an unspoken sense of resignation. Conservation efforts are thought to be doomed to a perpetual uphill battle because, in the final analysis, they are dependent on the generosity

of the few who can afford to donate land and conservation restrictions. Pieces of land here and there may be saved, the thinking goes, but conservation ultimately can't compete with development on the open market.

Still, most landowners in Vermont place *some* value on protecting the integrity of their land even after they sell it. Given the choice between selling to a developer or to another farmer, for instance, most farmers would probably opt for the latter. Some are willing to pay a price to see their land protected, but even those who can't afford to sell below market value can often strike an agreement with a land trust that will both meet their financial needs and protect the essential features of the land.

Still, situations like these may be seen as exceptions; they often work because a special tax break is invoked for someone rich enough to use it, or because a conservationist happens to live next door. The conventional wisdom holds that, as long as protection of open land must rely so heavily on extenuating circumstances, it will never hold its own against development in the free market.

Ralph E. Grossi is President of the American Farmland Trust in Washington, D.C. He agrees that conservation is ultimately a losing proposition as long as it relies on "charitably-motivated conduct, not conduct motivated by profit."

In a speech delivered at National Rally '85, Grossi admitted that "our accomplishments have been rather modest . . . (W)hile we were conserving those precious few acres, 10 times—maybe 100 times—as much land was being paved with concrete, cut over, dug up, and otherwise exploited. Why? The demand was there, that's why. The marketplace has

Above: The Ottauquechee Land Trust has arranged conservation agreements covering much of Dorset Marsh. Located near the center of Dorset, the marsh overlies an important aquifer, feeds both the Battenkill and Mettowee Rivers, and is an important wildlife and community recreation area. Photo by Bill Schmidt.

... made it more valuable to develop than to conserve." While attributing these losses to the dynamics of the market, Grossi takes exception to the notion that this market is a "free" one.

"It's been a long time since we in the United States have had an unfettered marketplace for land," he contends. "Instead, what we have is a complex fabric of public regulations and subsidies that exert a powerful influence on private land use decisions. Just think of all the government subsidies that encourage development—everything from taxpayer-financed highways and sewers, to rural construction grants, to mineral and timber write-offs, to perhaps the biggest subsidy of all: mortgage interest deductions, which alone cost the Treasury \$30 billion a year."

These subsidies make the few existing incentives to conserve look meager by comparison. "If private conservation is ever to make more than an incidental contribution to land management," says Grossi, "this imbalance must be corrected. Why must we continue to rely on charity to accomplish the fundamental goal of conserving our nation's land?"

Grossi feels that if the conservation movement is to succeed, it will have to make resource protection "competitive with development." The opportunity to profit by exploiting resources must be matched by an equal opportunity to profit by conserving them. He contends that creating that opportunity "is consistent with the current moods of the country . . . We want to cut public spending on unwise, unnecessary development and expand incentives for voluntary, private land conservation. We want to restore balance to the marketplace in a fiscally responsible manner." Land use is governed not by the "invisible hand" of unseen market forces over which we have no control, but by purposeful decisions about how we want the land to look and work.

You don't have to be an alarmist to note that Vermont's landscape is changing in ways that

many Vermonters find undesirable. But while change may be inevitable, the direction and quality of that change is the product of active choice.

The hand that guides state and local land use patterns will have to be the visible one of private conservation encouraged by public policies that consciously articulate Vermont's commitment to the integrity of its working rural landscape. If private land trusts are to succeed in protecting significant portions of Vermont, it

will ultimately be because the public decided they should—and translated that decision into political action.

K.C. Golden, who was a VNRC intern this spring, is familiar to V.E.R. readers through his article "Low-Level Radioactive Waste—Where Do We Put It?" (V.E.R. Spring 1986). K.C. is a Kennedy fellow in the two-year Master's program in public policy at the Kennedy School of Government at Harvard.

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Washington Update on the Environment

A wide array of important environmental bills is now pending in U.S. Congress; such major environmental legislation such as the "Superfund" and Clean Water Act are up for renewal at this time. The legislation has stalled repeatedly, however, due to conference committee disputes, and the slow movement of the bills has created a backlog of other important environmental legislation. Movement of the bills in the coming month is critical, as only a few work weeks remain before the close of the federal legislative session in October.



Settling Superfund

A House/Senate conference committee scurried to finish business on reauthorization of "Superfund" before funding ran out in July for the federal hazardous waste cleanup program.

At this writing, conferees have agreed to authorize \$8.5 billion for Superfund over the next five years, study of health effects of waste sites, and to treat victims of waste spills. The conferees also agreed to require clean-ups consistent with safety standards set by other federal environmental laws.

Despite favorable resolution of many issues, however, the conferees faced a lengthy agenda heading into summer. "All the devilish stuff remains," said Vic Maerki of Vermont Senator Robert Stafford's office; Stafford (R-VT) chairs the Senate confer-

ence committee on Superfund. For starters, conferees still must decide how to raise the \$8.5 billion authorized for the program—an issue likely to be worked out either by the Senate Finance or Ways and Means Committees. The House conferees have advanced a financing scheme that would tax oil and chemical industries and corporate earnings and profits. The Senate bill would instead put most of the tax burden on manufacturers and raw materials producers.

Maerki is waiting for "an attitude of compromise" to set in, and notes that "once compromise is reached on one sticky issue, such as clean-up standards, the cooperative efforts will speed up." Senator Stafford recently told a gathering of Vermont environmentalists that despite resolution on half of the eight major Superfund issues, the negotiations amounted to "... the most difficult conference committee I've been involved in, in twenty-six years. And I've been involved in a few."



Clean Water Waiting

Behind the Superfund issue lurks the Clean Water Act conference committee, which has met only sporadically since many of the legislators working on Superfund also sit on the Clean Water Act conference. The major new provision of both House and Senate water bills is a program to control non-point sources of pollution, such as from stormwater and agricultural run-

off, or construction erosion. Non-point sources are now acknowledged as the most significant threat to water quality across the country.

Roughly three quarters of the \$2.4 billion construction grants program, however, has already been released to continue the upgrading of sewage treatment plants as part of a supplemental appropriations bill. The money was initially held back in the Senate Appropriations Committee in order to leverage movement on the Clean Water Act conference committee but, according to Senator Patrick Leahy (D-VT), the Appropriations Committee could wait no longer. "There are six sewage treatment plants in the Connecticut River basin that need the funds now," says Leahy. "The prospects for movement on clean water are strong, and holding back on these funds may jeopardize the upgrading of those plants for a year or more."

There are some 75 different points for the Clean Water conference committee to iron out, but the most controversial issues center on: construction grants authorization and their funding priorities; length of new discharge permits (5 years vs. 10 years), especially for toxic substances; and penalty provisions for violators of the Act.

Sharon Newsome, Legislative Director for the Washington-based National Wildlife Federation, is skeptical about the availability of any new federal money. "The atmosphere surrounding Gramm-Rudman is going to mean little, if any, new spending for Clean Water," she said. According to Newsome, however, "Rep. John

Dingell is largely responsible for the logjam in passing environmental priorities." Dingell (D-MI) chairs the House Public Works and Environment Committee and sits on both the Superfund and Clean Water conferences.

Pesticides Legislation Progressing

By a vote of 42-1 this May, the U.S. House Agriculture Committee released H.R. 2482, a bill to reauthorize the federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). The bill classifies and regulates the general group of chemicals known as pesticides. Two similar reauthorization bills were introduced in the Senate: one is from Sen. Jesse Helms (R-NC); the other is co-sponsored by Senators Leahy, Proxmire (D-WI), and Lugar (R-IN) and has support from national environmental groups.

The House bill, H.R.2482, focuses on the review of some 600 inadequately-tested pesticides, as well as on the taxation of companies seeking registration of new pesticides. According to the National Coalition Against the Misuse of Pesticides, H.R.2482 contains many compromises on issues such as the testing of "inert" ingredients, the ability of states to apply civil penalties for pollution violations, and the problem of aerial drift of toxic chemicals.

Major disagreement still remains over language for protection of ground and drinking waters. Controversy also circles around retaining states' rights to preempt federal standards and impose stricter state criteria for pesticide levels in food. H.R. 2482 was expected to reach the House floor in late July, while the busier Senate committee was not even expected to mark up their bills until late July.

Superfund cartoon reprinted courtesy of NAS, NewsJournal of the National Audubon Society.



WE ALMOST HAVE THIS SUCKER FIXED.

Clean Air Bills Revived

Almost two years have passed since any real efforts were made, via amendments to the 1977 federal Clean Air Act, to curb air emissions responsible for acid rain. The momentum has finally shifted with the introduction of two bills in each house of Congress and, for the first time, acid rain legislation (H.R.4567) emerged favorably from a committee of Congress—the House Health and Environment Subcommittee. The bill will now go to the full House Energy and Commerce Committee where it is expected to encounter resistance from Chairman John Dingell.

As originally introduced, the bill calls for a 10 million ton per year reduction in sulfur dioxide, and a 4 million ton drop in nitrous oxides. One aspect of the bill allows states to individually determine the type of controls necessary to meet emission standards.

S.2203, offered by Senator Stafford, would cut sulfur emissions by 12.3 tons per year and require all cars produced after 1990 to meet a standard higher than that of 75% of the cars on the road today. Stafford, who chairs the Public Works and Environment Committee, began

hearings on S.2203 in late June. Stafford told Vermont environmentalists that he will actively push the Clean Air Act reauthorization emphasizing, "I think there is more support for Clean Air now than in the last Congress."

Safe Drinking Water Success

A special victory was achieved when, despite threats of a veto, the Safe Drinking Water Act (SDWA) reauthorization was signed by the President on June 19. Its passage confirms a five-year, \$800 million program which requires the EPA to set specific contaminant levels for 83 drinking water pollutants within three years. Among the substances to be regulated are benzene, cyanide and the pesticide EDB.

Other key provisions of the bill include the startup of a nationwide program to establish "well-head protection areas" around community sources of drinking water, and a requirement that the EPA enforce pollution cases where the state refuses to act. "Deep injection wells," underground geologic formations into which many hazardous wastes are pumped, will also be more strenuously regulated under the new law.

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Passages to Rivers Protection

A long-standing battle pitting hydropower developers against river conservationists may clear up, if H.R.44 survives conference committee. Typically, free-flowing-river interests have had to compete against both the Federal Energy and Regulatory Commission (FERC), which licenses hydropow-

er plants, and against the incentives provided by federal "PURPA" rates which guarantee a market return to hydropower development. According to Chris Brown, Conservation Director of the American Rivers Conservation Council in Washington, D.C., "The House version provides long-overdue changes to the Federal Power Act by directing FERC to give equitable treatment to fish and wildlife concerns before permitting a new hydro facility." The bill also requires an evaluation of whether PURPA rates and other benefits should be extended to new dams and diversions based on the actual need for new power sources. Brown is optimistic about the bill's chances for passage, but is concerned about the intrusion of weaker Senate provisions. "The Senate bill was disastrously weakened during mark up and during floor action," says Brown.

Much environmental legislation is still pending. Among the bills that await action are: the Price-Anderson Act, which concerns insurance liability for the nuclear power industry; H.R.6, a sweeping capital spending bill on water resources projects for dams, harbors and rivers work; and legislation concerning wetlands. The work of the 99th Congress has certainly not been fruitless. But the agenda looms large in the waning legislative season—at the end of which, any bills that do not survive must be introduced anew in the next Congress. EP

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Summer 1986 Membership Survey

Vermont Natural Resources Council



What do VNRC members want Vermont to be like ten, or twenty, or fifty years from now? And how can the Council help us get there? These are questions that VNRC board and staff members ask themselves almost daily; and they are questions that only you can answer! We hope that you will take a few minutes to jot down your views on Vermont and on VNRC. We look forward to your creative responses – and we'll report back to you on them in the Fall issue of the *V.E.R.*

Vermont:

Briefly describe the natural assets that you most appreciate in your corner of the state. (What aspects would you like to see developed, or, are you most concerned about protecting?)

With just a few words, describe Vermont – the way you would like to see it in the year 2000. And would it be different in the year 2020?

The Council's Role:

Number those Vermont environmental issues of top concern to you (#1 being the most important).

- | | | |
|--|---|---|
| <input type="checkbox"/> agricultural issues | <input type="checkbox"/> solid waste management | <input type="checkbox"/> air quality enhancement |
| <input type="checkbox"/> forest management | <input type="checkbox"/> water quality protection | <input type="checkbox"/> hazardous waste management |
| <input type="checkbox"/> energy resources | <input type="checkbox"/> growth management | <input type="checkbox"/> nuclear waste disposal |
| <input type="checkbox"/> other _____ | | |

Are there new initiatives which you would like to see VNRC take?

VNRC's activities cost money, and membership dues are an important source of our income. Do you feel that VNRC's membership dues structure is appropriate? _____ Would you be willing to pay more for your membership? _____

Which of our educational tools do you see as most effective and useful?

- ☐ *Vermont Environmental Report* ☐ Bulletins ☐ conferences other _____

Do you read the *V.E.R.*? ☐ Always ☐ Often ☐ Sometimes ☐ Seldom ☐ Never

Which features/topics in the *V.E.R.* do you find the most useful and interesting?

Are there other topics you would like to see us cover in the *V.E.R.*?

In the last issue of the *V.E.R.*, we included the Lake Champlain Committee's newsletter as a supplement. Would you be interested in seeing this in future issues? _____

Would you like to see other organizations' newsletters included with the Council's publication? _____

If so, which one(s)? _____



Thank you for your help! We would appreciate the return of your questionnaire by **September 30** and will summarize responses in the Fall *V.E.R.*



Please feel free to use this space for additional comments:

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Summer 1986 VNRC Membership Survey
here and return by September 30.



Field Notes from Kenya

By Jean R. Flack



Jean R. Flack is the Assistant Director of UVM's Environmental Program, an Assistant Professor in UVM's School of Natural Resources, and a VNRC Board member. She is a Kellogg National Fellow, and through the Kellogg Foundation and UVM is conducting an international tour and study of comparative cultural, geographical and environmental trends. This report is the second in a series; the Spring 1986 V.E.R. carried her "China: Changing Environments," and future issues will feature reports from Europe, Russia, and Ecuador.

At Ngulia Lodge in Tsavo National Park, Kenya, time seems to stand still. February, 1986 seems like February, 1971 when I was last in Kenya. The early morning sunlight gives warmth to the silver-backed jackal silently slipping into the thorn scrub a few yards ahead of me. A grizzled, grey, middle-aged male lion lounges across the red soil of the road as I begin to change the flat tire on my little rented Fiat car. Travelling alone has its drawbacks! I photograph the lion—in case it is my last photo—and struggle with the puny little car jack. A pride of eight adult female lions and about three cubs settles down, lazily sprawling out on a sloping rockface, yawning, slightly bored, watching me. I decide they've probably eaten well

during their nocturnal hunt. What else can I think?!

The car falls off the jack and I lug purple, lumpy, volcanic rocks over to augment the bending metal. A family herd of thirty elephants including a new-born calf comes by, noisily eating as they move. Gawdy Barbets harass a Superb Starling on a termite mound, and a "go away bird" hurls noisy epithets at me from five feet away.

Tsavo is glorious. An open African landscape of ancient rocks covered with savannah scrub under a clear blue sky, it is one of the wonders of the world. Six thousand square miles of national park, Tsavo is one of the many Game Reserves set aside by the British before World War II. In fact, it was here that the film "Out of Africa" captured the landscape, the environment, the habitat and some of the wildlife which attracts tourists and biologists from all over the world.

Yet there is something wrong with all this scenic imagery. And reflecting on my last visit here, I see the important changes that have taken place in Kenya over the last fifteen years.

Parks and People

Many of the successful planning projects begun by the British and Americans in earlier decades do not seem to be working

as well anymore. Poaching has become common along the margins of Tsavo National Park as well as many other parks. Agriculture has expanded extensively into marginal "habitats" and presses into wildlife preserves. Vastly increased numbers of herds of domestic cattle, goats and sheep now graze in many parks, legally and illegally. Unwary wildlife moving out of the parks onto farmlands is killed by the locals—who simply cannot afford to wait until the Government refunds them for crop damage. Soil erosion has become rampant, especially in the Kenyan Highlands and Rift Valley.

The Nairobi National Park epitomizes the problems of species and habitat preservation in Kenya. Nairobi City's population has grown to over 1½ million in the last 15 years, a three-fold increase. As in Vermont's rapid growth areas, the urban area presses outward onto the best agricultural land. Wildlife straying onto farmland is killed, and poaching and grazing has severely reduced the wildlife numbers and species diversity in the Park.

Lack of public transportation is a serious problem in all aspects of Kenyan life in the 1980's, and

Photos by Jean R. Flack. Above: Cityscape is visible in the background as a zebra grazes peacefully in Nairobi Park.



even has its effects on local appreciation of the parks. There are still virtually no black Kenyan tourists in the parks; without a car or public transportation, the local blacks have no access into Nairobi National Park or into any other game park as visitors.

Societal Complexities

Kenya is a nation about the size of the state of Texas, with a population of about 17 million, half of whom are under the age of 15. There is a high level of poverty, unemployment, underemployment, poor rural housing, and a lack of educational opportunities. Some 80% of the land area of Kenya is marginal for human settlement, and raw materials such as iron ore and coal are absent. Hence, agriculture and tourism, both of which are controlled by external economies, comprise the economic basis for Kenya. Tourism and agriculture compete for available environmental resources.

There is a complex diversity of

^ Above: Kikuyu mother and babe hitchhike due to lack of rural transportation. Drought and elephants destroyed these cattle and maize farmers' crops.

At right: Masai cattle-herding lad, age 16, poses outside of Tsavo National Park.

cultural groups in Kenya, each group viewing and using the environment differently. The cattle-herding Masai are today moving into more settled farming, competing with such settled farming tribes as Luo or Kikuyu. These and many other tribal groups reflect the rich cultural heritage of East Africa, and each group is gaining political strength and seeking higher standards of living. In addition, Kenya is virtually the only place in Africa outside of South Africa to have a large settled white and Indian population. Despite the enforced exodus of many whites and Indians from Kenya during the 1970's, those who remain hold a great deal of power, and view the environment in ways quite different from the native Kenyans. The Indian sub-group still controls most of the commerce in the nation. The Indians adhere to their Asiatic religions, and live in uneasy peace with the other urban Kenyans; a serious potential for racial conflict exists.

White settlers and consultants



from the United States, Britain, West Germany, Australia, Denmark and Holland are still actively involved in many aspects of Kenyan society, including biology research and game management, education, health, agriculture, and environmental planning. And yet, I sense a serious erosion of effectiveness in these externally-funded projects. Inadequate cooperation within a given geographic area or on specific topics produce a turf-protection mentality inappropriate for the overall improvement of the Kenyan environment. Many white consultants appear to be unaware of the excellent, well-educated black Kenyan foresters, biologists, and land use planners working in the country. And projects run by whites that were appropriate in the previous decades often seem inappropriate today. There are, however, significant exceptions, where individual people have managed to keep adapting to the rapidly changing Kenyan society.

Many white people who have been involved for decades in various aspects of environmental planning in Kenya feel pessimistic about Kenya's future. Yet I was impressed by the individual black Kenyans who work in national and regional agri-forestry and physical/environmental planning. The British framework of national land-use planning, with regional and local physical planning units, and the modified English common law and policy provide a framework for the future improvement of environmental land-use planning in Kenya. One could see new Greenbelt projects around cities like Mombassa and Nairobi building local support for agricultural protection and reduction of soil erosion.

Thoughtful conservation-oriented educational projects might be more helpful to Kenyans right now than funding yet another biological analysis of the life of the lion. Improved communications through more radio, TV, and newspapers would improve the networking of information. An overall improvement in education and communication could help Kenyans recognize and

adapt to the diversity of strong and conflicting interests in their natural resources.

Their Problems, Our Problems

Desires for higher standards of living, urbanization, tourism and agriculture create conflicts in land use planning. A strong national policy, regional planning and local implementation are all needed to assure the most successful outcome for environmentally appropriate planning. And this is true not only in Kenya, but also in our own state of Vermont.

In Vermont one often hears talk about preserving agriculture and agricultural land for tourism. Tourists pay good money for the "Vermont Life" views of the leathery-faced old Vermont farmer bringing in another load of maple sap from a tidy maple orchard, while the sugar house bubbles and steams, warmly nestled against the foot of the ski-slopes. Contrasted with the Sunday-stern, white-painted churches and town halls correctly lining village greens, the facade pleases many.

Yet, as in Kenya, the fabric of Vermont life, both urban and rural, social and economic, has been steadily changing for several decades. Loss of agricultural land through direct development or through changed socio-economic conditions, combined with centers of urban expansion and degradation of air and water quality, are only a few aspects of the environmental changes here. And although the tropical environments of Kenya are very different from Vermont, the environmental problems are analagous.

We continue to struggle to solve environmental problems issue-by-issue rather than taking a more effective statewide view of the total "habitat". In both Kenya and Vermont, however, I find that the efforts of an individual person working consistently in one area can make considerable difference.

For example, in changing this flat tire in the middle of Tsavo National Park, with any luck!



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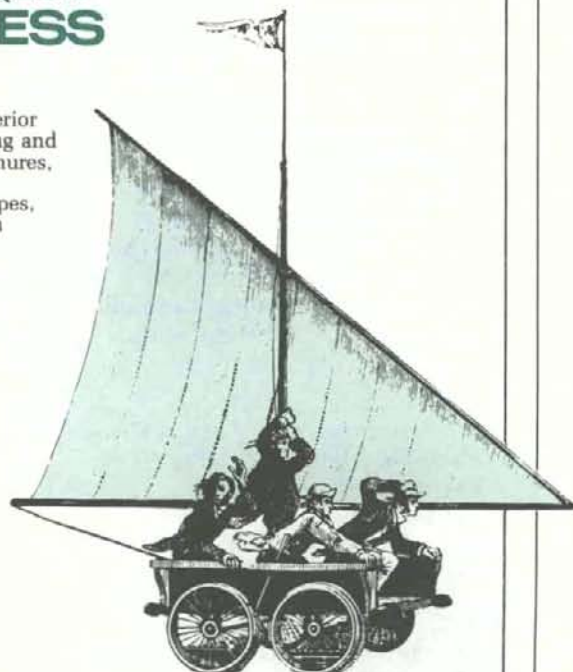
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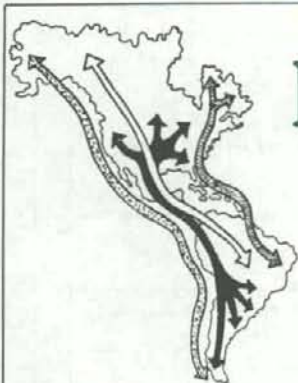
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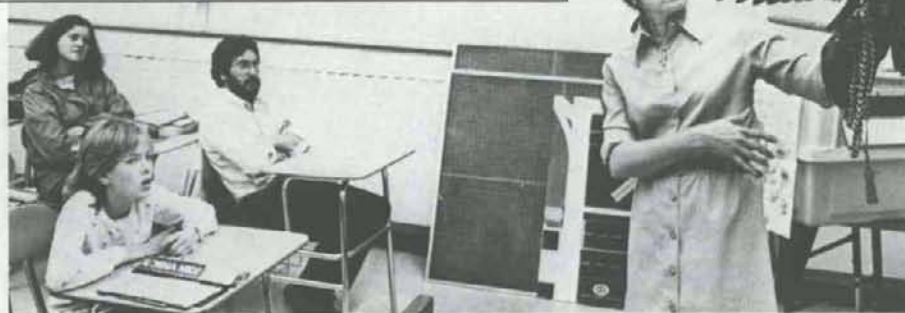


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Bringing It Home



When we hear mention of Latin America or Central America, we often think of a region plagued by political unrest, maldistribution of wealth, and rising tides of social revolution. But when the National Wildlife Federation (NWF) slide show and lecture "Our Threatened Heritage: A Worldwide Conservation Challenge" toured Vermont this spring, its purpose was not to study a region's political problems. At least, not initially. The topic of the tour was migrating birds.

Beginning with a slide-tape presentation and moving on to a demonstration with a live Swainson's Hawk, NWF wildlife biologist and falcon handler Judy Henckel impressed Vermont Audubon groups, nature center members, and schoolchildren alike with the North American-Latin

American "connection."

"Every autumn as leaves fall from the trees in a blaze of color," begins the slide presentation, "one of nature's most remarkable migrations occurs. Robins turn their backs on earthworms in suburban back yards, and head south for the Bahamas. Wood ducks flock to Mexico. And the strong-winged Swainson's Hawk takes off for Argentina . . . All told, over 330 species of birds [about half of the bird species in North America] and countless insects migrate from North America to the tropical forests and coastal wetlands of Latin America and the Caribbean Islands . . ."

"But these birds face an uncertain future. Despite protection in the U.S., migratory bird populations are steadily dwindling." Birds are migrating to Latin America in the fall—and never returning.

The Tropical Connection

The tropical rain forest is a rich and diverse part of our global ecosystem. But the rain forest—vitally important wildlife habitat—is being chopped down or burned over at an alarming rate: an average of 120 square miles per day.

According to "Our Threatened Heritage" Project Director Noel

Gerson, the reasons for the invasion into the wilderness are numerous and complex. Among them: the export demand for tropical hardwoods is high, and although tropical clearcutting can be an environmental nightmare, it yields the quickest profit. Meanwhile, development projects—which are often funded by U.S. and international development banks—clear huge areas for hydro-electric dams, mining operations, land-intensive cattle ranches, and plantations of export crops such as the bananas, sugar, and coffee that grace our breakfast tables.

Once it has been so seriously disturbed, the rainforest ecosystem often can not recover. Even if development is abandoned, the fragile soil cannot absorb the impact of the rainfall, and the land erodes.

Add to this the problems involved with a multi-fold increase in pesticides, and it is clear that the food sources as well as habitat for wildlife are being radically disrupted. And the effects are felt the world around.

Taking Action At Home

To the hundreds of Vermonters attending presentations during the two-week "Our Threatened Heritage" tour, the major questions seemed to be, "What's my role in all of this? Am I part of the problem? And if so, how can I be part of the solution?"

NWF biologist Judy Henckel urged all participants to be concerned consumers: "Question the source of your produce and beef, and try to buy locally when possible," she said. And importantly, Henckel noted that we can use our political strength to influence the decisions of American leaders.

Henckel pointed to a case in the heart of the Brazilian Amazon as an example of both our terrible power to disrupt an ecosystem—and our collective power to stop the destruction.

The Polonoroeste Road is a project that the Sierra Club *National News Report* called "The Road of Sorrows." Because most of the Latin American land suitable for agriculture is owned by a

Above:

Every autumn, one of nature's most remarkable migrations occurs . . . Maps courtesy of NWF.

Although the Latin American slides were stunning and the discussions enlightening, the real show stealer of the "Our Threatened Heritage" tour was Thor, a nine-year-old Swainson's hawk. Above, NWF wildlife biologist Judy Henckel and Thor. Photo by Bette Pirie, courtesy of the Times Argus.

small number of wealthy families, citizens are hard-pressed to find tillable land from which they can make a living. The Polonoroeste Road was designed to relocate hundreds of thousands of Brazil's landless poor via a new, 900-mile road paved into the rainforest.

Some 100,000 square miles of rainforest have already been affected. Wildlife habitat has been devastated, possibly-irreversible erosion and deforestation processes have been triggered—and for little gain. The vast majority of the lush rainforest's nutrients are held in the vegetative cover; once voided of the plant life, the poor soil is often unable to support agricultural efforts. As many as 80% of the new settlers in some areas have been forced to abandon their new land, due to its predictable unsuitability for agriculture.

March of 1985 marked an important breakthrough, however, for those working for environmentally-responsible Third World development. Environmentalists persuaded the World Bank to stop payments for the Polonoroeste Road project—marking the first time that the World Bank has ever stopped payment for ecological reasons.

Several bills now pending in the U.S. Congress could also affect positive environmental changes in Latin America. H.R. 2957, the Tropical Forest Protection Amendments, would direct the U.S. Agency for International Development (AID) to support conservation-oriented projects and help develop alternatives to deforestation-causing techniques. U.S. AID is the same organization that provided funding for the "Our Threatened Heritage" program. Ironically, however, AID has often been criticized for funding misguided development projects.

H.R.2958, a companion bill known as the Biological Diversity Protection Amendments, would reprogram a minimum of \$10 million from U.S. AID funds to encourage biological diversity in Third World countries. Both bills passed the House unanimously in June, and await Senate action.

Falcon Aid

Here in Vermont, conservationists have been working to re-introduce a migrating bird species whose numbers have been drastically reduced by pesticide misuse: the peregrine falcon. Although once common, the peregrine falcon had been literally eliminated from the east coast by the 1960's, largely due to the use of DDT.

According to Chris Rimmer of the Vermont Institute of Natural Science, VINS is now in its fifth year of receiving captive-bred peregrine chicks from Cornell's peregrine Fund. VINS staff and volunteers feed the birds, usually four to six per year, on appropriate cliff sites until they are ready to fledge and hunt for themselves. Encouragingly, as of last year Vermont has at least one breeding pair on Lake Willoughby.

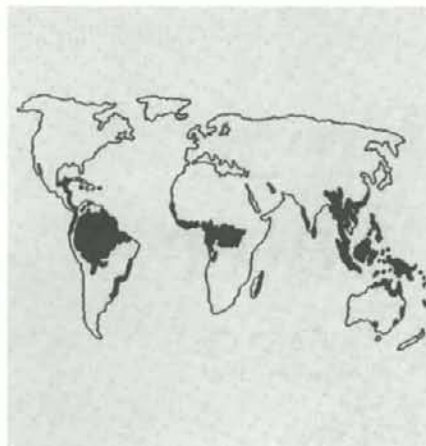
Thanks to a concerted effort centered on a specific species, peregrines are now being brought back from an alarming population decline. But with pesticide abuse continued commonly in Latin America, coupled with the unprecedented habitat destruction in the region, the fate of other migratory birds is not certain.

As a follow up to the "Our Threatened Heritage" tour, VNRC will receive funds from NWF to coordinate an education project centering on raising awareness about Latin American natural resource problems, and what North Americans can do to help. Those interested in assisting with the follow-up project should contact the Council—and get involved now in helping to save our threatened heritage. SC

Photos and illustrations from the "Our Threatened Heritage" slide show, from top to bottom:

Tropical forests, the oldest on earth, cover only 7% of the earth's land, yet perhaps half of all plant and animal species live there. Scientists believe that only 15% of tropical rainforest species have been identified to date.

Pesticides are applied by a Domini-



can Republic man who wears no protection. Photos courtesy of U.S. AID. Although pesticides have come under stricter regulation in the U.S. in recent years, comparable regulations have not been instituted in Latin America.

Some pesticides now banned for use in the U.S. continue to be produced here—and sold in unregulated areas such as Latin America. Ironically, some of these pesticides then show up on produce imported for U.S. consumption. Mirex is a DDT-like pesticide.

Fresh Water Close Up

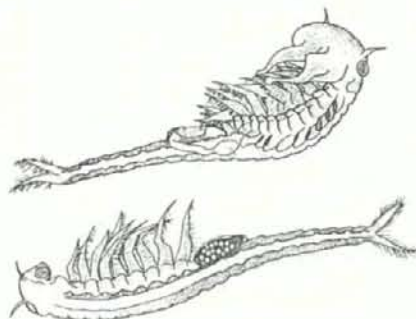
By Doug Kievit-Kylar

Pond and Brook—A Guide to Nature Study in Freshwater Environments, by Michael Caduto. (Prentice-Hall, Inc., Dublin, N.H. Copyright 1985, paperback, 12.95.)



There is a very special little pond near my home. It is what ecologists and limnologists would call a vernal pond; filled during the wet spring season, this pond

soon dries up, becoming little more than a marsh-like depression by mid-summer. As unpretentious as my pond might be, however, it is a place of great im-



Fairy shrimp.

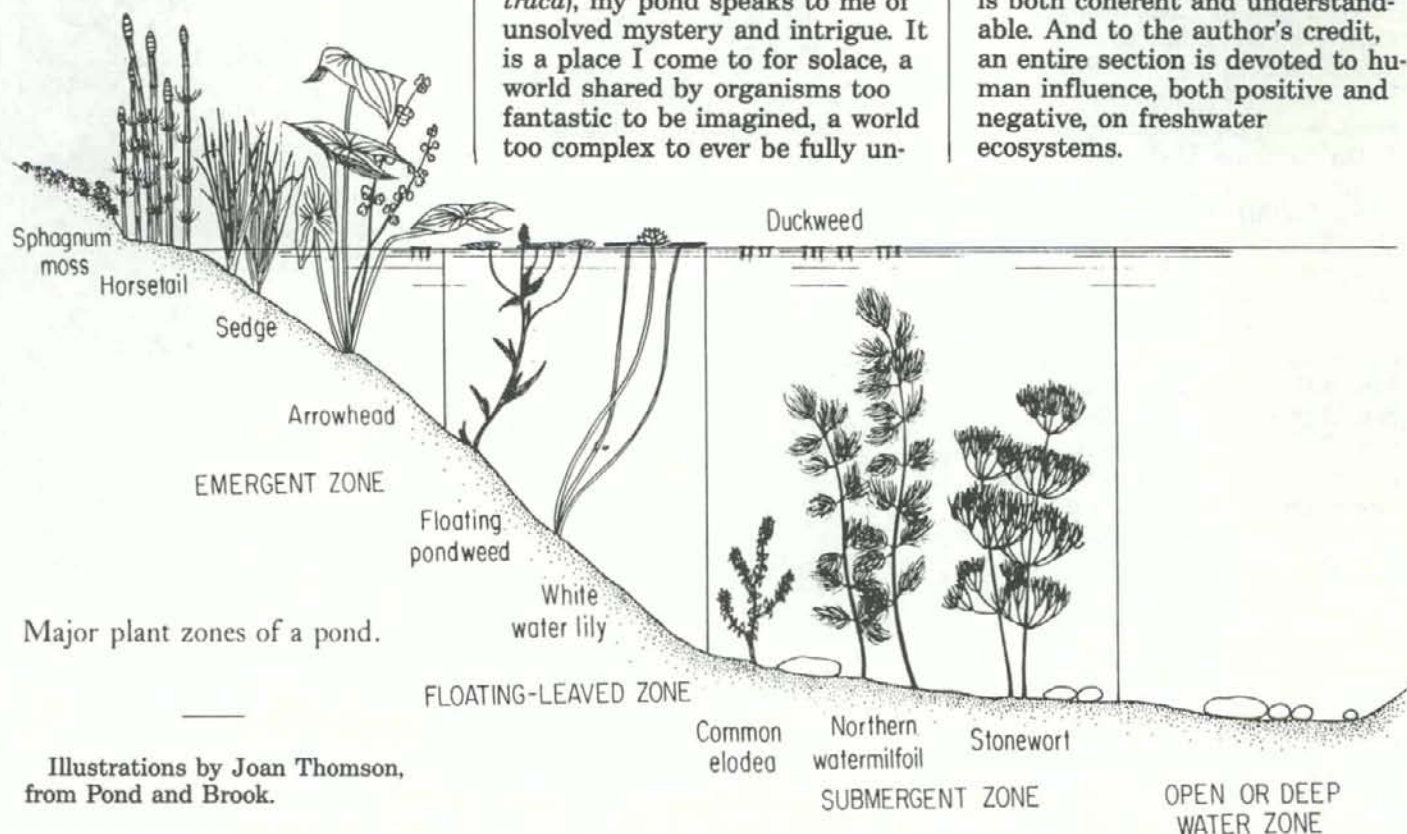
portance for a multitude of creatures large and small. From the boisterous wood frog (*Rana sylvatica*) and the sweet-singing spring peeper (*Hyla crucifer*) to the elusive spotted salamander (*Ambystoma maculatum*) and the delicate fairy shrimp (order Anostraca), my pond speaks to me of unsolved mystery and intrigue. It is a place I come to for solace, a world shared by organisms too fantastic to be imagined, a world too complex to ever be fully un-

derstood, a world full of wondrous beauty.

For those who are yearning, or even willing, to open themselves to the wonders of Vermont's freshwater environments, I am glad to suggest a book for company and guidance in that quest.

Like others in the PHalarope Books series, Michael Caduto's *Pond and Brook* is designed specifically for the amateur naturalist. Through stories, activities, photographs, vivid illustrations, and just plain interesting facts, the book offers a holistic ecological view of the complex world of fresh water life.

The first two chapters taken together serve as a primer on limnology and freshwater ecology. The chapter on ecology, subtitled "A Home and Its Inhabitants," has as its stated goal "the development of a conceptual framework that will help the reader to know what to look for when studying freshwater life." Some of the basic ecological understandings are given only a cursory explanation, but their presentation is both coherent and understandable. And to the author's credit, an entire section is devoted to human influence, both positive and negative, on freshwater ecosystems.



As a teacher, I was quite pleased to discover sections concluding each of the last four chapters entitled "Explorations and Activities." These sections provide readers with hands-on projects such as mapping a pond, creating an aquarium, or building sampling and collecting devices for freshwater organisms. Used in conjunction with the written text, many of these activities will soon have you knee-deep in a lake, a pond, or a nearby stream, searching in earnest for the predaceous diving beetle (*Dytiscus spp.*) or following the life cycle of one of nature's most intriguing "engineers of the stream," the caddisfly (*Brachycentrus nigrosoma*).

Michael Caduto's love and respect for freshwater environments is evident throughout the book, but nowhere is it clearer than in the afterword. Here, for a moment of introspection, a childhood recollection serves to pose some thoughtful—and disturbing—questions. In our attempts to understand better the world around us, do we have the right to take a life, even one as seemingly inconsequential as a single fairy shrimp? Or will we someday come to realize the importance which every living thing has in the drama of life on earth? Maybe someday, as Michael Caduto imagines, "The curious eyes of shrimp and human will meet and, perhaps, if both are aware and listening, they will touch across an abyss of consciousness that has existed since the first glimmer of human thought."

The fate of our freshwater worlds ultimately lies in our hands. With books such as *Pond and Brook*, I am optimistic that a concerned and educated citizenry will see to it that our fragile freshwater environments are preserved and protected as a legacy for many years to come.



Doug Kievit-Kylar is an itinerant pond-watcher and biology teacher at U-32 High School in East Montpelier, Vermont.



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Sally James and Susan Hamilton

For years, a key ingredient in Vermont's environmental network has been missing. This summer, VNRC intern **Sally James** has been working to remedy the situation. Her project: to compile the "Vermont Environmental Directo-

ry," a comprehensive annotated listing of Vermont's environmental organizations.

The Directory will also include a listing of governmental agencies, boards and commissions, as well as academic institutions that

are involved in environmental work. In addition, a media listing, Vermont maps, and other reference materials will be included. The Directory will be distributed as widely as possible by the Council.

Sally has had to learn a lot about Vermont environmentalists in a short period of time, but her background in environmental studies has helped her out. She is a junior at the University of Vermont, majoring in environmental studies and anthropology.

As a VNRC intern this summer, **Susan Hamilton** has been examining the land speculation phenomenon in Vermont. Using property transfer tax returns, she has been able to trace the increases in speculation and subdivision around the state, and the relative effectiveness of laws and regulations designed to curb these patterns.

A Kentucky native, Susan graduated from the University of Colorado with a BA in geography and environmental design. Having done post-graduate work in water management and environmental analysis, she is currently enrolled in the 3-year J.D. program at Vermont Law School.



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FROM THE FRONT OFFICE

Lots of candidates for public office have been visiting with me in recent weeks. It is quite rewarding to sit down with a political candidate and discuss the issues. It is more rewarding to actually see the candidate put forward ideas and programs which agree with VNRC positions and approaches to solving the problems at hand.

What are the natural resource issues that Vermont's newly elected officials will have to face in January of 1987 when they take office? To me, the list can be fairly succinctly stated, but not easily ranked according to immediacy for action. So, unranked, here are a few.



- Adequately fund the public staff positions needed to implement the excellent laws recently passed by the Vermont legislature. Included among these laws: water quality, wetlands, underground storage tanks, and groundwater legislation.
- Enact, throughout Vermont, a strong growth management plan—but only after a thorough review of the capabilities of regional planning commissions and local government to participate in the process.
- Through an Executive Order, create the Vermont half of a Vermont/New York group to discuss the complex issues facing Lake Champlain, and offer management initiatives to evaluate and act upon lake-wide resource protection.
- Accelerate the investigation of why the Vermont family farm is in an endangered position, and offer tangible alternatives in order to halt the demise of agricultural endeavors.
- Anticipate the next energy crisis, face up to the need to promote recycling, and carefully review all data and opinions concerning Vermont's solid waste disposal dilemma.

It would not surprise me if your list varied from mine. But for once, you have a chance to tell me! Enclosed in this issue of the V.E.R. is the VNRC Summer 1986 Membership Survey. Fill it out and let me know your priorities.

Our agenda must reflect, as best as possible, Vermonters' agenda for the future, in good as well as in bad economic times. According to recent polls, careful and sensitive natural resource use is uppermost in the majority of Vermonters' minds. VNRC intends to do its part to ensure that this important public trend is continued. I look forward to reading your responses to the enclosed survey.

Sincerely,

Monty Fischer

R. Montgomery Fischer
VNRC Executive Director

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September 11-12 The Northern New England Chapter of the American Planning Association will hold its Annual Meeting at the Radisson Hotel in Burlington. Session topics will include open space preservation, strip development, resort areas, and more, and the sessions will adjourn in time for UVM's Aiken Lecture Series. For more information, contact Jane Lafleur, City Planner, 575 Dorset Street, S. Burlington, VT 05401.



September 12 and 13 VNRC's 1986 Annual Meeting will be held at the University of Vermont on September 13, to coincide with the George D. Aiken Lecture Series. With the theme "Competing Visions for Vermont: Agriculture, Communities, and Groundwater," the Aiken Lectures begin on September 12 at 2 pm. VNRC members will have a choice on Saturday morning between VNRC field trips and Aiken Series workshops; then after lunch and the conference wrap-up session, VNRC's annual business meeting will begin. For further information on the Aiken Lecture Series, call Diana Kemp at 656-1305. VNRC members who have not yet received invitations should contact the Council.

October 10-12 Gatherings seeks to create a milieu for peace

through the arts. This fall's Gatherings will include the Greenpeace illustrated lecture "You Can't Sink A Rainbow," Stravinsky's Symphony of Psalms with the Bread and Puppet chorus of 180 voices, and readings by Vermont poets. Look for posters, or call 223-3012 for more information.

October 14-17 The study of migratory patterns of waterfowl throughout the Champlain Basin will be the focus of a windjammer cruise aboard the Homer W. Dixon. And for every VNRC member on the cruise, 10% of the proceeds will be donated back to the Council! For information, write Birds/VT Environments, RD 1 206B, North Ferrisburg, VT 05473 or call 862-6918.

October 24-26 "Awareness to Action" is the theme of this year's New England Environmental Education Alliance Annual Conference, which will be held at Goddard College in Plainfield. Educators from all over New England will gather for workshops, field trips, speakers, and more. For more information, call Margaret Barker at VINS, 457-2779.

All those involved in sports fishing organizations should contact the Sports Fishing Institute to be included in their first computerized inventory of such groups: an exchange network for information on legislation, management, and other fisheries issues. Write them at 1010 Mass. Ave. NW, Suite 100, Washington, DC 20001.

New Members

VNRC welcomes the following new members, who joined us between May 1 and mid-July: Northfield Elementary School Library, Patten Corporation Northeast, Howard Bailey, Bruce J. Baroffio, Eileen Dietrich, Marc Distephano, Gloria Emilo, L. Owen Farnsworth, David & Carol Fitzgerald, Douglas M. Guest, Elizabeth Eccles, Graham Govoni, Ellen D. Grizzle, Timothy Hayes, Lost Mile Homestead, Janet Hicks, Henry Holmes, Verne B. Howe, Ph.D., Susan James, Harold Janes, Mrs. Frank D. Lathrop, Mildred Lucchina, Marcy C. Mallary, J.B. McLoughlin, Alice R. Phillips, David & Muriel Reisner, Patty, Repole, Jan S. Rickless, Jane Roorey, The Stokes, Norman Stratton, Lori Stratton, Patricia A. Taber, Waino Tuominen.

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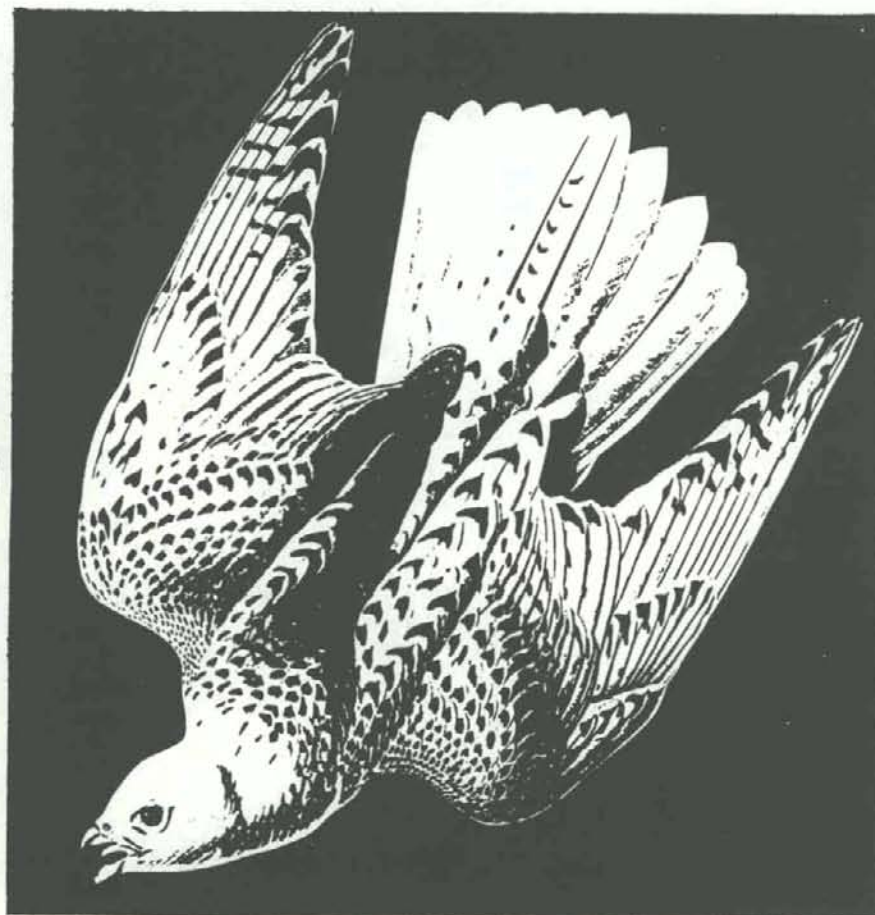
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