

Vermont Environmental Report

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

DICKEY-LINCOLN:

The President's Action Makes It an ISSUE

Suddenly, -- with President Carter's February 23rd budget recommendation to Congress to delete funds for the massive Dickey-Lincoln hydroelectric project in Maine, an issue that has been smoldering, has broken out into open flame.

That issue, now swiftly carried into the forefront of New England regional and national debate is this: whether or not the money for planning and engineering studies for Dickey-Lincoln should continue to be appropriated, whether or not the Dickey-Lincoln project should go on to construction, and whether the environmental leadership offered to Congress by President Carter will eventually be overturned.

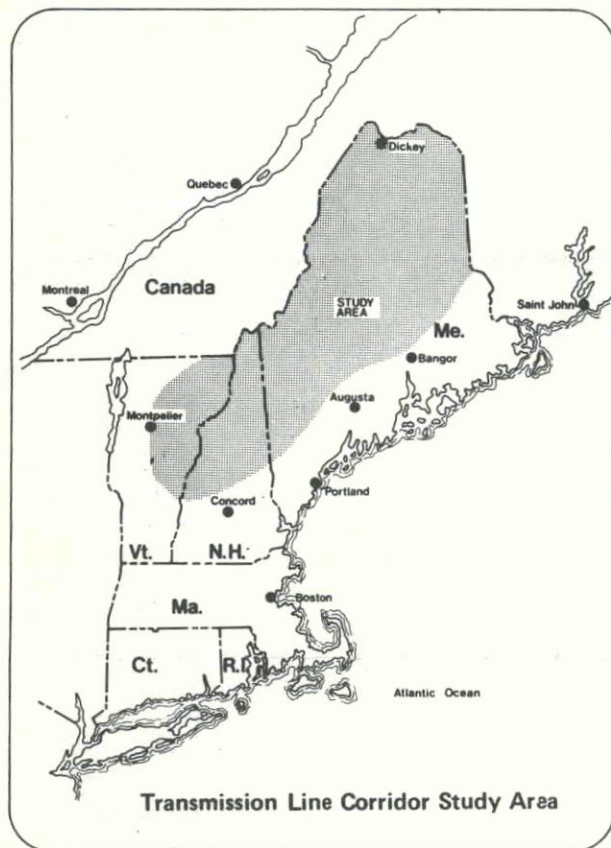
On the very day that President Carter announced his budget recommendations to delete the funds for Dickey-Lincoln and 18 other water resource projects across the nation, his Secretary of the Interior, Cecil D. Andrus, explained the meaning of this action to a House Interior Committee. This is what Andrus said: "I ask you to bear in mind that there have been no permanent decisions about these projects and we have not requested any de-authorizations and will not do so until a thorough review of each project has been completed."

Despite this explanation, even the suggestion that

the President was preparing to re-evaluate the merits of the 19 water resource projects, including Dickey-Lincoln, touched off a storm of protest from angered developers, special interest groups and a howl of outrage from the water-parched western states. This wave of protest broke across the White House and the new Administration in a fast-moving series of events.

Maine Senators Muskie and Hathaway and Maine Congressman Cohen re-iterated their call for continued appropriations in the new Fiscal Year, \$700,000, to complete the review of Dickey-Lincoln under the requirements of the National Environmental Policy Act. Senators Muskie and Hathaway and members of Congress from the affected states sought, and got, a meeting with President Carter to discuss the situation. It was reported that the President was holding firm in his determination to re-evaluate the projects. On Thursday evening, March 10th, the same day of the meeting with the President, on a 65-24 vote, in a "sense of the Senate" resolution, the U.S. Senate recorded its intention to go ahead with the water resource projects. The message from the Senate was that they would support the water projects when these projects are considered as a part of the Fiscal Year 1978 budget.

Dickey-Lincoln



The Senate action was not substantive in itself because monies already appropriated are being spent, and future monies have still to be acted on. But it did reveal the sentiments of the upper chamber, and it was a sharp rebuff to the declared aims of the President as he seeks to measure the worth of the individual water resource projects.

If the Congress finally decides to go ahead with planning and engineering design funds for the Dickey-Lincoln project, the studies currently underway will be completed. Here is the timetable. In June, 1977, the Army Corps of Engineers will complete its "Draft Environmental Impact Statement" on the project's dams and associated structures. Public hearings on the "Draft" will follow. In November, 1977, the Department of the Interior will issue its "Draft Environmental Impact Statement" on the trans-

mission line corridor that must be built as a part of the project. Also coming up is the report of a citizens' advisory committee that is to make a recommendation to Maine's Governor James Longley, for or against the project, sometime in June. If Congress continues to vote funds for the planning and engineering studies, if Dickey-Lincoln gains the support of Governor Longley and passes the environmental hurdles, it is conceivable that a request for construction funds could be lodged with the U.S. Congress as early as 1978.

This is the scope of the project, a \$625 million public works enterprise that has been on and off the drawing boards since the early 1950's and has been described as the largest ever in New England. There would be two dams on the St. John River in northern Maine. The first dam, near Dickey, Maine, would rise to a height of 334 feet; it would be more than two miles long. The second dam, eleven miles downstream at the Lincoln School site, would be 95 feet high and would extend for a width of 2200 feet. These dams together would flood some 88,000 acres (nearly 140 square miles) of land.

This is what distresses outdoor enthusiasts, timbercutters and environmentalists. The flooded land is presently valued for fishing, hunting, canoeing, timber harvesting and wilderness recreation. Bill Riviere, a columnist for the **Boston Sunday Globe**, has estimated that the worth of the wood alone on the affected land, harvested on a sustained yield basis, would amount to \$36 million per year. This is to say nothing of the other values that would be lost permanently when the 88,000-acre tract was covered with water.

Advocates of the Dickey-Lincoln project led by the Army Corps of Engineers point to the energy yield from the two dams, an assured supply of "peaking power" for the entire New England region exclusive of Maine of 700 megawatts. The advantage of such a hydroelectric installation is its flexibility of response to peaking power requirements. When the television sets and electric ranges and air conditioners of Boston, Hartford, Portland, in short, the whole New England region, go on at about 5 or 6 p.m. at night, the power of Dickey-Lincoln can be released. As the Army Corps states: "It can run at

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full capacity whenever it is needed and can sustain that power level for the duration of any peak that the system experiences. It makes an ideal source of reserve (power) with quick response, a fact that is most valuable to have as an option to those responsible for load dispatching."

Vermonters stand to be affected by the construction of the dams at Dickey-Lincoln, and the preferred route of the transmission line corridor that would sweep across western Maine close to the Canadian border, continue across northern New Hampshire, enter Vermont near East Barnet, and continue to its end-point about four miles south of Barre at the "Granite" electrical substation.

According to Gordon Stensrud, Chief Engineer at the Vermont Public Service Board in Montpelier, "We might be looking at 80-100 megawatts (of power) for Vermont." But is this additional power really needed? This is the pivotal question.

Vermont's total peak demand for power on the highest day of electrical usage in the winter of 1975-1976 was 757 megawatts. This winter's highest total peak demand for power was 758 megawatts. Stensrud points out that the growth in demand for power in Vermont has flattened out dramatically since the "Energy Crunch" of 1973-1974. In the late 1960's the demand for power in Vermont was growing "in the area of 8-10 percent per year." Now the growth in demand for power is showing a minimal increase. And Stensrud observes: "The consensus is (a growth) of 3 to 4.5 percent per year for the next ten years."

Vermont's Governor, Richard Snelling, and the Vermont Congressional delegation in Washington are generally skeptical about going ahead with **construction** funds for Dickey-Lincoln. This skepticism ranges from the early and outspoken opposition of Congressman James Jeffords to the more cautiously-worded reservations of Senators Stafford and Leahy and Governor Snelling.

In June, 1976, Congressman Jeffords became the first Vermont member of Congress in a decade to turn against Dickey-Lincoln when he voted against

a bill to provide 1.06 million dollars for **planning** the hydroelectric project. The bill passed. Jeffords is reported to have said that he was against a project that would flood 88,000 acres of wilderness to provide electricity for the "air-conditioners of Boston."

Governor Snelling commented on the project through his aide, Charles Butler. According to Butler, "The Governor is not going to fight for the money that President Carter took out of the budget to finance Dickey-Lincoln." Butler added: "The Governor has very serious reservations about the environmental effects of the proposed Dickey-Lincoln project."

Senator Patrick J. Leahy has voted funds to complete the environmental and engineering design studies on the Dickey-Lincoln project. And he says: "While I have reservations about the project's environmental impact, I will postpone a final judgment until these studies have been completed. In view of the long history of controversy surrounding Dickey-Lincoln, I feel it is imperative that Congress have the results of the studies before making a decision as to whether to proceed with the project."

Senator Robert T. Stafford has been a consistent supporter of providing funds for the engineering design and environmental study of Dickey-Lincoln. He leaves open the possibility that he may be influenced by the results of the studies currently underway.

Opposition to Dickey-Lincoln throughout New England is being coordinated by the Maine Natural Resources Council. The Maine NRC is circulating a petition against Dickey-Lincoln that, as of January, 1977, had gathered 21,487 signatures. The Maine NRC has welcomed President Carter's request to delete funds for Dickey-Lincoln, and the NRC believes that further funds for planning and design should be cut off immediately.

Folded into this month's issue of the VER is a "Fact Sheet" on Dickey-Lincoln, prepared by the Natural Resources Council of Maine. The Maine NRC and the Vermont Natural Resources Council are urging Vermonters who care about the environmental repercussions of Dickey-Lincoln, to write Gov. Snelling, the Vermont Congressional delegation and President Carter. Please support the President's request to delete funds for Dickey-Lincoln, or ask that the project be stopped.

WATER QUALITY part 4

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

17. The Federal Role

VER: What role should the Federal Government play in providing money to individual householders, or groups of householders, who may wish to install sewerless systems?

ILSR: We feel that the current ratio of 75 percent (Federal) and 25 percent (State & Local) matching funding should be extended to all people who install alternative systems.

written while Mr. Jaslow was with the Maryland Environmental Service. You can contact them for a copy of the Jaslow report or write to the Institute with an offer to pay for the costs of copying. The other report is a **Citizens Guide to Wastewater Treatment Systems**. This is an evaluation of "208 Planning" written by Patti Nesbitt in 1973. This paper is available from the Conservation Foundation, 1717 Massachusetts Avenue, NW, Washington, D.C., or from the Institute with an offer to pay for copying costs. This is a technical report written for citizens. The aim of the Nesbitt paper is to explain to citizens the "ins and outs", the advantages and disadvantages, of current systems.

18. Information

VER: How can citizens avoid being "sold a bill of goods" at the local level with plans to "sewer up"? What resources are available to interested citizens? Where can they seek impartial advice?

ILSR: Work going on at the Institute for Local Self-Reliance and at other places we have mentioned will provide the technical expertise for individual citizens, community groups and official environmental protection agencies. This information is available. Citizens must organize and insist that departments responsible for sewage planning acquaint themselves with the resources available for alternative planning.

In addition, we can recommend two resource guides. One is an "Institute paper" entitled, **Community Sewage Management: Guidelines for Comprehensive Analysis**, by Lee Jaslow (June, 1976). This paper was

19. Congress

VER: How do you explain the inability of Congress to move beyond water-based sewage treatment?

ILSR: We have discussed institutional and psychological barriers to change. We want to mention, however, that there are people in Congress who support alternative systems. One of these is Senator Jennings Randolph of West Virginia, Chairman of the Senate Committee on Public Works. Senator Randolph has indicated that cost factors demand the examination of multiple or single family systems as a part of 208 Planning.

20. Participation

VER: Citizen participation in decisions leading to the construction of wastewater treatment facilities has been disappointing. How would you explain citizen apathy? What would you do to encourage greater citizen participation?

ILSR: It is our impression that citizens often do not have enough information in enough detail, with enough time to become involved. Some of the issues are very technical and need explanation. Citizens understand what is happening to our ecological system and they can understand the sewerage issues when the technology is simplified. Alternative solutions use simple technologies and encourage more people to get involved in the decision-making process. As a consequence far more citizens than anyone would have imagined are becoming lay experts.

21. Change

ER: Do you believe that individual citizens and homeowners can be convinced of the need to properly use and maintain individual waterless systems? This would be a massive educational undertaking. How would you achieve this?

ILSR: We have to start building an environmental ethic. People need to be equipped with the modest technical skills for operating and maintaining alternative systems. This undertaking would certainly mean a change in the curriculum of our high schools, junior highs and grade schools. Will people accept these new requirements of citizenship? We think that people will use their common sense and choose to protect themselves and their children. And the evidence is in to show us we must change in order to protect our health and our environment. The question is not, "Can we?" but "Will we?"

We think the message of sewerless options is straightforward and very clear. It's so simple. We have to drink water. We have to use water to grow food. And we need it to enjoy. When we contaminate it, it gets polluted, and we can't use it for any of these purposes. It's straightforward. The technology is obvious, is easy; it requires no sophisticated engineering. It's something that a sixth-grader can understand. And it takes virtually no muscles to maintain the system.

The biggest barrier is a psychological one, and institutional one. But when you get right down to what there is to teach, it's simple.

It gets down to a question of philosophy. Are we going to trust the experts and planners who have given us the current wastewater system, or are we going to take things into our own hands, learn how to deal with these systems, become experts ourselves, and in reality, put in literally a couple of hours a year to ensure that we have an inexpensive system with environmental safety?

POSTSCRIPT

Since the publication of the first segment of the "Water Quality" exchange with the "Sewage Task Force" of the Institute for Local Self-Reliance (ILSR) in December, 1976, some new directives have been handed down from the Environmental Protection Agency (EPA) in Washington, D.C.

Neil Seldman of the ILSR staff brought these new directives to our attention and asked that they be mentioned as a VER postscript because these new directives contradict some of the observations made in earlier exchanges and because they represent a significant shift of EPA attitudes.

This is the gist of the new directives handed down from EPA in Washington, D. C., in a press release dated, January 6, 1977:

- (1) That EPA "believes that using small localized treatment units serving single houses or groups of houses could in many cases lessen the cost of meeting public health and clean water requirements."
- (2) That EPA "wants towns which may receive EPA grants to consider carefully a number of systems that could be cheaper alternatives to building costly and complex conventional treatment plants and sewer lines."
- (3) That EPA is prepared to back up its new commitment to smaller systems with research funds (\$793,000 this year, compared to \$343,000 for Fiscal Year 1976).

-Resources & People List-

The following Resources/People List was provided as a supplement to the four-part series on Water Quality Alternatives by the Institute for Local Self-Reliance in Washington, D.C.

BOOKS/BOOKLETS

- Jaslow, Lee. **Community Sewage Management Guidelines for a Comprehensive Analysis.** Maryland Environmental Service, Tawes State Office Building, Annapolis, Maryland, 21401, 1976.
- McNulty, Hester and Sharpe, Lois. **Municipal Sludge: What Shall We Do With It?** League of Women Voters Education Fund, 1730 "M" Street, N.W., Washington, D.C., 20036, (\$.50), 1976.
- Minimum Cost Housing Group. **Stop the Five-Gallon Flush: A Survey of Alternative Waste Disposal Systems.** School of Architecture, McGill University, P.O. Box 6070, Montreal 101, Quebec, Canada, (\$2.00), 1975.
- Office of Community Development, Montgomery County. **Project Inside.** 100 Maryland Avenue, Rockville, Maryland, 20850, 1976.
- Nesbitt, Patti. **Citizens Guide to Wastewater Treatment Systems.** (Manuscript available) -- Institute for Local Self-Reliance, 1717 --18th-- Street, N.W., Washington, D.C., 20009, 1976.
- New Alchemy Institute. **Methane Digesters for Fuel, Gas and Fertilizer.** Box 432, Woods Hole, Massachusetts, 02543, (\$3.00), 1975.
- Rodale Press. **Goodbye to the Flush Toilet.** Emmaus, Pennsylvania, 18049, forthcoming in 1977.
- Van der Ryn, Sim. (Mr. Van der Ryn's name was mis-spelled in a previous issue of the VER.) **Compost Privy.** Farallones Institute, P. O. Box 700, Point Reyes, California, 94956, (\$1.00), 1975.
- Warshall, Peter. **Septic Tank Practices: A Guide to the Conservation and Re-use of Household Waters.** P. O. Box 42, Elm Road, Bolinas, California, 94924, (\$2.75), 1976.
- Winneberger, John T. **Manual of Grey Water Treatment Practice.** Ann Arbor Science Publishers, P.O. Box 1425, Ann Arbor, Michigan, 48106, (\$10.00), 1976.

SUGGESTED BY VNRC

- Jewell, William J. and Swan, Rita. (Editors). **Water Pollution Control in Low Density Areas.** Proceedings of a Rural Environmental Engineering Conference. Published for the University of Vermont by the University Press of New England, Hanover, New Hampshire, 1975.

ARTICLES

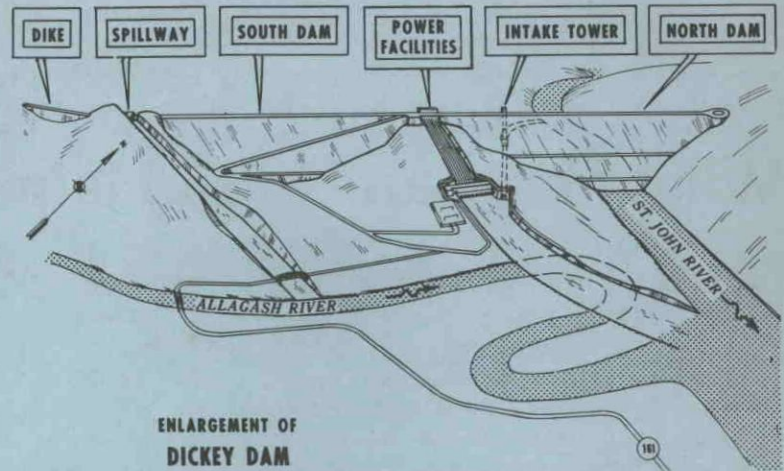
- "Goodbye to the Flush Toilet," **Rain Magazine.** April, 1976.
- Leich, Harold. "The Terrible Toilet," **Washington Post,** July 15, 1973.
- ————. "Sewerless Society," **Bulletin of Atomic Scientists,** November, 1975.
- Lindstrom, Karl and Rockefeller, Abby. "Grey Water Treatment Consideration for Houses with Multrums," **Clivus Multrum, USA, Inc.,** 14A Eliot Street, Cambridge, Massachusetts, 02138.

DICKEY-LINCOLN: Is It Worth It?

The Plan:

The U. S. Army Corps of Engineers is planning to construct a major dam project on the St. John River in northern Maine. The Dickey-Lincoln School Lakes hydroelectric project would generate over 800 megawatts, mainly as a peaking power supplement to the New England electrical system. An earth-fill dam near the town of Dickey would stretch for two miles across the St. John Valley with a height of 335 feet (higher than the Aswan Dam in Egypt). A second dam would be constructed 11 miles downstream at Lincoln School. The dams would result in the flooding of 88,000 acres of land (140 square miles).

The lake created would extend 50 miles upstream from the dams, and would rise and fall during the year due to power operations and hydrologic conditions, with a maximum expected drawdown of 40 feet, exposing almost 50 square miles of reservoir bottom. Transmission lines from the St. John to the Maine-New Hampshire border would be built to feed power into the New England grid. The Corps of Engineers claims the project would provide electrical, flood control and recreational benefits, at a total cost of \$625 million.



What Will Be Destroyed:

The water that would back up to fill the two lakes at Dickey-Lincoln would destroy 88,000 acres, or 140 square miles, of Maine's north woods.



Fishing -- Fishermen from Maine and other parts of the country would lose some of the best trout fishing in the country, including 57 miles of the St. John River, 23 miles of the Big Black and 25 miles of the Little Black.

Hunting -- Hunters would lose over 80,000 acres of hunting terrain, including a 17,600 acre deer wintering area that could provide up to 30,000 hunter-days each year. Habitat for waterfowl and woodland birds would be destroyed.

Canoeing -- Some of the best white water in the northeastern United States, far surpassing the Allagash Waterway for its magnificent rapids, would be lost forever.

Timberlands and Society -- The reservoir would cause 238 families to lose their homes and

woodland producing about 40,000 cords of wood each year would be forever flooded. The jobs and other economic and social benefits provided by this magnificent forest resource would be lost.

Transmission Lines -- To market Dickey-Lincoln power, at least 200 miles of new power lines would have to be run through the state destroying many more square miles of productive timberlands and wilderness values.

Wilderness Values -- The 130 miles of the Upper St. John River Valley is an irreplaceable resource of great beauty. Because of the River's purity, size and length and its passage through uninhabited forest lands throughout its length, it is unique in the Northeast.

The Losses Outweigh The Benefits:

Electricity -- The primary justification for Dickey-Lincoln is an assured supply of low cost peaking power for New England. Preliminary analysis indicates, however, that cost-savings per customer will either be negligible -- possibly 1/4 cent per energy dollar -- or non-existent as it is possible that cheaper peaking power can be provided by alternative sources. Also, projections of need for the power are suspect because peak-load pricing, energy conservation and emerging energy alternatives such as solar heating should reduce peak demand by the time the dams would be in operation.

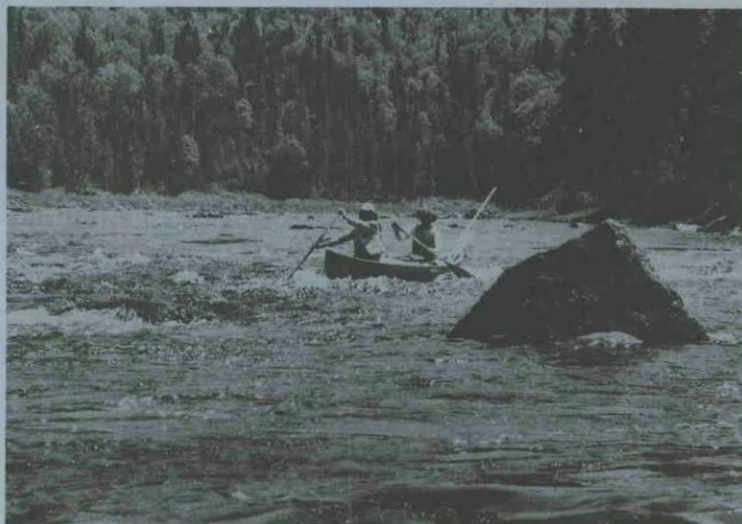
Recreation -- The Allagash Wilderness Waterway has proven to be enormously popular with 43,498 visitor days in 1975. There is no need for another flat water lake in northern Maine as Maine already

has over 3,000 lakes, including many uncrowded lakes of far greater aesthetic and fishing quality than would be provided by the proposed reservoir, with its periodic drawdowns and warm shallow waters. What is needed is improved access to the St. John River as a free flowing fishing and canoeing river to handle the growing demand that is already crowding the Allagash.

Flood Control -- For a few million dollars, a system of dikes could provide flood protection to the communities of the St. John River. Combined with intelligent flood plain management, including the relocation of relatively few families (far fewer than would be displaced by the reservoir), the dikes alone can prevent substantial flood losses and can do so much sooner than could the dams.

What You Can Do To Help:

The Natural Resources Council of Maine (NRC) is coordinating the opposition to the Dickey-Lincoln project. Write to us to get on our mailing list for information we publish at regular intervals about the status of the project. Send us a contribution, the larger the better, to help us stop this ill-advised project. Our efforts will include citizen education, presentation of expert testimony to the federal agencies involved, particularly the Corps of Engineers and the Department of the Interior, and, if necessary, legal action. All of these efforts take money.



The NRC has prepared petitions indicating opposition to the project for submission to the federal agencies involved. Please ask us for petitions, sign one, and circulate them to your friends and neighbors. Help us inform others of the facts about this project. Send letters to newspapers and other publications pointing out the facts about Dickey-Lincoln and ask other readers to join the cause.

YOUR CONTRIBUTION CAN MAKE A DIFFERENCE! Please act today to help us stop Dickey-Lincoln. If you wish, we will send you more information.

All contributions are tax-deductible.

Send In This Coupon Today:

I WANT TO HELP IN THE FIGHT TO STOP DICKEY-LINCOLN. Enclosed is my check for \$_____, which is tax-deductible, payable to the Natural Resources Council.

- ☐ I wish to be placed on the NRC Dickey-Lincoln mailing list.
- ☐ Please send me petitions to circulate, 20 names per petition: _____ petitions for Maine residents, _____ petitions for non-residents.
- ☐ I would like to present the half-hour slide/sound show "The Dickey-Lincoln Project and Maine" in my area. Please send a fact sheet about the show and scheduling information.

Name _____

Address _____

City _____ State _____ Zip _____

Clip & mail to:



Natural Resources Council 51 Chapel St. / Augusta, ME 04330

RESOURCES & PEOPLE...

- Neece, Roger. "The Costs of Sewering Two Typical Massachusetts Towns Presently Served by On-Site Systems," Clivus Multrum, USA, Inc., 14A Eliot Street, Cambridge, Massachusetts, 02138.
- Nesbitt, Patti and Seldman, Neil. "Sewage Technology and Our Urban Communities," **Building Systems Design**, April/May, 1976.
- Seldman, Neil. "Flush Toilets," **Washington Star**, December 22, 1974.
- Smyser, Steve. "In Pursuit of the Zero Discharge Household," **Organic Gardening and Farming**, April, 1976.
- "Toilet Guide: A List of Toilet Equipment Manufacturers," **Rain Magazine**, 2270 N.W. Irving Street, Portland, Oregon, 97210, (\$1.00).

ON-GOING RESEARCH

- Bernhart, Alfred P. (Ph.D.), University of Toronto, Toronto, Ontario, Canada.
- Hoxie, Donald. (Director) and Toppan, W. C. (Sanitary Engineer), Division of Health Engineering, Department of Health and Welfare, Augusta, Maine, 04333.
- Hypes, Warren. Langley Research Center, Langley, Virginia, 23665.
- Kroschel, Max. Farallones Institute, P. O. Box 700, Point Reyes, California, 94956.
- Laak, R. A. (Ph.D.) University of Connecticut, Storrs, Connecticut, 06268.
- Rose, Wade. Office of Appropriate Technology, California State Department of Health, 800 State Building, 2151 Berkeley Way, Berkeley, California, 94704.
- Siegrist, Bob. Small-Scale Waste Management Project, Department of Civil Engineering, University of Wisconsin, Madison, Wisconsin, 53706.
- Warshall, Peter. (Ph.D.) Watershed Consultants, 42 Elm Road, Bolinas, California, 94924.
- Winneberger, John T. (Ph.D.) Consultant, Septic Tank Systems, 1018 Hearst Avenue, Berkeley, California, 94710.

OTHER RESOURCES

- Clark, Zandy. Distributor and resource person on compost toilets. Maine Natural Systems, 115 Pleasant Street, Brunswick, Maine, 04011.
- Tibbetts, Steve. Editor, forthcoming **Compost Newsletter**, Bunganne Road, Brunswick, Maine, 04011.

QUESTION:

To the Editor:

I am writing concerning the "Sewering-Up" and "Water Quality" articles in recent issues of the **Vermont Environmental Report**. One gets the impression that these articles cover the principal problems involved in the techniques of treating pollution problems.

Through the years the thrust in sewage treatment technology has been to remove solids, and by one or more treatments, kill or inhibit disease organisms. From a plant physiologist's point of view, a most important effect of municipal treatment systems is to collect and concentrate dissolved plant nutrients, nitrates, sulfates and essential elements as well as phosphates. These nutrients, poured into our streams, rivers and lakes are having a devastating

THE MARVIN LETTER & THE INSTITUTE RESPONSE

effect by inducing the growth of weeds, algae and so forth. It is true that the pond treatment combined with algal farming is a possibility.

I would hope that in future articles the authors of the series will address this most important problem.

Cordially, James W. Marvin, Professor Emeritus
Department of Botany, UVM

The following is the reply of the Institute for Local Self-Reliance to Dr. Marvin's letter.

The **Vermont Environmental Report** forwarded your recent letter to us concerning the concentration of nutrients by municipal sewage treatment systems.

Your point is well taken. Nutrients **do** stimulate the growth of weeds and algae as well as many of the "decomposer organisms" that feed on the debris. What is unclear, however, is whether these nutrients are "concentrated" or "diluted". It can be argued that the total amount of nutrients in raw waste water is reduced by the treatment process and that the resulting effluent from sewage plants is therefore "diluted". On the other hand, in terms of the amounts of nutrients usually found in relatively clean waterways, the treatment plant effluent is a concentrated dose. Perhaps this problem can be placed in perspective by citing the fact that water pollution from sewage treatment effluent is usually not much more than 25-40 percent of the total pollution in a given waterway. The bulk of the pollution, actually, comes from run-off, or what is called "non-point sources". Run-off from agricultural land is typically high in nitrates, chlorides, pesticides and herbicides.

This pollution load from run-off can be controlled in part through comprehensive land use planning, effective zoning, and limitations on what is added to the soil. It is obvious that a crucial element in any plan to control run-off will be the cooperation of a concerned and informed citizenry.

But quite apart from the run-off problem, we at the

Institute agree with you that we need not increase the pollution load with our treated sewage effluent. The Institute strongly agrees with your suggestion that pond treatment, coupled with algal farming is a viable alternative. Not only is such an alternative more reliable and more energy-conserving, but it also recycles the nutrients as a dilute fertilizer to a harvestable crop!

Many such schemes are operating today. Brookhaven National Laboratory on Long Island, New York, is testing two schemes. One employs partially-treated wastewater. This water flows over a sloping meadow and into a marsh from where it flows into a pond. The second scheme uses just the marsh and the pond. The meadow and the marsh are planted with harvestable crops and the pond is stocked with harvestable aquatic species. The water is allowed to percolate through the soils to recharge the water table although it could be used further for irrigation or drinking. (See **Compost Science**, Autumn, 1975, for details.)

The New Alchemy Institute in Woods Hole, Massachusetts, has experimented with aquaculture also, but they have used fresh water as opposed to partially-treated sewage. The "New Alchemists" have published quite a bit on this topic. See **Radical Agriculture**, edited by Richard Merrill, (Harper and Row, 1976, \$6.95.)

As far as we know, there has been no attempt made to scale-up prototypes to municipal size. Large-scale lagoons are not an uncommon method of treatment but they are usually followed by spray irrigation or discharge. The concept of recycling the nutrients in wastewater to algae, which are fed to fish, is a sound one. It may be that this treatment scheme is more suited to small flows, such as are found in rural areas. Such schemes have been widely used in the Far East.

We hope that these remarks will prompt more work in this important area. If we at the Institute can be of any service in this effort, please do not hesitate to ask.

Sincerely,

Patti Nesbitt, Sewage Task Force
Institute for Local Self-Reliance

VNRC & Organizations...

VNRC REPORT ON PROPERTY TAXES AND EDUCATIONAL FINANCING IS RELEASED

VNRC has just released a 136-page report, developed after eight months of preparation, entitled, **Property, Education & Taxes in Vermont**. The author, Benjamin L. Huffman, admits in his "Foreword" that both subjects, property taxation and educational financing, have been talked and studied (almost) to death for the last twenty years. And yet the need for reform continues to be imperative. The fact is, and Huffman points this out, that we have reached a political stalemate, and this political stalemate is inspired by fear.

On the one hand, are the aggrieved rural communities and the owners of homestead, farm and forest lands. These lands continue to be taxed on the basis of "fair market value." Huffman gives the definition of fair market value as "the price which a property would bring if it were offered for sale taking into account both the present and the 'potential and prospective' uses of the property." The problem of treating land as a commodity is that such a taxing formula may bear little relationship to the value of a given parcel of land in its use as a farm or forest in active production. Certainly our present taxing system and our present method of distributing state educational monies have contributed to the decline of farming and the fragmentation of Vermont's forest holdings.

Standing against reform are the State's more urban communities, and these communities fear any change in the present tax arrangements because of their present favored status under the current "Miller Formula" for distributing state aid to education monies. The towns that profit from these tax policies are reluctant to approve any reform that would cost them money. It is important to note that there are twice as many people in Vermont who live in rural towns with a population of under 8,000 people than there are in urban places with populations over 8,000.

This, in general, is the present stand-off, in simplified terms. The VNRC Report goes into property

taxation and educational financing matters in great depth. It demonstrates the need for reform. It goes on to define an area of "common ground" that may exist to "reconcile the wide diversity of interests concerned." In his final two chapters Huffman offers a series of recommendations that may perhaps open the way to meaningful change.

Property, Education & Taxes in Vermont was supported in part by the Environmental Program at the University of Vermont and the Fair Tax & Equal Education Coalition. **Copies of the Report may be obtained by writing VNRC, 26 State Street, Montpelier, VT., 05602, with a charge of \$1.50 for postage and handling.**

VNRC BOARD OPPOSES CHANGES IN ACT 250

The VNRC Board of Directors has gone on record in opposition to any major modifications to Act 250 at the present time.

This VNRC Board action comes at a time when the General Assembly is considering two bills that would delete from Act 250 the authorization of a State Land Use Plan.

David R. Marvin, VNRC Board Chairman, made the following statement in commenting on proposals before the Legislature to strike the provision for a Land Use Plan. "Now is not the time," said Marvin, "to dismantle Act 250 without knowing what will take its place. There is still a need for the State to be involved in managing development and it is unrealistic to think that the cities and towns are in a position to do the job even if they had adequate staff and money for the purpose. The fact is that the State has a necessary and legitimate role to play in land use affairs and this role should be defined now before tampering with Act 250."

The VNRC Board stressed the fact that economic and environmental conditions have changed substantially since Act 250 was enacted more than seven years ago. The Board called for a re-evaluation of the State's role in planning for future growth and development.

Letters...

To the Editor:

Mr. Reidel's recent editorial in the (January) **Vermont Environmental Report** is interesting, factual as far as his interpretations are concerned and presents a generally gloomy picture. There are two sides to any situation and both sides should be examined.

For some 35 years the State of Vermont and the Federal Government have been maintaining a free professional forestry service and paying incentives which were begun on the grounds that the small private owner of woodland, once shown, would continue good management practices on his own initiative. The good management accomplished would assist in meeting the nation's need for wood products and would serve the owner's need for a return on his investment. The monies expended would put a dollar bill on every acre of woodland in this State, perhaps closer to a two-dollar bill.

Some woodland owners have continued good management but many have looked upon the incentive payments as a legitimate way to "rip off" another government agency. The number of consulting foresters has increased from none in 1940 to well over two dozen today. The "Tree Farm Program" sponsored by private industry has grown, although slowly. The 10,000 cooperators of the various agencies are not all sold on private enterprise since the Vermont Department of Forest and Parks suggested that only 5 percent might be good "Tree Farmers".

Small private ownerships have always been fragmented in Vermont. In 1948 there were estimated to be some 40,000 small owners with 10 acres or more of woodland; in 1974, there were estimated to be 43,800, not a large difference. Both fragmenting **AND** consolidation have taken place since 1948. A large percentage of these owners knew about the programs available to assist them. Depending upon the basis of any sampling used in surveys, there is still a large percentage of owners who know where and how to get professional guidance.

It seems doubtful that increased use of tax monies will build up a solid base of private owners treating their woodland as a "business". If forestry is truly a profitable private enterprise why should government continue to support the private woodland owner? The present problems in small woodland ownerships could well be solved by our competent professional foresters who are trying to make a living in Vermont. Governmental programs, if held at their present levels, can give less service and more advice, and refer the problems to the professional consultant. The decision of how much professional management assistance is needed and how much should be spent to supply it is up to the woodland owner himself. That our forests are not receiving the management which would produce more wood fiber is a contention that is widely accepted by all facets of the profession. If past programs have not "produced" - it is time to take a new approach. Is it an owner problem or a Government problem? Is forestry profitable or not?

Robert A. Farrington, Chairman
Vermont Tree Farm Committee

FEDERAL ASSISTANCE FOR ENERGY-RELATED INVENTIONS

The energy Research and Development Administration (ERDA) is prepared to assist inventors in developing and marketing the most promising energy-related inventions. ERDA reviews the most promising inventions that are recommended to it by the federal Bureau of Standards. For further information, write: "The Office of Energy-Related Inventions" - National Bureau of Standards, Washington, D.C., 20234.

Every time a piece of mail is returned to VNRC because of an incorrect address it costs the Council twenty-five cents. VNRC would be grateful if you would send us notice of a change of address as soon as possible (and your old VER label). This will keep the VER coming to you without interruption and will save the Council costly postal return expenses.

RESOURCES



Alternatives



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

Gardening



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

For Sale



BUSHNELL BINOCULARS. Available to VNRC members at discount prices, three models of the top-rated Bushnell binocular, a lifetime investment with manufacturer's warranty. Great for birdwatchers and amateur naturalists. Prices range from \$117.00 to \$131.00. Write or call **VNRC, 26 State Street, Montpelier, VT., 05602**, or call (802) 223-2328.

CIDER PRESSES -- One-third and full bushel capacity, complete with grinder. Please send 50 cents for complete information packet, **Hunger Mountain Crafts, RR 3, Worcester, Vermont, 05682**

PURE MAPLE SYRUP packed in Vermont-made ceramic jugs commemorating the Bicentennial of Vermont's independence. This limited edition available filled with Grade A. syrup: 1/2 gallon, \$19.25 postpaid; quart, \$12.50 postpaid. (Please add \$1.00 west of the Mississippi.) Write for complete mail order price list: **Butternut Mountain Farm, Johnson, Vermont, 05656.**

Information



VNRC ENVIRONMENTAL LAW MANUAL. A useful compilation of Vermont's numerous (and confusing) environmental laws for the practitioner and layperson alike. Periodic mailings sent to keep the **Manual** up-to-date. Cost: \$14.00 (\$8.00 for **Manual**, and \$6.00 for 1977 updating service). Write to **VNRC, 26 State Street, Montpelier, Vermont, 05602**

WE INVITE YOUR CLASSIFIED AD:

The **Resources Section of the Vermont Environmental Report** is accepting classified advertisements for upcoming issues. Ads are sold on the basis of 20 cents per word, with a minimum charge of \$5.00 per ad. For more information, write Seward Weber, at **VNRC** or call (802) 223-2328.

vpirg publication: radwastes

VPIRG PUBLISHES REPORT ON "RADWASTE"

The Vermont Public Interest Research Group (VPIRG) has recently released a 15-page report entitled, **Radwaste on the Roadway: The Transportation of Radioactive Materials in Vermont.**

The VPIRG Study raises questions of current and future concern over the shipment of radioactive materials on Vermont roads. It reveals that in the first nine months of 1976 alone there were ten incidents in which the management of Vermont Yankee failed to comply with State regulations in notifying State officials about plans for the shipment of radioactive materials. The Report declares that radioactive materials are currently travelling on Vermont roads "some of which are in critically bad condition." The Report goes on to warn that more than 600 shipments of radioactive materials will travel on Vermont roads annually if power generating facilities currently proposed are constructed.

The VPIRG Study examines three kinds of radioactive materials that travel on Vermont roads: (1) fresh fuel for nuclear reactors; (2) so-called "low-level" wastes from nuclear power stations; and (3) spent fuel assemblies. These spent fuel assemblies are no longer being shipped to reprocessing plants. But it is conceivable that such shipments may re-commence in the foreseeable future.

Radwaste on the Roadway is available from VPIRG, 26 State Street, Montpelier, Vermont, 05602, at a cost of \$1.00 per copy.

LATE NEWS!! The Congressional Record of the United States Senate for March 10, 1977 reports that Vermont's two U.S. Senators, Robert Stafford and Patrick J. Leahy, voted with the majority on a "sense of the Senate" amendment that declared support for **continued studies and spending** for Dickey-Lincoln and 18 other water resource projects. This vote strongly suggests that Senators Stafford and Leahy may yet be willing to support construction of the hydroelectric project at Dickey-Lincoln in northern Maine.

VNRC

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