

National Science Foundation and the National Institutes of Health could be given a mandate to make a special effort to identify and award grants and other forms of recognition to deserving women scientists.

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#### NEWS AND COMMENT

## Vermont: A Small State Faces Up to a Dilemma over Development

*Facing a period of substantial growth and intense development in the 1970's, we have the opportunity and hence the obligation to utilize the newer understanding of the science of ecology, and the improved knowledge concerning effective government organization, to provide a uniform, comprehensive approach by state government to assure development without destruction.*—From the 1970 report of the Vermont Governor's Commission on the Environment.

Vermont is a relatively lightly populated, largely rural enclave lying between the Washington-New York-Boston megalopolis and its northern outpost, Montreal. The Green Mountains provide Vermont with ski runs in the winter and a scenic backdrop the rest of the year, and have formed a classic barrier to development. Now, however, geoeconomic pressures have grown intense and Vermonters are striving—in the mildly overheated prose of that key report—for "development without destruction."

Vermont's dilemma is exemplified in its experience with environmental and land use legislation. The state legislature, particularly in a prolific 1969-70 session, enacted a body of law that conservationists around the nation have applauded as being as enlightened and comprehensive as any state's. Two pieces of landmark legislation were a land use and development law (Act 250),\* which, in effect, imposes state planning authority on major develop-

ment projects, and a law creating a system of effluent charges, which is patterned roughly on water management practices in the Ruhr in Germany. In addition, the legislature in recent years has passed other legislation prohibiting open-dump burning, controlling shoreline and mobile-home development, and tightening regulations on pesticide use. The esthetics of the landscape were also considered in laws regulating billboards and junkyards. A major effort has been made to reorganize state agencies to deal more effectively with the new legislation. But despite this outpouring of legislation, critics are finding fault on the score of implementation, charging the legislature and state officials with underenforcement through underfinancing of technical and policing staff and through "permissive" administration.

For the casual visitor to Vermont, it is a bit difficult to understand the sense of urgency over environmental matters, since the state seems remarkably free of the population pressures and the kinds of pollution afflicting Vermont's neighbors to the south. The statistics appear to bear out this impression: Massachusetts, with a total area of 7800 square miles, has a popu-

lation of 5.7 million, while Vermont, with 9300 square miles, has a population of 444,000, according to the 1970 census. Although Vermont's population rose by only about 55,000 in the 1960's, the increase was nearly five times the increase in the previous 10 years. With the rate of industrialization and the building of "second homes" for out-of-staters bounding upward in the 1960's, it appeared to Vermonters that the 1960's wrought a transformation in the landscape and the economy, and that change was running out of control.

The forces powering growth in Vermont are hardly unique. The extension of the federal interstate highway system and the building of turnpikes in Massachusetts and New York State began the process, and the building of Interstate 91 up the Connecticut River Valley opened southern and eastern Vermont to easy access from the south. Increasing population and affluence in the Northeast, as well as the skiing vogue, have given Vermont an all-season tourist industry and have caused the "second home" to proliferate. Industrial growth is centered in Burlington, the state's largest city in the northwest on Lake Champlain. By the end of the decade, the Burlington metropolitan area had a population of about 100,000, which is small even by the standards of New England cities, but it seemed to have reached critical size and to be exercising strong drawing power on the GE's and IBM's.

The results of development have also been predictable. With expectations primed by federal programs, Vermonters in the 1960's demanded expanded social services and investment in public education—both schools and higher education—also climbed steadily. The boom in the construction of second

\* A good description of the land use bill is to be found in a chapter on Vermont in *Managing the Environment: Nine States Look for an Answer*, a report of a study sponsored by the Ford Foundation and directed by Elizabeth Haskell, a fellow of the Smithsonian Institution's Woodrow Wilson International Center in Washington, D.C.

homes exerted new pressure for building roads and providing water and sewer services. As a consequence, the cost of state and local government rose rapidly and property taxes have skyrocketed. Higher taxes and rising land prices have accelerated trends in Vermont agriculture toward larger farming units and the breakup of the traditional pattern of farming by smallholders. Not surprisingly, frictions have developed between native Vermonters, who are anxious to see jobs created that will allow them and their children to continue to live in the state, and the "new" Vermonters—owners of second homes, retirees, industry executives, and many "counter-culture" colonists—who are likely to have different views and interests. A spirit of "Vermont for Vermonters" has begun to grow.

#### Wide Acceptance of Laws

Despite such friction, there seems to have been wide public acceptance of the environmental legislation in 1970. Most observers agree that this was based on concern about a "Florida style" real estate boom in the southern part of the state. Land on hill farms and mountain slopes was being sold off in acre and half-acre lots. Many of the new settlers seemed to be gripped by a chalet complex, seeking to build as high as possible to enjoy the view, and at the same time marring it. Bulldozing of roads and building sites created erosion problems in the thin and rocky soil, and apprehension grew about danger to water resources through damage to the holding capabilities of land at high elevations.

Awareness that big land development companies were moving in to exploit the market for second homes spurred state officials and the legislature to action. Vermont towns had a long tradition of local autonomy and meagre experience with major development problems. Planning and zoning laws were rudimentary in most towns, and observers say that this very lack of competence to cope with the problem made a state land use law more acceptable.

Impetus for the state law came from a report of a Commission on Environmental Control appointed by Governor Deane C. Davis. The governor, a Republican, had won reelection without putting much stress on environmental matters, but the land boom sharpened his concern. He put the authority of his office behind the land use and environmental legislation in 1970, and it

passed with surprisingly little opposition. Environmental consciousness had been heightened in Vermont in the late 1960's by revelations of the extent of pollution in Lake Champlain on the state's western border. The International Paper Company plant at Ticonderoga, New York, had been one of the plants to pioneer the making of paper from wood pulp and had been dumping the resulting sludge into the lake since the turn of the century. Sewage from municipalities and from farms and summer homes along the shores had added to pollution, and oil spills from storage tanks and from oil barges plying the lake had reached serious proportions. Davis himself has noted that the fact that 1970 was the "year of environment" helped the cause.

Act 250 provides for the creation of a statewide land use plan to control major development of all types, with environmental as well as social and economic criteria being applied. The law's chief mechanism is its requirement of state permits for housing subdivisions of ten or more lots, or for commercial or industrial developments of more than 10 acres. Smaller developments are left to the discretion of local government. In cases where towns do not have adequate planning and zoning apparatus, however, state permits are required for developments larger than 1 acre.

Act 250 is administered by a statewide Environmental Board and nine district commissions, all with members appointed by the governor. There are three categories of objections under which district commissions may deny permits or impose restrictions. These are (i) effects on water and air pollution, (ii) impact on highways, school systems, and municipal services, and (iii) effects on natural beauty, historical sites, or irreplaceable natural areas. Applicants denied permits for development may appeal to the state Board and, ultimately, to the state's highest court.

The Environmental Board is in the process of producing a detailed planning document that is to govern land use throughout the state and decisively influence the future pattern of urbanization and industrialization.

One of the interesting features of Act 250 is that it incorporates many of the features of what Vermonters call "the 2500-foot bill." For some years there has been a campaign in progress for legislation to protect the extremely fragile ecology of the state's

uplands and mountains. A University of Vermont biology professor, Hubert Vogelmann, led the fight for the bill and at last won an important point when Act 250 classed any construction above 2500 feet for commercial, industrial, or residential purposes as "development" subject to the law.

Vermont's experience with its effluent charges program, popularly called the "pay to pollute" law, illustrates how conflict can develop after environmental legislation is put on the books. The state's lakes, rivers, and streams are classified for use according to quality, and the new bill, in effect, prohibits a discharge of wastes that reduce the quality of the "receiving water." The law provided that, after 1 July 1971, no person could discharge wastes, treated or untreated, into state waters without obtaining a permit. If officials found that proposed discharge would reduce the quality of waters, the permit was to be denied. The "pay to pollute" nickname of the law stems from the provision for temporary pollution permits under certain conditions. The temporary permits are authorized when applicants are in the process of adding approved pollution abatement facilities or attempting in good faith to find ways to create such facilities. During the period of the temporary permit, the payment of periodic pollution charges are required, in accordance with rates established by the Board.

#### No "License to Pollute"

The intent of the law, its advocates insist, is not to sell a "license to pollute," but to put pressure on polluters while, at the same time, giving them a reasonable time to meet pollution standards.

In practice, there has been a wrangle over how charges should be levied—on an annual basis or according to units of pollution. The issue has apparently been decided in favor of the latter method.

A much more politically troublesome debate developed, however, on the issue of how high to set effluent charges. Most Vermonters apparently assumed the law was aimed at industrial polluters and not at municipalities or individuals. It soon became clear that the law was blind in this respect. Federal funds for sewage treatment plants that towns had counted on did not materialize. And heavy pressure from industry, municipalities, and individual voters moved the legislature to postpone the effective date of the law for a year,

although polluters will have to take effective corrective measures before that time or face retroactive charges.

The framers of Vermont's new land use law intended to prod local governments to deal more effectively with planning and zoning problems. But the effect of the new law has been to shift power over development to the state government. Many Vermonters originally viewed the land use law as defending the state against land speculators and "summer people." Now they find that the law restricts the local land developer, as well as the big land company. In the same way, effluent charges hit not only the industrial polluter, but the farmer with a faulty septic tank. The signs are that many people are having second thoughts.

By American standards, Vermont has had a virtually static population and homogeneous society. Vermonters are slow to accept outsiders, and their feelings about individual rights and local self-determination make them view the state government's burgeoning role with suspicion. Old patterns of life are breaking up, and the process is painful to many Vermonters who feel that the outsiders, rather than themselves, are profiting from the changes. Vermonters are proud of their state's natural beauty, but, in practical terms, they resent seeing the cost of land and

of decent housing soar out of reach, and they worry about the lack of jobs that would make it possible for their children to remain in the state. A sign of the times is a fairly widespread tendency to blame Act 250 for the current housing shortage in the state.

All of this has implications for environmentalists and is not lost on politicians. Serious consideration, for example, is being given to a system of preferential taxation, under which lower taxes would be levied on land kept in farming use than on land sold to developers. And, although environmentalists cannot be described as politically isolated, one state official who is generally sympathetic to the environmental cause may have shown which way the wind is blowing when he observed, "The trouble with your silver-haired, starry-eyed environmentalists is that they have only a small following and little clout."

The state's environmental activists seem to be facing up to the problem. At its last annual meeting, the Vermont Natural Resources Council, the leading statewide environmental organization, featured a panel on the operation of Act 250, and panelists dealt at some length with housing problems. The council is also the recipient of a \$120,000 grant from the Ford Foundation to be used in a statewide program

to inform the public on the purposes of Act 250 and to get the public more deeply involved in implementation of the act.

At this point, the question of how the new laws will operate in practice is still open and only time will tell whether the critics are correct in predicting that the laws will be administered permissively.

Vermonters, of course, should have no illusions that they will be left alone to settle their problems. Vermont exercises as strong an attraction in its region as an oasis in the Sahara. And as the state develops industrially, its interdependence with neighboring states will grow. For example, decisions must soon be made on a proposed East-West highway from Calais, Maine, to Amsterdam, New York, and its routing through Vermont will have a powerful effect on development. The public is more aware and perhaps more wary of new power plant construction in the state. A debate is now in progress over licensing of the first nuclear power plant constructed in the state, and Vermont faces early decisions on the location of other major power plants within its borders. Big power development as a local, state, and regional issue will be discussed in a second article on Vermont.

—JOHN WALSH

## High Energy Physics: In-Group Talks Funds, Possible Closeouts

The Joint Committee on Atomic Energy (JCAE), the congressional overseer of the Atomic Energy Commission, has been putting pressure on the AEC Division of Research, and on the administrators of the six AEC-sponsored accelerator laboratories, to come to grips with one of their most sensitive problems: which accelerators should be shut down if money for high energy physics stays constant or dwindles again in fiscal year 1973.

Decisions on this issue will be made within the AEC and then by the Office of Management and Budget (OMB) by the time the Nixon Administration submits its fiscal 1973 budget to Congress

next January. And when Congress reviews the Administration budget next spring, the JCAE will pass, among other things, on the fate of the big accelerators.\*

In preparation for this process, the JCAE report on the fiscal 1972 budget made an unusual request—its own a masterpiece of ambiguity—which has set those who administer the six laboratories and hence direct high energy

\* The six accelerators sponsored by the AEC are: National Accelerator Laboratory, Batavia, Ill.; Brookhaven National Laboratory, Upton, N.Y.; Stanford Linear Accelerator, Palo Alto, Calif.; Argonne National Laboratory, Argonne, Ill.; Bevatron, Lawrence Berkeley Laboratory, Berkeley, Calif.; and the Cambridge Electron Accelerator, Cambridge, Mass.

physics research in this country trooping to and from Washington like pilgrims flocking to Mecca.

The Committee asked the AEC to report back by 31 December 1971, with a "priority listing" of which accelerators should "be kept operating should future money be less than the minimum. . . ." But then it added a few sentences of praise for the six laboratories. It called them "highly deserving" of support "to keep them operating at their maximum level of productivity." It praised the "fundamental knowledge" that high energy physics provides to other fields, and it expressed the hope that the United States "remain in the forefront of this field."

No one knows for certain quite what the mention of minimum funding combined with lavish praise means; one school of thought is that JCAE is warning the labs to expect more cutbacks. However, it is clear that the second part of the passage, the praise of the six laboratories, has sent happy visions of sugar plums dancing through the