

general, the actions followed a pattern of behavior that has prevailed throughout the current Administration. The Senate, by and large, has favored relatively liberal spending and tight regulation in the environmental field, while the House, like Administration, has both shown itself to be more conservative in funding and more sympathetic to industry views. In most cases, in the crunch of compromise, the Sen-

ate views have lost out. A major exception was the water pollution control bill, when House and Senate joined to override the veto by a huge, bipartisan majority. The vote was a case of constituent influence reflecting the difficulties that municipalities are having in financing water treatment facilities to meet increasing pollution problems and tightening water quality regulations.

As for other actors in the piece, the environmentalists seem to feel they are in their accustomed role of accepting half a loaf. The White House continues to press Congress to enact more of its proposals in the environmental field and at the same time tends to extract the sharper teeth from nascent legislation. And the EPA carries on like an agency uncomfortably in the middle.

—JOHN WALSH

Maine: Finding the Promised Land (without Losing the Wilderness)

Portland, Maine. The newest building on the campus of the University of Maine is the Advanced Study and Research Center. The bottom three floors house the law school. But the rest of the seven-story building is virtually empty.

When the construction bonds for the building were approved by Maine voters 5 years ago, the theory was that the center would house research projects in the social sciences with a direct bearing on Maine's current economic and social problems. Little seems to have been done to give this concept reality.

While the state's problems have become, if anything, more acute, the voters' attitude toward higher education seems to have soured. They rejected the university's proposals for capital construction in 1970 and 1971 referendums on bond issues. (A new bond issue, to be presented to voters on 7 November, will test whether this attitude still prevails.)

The Maine legislature, reflecting both this skeptical and limited state resources, cut the university's 1972-73 budget below the amount requested for on-going activities, thereby completely eliminating funds that were earmarked by the university for new programs. There is no university money for the Advanced Study and Research Center. So Halsey Smith, the director, is currently busy trying to round up already funded projects and foundation assistance.

The fiscal squeeze on the university and the sour attitude of the state's voters in the last 2 years reflect Maine's general economic situation.

The state has suffered more than most other areas of the nation from recession and inflation. Unemployment last spring was 50 percent higher than the national average, and in some of the more remote counties along the coast and inland it was two and three times the national rate.

More than that, the recession seems to have shocked the state's voters into a realization that they may be stuck indefinitely in the austerity from which Maine's politicians have been promising for at least 20 years to deliver them.

One effect has been to intensify demands that state expenditures and state policy produce more rapid economic growth. Aside from the veneration of Senator Margaret Chase Smith (R), the performance of the economy remains the dominant issue in Maine politics. The frustrating thing for Maine politicians is that they really have little power to affect the economy.

To add to their discomfort—and to the already formidable obstacles to economic growth—the economic issue has recently become joined to a new concern.

The principal opportunity for economic development at present appears to be the location of heavy industry on the Maine coast—which is also one of the areas of greatest need in the state. Thus the pressure for development of

jobs meets head on with equally strong sentiments in Maine (and among national conservation groups) for preserving the scenery and environment that make the state a magnet for tourists and summer residents. The conservation interest is not merely sentimental, since tourism is Maine's second largest and fastest-growing industry. It brings in about \$500 million a year, but, unlike industrial development, it offers mainly seasonal employment.

The politics of Maine have thus become divided between the developers and the preservers.

Of political necessity, all recent Maine governors—from Edmund Muskie (D) in the 1950's to the incumbent, Kenneth M. Curtis (D)—have been strong advocates of economic development, anywhere it can be had (provided the environmental effects can be controlled or ignored). The reason lies in the state's desperate need. Maine's economy has been stagnant for a generation. Incomes rose during the 1960's, carried along by the general rise in U.S. prosperity, but Maine ranked 45th among the states in rate of economic and population growth. Reflecting the efforts of state politicians to pull the economy up by its bootstraps, nearly half of the new jobs during the decade were on the public payrolls, and most of those were in the public schools.

Poverty as affecting as that in West Virginia or Mississippi is not uncommon in Maine's more remote communities along the coast and in the interior. The lack of jobs induces high out-migration from these counties, which have been losing population for two generations, and from the state.

Reflecting these conditions, from 1960 to 1970 Maine's population grew only 2.4 percent, despite average fertility. (The national population grew 13.3 percent.)

The new force in Maine politics is

a broad coalition of groups with mixed motives but a common interest in blocking heavy industry on the coast. One group includes the tourism promoters and real estate agents, who are selling old Maine charm as much as recreation and second homes. Another consists of the coastal fishermen, who fear that pollution will ruin their already limited catches. A third is made up of summer residents. Much of the coast is owned by wealthy families (for example, Rockefellers, Cabots, Du Ponts), who have a strong aversion to development of their vacation land. Mrs. David Rockefeller is chairman of the Maine Coast Heritage Trust, an organization representing a cross section of coastal residents who are looking for ways to protect the existing scenery and environment. Coastal preservation is sometimes called, with acerbity, "saving the view from Mrs. Rockefeller's picture window."

This coalition took a leading role in 1970 in opposing various proposals to locate oil refineries in Washington County, on the eastern extremity of the coast. Washington County is among the poorest counties in the nation, with unemployment last winter of more than 18 percent. "A lot of those who oppose oil projects in Maine are people from other states who made their money polluting other states and now they've come here for serenity," Governor Curtis told *Fortune* in 1971.

The contest between the proponents and opponents of growth can be traced in recent legislation and in state environmental and economic programs.

In 1970, strong political opposition to proposals for the development of several oil refineries on the coast prompted the state legislature to pass the first of a series of laws extending the state government's police powers over the environment.

The Site Location Law gave the state government power to "control the location of . . . developments substantially affecting the local environment in order to insure that such developments will be located in a manner which will have a minimal adverse impact on the natural environment of their surroundings." The new law handed the state what is, in effect, veto power over new commercial and industrial developments (including residential developments of 20 acres or more) that (i) do not appear to have the financial ability to install and carry out antipollution measures required by state and federal

law; (ii) have an adverse effect on the natural environment, including scenic character and property values; or (iii) might be built on soil of a type unsuited to the nature of the undertaking.

Other laws passed in 1970 and 1971 give the state authority to protect wetlands, requiring local communities to zone all land within 250 feet of navigable waters by July 1973 or suffer state intervention. (Navigable waters are roughly defined to include any stream, pond, lake, and so forth that is capable of floating a log.)

The result is a major extension of state authority over land-use controls that places Maine among the leading states in what is becoming an important national trend.*

Question of Enforcement

The strengths and weaknesses of the new land-use controls are still being explored. They will depend in large measure on how well the state follows up its initial decisions with inspection and enforcement and whether the state can develop an overall plan for development. It is clear that the powers presently exercised by the state will be insufficient to deal with the serious water pollution problem created by the accumulation of thousands of summer-home developments of less than 20 acres. Here local zoning regulations will play a decisive role.

Enactment of the Site Location Law did not put an end to proposals for industrial development on the coast, although the law was instrumental last year in blocking a proposal for an oil refinery at Searsport.

In August, the Governor's Task Force on Energy, Heavy Industry, and the Maine Coast issued a report recommending industrial development in two locations. It represented something of a compromise with the antidevelopment group in that it recommended that oil refineries and oil ports be barred from the eastern end of the coast and the major tourist areas. (It acknowledged that ocean currents could carry oil spills westward along the coast, causing major damage to the scenery and fisheries.)

The task force did recommend that other heavy industry—probably a new pulp and paper mill—be allowed to locate at Machias in Washington County. The second heavy industry

zone on the coast—to include a new oil port and refinery—would be at Portland, already the site of the second largest crude oil port on the East Coast. (It feeds a pipeline that supplies Montreal's oil.) New power plants were exempted from the zone proposals and would be allowed to locate outside the two industrial zones on a case-by-case basis.

While the task force was preparing its release last summer, Casco Bay, Portland's harbor, experienced the worst oil spill in a decade. It was a relatively minor incident compared to major oil spills such as that from the *Torrey Canyon* or the one in the Santa Barbara channel. But cleanup was slow (exposing, some think, the Coast Guard's lack of preparedness to handle spills on the East Coast), and damage was extensive enough to stiffen conservationist opposition to any new oil terminals on the Maine coast.

The task force admittedly slighted the problem of how to provide year-round jobs along most of the coast, where heavy industry would be excluded. This fact may prove to be the great weakness of its zoning proposals. The more hopeful of Maine's planners see economic salvation for these areas and for the interior through the establishment of various kinds of light, non-polluting industry, from year-round resorts to furniture factories to chicken farms to fish farming.

But the obstacles to development of small industries in Maine are forbidding, despite the prevailing low labor costs (hence the attractiveness of well-financed heavy industry as a reliable source of employment).

Previous efforts to bring new industry to Maine have foundered on high transportation, power, and heating costs. Within the last 2 years, one potato processing firm reportedly decided to locate in Washington State rather than in Maine because plant overhead was \$20,000 a month higher in the eastern state. (The new Yankee nuclear power plant at Wiscasset will not directly affect Maine power rates. Much of the power it generates will be exported to Massachusetts and New Hampshire.)

A related problem is the state's difficulty in attracting development capital. The state government is considering several proposals for raising such capital by issuing bonds. One proposal would create a Maine Land Area Development Authority with the power to acquire, develop, and dispose of proper-

* F. Bosselman and D. Callies, *The Quiet Revolution in Land Use Control* (Government Printing Office, Washington, D.C., 1972).

ties throughout the state. Another, associated with the governor's report on coastal development, would establish a Maine Coast Industrial Development Corporation, financed by bond issues, to develop the Portland and Machias areas.

The weakness of this approach to the problem of development capital is that other states are using similar techniques to attract new industry. Therefore the competition in the capital markets, not to mention the competition for a limited supply of new businesses, could be quite intense. Maine's bond issues and capital costs are thus likely to reflect the market's estimate of Maine's real competitive advantage. This is not a highly promising approach except perhaps in connection with well-financed heavy industry serving a clear regional or national demand, such as oil refineries, power plants, and paper mills.

Clearly the state will have to find additional inducements for investors if the advocates of light industry wish to realize their dream of a self-sustaining but nonpolluting economy for Maine. (The alternatives are continued unemployment and depopulation of rural areas or more heavy industry. The political pressures for the latter are not likely to abate if it is the only alternative to heavy unemployment.)

One approach, already being given a limited trial by the state, is direct state action to develop resources and markets that would support light industry. The state government supports an aquaculture research program and is encouraging a pilot project in furniture-making. But these are cautious and modest efforts, with no immediate prospects of creating many jobs. On a slightly more ambitious scale, the State Department of Commerce and Industry recently obtained federal funds for a feasibility study of a "life sciences" park, to be located between Portland, Brunswick, and Lewiston. The concept is patterned after the North Carolina research triangle (Raleigh, Durham, Chapel Hill). The park would attempt to attract research-oriented industries in the life sciences.

A somewhat more radical approach to stimulating economic development in Maine was put forward last spring by Harvard professor Richard Barringer. He argued that the state should establish a development agency that would use public funds—not proceeds from bond sales—to start new enterprises where they would do the most

economic good and least environmental harm.

The Barringer study, "A Maine Manifest," was sponsored by the Allagash group, a nonprofit institution, financed by anonymous wealthy donors, that was recently set up to study the Maine economy. Its activities during the past year were directed by the editor of the *Maine Times*, John N. Cole. The study was prepared by Barringer and other members of the Huron Institute of Cambridge, on a \$50,000 grant from Allagash. (It is perhaps indicative of the condition of Maine's own academic community that the study was produced by a Massachusetts think tank.)

The crux of Barringer's concept is that the state and local communities should capture a part of the benefits

being realized, often by speculators, from the appreciation of Maine property values and use this capital to finance state and local development organizations.

Barringer suggests that a portion of the property tax collected in every community be used to finance a state land bank. The land bank would operate like a development agency in acquiring land. It would not resell land, but would give long-term leases and retaining state ownership. According to Barringer, the land bank could be used, among other purposes, to preempt resort development possibilities before large land developers could move in.

The Barringer approach would require the state to assume a larger proportion of local school costs now fi-

Gofman Honored; AEC Mum

On 20 October, John Gofman, best known for his fight with the Atomic Energy Commission (AEC) over radiation standards, was one of four scientists to be awarded the Stouffer Prize for heart research.

Gofman's work on lipoproteins was done during the 1950's at Donner Laboratory on the University of California's Berkeley campus, which is almost totally funded by the AEC.

But the AEC, usually so quick to publicize any award that redounds to its credit, has said not a word about Gofman's achievement. Nor has any notice been taken by Lawrence Radiation Laboratory, where Gofman has been doing cancer chromosome research.

The AEC public information office, in response to an inquiry, explained that Gofman's award-winning research had nothing to do with the AEC. But soon afterward there came an embarrassed phone call from an information officer at the Lawrence Laboratory, who acknowledged that the research had been supported by the AEC, but that, naturally, it was the privilege of the Vernon Stouffer Foundation to decide how and when to publicize its awards.

Gofman, when called by *Science*, greeted this negative public relations effort with his usual outspokenness. "If anyone else in an AEC lab got an award like this they would spread it anywhere in the far corners of the earth," he remarked. "This is perhaps the lowest behavior I've seen on the part of the radiation lab." Nonetheless, he observed that his scientific stature seems to rise in proportion to the AEC's attempts to discredit him.

Gofman's research staff and grant funds from the AEC have been shrinking steadily since 1969, when he and Arthur Tamplin publicized calculations which showed that the possible harmful effects of low-dose radiation were considerably higher than the AEC believed.

Gofman says he hung on through the hottest part of the controversy, but now "I've made my point." He plans to sever all connections with the AEC as of 1 January. He will continue in his half-time post as professor of medical physics at Berkeley and is casting around for another research grant.

Gofman is sharing the \$50,000 Stouffer Prize with Vincent P. Dole of the Rockefeller Institute in New York, Robert S. Gordon of the National Institutes of Health, and John L. Oncley of the University of Michigan.—C. H.

nanced by the property tax and would also reform the property tax system in a way that would ease its burden on poorer communities. Political observers in Maine rate the acceptability of these recommendations—particularly the land bank, which many consider socialistic—as low.

Barringer also recommended in the report that the state university system develop a Maine studies program, which would combine several disciplines in attacking both theoretical and practical problems of economic development in Maine: public and private investment policy, science and technology, manufacturing processes, marketing, management, and so on. It would, he suggested, raise the esteem of the university in the state as well as contribute to economic development.

As Barringer suggests, the tools of science and technology could find useful application in Maine, particularly in such areas as improvement of social services (for example, medical care and transportation), economic planning of land use, research and development to improve the productivity of Maine's natural resources and industry, and pollution control technology.

An example of what can be done in Maine with new technology to improve social services can be seen in the state's ambitious program to improve health care delivery.

The economic stagnation and declining population of the outlying counties have directly affected the amount and quality of health care available to their residents. They lack funds to modernize health care facilities, facilities to care for a growing population of elderly people, and the economic strength to attract young doctors.

With federal assistance, the state has instituted an innovative program to consolidate scattered small hospitals into regional centers. One is going into operation in Franklin County, another in Knox County along the coast, and others are planned. The centers will be supplemented by satellite clinics. The clinics, regional centers, and major hospitals will be tied together by closed television and telemetry circuits, permitting remote diagnosis and eliminating the need to have a wide range of skills and equipment at each regional center. Most of the initial direct contact with patients, particularly at the satellite clinics, would be by skilled paramedical personnel equivalent to the Army medic.

The governor's office has begun to

express a keener interest in the potential payoff from intensified support of science and technology in Maine. On 6 October, Governor Curtis appointed a Cabinet Committee for Research and Development and directed it to come up with ways to help the state. He noted that the distribution of federal research and development funds among the states is closely related to state expenditures and that "Maine is currently the only state with no clearly identifiable state agency funds supporting science and technology."

The state university would be a logical agency to manage an expanded program of Maine-oriented research, as Barringer suggests. But the recent treatment of the university's budget by voters and the legislature should raise doubts about any plans for increasing the university's state-supported research budget.

State budget problems aside, the treatment reflects the widespread feeling that the university and Maine's public schools are wasting funds by educating students for employment that they can find only outside the state. A 1968 study by the university found that, after 5 years, over 50 percent of the university's graduates lived and worked in other states; after 20 years, over 70 percent of the graduates of the university's school of technology lived and worked elsewhere. The university is currently turning out several times as many teachers as there are jobs in Maine schools.

Echoing both the common complaint that Maine is losing its best-educated people and the new demand for relevance in state-supported education and research, Governor Curtis, on setting up the Cabinet Committee for Research and Development, declared: "Maine can no longer afford to let its brains flow out of the state or be attracted to projects of no value to Maine." Whether the university can adapt to the growing pressures that it become a more "relevant" institution remains to be seen.

Chancellor Donald McNeil has long-range plans for expanding enrollment, particularly in 2-year education programs that would be tailored to the state's immediate needs (for example, paramedical training). A university committee, along with other educational institutions, is also exploring the possibility of combining existing teaching staffs, buildings, and hospital facilities to establish the first medical school in the state. And the university

would like to double the enrollment of students from low-income families.

Given the state's doubtful fiscal picture, the paucity of jobs for the university's current graduates, and the general political climate, the university may have to count on continued austerity as far as new programs are concerned. One alternative would be a major internal reallocation of funds by the university, taking money away from such areas as teacher training in order to finance expanded research or vocational education. But entrenched faculties, tenure, and lack of strong central budget controls limit the chancellor's ability to make sweeping changes.

A bumper sticker occasionally seen in the state says "KPOOM"—Keep People Out Of Maine. It is aimed at the flood of tourists (over 5 million a year) and the growing number of summer residents, and it appeals to Maine's ever-present xenophobia. Somehow, it conveys the impression that Maine would be better off if it could secede from the nation.

Maine is not self-sufficient—witness the steady out-migration of its native sons for the last 30 years. Current projections predict that economic growth in Maine during the current decade will be no greater than in the 1960's. Unless major new sources of employment are found, out-migration will continue perhaps until rural Maine is empty of year-round residents. And tax receipts will be insufficient to support planned growth in education and other social services.

Some observers have argued that the citizens of Maine might as well accept the situation; move to New York; leave the coast and interior to those who can afford to spend leisure time there (either as private property or a national park); and stop trying to compete with their richer neighbors in luxury fields like higher education.

Although it is cynical, the argument may have hard-headed realism and history on its side. But no Maine politician is going to be elected to office on the slogan, "Kick People Out of Maine." Nor should he be. But whether any can find a way to lead Maine's people to the promised land (while keeping the wilderness) remains, like almost everything else in life, to be seen.

—ANDREW HAMILTON

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