

How Does North Carolina Rank in Managing the Environment?

If the state legislature were to require a new Environmental Index for North Carolina (see recommendations on page 26) or if the Department of Natural Resources and Community Development were to initiate it, national indices offer both tips and pitfalls. In the last two years, three national studies have evaluated trends in the environment. One ranked the 50 states with scores on six specific issues, leading to a cumulative ranking. A second index provided a more subjective look at six other environmental concerns, in the context of its 20-year history. The third examined national trends concerning pollution control issues, emphasizing such national issues as the Superfund.

Collectively, these three reports suggest national trends but lack the kind of detailed state-level information discussed in the sections of this article on air, land, and water. While the state-level information in the three reports is somewhat sketchy, the information on states, including some rankings, does stimulate a vigorous debate over the validity of various measurement tools.

For the last two years, The Fund for Renewable Energy and the Environment (FREE) has produced the nation's most detailed environmental report in terms of state-by-state rankings, called *The State of the States*.¹ This report was an outgrowth of Solar Action, an organization formed in 1978 to promote the celebration of "Sun Day" around the world. The group expanded its mission in 1986, as the report says, "to provide new environmental tools for state and local decisionmakers in a continuing effort to build a sustainable society."

In the 1988 report, North Carolina ranked ninth among the 50 states in its overall environmental record, with a score of 40 out of a possible 60 points (a possible 10 points for each of six categories). The 1988 report examined data and compiled state scores concerning surface water protection, reducing pesticide contamination, land use planning, eliminating indoor pollution, highway safety, and energy pollution control.

Among southern states, North Carolina trailed only Florida (eighth, 41 points). Massachusetts and Wisconsin tied for first (45 points); Wyoming was last (15 points).

The 1987 FREE report, its first, examined six different topics: air pollution reduction, soil conservation, solid waste and recycling, hazardous waste management, groundwater protection, and renewable energy/conservation. In those rankings, made a year earlier but on different topics, North Carolina ranked higher—seventh—than any other southern state.

The FREE rankings do not distinguish between the quality of the environment itself and a state's efforts to manage that environment. Laws, permits, and actual measurements of the environment are ranked and given numerical scores, then added together for a total score within each category, but the emphasis remains on what programs are in place—not on how well they work or what the environmental quality is. Such a mixing of factors can be misleading. Another problem can result from basing the study on available national and state data rather than digging into information that is comparable from state to state. The surface water category illustrates such problems.

The 1988 report ranked North Carolina the best state in the nation in surface water—the only state with a perfect score of 10 in that category. Using data from the Environmental Protection Agency (EPA), the report showed North Carolina to have only 12 permits on backlog. But according to the data compiled on a monthly basis by the N.C. Department of Natural Resources and Community Development, in January 1988, 577 requests for a new or renewal permit were on backlog.²

Mixing various measurements raises other kinds of questions. "While North Carolina may appear to have a great program on paper, our rankings do not reflect the problems that we face due to inadequate monitoring and enforcement of those policies," says Mary Beth Edelman, presi-

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dent of the Conservation Council of North Carolina. Bill Holman, the state's most prominent environmental lobbyist, adds: "North Carolina has the tools, but the state needs to make sure those tools are used."

Don Follmer, the NRCD director of information, says, however, that the ranking on surface water reflects more than tools. "It shows we are doing a good job. But we can do better."

A second major report issued in 1988 is the "Environmental Quality Index" published by the National Wildlife Federation in its magazine, *National Wildlife*.³ This was the 20th year the group published its index. The magazine calls its index "a subjective analysis of the state of the nation's natural resources." The editors and the National Wildlife Federation staff consult with government experts, academic specialists, and others before making "judgments of resource trends," as the report explains. The latest index reviewed trends over its 20-year life and then assessed seven specific areas: wildlife, air, water, energy, forests, soil, and quality of life. It used a gauge with three general levels—worse, same, and better. In 1988, all seven categories were in the "same" middle ground, but water and wildlife nearly fell into the "worse" range nationally.

The review of the 20 years points out how much the science of environmental indices has changed. "It is true that not one of the [group's] annual report cards indicated an improvement in the quality of the country's water or the prospects for its wildlife," summarizes the introduction. But, it points out, "Many of our most befouled lakes and rivers are thriving with life again, even Lake Erie, once pronounced clinically dead."

The report goes on to explain why the group's indices seem to say paradoxically, "Things have been getting better and worse at the same time. The reality is that we did not know, 20 years ago, how to measure the problems we faced; and every time we devised a better set of measuring tools, we found the problems to be greater than we had thought." The emphasis of the Environmental Quality Index varies from year to year. The 1987 report, for example, was called "A Nation Troubled By Toxics," even though it reviewed the same seven categories as done in 1988.⁴

The third major study came from The Conservation Foundation, a Washington-based envi-

ronmental research organization founded in 1948.⁵ Called *State of the Environment: A View Toward the Nineties*, it follows similar reports made in 1982 and 1984. The 1987 version concentrates on pollution-control efforts at the national level. "The report is a bold attempt at an overall assessment of progress in pollution control, complete with quantification wherever possible," says *State Policy Reports*. "The conclusion is that a relatively good job has been done in dealing with easily identified pollutants in certain media—particularly air and water—but that new challenges lie ahead in dealing with multi-media problems."⁶

The report includes a supplement with some limited state-by-state data. The most interesting figure is the per capita spending by state government on natural resources, parks, and recreation. Using fiscal year 1984 figures, the report ranks North Carolina only 32nd among the 50 states, \$28 per capita per year. (This figure should not be confused with state per capita spending on state parks alone. See article on parks, page 30, for more). Businesses in North Carolina spent the equivalent of \$42 per capita for pollution control in 1983, compared to a nationwide average of \$51 per capita, the report found.

In addition to these three major recent reports, state officials considering how to structure an environmental index could refer to various other sources. The Conservation Foundation publishes many valuable reference reports. One 1983 study, *Environmental Regulation of Industrial Plant Siting*, ranked the 50 states on an environmental "effort index."⁷ This index measured such factors as the voting record of the states' congressional delegations on environmental and energy issues, the availability of an income tax checkoff for wildlife and fisheries, per capita environmental quality control expenditures, EPA-authorized state programs for hazardous waste controls, and land use indicators. In this report, North Carolina ranked 29th among the 50 states.

Until 1981, the federal government released a valuable annual report on the state of the country's environment. The Council on Environmental Quality, under the Office of the President, released these annual reports. During the Reagan administration, this report has not been pub-

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single Environmental Index? On a scale of 1 to 10, for example, would the state be a 6 on the scale in 1989 but improve to an 8 by 1990, or perhaps slide to a 5? Given the range of complex variables in the environment, and the need for careful analysis of each indicator, no such single indicator should be developed.

"A single environmental quality index might mask some very important changes which we ought to be addressing," says David H. Moreau, director of the Water Resources Research Institute, part of the University of North Carolina system. "We might have a serious deterioration in one aspect of the water, for example, and if that gets lost in a general indicator that's not as responsive to that, you're losing important information. A single N.C. environmental quality index might be nice, but I'm not sure it would be very meaningful."

Douglas N. Rader, senior scientist with the N.C. Environmental Defense Fund and a former NRCD official, adds that an environmental indicator may tend to oversimplify a condition—and thus impart erroneous perceptions. "In using indices of the sort proposed," says Rader, "we face . . . a tremendous risk of oversimplifying complex prob-

lems. In the process, we may present a misleading picture of our state's environmental quality and provide support to those who would simply preserve the status quo."

The Department of Natural Resources and Community Development has expressed interest in such an Index but is concerned about its difficulty. "There is some merit in discussing the Environmental Index," says Edythe McKinney, director of Planning and Assessment. "However, . . . to be useful it is necessary to better define the problem. As a minimum, there should be a more detailed discussion as to the need, the limitations and experience with measuring the 'quality of the environment,' and the components and weights to be included in an index. There should be an examination of what we want to measure and the costs and trade-offs in establishing an Environmental Index. The reader should be exposed to the debate on 'what is a good environment' that will surround the development and adoption of a system to measure environmental progress."

Given the data that's available in North Carolina, publishing an annual Environmental Index—even one covering only air, land, water, and

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lished, however, but with a new administration in 1989, this report could be renewed. Finally, on a global level, the Worldwatch Institute has recently begun publishing an annual book called *State of the World*, which summarizes environmental indicators worldwide.⁸

These indices, of course, examine national data. North Carolina's Environmental Index should be different in a number of respects: It should examine state data only; it should be published annually rather than periodically; and it should examine environmental problems unique to North Carolina.

—Bill Finger

FOOTNOTES

¹*The State of the States, 1987 and The State of the States, 1988*, Fund for Renewable Energy and the Environment, A Renew America Project, 1001 Connecticut Ave. NW, # 719, Washington, D.C. 20036, (202) 466-6880; \$15 for main report, \$6 for focus paper on one of the six areas examined, \$35 for report and all six focus papers (1988 report); prices are slightly less for 1987 report.

²For a full discussion of the permit backlog issue, see

Frank Tursi and Bill Finger, "Clean Water—A Threatened Resource?," *North Carolina Insight*, Vol. 10, No. 2-3 (March 1988), especially pp. 57-58.

³"The 20th Environmental Quality Index," *National Wildlife* magazine, Vol. 26, No. 2 (February-March 1988), pp. 38-47; most of the past years' indices have also appeared in the February issue of the magazine; one copy of the index is free from Books & Special Publications, National Wildlife Federation, 8925 Leesburg Pike, Vienna, VA 22184; additional reprints cost 50 cents each.

⁴"A Nation Troubled by Toxics," *National Wildlife*, Vol. 25, No. 2 (February 1987), pp. 33-40; cost information is the same as in footnote 3.

⁵*State of the Environment: A View Toward the Nineties*, The Conservation Foundation, 1250 24th St., N.W., Washington, D.C. 20037, (202) 778-9510; cost is \$19.95.

⁶*State Policy Reports* (Alexandria, Va.), Vol. 5, Issue 22 (Dec. 7, 1987), page 19. Also see Vol. 5, Issue 13.

⁷*Environmental Regulation of Industrial Plant Siting: How To Make It Work Better*, The Conservation Foundation, 1983, pp. 218-229 (see footnote 5 for address); cost is \$15.00.

⁸*State Of The World*, annual report by the Worldwatch Institute, 1776 Massachusetts Avenue NW, Washington, D.C. 20036, first edition February 1988, \$9.95 each (bulk order discounts available).