



NORTH CAROLINA CENTER FOR
PUBLIC POLICY RESEARCH INC.

NEWS RELEASE

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N.C. CENTER PROPOSES ENVIRONMENTAL INDEX FOR NORTH CAROLINA

The state needs a better way to keep tabs on the quality of its environmental resources and should create a North Carolina Environmental Index to make regular assessments, says the N.C. Center for Public Policy Research. Such an Index should make annual evaluations of the quality of North Carolina's air, water, lands, and other natural resources, and should publish comparative data showing improvement or degradation each year, the Center says.

"If you're old enough to cash a paycheck, chances are you can understand and appreciate the basic economic indicators that are published regularly -- the inflation rate, the unemployment rate, and interest rates," says Ran Coble, the Center's executive director. "For years, the federal government and the N.C. Employment Security Commission have published major economic indicators. But the state has not chosen to publish regular indicators on whether North Carolina's environment is getting better or worse in terms of air quality, water quality, use of land resources, or how we are handling hazardous wastes. The need for a North Carolina Environmental Index -- one that could make comprehensive and comparative judgments about our environment -- is clear."

The Center recommends that the N.C. General Assembly appropriate funds for an Index in the 1989-90 session and that the Department of Natural Resources and Community Development begin publishing an N.C. Environmental Index in 1991.

Daily news clippings and radio and TV broadcasts suggest the environment in North Carolina may be getting worse -- algae blooms depleting oxygen in the Chowan River and in estuaries, dying trees on Mt. Mitchell linked to acid rain, and stricter auto emission controls mandated in Raleigh and Charlotte because of poor air quality measurements. On the other hand, many of the reports filed by state offices with the federal Environmental Protection Agency indicate that water and air quality in North Carolina are improving. Where does the truth lie? It might well lie in the regular publication and analysis of measurable data about North Carolina air, water, land, and other resources, asserts the Center.

The Environmental Index, described by freelance writer Bill Finger in the latest issue of the Center's quarterly magazine, North Carolina Insight, would go beyond current environmental measures published by the N.C. Department of Natural Resources and Community Development. That department, which has been recognized nationally for its efforts to manage the environment, has focused more on management issues -- and not whether the resource itself has actually improved.

Publishing environmental indicators is hardly a new idea. In 1973, the Department of Natural and Economic Resources (the forerunner to the current Department of Natural Resources and Community Development, or NRCD) released a 16-page booklet called "North Carolina Environmental Indicators." It included brief descriptions of such resources as air, water, solid wastes, soil, forest land, coastal wetlands, shellfish waters, and wildlife. Eight years later, in 1981, NRCD published a second such report, called "North Carolina's Environment." These reports, produced under two different governors, were extremely helpful -- as far as they went. But it was clear that more data were needed to paint a comprehensive picture of the state of North Carolina's environment.

In 1983, the Commission on the Future of North Carolina called for better environmental data reporting in the North Carolina 2000 Report. "Beginning immediately, the state should establish an environmental indicators program that provides regular and systematic monitoring information on changes in the quantities and qualities of environmental conditions," the report recommended.

The Southern Growth Policies Board added its voice to this debate by recommending that "By 1992, each southern state should have an integrated, computerized, geographically based environmental information system to track a wide range of water quality, air quality, wildlife, waste, and land use indicators."

NRCD did not respond to these recommendations in any formal way until the legislature forced the issue with a new state law in 1985 that required a biennial report "on the state of the environment" (G.S. 143B-278.1). The law included seven specific areas to be covered, including "trends in the quality and use of North Carolina's air and water resources." NRCD published a 60-page glossy booklet called State of the Environment Report-1987 containing chapters on water resources, hazardous and radioactive waste management, general environmental management issues, coastal and marine resources, air, forest land, agriculture, mining, and parks, natural areas, and wildlife.

The Center praised NRCD's 1987 report for including a great deal of valuable information on water quality permits, land-use plans, dredge and fill permits, sedimentation permits, and other environmental management efforts. But the Center says this information on managing and regulating the environment is one step removed from measuring the actual progress or decline in the environmental resources themselves. Put another way, the inputs into managing a resource such as surface water do not necessarily reflect the outcome on that resource.

An annual North Carolina Environmental Index -- actually a series of indices collectively published in an Index -- is needed to complement the biennial report prescribed by the legislature. Such a review of indicators could begin with air, water, and land -- the basic environmental resources -- and could be expanded to such other areas as wastes (hazardous, radioactive, and solid waste materials), wildlife, and parks and recreation.

The Index should have at least three components. (1) First, it should contain quantitative measurements of the environmental resource itself. (2) Second, the index should present data over a span of years, to indicate trends in environmental quality over time. (3) Finally, for the data to make sense to the public, the Index should contain an analysis of each indicator showing improvement or degradation in the environment, as well as a brief narrative discussion of major environmental management issues. For the Index to have the most utility, it should be compiled on an annual basis, use reliable data, and be simple enough for the average citizen to understand.

The Center notes that establishing, operating, and maintaining a North Carolina Environmental Index would be difficult and costly. Monitoring the environment, measuring pollution, and analyzing the data to determine areas of improvement or degradation is an extremely difficult process. It will require expensive monitoring stations in many different areas, costly equipment to collect data in many of those areas, and scientific expertise to analyze that data and to determine whether environmental quality has improved or declined. The department has a professional staff that does an excellent job of fulfilling its current responsibilities, but NRCD will need a larger staff to operate an Environmental Index. All this requires money -- money that NRCD does not have in its current budget.

Both environmentalists and state officials have raised questions about the Environmental Index. State agencies have worried about the costs and the complexity of the task, while environmentalists fear that some future administration might attempt to manipulate the data to serve political ends. The Center acknowledges the possibility of such manipulation but said that if the state's environmental groups monitor and advocate improvements in the Index, the ability to tamper with such data would diminish.

The Department of Natural Resources and Community Development has expressed interest in such an Index, but is concerned about its cost and 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. There should be an examination of what we want to measure and the costs and tradeoffs in establishing an Environmental Index."

"An Environmental Index won't come cheap," Coble acknowledges, "but its value would be enormous to legislators, policymakers, and the general public. With the data to be gleaned from an Index, we would have a more accurate picture of where we're improving and where we're falling behind. Without that picture, we'll never know what the state of our environment really is."

The Insight article made 17 specific recommendations for material that could be included in an Environmental Index. Among those recommendations are the following:

Water Resources

1. A comprehensive data collection and reporting system for groundwater needs to be developed and funded. Currently, little regular data are gathered on groundwater. Periodic surveys are made, and reports of incidents of groundwater pollution are investigated. But routine testing of groundwater is not done as it is done with surface waters. With regular collection of data on groundwater, the Index could report trends on whether the quality of groundwater should be of concern to the public. "There is no comprehensive groundwater statute that requires good data gathering," says Lark Hayes, a specialist on groundwater issues and director of the N.C. Office of the Southern Environmental Law Center.

2. The Index should contain newly-collected data on the quality of drinking water supplies, including data on the quality of water both before and after its treatment. The federal Safe Drinking Water Act amendments adopted in 1986 require the EPA to monitor a number of chemical compounds in water, and to add monitoring for 25 new compounds each year. This monitoring would provide valuable data for the Index.

3. The Index should contain basic information on surface waters, including data on "use impairment." A state water report (known as the "305b report") submitted to the U.S. Environmental Protection Agency every two years contains excellent data, including the percent of miles of surface waters meeting their "best-use" classification. The state has begun to measure certain river basins with a broader

group of tools, gathering biological, chemical, and other data and resulting in a "use-impairment" index for the French Broad and Cape Fear River basins. The new Environmental Index should draw on this approach for statewide data. The Chesapeake Bay Program in Maryland and Virginia routinely reports water quality information in an easy-to-understand format, and so can North Carolina.

4. The Index should contain better data on nonpoint pollution of surface waters. Thorough data are collected on point sources of pollution but not on non-point sources, such as runoff from farms that might include agricultural chemicals or animal wastes.

David H. Moreau, director of the Water Resources Research Institute in the University of North Carolina system, believes that the current system of measuring surface water quality can make the quality appear to be better than it really is. "The samples are located primarily below point source discharges," explains Moreau, referring to the points in a stream or river where a municipality or major industry discharges its wastewater into a river or stream. "The samples are reflecting the effects of the construction program for wastewater treatment programs. What they do not reflect very well are the nonpoint source loads," he adds, referring to the pollutants that enter surface waters from rainwater washing across farms, developments, cleared land, and highways.

Air Quality

5. The Index should publish data on the amounts of six major pollutants which the Environmental Protection Agency (EPA) requires the state to monitor. This data should be available on a statewide basis and by county where possible. The six pollutants are carbon monoxide, lead, nitrogen dioxide, ozone (including hydrocarbons), particulates, and sulfur dioxide. The county-level data are necessary to show which areas are still not meeting EPA standards. For example, Wake, Durham, and Mecklenburg counties are not meeting the carbon monoxide standards.

6. Carbon monoxide and ozone levels should be reported for the 10 largest urban areas in the state. Currently, sufficient data on these pollutants are not being gathered in places such as Fayetteville, Greensboro, and Asheville. These areas may or may not be meeting EPA standards, but sufficient data do not exist to tell.

The need for better measurements of air quality is underscored by state officials. "The available data hides the problem under the bushel basket. We don't know if we have a problem," says Ogden Gerald, director of the Air Quality Section in NRCD. "What I fear is stories saying that everything's okay except in certain areas. Sufficient data does not exist in...Greensboro, Asheville, and Fayetteville to know whether there are violations of the carbon monoxide standard there," explains Gerald. He doesn't expect the legislature to require emissions testing in those counties, however, until there is better data.

Land Resources

7. The Index should contain trends on how many acres of land are being developed for urban uses.

8. The Index should contain trend data on acreage in cropland, forests, and pasture.

9. The Index should contain trend data on the number of acres of protected lands, both public and private. The Index should compile the number of acres of federal lands (parks, forests, etc.), state-held lands (state parks, scenic river areas, etc.), and private reserves (available to some extent through the N.C. Nature Conservancy).

Again, state officials underscore the need for better measurements on land resources. "There's just an absence of data there. We get four or five requests a week for data about the land resource, and it's just not there," says Karen Siderelis, director of the Land Resources Information Service in NRCD. "We need an overall land-use and land-cover inventory -- all the urban areas, all the agricultural areas, etc.," she explains. "We need an inventory on a statewide basis and [need to] do it in a way that it could be updated."

Treatment and Reduction of Waste

10. The Index should also contain basic data on the generation, handling, storage, treatment, and reduction of various types of wastes. These wastes include municipal solid wastes; hazardous wastes; low-level radioactive wastes; and high-level radioactive wastes. Index data provided on each of these waste items would provide a clearer picture of the impact of waste on the state's environment and would show trends in environmental progress or degradation.

The Center says national rankings comparing state efforts in managing the environment are inadequate. For example, in 1988 the Fund for Renewable Energy and the Environment (FREE) ranked North Carolina ninth among the 50 states in its overall environmental record. But the Center points out that 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, but the emphasis remains on what programs are in place --not on how well they work or what the environmental quality is.

The FREE report also 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 Center, analysis of NRCD data shows that in January 1988, 577 requests for a new or renewal permit were on backlog.

The Center and several environmental experts cautioned against trying to come up with a single indicator, such as a scale of 1 to 10. "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.

Still, doing nothing is the worst option of all, says Coble. "The environmentalists are worried about a whitewash. The state agencies are worried about the costs. But we all ought to be worried about what will happen to North Carolina's air, water, and land resources if we don't start measuring whether we're doing better or worse in protecting our environment. Sure it's difficult, but not as difficult as the effort to produce an Index of Leading Economic Indicators. We need to get policy-makers, environmentalists, the business community, and environmental scientists together to begin to work on this," he concludes.

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Copies of the issue of North Carolina Insight containing the research on the N.C. Environmental Index are available for \$6.30 (plus \$1.00 postage and handling) from the N.C. Center for Public Policy Research, P.O. Box 430, Raleigh, NC 27602, or call (919) 832-2839.

For more information, call Ran Coble or Jack Betts at the N.C. Center for Public Policy Research at (919) 832-2839.

Table 1. Why An N.C. Environmental Index Is Needed:

Using existing reports and data, you can "prove" all of the following:

<u>Evidence of Improvements in the Environment</u>	<u>Evidence of Decline in the Environment</u>
1. The number of acres closed to shell-fishing decreased by 4% from 1980 to 1987.	1. The number of prohibited acres for shell-fishing in saline waters increased by 16% from 1980 to 1987.
2. The numbers of miles of degraded streams decreased by 80% (from 3000 to 600 miles) from 1977 to 1985.	2. There were algae blooms on the Chowan River and in estuaries, and 33% of the state's surface waters cannot fully support their best use either as water supplies or as fishable/swimmable waters.
3. The levels of carbon monoxide and ozone in the air declined from 1977 to 1985.	3. Air pollution standards were exceeded in Mecklenburg, Wake, and Durham counties, where nearly 16% of the state's population lives. The Raleigh-Durham area was rated the 10th worst among 65 urban areas that didn't comply with federal carbon monoxide standards in 1984-86. Sufficient data doesn't even exist to measure carbon monoxide pollution in Asheville, Greensboro, and Fayetteville, and trees are dying on Mount Mitchell.
4. North Carolina was rated fifth best in the U.S. in air quality monitoring and enforcement by the Fund for Renewable Energy and the Environment.	4. The number of acres in forests, farmlands, and harvested cropland declined from 1977 to 1986.
5. North Carolina's hazardous waste production has declined for 3 of the last 4 years.	5. N.C. generated 38% more hazardous waste in 1987 than in 1986.
6. North Carolina was ranked #1 in surface water protection and 9th in the U.S. for overall environmental protection by the Fund for Renewable Energy and the Environment.	6. North Carolina was ranked 29th among the 50 states by The Conservation Foundation in its environmental effort index.

Because of the conflicts in the data on the environment, the state needs an Environmental Index to make a careful analysis of the data that exists and to make rational judgments about whether the status of our environment is improving or declining.