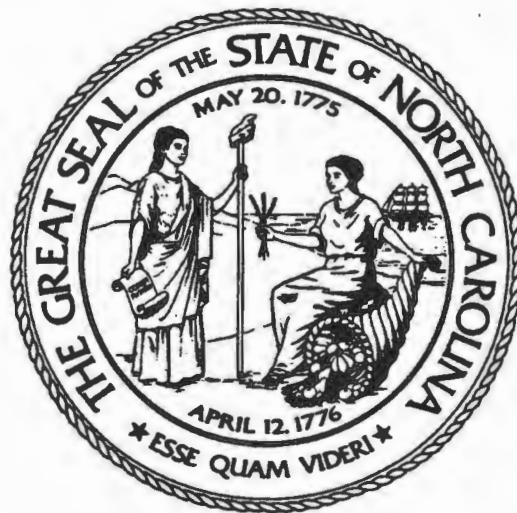


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1992

**LEGISLATIVE
RESEARCH COMMISSION**

**BRIDGING ENVIRONMENTAL
SCIENCE AND TECHNOLOGY WITH
PUBLIC POLICY DECISIONMAKING**



**REPORT TO THE
1991 GENERAL ASSEMBLY
OF NORTH CAROLINA
1992 SESSION**

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STATE OF NORTH CAROLINA
LEGISLATIVE RESEARCH COMMISSION
STATE LEGISLATIVE BUILDING
RALEIGH 27611



May 26, 1992

TO THE MEMBERS OF THE 1991 GENERAL ASSEMBLY (SECOND SESSION):

The Legislative Research Commission herewith submits to you for your consideration its final report on the proposed North Carolina Environmental Research and Policy Center. The report was prepared by the Legislative Research Commission's Committee on Bridging Environmental Science and Technology with Public Policy Decisionmaking pursuant to Section 2.1(32) of Chapter 754 of the 1991 Session Laws.

Respectfully submitted,

A handwritten signature in cursive script, reading "Daniel T. Blue, Jr.", written over a horizontal line.

Daniel T. Blue, Jr.
Speaker of the House

A handwritten signature in cursive script, reading "Henson P. Barnes", written over a horizontal line.

Henson P. Barnes
President Pro Tempore

Cochairmen
Legislative Research Commission



1991-1992

LEGISLATIVE RESEARCH COMMISSION

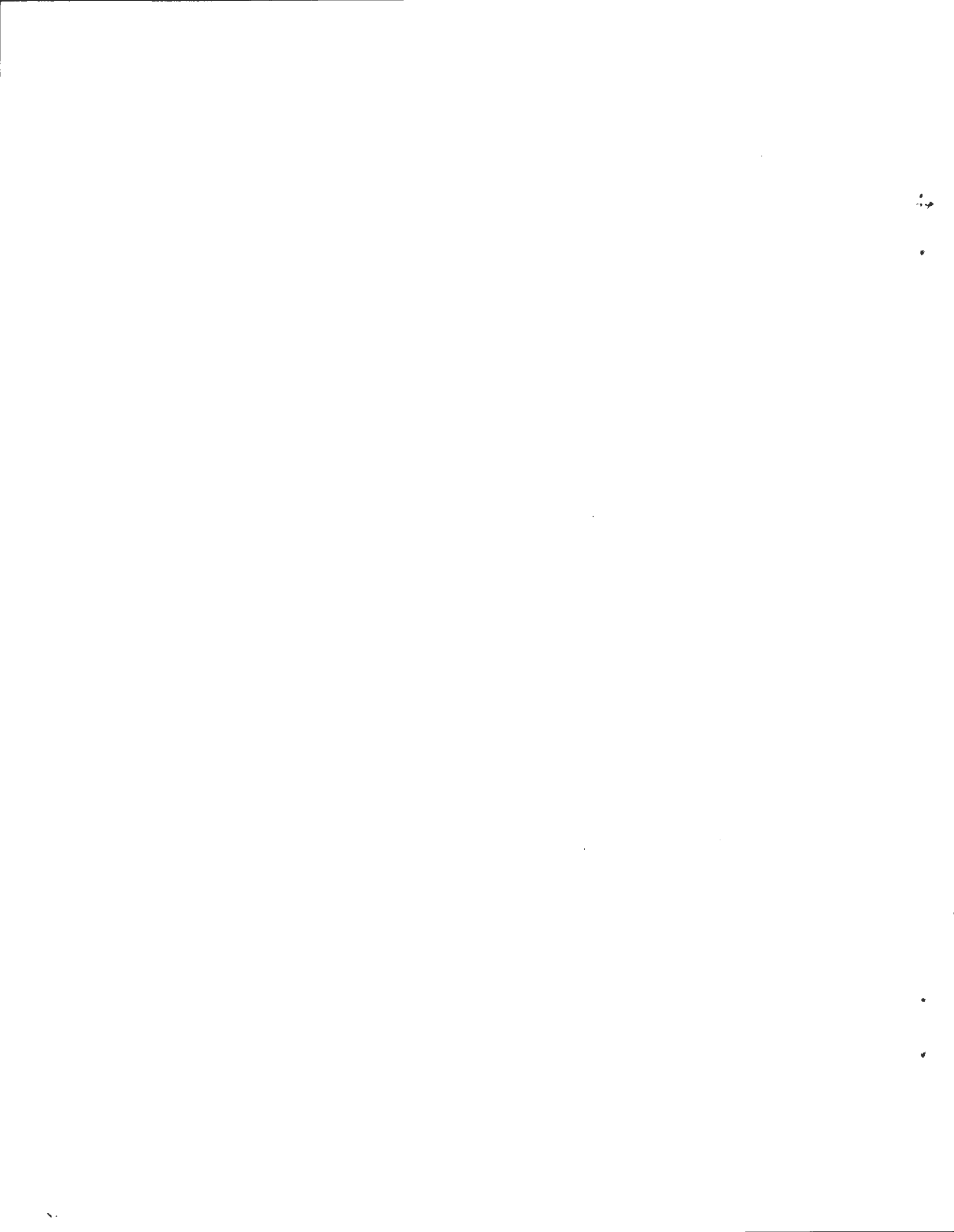
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PREFACE

The Legislative Research Commission, established by Article 6B of Chapter 120 of the General Statutes, is a general purpose study group. The Commission is cochaired by the Speaker of the House and the President Pro Tempore of the Senate and has five additional members appointed from each house of the General Assembly. Among the Commission's duties is that of making or causing to be made, upon the direction of the General Assembly, "such studies of and investigations into governmental agencies and institutions and matters of public policy as will aid the General Assembly in performing its duties in the most efficient and effective manner" (G.S. 120-30.17(1)).

At the direction of the 1991 General Assembly, the Legislative Research Commission has undertaken studies of numerous subjects. These studies were grouped into broad categories and each member of the Commission was given responsibility for one category of study. The Cochairs of the Legislative Research Commission, under the authority of G.S. 120-30.10(b) and (c), appointed committees consisting of members of the General Assembly and the public to conduct the studies. Cochairs, one from each house of the General Assembly, were designated for each committee.

The study of the creation of a North Carolina Environmental Research and Policy Center was authorized by Section 2.1 (32) of Chapter 754 of the 1991 Session Laws (1991 Regular Session). That act states that the Commission may consider House Bill 1070 in determining the nature, scope and aspects of the study. Section 3 of House Bill 1070 reads in part: "The Commission shall study alternatives that promote the development of environmental science in North Carolina and that bridge environmental science and technology with public policy decision making. The Commission shall make recommendations on initiatives to promote the development of environmental science, technology and policy in North Carolina which enhance, coordinate and

strengthen the research community in environmental science, and which strengthen the ability of those engaged in environmental research to compete for federal and private research support." The relevant portions of Chapter 754 and House Bill 1070 are included in Appendix D. The Legislative Research Commission grouped this study in its Environment area under the direction of Senator Lura S. Tally. The Committee was chaired by Senator Marvin Ward and Representative Barney P. Woodard. The full membership of the Committee is listed in Appendix E of this report. A committee notebook containing the committee minutes and all information presented to the committee is filed in the Legislative Library.

COMMITTEE PROCEEDINGS

The Legislative Research Commission's Study Committee on Bridging Environmental Science and Technology with Public Policy Decisionmaking met four times during the 1991-1992 interim. From the outset, the committee had as the focus of its discussions whether the General Assembly should encourage and fund the development of a North Carolina Environmental Research and Policy Center.

A recently completed study authorized by the North Carolina Board of Science and Technology shows that North Carolina has the largest contingent of environmental research and policy scientists in the United States. That same study shows that there are strong concerns throughout the State regarding lack of environmental enforcement and compliance, lack of a Statewide research agenda, environmental management plan, or comprehensive database, lack of coordination/integration of research and policy, and lack of knowledge among the general public of environmental issues. In addition, there is increasing awareness of the need for a multidisciplinary and inter-institutional approach to researching and solving environmental problems.

The Committee heard numerous presentations on the concept of a center from all sectors that would be involved in such an undertaking. The Committee had the benefit of the wisdom of those who have participated in similar efforts, such as the North Carolina Biotechnology Center and, the North Carolina Microelectronics Center. Representatives from the UNC system spoke in favor of the concept and the positive impact such a Center could have on the obtaining federal research dollars throughout the University system. Other speakers included presenters from the U.S. Environmental Protection Agency, private enterprise, and environmental organizations. Finally, the Committee heard some testimony from representatives from the Committee on the National Institutes of the Environment, a parallel initiative at the federal level to create a central clearinghouse for environmental research and information.

Given the scope of the presentations and the wealth of insight and thought provided by those addressing the Committee, the following Committee Proceedings contain an edited version of the minutes of the Committee's meetings.

December 16, 1991

The first meeting of the Legislative Research Commission Committee on Bridging Environmental Science And Technology With Public Policy Decision Making, was held at 10:00 a.m. on December 16, 1991, in room 1124 of the Legislative Building.

Rep. Woodard, Cochairman, called the meeting to order. He then called on George Givens to give some background on the formation of this committee. Mr. Givens explained that the idea for this committee emanated from a House committee in the long session, and the thought by some people that in North Carolina "we need to do more to coordinate the environmental research that is going on, and we need to find ways to enhance, promote, and develop it". He said that the best way to do this may be to develop some type of center that would serve a coordinating and enhancing function. He also pointed out that on the national level there is a move to split out environmental research from environmental regulation. At this time both of these functions are under the United States Environmental Protection Agency. There is currently discussion about creating a National Institute for the Environment that would be similar to the National Institute of Health. If this did take place, it would be nice to have it placed in North Carolina. This committee is authorized to make an interim report to the Legislative Research Commission for transmittal to the short session, so there is an option to do something in 1992, and there is a further option to submit a final report to the 1993 General Assembly.

Rep. Woodard introduced Dr. Robert I. Bruck, Professor of Plant Pathology and Forestry at North Carolina State University, and Director of Environmental Science, North Carolina Board of Science and Technology, Department of Administration. Dr. Bruck stated that when it comes to actual resources of people, personnel, support staff, and facilities, the State of North Carolina is second to none in the United States. This is a fairly unique situation. He made reference to a report entitled "North Carolina Natural Resources Study", which was authorized by the North Carolina Board of Science and Technology, and was conducted by an undergraduate student at North Carolina State University. Summarized in this study is a great deal of information regarding what our resources are in North Carolina. To prepare the study, two

hundred four- page questionnaires were mailed to state, federal, university, private, and non-profit organizations including advocacy groups and environmental organizations. From these responses, they learned that in terms of professional staff or faculty directly working in environmental science, there are over 1,833 individuals holding a doctoral level degree and almost 1,500 individuals who are staff. These are people who are connected with the 59 comprehensive responses which were received.

Through the survey and personal interviews the following concerns were identified: 1. Lack of environmental regulation enforcement and compliance, 2. Lack of funding, 3. Lack of a statewide research agenda, 4. Lack of a statewide environmental management plan, 5. Lack of a statewide comprehensive environmental database, 6. Lack of agency coordination and research/policy interaction, 7. Lack of effective environmental policy evaluation, and 8. Lack of general knowledge concerning environmental issues.

Survey respondents were asked how they would remedy the concerns they identified. The following answers were given: Increase leadership and funding for independent environmental research; increase leadership and funding for environmental education; more clearly defined environmental policy; more state agency coordination; more educational assistance to enable businesses to understand policy and laws; promote waste prevention and reduction, to consolidate all state environmental regulation, policy, and research into one body; integrate non-biased research into meaningful policy; create a center for environmental dialogue and arbitration; coordinate pollution prevention activity; provide tax incentives for pollution clean up; and enhance state park funding.

The recommendations which came out of the study were to strengthen existing programs to deal with regulation and enforcement problems, redirect or allocate additional funding into statewide environmental programs, and create a statewide "Environmental Research and Policy Center" to meet the needs established in the above problems three through eight. Dr. Bruck said that a important statement to conclude with is that "Environment is real". It is not going to go away: it is something that is going to affect the lives of every man, woman, and child in this state, and the questions is whether we act as national leaders in bridging science and policy, or are we going to play catch-up as many other state and federal initiatives take place.

At the end of his presentation Dr. Bruck said that he would be glad to answer any questions. Rep. Culp asked how they felt about a response of 59 out of 200 questionnaires. Dr. Bruck stated that they were very pleased, but intended to pursue additional questioning. Sen. Basnight asked about any research going on in the eastern part of the State, and Dr. Jasper Memory, who was next on the agenda, responded that there is good research going on in that part of the State.

Sen. Cochrane asked if, within the University System, there was a mechanism in place to let people know what research was going on, and what is available to the public. Dr. Bruck stated that he felt that perhaps they had been remiss in this area. However, he did state that even without such a mechanism he had been amazed at the lack of duplication that takes place. Senator Basnight offered his congratulations to those involved for exposing the fact that there was a lack of any centralized system for gaining information. He said that he thought it would be good to bring this together in an independent framework that would expose what is happening to our environment.

Rep. Woodard then called on Dr. Jasper Memory, Vice-President for Research at the University of North Carolina, to make his presentation. Dr. Memory stated that he wanted to apprise the Committee on what is going on at the University of North Carolina in the way of environmental research. Sponsored research is research conducted through external support, mainly from the federal government, although other sources contribute as well. Getting money from the federal government is done by getting an idea, examining potential funding sources, trying to make contacts before preparing a proposal, writing and submitting a proposal for internal review, then the proposal goes to the appropriate agency for external review, followed by award negotiations, and then the research activity takes place. Dr. Memory stated that the University of North Carolina had a success rate of between 60 and 70 per cent in receiving funds. The researcher makes reports to the sponsoring agency, and when the research is completed, usually makes follow-up requests. The number of awards has increased from 700 up to about 3,000 awards in 1990. One source of pride is that the Rankings of Federal Research and Development Funding to Public University Systems for fiscal 1989 shows that North Carolina is now fourth. He noted that California is far in front, Texas is a strong second, and Wisconsin is third. However, we are very close to overtaking them. In showing how the money is divided, Dr. Memory said that most of it goes to in health affairs and pure biology; agriculture, physical science, and

engineering are large; with smaller amounts going to computer science and other areas. Environmental research is taken from a number of different areas. At UNC-Chapel Hill, 123 of the nearly 1100 awards are environmentally related, at NC State 378 of nearly 1500 grants are in this area, and 109 out of 736 awards to the other 14 campuses relate to the environment. At Chapel Hill, \$12.8 million of \$182 million goes for environmental studies.

He gave UNC-Asheville as an example of a small school where a single faculty member is doing important research involving lead contamination in water across the United States. At East Carolina there is a study involving water quality in the Pamlico River Estuary; at NC State there is a study on acid rain effects on latex paint, and another on pollution prevention in semi-conductor manufacturing. He mentioned a number of degree programs in the UNC system that are directly related to environmental sciences. ECU has Bachelors and Masters programs in Environmental Health. NC State has Bachelors and Masters programs in the Department of Architecture with a track in Environmental Design. There are also Bachelors and Masters programs in Landscape Architecture and Product Design, with Environmental Design tracks. UNC Asheville gives a Bachelors degree in Environmental Studies, Chapel Hill has Masters and Doctoral programs in Environmental Science and Engineering and Ecology, UNC Wilmington gives a Bachelors degree in Environmental Studies and Western Carolina a Bachelors degree in Environmental Health.

The Chairman asked for questions, and Sen. Cochrane asked, given that these are federal grants that ultimately are tax dollars, what percent of the research dollars are providing usable information or usable results. Dr. Memory said that the granting agencies are very careful about giving grants to faculty members to determine their applicability and technology transfer. A proposal that does not have a payoff in the short term is not likely to do well in competition with other proposals. He feels that there is direct environmental payoff in the large majority of these proposals. Senator Basnight stated that while he believed in research, he felt that it should be done in areas that would impact locally. He cited, as an example, that no one could, or would, explain what has happened to the oyster industry in this state. At one time, ours was one of the most prolific oyster industries in America, and it is gone. He said that this is an example of not being able to get answers to problems, and, if there are answers, there is nothing scientific to back them up. He said that we are having to look to

research in other states for answers. His feeling is that with all this research going on, both in the public and private arena, we are unable to get answers to problems that are affecting this State and its people. He said that he does not feel that we have moved in a very positive way in these areas. Dr. Memory said that he would be glad to work with Sen. Basnight in any way to apprise him of particulars of research that would interest him, and be glad of his guidance and ideas for the future.

The Chairman then introduced Dr. Larry Lee, Director of the North Carolina Supercomputing Center (NCSL), Microelectronics Center of North Carolina (MCNC). Dr. Lee said that he would like to take his time to show support for the idea of establishing an Environmental Center, and suggest a strategy for establishing such a center, if the committee so desires. He recommends three key steps: 1. Develop a mission statement, 2. Identify resources and participating organizations and institutions, 3. Develop a consortium to coordinate the program. He began by saying that he would envision a three part mission to: encourage integrated research programs on the environment, transfer knowledge gained to others, including environmental policy makers, and stimulate improvement in K-12 and college level environmental sciences education.

Dr. Lee stated that he next wanted to identify resources and possible participating organizations and institutions. He stated that he wanted everyone to understand that there is a very diverse set of institutions in North Carolina, a wide range of resources, and a large collection of programs that need to be pulled together for this initiative. The universities, both public and private, the community colleges, and many other educational institutions are interested in participating in this. There are also federal laboratories, not-for profit organizations such as Research Triangle Institute, and MCNC, the National Weather Service, corporations, small businesses, and state agencies.

He said that we have first-rate experimental laboratories in the State, as well as observation facilities such as the National Weather Service. We have modeling and simulation facilities, such as the Supercomputer, which are not available in other states. He said that we have very few data bases in this area, and that we need environmental data bases/geographical information systems. We also need visualization and computer graphics tools and expertise. Dr. Lee said that North Carolina probably has the best

communications network in the nation. This network is called CONCERT; it is an excellent tool and should be used to encourage collaborations among scientists and engineers across the state. He feels that this network should be extended to many institutions around the State. We have a great capability for developing new technology. The Microelectronics Center is a good example of this. He also spoke of the very large amount of scientific expertise in this state.

Dr. Lee stated that an environmental initiative such as that under discussion should involve the integration of various existing programs to make them more useful. Such programs include interdisciplinary research in environmental health sciences (health affects), atmospheric sciences, weather prediction, ocean and marine sciences and coastal dynamics, geology, ecological systems (growth and decline of wetlands). These programs also need to be integrated with studies on the human influences on the environment. These include use of energy resources, population dynamics and land use, water management, waste management, and land treatment.

Dr. Lee went on to explain how, with all of these resources, he felt we would be able to pull together an initiative like this. He would advocate the development of a consortium to coordinate the program. There are a number of options; such as, (1) putting this consortium into a single institution, (2) create a new state agency, (3) attach the consortium to an existing state agency, or (4) to create a stand-alone organization like the North Carolina Biotechnology Center. He thinks that a consortium will, (1) stimulate linkages between vastly different types of organizations including federal and state agencies, academic institutions, businesses, non-profit laboratories and centers, etc.; (2) encourage broad participation across all three sectors - academic, industry, and local, state, and federal governments (vs. focusing on the skills and expertise in a single organization and thus leverage resources; (3) will more easily facilitate knowledge transfer to others such as policy makers, educators, business community, and general public; facilitate the transfer of technology (e.g. computer graphics) and its use into industry, educational institutions, and government agencies; and (5) build bridges to all levels of the education community to create new and vastly improved learning environments including environmental science laboratories and instruments, new courses, and new topics in environmental sciences. He noted that we have examples of very successful consortia, such as MCNC, the North Carolina Biotechnology Center, and NCSC.

Dr. Lee said, in closing, that he would like to talk about possible risks in this initiative. If a consortium is created, can it be sustained when economic pressures arise? Good management would require that the center be periodically evaluated to ensure that it is meeting its goals. If a consortium does not meet its goals, it is easier to dismantle than other types of institutions. Can the consortium maintain a neutral image and avoid an advocacy position on environmental policy issues? In other words, what mechanism will be established to transfer knowledge gained to policy makers?

In conclusion, Dr. Lee stated that he truly believed that North Carolina has sufficient expertise and experience in environmental sciences, sufficient technical resources, and sufficient infrastructure to establish a world class center for the environment. If established, it should lead to reducing environmental uncertainties (such as placement of low-level nuclear waste facilities), developing more reliable predictions upon which sound environmental policies can be based, broadening public support for environmental policies, and providing a good opportunity for North Carolina to become the site for the federal National Institutes for the Environment.

The Chairman then introduced Dr. Charles Hamner, Director of the North Carolina Biotechnology Center. The Annual Report for the Biotechnology Center and a document entitled "Economic Development from Biotechnology: Approved and Selected Results of the North Carolina Biotechnology Center" were distributed. Dr. Hamner described his mission before the committee as presenting the Biotechnology Center as an example of a non-profit organization that works toward commercial and economic development in the environmental field, discussing the Center, which was established by the legislature, and giving some background of the Center's creation and programs, and giving examples of results of programs which, he feels, in each instance, can be directly related to an environmental center if one is established. He noted that the Biotechnology Center was created as a result of a legislative study commission very much like this one. In 1984, the legislature made the Biotechnology Center a private non-profit corporation to promote research, development, and commercialization statewide. He spoke about the goals of the Biotechnology Center and referred to the organizational structure and task areas of the Center. The Center is to serve all aspects of the biotechnology industry; to catalyze, to enhance, and support the industry from idea to product commercialization. The Biotechnology Center

encourages and supports applied basic research. Since 1985, the Biotechnology Center has awarded approximately \$25 million to university research programs. From the time the Biotechnology Center makes a grant for basic research, it takes 2 1/2 to 3 years to produce results sufficient to enable a university to apply to private industry or to the federal government for large grants to propel the research. Dr. Hamner stated that for seed money to the universities of \$11 million, the universities have been able to go to the federal government and industry and receive \$54 million. This represents about 45% of the money awarded, so there is another \$12 or \$13 million in the pipeline which will mature over the next 2 1/2 years and which will add another \$50 million to the total.

Dr. Hamner then discussed the Biotechnology Information Division, which is very important because in a new and dynamic industry such as biotechnology, things happen so fast, and so much is happening that there is a need to accumulate information in data bases so that corporate and research institutions can make decisions based on reliable information. The Biotechnology Information Division Center makes this available. The Economic and Corporate Development Division is responsible for technology transfer, research, and early start-up of biotechnology companies, and for building infrastructure for this new industry. An environmental center would do these same things in the environmental areas.

The Biotechnology Center has helped universities transfer 15 technologies into small companies. There have been 11 patents approved from this work, and there are 11 patent applications pending. The Biotechnology Center works with state agencies and universities to bring these things about. Dr. Hamner that just as the Biotechnology Center has been instrumental in helping new companies being formed in North Carolina, and thus bringing capital and jobs to the State, an Environmental Center could perform a similar function.

The Biotechnology Center's Education and Public Affairs Division places its emphasis on environment and public policy. The philosophy of the Center has been that science is basic to developing a technology but that education is basic to developing an industry. In other words, if the public does not understand the technology, and doesn't understand that biotechnology is important, and doesn't understand how to utilize the products coming out of it, then the public is not going to support the new technology.

The same thing is true with the environment. If the public does not understand environmental issues, and what is important to how the issues should be handled, they will not support it because they don't understand it. The Biotechnology Center is structured to build good will; they foster and encourage all participants. There are four general stakeholders in this system: academics, because they do the research; industry, because they are the people who are going to develop and market the products; government, because they are looking after the will of the people; and the general public, which is quite a milieu because it includes public interest groups, the media, religious groups, rural people, city people, and so on.

The Chairman then introduced Dr. Gary J. Foley, Director of the Atmospheric Research and Exposure Assessment Laboratory of the United States Environmental Protection Agency in the Research Triangle Park. Dr. Foley distributed copies of a booklet entitled "Future Risk: Research Strategies for the 1990s". Dr. Foley also distributed copies of his prepared remarks. At the conclusion of his prepared remarks, Dr. Foley offered to answer questions. Sen. Basnight thanked EPA for coming to North Carolina and said that we were very proud to have them.

The Chairman, Rep. Woodard, then turned the podium over to Senator Ward. Sen. Ward stated that the intent had been for the first meeting to be informational, and it has been. He said that it had also pointed out a number of things, one of which is that we are not doing all the things that we should be doing, and that we may be overlapping and not properly coordinated in some areas. Sen. Ward stated that this needs to be a joint effort, in terms of what the committee is doing, not just a legislative effort, and that we must be careful to keep involved all of these people who are active now.

Senator Ward stated that the federal government is considering a similar proposal at the national level, and his hope is that if we do this, and do it well, we might be able to attract the federal institute to North Carolina.

January 29, 1992

The second meeting of the Legislative Research Commission's Study Committee on Bridging Environmental Science And Technology With Public Policy Decision Making was held at 10:00 a.m. on January 29, 1992, in Room 1124 of the Legislative Building.

Senator Marvin Ward, Cochairman, called the meeting to order then called on Dr. Earl MacCormac, Executive Director, North Carolina Board of Science and Technology, Department of Administration, and Science Advisor, Office of the Governor to speak about the proposed North Carolina Environmental Research and Policy Center. Dr. MacCormac said that if this Center is established it will not only provide North Carolina with local leadership, but national, state, and international leadership. He pointed out that the environment is not only a national, but an international issue. Dr. MacCormac stated that North Carolina has the largest number of environmental engineers and scientists anywhere in the United States. He pointed out that the problems connected with the environment are not going to go away. These problems are going to grow, and they represent an investment opportunity for us in business, in education, and government. This Center could be instrumental in partnering the idea of universities with governments to facilitate economic growth through research. Dr. MacCormac said that these partnerships are the wave of the future. They will tap environmental talent wherever it is, whether in universities or industry. If we do not work as partners, we are not going to be competitive with the Japanese and Germans in a world market. The opportunity is there for us to export our expertise and technology in the environmental area. This center would coordinate research; it is not a research center itself. Its job would be to facilitate and coordinate research, and, hopefully, in the future it will provide seed grants. This would help to leverage federal money. Dr. MacCormac called attention to the fact that North Carolina ranks fiftieth among the states in federal dollars received as a percentage of federal tax dollars paid. This center would help to remedy this situation. He pointed out the fact that a gap exists between scientific knowledge and policy. His hope is that this Center would take the best of scientific information and translate it into a form that the layman could understand.

This would not eliminate controversy, but would be of help to legislators in adjudicating these issues.

Dr. MacCormac's final point was that if this Center is established, it has possibilities of being related to a federal enterprise. Parallel to the idea of Dr. Bruck and other scientists in North Carolina to establish a Center such as this, there was the idea to develop the National Institutes for the Environment (NIE). This is being studied by the National Academy of Sciences and it looks as though it will be given a favorable report and proposed to Congress. This will be an effort to have research separated from regulation. Research in the U.S. Environmental Protection Agency is driven by regulation and, as such, it is not really independent. The idea behind the NIE would be to have a body that is independent of everyone, that can make judgments, and that then can be called upon to provide information. Dr. MacCormac said that many people feel that it would be a wise decision to have this National Institutes for the Environment locate in North Carolina. North Carolina is presently in the lead in thinking about a research and policy center a house that will coordinate research. If the Committee approves the proposal to establish an Environmental Research and Policy Center in North Carolina, Dr. MacCormac, along with members of the General Assembly and Dr. Bruck, will brief North Carolina's Congressional delegation, so that they will be apprised of what is being done locally, and the efforts can be coordinated between the General Assembly, the North Carolina academic community, and the North Carolina business community.

Senator Ward called on Dr. Thomas F. Malone, Director of The Sigma Xi Center for Integrative Studies, and Distinguished University Scholar at North Carolina State University to give his insight into this endeavor.

Representative Barnhill asked how universities in the State that are not known as research institutions would be involved in a project such as this. Dr. Malone said that he convened a group of these colleges, as well as research institutions, in November. The question they considered was whether, by combining their research, could they accomplish more than by each one operating independently. He said that he felt that the will and capability is there, and that it just needs to be focused.

The Chairman introduced Dr. Richard C. Berne, who is head of the Department of Chemistry and Physics at Western Carolina University and Director of the Center for Environmental/Energy Education.

Dr. Berne said that he would like to begin by addressing the question asked by Rep. Barnhill. He said that one of the most exciting aspects of the proposed Center for Environmental Research is the opportunity to marshal the resources of this State in a coordinated way. He also spoke of how the colleges and universities in the mountain areas sent representatives to town meetings, etc. to learn what the major concerns of the people were. He said there was real concern about the environment, but also about the fact that young people were leaving the area because there were no jobs. Dr. Berne noted that some approach must be found that allows for sustainable economic development approach. In other words, what will be resource base tolerate over the long term in economic development. He said that in western North Carolina a data base that is complete enough for changes that are occurring in the environment is needed. He feels that it is very important to look at the long term in planning. It is not enough to develop a knowledge base and it is not enough to use this base to develop policy unless the citizenry is involved and understands the reasons and needs for the policies and regulations and how they protect not only the environment, but also how they protect economic investment.

Senator Cochrane raised the question of how long the people involved in these concerns were going to be willing to take on additional tasks before they were going to ask for more help, more pay, etc. She stated her support for this concept, but said she was trying to look to the future. Dr. Berne said that he felt that many of these people had a "mission" and that, so far, mileage and a meal were all they expected.

Senator Basnight offered his encouragement for having regional controls like the Coastal Area Management Act. He said that even with its problems, it has done a wonderful job. He said that one of the finest resort areas in the east had been developed and under this act. It is a beautifully planned area which was developed in conjunction with the environment. He said that CAMA was fought by the people in the area, and without the strength of the members of the Piedmont area of the State, it would have never happened to coastal Carolina. He feels that this has been a boost to the economy of the area.

Senator Ward then introduced Dr. Thirby Harrill, Manager of Toxicology and Environmental Affairs at the George Goulston Company in Monroe, North Carolina. He is also a member of the Environmental Affairs Committee of the N. C. Citizens for Business and Industry. Dr. Harrill began by explaining that toxicology is the study of the science of poisons. His position is to monitor environmental regulations for his company and see that these regulations are followed. He said that if this proposed Center's intent is to take research, business, and environmentalists and put the three of them together, giving them all input into policy for the state of North Carolina, he thinks it would be an excellent thing to do. He does not envision a large, bureaucratic organization, but an organization established to draw from all three of those arenas. It is very hard, in a small company, with all of the regulations coming down, to learn all that is necessary to make sure a company is in compliance. He said that the establishment of the Environmental Affairs Committee by the N. C. Citizens for Business and Industry was very helpful to him in learning what was going on in the environment so that he could keep the company in line. Dr. Harrill stated that this Center, if done correctly, could benefit all of industry, be economically beneficial to the State, and promote the development of the research that is going on in the State to create jobs and products that we can market that will help the environment. He gave an example of the George Goulston Company's decision to build a wastewater treatment plant. They are using the first system of its kind that will recycle the wastewater. They have obtained the marketing rights for this technology and intend to market it.

Dr. MacCormac called attention to the fact that one of the things Dr. Bruck found in his study last summer was that there are a lot of small companies and technologies like this that need marketing. He noted that this is an example of a tangible product that can be patented, sold, and marketed to various companies.

In closing, Dr. Harrill said that a Center should not be built if it would cause infighting among industry, environmentalists, and research people. He emphasized the fact that there should be cooperation between these three entities.

Senator Ward introduced Charles D. Case, Esquire, who is an attorney with Moore and Van Allen and a lobbyist for the Chemical Industry Council of North Carolina. Mr.

Case is attending as a representative of the Chemical Industry Council of North Carolina. They are a non-profit group of chemical and pharmaceutical companies with manufacturing and research facilities throughout the state. One of the reasons for the formation of the Chemical Industry Council was the hope that better information could be brought to the environmental rule making process. In the past, there has been a definite perception that things were done without having enough information to back them up. He reiterated the fact that if this proposal offers better information, better coordination, and better sharing of data, they are supportive of the concept. Mr. Case said that if this Center would allow access to information, particularly at a reasonable cost, his group would be for it. One of their concerns is to make sure that the Center would be cooperative, that information is freely available. He urged the Committee to consider the cost of the information, how the Center would be treated under the public records act and the public meetings law.

The next speaker was Mr. Bill Holman who is a lobbyist for the Conservation Council of North Carolina and the North Carolina Chapter of the Sierra Club. He began by stating that neither of his organizations has an official position on this proposal. He said that, basically, environment organizations welcome this concept, particularly the interdisciplinary approach to problem solving. Mr. Holman noted that North Carolina does not have an active research agenda or strategy to obtain better information to help solve environmental problems. Another concern is having a link between policy making, research, and education. He also favors a cooperative approach, and would like environmentalists represented on the board or whatever governing structure is in place. He made the point that good science and research and good policy is great, but if there is no commitment to implement the policy, then the problem will not be solved. He also would like to see some type of environmental feedback program so that groups can see what progress is being made. Mr. Holman closed by saying that they would like to see the National Institutes for the Environment located in North Carolina, but he feels that this concept has enough merit on its own to be pursued.

After a brief recess, Senator Ward resumed by saying that up until now there had been conversation and encouragement. He stated that at the last meeting the Committee had charged the staff to get together with Dr. Bruck and bring to this meeting a proposition for consideration. He asked Dr. Robert I. Bruck, Professor of Plant Pathology and Forestry at North Carolina State University, and Director of Environmental Science for

the North Carolina Board of Science and Technology with the Department of Administration, to make this presentation.

Dr. Bruck began by seeing that everyone had a copy of this proposal. (The final version of Dr. Bruck's proposal is included in this Report as Appendix A). He stated that although his name is on the front, that the proposal is the work of many people, too numerous to name. He referred to this proposal as a blueprint or roadmap and stressed the fact that it is by no means the final document. He wants to use this to present the rhyme, reason, and strategy behind this center. Dr. Bruck said that a year ago the National Institutes for the Environment and its board were thinking about the same things that we are trying to do in North Carolina almost simultaneously, even though they and we had no knowledge of each other. North Carolina has three members on the board and advisory council of the NIE, including Drs. MacCormac, Malone, and Bruck. Dr. Bruck stated that, in all likelihood, the NIE will become a reality beginning about a year from now when bills are submitted to Congress. At this time, no one knows what form it will take or how it will be funded. One of the premises set forward for the establishment of the NIE is that the environment is important, and that the health of the environment in the United States is something less than we would hope for. Programs in research and training, to prepare young people for the challenges ahead, need to be bolstered in this country. Just as the proposed North Carolina Center will not be involved in regulation, the NIE will not be involved in regulation except in an advisory capacity. In answer to a previous concern about where money is coming from, Dr. Bruck said that there will be billions of dollars in environmental initiatives funded through the federal government, private foundations, and international consortia that will come into existence as we complete this decade and head into the next century. The groups who are going to garner these resources are not individual colleges or individual groups of people, but multidisciplinary, multi-institutional groups who will be awarded these funds for the purpose of addressing these complex problems.

Dr. Bruck stated that they are now proposing the creation of a new Center called the North Carolina Environmental Research and Policy Center. The State of North Carolina faces many problems, and the thread that runs through all of them is that they are all multidisciplinary. These people are all important to each other in solving problems. It is not the idea to break down any of the existing institutions in North Carolina, conversely, the idea is to help bolster programs and keep the idea of

cooperation moving. The intent is to link the State, federal, private, and university entities.

Dr. Bruck next discussed the proposed structure of the Center. He said that the Board of Directors would be selected by all four sectors; State, federal, private, and university. The Board of Directors would be empowered to hire a Director, three Associate Directors, an Assistant to the Director, three Research Associates, and three full time Secretaries. Dr. Bruck stated that major pluses of this proposal are that; 1) in his view, it would not represent a major investment for any single entity within the State, especially with the potential benefits that can be reaped from it; and 2) by being able to bring this together quickly, creating advisory boards, we are in a position to make sure that we are covering the major issues and addressing the major problems that affect the citizens of North Carolina. He pointed out that if we are successful from the start in getting the best people available, and having the best and most dynamic interface take place, we will immediately become competitive for other sources for funds. He emphasized that these would not be State funds. Dr. Bruck said that Phase I was pretty well set, but that Phases II and III could be higher, depending upon our ability to galvanize the community and to be competitive for the resources that are available to us on a national and international level. His final statement is that what we are trying to do is not easy. He said that when we discuss the environment, we are talking about extraordinarily complex issues. On the other hand, he says that at the state level, at the national level, and the international level we have failed miserably at being able to bridge these gaps between science, the policy making community, and the educational community. We are not doing the best we can to deal with the need for continued expansion and economic growth along with the protection of our natural resources, our people's health, and all the connotations that go along with that. He reiterated the fact that he believes the creation of such a Center would be a tremendous economic boon to the State, and this idea is unique in this country, at the state level, at this time. Other states, however, are now aware of what is being proposed in North Carolina and are beginning to investigate this concept for themselves.

At the conclusion of Dr. Bruck's presentation, Sen. Cochrane asked if he had received any feedback from foundations which he had approached to help underwrite the start-up figure of \$632,000 since only \$300,000 was being requested from the legislature. She also wondered about his fall-back position if this money was not forthcoming. He said

that he had made presentations to two foundations, and had submitted formal applications, but there is no way he can guarantee what their decisions will be because that is up to each board. If they do not receive all that they hope from foundations, one of the fall-back plans is to go to the private sector and ask if they are willing to participate by taking out a membership at a minimal cost. He said that there had been interest from corporations in becoming paying participants in such an endeavor. He said that he did not expect to hear from the foundations for about four to six weeks.

At the conclusion of Dr. Bruck's remarks, Senator Ward noted that the Committee had material that they could study at home and that they could ask questions about the proposal in order to gain more knowledge. His question to the Committee was whether they wanted to endorse the idea and move forward or not. Rep. Woodard moved that the Committee endorse the concept of the North Carolina Environmental Research and Policy Center and ask the staff to draw a bill that the Committee could study which would set forth these general ideas. The Committee gave its unanimous approval to this motion. Senator Ward then asked the Committee to feel free to ask questions and make any suggestions they thought might be helpful to the process.

Mr. Givens, the Committee Co-Counsel, said that since this proposal had the imprimatur of the Committee, it would be the intention of the staff, along with Dr. Bruck, to solicit input and feedback from members of the Committee and to accept comment from the public with a view to refining the proposal and drafting a bill. Senator Ward noted that this was what the Cochairmen would like.

March 20, 1992

The third meeting of the Legislative Research Commission Committee on Bridging Environmental Science And Technology With Public Policy Decision Making was held at 10:00 a.m. on March 20, 1992, in Room 1124 of the Legislative Building. Representative Barney Paul Woodard, Cochairman, called the meeting to order.

The Chairman advised the Committee that since its last meeting the Co-chairman, Senator Ward; the Committee Co-counsel, George Givens; Dr. Earl MacCormac, of the Office of the Governor, and Dr. Robert Bruck of the Department of Administration had made a trip to Washington.

Representative Woodard then called on Dr. MacCormac to give a report on the trip. Dr. MacCormac introduced David Blockstein, who is the Executive Director of the Committee for the National Institutes for the Environment, and Dr. Stephen P. Hubbell, who is Chairman of the Board of Directors for the Committee for the National Institutes for the Environment. Dr. MacCormac stated that a meeting was held in the offices of the Committee for the National Institutes for the Environment (NIE) with our representatives and David Blockstein and his colleagues. He said that they spent several hours discussing the future of the National Institutes for the Environment and how they could be coordinated with the proposed North Carolina Environmental Research and Policy Center. Some discussion centered on whether one could deal with the environment without dealing with health; and the consensus was that it is not possible. Relationships have to be built between the proposed North Carolina center and the proposed NIE, the National Institute for Environmental Health Sciences (NIEHS), the National Institutes for Health (NIH). and others. This needs to be a cooperative arrangement rather than a competitive one.

Following the meeting at the offices of the Committee for the National Institutes for the Environment, a luncheon meeting was held at the Capitol for the members of North Carolina's Congressional delegation. This meeting was attended by six Congressmen (Tim Valentine, Martin Lancaster, David Price, Howard Coble, Alex McMillan, and

Cass Ballenger), one staff representative for a Congressman who could not attend (Irene D. Schecter for W. G. Hefner), and one Senator (Terry Sanford). During that meeting, the issue as to whether a North Carolina center would be proposed if no National Institutes for the Environment were proposed was discussed; and the answer was an overwhelming "yes".

Dr. MacCormac summarized by saying that the meeting which was chaired by Senator Terry Sanford was excellent. Generally, there was tacit agreement among the delegation that this proposal was something they would like to pursue. Dr. MacCormac stated that there were some surprises from the delegation. He mentioned that he had not realized how active Congressman McMillan had been in lobbying for the Clean Air Act amendments or his activity on the health committee. Congressman McMillan stated that he had been frustrated many times by not having a neutral, objective body to which he could go for advice in a partnership relationship. Dr. MacCormac also mentioned that Rep. Lancaster was very attracted to the idea. He said that our delegation will support our efforts both in the General Assembly and in the Congress of the United States. Our Congressmen were asked to sign House Resolution 153, which is in support of the National Institutes for the Environment; Representatives Martin Lancaster and Howard Coble are cosigners of the original Resolution. Senators Jesse Helms and Terry Sanford were asked to initiate a similar Resolution in the Senate; which they have agreed to do. They plan to try and get together four or five people as a small caucus of the delegation, including Senators Sanford and Helms, Representatives David Price, Tim Valentine and Alex McMillan. Pam Albright, who is Director of the Governor's Washington office, will coordinate this effort.

Dr. MacCormac stated that he would be happy to answer any questions. Senator Tally asked if, during his visit to Washington, he was offered any financial help in getting this endeavor started. His response was, "No". However, there is a lot of interest in trying to separate environmental issues from political compromises that are not based on science. Because of this, the idea of a Center that would look for scientific evidence that can be converted into policy before an issue becomes caught up in the trading of politics would have a lot of support for funds. While the delegation did not offer any funds, they all agreed that the environment is a wave of the future, and that something like a National Institutes for the Environment will be formed. They also agreed that something like the proposed Research and Policy Center in North Carolina is very

desirable as a neutral forum. They liked the idea of a partnership consisting of state, federal, university, and industry representation. This is what makes the idea so attractive.

Rep. Woodard introduced the next speaker, Stephen Hubbell, who is Chairman of the Board of the Committee for the National Institutes for the Environment. Dr. Hubbell introduced David Blockstein who is the Executive Director of the Committee for the National Institutes for the Environment. Dr. Hubbell expressed his pleasure at being invited to appear before the committee, and stated that he thought the idea of establishing the North Carolina Environmental Research and Policy Center was an exciting new initiative. He stated that from a national perspective North Carolina is in a leadership position as regards the environment. He said that there is a potential for partnership between centers such as the one being proposed and the National Institutes for the Environment. Mr. Blockstein then showed some overhead slides giving background on how the idea for the Committee for the National Institutes for the Environment began. Dr. Hubbell stated that the Committee for the NIE is essentially an ad hoc coalition of lay people, scientists, environmentalists, and business and policy people. These are people who are concerned about the state of the environment. They are not activists; they are interested in a better connection of science with policy. They feel that much of the science done today is done in a climate of litigation and advocacy. He said that this is not how problems are solved, and they would like to correct this. Their idea is to bring a large number of people together and forge a consensus that they can then take to Congress. They want to hear from this Committee what the state needs are in this respect.

Dr. Hubbell then gave some background on how the idea for NIE got started. They began as an ad hoc group of about forty people at a meeting in December of 1989 and produced a small document. This document engendered interest in the project, and they were invited to give testimony before the Subcommittee on Environment of the House Committee on Science, Space, and Technology of the House Committee on Science. After this testimony the Committee recommended that the National Academy of Sciences do a formal study. This study was approved, and Congress approved \$400,000 to fund it.

They began by looking at what the federal government was doing regarding environmental research and how the programs were coordinated. Their study showed that the federal government is spending only about 4% of the federal research budget on environmental research. There is no way to set national priorities on how to solve environmental problems because there are so many agencies and people with overlapping missions involved in environmental research. There has been an increase in money spent on environmental research, but almost all of this money is going toward research on global environmental change, and most of that is going to the National Aeronautics and Space Administration (NASA). He then showed how much money is going into environmental research. Dr. Hubbell stated that there is very little federal money going into environmental research, and that most of it is going to the National Science Foundation (NSF) and NASA. Of a total federal budget of \$1.4 trillion, only \$31 billion is going for non-defense research and \$44 billion for defense related research. As a result of inadequate funding, the environmental and biological sciences research budgets have been essentially flat, with little or no growth.

Dr. Hubbell then spoke about why we need an NIE. Dr. Hubbell said that there are many problems that do not get addressed because there is no central body to assign priorities for environmental research. Some problems are complex and multidisciplinary. There is no mission within the federal government to take a focused multidisciplinary approach to solving them so that science has to be managed around problems rather than around disciplines. They have tried to differentiate NIE from other agencies. For example, the National Science Foundation has the charge of supporting all sciences, whereas NIE would have an environmental science focus. The Environmental Protection Agency is mainly regulatory; the NIE should not be regulatory, but focused on science and the truth about the environment. They would take a broader role than the EPA which looks at regulatory research problems. The National Oceanic and Atmospheric Administration (NOAA), as it is presently constituted, is focused primarily on atmospheric and oceanic sciences, as opposed to the relationship of humans to the environment or the relationship of biologic systems to human exploitation. What they propose is formulated like the NIH. It would have a Board of Trustees made up of directors from various environmental programs and federal agencies; the Board would also have corporate input and academic representation. The board would set broad environmental research and training priorities for the rest of the NIE. They envision having a series of research institutes

focused on broad classes of problems. Parallel with that they would like to have support centers such as a National Library of the Environment. Currently there is no body which catalogs environmental data and making it available in a readily accessible form to the public and to policy makers.

In summary, Dr. Hubbell said they are proposing a non-regulatory science agency that would set national priorities for research in the environmental sciences. It would have a mission to solve problems and give answers to these problems. It would organize its research around problems, not around disciplines. It would involve a mixture of science and technology, and it would cross the disciplines of biological, physical, social, and policy sciences as well as engineering. It would focus primarily on extramural research. The most important point is that the research would be funded competitively by peer review. In the past, many research projects have been doled out as pork barrel, and they do not feel that this is the best way to get at the truth. Dr. Hubbell stated that competitive funding has worked well in the health sciences to deliver good solutions to health problems and this is why they would like to adopt this. The proposed NIE would support a mixture of individuals; a multidisciplinary task force team would foster and support collaboration with Centers like the one being proposed for North Carolina. If our Center is as good as is hoped, it would be competitive in the national arena and would receive awards through this process.

A conference on the NIE is to be held in Washington in May. The object of this conference is to draft a final report which will be delivered to Congress with a policy recommendation regarding the creation of NIE. They will first develop a statement of what the priorities are for research, what are the problems that are not being solved by federal effort now, and what are the various options for the institutional mechanisms to deliver the science to those who need it. About 120 people have been invited to this conference. They represent the federal government, academic circles, state agencies, and the private sector. He noted that Dr. Bruck and Dr. MacCormac will attend this conference. Dr. Hubbell had passed to the Committee members copies of the paper "The National Institutes for the Environment (NIE): A Proposal".

Senator Tally asked if we established a Center in North Carolina would it be an arm of the federal NIE. Dr. Hubbell emphasized that it would not, it would be a State agency promoting the health of North Carolina, and would be independent of the National

Institutes for the Environment. Senator Walker asked what approach had been made to the executive branch of the government concerning this. Dr. Hubbell said his committee had contacted Mr. Allan Bromley, who is the Science Advisor to President Bush, and he was very supportive of the National Academy study. The National Academy will deliver its report to Congress in 1993. The proponents of NIE have been working very closely with the National Academy, and the National Academy has concluded that there is a serious problem with the way environmental research is being done. The National Academy is now wrestling with the issue of how to reorganize. He does not know whether the NIE model will be adopted or not. He said that National Academy studies, in general, rarely endorse a single concept. He expects the Academy will say what the strengths and weaknesses of the NIE proposal are. His committee will then take what they suggest and propose it as part of their package.

Chairman Woodard then called on Dr. Robert I. Bruck, Professor of Plant Pathology and Forestry, North Carolina State University, and Director of Environmental Science, North Carolina Board of Science and Technology, Department of Administration to make a presentation of comment received since the last meeting and of a revised proposal to establish the North Carolina Environmental Research and Policy Center.

Dr. Bruck began by handing out copies of the revised document pertaining to the proposal to create the North Carolina Environmental Research and Policy Center. The revisions were a result of comments by members of the Committee, members of the policy making community, and the economic community. Dr. Bruck proceeded to outline five of the issues of concern.

The first is the idea that North Carolina is a very diverse state in terms of natural resources. Centralizing all power in Raleigh was a mistake, and the draft has been changed so that there is tied in, (at the administrative level to the board of directors), three general advisory councils. These councils will feed back information to the Director as to priorities concerning research needs and policy initiatives that will take place in the three major geophysical sectors of North Carolina.

The second question concerned the short term and long term economic impacts on the State. Dr. Bruck believes that there are many positive benefits to North Carolina in terms of environmental impact, the least of which is the idea of getting good science

and making good policy in a non-confrontational way. The Board of Science and Technology is conducting a study to be distributed before the General Assembly convenes in May. Permitting and regulation is one of the issues mentioned in the study. The Board wants to show how to go through this process in an efficient way rather than having to deal with several agencies.

Law interpretation and communication is another item studied. The proposed Center could help streamline the process so that businesses who have to follow these environmental regulations will have easy access to people who can answer their questions. Data base management is another area of study. People want to know how information is obtained, what is the information, and what are the environmental problems and resources in North Carolina.

Long term environmental management strategies is another big area of interest to the private sector. Dr. Bruck drew attention to a comprehensive environmental management plan which was drawn over a five year period of intensive research. This plan is being hailed as a model, and North Carolina should be looking towards the same type of goal. Grant letting, procurement, and management does not provide an efficient way, at this time, for State government to garner resources from the federal government. Because of this lack of coordination, Dr. Bruck feels that this state has missed out on getting many things we deserve. The proposed Center could identify new technologies and product development strategies. Dr. Bruck says that the United States, and North Carolina, are being left behind Germany and Japan in this area. There is a tremendous market for pollution mitigation technologies. We need to identify these, develop contacts between the places where they are needed and North Carolina industries, and also encourage new industries in this area. Developing a conduit for cooperation between academe, industry, and government is also a part of the study. There is a belief that this is not being done, and there is certainly economic value if this is done.

The last issue for study is how to achieve a neutral, non-biased Center. The Center's credibility must be reflected in its director, its staff, and its board of directors. It will try to move away from having environmental decisions made in the political arena, and to inject good science and good policy recommendations so that logical and sound decisions can be made.

The chairman then called on Barbara Riley, Committee Co-counsel, to give some background on the draft legislation to implement the revised proposal to establish the North Carolina Environmental Research and Policy Center. Ms. Riley pointed out that one of the first problems she and Mr. Givens faced was the fact that the North Carolina State Constitution prohibits the General Assembly from establishing a private corporation. Ultimately, they used the North Carolina Biotechnology Center as their model.

Mr. George F. Givens, Committee Co-counsel, was called upon to present the draft. Mr. Givens said that the intention is to discuss this draft, refine it based on comments, and to make some adjustments relative to Dr. Bruck's updated document. In giving a brief overview of the draft, Mr. Givens called attention the use of the word "encourage" in the bill. He stated that by using the word "encourage" he thought they would not run afoul of the State Constitution. He also called attention to Sec. 2. This calls for an appropriation of \$300,000 for the 1992-93 fiscal year. These funds may be used to defray legal and other expenses incurred in connection with the incorporation of the Center. Following this are limitations which will determine the nature of the Center and the relationship between the Center and the State. Mr. Givens called attention to subdivision (3) under Sec.3, which sets out limitations. Subdivision (3) says that the Board of Directors of the Center will be constituted as set out in the proposal document (attached to this report as Appendix A). Mr. Givens urged the members to study this carefully to see if they approve this structure.

Dr. MacCormac stated that this proposal is in the tradition of the North Carolina Board of Science and Technology since 1963. The Board has traditionally founded organizations, nursed them along, and then cut them loose as has been provided in this document. Sen. Walker then asked Dr. MacCormac about the matching money for this endeavor. Dr. MacCormac noted that he would amend the bill to provide for some seed money, either \$50,000 or \$100,000. This would enable them to have time to try and raise money from foundations. Senator Ward suggested that Ms. Riley and Mr. Givens meet with Dr. MacCormac, find out the minimum amount of money needed, and then proceed from there. Dr. MacCormac pointed out the fact that they wanted to have contributions from a broad spectrum: business, government, philanthropic organizations and environmentalists. He also pointed out the fact that the Governor

intended to put the \$300,000 request for the Center in his Expansion Budget. The chairman then stated that the Committee would consider the revised draft at the next meeting.

April 15, 1992

The fourth meeting of the Legislative Research Commission Committee on Bridging Environmental Science And Technology With Public Policy Decision Making was held at 10:00 a.m. on April 15, 1992, in room 1124 of the Legislative Building.

Senator Marvin Ward, Cochairman, called the meeting to order and then called on Barbara Riley, Committee Co-counsel to present the draft of the Committee's report to the Legislative Research Commission.

Senator Ward then called on Mr. Givens to present changes to the draft report. Mr. Givens began by calling attention to the handout entitled "Composition of Board of Directors", which is attached to the minutes. He said that Appendix A to the report is the concept paper for the establishment of the North Carolina Environmental Research and Policy Center. This handout is a substitute for pages 14, 15, and 16 of the draft report which deals with the composition of the Board of Directors. He called attention to the fact that the number of directors is increased from 16 to 18. Another change is that the Executive Director will not be a member of the Board of Directors. In this new proposal, there are five sectors of interest from which directors will be chosen, instead of four. Mr. Givens pointed out that the revised proposal provides for staggered four-year terms so that half of the board is replaced every two years. Rep. Woodard called attention to the fact that there is no limit set on the number of terms a director may serve. The consensus of the committee was that this was something for the Board of Directors to decide.

Mr. Givens then called attention to the revised draft bill to appropriate funds for the North Carolina Environmental Research and Policy Center which was distributed to the Committee. This draft bill is attached to the minutes as Exhibit F. This draft bill will be substituted for the draft bill that appears on pages 32 to 34 of the draft Report. Mr. Givens stated that this version of the draft bill had been changed in two insignificant ways and one significant way. The substantive change appears on page 3 of the revised bill. In section 2, there has been a change which will provide for the reversion of

unexpended funds on 30 June 1994 instead of 30 June 1993. There is also clarification of the fact that the Board of Directors of the proposed center may use a portion of the seed money for start-up costs. This appears on page 4, lines 29 and following of the new bill.

Senator Ward then asked Dr. Robert Bruck, Director of Environmental Science, of the North Carolina Board of Science and Technology, for any indication he had received that North Carolina business and industry was willing to support this endeavor. Dr. Bruck stated that they had been very encouraged by business and industry. He stated that he had recently received letters from the two private foundations to which he had submitted applications for grants. These foundations are the W. Walton Jones Foundation in Charlottesville, Virginia, and the Z. Smith Reynolds Foundation in Winston-Salem, North Carolina. Both letters state that the applications for grants to support the Center are among the finalists still under consideration. Dr. Bruck expects to hear from these grants the end of May.

Senator Cochrane expressed her support for the concept of the Center, but she had concerns about duplication and having several governmental entities doing the same thing. She specifically asked about "brokering research grants", which is a term used in the bill. Mr. Givens gave a brief explanation, and then Dr. Bruck reiterated the fact that even though North Carolina has the greatest number of scientists and scientific organizations in the country, we have been extraordinarily unsuccessful at being able to draw federal funding and private foundation funding because multi-disciplinary, interinstitutional research is required. The term brokering, as used in the bill, refers to the ability of organizations already in existence in the State to come together under the aegis of the Center. The Center will serve as a catalyst for multidisciplinary, interinstitutional funds, which will then flow to the universities and institutes of the State.

Senator Cochrane then asked about "the enhancement of private sector economic development". She wondered how this would differ from what the Board of Science and Technology is currently doing. Dr. Bruck stated that the Board of Science and Technology is there for the sole purpose of helping to provide direction, in terms of philosophy, that science and technological trends in the state. He stated that he had spoken with the president, the former president, and the previous president of the

North Carolina Academy of Scientists, and had ascertained that there is no such charge to either organization to enable them to move this type of agenda forward. Their purpose is to pass resolutions in support of programs such as the one being proposed.

Representative Culp then asked Dr. Bruck how many people he envisioned the center employing in the future. Dr. Bruck said that those who have helped to develop the Center concept have never envisioned a big organization. The purpose of the Center is not to do research, not to write policy, not to become involved directly with what is already a statutory enterprise in North Carolina, but rather to act as a conduit that has the ability to resolve disputes in a calm, integrated fashion. Hopefully, the Center will begin with around eight people. Dr. Bruck does not foresee growth to more than eighteen staff people. However, this would be up to the board of directors. He expects the center to be self-sustaining, and to be able to justify itself both to the private sector (to the people being regulated) and to the regulators as providing the common ground to which he has been referring.

Senator Ward then called on Mr. R. Paul Wilms, Director of Regulatory Affairs for the North Carolina Home Builders Association. Mr. Wilms stated that they had reviewed the draft legislation and the documents attendant to it, and wanted to share their concerns about some aspects of this proposal with the Committee. He stated that they were not necessarily opposed to this concept, but felt that they had valid concerns and that those concerns deserve continued and expanded attention and debate by the Committee. They do not feel any sense of urgency to adopt this report and send it to the General Assembly at this time. Mr. Wilms began by saying that he did not believe that the need for this Center had been conclusively demonstrated. He stated that as a practitioner in state government for thirteen years and Director of Environmental Management for five years, he feels that, in fact, there are no duties and functions proposed for the Center that are not already being, or could not be, carried out by existing agencies within and outside State government. He feel that the Center, as it is proposed, would be a duplication of existing agencies.

Mr. Wilms called attention to Section 1 of the draft bill, beginning with line 13. "There exists a serious lack of integration of scientific knowledge and sound environmental policy." He said that this is an extremely subjective statement, and feels that, in large part, is without foundation. He then referred to line 16 of the new bill to

the sentence which begins, "Notably, there is insufficient compliance and enforcement with existing environmental regulations....". He said that there is no logical nexus between the allegation that there is a serious lack of integration between scientific knowledge and sound environmental policy and what the status of environmental enforcement in this state. Mr. Wilms said that almost the exact opposite is true. While environmental enforcement can certainly be enhanced in all programs, North Carolina has, in fact, since 1985, quadrupled both the number and magnitude for penalties assessed for violations, and continues to make progress. He said that, instead of the State contributing \$300,000 to a new bureaucracy, this amount would go a long way to provide inspectors for the regulatory agencies that are in place protecting the environment in North Carolina. He referred to line 18 of the new bill which says that there is "inadequate funding for environmental research and education". He expressed doubt that this center would enhance the amount of dollars available to environmental research and education. Mr. Wilms referred to lines 17 and 18, which state that there is "no statewide comprehensive environmental data base". He said that Governor Martin recognized this a few years ago and created a task force to look at this. The task force issued its report a couple of years ago, and Mr. Wilms suggested that the Committee might like to study this report if it has not already done so. He referred to line 20, which says that there is no "environmental management plan". He said that there are many such plans. He referred to the statement beginning on line 20, which states that there is "inadequate evaluation of environmental policy". He feels that this is also a very subjective statement which needs some debate. Mr. Wilms then referred to line 21 which says that there is a "lack of knowledge concerning environmental issues among the general populace". He stated his agreement with this. However, he says that this statement could be premised on the false notion that since the public does not readily embrace every recommendation of the scientific community, that the public somehow is ignorant. This is not necessarily so. Next, he referred to page 2, lines 8 and 9, which state that the creation of the center would "position the State to serve as a national and international leader in environmental research and policy development". Mr. Wilms feels that North Carolina is already a leader. Mr. Wilms then referred to the objectives of the corporation which begin on page 2, line 19, and gave his comments about those.

In summing up, Mr. Wilms stated that the Homebuilders Association did not necessarily oppose this legislation, but it certainly had concerns about aspects of the

bill. He stated that others shared these concerns. He referred to a memorandum from Mr. Charles Case who represents the Chemical Industry Council of North Carolina. Mr. Case could not be present, but asked that the memorandum be distributed to the committee. It is attached to the minutes as Exhibit G. In his memorandum, Mr. Case also asked the committee to take additional time to study some of the same concerns Mr. Wilms has raised.

Senator Ward then called on Mr. Steven J. Levitas, Director of the North Carolina Environmental Defense Fund. Mr. Levitas began by stating that the North Carolina Environmental Defense Fund is an office of a national organization, the Environmental Defense Fund (EDF). EDF is a research and policy organization that was started about twenty-five years ago by a group of scientists concerned about environmental problems. Mr. Levitas stated that he is a lawyer, but that the majority of his staff are scientists, economists, and engineers who are committed to doing the best possible research and analysis to develop solutions to society's most pressing environmental problems. He stated that for the last five years he had been at the interface between science and public policy making on environmental issues. He said that based on his experience while serving on boards and panels in the State, it has become apparent to him that the environmental policy making process in this state suffers from a lack of targeted scientific research to support those efforts and the decision making process. He stated that, given the vast scientific and academic resources in this state, it is important to note how little we have been able to benefit from those resources and to bring those resources to bear on the complex public policy decisions facing this state.

He called attention to some of the environmental problems facing the State, and stated that he felt that we are all committed to solving these problems in ways that allow our economy to continue to prosper and grow. He said that it is very hard to serve both of these goals at the same time. He feels that we have not done as good a job as we might in bridging the gap between the two and in developing creative solutions to the environmental problems that still allow us to meet society's underlying economic needs. He says that the most important goal of a center such as the one proposed is to figure out new solutions to our problems. Not much has been heard about this. In our current setup, we have virtually no resources in this State that are tied to the public policy process or that identify our priorities. There is a need for new ideas and powerful, effective solutions to these problems, and for direct research towards solving

these problems. The State agencies are not able to do this, largely because of funding. The problems with the universities is that there is no link to the public policy making process. The research that is done is not linked to the priorities of this State; it is driven by academic interest, national grants, and private sector funds. Another important area is understanding what is going on in the environment, and what needs to be done about it and tying that to a public policy agenda set by the needs of this State.

His final point was that an extremely important area for a center of this sort is understanding the economic side of issues. One of the greatest problems that we have in effective decision making and policy setting on environmental issues is having a better grasp of the economics involved. He stated that, from his perspective, when an environmental measure is proposed, there is a huge outcry from the regulated community about the cost of compliance and other problems in meeting the measure, which are rarely substantiated, rarely documented, and rarely understood by the decision makers. When this is true, good decisions are not made. If something is not done about this, we will see more polarization and failure to protect either the economy or the environment of this State. Mr. Levitas said that he feels that the State badly needs a new initiative. He also said that the suggestion that the existing resources can fill this function is "ludicrous". He urged the committee to go forward in support of this effort, and stated that he would be glad to answer questions.

Senator Ward asked that the committee hold its questions until all the speakers were finished, and then called on Dr. Linda W. Little, Director Office of Environmental Education, and Executive Director, Governor's Waste Management Board, Department of Environment, Health, and Natural Resources. Dr. Little began by saying that she was speaking for the Center on behalf of the Department of Environment, Health, and Natural Resources. She is also a member of the Board of Science and Technology, and she has been a member of the North Carolina Academy of Sciences for over twenty years and is a former member of its board of directors. She stated that there is nothing simple about environmental research and environmental policy making. It is not something that can be solved by any individual entity. Joint problem solving and private-public partnership are becoming the watchwords for environmental problems. She said that North Carolina needs a center of this type to help in putting together initiatives to bring funds to North Carolina. Dr. Little called attention to the fact that the original plan for the Center was developed by members of three universities who

recognize the need to transcend university boundaries in attracting and performing environmental research and developing environmental policy. She went on to say that the funding request for the Center is modest, but that it has the potential to be leveraged into a much larger investment in development of sound economic policy for North Carolina. She said that our citizens have nothing to lose and everything to gain from an environmental policy that is based on facts and developed by an integrated effort of the best minds in the public and private sectors.

Senator Ward called on Senator Cochrane for a question to Mr. Levitas. She asked if he thought the academic community would respond to direction from the Center about which type of research needs to be done. He said that, if there is money connected, this it would certainly receive their attention. He said that one of the most distressing things that he had observed, both in our State and nationally, is the extent to which private dollars (the regulated community dollars) are defining the Research agenda. He says that they certainly have a contribution to make, but there needs to be a broader perspective in setting environmental policy in this State. He said that very often our decision making is developed from one point of view. This Center offers a much broader perspective in developing basic and applied research. Dr. Ernest Hodgson, a member of the Committee, said that he would like to comment as someone who is involved in awarding grants and obtaining grants for environmental or environmentally related studies. In the last two years, he has helped two federal agencies, NIH and EPA, review and site visit for extensive proposals. North Carolina did not feature prominently in either program for precisely the reason that they did not bring together interdisciplinary, interinstitutional task forces to apply for those grants. His thought is that if we have this kind of organization, our investment of \$300,000 would turn a very handsome profit from just a business point of view. It would bring money into the state for conducting much needed research.

Representative Culp asked if the representative of the Farm Bureau could speak. Senator Ward recognized Mr. Julian Philpott, Associate General Counsel of the North Carolina Farm Bureau. Mr. Philpott stated that he could not add a lot to what Mr. Wilms had said. He also referred to the memorandum from Mr. Charles Case, and said that the Farm Bureau had some of the same concerns that had already been expressed. He said that he thought the goals of the Center were good, but his concern is whether, with the organizations that we already have, is the need for putting more

resources into those organizations as opposed to creating a new one. He feels that there is a greater need for these resources in another area rather than in building another potential bureaucracy.

The Chairman asked if anyone else would like to speak, and Dr. Bruck indicated a desire to do so. He said that he would like to respond to comments that had been made. He said that he wanted to respond to the twelve points made by Mr. Wilms. Dr. Bruck said that three weeks ago he had sent a package to the Home Builders Association asking for comment, criticism, or any type of response, and had received none. He stated that he would like to bring up the twelve points that Mr. Wilms made, and summarily refute them. He spoke to each point and gave information regarding the bill. He emphasized that the need for the Center had been identified by research, and that all sectors, both public and private, had been given an opportunity to offer comments and criticism. The makeup of the Board of Directors was the only substantive criticism, and this had been accommodated.

Senator Ward then opened the floor for discussion and questions by the committee. Representative Culp asked if the Committee would try to have the money appropriated in the short session. Senator Ward responded that that is the proposal. He also said that the Committee had been told that the Governor would put the money request as an item in his budget, and they thus there would be a cooperative effort in trying to obtain this money.

Dr. Hodgson stated that he thought the best testimony he had heard in favor of the Center was the fact that each speaker mentioned innumerable boards and bodies trying to do this job. He feels that that shows the need for a central body to pull these endeavors together.

Representatives Withrow and Barnhill expressed their support for this bill.

The Committee Cochairman, Representative Woodard moved that the Committee accept the modified report as explained. The Committee unanimously approved the motion .



FINDINGS AND RECOMMENDATIONS

Based upon the presentations and other materials submitted to the Committee and its deliberations, the Committee recommends that the General Assembly endorse the concept of the North Carolina Environmental Research and Policy Center through the ratification of Legislative Proposal 1, **AN ACT TO APPROPRIATE FUNDS FOR THE NORTH CAROLINA ENVIRONMENTAL RESEARCH AND POLICY CENTER.**

LEGISLATIVE PROPOSAL I

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 1991

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 1991

H

D

HOUSE DRH7237*-RT004(1.29)

Short Title: Env. Research & Policy Center.

(Public)

Sponsors:

Referred to:

1 A BILL TO BE ENTITLED
2 AN ACT TO APPROPRIATE FUNDS FOR THE NORTH CAROLINA
3 ENVIRONMENTAL RESEARCH AND POLICY CENTER.
4 The General Assembly of North Carolina enacts:
5 Section 1. (a) The General Assembly of North Carolina finds that
6 the State of North Carolina has the strongest contingent of basic and applied
7 environmental research and policy scientists in the United States. Located in
8 North Carolina are: the nation's largest United States Environmental
9 Protection Agency laboratory, the National Institute of Environmental Health
10 Science, a nationally recognized university system, and more than 70 private
11 environmental engineering research and consulting corporations. However,
12 despite this wealth of environmental scientists and research activity within the
13 State, there exists a serious lack of integration of scientific knowledge and
14 sound environmental policy. Notably, there is insufficient compliance and
15 enforcement with existing environmental regulations, inadequate funding for
16 environmental research and education, no statewide comprehensive
17 environmental data base, environmental research plan, or environmental
18 management plan, inadequate evaluation of environmental policy, and a lack of

1 knowledge concerning environmental issues among the general populace. The
2 General Assembly finds that a partnership involving the State government,
3 federal government, institutions of higher learning, and private enterprise
4 would be the most effective means to remedy these deficiencies in the State's
5 efforts to maintain and improve environmental quality. Such a partnership will
6 provide for better coordination of environmental research and public
7 policy-making and will serve as a foundation for efforts to improve
8 environmental education. Such a partnership would position the State to serve
9 as a national and international leader in environmental research and policy
10 development. Such a partnership would also significantly enhance the State's
11 economic standing and competitiveness in the areas of environmental science
12 and technology, would assist existing industry in the State, and would attract
13 new industry to locate in North Carolina.

14 (b) The General Assembly further finds that the most effective
15 mechanism to establish and maintain such a partnership is a private, nonprofit
16 corporation having the following objectives:

- 17 (1) Comprehensive data base creation and management;
- 18 (2) Enhancement of research grant proposals and brokering of
19 research grants;
- 20 (3) Coordination and integration of environmental research and
21 environmental policy-making;
- 22 (4) Organization and information coordination and dissemination,
23 particularly among those involved in environmental research
24 and environmental policy development and implementation;
- 25 (5) Enhancement of private sector economic development; and
- 26 (6) Enhancement of environmental education.

27 (c) It is therefore the purpose of the General Assembly to
28 encourage the establishment of a private, nonprofit corporation as described in
29 the document "North Carolina Environmental Research and Policy Center", as
30 set out in Appendix A to the report of the Legislative Research Commission
31 Study Committee on Bridging Environmental Policy with Public Policy
32 Decision Making to the 1992 Regular Session of the 1991 General Assembly of
33 North Carolina.

34 (d) It is the intention of the General Assembly that the North
35 Carolina Environmental Research and Policy Center:

- 36 (1) Enhance the research and policy-making capabilities of State
37 government, universities, private enterprise, and other
38 research and policy-making communities;
- 39 (2) Encourage technology transfer and collaboration among the
40 State, federal, private, and university sectors;
- 41 (3) Assist and enhance private sector economic development;
- 42 (4) Assist in the arbitration of local and State development and
43 pollution mitigation controversies;

- 1 (5) Act as a central clearinghouse for environmental education
2 programs at all educational levels throughout the State;
- 3 (6) Provide seed money grants to stimulate academic research;
- 4 (7) Assist local governments with local environmental issues such
5 as the development of land management plans;
- 6 (8) Help define critical environmental issues and frame the
7 research agenda necessary to provide the information needed
8 to develop sound environmental policy; and
- 9 (9) Strengthen North Carolina's national and international
10 leadership role in environmental research and policy-making.

11 Sec. 2. There is appropriated from the General Fund to the North
12 Carolina Board of Science and Technology the sum of three hundred thousand
13 dollars (\$300,000) for the fiscal year 1992-93 to be used to enable the North
14 Carolina Board of Science and Technology to assist in the establishment of the
15 North Carolina Environmental Research and Policy Center and to enable the
16 North Carolina Board of Science and Technology to enter into an agreement
17 with the North Carolina Environmental Research and Policy Center to promote
18 environmental research and to achieve the other purposes set out in Section 1
19 of this act. Funds appropriated by this act may be used to defray legal and
20 other expenses incurred in connection with the incorporation of the Center.
21 The expenditure of funds appropriated by this act is subject to the terms,
22 conditions, and limitations set out in Section 3 of this act. Funds appropriated
23 by this act shall not revert to the General Fund at the end of fiscal year 1992-
24 93. Funds appropriated by this act that have not been expended or obligated
25 shall revert to the General Fund on 30 June 1994.

26 Sec. 3. (a) The North Carolina Board of Science and Technology
27 shall enter into an agreement with the North Carolina Environmental Research
28 and Policy Center only if:

- 29 (1) The North Carolina Environmental Research and Policy
30 Center is incorporated pursuant to Chapter 55A of the
31 General Statutes;
- 32 (2) The United States Internal Revenue Service determines that
33 the North Carolina Environmental Research and Policy Center
34 is a nonprofit corporation under section 501(c)(3) of the
35 Internal Revenue Code of 1954, as amended;
- 36 (3) The charter and bylaws of the North Carolina Environmental
37 Research and Policy Center provide that the Board of
38 Directors of the Center be constituted as set out in the
39 document referred to in subsection (c) of Section 1 of this act;
- 40 (4) The agreement provides that the North Carolina
41 Environmental Research and Policy Center shall enter into an
42 agreement with the Department of State Auditor for an annual
43 audit of all the financial records of the Center; and

1 (5) The agreement provides that the North Carolina
2 Environmental Research and Policy Center shall make a
3 detailed annual report to the North Carolina Board of Science
4 and Technology, the Joint Legislative Commission on
5 Governmental Operations, and the Environmental Review
6 Commission as to its activities and operations, including the
7 audit report required by subsection (d) of this section, on or
8 before 1 July of each year beginning 1 July 1993.

9 (b) Not more than seventy-five thousand dollars (\$75,000) of the
10 funds appropriated by this act may be expended, other than to defray the costs
11 of incorporation of the North Carolina Environmental Research and Policy
12 Center, until the Center obtains commitments from non-State sources for
13 additional funds of at least three hundred thousand dollars (\$300,000) to
14 support the operations and activities of the Center. Commitments for non-
15 State funds must be obtained and non-State funds made available to the Center
16 on or before 30 June 1994.

17 Sec. 4. This act becomes effective 1 July 1992.

18

SECTION BY SECTION ANALYSIS OF LEGISLATIVE PROPOSAL I

Legislative Proposal I authorizes the appropriation of funds (\$300,000) necessary to help fund the first year of operations of the proposed N.C. Environmental Research and Policy Center.

Section 1(a) of the bill proposes findings by the General Assembly that illustrate the need that the State has for such a Center. It notes the strong contingent of basic and applied environmental scientists located in the State, the programs within the UNC system, the presence of major federal research facilities in the State, and the large number of private environmental engineering and consulting firms located in the State.

Section 1(b) of the bill proposes findings that the most effective mechanism to establish and maintain a partnership of the State, University, Federal and Private interests would be a private, non-profit corporation that would have the following objectives.

- (1) Comprehensive data base creation and management;
- (2) Enhancement and brokering of research grant proposals and research grants;
- (3) Coordination and integration of environmental research and environmental policy-making;
- (4) Organization and information coordination and dissemination,
- (5) Enhancement of private sector economic development; and
- (6) Enhancement of environmental education.

Section 1(c) of the bill states that it is the purpose of the General Assembly to encourage the establishment of a Center as outlined in in the document attached to this report as Appendix A, entitled "North Carolina Environmental Research and Policy Center". Among various other provisions, that document contains the outline for the composition of the Center's Board of Directors as follows:

The Board of Directors will consist of 18 members representing five areas of interest. Four directors will be selected from the university sector. Two directors will be

selected from The University of North Carolina by the President of The University of North Carolina, and two directors from private 4-year colleges and universities by the President of the North Carolina Association of Colleges and Universities.

Four directors will be selected from State government agencies, with two directors chosen by the Speaker of the House of Representatives and two by the President Pro-tempore of the Senate.

Two directors will be selected from federal research institutions located in North Carolina, One by the Director of the N.C. Office of the U.S. Environmental Protection Agency and one by the Director of the National Institutes for Environmental Health Sciences.

Four directors will be chosen from private enterprise. One director will be selected by the President of the N.C. Citizens for Business and Industry and three by the Governor of North Carolina.

Four directors will be selected from the environmental community. One each shall be chosen by the President of the North Carolina Wildlife Federation, the President of the North Carolina Nature Conservancy, the President of the Conservation Council of N.C. and the Director of the N.C. Environmental Defense Fund.

The Center's Board of Directors will appoint the Executive Director of the Center who will serve as Secretary to the Board of Directors. (See pages 16-18 of Appendix A)

Section 1(d) of the bill expresses the intention that the Center accomplish the following goals:

- (1) Enhance the research and policy-making capabilities of State government, universities, private enterprise, and other research and policy-making communities;
- (2) Encourage technology transfer and collaboration among the State, federal, private, and university sectors;
- (3) Assist and enhance private sector economic development;
- (4) Assist in the arbitration of local and State development and pollution mitigation controversies;
- (5) Act as a central clearinghouse for environmental education programs at all educational levels throughout the State;
- (6) Provide seed money grants to stimulate academic research;

- (7) Assist local governments with local environmental issues such as the the development of land management plans;
- (8) Help define critical environmental issues and frame the research agenda necessary to provide the information needed to develop sound environmental policy; and
- (9) Strengthen North Carolina's national and international leadership role in environmental research and policy-making.

Section 2 of the bill appropriates from the General Fund the amount of \$300,000 for the 1992-1993 fiscal year to be used for the purpose of entering into an agreement with the Center to promote environmental research and to achieve the other purposes set forth in Section 1 of the act. The funds appropriated may be used for legal and other expenses incurred in the incorporation of the Center. Other expenditures of the funds are restricted by the conditions of the agreement set forth in Section 3 of the bill.

Section 3(a) sets forth the terms and conditions of the State entering into an agreement with the Center (and thus on the expenditure of the funds appropriated). The limitations are as follows:

- (1) The North Carolina Environmental Research and Policy Center is incorporated pursuant to Chapter 55A of the General Statutes;
- (2) The United States Internal Revenue Service determines that the North Carolina Environmental Research and Policy Center is a nonprofit corporation under Section 501(c)(3) of the Internal Revenue Code of 1954, as amended;
- (3) The bylaws of the North Carolina Environmental Research and Policy Center provide that the Board of Directors of the Center be constituted as set out in the document referred to in subsection (c) of Section 1 of this act;
- (4) The agreement provides that the North Carolina Environmental Research and Policy Center shall enter into an agreement with the Department of State Auditor for an annual audit of all the financial records of the Center; and
- (5) The agreement provides that the North Carolina Environmental Research and Policy Center shall make a detailed annual report to the North Carolina Board of Science and Technology, the Joint Legislative Commission on Governmental Operations, and the Environmental Review Commission as to its activities and operations, including the audit report required by subsection (d) of this Section, on or before 1 July of each year beginning 1 July 1993.

Section 3(b) provides a limit of \$75,000 of the total appropriation that may be spent, other than to defray the costs of incorporation, until the Center obtains commitments from non-State sources for additional funds of at least \$300,000 to support the Center's

operations and activities. Further, such commitments for funds must be received and available to the Center on or before June 30, 1994.

Section 4 provides that the act becomes effective July 1, 1992.



EXECUTIVE SUMMARY

- The State of North Carolina has the unique distinction of having the greatest complement of environmental research and policy scientists in the United States of America, including such entities as the largest USEPA laboratory, home of the NIEHS, a nationally recognized University system, and more than 70 private enterprise-environmental engineering research and consulting corporations.
- Sound interfaces between environmental science and policy making, both in North Carolina and the United States as a whole, is poor and often lacking.
- Comprehensive surveys have identified the following problems that exist in North Carolina today -
 - Lack of environmental regulation enforcement and compliance;
 - Lack of funding for environmental research and education;
 - Lack of a statewide research agenda;
 - Lack of a statewide environmental management plan;
 - Lack of a statewide comprehensive environmental data base;
 - Lack of agency coordination and research policy interaction;
 - Lack of effective environmental policy evaluation; and
 - Lack of general knowledge concerning environmental issues in North Carolina (education).
- It is proposed that the State of North Carolina create The North Carolina Environmental Research and Policy Center to form a dynamic partnership between state government, federal government, Universities, and private enterprise establishments.
- The proposed structure of The North Carolina Environmental Research and Policy Center would meet the following objectives: 1) Comprehensive data base formulation and management; 2) Enhancement and brokering of research and policy grants; 3) Direct interface between scientific and policy making communities; 4) Organization and information coordination and dissemination, 5) Enhancement of environmental educational programs; and 6) Credible integration and coordination of policy making procedures.
- The North Carolina Environmental Research & Policy Center should be created as a private, nonprofit corporation that promotes environmental research, education and policy statewide for the long-term economic benefit and protection of the State of North Carolina.
- The coordinating body of the North Carolina Environmental Research & Policy Center will be a Board of Directors, working for that Board will be the Director, along with the Associate Director for Scientific & Education Programs, Associate Director for Public Affairs & Environmental Information, and Associate Director of Economic & Corporate Development. Three regional Advisory Councils representing the Coastal Plain, Piedmont, and mountain districts of the State of North Carolina will also be established to report back to the Board of Directors by recommending regional prioritization of environmental research, education, and policy needs. The Director and Associate Directors of the Center will serve as X-officio members of the Regional Advisory Councils.
- It is proposed that for the Center's first year (Phase I) the General Assembly of North Carolina allocate \$300 thousand during the 1992 short session for the initial establishment of the Center. Additional funds of \$300 thousand have already been requested from private foundations at this time. Additionally, it is proposed that the General Assembly consider funding of \$400,000 for both Phase II and Phase III of the Center.
- After a period of 5 years of its creation, the Center should be comprehensively reviewed and evaluated on its effectiveness.
- The State of North Carolina indeed has the opportunity to become the national and international leader in environmental research, policy, and education through the creation of this Center. National leadership should attract new federal and private institutions to North Carolina, as well as making the State competitive for the soon-to-be awarded **National Institutes for the Environment**. Significant enhancement of North Carolina's economic standing and competitiveness would be an inevitable byproduct of the creation of this Center.

**A CONCEPT FOR THE CREATION
OF THE
NORTH CAROLINA ENVIRONMENTAL RESEARCH & POLICY CENTER
PREPARED BY ROBERT I. BRUCK, Ph.D., DIRECTOR
OF ENVIRONMENTAL SCIENCE
NORTH CAROLINA BOARD OF SCIENCE & TECHNOLOGY
JANUARY 29, 1992**

INTRODUCTION:

Developed and developing countries are today engaged in a period of changes in societal goals and values. Environmental and ecological values are becoming more and more prominent in public discussions about the "quality of life". Every society has certain stated or implied expectations for its own future. In industrial democracies such as ours, these expectations usually have included concern for the progressively increasing quality of life. Among the criteria of defining this variable are increased quality and availability of education, development and use of agricultural and industrial technologies, the harnessing of fossil fuels and other renewable and nonrenewable resources to provide the raw materials of economic development; for the purpose of providing an increasing abundance of food, consumer goods, public services, and increased standards of personal and community health and recreation. Unfortunately, all too often these investments have led to certain unintended side effects that have not always enhanced the quality of life or the equity or distribution of benefits in certain geographic regions, sectors within our society, or among the states and nations of the world.

During most of the Industrial Age, certain detrimental changes in environmental quality were accepted as unavoidable costs of economic progress and modern convenience. Industrial and domestic waste products of many sorts were dispersed freely into the air, water, and spread over the land or dumped into the oceans. It was long thought that "dilution was indeed the major solution to pollution".

In recent decades, however, increasing knowledge about the long-term

implications of such detrimental changes in environmental quality has led to conflicts between certain desirable goals of society. The concepts of environmental and ecological ethics were advanced considerably when Aldo Leopold coined the term "land ethic" in 1949. This new revelation that man's relation with his environment is both dynamic, and fragile, led to numerous subsequent treatises on the ultimate scientific, moral, ethical and political implications of our stewardship for the environment.

Of more recent concern is the realization that the interface between environmental science and policy is clearly defective. Numerous multi-million dollar federal and state-sponsored environmental research programs have been established; some programs concluded just within the past several years. The net result of these scientific exercises have been all too often to foster suspicion, miscommunication, and lack of integration of scientific findings into important and complex policy making decisions.

Human life itself is dependent on the health of our natural environment. Plants and animals live in a dynamic interface between aquatic, terrestrial, and atmospheric ecosystems. A deeper understanding of how such exchanges take place in this dynamic system will enable scientists to understand how numerous anthropogenic stresses affect these natural systems and enable policy makers to develop efficient strategies to help contain and (or) mitigate these effects. Only through broadbased multi-institutional and interdisciplinary research efforts will the needed information be made available to increase the world's food and fiber supplies, assure the purity of our air and water, as well as improving the quality of life during future generations.

Although significant strides have been made by dedicated individuals and institutions, there currently is no unified national or state based effort designed to deal with the problems of interfacing the scientific and policy making communities for the

purpose of yielding sound, long-term environmental management strategies.

BACKGROUND:

The State of North Carolina finds itself in a unique and envious position of having perhaps the strongest contingent of basic and applied environmental research and policy scientists in the eastern United States and perhaps the entire country. More and more private enterprise, government and academic sectors of Society have recognized that we are indeed living in "the decade of the environment". Many state, federal and private funding agencies have already recognized this reality, and have shifted the balance in the allocation of resources needed to drive a large scale multi-disciplinary, inter-institutional type device throughout the western world. It is logical that the broad spectrum of expertise outlined in a document prepared by The North Carolina Board of Science & Technology during the summer of 1991 entitled "THE NORTH CAROLINA NATURAL RESOURCES STUDY" would indeed be highly competitive in attracting and successfully executing grants and contracts for advanced studies of biosphere science and policy as well as applied problem solving throughout the State of North Carolina. The integrating mechanism would be the creation of THE NORTH CAROLINA ENVIRONMENTAL RESEARCH & POLICY CENTER. (Figs. 1 and 2).

Regarding the availability of environmental resources, e.g., professional personnel and facilities, the State of North Carolina is unique. The Natural Resources Study revealed the fact that North Carolina is the home of some of the most outstanding environmental research and policy institutions in the United States. A short list of these

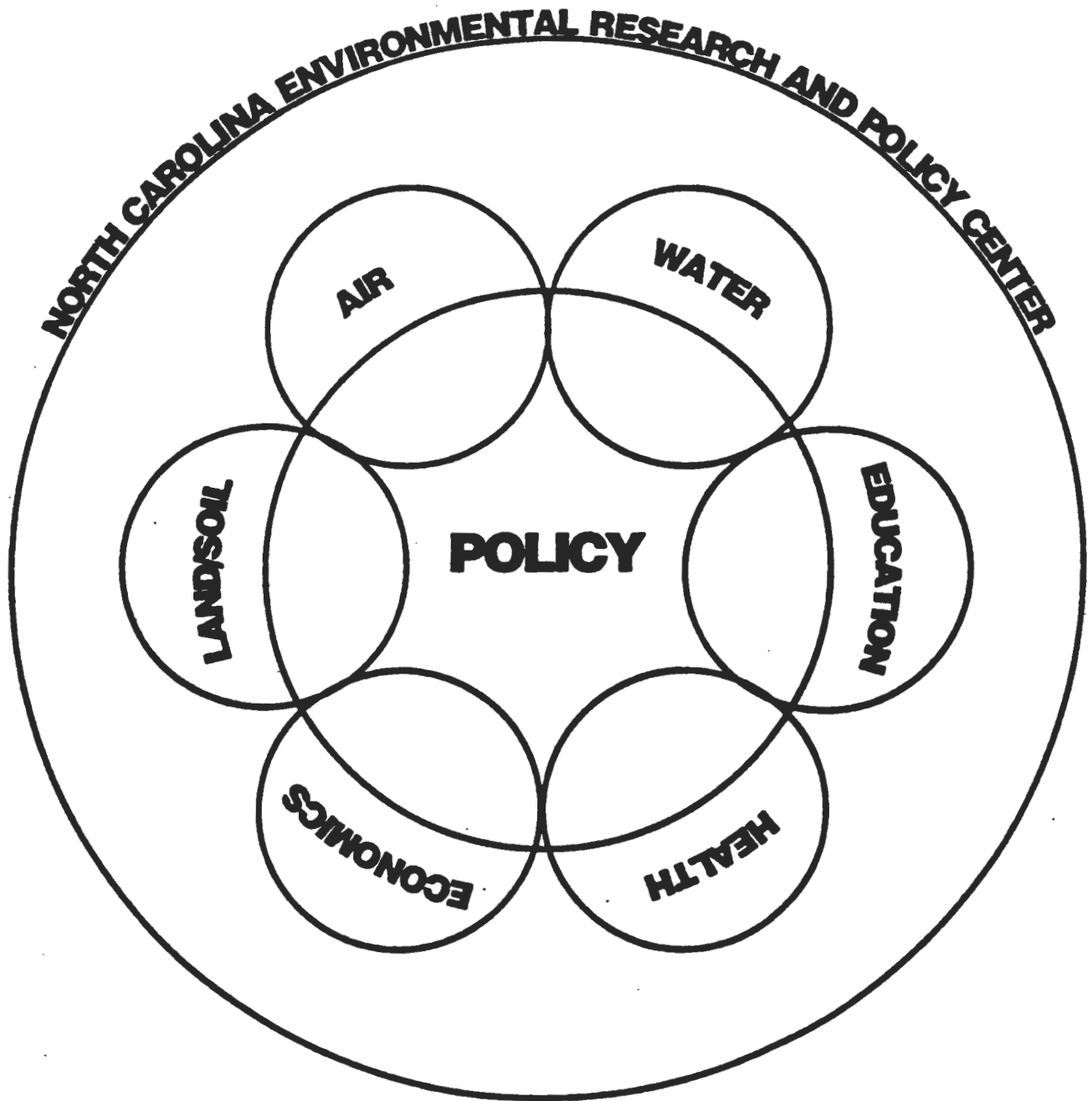
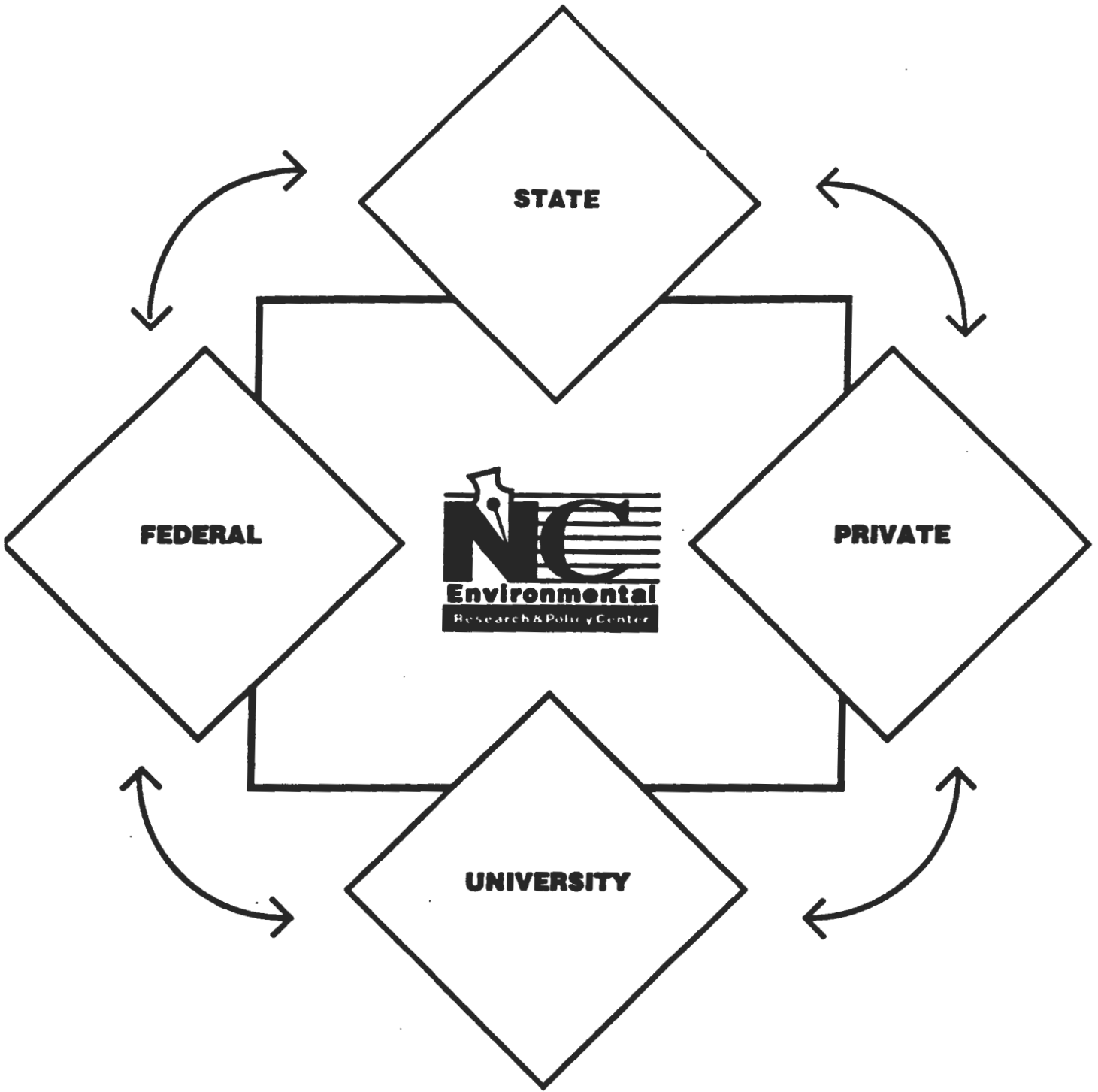


FIG. 1. Basic & Applied Research for the Purpose of Problem Solving (Policy) is the Goal of the Center



institutions include the largest research laboratory of the United States Environmental Protection Agency, the home of the National Institutes for Environmental Health Sciences, over 70 private research, engineering, and policy establishments in the Research Triangle Park alone. In addition, preliminary surveys of the three triangle Universities and an additional 12 other UNC campuses throughout the state have revealed the fact that well over 1,200 Ph.D. scientists in the academic sector are intimately involved in environmental research and policy studies. The study also revealed that well in excess of \$500 million/year are allocated by federal, state and private institutions for operating budgets of said institutions specifically involving environmental research and policy.

The State of North Carolina now has the opportunity to draw upon this broad and deep expertise throughout the North Carolina University system, state government, private enterprise, and federal research laboratories to further the cause of good science, policy making, and the prestige of the State of North Carolina.

OBJECTIVES OF NORTH CAROLINA ENVIRONMENTAL RESEARCH & POLICY CENTER

The North Carolina Natural Resources Study as well as numerous personal interviews during the past several months have identified what North Carolinians perceive as the greatest environmental challenges that we now face. These may be outlined as follows:

- 1) Lack of environmental regulation enforcement and compliance;
- 2) Lack of funding for environmental research and education;
- 3) Lack of a statewide research agenda;
- 4) Lack of a statewide environmental management plan;
- 5) Lack of a statewide comprehensive environmental data base;
- 6) Lack of agency coordination and research policy interaction;
- 7) Lack of effective environmental policy evaluation; and
- 8) Lack of general knowledge concerning environmental issues in North Carolina (education).

The North Carolina Environmental Research & Policy Center should act as a vehicle to enhance the integration of environmental science and environmental policy making in North Carolina by linking differing disciplines and organizations and act as a clearing house for multi-disciplinary research and policy proposals, to solve the above problems. This should be designed via a University-Public-Private partnership, as described above. Therefore, the objectives of the Center are:

- 1) Comprehensive data base formulation and management.
- 2) Enhancement and brokering of research and policy grants.

- 3) Direct interface of scientific and policy making communities.
- 4) Organization and information coordination and dissemination.
- 5) Enhancement of corporate economic development.
- 6) Enhancement of environmental education, and integration and coordination of policy making procedures.

BENEFITS:

The State of North Carolina indeed has the opportunity to become the national and international leader in the above endeavors. National leadership should attract new federal and private institutions to the State of North Carolina such as the proposed National Institutes for the Environment. **Significant enhancement of North Carolina's economic standing and competitiveness would be an inevitable byproduct of the creation of such a Center through enhancing existing industry and attracting new industry.**

The citizens of North Carolina will directly and immediately benefit from the creation of such a Center. One of the major purposes of the Center would be to diffuse many of the contentious environmental issues facing the State today. Rather than issues being decided by "who screams the loudest", credible and structured devices will be in place for the timely arbitration, dialogue, and negotiation of certain environmental issues between state, local, and business sectors to the satisfaction of the parties involved. Discussions with officials of the North Carolina State Government, Department of Environment, Health, and Natural Resources indicate that such a non-biased, credible structure (such as the Center) could greatly enhance their efficiency and function. In

addition, the Center could create an advisory committee to work with the state and federal government to develop a statewide environmental management plan. This plan will include economic development goals as well as environmental conservation goals while respecting both of these desirable pursuits. The Center should also define crucial environmental issues which face the State of North Carolina and develop a research agenda to meet the needs of the state. "Seed grants" will be provided by the Center to cities and counties desiring to develop land use and land management plans as well as to academic researchers to catalyze the ability of our strong academic institutions in being able to attract national and international independent grant support.

STRUCTURE OF THE NORTH CAROLINA ENVIRONMENTAL RESEARCH & POLICY CENTER

The Center, as an institution, would at its outset have no need for "bricks and mortar". The infrastructure of buildings, laboratories, research and library facilities would be met by those existing in the State of North Carolina which are perhaps unmatched anywhere else in the United States. The primary purpose (Phase I) of the Center will be the creation of an administrative body to act as a clearing house for multi-disciplinary and multi-institutional research, education, and problem-solving programs in the State of North Carolina. Phase I tasks could include:

- A. Environmental data base, design, and collection.
- B. Corporate road maps for environmental regulations and permitting.
- C. Pilot programs (Seed Grants) for local environmental and development planning.

The State will call upon our strong contingent of University, state, federal and private institutions to accomplish this task. In the future, if housing the Center in its own facility is desirable, this should be considered.

The North Carolina Environmental Research & Policy Center should be created as a private, nonprofit corporation that promotes environmental research, policy and education statewide for the long-term economic benefit, and protection of the State of North Carolina. The Center should not be involved in environmental regulation, permitting or law enforcement, rather it should act as an advisory body - at the disposal of (for example) DEHNR and USEPA. The Center should be active in supporting environmental

science and policy from basic research to policy decision making and should interact with all local, state, and national organizations involved in these endeavors. The Center should work towards the following GOALS:

- a) enhancing the research and policy making capabilities of the state's Universities, state government, private enterprise, and the federal, research and policy making communities;
- b) encourage technology transfer and collaborations among state, private, federal and University sectors of the state;
- c) assist and enhance the development of private enterprise endeavors throughout North Carolina;
- d) aid and assist in the arbitration of local and state development, and pollution mitigation controversies;
- e) act as a central clearing house for environmental education programs on all levels throughout the state; and
- f) solidify and strengthen North Carolina's national and international leadership role in environmental research and policy making.

The possible organizational structure of the North Carolina Environmental Research & Policy Center could be established as follows:

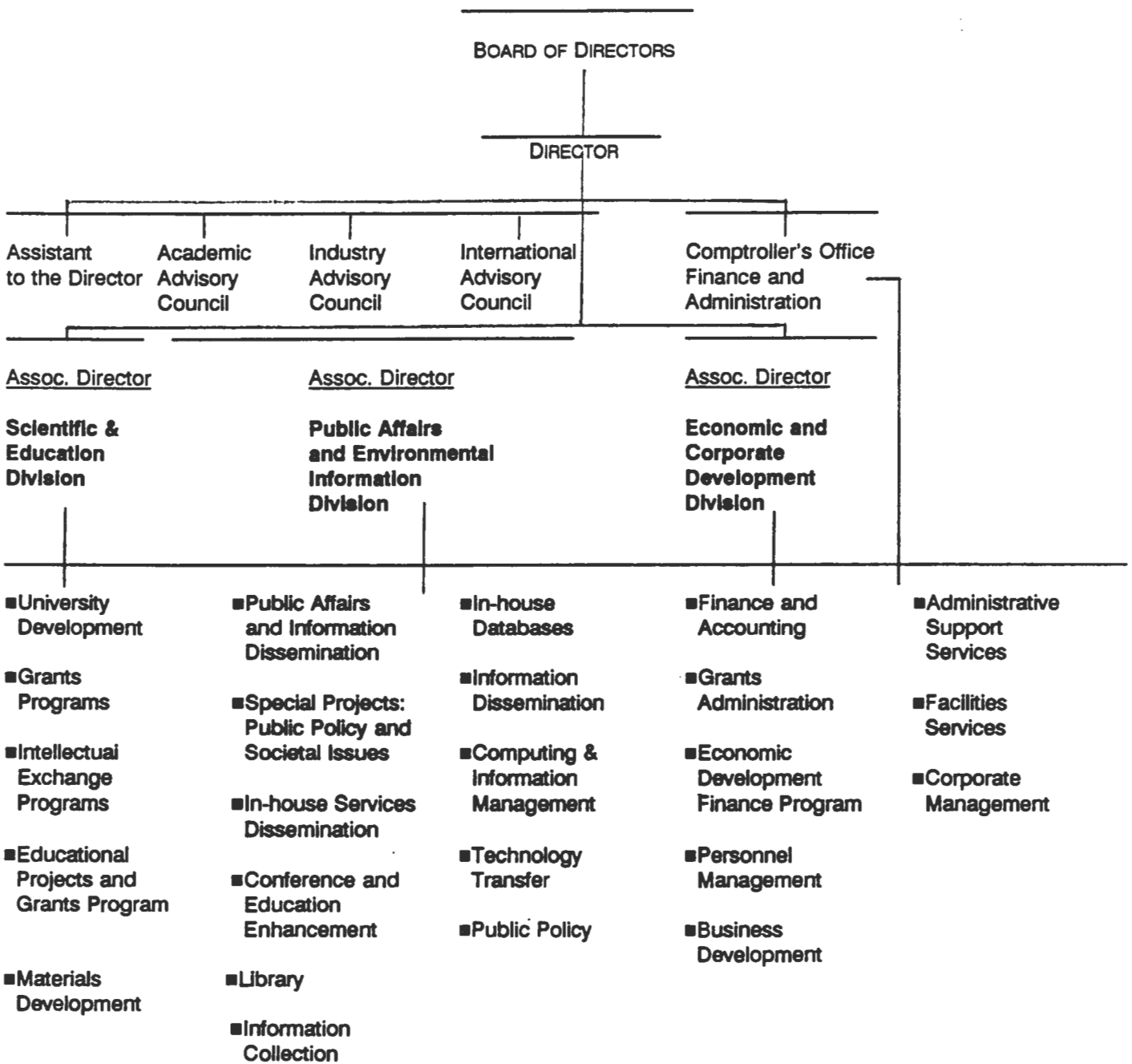


Figure 3.

Composition of Board of Directors

The governing body of the North Carolina Environmental Research and Policy Center will be the Board of Directors. The Board of Directors will consist of 18 members representing five areas of interest.

Four Directors will be selected from the university and college sector. Two Directors will be selected from The University of North Carolina by the President of The University of North Carolina, and two Directors will be selected from private 4-year colleges and universities in North Carolina by the President of The North Carolina Association of Colleges and Universities.

Four Directors will be selected from state government agencies. Two Directors will be chosen by the Speaker of the House of Representatives and two by the President Pro-tempore of the Senate.

Two Directors will be selected from federal research institutions located in North Carolina. One Director will be selected by the Director of the North Carolina Office of The United States Environmental Protection Agency and one Director by the Director of the National Institutes for Environmental Health Sciences.

Four Directors will be chosen from private enterprise, one by the President of North Carolina Citizens for Business and Industry, and three by the Governor of North Carolina.

Four Directors will be selected from the environmental community. One Director will be selected by the President of The North Carolina Wildlife Federation, one Director by the President of the North Carolina Nature Conservancy, one Director

by the President of the Conservation Council of North Carolina, and one Director by the Director of the North Carolina Environmental Defense Fund.

All members of the Board of Directors will serve 4-year terms beginning on 1 July of the year of appointment. To establish staggered terms, the initial Board of Directors, nine will serve for 2-year terms (one from The University of North Carolina, one from private colleges and universities, one appointed by the Speaker of the House of Representatives, one appointed by the President Pro-tempore of the Senate, one appointed by the Director of the NIEHS, two of those appointed by the Governor of North Carolina, one selected by the President of The North Carolina Wildlife Federation, and one by the President of North Carolina Nature Conservancy). The nine other members of the Board of Directors will serve 4-year terms. Any vacancy on the Board created by resignation, dismissal, death, or disability of a Director shall be filled in the same manner as the original appointment and will be for the balance of the unexpired term. Members of the Board of Directors may be appointed to successive terms. If any appointing authority fails to make an appointment within 60 days of the vacancy, the Governor of North Carolina will make the appointment.

The Board of Directors shall meet at least quarterly at such time and any place within the State of North Carolina that the Board of Directors may provide. The Board of Directors shall meet upon the call of its Chairman or majority of its members. The majority of its members shall constitute a quorum for the transaction of all business. The Board of Directors will appoint the Executive Director of the Center who will serve as Secretary of the Board of Directors. The Executive Director will report to the Board

of Directors regarding major policy decisions, progress reports on the functioning of the Center and fiscal matters.

REGIONAL ADVISORY COUNCILS

Under the oversight of the Board of Directors, three Regional Advisory Councils should be established representing the Coastal Plain, Piedmont and mountain districts of the State of North Carolina. The Advisory Council will be selected in a similar manner as the Board of Directors, e.g., representing the University, state government, federal government, private enterprise, and environmental sectors of the appropriate region. Each Regional Advisory Council will meet on a semi-annual basis and report back to the Board of Directors. The charge of the Regional Advisory Councils will be to study, prioritize, and recommend environmental research, education, and policy initiatives of concern to that particular region of the State. The Director and three Associate Directors of The North Carolina Environmental Research and Policy Center will also serve as Ex-officio members of each of the three Regional Advisory Councils.

FINANCING OF THE NORTH CAROLINA ENVIRONMENTAL RESEARCH & POLICY CENTER

Membership to the North Carolina Environmental Research & Policy Center will be accorded to all state, federal, private and University communities in the State of North Carolina involved in environmental research and policy endeavors. For the initial creation of the Center, an appropriation from the General Assembly of North Carolina will be required. Private foundations will also be solicited for matching funds to complement state resources. It is suggested that a \$300 thousand appropriation of state funds by the General Assembly matched by an additional \$300 thousand from private sources will be enough to catalyze the creation of this Center (Phase I). These figures assume that space will be made available and (or) rented in existing state or private facilities in North Carolina.

After much consultation with members of the state, federal, private and University environmental communities, it is recommended that the General Assembly appropriate continuing funds to assure the continuity of the important programs of the North Carolina Environmental Research & Policy Center. Therefore, on the budget page, Phase II and Phase III representing fiscal years 1993-1994 and fiscal years 1994-1995, respectively, are presented. The major budget item which has been added to Phase II and Phase III of this proposal is the creation first of a \$50,000 seed grant fund, followed in 1994-1995 by a \$100,000 seed grant fund. After the Center (Phase I) has identified and defined the crucial environmental issues facing the State of North Carolina, seed grants will be provided by the Center to cities, towns, counties and other municipalities desiring to develop land-use and land-management strategies, as well as to academic institutions to help catalyze our strong

research sector in being able to attract outside funding to answer applied-policy-oriented questions relevant to the State of North Carolina. Therefore, it is recommended that the General Assembly appropriate \$400,000 during both Phase II and Phase III of the Center's creation.

NORTH CAROLINA ENVIRONMENTAL RESEARCH & POLICY CENTER

PROPOSED BUDGET

Personnel	Phase I 1992-1993	Phase II 1993-1994	Phase III 1994-1995
Director (1)	\$ 80,000	\$ 85,000	\$ 90,000
Associate Directors (3)	150,000 (50K each)	165,000 (55K each)	180,000 (60K each)
Asstistant to the Director (1)	35,000	40,000	45,000
Research Associates (3)	105,000 (35K each)	120,000 (40K each)	135,000 (45K each)
Secretary (clerical) (3)	75,000 (25K each)	90,000 (30K each)	105,000 (35K each)
Fringe Benefits (23%)	102,000	115,000	127,000
Seed Grant Program	0	50,000	100,000
Facility Rental (\$10 sq. ft.)	50,000	50,000	50,000
Travel (Domestic)	15,000	15,000	15,000
Phones, Postage, Computer Rental	20,000	25,000	25,000
Total	\$ 632,000	\$ 755,000	\$ 872,000
Requested from General Assembly	300,000	400,000	400,000

102^D CONGRESS
1ST SESSION

H. RES. 153

Expressing the sense of the House of Representatives regarding the establishment of the National Institutes for the Environment.

IN THE HOUSE OF REPRESENTATIVES

MAY 15, 1991

Mr. SAXTON (for himself, Mr. BROWN, Mr. SCHEUER, Mr. HUGHES, Mr. PORTER, Mr. GOSS, Mr. LANCASTER, Ms. MOLINARI, Mr. McDERMOTT, Mr. PAXON, Mr. LOWERY of California, Mr. KOSTMAYER, Mr. ALEXANDER, Mr. BOEHLERT, Mrs. BOXER, Mr. COBLE, Mr. DAVIS, Mr. DWYER of New Jersey, Mr. ENGEL, Mr. FAWELL, Mr. GALLO, Mr. HERTEL, Mr. JONTZ, Mr. LIPINSKI, Mr. MILLER of Washington, Mr. PALLONE, Mr. PAYNE of New Jersey, Mr. RAVENEL, Mr. ROE, Mr. TALLON, Mr. MARKEY, Mr. McGRATH, Mr. NAGLE, Mr. SERRANO, Mr. WALSH, and Mrs. LOWEY of New York) submitted the following resolution; which was referred to the Committee on Science, Space, and Technology

RESOLUTION

Expressing the sense of the House of Representatives regarding the establishment of the National Institutes for the Environment.

Whereas the Earth and its inhabitants are threatened by unprecedented environmental degradation;

Whereas human health is dependent on the health of the environment;

Whereas the United States spends more than \$115,000,000,000 annually on environmental protection

but invests only a small fraction of such amount on environmental research;

Whereas a strong scientific and research community is essential for effective programs to protect the environment;

Whereas many efforts to protect the environment are reactive and therefore expensive and inefficient;

Whereas there is no overall coordinated effort by the Federal government to understand how the environment functions and how people affect, and are affected by, the environment;

Whereas the United States lacks the solutions to many environmental problems and the experts to develop and implement the solutions;

Whereas the United States lacks mechanisms for stable support of long-term environmental research;

Whereas the United States lacks mechanisms to establish priorities for comprehensive environmental research; and

Whereas incentives for public and private funding of basic and applied environmental research are virtually nonexistent: Now, therefore, be it

1 *Resolved*, That it is the sense of the House of Representatives that a National Institutes for the Environment
2
3 should be established—

4 (1) to provide a coordinated, nationwide program for establishing comprehensive environmental
5
6 research priorities; and

7 (2) to support competitively awarded, basic and
8 applied environmental research and training, encom-

3

- 1 passing a wide variety of disciplines and aimed at
- 2 understanding, preventing, and solving environmen-
- 3 tal problems.

○

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APPLICATION FOR RESERVATION OF CORPORATE NAME

TO: THE SECRETARY OF STATE, STATE OF NORTH CAROLINA

1. The undersigned, whose name and address is Robert I. Bruck, Ph.D., Director of Environmental Science, NC board of Science and Technology, 116 West Jones Street, Raleigh, North Carolina 27603-8003

hereby makes application for reservation for a period of ninety days of the corporate name of North Carolina Environmental research and Policy Center

2. The undersigned applicant is (check one):

- a person intending to organize a corporation under Chapter 56 or 56A of the General Statutes of North Carolina.
a domestic corporation intending to change its name.
a foreign corporation intending to make application for a certificate of authority.
a foreign corporation having a certificate of authority and intending to change its name.
a person intending to organize a foreign corporation and intending to have such corporation make application for a certificate of authority.

This the 2nd day of April, A. D. 1992

By [Signature]

(If executed by a corporation, to be signed by the president or vice-president and secretary or assistant secretary)

STATE OF North Carolina
COUNTY OF Wake

Verification by Individual

Robert I Bruck, being duly sworn, deposes and says that the facts stated in the foregoing "Application for Reservation of Corporate Name" are true and correct.

Sworn to and subscribed before me this 2nd day of April, A.D. 1992

My Commission expires: 29 April 1995 George F. Givens Notary Public

STATE OF
COUNTY OF

Verification by Officer of a corporation



being the President and Secretary, respectively, of the above-named corporation, being duly sworn, deposes and says that the facts stated in the foregoing "Application for Reservation of Corporate Name" are true and correct.

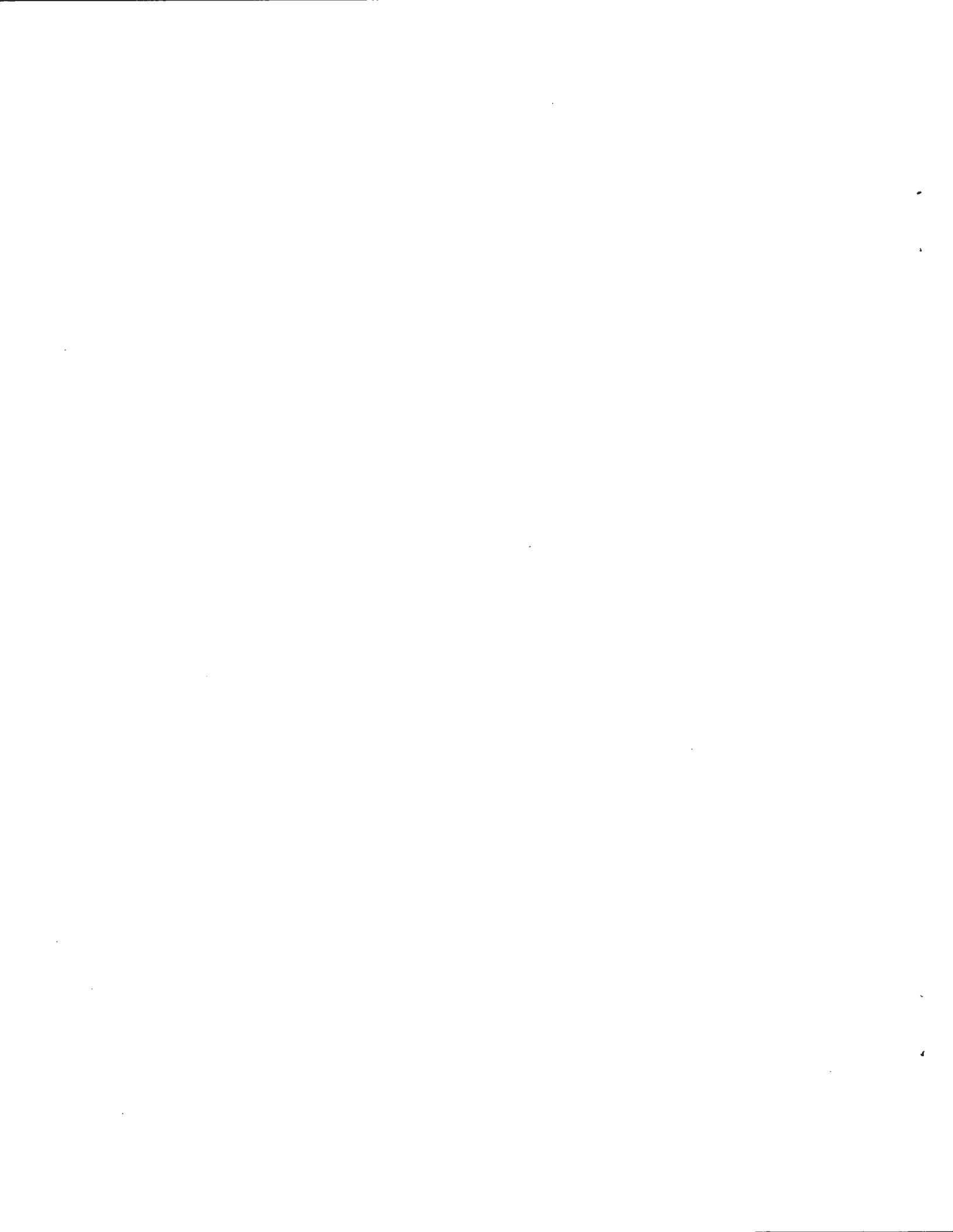
President

Secretary

Sworn to and subscribed before me this day of A.D. 19

Notary Public

My Commission expires:



APPENDIX D

**CHAPTER 754
SENATE BILL 917**

AN ACT TO AUTHORIZE STUDIES BY THE LEGISLATIVE RESEARCH COMMISSION, TO CREATE AND CONTINUE VARIOUS COMMITTEES AND COMMISSIONS, TO MAKE APPROPRIATIONS THEREFOR, TO DIRECT VARIOUS STATE AGENCIES TO STUDY SPECIFIED ISSUES, AND TO MAKE OTHER AMENDMENTS TO THE LAW.

PART I.-----TITLE

Section 1. This act shall be known as "The Studies Act of 1991."

.

PART II.-----LEGISLATIVE RESEARCH COMMISSION

Sec. 2.1. The Legislative Research Commission may study the topics listed below. Listed with each topic is the 1991 bill or resolution that originally proposed the issue or study and the name of the sponsor. The Commission may consider the original bill or resolution in determining the nature, scope, and aspects of the study. The topics are:

" (32) Promoting the Development of Environmental Science and Bridging Environmental Science and Technology with Public Policy Decision Making (H.B. 1070 - Woodard)"

Sec. 2.7. Committee Membership. For each Legislative Research Commission Committee created during the 1991-93 biennium, the cochairs of the Commission shall appoint the Committee membership.

Sec. 2.8. Reporting Dates. For each of the topics the Legislative Research Commission decides to study under this act or pursuant to G.S. 120-30.17(1), the Commission may report its findings, together with any recommended legislation, to the 1992 Regular Session of the 1991 General Assembly or the 1993 General Assembly, or both.

Sec. 2.9. Bills and Resolution References. The listing of the original bill or resolution in this Part is for reference purposes only and shall not be deemed to have incorporated by reference any of the substantive provisions contained in the original bill or resolution.

Sec. 2.10. Funding. From the funds available to the General Assembly, the Legislative Services Commission may allocate additional monies to fund the work of the Legislative Research Commission.

PART XXI.-----EFFECTIVE DATE

Sec. 21.1. This act is effective upon ratification.

In the General Assembly read three times and ratified this the 16th day of July, 1991.

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 1991

H

1

HOUSE BILL 1070

Short Title: Env. Sci./Tech. Policy Study.

(Public)

Sponsors: Representatives Woodard; and Bowman.

Referred to: Rules, Appointments and Calendar.

April 23, 1991

1 A BILL TO BE ENTITLED
2 AN ACT TO CREATE THE LEGISLATIVE STUDY COMMISSION ON
3 ENVIRONMENTAL SCIENCE AND TECHNOLOGY POLICY.
4 Whereas, wise stewardship of the environment is
5 essential to the survival, public health, and well-being of the
6 State's inhabitants; and
7 Whereas, the quality of the environment is vital to the
8 economy of North Carolina; and
9 Whereas, the formulation of public policy should be
10 integrated with knowledge of the science of the environment; and
11 Whereas, there exist within North Carolina abundant
12 human and capital resources, both public and private, for the
13 scientific investigation of the environment; and
14 Whereas, coordination and development of resources in
15 environmental science, technology, and public policy would
16 enhance State and local governmental decision making, the
17 research community, and the economy of North Carolina; Now,
18 therefore,
19 The General Assembly of North Carolina enacts:
20 Section 1. The Legislative Study Commission on
21 Environmental Science and Technology Policy is hereby created to
22 study alternatives for the integration of environmental science
23 and public policy in North Carolina. The Commission shall
24 consist of 12 members: four Representatives appointed by the

1 Speaker of the House of Representatives, four Senators appointed
2 by the President Pro Tempore of the Senate, and four
3 nonlegislative members appointed by the Governor. All initial
4 appointments shall be made by 1 August 1991. Vacancies on the
5 Commission shall be filled in the same manner as initial
6 appointments.

7 Sec. 2. The President Pro Tempore of the Senate shall
8 designate one Senator as Cochairman and the Speaker of the House
9 of Representatives shall designate one Representative as
10 Cochairman.

11 Sec. 3. The Commission shall study alternatives that
12 promote the development of environmental science in North
13 Carolina and that bridge environmental science and technology
14 with public policy decision making. The Commission shall make
15 recommendations on initiatives to promote the development of
16 environmental science, technology, and policy in North Carolina
17 which enhance State and local governmental decision making on
18 environmental issues, which coordinate and strengthen the
19 research community in environmental science, and which strengthen
20 the ability of those engaged in environmental research to compete
21 for federal and private research support.

22 Sec. 4. The Commission may submit an interim report to
23 the 1992 Session of the 1991 General Assembly. The Commission
24 shall submit a final report of its findings and recommendations
25 to the General Assembly on or before the first day of the 1993
26 Session of the General Assembly by filing the report with the
27 President Pro Tempore of the Senate and the Speaker of the House
28 of Representatives.

29 Sec. 5. The Commission, while in discharge of official
30 duties, may exercise all the powers provided for under the
31 provisions of G.S. 120-19 and G.S. 120-19.1 through G.S.
32 120-19.4. The Commission may meet at any time upon the joint
33 call of the Cochairmen. The Commission may meet in the
34 Legislative Building or the Legislative Office Building with the
35 approval of the Legislative Services Commission.

36 Sec. 6. Members of the Commission shall receive travel
37 and subsistence expenses as follows:

- 38 (1) Commission members who are members of the General
39 Assembly, at the rates set forth in G.S. 120-3.1;
40 (2) Commission members who are also employees of the
41 State, at the rates set forth in G.S. 138-6; and
42 (3) All other Commission members, at the rates set
43 forth in G.S. 138-5.

1 Sec. 7. The Commission may contract for professional,
2 clerical, or consultant services as provided by G.S. 120-32.02.
3 The Legislative Services Commission, through the Legislative
4 Administrative Officer, shall assign professional staff to assist
5 in the work of the Commission. The Supervisor of Clerks of the
6 House of Representatives and the Supervisor of Clerks of the
7 Senate shall assign clerical staff to the Commission when
8 directed to do so by the Legislative Services Commission.
9 Expenses relating to clerical employees shall be borne by the
10 Commission.

11 Sec. 8. The Commission may request staff support from
12 the North Carolina Board of Science and Technology and from the
13 Office of Environmental Education of the Department of
14 Environment, Health, and Natural Resources in carrying out its
15 responsibilities.

16 Sec. 9. All State departments and agencies, local
17 governments, and public colleges and universities shall furnish
18 to the Commission upon request any information in their
19 possession or available to them.

20 Sec. 10. There is appropriated from the General Fund to
21 the General Assembly the sum of \$15,000 for the 1991-92 fiscal
22 year and the sum of \$15,000 for the 1992-93 fiscal year to fund
23 the work of the Commission.

24 Sec. 11. This act becomes effective 1 July 1991.

APPENDIX E

BRIDGING ENVIRONMENTAL SCIENCE AND TECHNOLOGY WITH PUBLIC POLICY DECISION MAKING MEMBERSHIP - 1991-1992

LRC Member: Sen. Lura Tally
3100 Tallywood Dr.
Fayetteville, NC 28303
(919) 484-4868

Members:

President Pro Tempore's Appointments

Sen. Marvin M. Ward, Cochair
641 Yorkshire Road
Winston-Salem, NC 27106
(919) 724-9104

Sen. Marc Basnight
P.O. Box 1025
Manteo, NC 27954
(919) 473-3474

Sen. Betsy L. Cochrane
Box 517 BR
Advance, NC 27006
(919) 998-8893

Dr. Ernest Hodgson
N.C. State University
Box 7633
Raleigh, NC 27695

Mr. Marcus King
4509 Creedmoor Road
Suite 201
Raleigh, NC 27612

Sen. J. Clark Plexico
400 Beverly-Hanks Centre
Hendersonville, NC 28792
(704) 697-0515

Sen. Russell G. Walker
1004 Westmont Drive
Asheboro, NC 27203
(919) 625-2574

Staff:

Ms. Barbara Riley
Mr. George F. Givens

Speaker's Appointments

Rep. Barney Paul Woodard, Cochair
Box 5
Princeton, NC 27569
(919) 936-6641

Rep. Gerald L. Anderson
2305 Brice Creek Rd.
New Bern, NC 28562
(919) 633-1456

Rep. Howard C. Barnhill
2400 Newland Road
Charlotte, NC 28216
(704) 392-4754

Rep. Arlie F. Culp
Route 2, Box 529
Ramseur, NC 27316
(919) 824-2218

Rep. James P. Green, Sr.
P.O. Box 1739
Henderson, NC 27536
(919) 492-2161

Rep. Judy Hunt
P.O. Box 1526
Blowing Rock, NC 28605
(704) 295-7777

Rep. William H. Withrow
Route 1, Box 102
Ellenboro, NC 28040
(704) 453-7712

Clerk:

Ms. Peggy Ann Hogan
(919) 733-5880

APPENDIX F

**SPEAKERS APPEARING BEFORE THE
STUDY COMMITTEE ON BRIDGING ENVIRONMENTAL
SCIENCE AND TECHNOLOGY WITH PUBLIC POLICY DECISION MAKING**

**Dr. Richard C. Berne, Head
Department of Chemistry and Physics
Western Carolina University, and
Director, Center for Environmental/Energy Education**

**Dr. Robert I. Bruck, Professor of Plant Pathology and Forestry,
North Carolina State University, and
Director of Environmental Science, North Carolina Board of Science and Technology,
Department of Administration**

**Charles D. Case, Esquire
Moore and Van Allen, and
Lobbyist, Chemical Industry Council of North Carolina**

**Dr. Gary J. Foley, Director
Atmospheric Research and Exposure Assessment Laboratory
United States Environmental Protection Agency
Research Triangle Park**

**Dr. Charles Hamner, Director
North Carolina Biotechnology Center**

**Dr. Thirby G. Harrill
Manager of Toxicology and Environmental Affairs
George Goulston Company
Monroe, North Carolina, and
Member, Environmental Affairs Committee
N.C. Citizens for Business and Industry**

**Bill Holman, Lobbyist
Conservation Council of North Carolina and the
North Carolina Chapter of the Sierra Club**

**Stephen P. Hubbell, Chairman
Board of Directors
Committee for the National Institutes for the Environment**

**Dr. Larry Lee, Director
North Carolina Supercomputing Center
Microelectronics Center of North Carolina**

**Mr. Steven J. Levitas, Director
North Carolina Environmental Defense Fund**

**Dr. Linda W. Little, Director
Office of Environmental Education, and
Executive Director, Governor's Waste Management Board
Department of Environment, Health, and Natural Resources**

**Dr. Earl MacCormac, Executive Director
North Carolina Board of Science and Technology
Department of Administration, and
Science Advisor, Office of the Governor**

**Dr. Thomas F. Malone, Director
Sigma Xi Center for Integrative Studies, and
Distinguished University Scholar
North Carolina State University**

**Dr. Jasper Memory, Vice-President for Research
University of North Carolina (General Administration)**

**Mr. R. Paul Wilms, Director of Regulatory Affairs
North Carolina Homebuilders Association**



LEGISLATIVE LIBRARY