

FINAL REPORT
GEOLOGICAL SURVEY OF ALABAMA

Ernest A. Mancini
State Geologist

Environmental Geology Division

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(WCAMI)**

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**A SURVEY OF ATTITUDES TOWARDS WETLANDS AND
WETLANDS ISSUES PERTAINING TO
THE STATE OF ALABAMA**

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The views and conclusions contained in this document are those of the researchers and should not be interpreted as necessarily representing the official policies or recommendations of the Alabama Department of Environmental Management.

All reviewers of this report should satisfy themselves as to the accuracy of all data, maps, and interpretations presented.

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A SURVEY ON ATTITUDES TOWARDS WETLANDS AND WETLANDS ISSUES PERTAINING TO THE STATE OF ALABAMA

ABSTRACT

As part of the process of developing a comprehensive wetlands conservation and management plan for Alabama, a sample survey was conducted from October 27 to November 30, 1993, employing a mass mailing, written response format. Five hundred and thirty groups and organizations representing business, industry, government, universities, and the public were polled on 22 demographic and technical wetland questions. Of those polled, 397 organizations were located in the State of Alabama and 133 were located outside the State of Alabama. One hundred and forty-six (27.5%) questionnaires/replies were received with 37 of those stating that the questionnaire did not apply to their group.

Most respondents thought the U.S. Environmental Protection Agency-U.S. Army Corps of Engineers definition of a wetland was adequate for wetlands policy. Almost all of the respondents said their group has an interest in wetland issues, did know where and how to obtain wetlands information for their groups' needs, and thought that adequate efforts were not being made to educate Alabama citizens about wetlands. Most groups thought that wetland degradation or lessening of acreage is occurring in the State of Alabama as a whole and in their own area. Most said that wetland degradation or lessening of acreage was a concern to them. Most groups have ongoing programs, plans or policies that manage, protect or alter wetlands. Slightly over half of the responding groups deal with both freshwater and tidal wetlands and most of the rest deal primarily with freshwater wetlands. Most polled groups do not have any wetlands facilities, services or resources that are available to the public other than wetlands information. Taken collectively, respondents provided a long and varied list of ongoing projects and studies, most of the results of which are available in published form by contacting the specific polled group. Many of the groups have not assessed the adequacy of current wetland classification systems. The majority of those

groups that have adopted a classification system use Environmental Laboratory (1987) (U.S. Army Corps of Engineers' Wetland Delineation Manual) or Cowardin and others (1979). The majority of the respondents have not delineated wetland types, and almost half of the responding groups indicate that they use Environmental Laboratory (1987), Cowardin and others (1979) or a combination of the two to delineate wetlands.

The responding groups considered plant/animal habitat, flood control, water purification, water quality, and ground-water recharge to be the five most important wetland functions. The majority of the groups thought wetland functions were decreasing in the State of Alabama as a whole and in their own area. The majority of the groups thought that both the state and local decrease was due mostly to development.

In general, responding groups indicated that coastal marshes, wetlands of all types, and freshwater wetlands are the most important critical wetlands. More specifically, wetlands along rivers, streams and lakes; forested wetlands; wetlands on floodplains; wetlands in agricultural areas; natural or historic wetlands; and wetlands used as waterfowl breeding grounds were thought to be critical. Specific wetland types or areas mentioned are bottomland hardwoods, the Mobile delta, Tupelo-Gum Swamps, Pitcher Plant Bogs, and Cypress Swamps.

Positive wetland economic impacts identified by the respondents are (in no particular order) water purification, wildlife habitat, recreation, food, nursery ground, ground-water recharge, shoreline protection, aesthetics, science, and flood control. Negative wetland impacts center around an attempt by business and industries to deal with wetland laws and regulations. Most respondents feel that the way to improve economic impacts is to develop better wetland laws and regulations. Most feel that more and better wetland education is needed for the general public.

Most of the responding groups answered that they were familiar with mitigation banking and other financial incentives for maintaining wetlands. Almost all of the respondents thought that mitigation banking and other financial incentives were applicable to Alabama and favored mitigation banking, financial incentives, no net loss, tax incentives and "taking" (a governmental entity, in compliance with laws and regulations, tells a property owner that a certain use of the

property is forbidden, which usually, from the standpoint of the property owner, results in a decrease in value). The majority of the groups were of the opinion that current Federal and Alabama regulation of wetlands did not adequately address conservation and management of Alabama wetlands.

INTRODUCTION

Many groups and government agencies in the State of Alabama have expressed the need for a comprehensive wetlands conservation and management plan for Alabama. Currently, the process of assessing national and statewide issues regarding wetlands is uncoordinated and fragmented. This is due in large measure to the lack of agreement until recently at the Federal level as to what constitutes a wetland; the lack of Federal incentives to states to manage wetlands; the constraints, differing definitions and conditions under which management could be conferred; and the lack of state and federal funding support.

To meet this wetlands need, the Alabama Department of Environmental Management (ADEM) is undertaking the Wetlands Conservation and Management Initiative (WCAMI). A Wetlands Technical Advisory Committee (WTAC) has been formed to help guide this and future wetland work efforts and to advise ADEM regarding wetland issues. The WTAC is composed of staff from ADEM, wetland research scientists from various universities, and numerous State and Federal agencies.

ADEM contracted with the Geological Survey of Alabama (GSA) in 1992 to evaluate and complete three major tasks: project administration; development of an annotated bibliography; and analysis of public awareness and consensus. The GSA subcontracted with Marine Environmental Sciences Consortium (MESC) and Auburn University (AU) to complete part of the work. The GSA, MESC, and AU conducted the actual research.

This report communicates the results of the public awareness and consensus task, which is manifested as a sample survey questionnaire. The purpose of this task was to conduct a comprehensive assessment of national and statewide issues regarding wetlands with the goal of enhancing wetlands conservation and management in Alabama.

If a wetlands conservation and management plan for Alabama is to be successfully promulgated, the support and cooperation of affected citizens will be essential. Prior to this study, there was no listing of groups interested in or affected by Alabama's wetlands. One difficulty in the present study was identification of individuals and groups with potential interest in wetlands. Many groups in

Alabama have an interest in wetlands issues, but unless they are included under an "umbrella group" such as an association or state or national affiliation, it is difficult to locate them. Therefore, some groups were not identified in the present study.

One of the first steps toward accomplishing the project goal was to conduct a sample survey to identify groups in Alabama that might be interested in wetland issues; establish which groups in Alabama are indeed interested in wetland issues; find out the level of knowledge the groups possess; find out where these groups stand on Alabama wetland issues; determine what wetland resources they might have; and produce a preliminary wetlands directory.

ACKNOWLEDGMENTS

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METHODOLOGY

Budget, time, and the type and level of information needed dictated that the survey be conducted by a mass mailing, written response format. The GSA was in charge of developing and implementing the questionnaire and mass mailing list with input from WTAC members. In addition, the GSA analyzed the results and prepared the draft report, which was submitted to the WTAC. Changes requested by the funding agency (EPA) were incorporated in this final report.

A mailing list of 530 groups (397 located in the State of Alabama and 133 located outside of the State of Alabama) was assembled from many sources (apps. A and B). Because of the need to gather information on wetlands issues pertinent to the State of Alabama as well as those of national interest, federal and state agencies outside of Alabama were contacted for their input. The information listed comes from sources that are no older than 1991. To avoid going through a costly and lengthy verification process, no source older than two years old was utilized in compiling the mailing list.

The names of some of the groups were obtained from WTAC members; a variety of meetings with civic, educational, and public groups; wetlands literature; and individual wetlands professionals. However, most of the groups were identified using a variety of published sources. Telephone directories from the State of Alabama were searched to obtain the names of some businesses and trade associations. The Alabama Department of Finance (1992) directory listed telephone numbers and mailing addresses of State of Alabama government agencies. Claudy (1992) provided addresses of all United States university geoscience departments. World Wildlife Fund (1992) provided a listing of state and federal agency wetland contacts. The Consortium for Research on Southern Forest Wetlands (1993) listed forestry-related wetland contacts (universities and state and federal agencies) located in the southeastern United States.

Listings of major Alabama businesses and corporations were obtained through the directory of United States private and public companies (Gale Research, Inc., 1993) and Dun and Bradstreet, Inc. (1993). Unfortunately, business directories do not list enough information to determine a priori whether a given industry might have a bearing on wetlands or wetland issues. In some cases it is difficult to determine exactly what a given company does without directly contacting the company.

Questions for the questionnaire were formulated from questions, ideas, and text obtained from wetlands publications, GSA professionals, and the WTAC. Appendix C contains an example of the cover letter and questionnaire that was mailed out October 27, 1993. A self-addressed, stamped envelope was included with a copy of the questionnaire and cover letter. Those polled were given until November 30, 1993, to respond. Because the questionnaire response period overlapped the holiday season, questionnaires were accepted until February 1, 1994.

The questionnaire consists of 22 questions divided into two types, demographic and technical. Demographic data, including group name, affiliation, address, group contact person, and group contact person title, are contained in the questionnaire heading. Background information about the group's membership, purpose, and the type of group (how the group would label itself) is collected by questions 1 and 2. These data were utilized not only in the analysis of the results, but provided

current information for updating the list of groups polled. This list ultimately will serve as a preliminary wetlands directory.

Questions 3 through 22 are technical in nature with the purpose of gathering specific information about opinions concerning wetlands issues, the group's wetlands experience, and wetlands resources the group may have that are available to the public (such as publications, facilities and so forth). This series of questions has two components, a closed part and an open part. The closed part consists of a yes or no response or a multiple choice menu. This part of the question assists the tallying of results by allowing the position of the group on a particular question to be determined quickly and can be handled quantitatively. The open part of the question (comments) allows the group to qualify their closed response and provide additional information about the subject of the question.

The major steps involved in the sample survey procedure are presented in a flow-chart format in figure 1. Results were tallied as they were received in the mail. Written answers to the open parts of the questions were grouped by question and are quoted, paraphrased or summarized as appropriate under each question in the principal findings section.

No formal pilot study was conducted. WTAC members and GSA personnel pre-evaluated the questionnaire and cover letter. GSA and ADEM professionals critically reviewed the materials as a means of checking the final products before they were mailed out to the groups to be polled. Prior to mailing out the questionnaire, ADEM and WTAC members advertised by word-of-mouth that a wetlands sample survey was going to be conducted in the near future.

ANALYSIS

PRINCIPAL FINDINGS

Of the 530 questionnaires that were mailed, 38 (7.2%) were returned due to an incorrect address or the group no longer being in operation. One hundred and forty-six (27.5%) questionnaires/replies were received with 37 of those stating that the questionnaire did not apply to their group, and 109

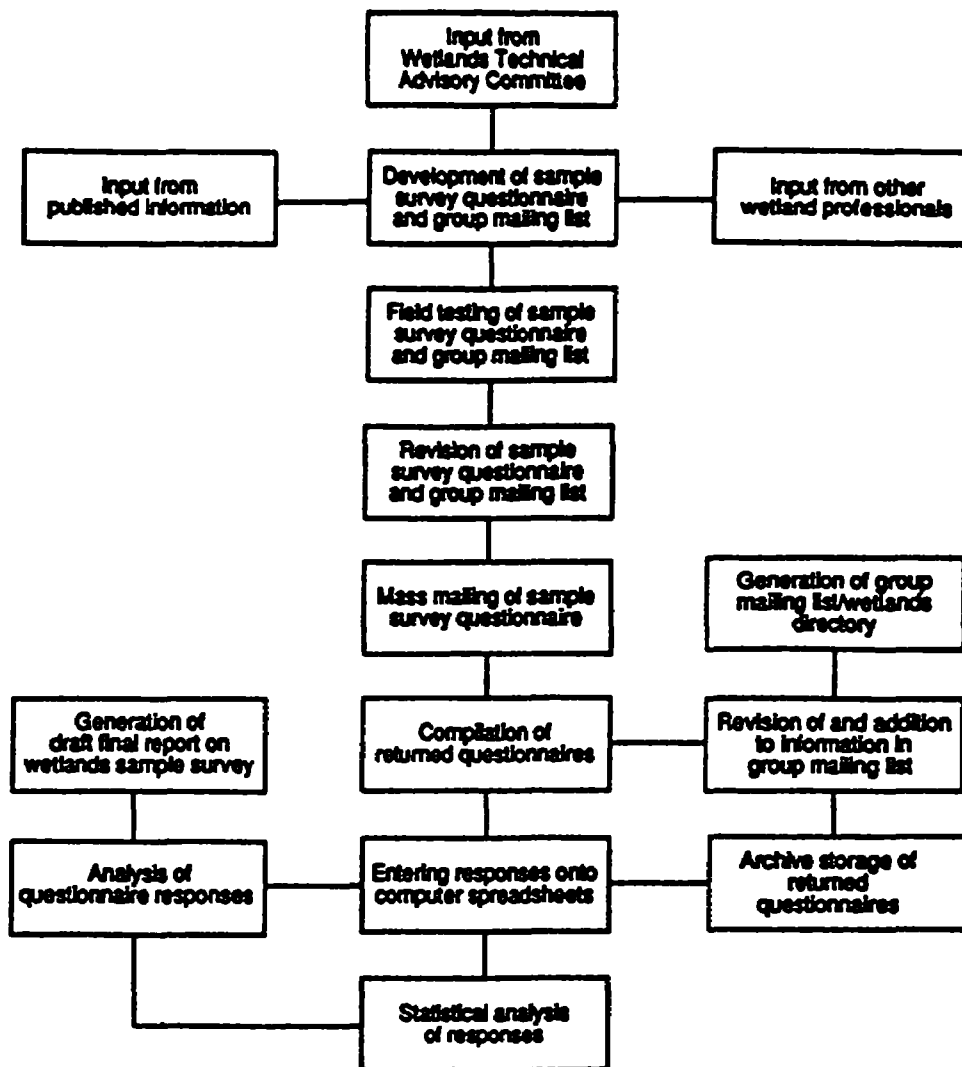


Figure 1.--Flow chart illustrating the design for the wetlands sample survey.

questionnaires were received filled out to some degree of completion. Almost all groups that filled out the questionnaire filled them out completely.

Table 1 shows the number of groups within each of the 26 categories that were sent a questionnaire, the number of completed questionnaires received in each category, the number of blank questionnaires (does not apply) that were received, and the total number of responding groups. Some government agencies indicated that the subject matter of the questionnaire was not their jurisdiction. Most of the business and industry groups that returned the questionnaire unanswered did not think the questionnaire applied to them because they simply abide by wetlands regulations and have little to do with wetlands issues. Most business and industry groups employ staff to ensure their company's compliance with wetlands regulations. Some companies employ an outside consultant for this purpose.

Some group categories were very small. For example, only two landowner and education groups were found in Alabama, and only one university business and one engineering department was found (table 1).

In addition, very few filled-out responses were obtained from many of the categories: 15 of the 26 categories had 3 or fewer filled-out responses, and there were no filled-out responses from 6 group categories. For example, no business, education, nor law organization responded to the questionnaire. Return of filled-out responses among some larger categories was also surprisingly low. Only 7 of 55 environmental consultants responded, as did only 2 mining/excavating organizations, and 1 each of developer and timber organizations. Reasons for these low rates of response are not known. Rates of response were generally higher for governmental organizations. No follow-up was conducted after return of the questionnaires to determine the reasons for the low rates of return, or to elicit additional information from the groups.

Therefore, the views of these categories are under-represented in the following descriptions of specific question responses. No breakdown of answer by category was attempted; therefore, it is not known whether or how categories of organizations differed in their opinions.

Table 1.--Summary of pertinent information relating to group response to questionnaire

Group category	Number contacted	Group response to questionnaire		
		Filled out and returned	Not applicable	Total responding
Agriculture	23	6	2	8
Business	7	0	0	0
Ceramics	5	0	1	1
Chemical	33	4	3	7
Developer	14	1	0	1
Education	2	0	0	0
Environmental	39	9	2	11
Environmental consultant	55	7	1	8
Fishery/fishing/hunting	8	3	0	3
Forestry	6	2	2	4
Government				
Federal	89	21	6	27
Local	31	8	0	8
Other states	51	17	3	20
State of Alabama	46	9	3	12
Landowner	2	1	0	1
Law	8	0	0	0
Mining/excavating	22	2	6	8
Timber	25	1	2	3
University				
Agriculture	9	4	0	4
Biology	4	4	0	4
Business	1	0	0	0
Engineering	1	0	0	0
Environmental	2	1	0	1
Geology/geography	7	3	0	3
Law	2	1	1	2
Utility	39	5	5	10
Total	530	109	37	146

QUESTIONS 1 AND 2: ORGANIZATIONAL INFORMATION

All of the 109 groups were capable of stating concisely what type of group they consider themselves to be and the purpose of their group. Individuals responding to the questionnaire were

always some high-ranking official within the group (for example, president, vice president, director, manager, chairman or chairman of the board) or someone with wetlands knowledge or expertise (such as, university professor, wetlands specialist or various titled scientists and technicians). Group size (number of members, employees or constituency) ranged from a few to tens of thousands and totaled 217,850 individuals.

Though there was a substantial amount of variation in the size of the groups surveyed, half of them (50%) represented 25 or fewer individuals. Ninety-eight of the returned questionnaires gave the number of individuals represented by their group. These groups are categorized by size as follows: 1-10 (26.7%); 11-25 (23.3%); 26-50 (16.3%); 51-100 (3.5%); 101-500 (15.1%); 501-1,000 (8.1%); 1,001-5,000 (2.3%); 5,001-10,000 (none); 10,001-50,000 (4.7%), and 50,001 and over (none).

QUESTION 3: WETLANDS DEFINITION

Polled groups were given the U.S. Environmental Protection Agency-U.S. Army Corps of Engineers definition of a wetland, which states that wetlands are "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." They were asked if the definition was too broad, too narrow or adequate. Of those 99 groups that answered the question, almost a sixth (14.1%) thought the definition was too broad, 9.1 percent said it was too narrow, and most (77.8%) felt that the definition was adequate as stated.

Those polled were then asked to give their comments. One of the frequent comments given was that the definition needs to incorporate a function/value criteria and be based on wetland type or a minimum-area consideration, so that true wetlands that have environmental qualities or are beneficial to the public and deserve protection can be differentiated from those that are not true wetlands (for example, "low places in a pasture" or "drainage ditches"). Some feel that the definition needs to be expanded to include wildlife. Many feel that some of the parameters in the definition, such as "vegetation typically adapted for life in saturated soil conditions," "frequency," "duration," "saturated," "inundated," and "normal circumstances" are too broad, ill-defined, and difficult to

measure in the field. This broadness in terminology has resulted in the definition not being interpreted equally in all situations.

A few think that the incorporation of hydrology in the definition is unnecessary unless the site has been disturbed. They point out that hydrology varies too much from region to region and is "very difficult to defend in court" unless years of documentation are available from the site in question. Some feel that the definition should stress soil, hydrology, and flora. There is concern that certain types of wetlands are not adequately protected by the definition, such as bottomland hardwoods and nonvegetated wetlands (tidal mud flats). Some expressed the opinion that the federal and state governments need to better enforce the definition. The States of New Hampshire, Kentucky, and South Dakota use the definition to assist in surface-water quality and pesticide control.

QUESTION 4: WETLANDS ISSUES AND INFORMATION

Those polled were asked if their group has an interest in wetlands issues. Of the 109 respondents that answered this question, 97.2 percent said yes and 2.8 percent said no. The groups were then asked if they know where and how to obtain wetlands information for their needs. Almost nine out of ten (89.6%) of the 106 respondents said that they did and 10.4 percent said that they did not know where and how to obtain wetlands information.

The groups were given an opportunity to state their views on the subject of wetlands information. Some said that there are many sources for wetlands information in Alabama, but that there needs to be one official source to centralize wetlands information and policy and minimize conflicting answers to questions asked by the public. A few mentioned the need for information on identified wetlands, wetland restoration, and wetland mitigation projects.

- QUESTION 5: WETLANDS EDUCATION OF ALABAMA CITIZENS

The polled groups were asked if they felt that adequate efforts are being made to educate Alabama citizens concerning wetlands. Seventy-six groups responded, with 88.2 percent thinking that

adequate efforts were not being made to educate Alabama citizens. One in eight (11.8%) respondents felt that adequate wetlands education efforts were being taken.

This wetlands education question prompted many comments. Most groups feel that unless an Alabama citizen is a member of a conservation group, receives instruction in public schools or takes an environmental or ecology class in college, an Alabama citizen generally does not understand what a wetland is, how to recognize a wetland, the importance of a wetland, and why people need to protect wetlands. Most expressed the opinion that many citizens see the value of a wetland for recreational purposes and as a habitat for wildlife, but do not see the importance of a wetland for biodiversity or its role as an ecosystem.

Several respondents suggested ways of improving wetland public education. One group thinks wetland education should begin in public schools. Several groups urged Federal and State agencies to formulate education programs to make citizens understand the consequences of wetland destruction and what benefits wetlands provide to people and to the environment. Pamphlets, brochures, public-education programs by the television news media, and humorous and upbeat public-service announcements were all mentioned as effective public wetlands-education methods.

QUESTION 6: WETLANDS DEGRADATION

Question six has multiple parts that deal with wetlands degradation or lessening of acreage. The polled groups were first asked if wetland degradation or lessening of acreage is occurring in the State of Alabama as a whole. More than four in five (85.1%) of the 67 groups that answered this question thought that it was occurring and 14.9 percent felt that it was not. Among the 70 groups that answered this part of the question, four out of five (80.0%) were of the opinion that wetland degradation or lessening of acreage is occurring in their own area and 20.0 percent thought it was not. Those groups that were polled were then questioned about whether wetland degradation or lessening of acreage was a concern to them. Of the 71 that responded, 84.5 percent said yes and 15.5 percent answered no.

This multiple part question drew many comments. Most groups thought that terms such as "degradation" and "loss" can be defined and measured in different ways. Overall, most groups feel that wetland degradation is occurring and wetland acreage is being lost over time due to development, erosion, subsidence, logging, agriculture, lack of adequate protection and enforcement of existing laws, and inability to clearly define a wetland. However, the quality of wetlands is being improved through restoration, protection of beavers, forestry practices, reduction in the conversion of wetlands to agricultural lands, and education.

A few of the groups mentioned the need to educate private property owners on how and why they need to protect wetlands. It was the experience of a local governmental group that anti-growth groups are using wetlands as an issue to stop development of upland areas. Another comment was that some wetland compensation projects are not successful due to poor design and installation.

QUESTION 7: WETLANDS PROGRAMS, PLANS AND POLICIES

Groups were asked if they have any programs, plans or policies that manage, protect or alter wetlands. One hundred and five groups responded to this question with 72.4 percent answering yes and 27.6 percent no.

The groups were then requested to briefly list these programs, plans or policies. The groups mentioned a wide range of ongoing activities and these are summarized by group category.

A plant nursery (agricultural group) propagates wetland plants from existing stock rather than collecting the adult plants from nature. Chemical groups have a storm-water management plan and ground-water recovery system. Environmental groups have programs, plans, and policies for education, direct advocacy, guardianship/stewardship of purchased wetlands (Pitcher Plant Bog), preservation, and conservation. Environmental consultants are involved in environmental monitoring of wetland mitigation projects and design of artificial structures where wetlands are involved. The forestry industry has several programs for training foresters and the general public. These programs include Best Management Practices for Forestry, continuing education courses for resource managers and landowners, Project Learning Tree, The Tree Farm Program, and The Treasured Forest Program.

Many federal agency activities are involved with permitting. However, many agencies have projects and programs that deal with wetland mitigation, wetland inventory, wildlife communities and habitat, constructed wetlands, wetland restoration, wetland management, wetland ecology, wetland function, and acquisition of wetlands through land exchange purchase.

Most state agencies with wetlands jurisdiction outside of Alabama are involved in implementing or developing state wetlands laws and/or surface water quality standards. State of Alabama agencies are involved in wetland mitigation, land reclamation, commenting on federal permit applications, best forestry management practices for landowners and resource managers, dredge disposal containment facilities, and development of a statewide wetland mitigation bank for highway projects. Faculty at Alabama university departments make landowners aware of wetlands through a National Resource Forestry Fish and Wildlife program, wetland conservation/preservation, and scientific research on functions of forested wetlands and how harvesting and road construction affect these functions. One university is involved in studying biogeochemical cycling and resiliency of wetlands to accepting loadings from a drainage basin.

QUESTION 8: FRESHWATER VS. TIDAL WETLANDS

Groups were asked whether they deal with freshwater or tidal wetlands or both. Two out of five (42.4%) of the 99 respondents deal primarily with freshwater wetlands; only 5.1 percent of the groups work with tidal wetlands and over half (52.5%) handle both freshwater and tidal wetlands.

There were only a few comments written on this question. One environmental group has an educational program designed to teach about both freshwater and tidal wetlands. The State of New Jersey has separate freshwater and tidal wetland laws.

QUESTION 9: WETLANDS RESOURCES AVAILABLE TO THE PUBLIC

Most polled groups when asked to list wetlands facilities, services, and resources that are available to the public responded that they do not have any or that they do provide wetlands information (consultation for permitting and delineation and publications obtained from federal and

state governmental agencies). One plant nursery offers 20 species of wetland restoration plants. Environmental groups provide educational materials, presentations by speakers, networking, direct assistance, recreational activities, and access to state reserves/refuges or acquired and maintained wetlands (Pitcher Plant Bog-Gum Bog). A fishing/hunting group has published a children's wetlands identification guide. Some federal agencies supply wetlands information, consultation for permitting and delineation, and manage wildlife refuges and recreation areas. A university department is involved in marsh restoration.

State wetlands agencies outside of Alabama provide educational material; consultation for mitigation, permitting, and planning; technical/scientific expertise; maps; and research grants. State of Alabama agencies supply wetlands information, have public education/outreach programs, and manage wildlife refuges and recreation areas. The GSA distributes (at cost) copies of the National Wetlands Inventory maps of the State of Alabama and has published an educational booklet on wetlands.

QUESTION 10: WETLANDS PROJECTS AND STUDIES

Polled groups were asked if they have conducted or do they have any ongoing projects or studies related to wetlands. One hundred groups responded with 66 percent answering yes and 34 percent no.

If the group answered yes, a brief list of the projects and studies was requested. Groups in the chemical and developer categories have delineated wetlands. Environmental groups have various internally generated educational materials, wetland field trips, and one participates in the Bay Watch program. In general, environmental consulting groups are involved in designing structures that involve wetlands, wetland mitigation, and federal permitting associated with wetlands projects. Fishing/hunting groups are involved in land acquisition, an annual Wood Duck Box program, and the planting of wetlands game bird foods. Forestry groups have funded various studies including the impact of timber harvesting on wetlands, timber regeneration, the effects of road construction on wetlands, and the impact of forestry activities on water quality.

Taken collectively, federal agencies provided a long and varied list of projects and studies. Results from most of these studies are available in published form by contacting the specific agency. These studies and projects include research on wetland status and trends; forest regeneration following vegetation removal; forest growth and yield; management impacts on migratory land birds; management impacts on ecological processes and wetland functions; nutrient flux (especially carbon) within a wetland; studies of river basins and watersheds around the United States; Mississippi Delta studies; wetland mitigation and monitoring studies; the Swampbuster Program; a wetland acquisition program; wildlife habitat/community studies; bioaccumulation of metals in wetlands; and constructed wetlands.

Government agencies in other states have many ongoing wetland studies. New Hampshire is developing a relative wetland evaluation technique and a regional site specific evaluation methodology. North Carolina is developing a wetland rating system. California is involved in a study of public access impacts on wetland areas and is conducting wetland monitoring studies. Tennessee and South Dakota have wetland studies underway, but did not elaborate further. North Dakota is working on a wetlands management handbook. New Jersey is in the process of assessing mitigation projects. Arkansas has an unspecified river basin project underway, and Kentucky recently started collecting background biological data to assess the quality of reference wetlands. Nebraska is developing a wetlands conservation plan. Texas is prioritizing wetlands for acquisition and restoration. Alabama state agencies are involved in mitigation studies and a federal project related to Gaillard Island in Mobile Bay.

Industry groups are developing educational programs; delineating and assessing wetlands that may be impacted; examining the feasibility of utilizing constructed wetlands for various purposes; marsh revegetation; and removal of exotic and invasive species from wetlands.

Alabama university departments are studying wetlands in the Talladega National Forest; heavy metal contamination in rivers and the Mobile delta; natural changes in coastal Alabama; identification of historic and prehistoric human sites; various biological studies in Weeks Bay;

systematic collections of wetland plants and animals; and distribution and abundance of commercially important fish in Alabama.

Groups were asked if they have prepared any wetlands information. Forty-nine groups responded and 93.9 percent said that they have prepared information and 6.1 percent said that they have not.

QUESTION 11: ADOPTED WETLAND CLASSIFICATION SYSTEMS

The groups were asked if they have assessed the adequacy of current wetland classification systems as they apply to Alabama or any part of Alabama. Ninety-one groups answered the question with 13.2 percent saying yes and 86.8 percent no.

If the group answered yes, they were asked to list any systems that they favor and why. The majority of the groups use Environmental Laboratory (1987). Some favored using Cowardin and others (1979). A few have developed their own system or have adopted the classification systems of various federal agencies.

QUESTION 12: DEVELOPED WETLAND CLASSIFICATION SYSTEMS

Question 12 is related to question 11 and asks if any of the polled groups have developed their own classification system. The 98 respondents said no by a margin of over four to one (82.0% to 16.0%). When asked if they have actually delineated wetland types, of the 83 groups that responded to this question, 55.4 percent said no and 44.6 percent said yes.

If the groups answered yes to either or both questions, they were requested to briefly describe the method they use and why they use it. Almost half of those that responded say that they use Environmental Laboratory (1987). Some use Cowardin and others (1979). Some use a combination of Environmental Laboratory (1987), Cowardin and others (1979) and the National Wildlife Inventory maps. Two favor a hydrogeomorphological approach to delineation of reference wetland types.

QUESTION 13: IMPORTANT WETLAND FUNCTIONS

The polled groups were given a definition of the "function" of a wetland and then asked to list those wetland functions that the group thought were the most important and why. This question solicited a large response from the groups. The five most commonly identified functions are plant/animal habitat (21.7%), flood control (13.6%), water purification (13.0%), water quality (10.9%), and ground-water recharge (7.6%). The sixth most common response (5.4%) was many or all functions that occur in a wetland are important. Groups that picked this response felt that it was not possible to single out any one function over another as being more important. They felt that in order for a wetland to operate, it must have all functions intact; therefore, all functions are important.

The remaining functions represent only a small percent of the responses and are, in descending order, nursery (4.3%), economic (timber and commercial fish, 3.8%), nutrient sink (3.3%), food/food chain (3.3%), recreation (2.7%), soil erosion control (2.2%), biodiversity (1.6%), wetland ecosystem (1.6%), surface water supply (1.1%), sedimentation control (1.1%), shoreline stabilization (1.1%), aesthetics (1.1%), and oxygen production (0.5%).

QUESTION 14: CHANGE IN WETLAND FUNCTIONS

Groups were asked if wetland functions are increasing, staying the same or decreasing across the State of Alabama. Some of the 55 respondents (32.7%) felt that wetland functions were increasing. More of the groups (49.1%) thought wetland functions were decreasing in the State of Alabama as a whole and 18.2 percent were of the opinion that functions were staying the same. When asked about in their own area of Alabama, of 57 groups responding to this question, half (50.9%) thought functions were decreasing, 33.3 percent said increasing and 15.8 percent felt they are staying the same.

If the respondents felt that there are changes in wetland functions occurring in their area or across Alabama, they were to list the perceived causes. The reasons for change varied greatly, with there being no clear consensus of opinion as to what is causing wetland functions to increase or

decrease. However, the majority of those groups that think wetland functions are decreasing feel the main culprit is development. Agriculture and forestry practices and pollution were also considered contributing factors. Those groups that think wetland functions are increasing do so mostly because of increased public awareness, more legal protection, and greater preservation/conservation efforts.

QUESTION 15: IMPORTANT WETLAND VALUES

The polled groups were given a definition of the "value" of a wetland and then asked to list those wetland values that the group thought were the most important and why. Despite being given concise definitions of wetland function and value, most appeared to view the two terms as synonyms. Some gave the same answer to both questions 13 and 15. However, the tally of results demonstrated that most understood the definition of "value" as stated in question 15 ("public and private benefits"), and ranked their wetland values accordingly.

The five most commonly identified values are plant/animal habitat (20.8%), recreation (16.4%), flood control (10.1%), water quality (8.8%), and water purification (6.9%). The next two most common responses were ground-water recharge (5.0%) and many or all values that occur in a wetland (5.0%). As with wetland function, groups that picked this response felt that it was not possible to single out any one value over another as being more important. The mere existence of the wetland is considered value.

The remaining functions represent only a few percent of the responses and are, in descending order, nursery (4.4%), economic (timber and commercial fish, 4.4%), food/food chain (4.4%), wetland ecosystem (3.1%), aesthetics (3.1%), biodiversity (2.5%), surface water supply (1.3%), sedimentation control (1.3%), scientific research (1.3%), nutrient sink (3.3%), soil erosion control (0.6%), shoreline stabilization (0.6%), and oxygen production (0.6%).

QUESTION 16: CHANGE IN WETLAND VALUES

Groups were asked if wetland values are increasing, staying the same or decreasing across the State of Alabama. The majority of the 51 respondents (45.1%) felt that wetland values were

increasing. Some of the groups (35.3%) thought wetland values were decreasing in the State of Alabama as a whole and 19.6 percent were of the opinion that values were staying the same. When asked about their own area of the state, of 49 groups responding to this question, two out of five (40.9%) thought values were increasing, 36.7 percent said decreasing and 22.4 percent felt they are staying the same.

If the respondents felt that there are changes in wetland values occurring in their area or across Alabama, they were to list the perceived causes. The reasons for change varied greatly, there being no clear consensus of opinion as to what is causing wetland values to increase or decrease. However, the majority of those groups that think wetland values are decreasing feel the main culprit is development. Agriculture and forestry practices and pollution were also considered contributing factors. Those groups that think wetland values are increasing do so mostly because of increased public awareness and that as wetlands are lost the remaining ones are perceived as possessing higher value compared to other ecosystems.

QUESTION 17: TYPES OF CRITICAL WETLANDS

The polled groups were asked what wetland types they feel are most critical. Tabulating the responses proved difficult due to the use of nonstandard terminology and the use of terms that are subsets of one another (for example, riparian vs. wetlands along rivers and streams). Because of the degree of inaccuracy in categorizing the responses and standardizing of terminology, the frequency percent given with each critical wetland type has an estimated standard error of 2 percentage points.

The three most generalized wetland categories reported by the groups are coastal marshes (26.4%), wetlands of all types (11.8%), and freshwater (8.2%). More specific terms used are wetlands along rivers, streams, and lakes (especially headwater streams, 10%), forested (5.5%), floodplains (5.5%), agricultural (2.7%), natural or historic wetlands (1.8%), and wetlands used as waterfowl breeding grounds (1.8%). Specific wetland types or areas mentioned are bottomland hardwoods (13.6%), the Mobile delta (6.4%), Tupelo-Gum Swamps (2.7%), Pitcher Plant Bogs (1.8%), and Cypress Swamps (1.8%).

QUESTION 18: ECONOMIC IMPACTS

Groups were asked what the positive and/or negative economic impacts of wetlands are on members of their group and how these impacts can be improved. Groups seem to have interpreted "economic impacts" as what wetlands represent in terms of benefits or liabilities to their group. Generally, positive impacts (benefits) are viewed with respect to the public good and "cost" is measured in terms of taxes and property values. Generally, negative impacts (liabilities) seem to be expounded by business and industry and "costs" seem to be measured in terms of the "bottom line."

Positive wetland impacts are as follows and are listed in no particular order: water purification, wildlife habitat, recreation, food, nursery ground, ground-water recharge, shoreline protection, aesthetics, science, and flood control. Wetlands help support various industries such as forestry (wood fiber), recreation (hunting and fishing), and fisheries (seafood).

Negative wetland impacts involve attempts by business and industries to deal with wetland laws and regulations. Some view wetlands as a "headache" or an "obstacle." Compliance for them results in extra construction costs, time delays, operating costs, legal fees, and permit costs. Groups cited cases where the existence of a wetland will prevent development, resource recovery, and loss of property values with no compensation to the landowner. Wetlands impact groups responsible for providing roads and utilities. For example, one utility company mentioned that if an area is approved for development but it is virtually surrounded by a wetland, highway departments and utilities bear the responsibility and cost of trying to provide service to the development.

Most respondents feel that the way to improve economic impacts is to develop better wetland laws and regulations. They felt that wetlands permit system needs to be simplified and fairer with local determination capabilities and that provisions need to be made for better wetland definitions, better enforcement of wetland laws, greater incentives, wetland restoration, wetland protection, and state wetland acquisition. Most feel that more and better wetland education is needed for the general public.

QUESTION 19: WETLAND MITIGATION AND INCENTIVES

Polled groups were asked if they were familiar with mitigation banking and other financial incentives for maintaining wetlands. Of the 102 groups that responded, over two-thirds (69.6%) answered yes and less than one-third (30.4%) said no. If the group responded yes, they were asked if mitigation banking and other financial incentives were applicable to Alabama and how. Nine out of ten (91.3%) of the 46 respondents thought that mitigation banking and other financial incentives were applicable to Alabama and 8.7 percent did not think so.

Most groups did not state how these measures would be applied in Alabama. Some groups offered which mechanisms for maintaining wetlands they would favor in Alabama. In descending order, they are mitigation banking (50.1%), financial incentives (mostly compensation, 22.7%), no net loss (13.6%), tax incentives (9.1%) and "taking" (a governmental entity, in compliance with laws and regulations, tells a property owner that a certain use of the property is forbidden, which usually, from the standpoint of the property owner, results in a decrease in value) (4.5%). A few made the comment that for mitigation banking to work, there needs to be assurances that the wetland constructed is as "good" as the natural wetland it is replacing.

QUESTION 20: FEDERAL WETLAND REGULATIONS

Groups were asked if current Federal regulation of wetlands adequately address conservation and management of Alabama wetlands. The majority (66.2%) of the 65 respondents said no and 33.8 percent answered yes. The groups were then asked to give their views of current Federal wetlands regulations. Comments were abundant and included every pertinent topic and possible viewpoint with no apparent consensus of opinion except for the fact that none of the respondents were satisfied with current federal regulations.

QUESTION 21: ALABAMA WETLAND REGULATIONS

As a corollary to question 20, groups were asked if current Alabama regulation of wetlands adequately address conservation and management of Alabama wetlands. Results were about the same as for federal regulations, 67.9 percent of the 56 responding groups answered negatively and 32.1 percent answered affirmatively. Fewer groups responded to this part of the question than commented on Federal regulations (question 20). However, there is a better defined consensus of opinion about Alabama versus Federal wetlands regulations. Most groups felt that Alabama wetlands regulations were inadequate or nonexistent. Some thought that current federal regulations were adequate to cover Alabama wetlands.

QUESTION 22: GROUP PARTICIPATION IN FOLLOW-UP INTERVIEW

The final question of the sample survey asked if the polled groups would be interested in participating in a follow-up interview. The majority (89.0%) of the 100 respondents said yes and 11.0 percent said no. The groups were permitted to write comments. Those that responded negatively did so because they felt that they could not contribute anything else that the WTAC would find useful or did not possess detailed knowledge about wetlands. Some mentioned their group thought the questionnaire was a good idea. Others were glad to see the State of Alabama directly address wetlands issues. Several expressed appreciation to the WTAC for consulting them and allowing them the opportunity to give their views on wetlands issues. Others appreciated the invitation to provide future input into the wetlands initiative.

CONCLUSIONS

Five hundred and thirty groups (397 located in the State of Alabama and 133 located outside of the State of Alabama) representing business, industry, government, universities, and public organizations were polled on 22 demographic and technical questions in the sample survey. Of those 99 groups that answered the question, almost a sixth (13.1%) thought the U.S. Environmental

Protection Agency-U.S. Army Corps of Engineers definition of a wetland was too broad, 9.1 percent said it was too narrow, and most (77.8%) felt that the definition was adequate as stated. The majority of the groups use Environmental Laboratory (1987) (U.S. Army Corps of Engineer's Wetland Delineation Manual), some favored using Cowardin and others (1979) and a few have developed their own system or have adopted the classification systems of various federal agencies.

Almost all of the 109 respondents (97.2%) said their group has an interest in wetlands issues and 2.8 percent said they were not. More than four in five (85.1%) of the 67 groups that answered this question thought that wetland degradation or lessening of acreage is occurring in the State of Alabama as a whole and 14.9 percent felt that it was not.

Most polled groups when asked to list wetlands facilities, services, and resources that are available to the public responded that they do not have any or that they do provide wetlands information (consultation for permitting and delineation and publications obtained from federal and state governmental agencies).

The five wetland functions and values most commonly cited by the polled groups are plant/animal habitat, recreation, flood control, water purification, water quality, and ground-water recharge.

The three most generalized critical wetland categories reported by the groups are coastal marshes, wetlands of all types, and freshwater. More specific terminology used are wetlands along rivers, streams, and lakes (especially headwater streams), forested, floodplains, agricultural, natural or historic wetlands, and wetlands used as waterfowl breeding grounds. Specific wetland types or areas mentioned are bottomland hardwoods, the Mobile delta, Tupelo-Gum Swamps, Pitcher Plant Bogs, and Cypress Swamps.

Most of the respondents stated that Federal and State regulations were not adequate in addressing wetland conservation and management. Most respondents expressed interest in a follow-up interview on wetland issues in Alabama.

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APPENDIX A
WETLANDS SAMPLE SURVEY ALABAMA MAILING LIST

Agriculture

Alabama Angus Association
P. O. Box 427
Haynesville, AL 36040

**Alabama Association of Soil and
Water Conservation Districts**
4544 Court Street S
Montgomery, AL 36105

Alabama Catfish, Inc.
P.O. Box 769
Uniontown, AL 36786
Jerry Whittington
205/628-3474

Alabama Cattlemen's Association
P.O. Box 2499
Montgomery, AL 36102
Billy Powell
205/265-1867

Alabama Dairy Products Association, Inc.
200 Lawrence St. S
Montgomery, AL 36104

Alabama Farmers Federation
P. O. Box 11000
Montgomery, AL 36191
Steve Guy
205/613-4305

Alabama Nurserymen's Association
P. O. Box 9
Auburn, AL 36831

Alabama Peanut Producers Association
P. O. Box 1282
Dothan, AL 36302

Alabama Pork Producers Association
P. O. Box 11000
Montgomery, AL 36191

Alabama Poultry and Egg Association
2835 Zelda Rd.
Montgomery, AL 36106

Alabama Seedsmen's Association
P. O. Box 2546
Auburn, AL 36831

ALFA Alabama Farmers Federation
P. O. Box 11000
Montgomery, AL 36191

American Dairy Association of Alabama
322 Alabama St.
Montgomery, AL 36104

**American Society of Agricultural Engineers -
Alabama Section**
Agricultural Engineering Dept.
Auburn Univ.
Auburn, AL 36849
Larry Kutz
205/844-4180

Auburn University
Fisheries and Allied Aquiculture
Swingle Hall
Auburn University, AL 36849

Blue Waters Catfish
P. O. Box 507
Demopolis, AL 36732

Dixie Dairy Products Association, Inc.
2301 Paul W. Bryant Dr.
Tuscaloosa, AL 35401

Durbin Marshall Poultry Co., Inc.
3125 Independence Dr.
Birmingham, AL 35209

Fayette Cotton Mill, Inc.
807 8th St. SE
Fayette, AL 35555

Hydro-Perfect Vegetation
Flowerwood Liners, Inc.
P. O. Box 665
Loxley, AL 36551
Cliff Street
205/964-5122

Jefferson County Farmers Federation, Inc.
453 Huffman Rd.
Birmingham, AL 35215

Limestone Farmers Cooperative, Inc.
Hwy 31
Athens, AL 35611

Southern Pride Catfish Co., Inc.
Hwy 25 N
Greensboro, AL 36744

Tuscaloosa Extension District
Craig Field Airport and Industrial Complex
P.O. Box 1096
Selma, AL 36702
Norma M. McCrory
205/875-3232

Business

Alabama Alliance of Business and Industry
660 Adams Ave.
Montgomery, AL 36104

Alabama Business Properties Association
400 S Union St.
Montgomery, AL 36104

Alabama World Trade Association
International
Mobile, AL 36606

Business Council of Alabama
468 Perry St. S
Montgomery, AL 36104

Economic Development Partnership of Alabama
2 Jackson St. N
Montgomery, AL 36104

National Federation of Independent Business
400 Union St. S
Montgomery, AL 36104

Warrior/Tombigbee Development
P. O. Box 10127
Birmingham, AL 35202

Ceramics

Alabama Concrete Industries Association
660 Adams Ave.
Montgomery, AL 36104
R. Otis Russell
205/265-2250

Bickerstaff Clay Products Co., Inc.
Brickyard Rd.
Phenix City, AL 36867

Harbison-Walker Refractory
P. O. Box 63
Eufaula, AL 36072

Henry Brick Co., Inc.
3409 Water Ave.
Selma, AL 36703

Monarch Tile, Inc.
P. O. Box 999
Florence, AL 35630

Chemical

Alabama Asphalt Pavement Association
630 Adams Ave.
P. O. Box 70507
Montgomery, AL 36107

Alabama Chemical Association
P. O. Box 1014
Decatur, AL 35602

Alabama Service Station
Dealers Association, Inc.
4209 Carmichael Rd.
Montgomery, AL 36106

Alabama Textile Manufacturing Association
P.O. Box 99
Montgomery, AL 36104
David H. Seagraves
205/834-1250

B and D Plastics, Inc.
Troy Industrial
Troy, AL 36081

Coastal Mobile Refining Co.
P. O. Box 11526
Mobile, AL 36671

Eagle Chemical Co., Inc.
P. O. Box 107
Mobile, AL 36601

International Fertilizer Development Center
P. O. Box 2040
Sheffield, AL 35660
Bernard H. Byrnes
205/381-6600

King Frank Fertilizer
Hwy 134
Pinckard, AL 36371

KW Plastics
P.O. Box 707
Troy, AL 36081
J. Chris Rutherford
205/566-1563

Leggett and Platt, Inc.
Culp Smelting and Refining
P. O. Box 455
Steele, AL 35987

Lexington Fabrics, Inc.
Old Rogersville Rd.
Lexington, AL 35648

Mobile Paint Manufacturing Co.
of Delaware, Inc.
4775 Hamilton Blvd.
Theodore, AL 36582

New Market Agri-Chemical, Inc.
501 New Market Rd.
Montgomery, AL 35761

Olin Corp.
P. O. Box 28
McIntosh, AL 36553

Parker Fertilizer Co., Inc.
201 4th St. W
Sylacauga, AL 35150

Premier Refractories and Chemicals, Inc.
P. O. Box 11105
Birmingham, AL 35201

Price Rubber Corp
P. O. Box 210489
Montgomery, AL 36121

Quaker Supreme Chemical Corp.
433 Sadler St.
Montgomery, AL 36104

Reeves Rubber, Inc.
P. O. Box 1369
Albertville, AL 35950

Riverside Refractories, Inc.
Truss Ferry Rd.
Pell City, AL 35125

Robbins Tire and Rubber Co., Inc.
P. O. Box 60
Tuscumbia, AL 35674

Rock Wool Manufacturing Co., Inc.
P. O. Box 506
Leeds, AL 35094

Russell Corp.
P. O. Box 272
Alexander City, AL 35010

Sanders Lead Co., Inc.
P.O. Box 707
Troy, AL 36081
J. Chris Rutherford
205/566-1563

Southern Phenix Textiles, Inc.
Broad St. Extension
Phenix City, AL 36867

Specification Rubber Products, Inc.
P. O. Box 568
Alabaster, AL 35007

Sunnyland Refining Co.
3330 10th Ave. N
Birmingham, AL 35234
Robert Smith
205/254-0261

Tabb Textiles Co., Inc.
511 Pleasant Dr.
Opelika, AL 36801

Uniroyal Goodrich Tire Co.
P. O. Box 30
Opelika, AL 36801

United Plating, Inc.
P. O. Box 2046
Huntsville, AL 35804

Vulcan Refining Co.
P. O. Box 388
Cordova, AL 35550
Kim H. Hester
205/483-9262

Warrior Asphalt Refining Corp.
P. O. Box 40254
Tuscaloosa, AL 35404

Developer

Alabama Association of Realtors, Inc.
522 Washington Ave.
Montgomery, AL 36104

Alabama Council of American Institute of Architects
P. O. Box 237
Montgomery, AL 36104

Alabama Golf Association
1025 Montgomery Highway
Birmingham, AL 35216

Alabama Road Builders Association
630 Adams Ave.
Montgomery, AL 36104

American Consulting Engineers Council of Alabama
660 Adams Ave.
Montgomery, AL 36104

Associated Builders and Contractors of Alabama
1830 28th Ave. S
Birmingham, AL 35209

Associated General Contractors
P. O. Box 10204
Birmingham, AL 35202

Birmingham Association of Realtors
2201 Arlington Ave.
Birmingham, AL 35205

Home Builders Association of Alabama
110 Ripley St. N
Montgomery, AL 36104

Meyer Properties
P. O. Box 1939
Gulf Shores, AL 36547

Real Estate Commission
1201 Carmichael Way
Montgomery, AL 36130

Southern Golf Association
1025 Montgomery Highway
Vestavia Hills, AL 35216

Spectrum Maritime, Inc.
P.O. Box 250
Mobile, AL 36601
Hal Pierce
205/432-3555

Youngblood Real Estate
2033-C Airport Blvd.
Mobile, AL 36606

Education

Alabama Education Association
422 Dexter Dr.
Montgomery, AL 36104

Mobile County Education Association
1916 Duval
Mobile, AL 36606

Environmental

Alabama Chapter-Sierra Club
207 Gail St.
Troy, AL 36081

Alabama Citizen's Action Association
2376 Lakeside Dr.
Birmingham, AL 35244

Alabama Coastal Foundation, Inc.
P.O. Box 1760
Fairhope, AL 36533
Barr Wagstaff
205/928-8131

Alabama Conservancy
2717 7th Ave. S, Ste. 207
Birmingham, AL 35233
Kyle G. Crider
205/322-3126

Alabama Mountain Lakes Association
P. O. Box 1075
Mooreville, AL 35649

Alabama Water Watch
CERS
Troy State University
Troy, AL 36082

Alabama Wildlife Federation
46 Commerce St.
Montgomery, AL 36104
Dan Dumont
205/832-9453

Alabama's Water Environment Association
P. O. Box 2310
Tuscaloosa, AL 35403

Baldwin County Wildlife and Conservation Association
Marine Resources Division
202 9th St. W
Bay Minette, AL 36507

Baywatch
P. O. Box 369-370
Dauphin Island, AL 36528

Birmingham Audobon
1912 Green Vale
Hoover, AL 35226

Birmingham Audobon Society
3520 River Bend Rd.
Birmingham, AL 35243

Cahaba River Society
Suite 207
2717 7th Ave. S
Birmingham, AL 35233

Chatta. Sierra Club
2436 Kenvil Circle
Birmingham, AL 35243

Coastal Environmental Alliance
1321 Dauphin St.
Mobile, AL 36604

Coastal Land Trust
P. O. Box 1029
Mobile, AL 36633

Coosa-Alabama River Improvement Association, Inc.
60 Commerce St.
Montgomery, AL 36104

Environmental Alliance
Rt. 1 Box 169M
Mobile, AL 36605

Environmental Studies Center
6101 Girby Road
Mobile, AL 36693
Lloyd Scott
205/661-0998

Exploream
1906 Spring Hill Ave.
Mobile, AL 36608

Fowl River Protective Association
3900 Bebee Point Dr.
Theodore, AL 36582

Friends of Little River
P. O. Box 111
Mentone, AL 35984

Friends of the Locust Fork River
P. O. Box 245
Hayden, AL 35079
Susie Mixon
205/647-1689

Gulf Coast Conservation Association
P. O. Box 16987
Mobile, AL 36616

Marine Environmental Science Consortium
Mobile United: Natural Resources Comm.
P. O. Box 369-370
Dauphin Island, AL 36528
George Crozier
205/861-2141

Mobile Bay Audobon Society
P. O. Box 9903
Mobile, AL 36609
Myrt Jones
205/666-2476

Mobile County Wildlife Federation
455 St. Louis St.
Mobile, AL 36602

Poarch Band of Creek Indians
Route 3 P.O. Box 243-a
Atmore, AL 36502

Predator Control and Conservation
P. O. Box 190897
Mobile, AL 36619

Ruffner Mountain Nature Center
1214 81 St. S
Birmingham, AL 35206

Shoals Audobon Society
P. O. Box 282
Florence, AL 35631
William J. Rogers
205/386-3774

Southwest Mobile County
Environmental Protection Association
P. O. Box 850841
Mobile, AL 36685

The Bankhead Monitor
P. O. Box 117
Moulton, AL 35650
Ralph Lamar Marshall
205/974-6166

The Nature Conservancy of Alabama
2821-C Second Ave. S
Birmingham, AL 35233
Kathy Styles Cooley
205/251-1155

Save America's Forest
P. O. Box 70456
Tuscaloosa, AL 35407

Treasure Forest Association of
Northeast Alabama, Inc.
204 Gates Ave. SE
Huntsville, AL 35801
Harold F. Herring
205/534-4343

Water Resources Research Institute
202 Hargis Hall
Auburn University, AL 36849

Environmental Consultant

ABB Environmental Systems
P. O. Box 43030
Birmingham, AL 35243

Action Remediation and Environmental, Inc.
520 Oliver Rd.
Montgomery, AL 36117

ADS Environmental Services, Inc.
5025 Bradford Blvd.
Huntsville, AL 35805

Advanced Environmental Consultants, Inc.
6200 Flint Ridge Rd.
Fairfield, AL 35064

All South Environmental Services, Inc.
21 Whitman St.
Montgomery, AL 36104

Allwaste, Inc.
Eastern Region
2 Chase Corporate Center
Hoover, AL 35244

Analytical and Environmental Testing
4313 Downtowner Loop N
Mobile, AL 36609

ATEC Associates, Inc.
129 Valley Ave. W
Birmingham, AL 35209

B and D Industrial and Mining Services, Inc.
200 18th Ave. SW
Jasper, AL 35501

BCM Engineers
P.O. Box 1784
Mobile, AL 36633
Arthur E. Rigas
205/433-3981

Barry A. Vittor and Associates, Inc.
100 Cottage Hill Rd.
Mobile, AL 36609

Brunson Construction and Environmental
Services, Inc.
35 Station St.
Saraland, AL 36571

CB, Inc.
630 Cahaba Valley Rd.
Birmingham, AL 35243

Chemical Monitoring Bureau
519 5th St.
Montgomery, AL 36110

Christian Testing Laboratories, Inc.
2625 Lower Wetumpka Rd.
Montgomery, AL 36110

CTE Environmental
2821 Chestnut St.
Montgomery, AL 36107

Dowling Environmental
P.O. Box 66003
Mobile, AL 36660
Hugh M. Dowling
205/476-2010

Emergency Response Management
and Training Corp.
180 West Valley Ave.
Homewood, AL 35209

Envirocontrol, Inc.
3654 Halls Mill Rd.
Mobile, AL 36693

Environmental Management Engineering
437 Industrial Lane
Birmingham, AL 35211

Environmental Risk Assessment Services, Inc.
2101 Magnolia Ave.
Birmingham, AL 35205

Environmental System Corp. of Huntsville, Inc.
4114 Environmental Circle SW
Huntsville, AL 35805

Environmental Training Corp.
2252 Rocker Ridge Rd.
Hoover, AL 35210

Environmental-Materials Consultants, Inc.
2027 Chestnut St.
Montgomery, AL 36106
Haynes Kelley
205/265-4000

EnviroSouth, Inc.
2820 Fairlane Dr.
Montgomery, AL 36116

ERC Environmental and
Energy Services Co.
2913 Crown Colony Ct.
Mobile, AL 36609

ERG Environmental, Inc.
158 Business Center Dr.
Hoover, AL 35244

ERM Southeast
250 Water St. N
Mobile, AL 36602

Espey Huston and Associates, Inc.
2101 Magnolia Ave. S
Birmingham, AL 35205

Gallet and Associates
320 Beacon Parkway West
Birmingham, AL 35209
Warren P. Lasher
205/942-1289

Geraghty and Miller, Inc.
3 Riverchase Office Plaza
Hoover, AL 35244

Goodwyn Mills and Cawood
125 Interstate Park Dr.
Montgomery, AL 36109

Graves Service Co., Inc.
1843 Highway 280 W
Harpersville, AL 35078

Greenway Environmental Systems, Inc.
3103 Airport Blvd.
Mobile, AL 36606

Guardian Systems, Inc.
305 Ashville Rd.
Leeds, AL 35094

Harmon Engineering Associates
3 Riverchase Office Plaza
Hoover, AL 35244

Hazclean Environmental Consultants, Inc.
3499 Independence Dr.
Homewood, AL 35209

IRMA By-Products, Inc.
2163 Clearbrook Rd.
Hoover, AL 35226

Jay P. Altmayer and Company
75 St. Michael St.
Mobile, AL 36602

JV Associates, Inc.
608 13th Ave. S
Birmingham, AL 35205

Larson and McGowin, Inc.
254 Jackson St. N
Mobile, AL 36603

Lea Diving and Salvage
P. O. Box 314
Mobile, AL 36601

Mackin Environmental Associates, Inc.
170 Clearbrook Rd.
Hoover, AL 35226

P. E. LaMoreaux and Associates
2 Office Park
Mobile, AL 36609

Peters-Mitchell and Associates
300 Foster St. N
Dothan, AL 36303 -
William Douty
205/793-5378

Pyrowaste Corp.
1025 Bayshore Dr. Ste 1103
Huntsville, AL 35824

Roy T. Weston, Inc.
1635 Pumphery Ave.
Auburn, AL 36830

SITE, Inc.
3618 Woodhill Rd.
Montgomery, AL 36109

TAI Environmental Services, Inc.
1717 Old Shell Rd.
Mobile, AL 36604

The CWA Group
2623 Lower Wetumka Rd.
Montgomery, AL 36110

Thompson Engineering Testing NDT
3707 Cottage Hill Rd.
Mobile, AL 36609
Daniel S. Dealy

TTI, Inc.
2623 Lower Wetumka Rd.
Montgomery, AL 36110

Walk Haydell and Associates
Suite 300
2 Office Park
Mobile, AL 36609

Woolpert Consultants
6420 Wall St.
Mobile, AL 36695
V. J. Reddy
205/633-2033

Zimmerman Environmental Consultants, Inc.
265 Riverchase Parkway E
Hoover, AL 35244

Fishery/Hunting

Alabama Marine Dealers Association
P. O. Box 948
Leeds, AL 35094

Alabama Recreation and Parks Association
P. O. Box 4744
Montgomery, AL 36103

USDA Forest Service
2946 Chestnut St.
Montgomery, AL 36107
Arthur J. Goddard
205/241-8132

USDA Forest Service
Southern Forest Experimental Station
DeVall Dr.
Auburn, AL 36849

Government; Local

Alabama Cooperative Extension Service
1070 Schillinger Road
Mobile, AL 36608

Alabama Gulf Coast Area Chamber of Commerce
P. O. Drawer 457
Gulf Shores, AL 36547
Herbert J. Malone, Jr.
205/968-7511

Alabama League of Municipalities
P. O. Box 1270
Montgomery, AL 36102

Alabama Tombigbee Regional Commission
P. O. Box 269
Camden, AL 36726

Anniston Extension District
1695 E. University
Suites 300 & 302
Auburn, AL 36830

Association of County Commissions of Alabama
100 Jackson St. N
Montgomery, AL 36104
O. H. Sharpless
205/263-7594

Baldwin County Coastal Area Program
210 Section St. E
Foley, AL 36535

Baldwin County League of
Women Voters Environ. Comm.
P.O. Box 937
Fairhope, AL 36533
Doris C. Naylor
205/981-8839

Birmingham City Council
710 N. 20th Street
Birmingham, AL 35203

Birmingham Extension District
Courthouse, 5th Floor
P.O. Box 1904
Decatur, AL 35602

Birmingham Regional Planning Commission
2112 11th Ave. S
Suite 220
Birmingham, AL 35256

Central Alabama Regional Planning and
Development Commission
529 S Perry Street, Suite 16B
Montgomery, AL 36014

Chamber of Commerce Executives of Alabama
P. O. Box 76
Montgomery, AL 36195

City of Huntsville Planning Dept.
308 Fountain Circle
Huntsville, AL 35801

Coastal Management Advisory Committee
P. O. Box 250
Mobile, AL 36601

Dothan Extension District
1695 E. University
Suites 300 & 302
Auburn, AL 36830

East Alabama Regional Planning and
Development Commission
P. O. Box 2186
Anniston, AL 36202
James W. Curtis
205/237-6741

Eastern Shore Chamber of Commerce
327 Fairhope Ave.
Fairhope, AL 36533
Bob Proctor
205/928-3220

Huntsville Extension District
Courthouse, 5th Floor
P.O. Box 1904
Decatur, AL 35602

League of Women Voters of Alabama
Environmental Quality Chairperson
708 Fairhope Ave.
Fairhope, AL 36532

Lee County Area Council of Governments
P. O. Box 2186
Opelika, AL 36801

Mobile City Planning Commission
P. O. Box 1827
Mobile, AL 36633

North Central Alabama
Regional Council of Governments
P. O. Drawer C
Decatur, AL 35602

Northwest Alabama Council of Local
Governments
P. O. Box 2603
807 E Avalon Ave.
Muscle Shoals, AL 35662

South Alabama Regional Planning Commission
150 N Royal Street
P. O. Box 1655
Mobile, AL 36633

South Baldwin Chamber of Commerce
P. O. Drawer 1117
Foley, AL 36536
Hattie L. Smith
205/943-3291

South Central Alabama Development
Commission
5900 Carmichael Place
Montgomery, AL 36117

Southeast Alabama Regional Planning and
Development Commission
P. O. Box 1406
Dothan, AL 36302

Top of Alabama Regional Council of
Governments
115 Washington Street, SE
Huntsville, AL 35801

West Alabama Planning and Development
Council
4200 Highway 69 N, Suite 1
Northport, AL 35476
Gene Smith
205/333-2990

Government; State

Alabama Banking Department
101 Union Street S
Montgomery, AL 36130

Alabama Dept. of Agriculture and Industries
P. O. Box 3336
Montgomery, AL 36130

Alabama Dept. of Conservation
and Natural Resources
64 Union St. N
Montgomery, AL 36130

Alabama Dept. of Conservation
and Natural Resources
Alabama Natural Heritage Program
64 Union St. N
Montgomery, AL 36104

Alabama Dept. of Conservation
and Natural Resources
Battleship Parkway
Spanish Fort, AL 36527

Alabama Dept. of Conservation
and Natural Resources
Coastal Program
3708 Scenic Drive
Mobile, AL 36605
Cherre Arcenfaux
205/476-7065

Alabama Dept. of Conservation
and Natural Resources
Division of Game and Fish
64 Union St. N
Montgomery, AL 36104

**Alabama Dept. of Economic
and Community Affairs
P.O. Box 5690
Montgomery, AL 36103-5690**

**Alabama Dept. of Education
50 Ripley St. N
Montgomery, AL 36104**

**Alabama Dept. of Environmental Management
Alabama Stream Watch
P.O. Box 301463
Montgomery, AL 36130-1463**

**Alabama Dept. of Environmental Management
2204 Perimeter Rd.
Mobile, AL 36615
Roy B. Roper
205/450-3420**

**Alabama Dept. of Industrial Relations
649 Monroe St.
Montgomery, AL 36131
Walter E. Cartwright
205/242-8265**

**Alabama Dept. of Public Health
434 Monroe Street
Montgomery, AL 36130**

**Alabama Dept. of Public Safety
P. O. Box 1511
Montgomery, AL 36130**

**Alabama Dept. of Revenue
50 Ripley St. N
Montgomery, AL 36130**

**Alabama Dept. of Transportation
1409 Coliseum Blvd.
Montgomery, AL 36103
John L. Shill
205/242-6132**

**Alabama Development Office
401 Adams Avenue
Montgomery, AL 36130**

**Alabama Forestry Commission
513 Madison Ave.
Montgomery, AL 36130
Lou Hyman
205/240-9390**

**Alabama Historical Commission
State Capitol
Montgomery, AL 36130**

**Alabama Marine Resources Division
P.O. Box 189
Dauphin Island, AL 36528
Steve Heath
205/861-2882**

**Alabama Museum of Natural History
P. O. Box 870340
Tuscaloosa, AL 35487-0340**

**Alabama Public Service Commission
One Court Square
Suite 101
Montgomery, AL 36104**

**Alabama Soil and Water
Conservation Committee
2800 Zelda Rd.
Montgomery, AL 36106**

**Alabama State Board of Registration
for Permits and Planning
P.O. Box 304451
Montgomery, AL 36109
Sarah Hines
205/242-5568**

**Alabama State Docks Department
P. O. Box 1588
250 Waters St. N
Mobile, AL 36633
John P. Carey
205/441-7120**

**Alabama Surface Mining Commission
1811 Second Ave.
Jasper, AL 35501**

**Alabama Travel Council
P. O. Box 210729
Montgomery, AL 36121**

**Building Commission
770 Washington Ave.
Suite 444
Montgomery, AL 36130
John F. Cornish
205/242-4082**

Engineers and Land Surveyors Board
301 Interstate Park Dr.
Montgomery, AL 36130

Geological Survey of Alabama
P.O. Box O
Tuscaloosa, AL 35486-9780
Scott Mettee
205/349-2852

Governor's Office
11 Union S.
Montgomery, AL 36130

Insurance Department
135 Union St. S
Montgomery, AL 36130

Liquified Petroleum Gas Board
452 Clay St.
Montgomery, AL 36130

Manufactured Housing Commission
908 South Hull St.
Montgomery, AL 36130

Mobile Extension District
Craig Field Airport and Industrial Complex,
Bldg. 100
P.O. Box 1096
Selma, AL 36702

Montgomery Extension District
1695 E. University
Suites 300 & 302
Auburn, AL 36830

National Plant Board
c/o Alabama Dept. Agriculture
P. O. Box 3336
Montgomery, AL 36109

Selma Extension District
Craig Field Airport and Industrial Complex
Bldg. 100
P.O. Box 1096
Selma, AL 36702

Southern Building Code Congress, International
900 Montclair Rd.
Birmingham, AL 35213

Southern Development Council
401 Adams Ave.
Montgomery, AL 36130

State Oil and Gas Board of Alabama
P.O. Box O
Tuscaloosa, AL 35486-9780
Gary V. Wilson
205/349-2852

Tourism and Travel
401 Adams Ave.
Montgomery, AL 36104

Tri-Cities Extension District
Courthouse, 5th Floor
P.O. Box 1904
Decatur, AL 35602

Weeks Bay Estuarine Reserve
10936-B U.S. Highway 98
Fairhope, AL 36532

Landowner

Huntsville Land Trust
P. O. Box 43
Huntsville, AL 35804
Rebecca T. Bergquist
205/534-5263

Northeast Alabama Landowner Association
204 Gates Ave. SE
Huntsville, AL 35801

Law

Alabama Attorney General
11 Union S
Montgomery, AL 36130

Alabama State Bar Headquarters
415 Dexter Ave.
Montgomery, AL 36101

Alabama Trial Lawyers Association
770 S Mcdonough St.
Montgomery, AL 36104

Beasley, Wilson, Allen, Mendlesohn, Jemison,
and James PC
207 Montgomery St.
Montgomery, AL 36104

Carl Wade Robinson
1728 3rd Ave. N
Bessemer, AL 35020

Hand, Arendall, Bedsole, Greaves, and Johnston
Box 123
Mobile, AL 36601

Peterson Associates Inc.
P. O. Box 279
Elberta, AL 36530

Sirote and Permutt
Environmental Law Division
2222 Arlington Ave. S
Birmingham, AL 35205

Mining/Excavating

Alabama Coal Association
Suite 2500
2090 Columbiana Rd.
Birmingham, AL 35216

Alabama Limestone Co., Ltd.
Rte 3
Russellville, AL 35653

Alabama Oilmen's Association
400 Union St. S
Montgomery, AL 36104

Alabama Petroleum Council
Associations Bldg.
660 Adams Ave.
Montgomery, AL 36104

American Mining Insurance Co., Inc.
2130 Highland Ave. S
Birmingham, AL 35205

Birmingham Excavating Co., Inc.
2 Metroplex Dr. Ste 300
Birmingham, AL 35209

Black Diamond Coal Mining Co.
2229 1st Ave. N
Birmingham, AL 35203

Black Warrior Methane Corp.
Hwy 216
Brookwood, AL 35444

Brown Brothers Grading Co., Inc.
1825 Hwy 78 E
Oxford, AL 36203

Buddy Jones Excavating Co., Inc.
Hwy 216
Cottondale, AL 35453

C and H Mining Co., Inc.
28 McLeod Trailer Park
Cottondale, AL 35453

Chemical Lime Group
P. O. Box 479
Montevallo, AL 35115
Randy Jones
205/665-1251

Coalbed Methane Association of Alabama
1855 Data Dr.
Birmingham, AL 35244

Drummond Co., Inc.
530 Beacon Pky W Ste 900
Birmingham, AL 35209

ECCA Calcium Products, Inc.
Quarry Rd.
Sylacauga, AL 35150

Flanagan Excavation Co., Inc.
3 Clow Lane
Birmingham, AL 35217

Muscle Shoals Minerals, Inc.
P. O. Box 518
Tuscumbia, AL 35674

National Copper and Smelting Co., Inc.
3333 Stanwood Blvd. NE
Huntsville, AL 35811

Russell Coal Co., Inc.
P. O. Box 3187
Jasper, AL 35502
Richard Clouse
205/483-9214

Schlumberger, Ltd.
Schlumberger Industries Water Division
Hwy 229 S
Talladega, AL 36078
Bob Forrester
205/283-6555

Taurus Exploration, Inc.
2101 6th Ave. N
Birmingham, AL 35203
Brian Luckianow
205/497-0125

Wade Sand and Gravel Co.
P. O. Box 39048
Birmingham, AL 35208

Timber

Alabama Pine Pulp Co., Inc.
P. O. Box 100
Perdue Hill, AL 36470

Bay Paper Co., Inc.
1 Bay Paper Rd.
Mobile, AL 36607

Buchanan Hardwoods, Inc.
1064 County Rd. #65
Selma, AL 36701

Cedar Creek Land and Timber, Inc.
Deer St.
Brewton, AL 36426

Conecuh Timber, Inc.
Hwy 265
Beatrice, AL 36425

Georgia-Pacific Corp. J and J South Central
P. O. Box 3387
Huntsville, AL 35810

Harrigan Lumber Co.
Drawer 926
Monroeville, AL 36461

International Forest Seed Co.
P. O. Box 490
Odenville, AL 35120

International Paper
P. O. Box 2448
Mobile, AL 36695

James R. Fincher Timber Co., Inc.
State Line Rd.
Wilmer, AL 36587

Kimberly-Clark Corp.
US Pulp and Newsprint Division
Hwy 235
Coosa Pines, AL 35044

Mac Millan Bloedel Timberlands
Hwy 10
Pine Hill, AL 36769

Marks Forest Products, Inc.
450 Century Park S
Birmingham, AL 35226

Mayfield Timber Co.
P. O. Box 223
Toxey, AL 36921

Mead
Coated Board Division
2564 Lee Rd. 151
Opelika, AL 36801

Melrose Timber Co., Inc.
Hwy 82 W
Mc Shan, AL 35471

Rocky Creek Logging Co.
P. O. Box 68
Chapman, AL 36015

Scotch Plywood Co. of Alabama
Main St.
Fulton, AL 36446

Scott Paper Co.
P. O. Box 899
Saraland, AL 36571

Stallworth Timber Co.
P. O. Box 3105
Mobile, AL 36652

Stimpson Forest Products, Inc.
1850 Conception St.
Mobile, AL 36610

Tillis Land and Timber Co.
Hwy 27 S
Abbeville, AL 36310

Timberland Harvesters, Inc.
P.O. Box 130
Eufaula, AL 36027
Lanier J. Edwards
205/687-6000

Turner Land and Timber Co.
2321 Montgomery Highway
Dothan, AL 36303

United Plywoods and Lumber, Inc.
1640 Mims Ave. SW
Birmingham, AL 35211

University; Agriculture

Alabama Cooperative Extension Service
1685 E. Univ. Dr.
Auburn, AL 36849 36830
Paul H. Waddy, Jr.
205/821-5108

Auburn Marine Extension and Research Center
4170 Commanders Drive
Mobile, AL 36615
Rick Wallace
205/438-5690

Auburn University
Agronomy and Soils
Funchess Hall
Auburn University, AL 36849

Auburn University School of Forestry
108 M. White Smith Hall
Auburn Univ., AL 36849
Kathryn Flynn
205/844-1036

Baldwin County Extension Office
25 Hand Ave.
Bay Minette, AL 36507

Extension Building
Tuskegee University
Tuskegee, AL 36088

James I. Dawson Cooperative Extension Building
Alabama A & M University
Normal, AL 35762

University of South Alabama
Department of Biology
Mobile, AL 36688
David H. Nelson
205/460-6331

University; Biology

Marine Environmental Sciences Consortium
Dauphin Island Sea Lab
P. O. Box 369-370
Dauphin Island, AL 36528

University of Alabama
Department of Biology
Box 870344
Tuscaloosa, AL 35487-0344
Robert G. Wetzel
205/348-1793

University of Alabama at Birmingham
Department of Biology
Birmingham, AL 35294
Ken Marion
205/934-3582

University; Business

University of Alabama
Office of Economic & Comm. Affairs
P. O. Box 870138
Tuscaloosa, AL 35487-0138

University; Engineering

University of South Alabama
Department of Civil Engineering
University Station, AL 36688

University; Environmental

Alabama Conservancy
ECO124 Life Sciences Building
University of South Alabama
Mobile, AL 36688
J. W. Langdon
205/460-6331

Troy State University
Center for Environmental Research and Service
Troy, AL 36082

University; Geology/Geography

Auburn University
Department of Geology
210 Petrie Hall
Auburn, AL 36849
Robert B. Cook
205/544-4282

University of Alabama
Department of Geography
Box 870338
Tuscaloosa, AL 35487-0322
Rona J. Donahoe
205/348-1879

University of Alabama
Department of Geology
Box 870338
Tuscaloosa, AL 35487-0388

University of Alabama at Birmingham
Department of Geology
Birmingham, AL 35294

University of Montevallo
Department of Geology
Montevallo, AL 35115

University of North Alabama
Department of Physics & Earth Science
Florence, AL 35632

University of South Alabama
Department of Geology & Geography
307 University Drive
Mobile, AL 36688
Eugene M. Wilson
205/460-6381

University; Law

Alabama Law Institute
P. O. Box 1425
Tuscaloosa, AL 35486
Bob McCurley
205/348-7411

University of Alabama School of Law
P. O. Box 870382
Tuscaloosa, AL 35487-0382
William L. Andreen
205/348-7091

Utility

Alabama Electric Co., Inc.
2778 Gunter Park Dr. E
Montgomery, AL 36109

Alabama Electric Cooperative
P. O. Box 550
Andalusia, AL 36420

Alabama Gas Corp.
2101 6th Ave. N
Birmingham, AL 35203
Daniel E. Smith, III
205/326-8100

Alabama Natural Gas Association
736 Shades Mountain Plaza
Hoover, AL 35226

Alabama Power Co.
600 18th St. N
P. O. Box 2641
Birmingham, AL 35291
J. Malcolm Pierson
205/664-6177

Alabama Propane Gas Association
660 Adams Ave.
Montgomery, AL 36104

Alabama Rural Electric Association
2778 Gunter Park Dr. E
Montgomery, AL 36109

Alabama Rural Water Association
4556 Court St. S
Montgomery, AL 36105

Alabama-Tennessee Natural Gas Co.
P. O. Box 918
Florence, AL 35631
Tony Burns
205/383-3631

Arab Electric Cooperative, Inc.
P. O. Box 426
Arab, AL 35016

Baldwin County Electric Membership Corp.
P.O. Box 220
Summerdale, AL 36584
J. G. Dobbs
205/989-6247

Birmingham Water Works and Sewer Board
P. O. Box 830110
Birmingham, AL 35283

Black Warrior Electric Membership Corp.
U.S. Hwy 43 S
Demopolis, AL 36732

Central Alabama Electric Cooperative
P.O. Box 370
Prattville, AL 36067

Cherokee Electric Cooperative
P. O. Drawer O
68 Bypass
Centre, AL 35960

Coosa Valley Electric Cooperative, Inc.
230 East St. N
Talladega, AL 35160

Covington Electric Cooperative, Inc.
Sanford Rd.
Andalusia, AL 36420

Cullman Electric Cooperative, Inc.
501 4th St. SW
Cullman, AL 35055

Cumberland Mountain Water Authority
Rt. 1, Box 388-A
Scottsboro, AL 35768
Jerry C. O'Linger
205/587-3333

Decatur Utility Gas, Inc.
110 Johnson St. SE
Decatur, AL 35601

Franklin Electric Cooperative
225 W Franklin St.
Russellville, AL 35653

Gulf Electric Co., Inc.
P. O. Box 2385
Mobile, AL 36652

Joe Wheeler Electric Membership Corp.
500 Sparkman St. N
Hartselle, AL 35640

Mobile Gas Service Corp.
P. O. Box 279
Elberta, AL 36530

Mon-Cre Telephone Cooperative, Inc.
Main St.
Ramer, AL 36069

North Alabama Electric Cooperative
U.S. Hwy 72
Stevenson, AL 35772

Northeast Alabama Water Sewer
Beck Industrial Blvd.
Fort Payne, AL 35967

Pea River Electric Cooperative, Inc.
Roy Parker Rd.
Ozark, AL 36360

Sand Mountain Electric Cooperative
198 Main St. W
Rainsville, AL 35986

South Alabama Electric Cooperative, Inc.
Hwy 231 S
Troy, AL 36081

Southern Electric Generating Co.
P. O. Box 2641
Birmingham, AL 35291

Southern Energy Co., Inc.
1900 5th Ave. N
Birmingham, AL 35203

Southern Natural Gas Co., Inc.
P. O. Box 2563
Birmingham, AL 35202
Jon A. Barfield
205/325-3879

Southern Pine Electric Cooperative
Hwy 31
Brewton, AL 36426

Tallapoosa River Electric Cooperative, Inc.
Hwy 431 S
Lafayette, AL 36862

Tennessee River Intrastate Gas Co., Inc.
P. O. Box 357
Florence, AL 35631

Tombigbee Electric Cooperative, Inc.
P.O. Box 610
Guin, AL 35563
L. H. Mallory
205/468-3325

VAW Water System, Inc.
Off Hwy 157
Vinemont, AL 35179

Wiregrass Electric Cooperative, Inc.
301 Mill St. E
Hartford, AL 36344

APPENDIX B

WETLANDS SAMPLE SURVEY EXCLUSIVE OF ALABAMA MAILING LIST

Environmental

Friends of Perdido Bay
10738 Lillian Highway
Pensacola, FL 32506

Perdido Bay Environmental Association
14110 Perdido Key Drive, Suite 16
Pensacola, FL 32507

Government; Federal

Tennessee Valley Authority
TVA Forestry Bldg.
Norris, TN 37828
Gerry S. Edwards
615/632-1767

Tennessee Valley Authority
Cooperative Forest Studies Program
TVA CEB-2A
Muscle Shoals, AL 35660

U.S. Army Corps of Engineers
Alaska District (CENPA-CO-NF)
1011 E. Tudor
Anchorage, AK 99577
Jonathan V. Hall
907/786-3471

U.S. Army Corps of Engineers
Albuquerque District (CESWA-CO-O)
P.O. Box 1580
Albuquerque, NM 87103

U.S. Army Corps of Engineers
Baltimore District (CENAB-OP-PN)
P.O. Box 1715
Baltimore, MD 31203

U.S. Army Corps of Engineers
Buffalo District
1776 Niagara Street
Buffalo, NY 14207

U.S. Army Corps of Engineers
Charleston District (CESAC-CO-M)
P.O. Box 919
Charleston, SC 29402

U.S. Army Corps of Engineers
Chicago District (CENCC-CO)
219 S. Dearborn Street
Chicago, IL 60604

U.S. Army Corps of Engineers
Detroit District (CENCE-CO-OR)
P.O. Box 1027
Detroit, MI 48231

U.S. Army Corps of Engineers
Environmental Lab (CEWES-EL-W)
3909 Halls Ferry Road
Vicksburg, MS 39180

U.S. Army Corps of Engineers
Fort Worth District (CESWF-OD-M)
P.O. Box 17300
Fort Worth, TX 76102
Don Wiese
817/334-4636

U.S. Army Corps of Engineers
Galveston District (CESWG-CO-MO)
P.O. Box 1229
Galveston, TX 77553

U.S. Army Corps of Engineers
Huntington District (CEORH-OR-R)
502 8th Street
Huntington, WV 25701
Paul M. White

U.S. Army Corps of Engineers
Jacksonville District (CESAJ-CO-OR)
P.O. Box 4970
Jacksonville, FL 32232

U.S. Army Corps of Engineers
Kansas City District (CEMRK-OD-R)
700 Federal Bldg.
601 E 12th Street
Kansas City, MO 64106
M. D. Jewett
816/426-3645

U.S. Army Corps of Engineers
Little Rock District (CESWL-CO-L)
P.O. Box 867
Little Rock, AR 72203

U.S. Army Corps of Engineers
Los Angeles District (CESPL-CO-O)
P.O. Box 2711
Los Angeles, CA 90053

U.S. Army Corps of Engineers
Louisville District (CEORH-OR-R)
P.O. Box 59
Louisville, KY 40201

U.S. Army Corps of Engineers
Lower Mississippi Valley Division
P.O. Box 80
Vicksburg, MS 39180

U.S. Army Corps of Engineers
Memphis District (CELMM-CO-R)
167 N Main St., Rm. B202
Memphis, TN 38103
Tom Davis
901/544-3471

U.S. Army Corps of Engineers
Missouri River Division (CEMRD-CO-R)
P.O. Box 103, Downtown Station
Omaha, NE 68101

U.S. Army Corps of Engineers
Nashville District (CEORN-OR-R)
P.O. Box 1070
Nashville, TN 37202
Wade Whittinghill
615/736-5181

U.S. Army Corps of Engineers
New England District (CNEED-OD-P)
424 Trapelo Road
Waltham, MA 02254

U.S. Army Corps of Engineers
New Orleans District (CELMN-OD-R)
P.O. Box 60267
New Orleans, LA 70160

U.S. Army Corps of Engineers
New York District (CENAN-PL-E)
26 Federal Plaza
New York, NY 10278

U.S. Army Corps of Engineers
Norfolk District (CENAO-OP-N)
803 Front Street
Norfolk, VA 23510

U.S. Army Corps of Engineers
North Atlantic Division (CENAD-CO-OP)
90 Church Street
New York, NY 10007

U.S. Army Corps of Engineers
North Central Division (CENCD-CO-MO)
536 S. Clark Street
Chicago, IL 60605

U.S. Army Corps of Engineers
North Pacific Division (CENPD-CO-R)
P.O. Box 2870
Portland, OR 97208

U.S. Army Corps of Engineers
Ohio River Division (CEORD-CO-OR)
P.O. Box 1159
Cincinnati, OH 45201

U.S. Army Corps of Engineers
Omaha District (CEMRO-OP-N)
215 North 17th Street
Omaha, NE 68102

U.S. Army Corps of Engineers
Pacific Ocean Division (CEPOD-CO-O)
Building 230
Fort Shafter, HI 96858

U.S. Army Corps of Engineers
Philadelphia District (CENAP-OP-N)
2nd & Chestnut Streets
Philadelphia, PA 19106

U.S. Army Corps of Engineers
Pittsburgh District (CEORP-OR-R)
1000 Liberty Ave.
Pittsburgh, PA 15222
Richard Sobol
412/644-6885

U.S. Army Corps of Engineers
Portland District (CENPP-OP-PN)
P.O. Box 2946
Portland, OR 97208

U.S. Army Corps of Engineers
Regulatory Branch (CECW-OR)
20 Massachusetts Ave., NW
Washington, DC 20314

U.S. Army Corps of Engineers
Rock Island District (CENCR-OD-R)
P.O. Box 2004
Rock Island, IL 61204

U.S. Army Corps of Engineers
Sacramento District (CESPK-CO-O)
1325 J Street
Sacramento, CA 95814
Jean Elder
916/557-5256

U.S. Army Corps of Engineers
San Francisco District (CESPN-CO-O)
211 Main Street
San Francisco, CA 94105

U.S. Army Corps of Engineers
Savannah District (CESAS-OP-R)
P.O. Box 889
Savannah, GA 31402

U.S. Army Corps of Engineers
Seattle District (CENPS-OP-PO)
P.O. Box C-3755
Seattle, WA 98124

U.S. Army Corps of Engineers
South Atlantic Division (CESAD-CO-R)
77 Forsythe Street SW, Rm 313
Atlanta, GA 30335

U.S. Army Corps of Engineers
South Pacific Division (CESPD-CO-O)
630 Sansome Street, Room 1216
San Francisco, CA 94111

U.S. Army Corps of Engineers
Southwestern Division (CESWD-CO-R)
1114 Commerce Street
Dallas, TX 75242

U.S. Army Corps of Engineers
St. Louis District (CELMS-OD-R)
1222 Spruce Street
St. Louis, MO 63103

U.S. Army Corps of Engineers
St. Paul District (CENCS-CO-PO)
180 East Kellogg Blvd.
St. Paul, MN 55101

U.S. Army Corps of Engineers
Tulsa District (CESWT-OD-R)
P.O. Box 61
Tulsa, OK 74121

U.S. Army Corps of Engineers
Vicksburg District (CELMK-OD-F)
2101 North Frontage Road
Vicksburg, MS 39180
Larry N. Harper
601/631-5290

U.S. Army Corps of Engineers
Walla Walla District (CENPW-OP-RM)
City-County Airport
Walla Walla, WA 99362

U.S. Army Corps of Engineers
Wilmington District (CESAW-CO-R)
P.O. Box 1890
Wilmington, NC 28402

U.S. Environmental Protection Agency
Environmental Research Lab
Sabine Island
Gulf Breeze, FL 32561
William L. Kruczynsky
904/934-9279

U.S. EPA - Region I
Wetlands Protection Sec. (WWP-1900)
John F. Kennedy Federal Building
Boston, MA 02203
Douglas A. Thompson
617/565-4422

U.S. EPA - Region II
Wetlands Section (2WM-MWP)
26 Federal Plaza, Room 837
New York, NY 10278

U.S. EPA - Region III
Wetlands and Marine Policy Section (3ES42)
841 Chestnut Street
Philadelphia, PA 19107

U.S. EPA - Region IV
Wetlands Planning Unit (4WM-MWB)
345 Courtland Street, NE
Atlanta, GA 30365
Tom Welborn
404/347-3871

U.S. EPA - Region V
Water Management Division
Wetlands Protection Section
230 South Dearborn Street
Chicago, IL 60604

U.S. EPA - Region VI
Technical Assistance Section (6E-FT)
1445 Ross Ave.
Dallas, TX 75202
Beverly Ethridge
214/655-2263

U.S. EPA - Region VII
Wetlands Protection Section (ENRV-404)
726 Minnesota Ave.
Kansas City, KS 66101

U.S. EPA - Region VIII
Water Quality Requirement Section (8WM-SP)
999 18th Street, 500 Denver Place
Denver, CO 80202

U.S. EPA - Region IX
Wetlands Section (W-7-2)
1235 Mission Street
San Francisco, CA 94103

U.S. EPA - Region X
Water Resources Assessment Section (WD-138)
1200 Sixth Ave.
Seattle, WA 98101

U.S. EPA Office of
Wetlands, Oceans, and Watersheds
401 M Street, SW
Washington, DC 20460
U.S. Fish and Wildlife Service
1002 Northeast Holladay Street
Portland, OR 97232

U.S. Fish and Wildlife Service
1011 East Tudor Road
Anchorage, AK 99503

U.S. Fish and Wildlife Service
Box 25486, Denver Federal Center
Denver, CO 80225

U.S. Fish and Wildlife Service
P.O. Box 1306
Albuquerque, NM 87103

U.S. Fish and Wildlife Service
300 Westgate Center Dr.
Hadley, MA 01035
Ralph Tiner
413/253-8620

U.S. Fish and Wildlife Service
75 Spring Street, SW
Atlanta, GA 30303

U.S. Fish and Wildlife Service
Interior Bldg.
1849 C Street NW, MS 725
Washington, DC 20240

U.S. Fish and Wildlife Service
Federal Bldg., Fort Snelling
Twin Cities, MN 55111

University of Tennessee
Water Resources Research Institute
Knoxville, TN 37996

USDA Agricultural Research Service
Southeast Watershed Research Lab
P.O. Box 946
Tifton, GA 31793

USDA Forest Service
P.O. Box 96090
Washington, DC 20090

USDA Forest Service
Center For Forested Wetlands Research
2730 Savannah Highway
Charleston, SC 29414
William R. Harms

USDA Forest Service
Forest Management Research
P.O. Box 96090
Washington, DC 20090
John R. Toliver
202/205-1552

USDA Forest Service
Southeastern Forest Exp. Station
1509 Varsity Drive
Raleigh, NC 27606

USDA Forest Service
Southeastern Forest Experimental Station RWU
2730 Savannah Hwy.
Charleston, SC 29414

USDA Forest Service
Southern Forest Experiment Station
P.O. Box 7600, SFA
Nacogdoches, TX 75962
James G. Dickson
409/569-7981

USDA Forest Service
Southern Hardwoods Laboratory
P.O. Box 227
Stoneville, MS 38776
John A. Stanturf
601/686-7218

USDA Soil Conservation Service
3737 Government Street
Alexandria, LA 71302
Donald W. Gohmert
318/473-7803

USDA Soil Conservation Service
401 SE 1st. Ave., Room 248
Gainesville, FL 32601
John Vance

Government; Other States

California Conservancy
1330 Broadway, Suite 1100
Oakland, CA 94612
Reed Holderman
510/786-4183

Center For Forested Wetlands Research
2730 Savannah Highway
Charleston, SC 29414
Department of Ecology
P.O. Box 47600
Olympia, WA 98504
Andy McMillan
206/407-7272

Department of Environment
Natural Resources
445 E. Capital
Pierre, SD 57501
Clark B. Johnson
605/773-6503

Department of Environment, Health
& Natural Resources
Div. Environmental Management
P.O. Box 29535
Raleigh, NC 27604
John R. Ourney
919/733-1786

Department of Environmental Conservation
50 Wolf Road
Albany, NY 12233

Department of Environmental Conservation
3220 Hospital Drive
Juneau, AK 99811

Department of Environmental Conservation
524 S. 2nd Street
Lincoln Tower Plaza
Springfield, IL 62706

Department of Environmental Management
291 Promenade Street
Providence, RI 02908

Department of Environmental Protection
State Office Building, Room 207
165 Capital Ave.
Hartford, CT 06106

Department of Environmental Protection
State House Station 17
Augusta, ME 04333

Department of Environmental Protection
501 East State Street, CN 401
Trenton, NJ 08625
Susan D. Lockwood
609/633-6755

Department of Environmental Quality
1 Winter Street
Boston, MA 02108

Department of Environmental Quality
P.O. Box 98922
Lincoln, NE 68509
John F. Bender
402/471-4201

Department of Environmental Quality
Office of Pollution Control
P.O. Box 10385
Jackson, MS 39289

Department of Environmental Quality
Point Source and Monitoring Unit
2655 E. Magnolia, Suite 2
Phoenix, AZ 85003

Department of Environmental Quality
Water Quality Division
Herschler Building 4W
Cheyenne, WY 82002

Department of Environmental Regulations
2600 Blainstone Road
Tallahassee, FL 32301

Department of Environmental Resources
P.O. Box 1467
Harrisburg, PA 17120

Department of Environmental Resources
and Environmental Control
89 Kings Highway, Box 1401
Dover, DE 19903

Department of Health
645 Halekauwila Street
Honolulu, HI 96813

Department of Health and Environmental
Control
2600 Bull Street
Columbia, SC 29201
Sally Knowles
803/734-5229

Department of Natural Resources
Wallace State Office Building
Des Moines, IA 50319

Department of Natural Resources
Box 7
500 Lafayette Road
St. Paul, MN 55155

Department of Natural Resources
1200 Glynn Ave.
Brunswick, GA 31523

Department of Natural Resources
Tawes State Office Bldg.
Annapolis, MD 21401

Department of Natural Resources
Division of Geology and Land Survey
P.O. Box 250
Rolla, MO 65401

Department of Natural Resources
Land & Water Management Division
Box 30028
Lansing, MI 48909

Department of Natural Resources
Water Regulation Section
P.O. Box 7921
Madison, WI 53707
Scott Hausmann
608/266-7360

Department of Pollution Control
P.O. Box 53504
Oklahoma City, OK 73152

Department of Pollution Control and Ecology
8001 National Drive
Little Rock, AR 72219
John Giese
501/570-2121

Division of Environmental Protection
201 S. Fall Street
Carson City, NV 89710
Glen Gentry
702/687-4670

Division of State Lands
775 Summer Street NE
Salem, OR 97310

Division of Water
14 Reilly Road
Frankfort, KY 40601
Jeffrey T. Grubbs
502/564-3410

**Environmental Improvement Division
Surface Water Quality Bureau
1190 St. Francis Drive
Santa Fe, NM 87503**

**Environmental Services
Department of Wildlife & Parks
Box 54A, Rt. 2
Pratte, KS 67124**

**Indiana Department of Environmental
Management
P.O. Box 6015
Indianapolis, IN 46206**

**Institute For Quantitative Studies
Southern Forest Experimental Station
701 Loyola Ave., Room T-10210
New Orleans, LA 70115**

**Louisiana Dept. of Nat. Res.
P.O. Box 44487
Baton Rouge, LA 70804
David Soileau
504/342-1375**

**New Hampshire Wetlands Bureau
P.O. Box 2008
Concord, NH 03302
Ken Kettenring
603/271-2147**

**Office of the State Engineer
900 East Boulevard
Bismarck, ND 58505
Cary Backstrand
701/224-4954**

**Ohio Environmental Protection Administration
P.O. Box 1049
Columbus, OH 43666**

**State Water Control Board
P.O. Box 11143
Richmond, VA 23227**

**State Water Resources Control Board
Paul R. Bonderson Building
P.O. Box 100
Sacramento, CA 95812**

**Tennessee Water Resources Research Center
422 South Stadium Hall
Knoxville, TN 37996
Tim Gangaware
615/974-2151**

**Texas General Land Office
Stephen F. Austin Bldg.
1700 N. Congress Ave., Room 730
Austin, TX 78701
Tom Calnan
512/463-5100**

**Water Quality Bureau
A-206 Cogswell Building
Helena, MT 59620**

**Water Quality Control Division
4210 East 11th Ave.
Denver, CO 80220**

**Water Quality Division
Department of Environmental Conservation
Waterbury, VT 05671
George Sprinston
802/241-3770**

**Water Quality Management and Groundwater
Section
Bureau of Water Pollution Control
Salt Lake City, UT 84114**

**Water Resources Board
1260 Greenbrier Street
Charleston, WV 25311**

APPENDIX C

WETLANDS SAMPLE SURVEY COVER LETTER AND QUESTIONNAIRE

WETLANDS TECHNICAL ADVISORY COMMITTEE

420 Hackberry Lane
P.O. Box O
Tuscaloosa, Alabama 35486-9780

October 28, 1993

The Wetlands Technical Advisory Committee is part of the Wetlands Conservation and Management Initiative funded by the U.S. Environmental Protection Agency. The committee is comprised of wetland workers from the U.S. Environmental Protection Agency, Alabama Department of Environmental Management, Geological Survey of Alabama, Auburn University, Marine Environmental Sciences Consortium, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, U.S. Soil Conservation Service, Tennessee Valley Authority, Alabama Cooperative Extension Service, Alabama Department of Conservation and Natural Resources, Alabama Department of Economic and Community Affairs, Alabama Department of Industrial Relations, Alabama Forestry Commission, Alabama Highway Department, and City of Huntsville. The purpose of the committee is to gather and evaluate wetlands information pertinent to Alabama.

The Wetlands Technical Advisory Committee in cooperation with the Alabama Department of Environmental Management and the U.S. Environmental Protection Agency is conducting a survey as a mechanism for evaluating Alabama wetlands issues. We have identified you as one of many groups that may have an interest in wetlands issues in the State of Alabama, and you have been selected to participate in this survey.

Because wetlands are a truly interdisciplinary subject involving the attention of a broad range of groups and professions, we are addressing this questionnaire to persons from many disciplines. Some of the questions may not apply to your group. If any question does not apply, leave it blank. If the questionnaire does not apply to your group at all, please send it back to us with a notation to that effect.

The returned and completed questionnaire will form the basis for follow-up interviews. In responding to the questionnaire, we request that you select one member of your group to answer the questions and serve as a contact. Please mail the completed questionnaire in the self-addressed, stamped envelope to us by November 30, 1993.

Direct any questions or comments concerning this letter to Richard F. Hulcher, Alabama Department of Environmental Management (205/271-7782). Please feel free to send us any wetlands information or publications you think we might find useful. Thank you very much for your time and interest.

Very truly yours,

The Wetlands Technical Advisory Committee

Enclosures

