

Period Covered by the Report:**Date of Final Report:** April 30, 2002**EPA Agreement Number:** R827072-01**Title:** *Environmental Attitudes and Knowledge of Alabama Coastal Residents: A Baseline for Developing Sustainable Coastal Management Strategies***Investigators:** J. Steven Picou, Cecelia Formichella, G. David Johnson and Keith Nicholls**Research Category:** Environmental Attitudes**Project Period:** 09/99-08/00**Objectives of the Research Report:**

The objectives of this project entitled *Environmental Attitudes and Knowledge of Alabama Coastal Residents: A Baseline for Developing Sustainable Coastal Management Strategies* were to: (1) Identify the local residents' perceptions of risks and threats to this area as well as their orientation toward various management practices associated with resource preservation; (2) Provide information for resource policy management decisions regarding the Alabama Coastal zone; and, (3) Establish a baseline of environmental knowledge and attitudes relative to the natural resources of the Coastal zone for the residents of Coastal Alabama communities.

Summary of findings:

A random sample of 1270 adult residents of Mobile and Baldwin counties was selected by random digit dialing. The sample has a margin of error of 2.75 at the 95 percent confidence level. The final questionnaire contained 110 items and included questions on environmental attitudes and environmental knowledge, at both the local and national level; usage patterns of residents of the coastal zone and its resources; coastal residents' perceptions of the present and future health of the Alabama Coastal zone; coastal county residents' views on various policies associated the environmental management of the Alabama Coastal zone; sociodemographic profile of coastal county residents; and, religious ideology and affiliation of Mobile and Baldwin counties residents.

Analyses were conducted and comparisons were made using the following demographic characteristics: gender, race, educational attainment, age and county of residence. Respondents were asked:

1. To assess the environmental condition of the Mobile-Baldwin county area;
2. To assess the impact of various user-groups such as recreational and commercial

- fishers, tourism and industry on the Alabama Coastal zone;
3. To assess their knowledge about the environment;
 4. To determine their level of participation in pro-environmental behaviors;
 5. To determine their level of utilization of the natural resources of the Alabama Coastal zone;
 6. To assess their environmental attitudes;
 7. If they were in favor of using public funds to buy undeveloped land to keep it free from development;
 8. If they were in favor of using public funds to provide incentives to businesses to encourage them to protect the environment;
 9. If they were in favor of the government prohibiting new smokestack industries from locating in the area;
 10. If they were in favor of sacrificing environmental quality for economic growth.

For male/female comparisons, male respondents scored higher on measures of environmental knowledge and were more likely to be involved in recreational usage of the Alabama Coastal zone than were females. In addition, males scored higher on dominion beliefs than did females. Females were more likely to express concern for the local environment when asked to assess the environmental condition of the Alabama Coastal zone. In addition, female respondents also believed that user-groups had more of a negative impact on the Alabama Coastal zone than did males. No significant differences were found between males and females for participating in environmentally conscientious behavior (See Table 1).

In terms of policy issues, there was little difference between male and female respondents with the exception of government prohibition of new smokestack industries from locating in the area. Nearly two-thirds (65.6%) of females as opposed to approximately half of males stated that they felt that they government should prohibit new smokestack industries from locating in the area (See Table 2).

In terms of race, there were marked differences reported for environmental attitudes, knowledge and behavior. White respondents felt that user-group activities had more of a negative impact on the Alabama Coastal zone than did African American respondents. In addition, Whites scored higher on measures of environmental knowledge than did African Americans. No differences were noted for participating in environmentally conscientious behaviors. Whites were more likely to utilize the resources of the Alabama Coastal zone and scored higher on measures of pro-environmental attitudes than were African Americans (See Table 3).

Significant differences were also found in terms of policy issues. Fewer African Americans (54.7%) than Whites (73.9%) were in favor of using public funds to buy undeveloped land to keep it free from development. More Whites, 72.6% as opposed to 63.1% of African Americans were in favor of using public funds to provide incentives to businesses to encourage them to protect the environment. Finally, when asked if environmental quality should be sacrificed for environmental growth, nearly 20% of African Americans agreed with this statement in comparison to 14% of whites (See Table 4).

Comparisons were also drawn using educational attainment. Respondents were divided into two educational attainment groups: High school graduate or less or some college or more. Those with some college or more felt that user-groups had more of a negative impact on the Alabama Coastal zone than did those with a high school diploma or less. In addition, respondents with some college or more also scored higher on measures of environmental knowledge, reported being involved in more pro-environmental behaviors and were more likely to utilize the resources of the Alabama Coastal zone than those with a high school diploma or less. No significant differences were found in terms of environmental attitudes (See Table 5).

When asked if public funds should be used to buy undeveloped land to keep it free from development, nearly three-fourths (74.3%) of respondents with some college agreed with this statement as opposed to 58.8% of those with a high school diploma or less. Respondents were also asked if public funds should be used to provide incentives to businesses to encourage them to protect the environment. Again, nearly three-fourths (72.5%) of those with some college or more felt that public funds should be used while slightly more than half (55.3%) of those with a high school diploma or less were in favor of using public funds for environmental protection. When asked whether they favored the government from prohibiting the location of new smokestack industries in the area, 64.3% of respondents with a high school diploma or less were in favor of this as opposed to 55.3% of those with some college or more (See Table 6).

With regard to age, three categories were constructed based on the frequency distribution of the age of respondents. These categories are: 18-35 years of age; 36-50 years of age and 51 and over years of age. Older individuals (51+) were more likely to report that the activities of user-groups had a negative impact on the environment. In addition, this group was likely to utilize the resources of the Alabama Coastal zone than were respondents in the 18-35 and 36-50 groups. Finally, individuals in the 51+ age group were more likely to report pro-environmental attitudes than were respondents in the other two age categories (See Table 7).

In terms of policy issues, responses were similar across age groups with the exception of using public funds to provide incentives to businesses to encourage them to protect the environment. Younger individuals (18-35) were more likely to support this (81.4%) as compared to the 36-50 age group (68.8%) and the 51+ age group (61.0%) (See Table 8).

Finally, in terms of county of residences, differences were also noted. Baldwin county residences were more likely to state that user-groups have a negative impact on the local environment. Baldwin county residences also scored higher than did Mobile county residences on questions related to environmental knowledge. They also reported using the natural resources of the Alabama Coastal zone more so than did residences of Mobile county. In addition, Baldwin county residences reported attitudes that were more pro-environmental (See Table 9).

More Baldwin county residents (74.3%) were in favor of using public funds to buy undeveloped land to keep it free from development as opposed to 66.6% of Mobile county residents. In addition, they were also less likely to agree (12.0%) with sacrificing environmental quality for economic growth when compared to Mobile county residences (16.6%) (See Table 10).

A conference presentation at the Mid-South Sociological Association was made in October 2000. The paper, entitled “Evangelism, Fundamentalism and Environmentalism in a Deep South Community” examined the relationship between religious beliefs and environmentalism. In general, the analyses revealed that conservative religious beliefs were in conflict with environmental protection. However, those expressing higher levels of agreement with millennial or end-time beliefs, that is, those who are the most religious, reported more environmental concern than those who are the most conservative religiously. This finding is counter to the conventional beliefs about the relationship between religiosity and environmentalism. The paper is currently being revised for publication.

Since the 1960's, environmental issues increasingly have become major concerns among members of the US population. Environmental awareness among Americans was heightened with the publishing of *Silent Spring* by Rachel Carson in 1962, the first televised oil spill in Santa Barbara, California in 1967 and increased dramatically in the late 1980s with the *Exxon Valdez* oil spill. Despite these concerns about the environment, Arcury and others have concluded that environmental knowledge among Americans is actually quite low. For managers, these findings are particularly problematic since the successful regulation of the environment depends on the population having a considerable degree of environmental knowledge. While policy is implemented to preserve a particular resource, it is the activities of humans who utilize the resource, in essence, which are managed. Consequently, the willingness of the human population to accept and comply with regulatory policy is contingent upon the amount of information or environmental knowledge they have about the condition of the resource under question and the necessity of regulations. As Arcury (1990, p.303) points out: “If a future for positive and effective environmental policy is to be ensured, greater effort must be directed to finding and implementing tactics to increase public knowledge.”¹

Given these conclusions at the national level, it follows that the continued health and vitality of the Alabama Coastal zone is associated with the current environmental knowledge, attitudes and involvement in pro-environmental behaviors of Mobile and Baldwin county residents. In this research, we collected information from Coastal county residents of Alabama and assessed their environmental knowledge and attitudes. Specifically, this research focused on Coastal residents’ general environmental knowledge as well as their specific awareness about the Coastal zone and its future, its health and the major stakeholders who utilize the resources of the Coastal zone of Alabama.

The practical implications of this research are three-fold. First, the data collected from this study provides information to policy makers in regard to the environmental awareness of Alabama coastal residents. With this baseline information on environmental knowledge and attitudes of residents of the Coastal Alabama region community leaders will be able to systematically monitor the progress that the community is making toward its environmental goals. Finally, it is also essential for proper management and monitoring of natural resources and the individuals who utilize them.

¹Arcury, T. 1990. “Environmental attitude and environmental knowledge.” *Human Organization* 49 (4): 300-304.

Table 1. Comparisons between Males and Females in Mobile and Baldwin Counties of Environmental Attitudes, Knowledge and Behavior		
Means		
Item	Male	Female
Assessment of the environmental conditions of the Mobile-Baldwin County area	19.9	20.7**
Perceptions of the impact of user-group activities on the Mobile Bay Estuary System	18.3	18.9*
Environmental knowledge	0.9	0.6***
Environmental behavior	10.7	11.0
Recreational usage of the Mobile Bay Estuary System	14.5	14.0**
Balance of nature	23.9	24.2
Dominion	9.2	8.7*

***p<.001; **p<.01; *p<.05

Table 2. Comparisons between Males and Females in Mobile and Baldwin Counties on Environmental Policy Issues		
Percent		
Item	Male	Female
Favor using public funds to buy undeveloped land to keep it free from development	70.5	66.8
Favor using public funds to provide incentives to businesses to encourage them to protect the environment	72.3	67.7
Favor government prohibiting new smokestack industries from locating in the area	50.6	65.6***
Sacrifice environmental quality for economic growth	14.7	16.2

***p<.001

Table 3. Comparisons between Whites and African Americans in Mobile and Baldwin Counties of Environmental Attitudes, Knowledge and Behavior		
Means		
Item	White	African-American
Assessment of the environmental conditions of the Mobile-Baldwin County area	20.2	20.5
Perceptions of the impact of user-group activities on the Mobile Bay Estuary System	18.9	17.6***
Environmental knowledge	0.8	0.6***
Environmental behavior	10.7	10.8
Recreational usage of the Mobile Bay Estuary System	14.4	13.9**
Balance of nature	24.2	23.7*
Dominion	8.7	9.5**

***p<.001; **p<.01; *p<.05

Table 4. Comparisons between Whites and African Americans in Mobile and Baldwin Counties on Environmental Policy Issues		
Percent		
Item	White	African-American
Favor using public funds to buy undeveloped land to keep it free from development	73.9	54.7***
Favor using public funds to provide incentives to businesses to encourage them to protect the environment	72.6	63.1*
Favor government prohibiting new smokestack industries from locating in the area	58.3	56.4
Sacrifice environmental quality for economic growth	14.0	19.9**

***p<.001; **p<.01; *p<.05

Table 5. The Relationship between Educational Attainment and Environmental Attitudes, Knowledge and Behavior for Residents of Mobile and Baldwin Counties		
Means		
Item	HS graduate or less	Some college or more
Assessment of the environmental conditions of the Mobile-Baldwin County area	20.3	20.3
Perceptions of the impact of user-group activities on the Mobile Bay Estuary System	17.8	19.1***
Environmental knowledge	0.6	0.8***
Environmental behavior	10.0	11.3*
Recreational usage of the Mobile Bay Estuary System	14.0	14.3*
Balance of nature	24.0	24.2
Dominion	9.1	8.9

***p<.001; **p<.01

Table 6. The Relationship between Educational Attainment and Opinions on Environmental Policy Issues for Residents of Mobile and Baldwin Counties		
Percent		
Item	HS graduate or less	Some College or more
Favor using public funds to buy undeveloped land to keep it free from development	58.8	74.3***
Favor using public funds to provide incentives to businesses to encourage them to protect the environment	65.7	72.5*
Favor government prohibiting new smokestack industries from locating in the area	64.3	55.3**
Sacrifice environmental quality for economic growth	16.9	14.9

***p<.001; *p<.051

Table 7. The Relationship between Age and Environmental Attitudes, Knowledge and Behavior for Residents of Mobile and Baldwin Counties			
Means			
Item	18-35	36-50	51+
Assessment of the environmental conditions of the Mobile-Baldwin County area	20.2	20.5	20.0
Perceptions of the impact of user-group activities on the Mobile Bay Estuary System	18.6	19.0	18.1*
Environmental knowledge	0.7	0.8	0.8
Environmental behavior	11.0	11.0	10.5
Recreational usage of the Mobile Bay Estuary System	14.5	14.5	13.8***
Balance of nature	23.8	24.0	24.4*
Dominion	9.1	8.8	9.0

***p<.001; *p<.05

Table 8. The Relationship between Age and Opinions on Environmental Policy Issues for Residents of Mobile and Baldwin Counties			
Percent			
Item	18-35	36-50	51+
Favor using public funds to buy undeveloped land to keep it free from development	71.1	69.7	66.3
Favor using public funds to provide incentives to businesses to encourage them to protect the environment	81.4	68.8	61.0***
Favor government prohibiting new smokestack industries from locating in the area	60.2	58.4	57.1
Sacrifice environmental quality for economic growth	18.0	14.5	15.4

***p<.001

Table 9. Environmental Attitudes, Knowledge and Behavior by County of Residence		
Means		
Item	Mobile	Baldwin
Assessment of the environmental conditions of the Mobile-Baldwin County area	20.3	20.2
Perceptions of the impact of user-group activities on the Mobile Bay Estuary System	18.2	19.5***
Environmental knowledge	0.7	0.8*
Environmental behavior	10.7	11.0
Recreational usage of the Mobile Bay Estuary System	14.0	14.5**
Balance of nature	23.9	24.4*
Dominion	9.0	8.7

***p<.001; **p<.01; *p<.05

Table 10. Opinions on Environmental Policy Issues by County of Residence		
Percent		
Item	Mobile	Baldwin
Favor using public funds to buy undeveloped land to keep it free from development	66.6	74.3*
Favor using public funds to provide incentives to businesses to encourage them to protect the environment	69.8	70.3
Favor government prohibiting new smokestack industries from locating in the area	59.0	56.2
Sacrifice environmental quality for economic growth	16.6	12.0*

**p<.01; *p<.05

Publications/Presentations:

Environmental Attitudes of Alabama Coastal Residents: Public Opinion Polls and Environmental Policy. J. Steven Picou, Cecelia Formichella, G. David Johnson, and Keith Nicholls. Presentation to ACES Scientific Advisory Committee, April 2000.

Evangelism, Fundamentalism and Environmentalism in a Deep South Community. G. David Johnson, J. Steven Picou, Cecelia Formichella and Keith Nicholls. Paper presented at the annual meeting of the Mid-South Sociological, 2000.

Demographic Comparisons: An Assessment of Environmental Attitudes, Environmental Knowledge, and Opinions on Environmental Policy Issues. G. David Johnson, J. Steven Picou, Cecelia Formichella and Keith Nicholls. Presentation to ACES Scientific Advisory Committee, September 2001.

Supplemental Keywords:

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