

## Executive Summary

In May 2009, Carolina Clear of the Clemson University Restoration Institute contracted with researchers from Clemson University's Department of Sociology and Anthropology (Dr. Catherine Mobley and Dr. James Witte) and the School of Computing (Dr. Roy Pargas) to conduct a telephone survey of residents of the Pee Dee region of South Carolina.

The population of the Pee Dee region is such that in this region a sample of 385-400 respondents would permit estimates of the survey results with a margin of error of  $\pm 5\%$  at a 95% confidence level. The survey was conducted during the month of August 2009. Data were collected from 399 residents from the following seven zip code areas in the region:

29161	29505	29530	29541
29501	29506	29532	

The main goal of the survey was to obtain information about residents' attitudes, knowledge, behaviors, and intentions as they relate to the environment. The results can serve as a baseline for measuring the success of future environmental and stormwater education efforts. The information collected about the various subgroups (and reported in the cross-tabulation analyses of the full report) can assist staff in targeting educational efforts by sociodemographic characteristics.

### Brief Description of Sample

When compared to the general population, the Pee Dee region survey sample was disproportionately female (64.2% of the sample vs. 52.9% of the actual population in the seven zip code areas, as reported by the U.S. Bureau of the Census) and better educated than the general population (with 45.7% of the sample earning a bachelor's degree or higher vs. 19.3% of the general population). With respect to race, 74.5% of the sample was white, as compared to 58.7% of the general population. There were also some differences in the age profiles, with the survey comprised of a greater proportion of individuals 55 and older than found in the general population (48.5% vs. 28.2%, respectively) and a lower proportion of 18-24 year olds (4.3% of the phone survey vs. 12.9% of the general population). Approximately 85.6% of respondents indicated they were homeowners (as compared to nearly 3/4 (74.6%) of the general population) and 31% indicated they lived next to a creek, stream, river, lake or pond.

Research has shown that some of these segments of the population (e.g., higher-educated females) are more likely to participate in surveys. Thus, we adjusted for the demographic differences between the telephone sample and Census data by using standard statistical weighting procedures. The resulting weighted data are a closer approximation of Census population figures and are thus a better representation of the public's views on the issues covered in this survey. The results reported and discussed in this Executive Summary and the full report are based on the weighted data.

## Main Findings

Survey results reveal a complex picture of the environmental views of residents of the Pee Dee region. The summary below presents some of the main research findings.

- **Residents of the Pee Dee region are concerned about water quality in the region and place a high value on the water bodies in their area.** Slightly more than 46% of respondents are “very concerned” and 35.2% are “somewhat concerned” about pollution and the environmental quality of local streams and waterways. Slightly more than 94% of respondents indicated that they feel that water resources are “very important” to the livelihood and quality of life in the Pee Dee region.
- **Residents have a basic level of understanding about the various causes of poor water quality.** When asked about the impact of humans on the environment, nearly ½ of respondents (49.3%) indicated that what people do on the land affects the quality of their local streams and waterways “a great deal.” However, 8.4% indicated they did not know. Approximately 73.6% of respondents “strongly agreed” or “agreed” that inspection and pump out of septic tanks protects water quality, although 15.6% indicated they did not know. And, 68.4% “strongly agreed” or “agreed” that pet waste is a source of bacteria pollution in local waterways; however, 11.5% indicated they did not know that pet waste was a source of bacteria pollution. Regarding beliefs about the stormwater treatment, just over 63.8% of respondents did not believe that stormwater was treated before reaching lakes, rivers and streams; 11.8% indicated they did not know.

Respondents were also asked to rate the extent to which nine different activities impacted streams and lakes in the area. Respondents were most likely to say that the following sources of pollution had either a “great impact” or “some impact” on water quality: industrial sites (91.1%), fuel and oil leaks from trucks, buses or automobiles (81.3%), fertilizer and lawn chemicals that people use on their lawns and gardens (78.0%), and farm operations (71.1%). Of the items listed, respondents were most likely to indicate that the following sources of pollution had either “very little” or “no impact” on water quality: runoff from people washing their cars (48.4%); waste from birds (47%); pet waste (44.9%) and parking lot runoff (36.5%).

- **The high level of concern about water quality is generally not matched by a high level of knowledge among residents about the basics of watersheds.** When asked to choose the correct definition of the term “watershed,” just over one-fourth of respondents (25.2%) selected the correct answer (“area that drains into specific river or lake”). A nearly equal proportion (23.7%) selected “reservoir that serves as a municipal water source” as the correct answer. Importantly, nearly 17% of respondents indicated “do not know” when asked to choose the correct definition of the term “watershed.”

Residents of the Pee Dee region were also asked if they could identify the specific body of water that directly absorbs the runoff from rain that falls where they live. Over half of the respondents (53.9%) indicated they did not know the name of this body of water. However, slightly more than 46% of respondents indicated either that they “certainly” could name the body of water (21.2%) or that they thought they knew the name of the water body (25.0%).

- For the most part, Pee Dee residents are involved in water and environmental conservation efforts.** Slightly more than 73% of respondents indicated that, in the past two years, they had made an effort to reduce water usage out of concern for water quantity (i.e., drought) issues. However, a smaller proportion (45.1%) revealed that, in the past two years, they had reduced water usage out of concern for water quality. In general, Pee Dee residents are somewhat active in citizen-based efforts: 20.8% of respondents indicated they had participated in a lake or river cleanup; however, only 9% had joined or volunteered for a conservation organization in the past two years.
- There are some indications that Pee Dee residents are engaging in environmentally-friendly household behaviors, although some residents are engaging in behaviors that could harm local rivers and streams.** A large proportion of respondents indicated that, in the past two years, they “never” did the following: dumped grass clippings down storm drains or backyard creeks (98%); stored fertilizers or pesticides in leaky containers (97.5%) or disposed of oil, paint, or other chemicals down storm drains (97.3%). Nearly 81% of respondents indicated they “never” operated a motor vehicle with a leak. However, a majority of respondents (55%) indicated they “never” washed their car on the lawn or gravel instead of pavement and nearly 38% of respondents indicated they “never” cleaned up after their pets when taking them for a walk.
- Pee Dee residents are somewhat active in outdoor recreational behaviors, but there is a mixed picture in regard to water-based recreational activities.** Hiking, fishing and visiting the beach were the three most popular recreational activities for respondents (with 23.8%, 17.8%, and 16.4% of respondents indicating they participated in these activities “often,” respectively). However, just over 82% of respondents indicated they “never” kayaked or canoed, 67.4% have “never” gone motorboating, 64.2% had “never” gone swimming in rivers or lakes, and 78.7% indicated they “never” hunted or trapped.
- The high level of concern about water quality is generally matched by a high level of willingness to get involved in water resource issues.** Nearly 85% of respondents indicated they would “very likely” become involved in water resource issues if they were directly impacted by water quality. For the remaining survey items in this section of the survey, nearly or just over half of the respondents indicated they would be “very likely” to become involved in water resource issues (if they knew the local government could save money (53.5%); if they had more information about local water quality issues (48.8%); and if the local media ran positive stories about actions taken by local residents to improve water quality (49.2%) and stories about water pollution problems (46.7%)).
- Respondents use a variety of media for receiving local and regional information and news.** Respondents were asked to choose the three primary ways that they receive local and regional information and news. Nearly 79% of respondents indicated that they received their news through television evening news broadcasts. Slightly more than 57% of respondents indicated they listened to the morning news. Local newspapers were also an important source of information: 35.7% indicated this as one of their three sources of news, while general radio stations were an important source for a slightly lower proportion of respondents (33.5%). Billboards and posters and events/workshops were the two least frequently mentioned source of news, with 8.4% and 2.7% of respondents indicating these sources as

one of their three primary sources of news, respectively.. In response to a separate question, slightly more than 55% of respondents indicated they used the Internet to get their local and regional news.

- **There is a low level of awareness among respondents about Carolina Clear.** Nearly 89% of respondents indicated they had never heard of Carolina Clear. Only 3% of respondents indicated they were aware of Carolina Clear and aware of its programs; just over 8% indicated they had heard of Carolina Clear, but were unfamiliar with the organization's programs.