

MARINE DEBRIS: NORTH CAROLINA'S SOLUTIONS THROUGH EDUCATION

Sarah Friday
University of North Carolina Sea Grant College Program
Raleigh, North Carolina 27695, U.S.A.

ABSTRACT

North Carolina began its campaign against marine litter in June 1987. The success of the program has been due largely to an emphasis on interagency cooperation and on education of the public. Five cooperating state agencies have been the University of North Carolina Sea Grant Program, and North Carolina Division of Coastal Management, Division of Parks and Recreation, 4-H, and Office of Marine Affairs. Educational activities have included slide programs given by a Sea Grant marine education specialist to power squadrons, fishing clubs, school groups, and service clubs, and ongoing exhibits and talks on marine debris by the state's three coastal aquariums. The program has also stressed youth-oriented activities relating to marine debris.

INTRODUCTION

North Carolina has nearly 560 km (350 mi) of coastline and 931,500 ha (2.3 million acres) of estuaries, bays, and sounds. Without question, the beaches and coastal waters are vital to the aesthetics and the economy of the state.

But litter and plastics could change this.

That is why North Carolina began its marine litter program in June 1987. Now, 21 months later, the state can show evidence of change and the promise of regulations and educational programs that ultimately will help solve litter problems at the coast.

METHOD AND DISCUSSION

On one Saturday in September 1987 and another in September 1988, the state marine debris program held Beach Sweep, a 1-day coastwide cleanup. Over 4,500 volunteers came to the coast and picked up more than 54 metric tons of trash. The volunteer participation, the amount of litter collected, and the extensive media exposure for Beach Sweep were the result of educational efforts by program coordinators and volunteers.

Interagency Cooperation

North Carolina patterned Beach Sweep after similar cleanups in other states, but organizer Lundie Spence, Sea Grant's marine education specialist, took a different approach. Like the director of a play, Spence pulled in talent from many of the state agencies to play different roles in Beach Sweep and the marine debris program.

The 1987 Beach Sweep organization committee was composed mainly of representatives from four state government agencies. They were Sea Grant, the North Carolina Division of Coastal Management, Division of Parks and Recreation, and Office of Marine Affairs, which oversees the state's three coastal aquariums. In 1988, North Carolina 4-H Clubs joined the committee.

Full cooperation and contributions of time, money, and services from each agency helped spread the word to thousands of North Carolina citizens.

For example, Sea Grant's Spence kept state government leaders informed of activities concerning marine debris. She sent information on marine debris and Beach Sweep through a Sea Grant newsletter to 2,000 North Carolina teachers, and she gave slide programs to power squadrons, fishing clubs, school groups, and service clubs.

Sea Grant's communications staff handled all of the major publicity for Beach Sweep. This included issuing press releases, writing features and newsletter articles, compiling press kits, and scheduling radio and television interviews.

The Division of Coastal Management took on other tasks. As the state's coastal regulatory agency, this division was able to work closely with the governor's office, legislators, the state's Coastal Resources Commission, and the Marine Science Council to garner support.

Parks and Recreation contributed manpower at the coast for the cleanups and helped with fund-raising and contributions of garbage bags and pencils for tallying data.

The three North Carolina aquariums offered staff that served as regional coordinators for Beach Sweep. Each aquarium provided special exhibits and programs on marine debris to tourists and other interested visitors.

As the state's marine debris program grows, an increasing number of state government agencies, private nonprofit groups, corporations, small businesses, and volunteers are participating.

Targeting groups of all kinds with coastal and environmental interests provides not only a rich pool of talent and services, but also an unlimited resource for ideas.

In this case, the more the merrier.

This year, Beach Sweep and the North Carolina marine debris program still operate with no major corporate funding. The shoestring budget has gotten a bit fatter, but the shoestrings are not yet long enough to help accomplish all of the goals. Therefore, interagency cooperation is even more important to help carry out a comprehensive educational program.

Public Education

Emphasis on Youth

A special emphasis in North Carolina has been placed on creating awareness for the state's youth. Within the school system, the state's marine debris program coordinators have worked with science, environmental, and gifted-and-talented classes. In this area, copies of the marine debris slide and talk program from the Center for Marine Conservation have been made available to the schools.

Teachers have found out about other reference materials through a special newsletter from Sea Grant. In response, children from the fourth to twelfth grades have written Sea Grant for information. This exercise gives younger children the experience of writing for and receiving information on their own. Taking this action is one more step toward increasing awareness by personal involvement.

The North Carolina aquariums, the state maritime history museum, and the parks and recreation system have offered special youth programs on marine debris. Typically, leaders give a short talk or slide show on marine pollution and then take the group out on the beach to collect trash. After 30 to 40 min, they stop and discuss their findings and reactions.

This program has been modified to assist Boy Scout troops at the coast in earning a badge relating to environmental awareness. One troop expanded the idea during Beach Sweep and separated its trash for recycling.

Another excellent idea for increasing youth awareness has been a permanent display on marine debris erected at the North Carolina Maritime History Museum. One panel of the display is just for children. On it are photos of volunteers during Beach Sweep, an award-winning 4-H poster concerning plastics, and a pad and pen for comments. Pages and pages of ideas and comments have told museum educator Patricia Hay that children's eyes are open to the problems at the coast.

Probably the most far-reaching involvement originated with the state 4-H Club. This national youth organization has programs in each of North Carolina's 100 counties. Within this structure, Beach Sweep was promoted through newsletters and electronic mail as a good community service project for its members.

In addition, 4-H implemented a statewide marine debris poster contest for youths ages 9 to 11, and 12 and older. As schools already employ many such contests, this gave the young people a different avenue. The 4-H Club raised \$255 for cash prizes in each category.

Most importantly, 4-H and Sea Grant helped devise five activities for youths concerning plastics and litter. They are currently being used by 4-H Clubs and school teachers throughout the state. But since they are new, 4-H education specialists are still conducting tests on the usability and viability of these activities as a curriculum.

The five projects include:

1. Living labels. This icebreaker invites students to become aware of types of plastic items around them. Students either act out the item they have chosen or give 10 words describing it. Other class members try to guess the item.
2. Why do we use plastics? By listing different kinds of plastics we use daily and discussing them, young people gain a better idea of how much plastic is used and why.
3. How strong is a six-pack ring? Youths test the strength of six-pack rings and correlate this with their durability in the environment. The objective is for them to realize how little chance an animal or fish has of freeing itself after entanglement.
4. Can we make plastics disappear? By comparing degradable and nondegradable six-pack rings, youths
 - a. understand the meanings of photodegradable and biodegradable,
 - b. learn that most plastics are not degradable, and
 - c. learn that plasticlike materials can be made degradable.
5. Turning trash around. By simulating paper and plastics recycling, youths gain a better understanding of the process of and need for recycling in our society.

Other

The Beach Sweep effort has helped make many of North Carolina's citizens aware of marine pollution. Each volunteer that attended the cleanup has seen firsthand what litter can do to our beaches and how he or she can help keep them clean. The social, environmental, and economic impact of cleaner beaches is affecting the behavior of tourists. And pollution has become a political issue because people are concerned.

Since our cleanup began, certain public beaches have been kept cleaner year-round. Municipalities added more trash cans to beach access areas, and some of them added to their cleanup crews. Also, North Carolina is currently considering legislation on degradable six-pack rings.

Public education has not stopped with Beach Sweep, however. Each of the involved agencies has initiated programs concerning marine debris.

CONCLUSION

With these projects and our other efforts, North Carolina has begun its fight against marine pollution. By working together and focusing energies on the state's youth, much has been done.

For the past 2 years, North Carolina Sea Grant has been part of a national Sea Grant marine debris network. Each of the nation's 30 coastal states has contributed toward educating commercial fishermen, teachers, boaters, and the public about pollution and its effects.

Until the problem is conquered, however, much remains to be accomplished.