

PARTNERS IN EDUCATION: THE WATER SOURCEBOOK FOR GRADES 3-5

Fox McCarthy

AUTHOR: Water Conservation Coordinator, Cobb County - Marietta Water Authority; and Secretary/Treasurer for the Georgia Water Wise Council, Inc., 1660 Barnes Mill Road, Marietta, Georgia 30062-7535.

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Abstract. This presentation describes a public/private partnership to provide educational material on water to school systems in Georgia. The long term goal of this project is to establish a water ethic: "Use what you need, and don't pollute."

INTRODUCTION

"The solution to our water problem is education, particularly education at the primary and secondary level." This lament is frequently expressed by those in the water field.

The reality is that water education is presented to our nation's youth in a fragmented and inconsistent manner. It is incorporated into other subjects based on the teacher's educational background, life experience and local situation. There is little funding or availability of materials for water education, and a lack of awareness that there is even a water problem. Finally, the emphasis on mastering the three "R's" does not give water education a high priority with the educator.

BACKGROUND

Water conservation and non-point source pollution are areas in which water utilities need to concentrate their educational efforts for the foreseeable future. But education is not the strong suit of the water managers, engineers or technicians, who are trained to solve problems.

Most water conservation education programs are long term water demand management programs to extend the life of water resources. Pollution education programs are both short and long term programs. Non-point source pollution will be the most formidable problem for society, as population and urbanization increases. As the technology improves to measure even lower concentrations of pollutants, there are increased pressures on water utilities to treat water to these lower levels.

THE PARTNERS IN EDUCATION PROGRAM

To promote and provide coherence to water education in Georgia, a public/private partnership network was established.

The education program is implemented locally through partnerships of water utilities, private sector enterprises, county Cooperative Extension Services, and local public and private school systems. This network is coordinated state-wide through The Georgia Water Wise Council. The curriculum selected to develop a water education program was the *Water Sourcebook*.

The Curricula

The U.S. Environmental Protection Agency (EPA) Region IV provided grants to develop the water educational material. A series of four Water Sourcebooks was proposed to cover grades K-2, 3-5, Middle School (6-8), and High School (9-12).

The first *Water Sourcebook* took two years to prepare and test and was completed in January, 1994. The Sourcebook was written by elementary teachers for grades 3-5. The EPA grant was coordinated through Legacy, an Alabama environmental education consortium. The Tennessee Valley Authority's environmental education section provided project management for the preparation of this *Water Sourcebook*.

The 3-5th grades *Water Sourcebook* is 532 pages in length, and has 61 hands-on water activities. The activities support required instruction in the disciplines of mathematics, science, language arts, social studies, and related arts. The supporting activities cover surface water, ground water, wetlands/coastal and drinking water and wastewater treatment. The activities are broad in scope and designed for use throughout the country.

The *Water Sourcebook* for high school is under the project management of the Center for Environmental Research and Service of Troy State University in Alabama. The activities are being prepared by high school teachers. Completion is projected for the summer of 1996. The start of the sourcebooks for K-2 and Middle School is programmed for 1996.

The Georgia Water Wise Council

The council provides centralized coordination for Georgia's program of partners in water education. In May, 1994, the council ordered the first printing of 7,000 copies of the *Water Sourcebook* for grades 3-5. Since then it has shipped over

4,000 copies to school systems throughout the state. A second printing of 5,000 copies was made in March, 1995. Title pages are reprinted to give credit to the local sponsors and school systems.

The council also has coordinated a statewide train-the-trainer program. And at the same time, the council has promoted a sponsorship program for purchase of the *Water Sourcebook*.

Train-The-Trainer

From July-December, 1994, The Georgia Water Wise Council in cooperation with SCITREK implemented a facilitator program. County Extension agents from all 159 counties were trained in 10 workshops throughout the state. The agents were trained to conduct hands on in-service training for 3rd through 5th grade teachers on the use of the *Water Sourcebook*. In addition, some district directors of Georgia's Clean and Beautiful Program, and Regional Coordinators of The Georgia Youth Science and Technology Centers received training as facilitators.

Sponsors

The Georgia Water Wise Council solicits sponsors to purchase the *Water Sourcebook* for the local school system's teachers. The Georgia Water and Pollution Control Association assists by promoting the program to its utility and corporate members. The Association of County Commissioners of Georgia, and The Georgia's Municipal Association are making their members aware of the program through articles in their monthly news publications. The Consulting Engineer Council of Georgia is also promoting the program to its members.

As of March 1995, eight water utilities have provided sponsorship and seven more have committed to support the program. Georgia-Pacific Corporation is providing sponsors for the school systems in the counties in Georgia where its 25 major facilities are located. Many of the Georgia-Pacific sponsors are in partnership with the local water utilities. Some engineering consulting firms are also providing sponsorships to school systems, where they have water projects.

School Systems

The *Water Sourcebook* is popular in the school system because it is teacher-friendly. The activities use the same format and directly support required curricula. This allows the teacher to prepare and present the activity in a short period of time. The hands-on implementation of the activities provides interest and diversity for students. Finally, preparation time of lessons for substitute teachers is greatly reduced by using the *Water Sourcebook* activities.

If communities are to solve their water problems, critical thinking by their citizens is required. This starts with students observing, evaluating and making informed judgments. The *Water Sourcebook* provides the student a

simulated natural system and damaged system for comparison in a classroom setting. The students learn critical thinking and decision making through participating in these water environmental activities.

THE ROCKDALE COUNTY MODEL

In July 1993, the Rockdale County Extension Service and the City of Conyers Water and Environmental Services had developed a Cooperative Program for Water Quality and Conservation Education. The objective of that 5-year cooperative education plan was to develop a water ethic among the residents of Rockdale County - "Use what you need, but don't pollute." This water ethic has become the theme for the *Water Sourcebook* statewide partners in education programs.

Elementary Education

A major element of the cooperative education plan was to introduce the *Water Sourcebook* in all 3rd through 5th grades in the county through a workshop.

On October 26, 1994, lead teachers for grades 3-5 from eight Rockdale County elementary schools attended a workshop on the *Water Sourcebook*. This represented the efforts of the public/private partnership to bring water environmental education to the county's school system.

Train-The-Trainer

The Rockdale County Cooperative Extension Service provided overall coordination for the workshop. Location, time and room set up was arranged with the school system's science advisor. The delivery of 150 sourcebooks was made with The Georgia Water Wise Council. Finally the Extension Service provided agents as teacher-trainers, and coordinated the assistance of a trainer from SCI TREK and The Water Wise Council.

Sponsors

The Georgia Water Wise Council coordinated sponsor support. The public side of the sponsoring partners was The City of Conyers Water and Environmental Services and the Rockdale County Commission. The private side was CH2M Hill, an engineering consulting firm and The Decatur Chemical Laboratory of The Georgia-Pacific Corporation.

The Rockdale County Public Schools extended the training to an all day Water Resources Workshop. Substitute teachers were hired by the school system so the teachers could participate not only in the workshop but also in an afternoon field study on stream monitoring. This emphasis on teacher training was made to insure that materials in the *Water Sourcebook* could become part of the science curriculum for grades 3-5.

Benefits to Sponsors

The public sponsoring partners viewed the water environmental education program from the long term perspective. This program would establish a base of citizen education from which other educational programs could be successfully implemented. The county wanted citizen involvement for the long term watershed protection of The Big Haynes Creek Reservoir. The city wanted their Adopt-a-Stream and Non-Point Source Pollution education program to grow and have positive citizen support. Both government entities viewed the cause of water quality problems to be population growth and a solution to be education programs that guide citizen behavior.

The private sponsoring partners considered their involvement to be a corporate responsibility. CH2M Hill's organizational values include protecting the environment by contributing to the well-being of the community. This included supporting school education programs to create an awareness in future leaders of the value of protecting water as a natural resource. Georgia-Pacific saw the support of the education program as an extension of the environmental programs they perform at their facilities.

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CONCLUSION

The Water Sourcebook Partnership Network is a dynamic concept that works. The school systems gain an asset that supports and reinforces required curricula. The utilities fulfill permitting criteria for public education and, along with the private corporate sponsors, receive positive public relations recognition. And finally, The Georgia Water Wise Council fulfills its corporate mission of promoting water conservation and sound water management practice in Georgia.

ACKNOWLEDGMENTS

The author appreciates the overwhelming support from individual and corporate members of the public/private partnership that makes The Water Sourcebook Network a success. This literally has involved hundreds of people. To you I say, "thank you", and to those to follow, "welcome aboard."

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