A WATER SUPPLIER'S ROLE IN EDUCATION

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Abstract. This presentation describes a water utilities water conservation program and its relationship with the Georgia Water Wise Council to provide educational material and programs throughout Georgia.

INTRODUCTION

For most water suppliers the single largest use of water is for maintenance of landscapes at residences, businesses, parks, schools, and recreational areas. This seasonal irrigation water is typically 40-50 percent of the total urban water used. These seasonal and daily peaks affect the sizing, timing, and cost of water delivery and supply facilities.

Water supply managers are examining their primary mission of supplying all anticipated future water demands. The financial and environmental costs of developing high-quality sources of water supply are becoming more expensive. Encouraging customers to use water more efficiently can be a cost effective means of augmenting supply or avoiding expansion of the supply entirely.

In 1989 the Cobb County-Marietta Water Authority found itself in such a future water demand situation. It provides 23% of the water for Metropolitan Atlanta, Georgia and was projecting a doubling of its demand over the next 20 years. The Water Authority made the decision to use water conservation as supply option along with ground water and increased withdrawals of surface water.

The Water Authority hired the first water conservation coordinator in Georgia with the charge of developing Xeriscape education programs to lower summer peaks water use. The real cost to the water supplier of peak water uses for irrigation is from two to twenty times more than the other water used by its customers.

The Water Authority became a founding member and supporter of the Georgia Water Wise Council. Xeriscape programs were developed through the Council for use in the Water Authorities services area, as well as throughout the state. To support the Xeriscape programs, the Water Authority implemented "Beat the Peaks" summer rate surcharge for those customers who used excessive landscape water. Also, through the Georgia Water Wise Council, The Water Authority initiated public school education programs with The Water Sourcebook Series again throughout the state as well as in its own service area.

XERISCAPE

Xeriscape is the application of sound horticultural practices in the development of quality landscapes that conserve water and protect the environment. The seven principles can serve as a simple check list to insure that proper that proper horticultural practices are being applied during the planning, installation and/or maintenance of the landscape. These principles of Xeriscape should be the basis for everyday landscaping, and not just the "teaching moment" during drought periods.

The following are the seven principles of Xeriscape:

- Planning and Design
- Soil Analysis
- Appropriate Plant Selection
- Practical Turf Areas
- Efficient Irrigation
- Use of Mulches
- Appropriate Maintenance

Xeriscape-type landscapes are also applicable to the commercial setting. Examples of such Xeriscapes can be found throughout the Atlanta metro area. Post Properties had been using upscale Xeriscape landscapes for their signature effect. Post manages 32 apartment complexes with more than 14,000 unites. Their landscapes have revolutionized the look of residential and commercial properties throughout Atlanta. Once established, only 10 percent of their landscape receive supplementary water. Also the Georgia Institute of Technology used Xeriscape

landscapes in its construction program for the venues and Olympic Village at its campus for the "96 Olympics.

Across the United States, communities have adopted the term Xeriscape, thus linking national awareness with local need. The term represents a body of knowledge that can be universally used without explaining what is meant when using different terms referring to landscape water conservation. As people move from region to region to region they will know that Xeriscape means water conservation. It is also likely they will be familiar with the Xeriscape fundamentals.

EDUCATIONAL PROGRAMS THROUGH THE GEORGIA WATER WISE COUNCIL

Background

Although severe droughts have focused attention on the need to practice water conservation, at least in the short run, many water suppliers and green industry representatives still ask "why?". Suppliers are in the business of selling water and often face bond payments that require increases in sales, not conservation. Nurseries and retail centers have often viewed water conservation practices as detrimental to selling plants or services. Landscape contractors and others in the green industry have faced mandatory water restrictions that severely impacted their business.

The 1988 drought throughout the Southeast led the green industry to recognize that long-term landscape water conservation education was needed to lower peak summer water demands. This could not only alleviate drought problems, but make the best use of our water resources for future growth.

These concerns led on May 1, 1989 to the University of Georgia's Cooperative Extension Service holding a public forum on establishing a Georgia Xeriscape Council. The green industry representatives recommended that the scope be broadened to include water conservation for all activities, and thus the Georgia Water Wise Council was formed.

The Council is a partnership of government, education, business and citizen entities. The Georgia Water Wise Council is registered with the Georgia Secretary of State as a non-profit educational corporation. The council is a voluntary partnership with no compensation to its officers or board of directors. The presidency rotates between public and private sectors members. Each member's contribution is through their time, their organization's staff support, and membership fees.

Goals

One of the first goals of the Georgia Water Wise Council was to show the water suppliers and the green industry how conservation was to their advantage. For water suppliers the Council promoted the concept of water conservation as "increased capacity without construction". For the green industry the Council showed how Xeriscape landscaping practices would expand the market for their products and services. The green industry quickly realized that pro-active involvement in water conservation educational programs would help the long term growth of their industry. Additionally, for the homeowner the council explained that Xeriscape landscapes did not mean rocks and cacti, but quality landscapes that reduced maintenance costs and would survive in good condition during droughts.

In recent years the Georgia Water Wise Council has broadened its educational goals into outreach programs in the public schools. A major activity has been the printing and distribution of the Water Sourcebook sponsored by the U.S. EPA. Working with many different public and private organizations, the Water Sourcebook has been placed in school systems throughout Georgia, as well as being distributed to other states. The purpose of this effort is to build a water conservation ethic and environmental awareness among children that will carry on to their adult lives.

Activities

The Council has been involved in numerous activities, including the following:

- Publication over 50,000 copies of a 40 page Xeriscape book
- Production of a 12 minute Xeriscape video
- Distribution of newsletters and feature articles
- Coordination of landscape (Xeriscape) water college internships for water suppliers
- Sponsorship of a water smart home program for home builders
- Printing, distribution and promotion of EPA's Water Source Book Series
- Education grants for youth workshops on natural resources
- Xeriscape display booths at professional seminars and garden shows
- Establishment of an active speakers bureau

Results

Creating public awareness of water resources and conservation issues is a long-term process. Since 1989 the Georgia Water Wise Council has extended the message of water conservation even in the face of above average rainfall. The council was given a first place award by the U. S. Environmental Protection Agency, Region IV for the "Most Effective Educational Campaign" in the Southeastern United States.

In Florida, Texas and SE New York, water wise councils have been formed. They are modeled after Georgia's Council. The Florida Water Wise Council supports Xeriscape education programs in the implementation of the state's Xeriscape legislation.

The lesson is that waiting for droughts or water supply problems to happen before taking conservation measures is too late. The Georgia Water Wise Council will continue to seek the dialogue and cooperation among various interests to ensure that our state's water is used wisely and in a sustainable fashion.

THE WATER SOURCEBOOK - PARTNERS IN EDUCATION

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.

Partners

In Georgia a public/private partnership network was established to promote and provide coherence to water education. The education program is implemented locally through partnerships of water suppliers, private sector enterprises, education facilitators and local school systems.

The Georgia Water Wise Council coordinates the partnership network through (1) being the publisher of the Water Sourcebook Series, (2) conducting a train - the trainer program, and (3) soliciting sponsor for the program. As a publisher the Council prints, warehouses, and ships the Water Sourcebooks. The train-the-trainer function is accomplished through seminars with education facilitators to conduct teacher workshops. Finally, the Council promotes local sponsorship to water suppliers and private sector corporations for purchase of the Water Sourcebooks for the local schools.

Curricula

The Environmental Protection Agency (EPA), Region IV in Atlanta has provided grants to develop water environmental education support material. A series of four Water Sourcebooks were developed. The books were printed for grades 3-5 in June'94, grades 9-12 in July '97, grades K-2 in September '98, and grades 6-8 in February '99.

The Water Sourcebook Series (WSS) provides hands-on activities using water as the theme to supplement and enhance existing curricula. The activities are applicable to all geographic areas. The WSS is designed to support the disciplines of mathematics, science, language arts, social studies, and related arts. Each Water Sourcebook in the series consists of five chapters:

- Introduction to Water
- Drinking Water and Wastewater Treatment
- Surface Water Resources
- Ground Water Resources
- Wetlands and Coastal Waters

The chapters have correlation sheets to highlight interdisciplinary teaching. The WSS was written and tested by teachers

Effects

If communities are to solve their water problems, critical thinking by their citizens is required. This starts with students observing, evaluating and making informed judgements. The *Water Sourcebook* provides the student simulated natural and damaged systems for comparison in a classroom setting.

CONCLUSION

Although water conservation is executed as a local program, its impact is state wide. Thus the Cobb County-Marietta Water Authority's partnership with the Georgia Water Wise Council has enabled the Authority to share its expertise in water conservation with water utilities and green industry representatives throughout the state.

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LITERATURE CITED

Fields, S. January, 1995. "An Educator's View on Environmental Education," *Georgia County Government ACCG*, p15. Atlanta, Georgia, United States of America.

Long-Range Water Supply Master Plan Update, October 1996, Cobb County-Marietta Water Authority, Marietta, Georgia, United States of America.

McCarthy, F. November, 1994. "Local leaders take on task of Water Quality Education," *The Rockdale Citizens*, p12B. Conyers, Georgia, United States of America.

McCarthy, F., 1996. Partners in Education: The Water Sourcebook. Proceedings of Conserv 96, Responsible Water Stewardship, Orlando, Florida. American Water Works Association, et al., Denver, Colorado, United States of America. (ISBN 0-89867-837-4).

Wade, G.L. et al. 1992. Xeriscape™: a guide to developing a water-wise landscape. University of Georgia Cooperative Extension Service, Bulletin 1073 Athens, Georgia, United States of America.

Water Conservation Plan, August 1996. Cobb County-Marietta Water Authority, Marietta, Georgia, United States of America.

The Water Sourcebook, for grades 3-5, 1994, Tennessee Valley Authority. Georgia Water Wise Council-Publisher, 1033 Franklin Road, Marietta, Georgia, 30067, United States of America (EPA/904-R-94-017(b)).

The Water Sourcebook, for grades 9-12, 1997. Auburn University at Montgomery and Troy State University. Georgia Water Wise Council-Publisher, 1033 Franklin Road, Marietta, Georgia, 30067, United States of America (EPA/904-R-94-017(d)).

The Water Sourcebook, for grades K-2, 1998. Education Research and Inservice Center, University of North Alabama, Florence, Alabama. Georgia Water Wise Council-Publishers, 1033 Franklin Road, Marietta, Georgia, 30067, United States of America (EPA/904-R-94-017(a)).

The Water Sourcebook, for grades 6-8, 1999. University of South Alabama, Mobile, Alabama. Georgia Water Wise Council-Publisher, 1033 Franklin Road, Marietta, Georgia, 30067, United States of America (EPA/904-R-94-017 (c)).