COASTAL REGION TRAINING CENTER FOR GEORGIA ADOPT A STREAM PROGRAM AT SAVANNAH STATE UNIVERSITY

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Abstract. The Coastal Region Training Center (RTC) for the Georgia Adopt A Stream (AAS) Program was established at Savannah State University in 1996 to promote and serve AAS activities along the coast and in southeast Georgia. The Coastal RTC serves as a regional information and technical resource, and it conducts water quality monitoring training workshops for AAS volunteer groups. The Center conducts visual, chemical, and biological monitoring training programs on campus and in local communities throughout this region. Since 2000, the number of water quality training workshops has increased from 20 per year to more than 50 per year; and the number of workshop participants has increased from fewer than 200 to more than 1500 per year. Besides producing increased monitoring and data acquisition in the region, this increased activity and interest in water quality has enhanced education and local partnerships regarding water quality issues.

INTRODUCTION

The Georgia Adopt A Stream Program (AAS) is a volunteer based program of the Georgia Department of Natural Resources, Environmental Protection Division. The program seeks to raise public awareness about water quality, and it enlists the public's support and action in monitoring and protecting water resources. The Georgia AAS Program provides a cooperative, education-based opportunity for local citizens to take an active and leading role in protecting and monitoring water bodies. The Georgia AAS Program thus provides a volunteer monitoring program for collecting and compiling aquatic and environmental data for the state.

To assist in this effort, regional training centers (RTC's) have been established throughout the state to provide program publicity, educational resources, training facilities, and technical assistance more accessible geographically. The Coastal Region Training Center for Georgia Adopt A Stream is located at Savannah State University, and its development, activities and capabilities are described in this paper. Services provided by, and data maintained in the Coastal RTC can be utilized by water resource managers in coastal and southeastern Georgia.

BACKGROUND AND RELATED WORK

The Coastal Region Training Center at Savannah State University was one of five original RTC's designated and created by the Georgia Adopt A Stream Program in 1996. Initial funding to support the regional training centers came from EPA grants to the Georgia Department of Natural Resources. In recent years, the Coastal Region Training Center and its activities have been supported by grants to Savannah State University Marine Sciences Program from the Georgia Department of Natural Resources Coastal Resources Division's Coastal Zone Management Program, and from the Georgia Sea Grant College Program. The Coastal RTC is housed on the Savannah State University campus in the Water Quality Research and Training Lab in the Center for Advanced Water Technology and Energy Systems Building.

One of the primary functions and activities of the Coastal Region Training Center is to conduct hands-on training workshops for monitoring water quality in the coastal and southeast Georgia region. These training workshops for citizens and groups of people who want to learn water quality monitoring techniques are conducted in various settings. Occasional training workshops are conducted at the Coastal RTC lab at Savannah State. Adjacent to the lab is a freshwater storm water drainage canal (Placentia Canal) that is often used for field-based instruction for chemical, biological, and visual monitoring methods. Also on campus and within walking distance from the Coastal RTC lab is a salt marsh tidal creek (Country Club Creek) that can be used for field based instruction regarding tidally influenced water bodies and habitats. Many workshops for water quality monitoring conducted by the Coastal RTC, however, occur throughout the coastal and southeast Georgia region in local communities and often at schools.

Along with conducting training workshops, the Coastal RTC assists citizens and groups in getting local Adopt A Stream programs started in their communities. The Coastal RTC functions as an informational and technical resource for chemical and biological water quality

monitoring and non-point source water pollution issues in the region. The Coastal RTC also serves as a liaison between local AAS groups and the AAS Program headquarters in the Atlanta DNR office. Coastal AAS groups send their water quality monitoring data to the Coastal RTC where it is cataloged before being forwarded to Atlanta, and thus volunteer-collected monitoring data for the region is collected, maintained and made available for the coastal region. The Coastal RTC also participates in public environmental and water resource-related activities such as Earthday and Coastfest programs. Often the Coastal RTC is requested to participate in public and technical water resource conferences, forums and advisory groups, and to partner with other environmental education programs.

METHODS

Training Workshops for Water Quality Monitoring

Training workshops for water quality monitoring volunteers are arranged following a request from an interested volunteer group. Although most other RTC's in the state schedule, publicize and hold open training workshops, the demand for training sessions in southeast and coastal Georgia in recent years has resulted in the number of workshops conducted throughout the region to surpass the Coastal RTC's program goals. Most training workshops take place in the local communities of the volunteer groups, and most utilize indoor and outdoor sessions. Due to the support provided by a two-year Georgia Sea Grant College grant to "enhance watershed education in schools," many of the recent training workshops have been conducted for school-based programs. During training workshops, every participant takes part in hands-on training involving sample collection, sample analysis, and data recording. Training workshops offered by the Coastal RTC include: visual monitoring, chemical monitoring, and biological monitoring. Quality Assured Quality Controlled (QAQC) certification training is available during most workshops for volunteers who want their data to be included in the AAS QAQC certified volunteer-collected database. Workshops also introduce participants to the manuals produced by Georgia AAS that include background and technical information and forms for reporting data (Georgia Adopt A Stream, 2003a, 2003b, 2004).

Parameters Monitored By Volunteers

Most volunteer groups in the coastal region conduct monthly chemical water quality monitoring. At the group's adopted sampling site, water is analyzed for temperature, pH, dissolved oxygen, salinity (if applicable), and clarity (using either an Imhoff cone for settleable solids or a Secchi disc). Each parameter is measured at least twice, and both readings are recorded and reported. Some groups also measure and report ortho-phosphate and nitrate-nitrogen. LaMotte Chemical Company field kits are used by most groups in this region. To assure quality data recorded and submitted by volunteer groups, a Quality Assured Quality Control (QAQC) protocol developed by the Georgia AAS Program is followed during training workshops.

Visual monitoring workshops train volunteers to use the AAS procedure for recording environmental and habitat data. Among the types of information observed and recorded are: stream width, depth, velocity, and flow rate (in cfs); condition of stream banks; habitat types within the stream; visual assessment of water clarity and surface conditions; description of vegetation types along stream margins; description of algae in the water; and descriptions of visible fish and wildlife in the area. Visual monitoring and reporting is conducted quarterly by volunteer groups.

Biological water quality monitoring for the Georgia AAS Program involves the collection, sorting, identification and quantification of benthic macro-invertebrates using either kick seines or D-nets for sample collecting. Few volunteer groups in the coastal region conduct biological monitoring, and there is less demand for biological monitoring training workshops in this area than for chemical monitoring training.

CONCLUSIONS

During the initial years of the Coastal Region Training Center, a large portion of its activities were devoted to Adopt A Stream Program publicity. Such activities included seeking and responding to invitations to speak to civic, environmental and school-based organizations, and seeking media coverage of training workshops and AAS group activities. During this time, few training workshops were requested by the public. Instead, most training workshops were scheduled, announced and publicized, and it was hoped that participants would attend. As publicity about the program continued and water-related environmental issues in the coastal area also became more widely publicized, interest in participating in the Georgia AAS Program in southeastern and coastal Georgia increased. Participation by interested volunteers in training workshops increased, and the demand for more training workshops increased (Table 1.). The number of new AAS groups registered each year is also listed in Table 1, however the actual number of AAS groups monitoring water quality in the region is greater because many groups have continued to be active for multiple years. As indicated in Table 2, within the coastal and southeastern region, the demand for chemical water quality monitoring training is greater than that for biological monitoring training.

Table 1. Yearly Totals Of Workshop Participants, Workshops Conducted, And New AAS Groups Registered Resulting From Coastal RTC Activities

Year	Number of Participants	Number of Workshops	Number of New Groups
1996	54	9	11
1997	0	12	4
1998	90	10	1
1999	176	15	6
2000	181	20	4
2001	831	28	6
2002	1610	53	20
2003	1578	52	9
2004	940	38	5

Financial support for the Coastal RTC beginning in October 1999, from the DNR Coastal Zone Management Program and from the Georgia Sea Grant College Program (2002-2004) allowed the Coastal RTC to meet these increased demands. As a result, the number of participating AAS groups in this region has increased. The Sea Grant sponsored "Watershed Education Project" also provided support for the Coastal RTC to conduct activities beyond the eleven coastal zone counties, and thus the geographic impact of the Coastal RTC increased throughout the southeastern region during that time period.

Additionally, a partnership between the Coastal RTC at Savannah State University and the "Ebenezer Alive" educational program at the New Ebenezer Retreat Center in Effingham County has allowed the Coastal RTC to conduct introductory chemical water quality monitoring workshops for visiting school groups at the Effingham County facility. This partnership has generated increased exposure for the AAS Program and for the Coastal RTC, and many follow-up invitations to assist new AAS groups get organized and trained have resulted from these introductory, hands-on water quality sessions. The Coastal RTC has also conducted chemical monitoring training workshops for the Savannah Riverkeeper, Canoochee Riverkeeper, and Altamaha Riverkeeper organizations.

DISCUSSION

The Coastal Region Training Center for Georgia Adopt A Stream is providing a means of increasing and enhancing education regarding water quality issues in the coastal and southeast Georgia area. It provides a continuing education opportunity for adults and a hands-on learning experience for students. Through participation in the Center's programs, citizen volunteers are able to collect, analyze and record important water quality measurements in their local communities.

Table 2. Number Of Visual And Getting Started, Chemical Monitoring, And Biological Monitoring Training Workshops Conducted By The Coastal RTC Since 2000

Year	Visual & Starting	Chemical Monitoring	Biological Monitoring
2000	6	13	1
2001	4	23	1
2002	10	40	3
2003	11	39	2
2004	6	30	2

Because of monitoring activities conducted by volunteer groups trained by the Coastal RTC, an increased data base of water quality information has developed for this region. As the activities of the Center continue, this data base of information will continue to expand.

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