

# PANEL DISCUSSION: FORMATIVE STEPS IN REGIONAL WATER MANAGEMENT

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**Abstract.** Over the past ten years, a number of regional water or watershed management efforts have been initiated in Georgia. The increasing number of regional initiatives demonstrates a growing need, or a growing recognition of the need, for management at a scale between local/community efforts and statewide programs implemented by state agencies. However, there is currently limited state support and no systematic effort to develop regional water management structures across Georgia.

To date, regional water management efforts in the state have varied widely in their genesis, initial approach, development, and accomplishments. This session is designed to explore five representative regional management initiatives. The goals of the session are to illuminate common and distinctive features and to identify ways to support and enhance efforts to manage water resources and watersheds at the critical regional scale.

## OVERVIEW

During the past decade, pressures on Georgia's water resources have increased in an unprecedented manner. With an average annual rainfall of 50 inches, the state has historically been considered "water-rich" and, given its extensive river basins and prolific aquifers, water scarcity has rarely been an issue.

Recently, however, Georgia has emerged as the fourth fastest growing state in the U.S. The state's booming economy and population growth have resulted in ever-increasing demands for domestic and industrial water use as well as increased capacity for wastewater treatment and discharge. Economic and population growth in metropolitan areas of the state has also resulted in urban nonpoint source impacts and stream degradation of increasing extent and severity.

At the same time, water demand has increased in rural areas, largely due to rapidly expanding agricultural irrigation driven by competitive pressures

in the agricultural sector (e.g., economies of higher yields, demands for higher quality). And, nonpoint source impacts in rural and developing areas have become a growing concern.

Concurrent with these increased demands, the state has seen intensifying cycles of prolonged and severe drought. The net result is a decrease in baseflow contributions to surface flows, groundwater moving down gradient, and storage in ponds and reservoirs. Less water, therefore, is available for instream uses including fish and wildlife habitat, waste assimilation, and recreation.

## REGIONAL VARIATION

These trends, however, have not developed uniformly across the state. Rather, pressures on water resources have varied regionally with variation in physiography, major land uses, and predominant economic sectors. Similarly, the consequences of increased pressures on water resources have manifested in substantially different ways in different regions of the state.

Water quality impacts have perhaps been most notable in the metropolitan Atlanta area, where point source discharges, development activities, and urban runoff have severely degraded streams. By 1998, over 1000 of the river/stream miles tested in the metro area did not support or only partially supported designated uses (CWI 2000). Management responses during the 1990s included moratoria on wastewater discharge expansions, development of local stormwater management programs, court-driven deadlines for compliance with water management statutes, and mandatory watershed assessments prior to permitting of new or expanded wastewater discharges. These watershed assessments, however, have generally been conducted along jurisdictional or service area boundaries rather than drainage boundaries (CWI 2000).

In southwest Georgia, in contrast, increasing irrigation withdrawals and on-going drought conditions have raised concerns that levels in the Upper Floridan aquifer will not be sufficient to protect existing water users and maintain adequate streamflow in the Flint River. The Georgia Environmental Protection Division (GAEPD) responded by placing a moratorium on new agricultural withdrawal permits as a stopgap measure, and the Flint River Drought Protection Act was passed as a mechanism to decrease irrigation withdrawals during drought periods.

In southeast Georgia, in turn, groundwater withdrawals from the Floridan aquifer system have led to significant water-level declines, encroachment of saltwater in the Hilton Head-Savannah area, and intrusion of saltwater at Brunswick and near Jacksonville (Krause 1997). In response, GAEPD is implementing an interim strategy for southeast Georgia that requires development of comprehensive local water supply plans in a 24-county area, imposes caps on groundwater use in four coastal counties, and requires reductions in groundwater use in Chatham County.

In other parts of the state, impacts to date have been more localized and/or less dramatic. Most regions, however, have considerable numbers of impaired streams and face concerns about the future ability to meet competing demands for water. From south-central to northeast to northwest Georgia, there has been growing attention to the impacts of land use on water quality, protection of resources that contribute to distinct regional identities, and the linkages between water resources and the economic and public health of different regions (Davis 2000).

Different regions of the state can be considered mesocosms that typify the challenges faced in effective water resource management, and that demonstrate the gaps in Georgia's water management system. The challenges include multiple arrays of competing interests: federal versus state interests, the interests of multiple states, the interests of different regions within the state, the interests of the diverse water users within a region, and human versus natural system interests.

Additional complications lie in a limited understanding of interconnectedness among human and ecological systems, and in the need to address demands and impacts that occur at multiple scales. The latter, in particular, presents a severe challenge for a management system that relies heavily on state authority but places control over land development primarily at the local level. Taken together, these factors contribute to the increasingly evident inadequacy of Georgia's current management system,

and highlight the growing importance of the regional level in future evolution of that system.

## REGIONAL RESPONSES

The recent update of Georgia's Nonpoint Source Management Program (GAEPD 1998) describes regional watershed management initiatives in the metro Atlanta area, the Lake Lanier watershed, Northeast Georgia, and Northwest Georgia. Since that time, initiatives in these parts of the state have continued to evolve and regional water or watershed management efforts have been undertaken across the state.

These regional water or watershed management initiatives have varied greatly on a number of dimensions, including the initiating event(s), primary sponsors or proponents, geographic scope, resource or management focus, and public and private sector roles. This session's panel discussion will explore five representative regional management initiatives:

- The Clean Water Initiative was convened by the Metro Atlanta Chamber of Commerce and the Regional Business Coalition in April 2000. This initiative brought business leaders, state and local officials, downstream representatives, and conservation advocates together to address water quality problems in the 10-county metro Atlanta region.
- The Southwest Georgia Water Leadership Summits were initiated in January 1999. The summits were initially organized by the Southwest Georgia Water Resources Task Force, a committee of public sector, private sector, and academic representatives, formed to encourage open discussion of water supply and water quality in a 30-county region. Five summits have been held to date, convening representatives of the agriculture, business, local government, public health, and conservation sectors to provide education about the region's water resources and water use, and to begin development of a regional water strategy.
- In the coastal area, the Georgia Environmental Protection Division has spearheaded regional water management, starting with development of a draft interim strategy for protection of the Upper Floridan aquifer in 1996. The interim strategy was finalized in 1997 and, in conjunction with a Technical Advisory Committee and groundwater user stakeholder groups, GAEPD is completing a long-term groundwater management plan for southeast Georgia.
- The Lake Allatoona Preservation Authority was established by state legislation in 1999. The

legislation provided for creation on a non-profit public corporation with the purpose of protecting Lake Allatoona. The Authority is composed of representatives from three counties adjacent to the lake, and seeks to restore water quality and protect beneficial uses now and in the future.

- The Conasauga River Alliance is an outgrowth of a basin study completed by the Natural Resources Conservation Service in 1996. The Alliance is a coalition of citizens, conservation groups, businesses and government agencies, and has formalized cooperative agreements with The Nature Conservancy. The Alliance focuses on protecting or improving water quality and habitat in the Conasauga River and its four-county watershed.

Panelists will describe specific aspects of each initiative, including the trigger(s), approaches taken in the formative stages, emerging structures and partnerships, major obstacles and strategies for addressing them, and support/assistance needs. Panelists will also discuss the implications these regional initiatives have for development of a statewide water management plan.

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