

Report for 2004GA57B: Decision Support for Georgia Water Resources Planning and Management

There are no reported publications resulting from this project.

Report Follows

PROGRESS REPORT FOR YEAR 1

Project Title: Decision Support for Georgia Water Resources Planning and Management

Duration: March 1, 2004 - February 28, 2006 (24 months)

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Executive Summary

The ninth biennial Georgia Water Resources Conference was held April 25-27, 2005, to provide a forum for discussion of Georgia water resources and information relevant to the state's initiative to prepare a comprehensive statewide water resources management plan. Over 25 government, professional, and citizen organizations served to co-sponsor the conference and organize sessions and panels with over 250 speakers in these general tracks: state water plan and policy, Atlanta area water issues, water conservation, instream flow and restoration, watershed protection and TMDLs, flood mapping and stormwater, groundwater, coastal water issues, and river basins including Savannah, Etowah, Flint, and Chattahoochee Rivers. The 2005 conference proceedings with 240 papers is available on CD and as printed volumes.

The conference included panels to discuss five state water policy issues selected by the Georgia EPD director: (1) protection of instream and downstream flows, (2) water quantity allocation/reallocation among users, (3) minimum aquifer levels protection policy, (4) water quality allocation (TMDL allocation policy), and (5) water conservation/efficiency and reuse policy.

The third day of the conference provided five all-day training courses on these topics: (1) Shared Vision Planning Approach – Linking Participation and Water Planning through a Technical Systems Model (by USACE-IWR), (2) ArcHydro – GIS for Water Resources, (3) Introduction to the Clean Water Act for Watershed Stakeholders (by USEPA-Region 4), (4) Water Quality Modeling using WASP software (by USEPA-ERL), and (5) Stormwater Management using Locally-Based Planning and Management Tools (by UGA-Engr); as well as (6) a workshop on government programs with technical assistance and/or funding for water resources planning and management (hosted by USACE-SAM).

Over 40 students from UGA and Georgia Tech provided assistance for the conference sessions, policy panels and training courses.

Main Project Elements

Georgia Water Resources Conference

The ninth biennial Georgia Water Resources Conference was held April 25-27, 2005, at the Georgia Center for Continuing Education, Athens, Georgia. In addition to its traditional purpose of providing a biennial forum for presentation and discussion of major water projects, issues, programs and research in Georgia, the 2005 conference was designed with an additional purpose -- to provide information relevant to the state's initiative to prepare a comprehensive statewide water resources management plan by 2008. The conference steering committee, which sets the goals and theme for the conference, consisted of representatives from the 5 main sponsors including USGS, NRCS, UGA, the director of the Georgia Water Resources Institute and the director of the Georgia Environmental Protection Division. The EPD director selected the conference theme, "Creating Georgia's Sustainable Water Future," and gave the plenary session presentation on Georgia's initiative to develop a comprehensive statewide water resources

management plan. Governor Sonny Perdue gave the keynote conference address on Georgia water resources.

In addition to the five main sponsors, the conference was supported by over 20 co-sponsoring organizations and a program committee of co-sponsor representatives, who organized 36 of the 70 sessions and panels presented at the conference, and provided exhibits and conference promotion. The conference agenda included over 250 speakers in 70 sessions, with sessions on the Etowah River, Savannah River, Chattahoochee River Basin, Flint River Basin, and Coastal Georgia. The session and panel topics, each with 3-5 speakers, are listed below with the session organizer indicated:

TRACK 1. STATE WATER PLAN AND POLICY

- + Water Allocation Legal Issues
- + Regional Water Plans in Georgia (GaEPD)
- + Plenary Session: Carol Couch, GaEPD Director
- + Panel: Perspectives on State Water Plan Process (GWC)
- + Panel: Policy on Water Allocation/Reallocation (UGA)
- + Poster and Exhibit Session (USDA-NRCS)
- Low Impact Development
- Integrated Water Resources Planning
- Legislative Update and Water Law
- Panel: Indicators of Sustainability (GaDNR-P2AD)
- Conflict Resolution
- ^ Technical and Financial Assistance Programs (USACE-SAM)
- ^ Technical and Financial Assistance Programs II (USACE-SAM)
- ^ Adopt-A-Stream Monitoring field demonstrations (GaEPD)

TRACK 2. ATLANTA AREA WATER ISSUES

- + Public Education and Awareness (ARC)
- + Atlanta Area Stream Quality
- + Metro District Water Plans Development (MNGWPD)
- + Metro District Water Plans Implementation (MNGWPD)
- Panel: ACF River Federal Water Requirements
- ACF River Basin Water Negotiations
- Sustainable Mgt w/Lake Lanier Reuse (GW&PCA)
- Atlanta Water Supply Issues
- Sewage Overflow and Infrastructure
- ^ Full-day Course on Basin Planning (USACE-IWR)

TRACK 3. INSTREAM FLOW AND RESTORATION

- + Instream Flow Guidelines for Georgia (TNC)
- + Instream Flow Studies (Entrix Inc.)
- + Panel: Policy on Instream/Downstream Flow Protection (UGA)
- + Streamflow vs Fish Distribution
- Aquatic Ecosystems
- Imperiled Aquatic Species (USFWS)
- Etowah River Habitat Conservation Plan (USFWS)
- Stream Restoration (USACE-SAD)
- Ecosystem Restoration
- ^ Full-day Course on Clean Water Act (USEPA Region4)

TRACK 4. FLOOD MAPPING, WATER CONSERVATION

- + Floodplain Mapping using GIS (AWRA-Ga)
- + GIS Applications in Water Resources (GaEPD)
- + River Flood Forecasting (NWS-SERFC)
- + Watershed Assessment
- Georgia Sustainability Initiative (GaDNR-P2AD)
- Water Conservation in Landscape (GWWC)
- Water Conservation
- Potable Water Reuse (GW&PCA)
- Panel: Policy on Water Conservation and Reuse (UGA)
- ^ Full-day Course on GIS Use for Water Resources (GaEPD)

TRACK 5. WATERSHED PROTECTION

- + Stream Riparian Buffers
- + Runoff Impacts to Stream Quality
- + Stream Quality Studies
- + Stream Data for TMDL Models
- Watershed Alliances and Education
- Watershed Management (USEPA Region4)
- Water Quality Permit Trading
- Panel: Policy on TMDL Allocation/Reallocation (UGA)
- TMDL Plans Development (USEPA Region4)
- ^ Full-day Course on Water Quality Modeling (USEPA-ERL)

TRACK 6. STORMWATER, SAVANNAH RIVER

- + Stream Channel Restoration
- + Adequacy NPDES Stormwater Regulations
- + Panel: Erosion & Sediment Control (ASCE-Ga)
- + BMPs for Runoff Control (ASCE-Ga)
- Gwinnett County Stormwater Program I (Gwinnett Co)
- Gwinnett County Stormwater Program II (Gwinnett Co)
- Savannah River Basin Models (USACE-SAV)
- Panel: Savannah River Basin Water Use GA/SC (USACE-SAV)
- ^ Full-day Course on Stormwater Management (UGA-Engr)

TRACK 7. GROUND WATER ISSUES

- + Conservation Tillage (SWCS-Ga)
- + Piedmont Ground Water Supply I (GGWA)
- + Piedmont Ground Water Supply II (GGWA)
- Education for Private Well Owners I (UGA-CES)
- Education for Private Well Owners II (UGA-CES)
- Irrigation Water Use in Georgia
- Flint River Basin Models
- ^ Surface and Ground Water Interactions
- ^ Coastal Ground Water Levels and Management
- ^ Panel: Policy on Minimum Ground Water Levels (UGA)
- ^ Savannah Harbor Dredging Effects on Ground Water
- ^ Ground Water Contamination

Workshops and Training Courses

The third day of the conference consisted of workshops and one-day training courses:

- * Workshop on Multiple Agency Programs with Technical Assistance and Funding for Water Resources Planning and Management, hosted by US Army Corps of Engineers-Mobile District.
- * Workshop on Adopt-A-Stream Monitoring (field demonstrations), by Georgia Environmental Protection Division, Adopt-A-Stream program www.riversalive.org/aas.htm
- * Course on the Shared Vision Planning Approach - Linking Participation and Water Planning through a Technical Systems Model, by US Army Corps of Engineers, Institute for Water Resources www.iwr.usace.army.mil
- * Course on ArcHydro: GIS for Water Resources, with application for the Upper Ocmulgee watershed in Georgia, by Dr. David Maidment, University of Texas, and Jack Hampton, PBSJ [48 seats in computer lab] Organized by Georgia Environmental Protection Division. <http://www.ce.utexas.edu/prof/maidment/>
- * Course on Introduction to Clean Water Act for Watershed Stakeholders, by US Environmental Protection Agency Region IV. www.epa.gov/r5water/cwa.htm
- * Course on Water Quality Modeling using WASP software package, by US EPA Environmental Research Laboratory, Athens. www.epa.gov/AthensR/research/modeling/wasp.html
- * Course on Stormwater Management using Locally-Based Planning and Management Tools, by University of Georgia, Biological and Agricultural Engineering Department.

Conference Co-Sponsors

The conference is sponsored by: U.S. Geological Survey, Georgia Department of Natural Resources, University of Georgia, Georgia Tech – Georgia Water Resources Institute, and USDA Natural Resources Conservation Service.

Additional co-sponsors include Georgia offices of:

- American Society of Civil Engineers
- American Water Resources Association
- American Water Works Association
- Association County Commissioners of Georgia
- Georgia Municipal Association
- Georgia Department of Community Affairs
- Georgia Forestry Commission
- Georgia Soil and Water Conservation Commission
- Georgia Pollution Prevention Assistance Division
- Georgia Water & Pollution Control Association
- Georgia Ground Water Association
- Georgia Lake Society
- Georgia Water Wise Council
- National Weather Service, SE River Forecast Center
- Natural Resources Conservation Service (SCS)
- Soil and Water Conservation Society

- Soil Science Society of Georgia
- The Georgia Conservancy
- Upper Chattahoochee River Keeper
- Water Environment Federation
- U.S. Army Corps of Engineers, Mobile/Atlanta/Savannah
- U.S. Environmental Protection Agency, Region 4
- U.S. Environmental Protection Agency, ERL
- U.S. Fish and Wildlife Service

Policy Panels

The conference program plans, which were outlined by the steering committee in summer 2004 to support the state's comprehensive water plan process, were modified in fall 2004 after Governor Perdue expressed his wish that the state water plan process would emphasize resolving state water policy issues that were discussed leading up to the legislation mandating the state water plan. To adjust to this new direction, the conference agenda added five water policy panels to cover several of the key state water policy issues:

1. Protection of Instream and Downstream Flows
2. Water Quantity Allocation/Reallocation among Users
3. Minimum Aquifer Levels Protection Policy
4. Water Quality Allocation (TMDL allocation policy)
5. Water Conservation/Efficiency and Reuse Policy

These five topics were selected for the conference by the chair of the Georgia Water Council (the EPD director), responsible for developing the state water plan (www.georgiawatercouncil.org). Each panel consisted of five panelists: a DNR-EPD representative (nominated by the EPD director) to summarize Georgia's current policy and procedures; three panelists representing diverse interest groups to summarize their group's desired policy choice and view of the pros/cons for the policy choices; and a technical or legal expert. The purpose of the panels was to begin a policy dialogue and provide information useful as background for the Georgia Water Council in considering several of the key state water policy issues facing Georgia. The panels were not intended to reach consensus or to make recommendations, only to provide useful background information about the difficult water policy issues, the policy choices available, and the pros/cons of each choice from the perspectives of the major groups concerned with the issue. The five panels discussions were held during the conference, with four of the interim panel papers included in the conference proceedings (see list under publications). The policy discussions will be continued with the major stakeholders, and extended versions of policy analysis papers for the five topics will be provided for the Georgia Water Council (www.georgiawatercouncil.org) in the second year of this project.

Student Participation

Over 40 students from the University of Georgia and Georgia Institute of Technology provided volunteer assistance to the conference. Thirty-six students served as moderator assistants during the conference sessions, operating the A/V equipment and lighting. Three students provided technical and computer assistance for the all-day training course on the ArchHydro software. Ten students provided research assistance during spring semester for the five water policy panels. The student chapter of American Water Resources Association organized the Monday evening event with speaker for the conference, and also organized the team of students who served as moderator assistants. One graduate student, funded by a research assistantship, helped with editing and peer reviewer correspondence for 200+ papers published in the conference proceedings.

Publications

Hatcher, Kathryn J. (editor), Proceedings of the 2005 Georgia Water Resources Conference, Volumes I and II, April 25-27, 2005, Athens, Georgia; sponsored by U.S. Geological Survey, Georgia Department of Natural Resources, USDA Natural Resources Conservation Service, Georgia Institute of Technology – Georgia Water Resources Institute, and The University of Georgia, Athens GA, 931 pages.

Bomar, Robert, Joel Cowan, Ciannat Howett, Kevin Farrell, David Newman, Kathryn Hatcher, “State Water Policy Alternatives for Water Allocation and Reallocation,” in: Proceedings of the 2005 Georgia Water Resources Conference, The University of Georgia, Athens GA, pp. 37-43.

Biagi, John, Jerry Ziewitz, Brian Richter, Bob Scanlon, Billy Turner, Kathryn Hatcher, “State Water Policy Alternatives for Instream and Downstream Flow Protection,” in: Proceedings of the 2005 Georgia Water Resources Conference, The University of Georgia, Athens, GA, pp. 270-278.

Keyes, Alice Miller, Cindy Daniel, Shana Udvardy, Brian Skeens, David Bennett, Kathryn Hatcher, “State Water Policy Alternatives for Water Conservation/Efficiency and Reuse,” in: Proceedings of the 2005 Georgia Water Resources Conference, The University of Georgia, Athens GA, pp. 459-468.

Williams, Vince, Curry Jones, Shana Udvardy, Bill White, Matt Harper, Candace Connell, Kathryn Hatcher, “State Water Policy Alternatives for TMDL Allocation and Reallocation,” in: Proceedings of the 2005 Georgia Water Resources Conference, The University of Georgia, Athens GA, pp. 567-575.

Tasks for Year 2:

Task 1: As a follow-up to the 2005 Georgia Water Resources Conference, the electronic version of the full conference proceedings (over 200 papers) has been provided to the Georgia Water Resources Institute for uploading to the GWRI website. The complete Table of Contents (1989-2005) for the Georgia Water Resources Conference will be updated; this is searchable by author, organization and keyword in a paper’s title. Authors for the 2003 and 2005 conferences will be provided the opportunity to add a web link to their papers in the Table of Contents for readers who wish to read about new developments on the paper’s topic. The electronic version of all back volumes of the conference proceedings (1989-2005) will be provided for the Georgia Water Resources Institute.

Task 2: Review of the state sediment and erosion control program and 319 grant program, with recommendations to the state EPD director for improving the program and for coordinating this program with the state’s existing river basin plans and the pending Statewide Comprehensive Water Plan.

Task 3: The work on the five water policy panel topics, selected by the EPD director, will be continued with further discussions with the major stakeholder groups to help them define their preferred policy alternatives. Extended versions of the policy analysis papers for the five panel topics will be provided for the Georgia Water Council in the second year of this project. The panels were not intended to reach consensus or to make recommendations, only to provide useful background information about the difficult water policy issues, the policy choices available, and the pros/cons of each choice from the perspectives of the major groups concerned with the issue.

Task 4: A survey and summary of information and training needs of water resources professionals in Georgia will be provided. A website will be set up to provide guidance and training materials for comprehensive water resources planning and management, both water quantity and quality, including examples of best practices.