

Upland Rainwater Banking:

An Alternative to Damming Larger Perennial Streams for Municipal, Industrial, and Agricultural Water Sources

Sponsors: The Butler/Cunningham Endowment to the Auburn University College of Agriculture; the Auburn University Water Resources Center, the Alabama Cooperative Extension System, the Alabama Agricultural Experiment Station, and the Alabama Farmers Federation

Purpose of the Conference

Rural Alabama is changing rapidly, and most rural residents no longer depend upon farming for a livelihood. The proportion of agricultural land is declining and the amount of forested land is increasing. Nevertheless, the population of some rural counties is increasing and this growth is occurring in some areas where the supply of water for municipal, industrial, and agricultural purposes is limited and cannot be increased by greater reliance on groundwater. During the recent drought in the Southeast, water supplies for some municipalities in Alabama and surrounding states fell to dangerously low levels. Water supply will be a major concern in the coming decades, and the only way of providing more water in some areas is to increase storage of surface water during periods of abundant rainfall for later use.

Large dams are not considered an environmentally-responsible way of increasing water supply, and many localities needing more water are remote from existing dams or sites where large, new dams could be located. Installation of series of smaller impoundments to capture overland flow from upland watersheds appears to have potential for increasing water supply with less effect on downstream flow than results from larger impoundments on major streams. Moreover, it is anticipated that landowners could be organized to construct complexes of small impoundments and provide water to municipal, industrial, or agricultural users for a fee. This would increase water supply in an environmentally-responsible manner and provide additional income to rural landowners.

The speakers at this conference will present information on issues related to small impoundments for capturing water for municipal, industrial, and agricultural use. The discussion that follows will allow participants representing a wide range of stakeholders to provide their suggestions and opinions. The organizers of this conference will prepare a summary of the conference, and after review by the presenters and participants, this document possibly will be used in efforts to promote the concept of water harvesting in small impoundments in Alabama and across the region.

Wednesday, January 21

8:30 – 9:30 **Registration and Breakfast**

9:30 – 12:00 PLENARY SESSION

Alabama's water needs, public perception of water supply, the rainwater banking concept, and issues related to permitting impoundments.

Moderated by Larry Fillmer

9:30 – 9:40 **Welcome** – Larry Fillmer, Executive Director, Auburn University Natural Resources Management and Development Institute

9:40 – 9:50 **Introductory Remarks** – Richard Guthrie, Auburn University Dean of Agriculture and Director of the Alabama Agricultural Experiment Station

9:50 – 10:20 **Assessing Alabama's water needs: Present and future** – Tom Littlepage, ADECA, Office of Water Resources

10:20 – 10:40 **Public perception of water supply in Alabama: Recent survey data** – Samuel R. Fowler, Director, Auburn University Water Resources Center

10:40 – 11:00 **Water banking: the concept, an example, and its potential** – Claude E. Boyd, Butler/Cunningham Eminent Scholar, Auburn University

11:00 – 12:00 **Keynote Presentation**
Developing and permitting new reservoir projects: Theory and reality – William Thomas Craig, Law Office of William Thomas Craig, Covington, Georgia

12:00 – 1:00 **Lunch**

1:00 – 5:20 RAINWATER BANKING SESSION

Technical issues related to installation of complexes of small impoundment water harvesting schemes and use of water from them.

Moderated by David Rouse (Head, Fisheries and Allied Aquacultures, Auburn University)

1:00 – 1:30 **The roles of geology and groundwater availability on development of water harvesting in Alabama** – Marlin Cook, Geological Survey of Alabama

1:30 – 2:00 **PL566 small watershed program in Alabama** – Perry Oakes, USDA, Natural Resources Conservation Service, Alabama

2:00 – 2:20 **Alabama irrigation water storage project** – Richard T. McNider, Earth System Science Center, University of Alabama-Huntsville

2:20 – 2:40 **An inventory of small impoundments in Alabama** – Philip Chaney, Geology and Geography, Auburn University

2:40 – 3:00 **Rainwater harvesting as an alternative to traditional new municipal water sources** – James D. Miller, Water Works and Sewer Board, Anniston, Alabama

3:00 – 3:20 **Break**

3:20 – 3:40 **Watershed cover, overland flow, and stream discharge** – Jim Vose, USDA Forest Service, Coweeta Hydrologic Lab, North Carolina

3:40 – 4:00 **Observations in changes in stream flow related to replacement of agricultural land by woodlands** – E. W. Shell, Fisheries and Allied Aquacultures, Auburn University (retired)

4:00 – 4:20 **Watersheds and water quality in small impoundments** – James L. Shelton, Jr. and Denise Carroll, D. B. Warnell School of Forestry and Natural Resources, University of Georgia

4:20 – 4:40 **An engineering perspective on water harvesting** – Bryan Duncan, Fisheries and Allied Aquacultures (retired), and K. H. Yoo, Biosystems Engineering, Auburn University

4:40 – 5:00 **Water quality standards and other requirements for public water supplies** – Lynn Sisk, Alabama Department of Environmental Management

5:00 – 5:20 **WWF water quality partnerships with land owners** – Aaron McNevin, World Wildlife Fund, Washington, D.C.

Thursday, January 22

8:00 – 9:00 **Breakfast**

9:00 – 2:30 WATER POLICY SESSION

Water rights, agricultural water use, state water plan, possible incentives for rainwater banking, stakeholder involvement in water use schemes, permitting of drinking water sources, environmental concerns about surface water use, and other issues related to small impoundment water harvesting schemes.

Moderated by Sam Fowler

9:00 – 9:45 **Water rights in Alabama: Emerging environmental challenges at the intersection of law and policy** – Bennett Bearden, Assistant Attorney General, Geological Survey of Alabama

9:45 – 10:30 **The importance of water in agriculture – A national perspective** – Don Parrish, American Farm Bureau Federation

10:30 – 10:50 **Break**

10:50 – 11:10 **The Legislature's efforts on developing Alabama's new water plan** – Hon. F. W. "Frank" McDaniel, State Representative 26 District (Marshall & DeKalb Counties) and member of the Permanent Joint Legislative Committee on Water Policy and Management

11:10 – 11:30 **Opportunities for agriculture – The Alabama agricultural perspective** – Mike Kilgore, Executive Director, Alabama Farmers Federation

11:30 – 11:50 **Conjunctive water use and its role in establishing water policy** – Todd Rasmussen, D. B. Warnell School of Forestry and natural Resources, University of Georgia

11:50 – 12:10 **Incentives for water harvesting** – Terry Hanson, Fisheries and Allied Aquacultures, Auburn University

12:10 – 12:30 **Thoughts on stakeholder issues related to water harvesting** – William Thomas Craig, Law Office of William Thomas Craig, Covington, Georgia

12:30 – 1:30 **Lunch**

1:30 – 1:50 **The watershed management authority concept** – Barbara Gibson, Choctawhatchee, Pea and Yellow Rivers Watershed Management Authority

1:50 – 2:10 **Permitting reservoirs as drinking water sources** – Dennis Harrison, Alabama Department of Environmental Management

2:10 – 2:30 **Environmental perspective on water banking** – Cindy Lowry, Alabama Rivers Alliance

2:30 – onwards: DISCUSSION SESSION

Comments on involving public action groups in water resource issues and open discussion about the pros and cons of complexes of small impoundments for increasing water supply.

Moderated by Teferi Tsegaye (Chair, Natural Resources and Environmental Sciences, Alabama A&M University)

2:30 – 2:45 Wendy Seesock, Alabama Water Watch

2:45 – 3:00 . Chris Boyd, Mississippi State Coastal Resource and Extension Center

3:00 – onwards **Open discussion**