Photograph courtesy of Mark Godfrey/TNC

Conservation Partnership Innovation

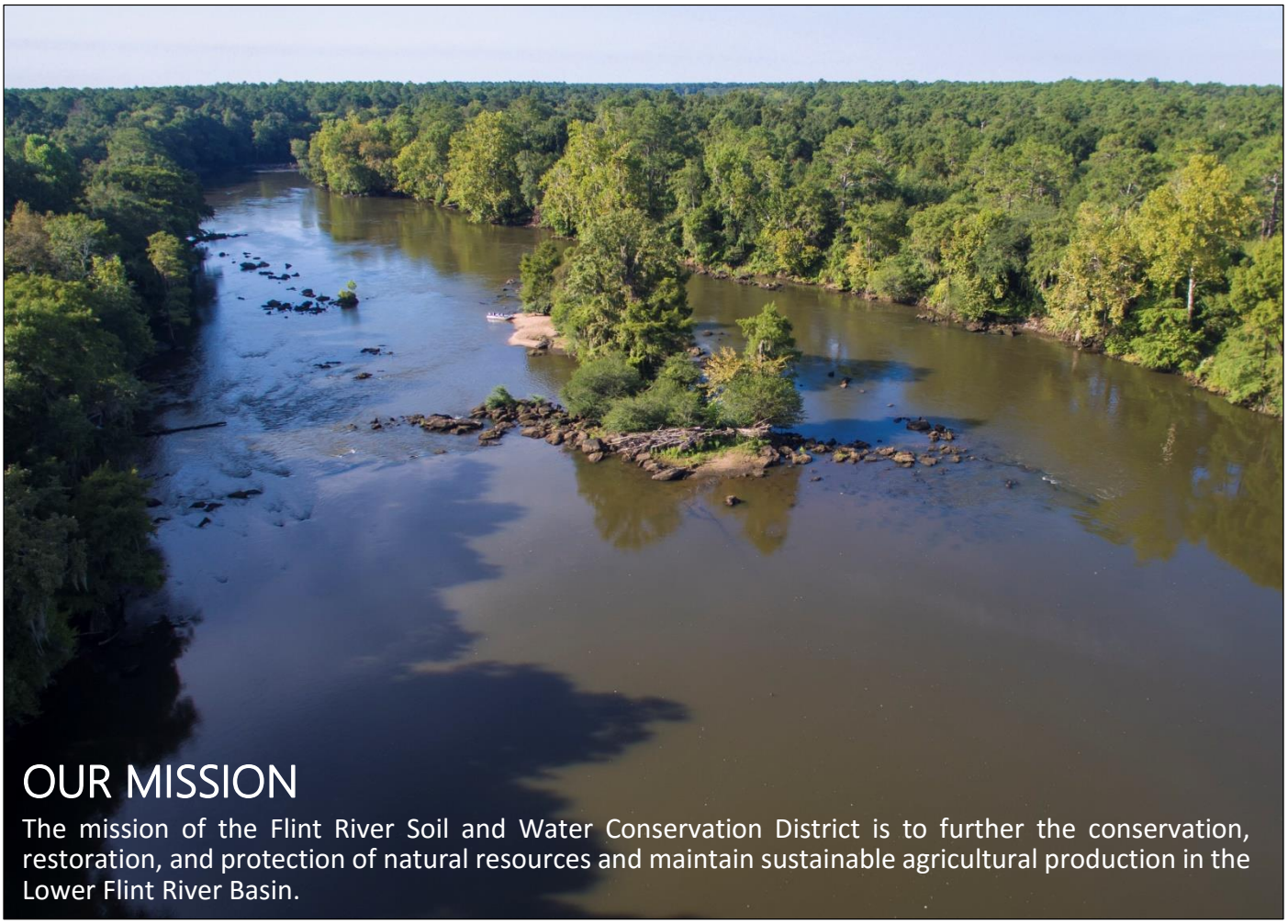
Annual Report

July 1, 2014 – June 30, 2015

FLINT RIVER
SOIL AND WATER CONSERVATION DISTRICT

ANNUAL REPORT

Conserving Natural Resources in Southwest Georgia for over 75 Years



Photograph coutresy of Matt Hanner

OUR MISSION

The mission of the Flint River Soil and Water Conservation District is to further the conservation, restoration, and protection of natural resources and maintain sustainable agricultural production in the Lower Flint River Basin.

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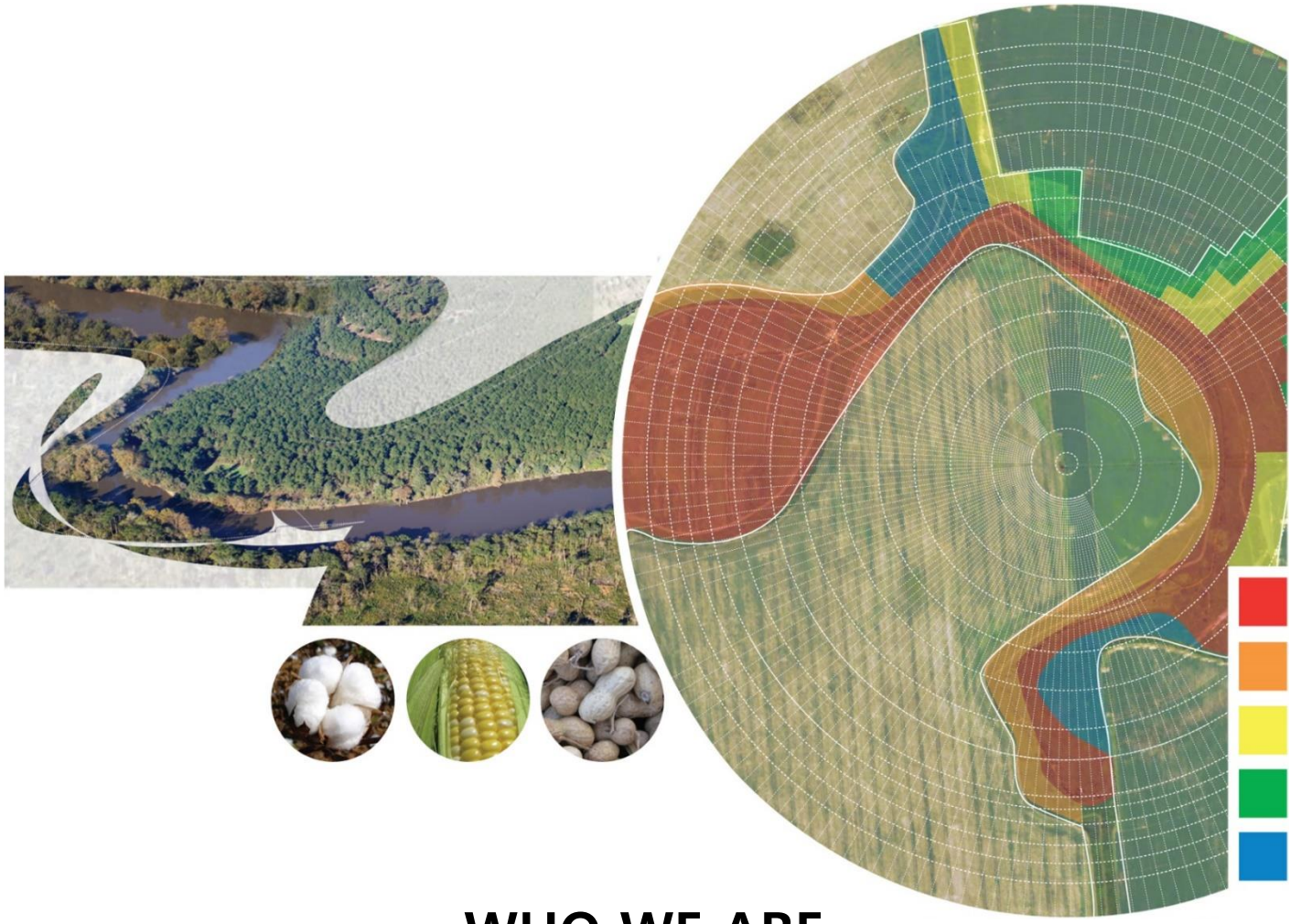
Photograph courtesy of Casey Cox

EXECUTIVE SUMMARY

July 1, 2014 – June 30, 2015

Harnessing conservation, partnership, and innovation, the Flint River Soil and Water Conservation District (SWCD) worked diligently toward conservation goals in 2014-2015, which are detailed in the following pages. The Flint District received the distinct honor of being selected to lead 2 out of 110 projects nationwide for the new USDA Natural Resources Conservation Service (NRCS) Regional Conservation Partnership Program (RCPP). The State and National RCPP projects will bring approximately $5 million in Federal funds for conservation throughout the region. Celebrating over 10 years of partnership, the Flint River SWCD, The Nature Conservancy of Georgia, and USDA-NRCS continued to build upon the success of the Flint River Partnership. Special pilot projects included irrigation scheduling, soil moisture monitoring, and the integration of aerial imagery through unmanned aircraft systems (or drones) in precision irrigation. The District also presented at meetings and conferences across Georgia, and hosted people from all over the country on field tours highlighting the District's conservation work. Continuing a longstanding commitment to conservation education, the Flint District sponsored multiple events in local communities such as the Wildlife Show, Natural Resources Conservation Workshop, FFA State Convention, and the Albany Water Festival.

INTRODUCTION



WHO WE ARE

The **Flint River Soil and Water Conservation District** was organized on July 22, 1939, and comprises **Baker, Calhoun, Decatur, Dougherty, Early, Grady, Miller, Mitchell,** and **Seminole** Counties. Two volunteers, or District Supervisors, from each county serve on the 18-member board. One Supervisor is elected by county voters for a four-year term; the other supervisor is appointed by the Georgia Soil and Water Conservation Commission for a two-year term. Over 370 supervisors serve in the state of Georgia. **The Flint River SWCD is dedicated to the stewardship of our natural resources for future generations and the exploration of conservation-driven technologies and strategic partnerships that enhance agricultural sustainability.**

INTRODUCTION

WHAT WE DO

Since 1939, the Flint River Soil and Water Conservation District has enhanced the conservation of soil, water, and natural resources in southwest Georgia.

For more than 75 years, local volunteers have worked to protect and conserve the natural resources essential to the region as Conservation District Supervisors. The origin of Conservation Districts derives from the Dust Bowl in the 1930's. Soil scientist Hugh Hammond Bennett threw back a curtain during congressional testimony on Capitol Hill to reveal a black, dusty sky and asked Congress to pass legislation declaring soil and water conservation a national policy and priority.

The USDA Natural Resource Conservation Service (NRCS), by written agreement with the Flint River SWCD, provides professional conservationists to help implement the District's long-term conservation program. The Flint River SWCD channels the services of the NRCS to cooperators – individuals, groups, and unit of government – and sets priorities for the type and amount of work.

Today, the Flint River Soil and Water Conservation District remains committed to natural resource conservation and stewardship. The Flint River is a valuable natural resource with environmental, economic, and cultural significance. The District is recognized as a national leader in agricultural water conservation efforts and technological innovation to drive efficient resource management. Please visit **flintriverswcd.org** to learn more about ongoing and past efforts to enhance conservation in agriculture.

BOARD OF SUPERVISORS

Farmers. Leaders. Stewards.

The Flint River Soil and Water Conservation District is comprised of farmers, landowners, and community leaders that are dedicated to the conservation, wise use, and protection of natural resources in the Flint River Basin.

Shane Kelley
Baker County

Chris Moore
Baker County

Marty McLendon*
Calhoun County

Graham Ginn
Calhoun County

Wayne Thomas
Decatur County

Pete Miller
Decatur County

Doug Wilson
Dougherty County

Richard Thomas
Dougherty County

Steve Singletary
Early County

Hal Haddock
Early County

John C. Harrell
Grady County

Jeffrey Brinson
Grady County

Louie Grimes
Miller County

Billy Roland
Miller County

David Holton
Mitchell County

Glenn Cox
Mitchell County

Steve Bailey
Seminole County

Greg Mims
Seminole County

***Chairman**

OBJECTIVES

CONSERVATION

Natural Resource Conservation

Work with government agencies and conservation organizations to plan, develop, and implement conservation programs.

EDUCATION

Conservation Education

Educate the public on the need for and importance of conservation by sponsoring seminars, programs, and events that focus on land and water conservation.

OUTREACH

Public Relations and Outreach

Create public awareness of District conservation programs and activities through outreach efforts.

Photographs courtesy of Casey Cox (top), Abby Davis (middle), and Mark Godfrey/TNC (bottom).

CONSERVATION

FLINT RIVER PARTNERSHIP

Photograph coutresy of Mark Godfrey/TNC

The **Flint River Partnership** is led by the Flint River Soil and Water Conservation District, USDA's Natural Resources Conservation Service, and The Nature Conservancy in cooperation with regional agricultural researchers and producers.

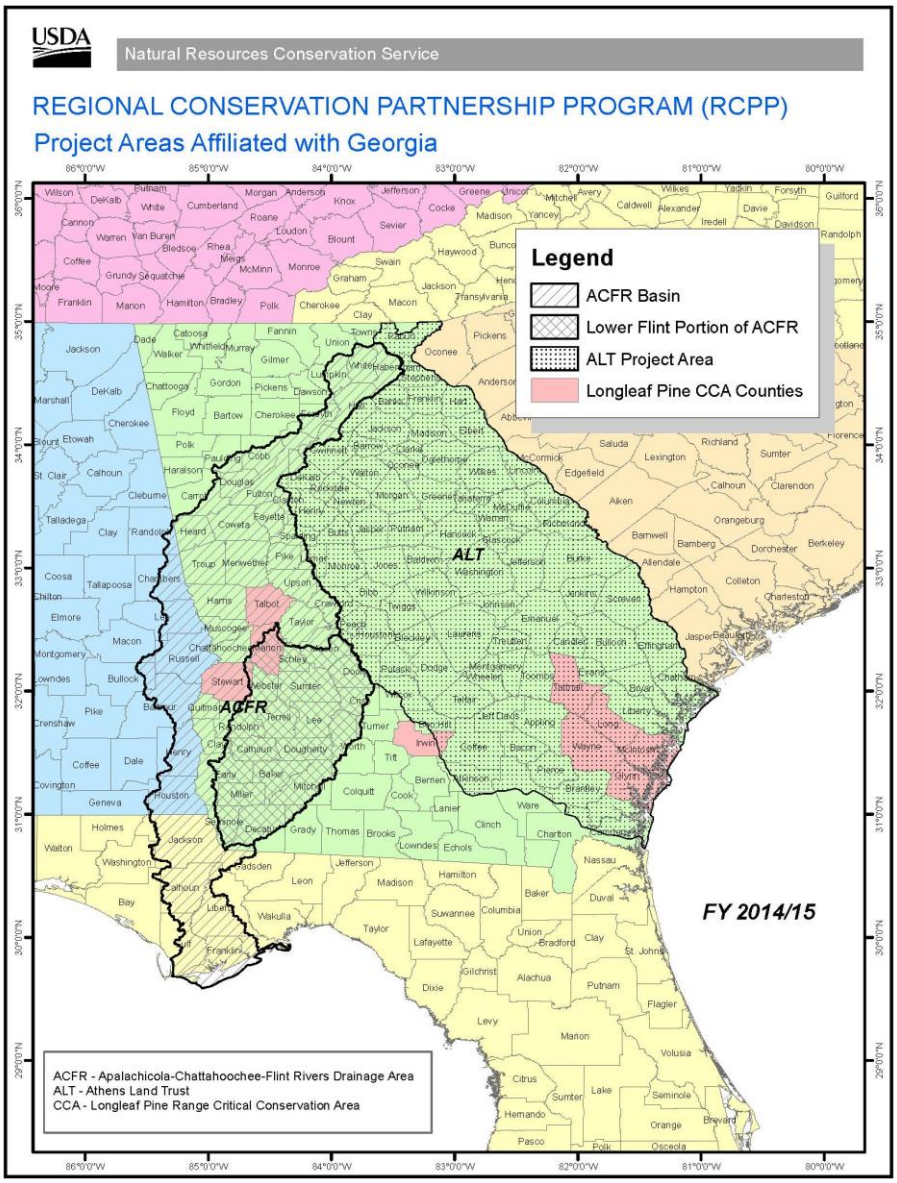
Formed in 2004, the Flint River Partnership has become one of the most innovative conservation initiatives in the country. Together, the Partnership has secured over **$18,000,000** in funding for conservation, applying best management practices on over **250,000 acres** of irrigated cropland in the Lower Flint River Basin.

OUR VISION

To advance innovation in both agriculture and conservation in order to preserve the region's natural resources for future generations and support local producers who contribute to the world's food, fiber, and fuel supply.

CONSERVATION

RCPP



Regional Conservation Partnership Program

The Regional Conservation Partnership Program (RCPP) is a 2014 Farm Bill Program administered through USDA's Natural Resources Conservation Service (NRCS) that harnesses partnership and innovation. The Flint River Soil and Water Conservation District is leading a National RCPP project involving Alabama, Florida, and Georgia as well as a State RCPP project for the Lower Flint River Basin in southwest Georgia.

The Flint River SWCD's RCPP projects are 2 of 110 projects selected nationwide in 2015.

CONSERVATION

NATIONAL RCPP PROJECT

Apalachicola-Chattahoochee-Flint Rivers Conservation Partnership for Alabama, Florida, and Georgia

The Flint River Soil and Water Conservation District's National RCPP project spans the Apalachicola-Chattahoochee-Flint River Basin with over 30 partners across Alabama, Florida, and Georgia. USDA-NRCS will provide $4,000,000 for the project, which will be administered through the USDA-NRCS Environmental Quality Incentives Program (EQIP) to provide financial and technical assistance to producers and landowners in the ACF Basin. The chief objective of this project is to assist regional producers and landowners in implementing NRCS conservation practices to enhance water conservation and water quality.

Flint River SWCD Chairman Marty McLendon and USDA-NRCS Georgia State Conservationist Terrance Rudolph sign the new RCPP agreements on May 7, 2015 (photograph courtesy of Ron Morton/USDA-NRCS).

CONSERVATION

STATE RCPP PROJECT

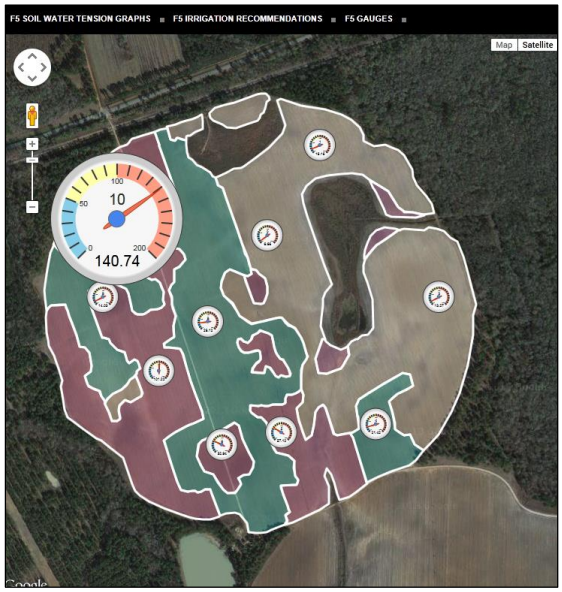
Enhancing Conservation in the Lower Flint River Basin of Georgia

The Flint River Soil and Water Conservation District's State RCPP project targets agricultural water conservation in the Lower Flint River Basin in southwest Georgia. The project will focus on enhancing irrigation water management in southwest Georgia. The principal goals of this project are to increase agricultural water use efficiency on irrigated cropland in the Lower Flint, incorporate innovative precision irrigation methods into the project, and sustain natural resources for future generations of producers in southwest Georgia.

The State RCPP will focus on enhancing agricultural water conservation through efficient irrigation practices (photograph courtesy of Calvin Perry/UGA).

CONSERVATION

Variable Rate Irrigation in operation at a CIG field site (photograph courtesy of Matt Hanner).



Irrigation Management zones with soil moisture gauge data from the UGA Smart Sensor Array web interface.

2011 Conservation Innovation Grant

Irrigation Automation to Improve the Efficiency of Water Resource Management in Row Crop Production and Maintain Aquatic-Based Ecosystem Services in the Lower Flint River Basin of Georgia

In 2011, the Flint River Soil and Water Conservation District was awarded a USDA-NRCS Conservation Innovation Grant (CIG), which concluded in **September 2014**. During the growing seasons of 2012, 2013, and 2014, the Flint River project team oversaw the installation of 10 variable rate irrigation (VRI) systems and 100 soil moisture sensors on approximately 2,000 acres of irrigated cropland in the Lower Flint River Basin of Georgia. All 10 VRI systems were equipped to update irrigation rate maps remotely, and the remote soil moisture monitoring (RSMM) data was organized and streamed to the web through the University of Georgia (UGA) Smart Sensor Array (SSA) network.

Through this CIG, the project team made significant innovative accomplishments toward irrigation automation and connecting real-time soil moisture data with variable rate irrigation application.

CONSERVATION

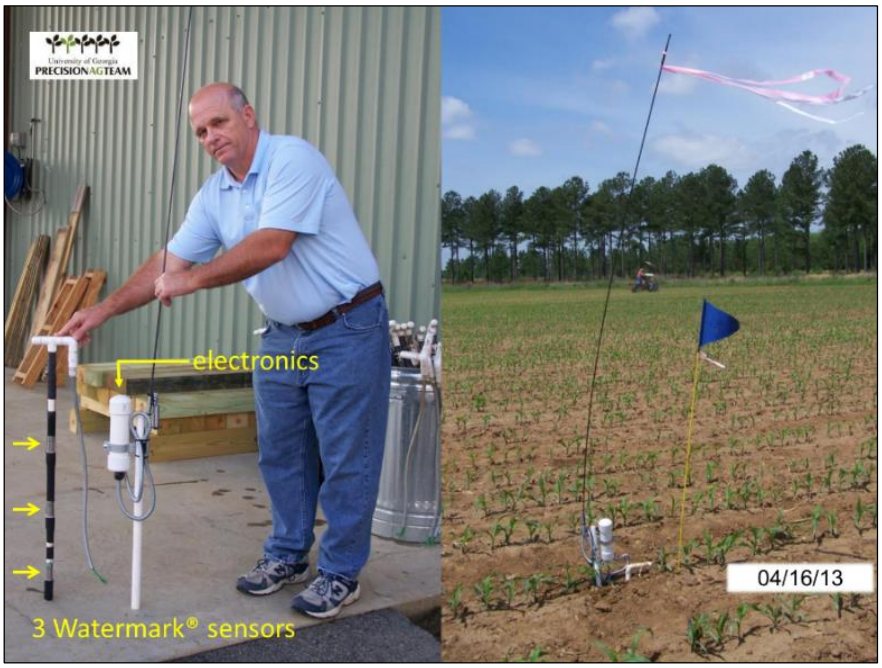
2011 CONSERVATION INNOVATION GRANT

Scientists conducted aquatic habitat monitoring during this CIG (top). A center pivot system retrofitted with VRI technology (middle). An endangered mussel species found in the Lower Flint River Basin (bottom).

PROJECT TEAM

CIG project partners include the University of Georgia, as well as the, USDA Agricultural Research Service (ARS) National Peanut Research Lab in Dawson, Georgia, who have spent 20 years developing the Irrigator Pro irrigation scheduling model, which the project team utilized for this project. In addition to the work done by the UGA team, aquatic habitat monitoring was conducted by a team of scientists from the Joseph W. Jones Ecological Research Center at Ichauway. Another component of the grant was a geographic information systems (GIS) mapping project to determine the potential application of VRI throughout the Lower Flint River Basin in collaboration with the Geospatial Analysis Planning and Preservation Center at Thomas University.

CONSERVATION



Mr. Mike Tucker demonstrates the UGA Smart Sensor Array Node (left); the SSA node in the field (right). (Photographs courtesy of Dr. George Vellidis/UGA)

2013 Conservation Innovation Grant

The Flint River Soil and Water Conservation District continued work on the Conservation Innovation Grant (CIG) awarded by USDA-NRCS in 2013. The purpose of the CIG is to develop and deploy low-cost irrigation scheduling technology that can easily and inexpensively be adopted to assist producers in optimizing irrigation scheduling in the Lower Flint River Basin of Georgia. The Flint River SWCD is working with UGA and the USDA-ARS National Peanut Research Lab on this CIG.

VSG Unmanned launches a drone at the UGA Stripling Irrigation Research Park. (Photograph courtesy of Casey Cox.)

Drone Project

Throughout 2014 and 2015, the Flint River SWCD partnered with UGA and unmanned aircraft system (UAS) provider VSG Unmanned to explore the possibility of enhancing precision irrigation with aerial imagery. The District sponsored and received a Certificate of Waiver or Authorization from the Federal Aviation Administration to perform drone flights on southwest Georgia fields in the summer of 2015. The District looks forward to advanced innovation in this field and the opportunity to apply the technology for conservation purposes.

CONSERVATION

Mobile Irrigation Lab

In partnership with USDA-NRCS, the Flint River SWCD provided technical assistance to area producers through a Mobile Irrigation Lab. The purpose of the Flint River SWCD's Mobile Irrigation Lab is to evaluate the uniformity of the center pivot irrigation systems by testing the sprinkler application rates of the system. Abby Davis, hired in October 2014, is the District's new Irrigation Efficiency Coordinator.

Coca-Cola Replenishment Project

In partnership with Coca-Cola, the Flint River SWCD sponsored a soil moisture monitoring demonstration project for two producers as well as the Sunbelt Ag Expo. Coca-Cola has supported conservation efforts in the Lower Flint River Basin since 2007 as part of their Global Water Sustainability Replenishment commitment.

GACDS Agreement

The Flint River SWCD, by agreement with the Georgia Association of Conservation District Supervisors (GACDS), provided assistance to the USDA-NRCS field offices in Morgan, Newton, and Camilla throughout 2014 and 2015.

Photographs courtesy of Calvin Perry/UGA (top) and Casey Cox (middle, bottom).

EDUCATION

Steve Hein and Scott Courdin from GSU teach students about birds of prey. Photographs courtesy of Casey Cox.

WILDLIFE SHOWS

The Flint River Soil and Water Conservation District partnered with the Georgia Southern Center for Wildlife Education in March of 2015 to bring conservation (and critters) to the classroom. Students at four schools in the Flint River District counties had the exciting opportunity to connect with nature and experience wildlife through this educational program. Steve Hein and Scott Courdin from Georgia Southern introduced the students to birds of prey, reptiles, and insects many children (and adults!) do not have the opportunity to see in the wild.

EDUCATION

Madison Scarborough from Pike County was awarded the Flint River SWCD's $500 scholarship at NRCW in 2015.

Anders Austinson of Decatur County won the Georgia Chapter of American Public Works $1,000 scholarship at NRCW in 2015.

Natural Resources Conservation Workshop

The Flint River SWCD supported the annual Natural Resources Conservation Workshop (NRCW). NRCW is a week-long camp for high school students in Georgia to experience natural resource education in the classroom and the field. The District sponsored local students attending the workshop. One student from the District, Anders Austinson of Decatur County, won a $1,000 scholarship from the Georgia Chapter American Public Works (pictured left, bottom). The District also sponsored a $500 scholarship, which was awarded to Madison Scarborough of Pike County (pictured left, top).

EDUCATION

MITCHELL COUNTY FARM BUREAU AG DAY

The Flint River SWCD supported local Mitchell County Farm Bureau Ag Day on May 6, 2015. Marlina Tonge demonstrated the importance of healthy soil for water quality, and led students in taking the "Conservation Pledge." Students also had the chance to see aquatic species of the Flint, courtesy of the Jones Ecological Research Center Aquatic team.

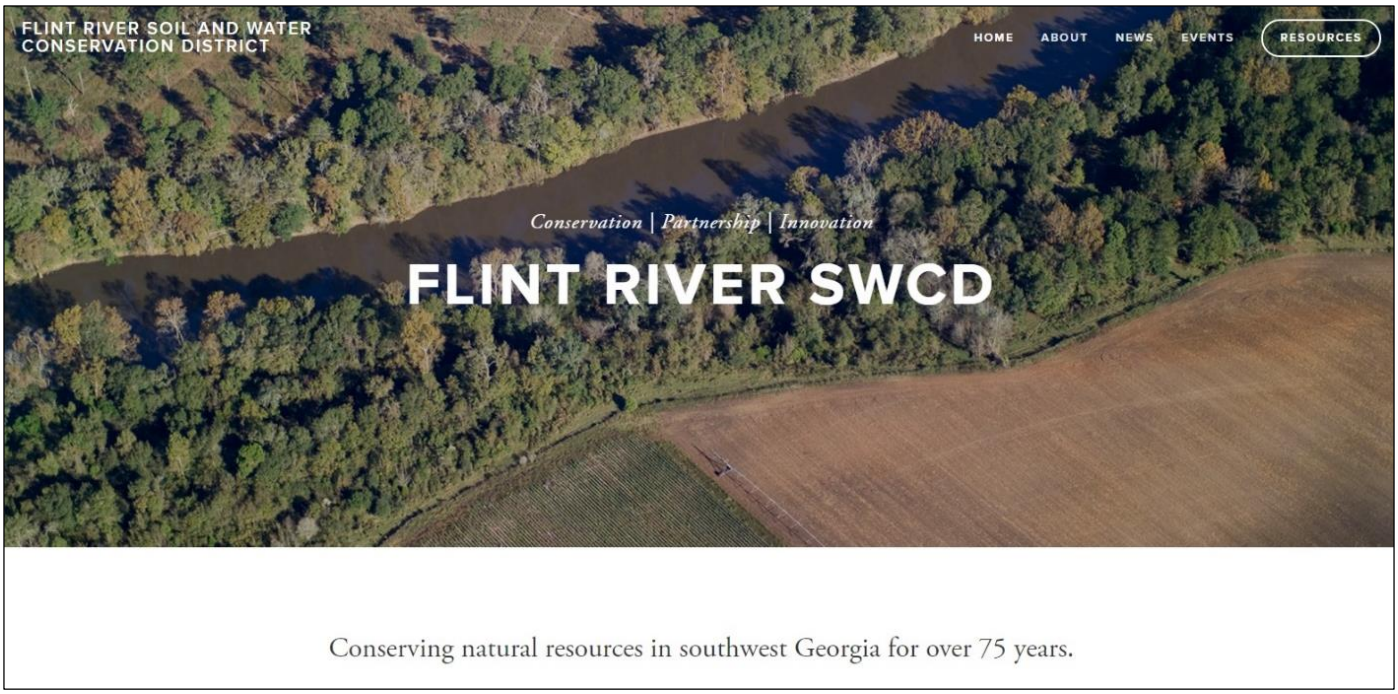
SPONSORSHIPS

The Flint River SWCD sponsored the Georgia FFA Wildlife Production and Management Proficiency Awards Program for the 2015 FFA State Convention.

The Flint River SWCD sponsored the Albany Water Festival for local elementary students. Marlina Tonge also volunteered in partnership with USDA-NRCS volunteers.

OUTREACH

FLINTRIVERSWCD.ORG



NEW WEBSITE

The Flint River Soil and Water Conservation District launched a new website in April 2015. The website includes a "News" tab with a blog about current District activities, and soon will include conservation tools such as technical guides and videos.

Follow us on Twitter!

@FlintRiverSWCD

OUTREACH

All photographs courtesy of Casey Cox.

FIELD TOURS

The Flint River Soil and Water Conservation District hosted Coca-Cola and its partners throughout the year, including visitors from Coca-Cola (top left), McDonald's (top right), and The Nature Conservancy - Nebraska Chapter (bottom right).

OUTREACH

RCPP Special Events

For the announcement of the two selected RCPP projects, USDA-NRCS hosted two special events. USDA Undersecretary for Natural Resources and the Environment Robert Bonnie attended the January event in Forsyth. USDA-NRCS leaders and project partners from all three states joined local leaders in Columbus in May for a signing ceremony.

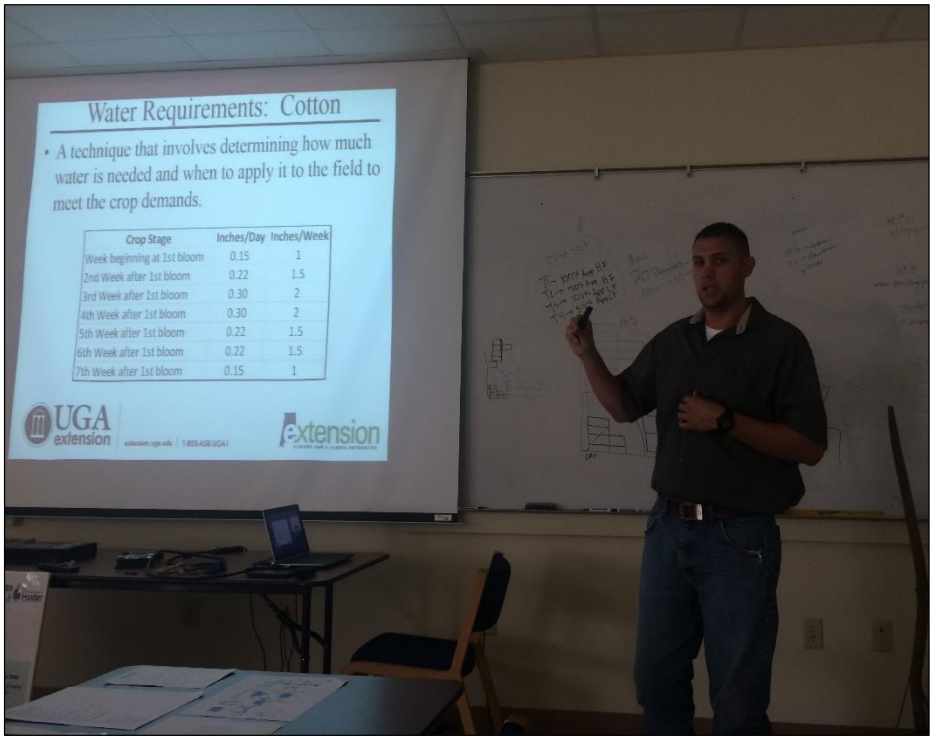
USDA-NRCS State Leaders, Congressman Sanford Bishop, and Flint River SWCD Chairman listen as guests speak in Columbus (top). Casey Cox (Flint River SWCD) addresses the audience at the RCPP signing ceremony (middle). USDA Undersecretary for Natural Resources and the Environment Robert Bonnie speaks to the RCPP recipients in January in Forsyth (bottom left). USDA-NRCS Associate Chief of Conservation Leonard Jordan discusses the National RCPP project in Columbus (bottom right). Photographs courtesy of Ron Morton/USDA-NRCS.

OUTREACH

Mr. Rad Yager of Certified Ag Resources demonstrates soil moisture monitors to the attendees of the Sunbelt Ag Expo in July 2014.

SUNBELT AG EXPO

The Flint River Soil and Water Conservation District sponsored the Sunbelt Ag Expo's WiFi network and also sponsored a soil moisture monitoring demonstration at Spence Field.



Dr. Wesley Porter of UGA discusses precision irrigation at a workshop in Camilla in May 2015.

IRRIGATION WORKSHOPS

The Flint River SWCD hosted an Irrigation Technology Workshop in May 2015 with guest speakers Dr. Wes Porter and Calvin Perry of UGA, and Zach Gibbs with USDA-NRCS. In June, the District sponsored the Marion County Young Farmers meeting to discuss Precision Irrigation with Dr. Wes Porter and Tracy Watson from USDA-NRCS.

OUTREACH

INVOLVEMENT

JULY 2014 – Presented to environmental leaders from across Georgia for the Institute of Georgia Environmental Leadership (IGEL) program during the southwest Georgia session.

AUGUST 2014 – Presented at the Georgia Environmental Conference with Coca-Cola discussing the value of partnership.

JANUARY 2015 – Attended the GACD Annual Meeting in Columbus, GA.

FEBRUARY 2015 – Attended NACD Annual Meeting in New Orleans, LA.

MARCH 2015 – Presented at Ocmulgee River Soil and Water Conservation District workshop in Hawkinsville, GA.

APRIL 2015 – Supported and participated in the GACD legislative reception at the Capitol.

- Maintained membership in the Georgia Association of Conservation Districts (GACD) and National Association of Conservation Districts (NACD).
- District Supervisors Steve Bailey, Steve Singletary, Hal Haddock, and Flint River Partnership Director Casey Cox were appointed to serve on the Lower Flint-Ochlockonee Regional Water Planning Council.
- Participated in the Georgia Environmental Protection Division (EPD) advisory committee for the new water use efficiency standard from Senate Bill 213 (Drought Protection Act).

HALL OF FAME

GACD HALL OF FAME

District Supervisor Steve Singletary was inducted into the Georgia Association of Conservation Districts (GACD) Hall of Fame in January 2015, pictured above with GASWCC Chairman Garland Thompson. **Mr. Singletary has served as a Flint District Supervisor for over 37 years!**

PERSONNEL

Marlina Tonge

Soil Conservationist Assistant

Luke Crosson

GASWCC Regional Representative

Casey Cox

Executive Director

Judy Harrell

Conservation Coordinator

Abby Davis

Irrigation Efficiency Coordinator

SUPPORT

The Flint River Soil and Water Conservation District thanks all of our partners and collaborators who support conservation efforts in the Flint River Basin.

USDA United States Department of Agriculture
Natural Resources Conservation Service

The Nature Conservancy

GSWCC

C.M. Stripling IRRIGATION RESEARCH PARK

THE UNIVERSITY OF GEORGIA
COLLEGE OF AGRICULTURAL & ENVIRONMENTAL SCIENCES

Coca-Cola

GOLDEN TRIANGLE RC&D
Resource Conservation and Development Council

USDA United States Department of Agriculture
Agricultural Research Service
National Peanut Research Lab

CONTACT

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Photograph courtesy of Mark Godfrey/TNC