



ENVIRONMENTAL PROTECTION DIVISION

Jeffrey W. Cown, Director

Watershed Protection Branch

2 Martin Luther King, Jr. Drive
Suite 1470A, East Tower
Atlanta, Georgia 30334
404-463-1511

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To: Jeffrey W. Cown *JWC*
John Eunice *JE*

From: Anna Truszczynski
Wei Zeng
Cliff Lewis
Marjie Roquemore
Edward Rooks

Re: Evaluation of the 2012 Suspension of Consideration of Agricultural Withdrawal Permits in portions of the Lower Flint and Chattahoochee River Basins

In 2012, then Environmental Protection Division (EPD) Director Judson Turner issued a memo suspending the consideration of agricultural water withdrawal permits in portions of the Lower Flint and Chattahoochee River Basins from surface waters and the Floridan aquifer. The suspension allowed EPD time to improve the understanding of the condition of those resources and identify the management activities necessary for long-term sustainability. In that memo, then-Director Turner directed EPD staff to evaluate the suspension annually. This memo provides a recommendation and summarizes EPD's evaluation of the 2012 suspension.

Recommendation: In this evaluation, the Watershed Protection Branch does not recommend lifting the 2012 suspension. The Watershed Protection Branch recommends:

1. maintaining and exploring limited modifications to the 2012 suspension, such as frost protection permitting;
2. building a technical understanding of the impact of various interventions in the basin, such as source switching; and
3. using the Habitat Conservation Plan process to initiate stakeholder discussion to develop permit conditions for new and modified permits where additional capacity exists.

These recommendations are further discussed in the "What is next?" section of this memo.

Summary of water data and modeling activities.

Irrigated acreage data. Georgia started mapping irrigated acreage in 1999. Because irrigated acreage changes over time, Georgia continues to map irrigated acreage. The Georgia Water Planning and Policy Center at Albany State University (GWPPC) maintains the statewide database of wetted acres, which includes irrigated acres, the water source, the use of conservation and irrigation efficiency technology, and the number of acres wetted by hardware and endgun throw. This database was updated in 2023.

Water use (metering) data. The State collects readings from meters on irrigation systems statewide. EPD obtains annual readings of all metered systems to capture the total amount of water applied during a growing season. The readings are associated with the acreage on which water is applied. Some sites provide monthly readings. These monthly reading sites provide an intra-annual pattern that can be used to distribute the annual volume of water used into different months. Telemetry is a new tool that collects farm water use information without the need for EPD personnel or contractors to frequently visit farms. This tool provides EPD with high quality data that can further refine the intra-annual pattern of water use.

Modeling. A groundwater model known as Jones-Torak 2006 was used to reliably assess impacts from pumping from the Floridan Aquifer on the Flint River and its tributaries. Recently, EPD developed the Basin Environmental Assessment Model. This model covers all Georgia's river basins and provides much finer spatial resolutions than previously developed tools. Surface stream flows can be assessed at long-term USGS gages, permitted withdrawing facilities, flow regulating projects, and permitted discharge facilities.

What has this data taught us about agricultural water use?

Georgia's continuous investment in mapping irrigated acreage and documenting the scale of irrigation provides evidence of farmers' commitment to transparency and efficient water use. Tracking water sources, conservation efforts, and irrigation technology in the statewide database further documents farmers' dedication to sustainable practices. This data indicates a commitment among agricultural water users to sustainable water usage. Nearly 90% of the center pivot systems in the basin can be considered highly efficient: 58.6% are low pressure systems with nozzles on drops and 30.9% are low pressure systems with nozzles on booms. Expressed in terms of acreage, nearly 93% of the acres are irrigated with highly efficient systems.

How does this data inform water management?

Georgia is evaluating revisions to the 2012 suspension because of the decades-long collection of irrigated acreage and water use data and the development of modeling tools to assess associated impacts on surface water and groundwater resources. Good data and models are a solid foundation for reliable assessments of water use and its impact. Good data and models mean that any modifications to the 2012 suspension will be protective of the resource, protective of existing users, and scientifically defensible. Georgia has faced several legal challenges to water use, most notably at the Supreme Court. Georgia's success in those legal challenges can be attributed, at least in part, to informed water management decisions based on good data and models.

What is next?

Frost Protection. EPD started accepting applications for frost protection permits for water withdrawals from the Floridan aquifer for withdrawals in the green zone of the suspension area starting September 1, 2023. EPD has received two applications for 70 new acres irrigated from the Floridan Aquifer in the Green Zone – one in Mitchell and one in Baker County. Farmers in the yellow and red zones of the suspension area can submit Letters of Interest to EPD. So far, EPD has received 16 Letters of Interest for 165 new acres in the red zone, all in Baker County. EPD has not received any Letters of Interest for the yellow zone.

Action items: EPD will continue to accept applications for frost protection permits for water withdrawals from the Floridan aquifer for withdrawals in the green zone. EPD staff have begun reviewing and evaluating the Letters of Interest to determine the potential impact in the yellow and red zones from frost protection permitting. EPD is targeting 2024 to make a recommendation on red and yellow zone frost protection permitting. EPD will work with stakeholders throughout this review process.

Source switching. In February 2022, GWPPC and EPD received funding for an alternate source project in the suspension area. The project aims to use deeper aquifers as alternative irrigation sources during drought times to reduce the stress on surface waters while providing farmers with reliable water supply. Preliminary results are encouraging, showing significantly increased stream flow, more reliable irrigation from groundwater sources, and limited and temporary impact on the deeper groundwater sources.

Action items: EPD will continue to provide technical support for the source switching project, including running models showing the impacts of source switching in the project area.

Habitat Conservation Plan. The State of Georgia, with support from the GWPPC, is developing a Habitat Conservation Plan and plans to apply for an Incidental Take Permit for agricultural water use in the lower Flint River Basin. The Habitat Conservation Plan will be based on technical hydrologic and biological information and include actions that will protect surface water flows and water quality in the lower Flint River Basin. The Habitat Conservation Plan provides a comprehensive way of revising the suspension and developing an informed and defensible water management approach, particularly for drought. The development of a Habitat Conservation Plan includes technical activities that will provide important information about capacity; where capacity exists, new and expanded permits could be considered.

Action items: EPD will use the Habitat Conservation Plan process to identify areas of additional capacity and make recommendations for additional modifications to the 2012 suspension. EPD will also use the Habitat Conservation Plan process to develop recommendations for permit conditions for new and expanded permits in the suspension area.