RiverFronts

July 2012

# Groundwater levels rebound in some, but not all areas

Groundwater levels in most regions within the Suwannee River Water Management District (District) have rebounded following record rainfall, courtesy of tropical storms Beryl and Debby. But the eastern and extreme southern portions of the District are still experiencing low and extremely low groundwater levels, and many counties still have 12-month rainfall deficits of as much as 15-20 inches.

"There were significant improvements in many areas of the District and those improvements are on-going," said Megan Wetherington, District senior professional engineer. "Other areas did not recover greatly due to the severity of the drought."

Consequently, District Executive Director Ann Shortelle said it is premature for the District to lift a water shortage order that was declared just weeks before the arrival of the tropical storms and which remains in effect through Sept. 30.

"We certainly understand that in our flooded counties, water conservation may be the furthest thing from most people's minds," said Shortelle. "But in other regions of the District groundwater levels remain low and we should all remember that water conservation is vital to protecting our water resources."

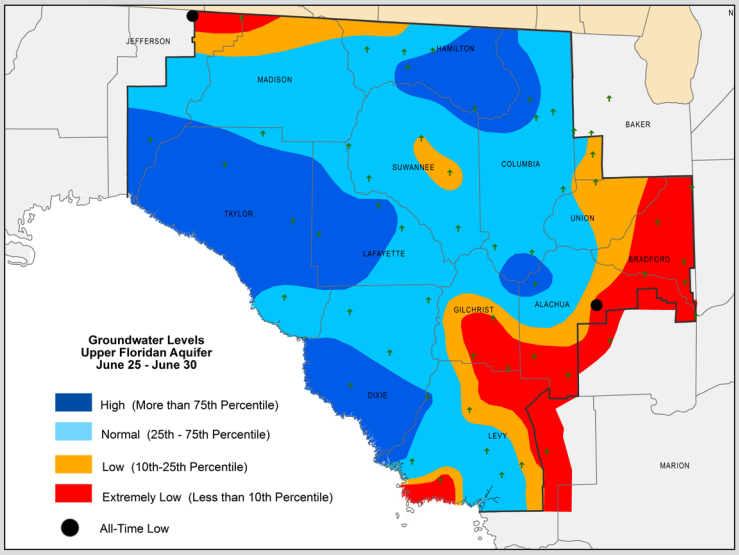
District staff will continue to monitor conditions until longer-term effects of the tropical storms are evaluated and then will make recommendations regarding continuation of the water shortage accordingly, said Shortelle.

Tropical Storm Debby brought up to 26 inches in three days. Average rainfall in the District in June was 18.37 inches, the highest monthly average on record. In the 36 days between May 26 and June 30 – the time period of Tropical Storms Beryl and Debby – a portion of Suwannee and Lafayette counties received up to 48 inches, almost a typical year's amount of rain.

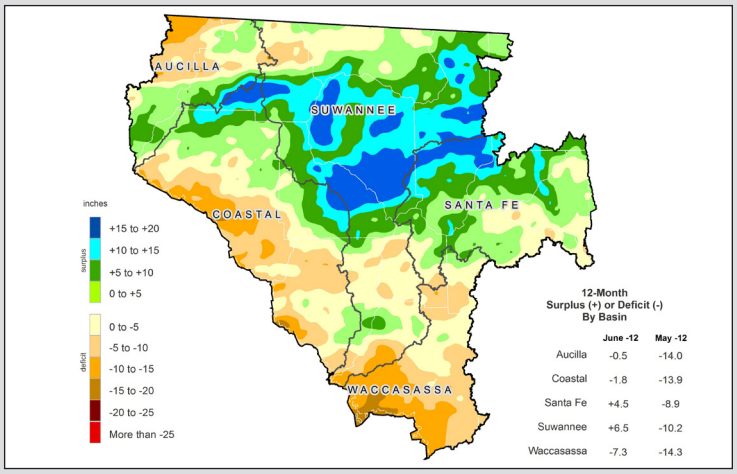
The majority of rainfall fell in the central areas of the District. Portions of Suwannee, Columbia, and Lafayette counties received up to 33 inches in June. The coastal and outlying areas in the District received as little as 9 inches for the month.

Some areas on the Upper Suwannee River and many lakes and tributaries of the Santa Fe River experienced major flooding. The Suwannee River at White Springs rose 32 feet in two days, cresting at almost 85.3 feet. The New River near Lake Butler and the Santa Fe River at Worthington Springs crested with the highest stage since 1992 and both exceeded the 10 percent flood.

By the end of June, levels in all but two District monitor wells had risen. Wells near the Suwannee and Santa Fe rivers rose to their highest levels since previous floods. Eighteen percent of monitor wells were above normal, 34 percent were normal, 13 percent were below normal, and 34 percent were in the lowest 10 percent of records.




**LEFT: Groundwater levels for June 25-30, 2012.**




**LEFT: June 2012 12-month rainfall deficit by river basin.**

# Meet the new executive director

**Shortelle**

On June 12, the Suwannee River Water Management District Governing Board appointed Dr. Ann Shortelle as the new executive director. Shortelle began the job on June 18.

Shortelle has more than 20 years experience in water resource restoration, water quality, water supply, water conservation, and related disciplines in Florida and holds a Ph.D. in limnology and a B.S. in biology.

Prior to joining the District, she served as the director of the Office of Water Policy for the Florida Department of Environmental Protection (DEP) where she helped develop water policy for water supply planning and alternative water supplies, minimum flows and levels, water reuse, water conservation, water quality, and consumptive use permitting.

"I'm looking forward to working with the experienced staff, knowledgeable governing board, and interested stakeholders as we address the water-related challenges facing our District," she says.

# Nutrient study on local farm will protect and save water

Suwannee Farms, an agricultural operation that produces cattle, vegetables, and forage crops in Suwannee County, is dedicated to reducing nutrient losses to the environment while conserving water in the process.

The farm is participating in a three-year study to determine the effects of nutrient recycling on its operation. The study is evaluating nutrient imports to the farm – such as manure, feed and fertilizer – and nutrient exports – such as crop products and beef that leave the farm, atmospheric loss, and nutrients that might leach into groundwater. Soil, crops, and water are analyzed for nutrient concentrations – all to determine how efficiently those nutrients are being utilized on the farm and the potential for nutrients to be lost to the environment.

**During a tour of Suwannee Farms on May 22, SRP's Joel Love, kneeling, and UF/IFAS' George Hochmuth, second from left, collect leachate water samples while other participants look on.**

The study was initiated in 2009 by the Suwannee River Partnership (SRP) and is being led by the University of Florida /Institute of Food and Agricultural Sciences. Funding is provided by the Suwannee River Water Management District, UF/IFAS, the Florida Department of Agriculture and Consumer Services, the Florida Department of Environmental Protection, and Suwannee Farms.

Now in its final year, the study will determine the effects of best management practices (BMPs) currently used on the farm and how these practices could expand to improve nutrient management.

"This study is a positive step toward improving nutrient management and protecting water quality," said Hugh Thomas, SRP coordinator. "It also has the added benefit of conserving water."

Building nutrients and organic matter in soils allows the soils to hold moisture which conserves irrigation water. Improved irrigation management conserves water and protects water quality. The goal is to keep the right amount of water in the root zone, which is vital to reducing nutrient losses to the environment.

Thomas said over watering pushes fertilizer past the root zone. Under watering stresses the crop and doesn't allow fertilizer to be utilized. But application of the right amount of water helps the crop take up fertilizer, which results in the protection of water quality and a productive yield for the farmer.

Once the study is complete, the findings will be used to provide nutrient management recommendations to dairy and other confined-animal operations.

"This research could have far-reaching effects," said Thomas. "The data will be used to improve BMPs state-wide and possibly around the nation."

Thomas said the study is expected to be finalized sometime next year.

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