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Economic Implications of Drought Management for SW Georgia Agriculture

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Abstract Text:

The Lower Flint River Basin in Southwest Georgia produces roughly $6 billion annually in agricultural and related output relying heavily on a high concentration of irrigated row crop and vegetable production. Below average rainfall in six of the last nine years, including a “100-year drought” during 2007, has elevated concerns over the amount agricultural pumping and the subsequent effects to the surface and ground water resources in the Basin. Maintaining adequate streamflow for several species of endangered mussels coupled with interstate water allocation disputes prompted the Georgia Environmental Protection Division (GEPD) to formulate and adopt the Flint River Regional Water Development and Conservation Plan (Plan) in 2006. The Plan sets forth a number of drought management strategies including conservation measures, altered permitting regulations, and most notably, a revised version of the Flint River Drought Protection Act, an irrigation suspension program (auction) operated by the state in times of drought. The two most critical areas of the Lower Flint as identified in the Plan are the Ichaway (HUC 03130008) and Spring Creek (HUC 031300010) watersheds. Economic impacts were calculated using IMPLAN for a 20%, 30% and 40% reduction in irrigated acreage for each of the above mentioned watersheds. Watershed modelers from GEPD suggest these scenarios may prevent streamflows from dropping below critical levels identified using guidance from the US Fish and Wildlife Service. A representative “acre” composed of corn (15%), cotton (50%) and peanut (35%) was determined using acreage data provided by the USDA Farm Service Agency. Average yield, cost and net return values were calculated using data from the USDA National Peanut Research Lab and the 2002 Farm Security and Rural Investment Act. Depending on the scenario, direct and indirect impact from a one-year irrigation suspension would be a loss of $37 – $76 million and 470 – 950 jobs. A break-even analysis was also performed to estimate participation should an irrigation suspension auction take place in the near future. It is questionable, if not highly unlikely given current commodity pricing, a $200 per acre “buyout” from the state, which is the largest amount paid in past auctions, would solicit enough participation to meet the reductions required to support critical habitat. Faced with such a dilemma, it is unclear whether the state would then enact involuntary suspension of irrigation in an effort to maintain minimum flows.

Impact Statement:

This is the only project that investigates the economic ramifications of newly revised policies governing agricultural water use in heavily irrigated Southwest Georgia.