

**Update on the Impact of the Irrigation Tax Credit on the Education Trust Fund  
Tax Year 2018**

**For the Alabama Legislature as required by *Ala. Code § 40-1-50***

**Agriculture Commissioner Rick Pate**

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## Update on the Impact of the Irrigation Tax Credit on the Education Trust Fund Tax Year 2018

### Summary

Recently, the Alabama Department of Revenue (ADOR) provided an additional update on the irrigation tax credit activity through 2018 (see table 1 below). Figure 1 shows that irrigated acres in the State accelerated after the passage of the tax credit in 2011. Other factors such as commodity prices, weather or simply discussion of irrigation may have played a role in increasing the amount of irrigated land. However, whatever the cause, the expansion of irrigation has increased the value of agriculture in the State and increased potential tax revenues.

Figure 2 below shows an estimate of the payback on the tax credit in terms of increased tax revenues based on a several independent analyses. The analysis indicates that all state taxes may have increased by \$7-12 million and ETF taxes by \$6-12 million with a net pay back ratio of 4 – 7 to 1 of the tax credit given.

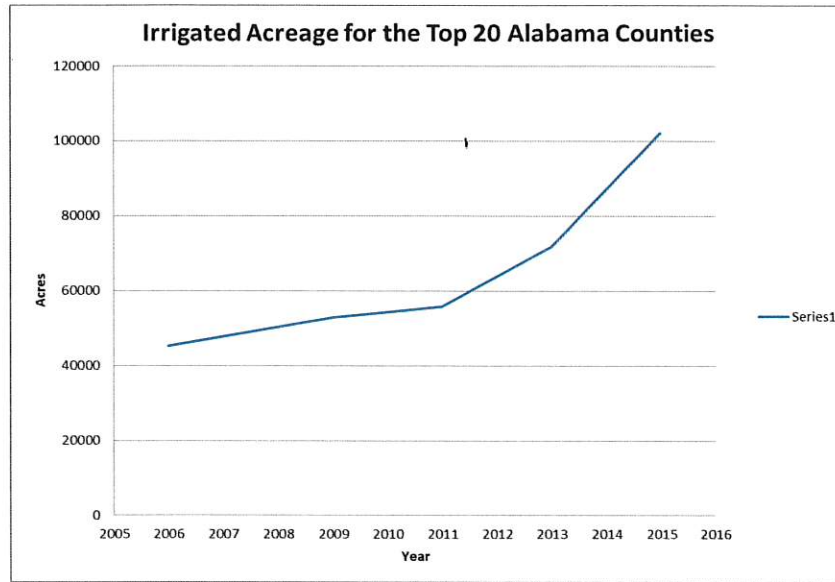
Tax Year	Irrigation/Reservoir Tax <i>Individual and Corporate Income Tax</i>	
	Number of Taxpayers Claiming Credit	Amount of Credits Claimed
Tax Year 2012	161	\$ 763,944
Tax Year 2013	97	\$ 468,402
Tax Year 2014	57	\$ 296,607
Tax Year 2015	23	\$ 97,700
Tax Year 2016	21	\$ 97,583
Tax Year 2017	19	\$ 54,248
Tax Year 2018	21	\$ 55,751
<b>TOTAL</b>	399	\$ 1,834,235

**Table 1: Updated Irrigation tax credit from Alabama Department of Revenue 2012 -2018**

### Tax Credit Analysis - Background

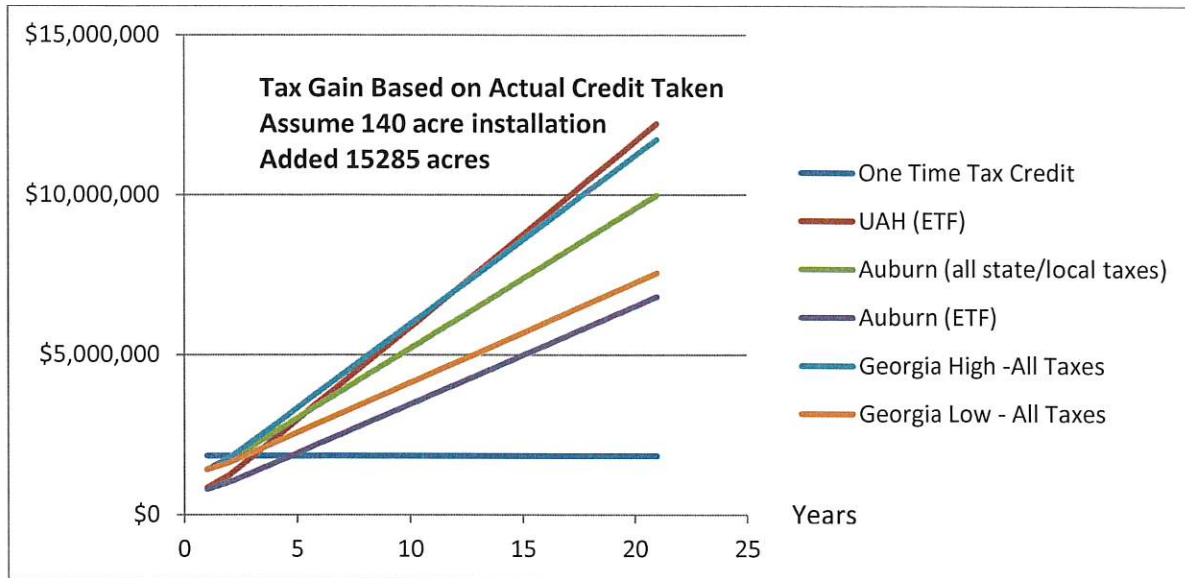
Because the tax credit can be viewed as an initial loss of revenue, the question is how fast might the state recover the tax credit due to greater income/investment in the irrigation infrastructure? Beginning in 2013 UAH carried out an analysis in conjunction with Auburn University and the University of Georgia to try to determine the impact of the irrigation investment on tax revenues. These were based on an investment in a pivot and associated cost for 140 acres (\$1,200 per acre in 2017). The number of tax credits were used to multiply the per farm tax gain to calculate the statewide benefits.

The original 2013 analysis assumed a corn price of \$5.00 per bushel. Since then commodity prices have dropped. Beginning in 2014 a corn price of \$3.77 per bushel was used. The current price of corn as of January 23, 2019 is **\$3.7875** per bushel.



**Figure 1 Irrigated acres determined by aerial photography thru 2015**

However, in examining the value of the tax credits from DOR some of the tax credits may have been for nurseries or vegetable/fruit crops. Thus, returns may not have been as large as shown or they could be larger if nursery, orchard or sod value of irrigation is greater. Also, it appears that the actual credit taken is not consistent with the 140 acre pivot installation based on actual new pivots from aerial surveys discussed below. Thus, a revised estimate has been made based on the value of credits received rather than number of credits. Here we still use a row crop application to calculate construction costs and annual return (based on \$3.77/bu corn price). However, the number of row crop acres put in irrigated production is back calculated from the value of credits taken supplied by DOR (from table 1 this is \$1,778,484) as opposed to using the number of credits. This gives an equivalent of row crop 14,821 acres added under the tax credit program. Note actual credits may be for nursery, sod, orchard or vegetables but there are no tools at present to estimate these tax impacts. But, present method provides an equivalent impact as if all credits were for row crops. Figure 2 provides the tax return based on this scenario. It is assumed that the credit is 10% of the total investment.

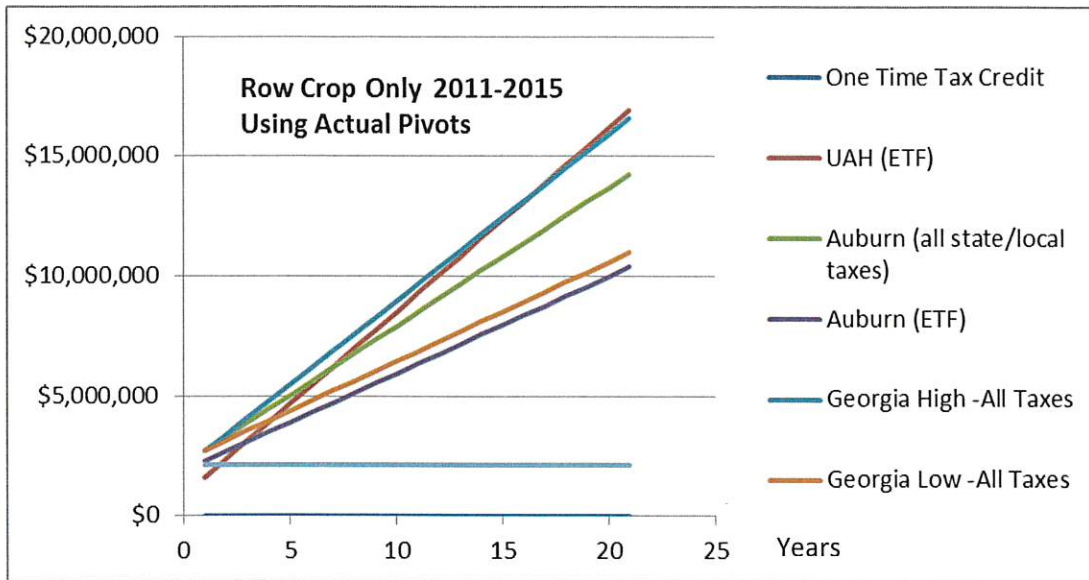


**Figure 2 Tax gain based on actual credit claimed (\$1,834,235) being used for row crops with acreage back calculated from the DOR tax credit reported through 2018**

As indicated above we do not have a way to calculate tax credits for other farm activities such as pecan orchards, nursery, vegetables or sod. However, it is possible that other irrigation uses would return a larger gain and incur a larger initial construction cost (e.g. drip irrigation for pecans). Thus, in the absence of tools and understanding at this point figure 2 provides the current best estimate of the tax impact of the irrigation tax credit. It shows that all state taxes may have increased by \$7-12 million and ETF taxes by \$6-12 million.

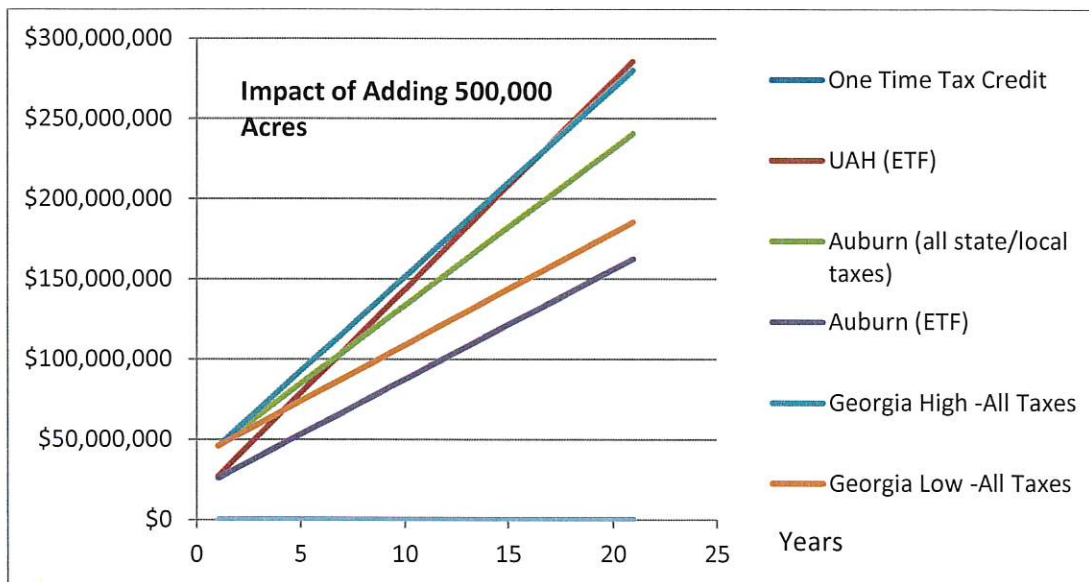
To provide a second estimate, UAH in conjunction with Alabama Office of Water Resources (AOWR) and with additional USDA support, carried out an aerial survey of center pivot expansion. Figure 1 shows the aerial survey estimates for the top 20 irrigating counties through 2015. This shows an increase in irrigated acres since 2011 of approximately 29,000 acres. Note, this is greater than the back calculated irrigated of 15,285 acres using the DOR credit. Thus, row crop farmers may not be using the fully available tax credit.

Figure 3 shows an estimate of the tax gain to the state based on actual construction 2011-2015. Estimates of returns based on actual construction give a cumulative range of \$10-17 million. This does not count the added benefit of double cropping winter wheat or double cropping late soy beans or other crops. It does not also consider the losses that would reduce the tax receipts during drought years. The positive impact is probably equivalent to funding at least 7-14 teachers each year in Alabama.



**Figure 3 Estimated tax return based on actual construction 2011-2015 in the top 20 irrigating counties.**

The economic advantages of the increased irrigation to date are apparent. While Alabama has only about 110,000 row crop acres our neighboring states of Georgia and Mississippi have well over one million acres under irrigation. If Alabama could increase its irrigated land to 500,000 acres (about 40% of current row crop land) the benefits to the economy would be staggering. It would also bring economic development to rural areas which are often left behind by traditional manufacturing economies. Figure 4 shows the tax gain for the state of adding 500,000 acres of irrigated production.



**Figure 4 Estimated tax return of adding 500,000 acres of irrigated land in Alabama**