

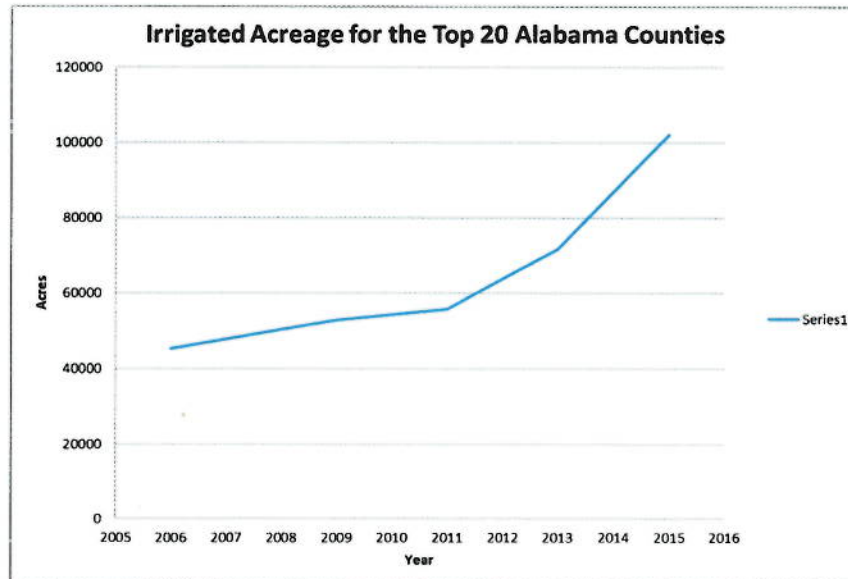
**Update on the Impact of the Irrigation Tax Credit on the Education Trust Fund Through Tax Year 2016**

Recently, the Alabama Department of Revenue (ADOR) has provided an additional update on the irrigation tax credit activity through 2016 (see below). Figure 2 shows that irrigated acres in the top irrigating counties accelerated after the passage of the tax. Other factors such as commodity prices and 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 tax revenues.

**Irrigation/Reservoir Tax  
Individual Income Tax**

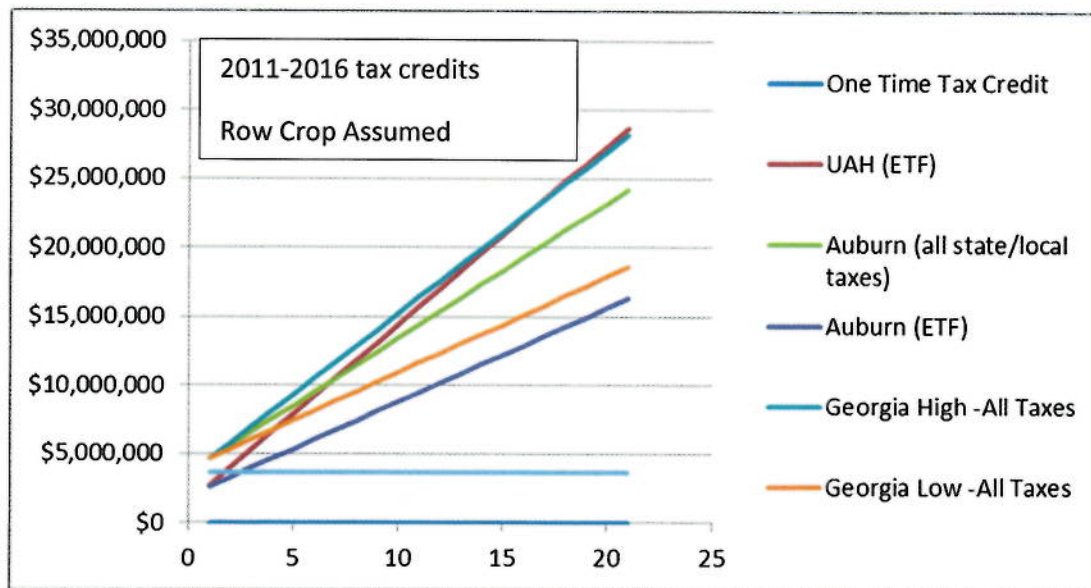
<b>Tax Year</b>	<i>Number of Taxpayers Claiming Credit</i>	<i>Amount of Credits Claimed</i>
Tax Year 2012	161	\$ 763,944
Tax Year 2013	97	\$ 468,402
Tax Year 2014	57	\$ 296,607
Tax Year 2015	23	\$ 97,700
Tax Year 2016	21	\$ 97,583
<b>TOTAL</b>	<b>359</b>	<b>\$ 1,724,236</b>

**Table 1: Updated Irrigation tax credit from Alabama Department of Revenue 2012 -2016**



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

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. The 2013 analysis assumed a corn price of \$5.00 per bushel. Since then commodity prices have dropped. Figure 2 shows the best current analysis of the return based on actual construction assuming all investment was in row crop center pivots using a corn price of \$3.77 per bushel. Tax credits taken were based on Department of Revenue estimates through 2016 (see table 1). It is assumed that farmers took the entire tax credit subject to the \$10,000 cap.



**Figure 2 Total income recovery for tax credits using 2011-2014 (315 credits assuming all credits are for row crops. Note the gain to the ETF is expected to be between approximately \$14 million-\$25 million over a 20 year period and payback is almost immediate due to taxes on initial construction.**

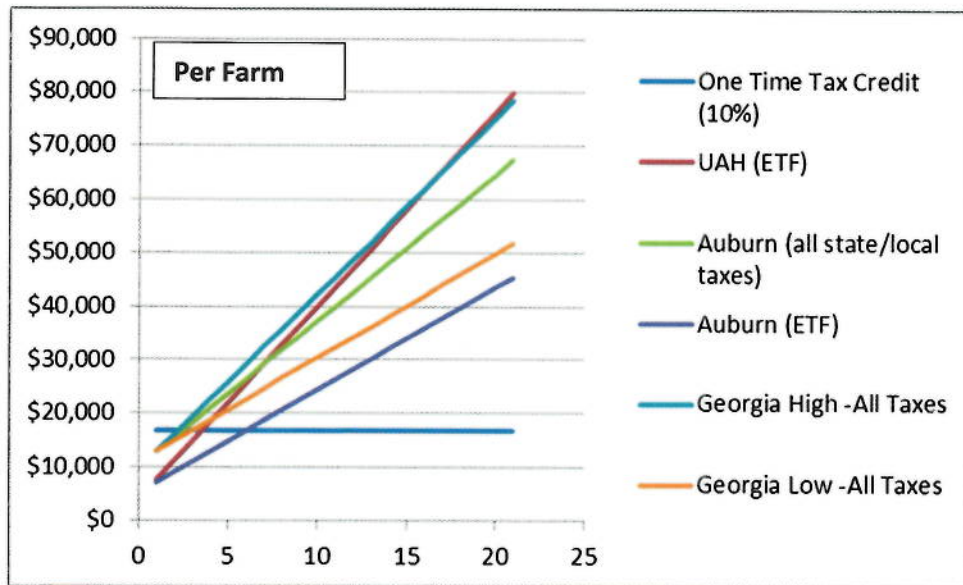
However, based on aerial surveys of the construction of actual pivots construction it appears that not all of the tax credits were used for center pivot/row crop investment. Some of the tax credits may have been for nurseries or vegetable/fruit crops. Thus, the investments returns may not be as large as shown. Estimates of returns based on actual construction would give a lower range of \$9-25 million. This does not count the added benefit of double cropping winter wheat and late soy beans or other crops. It does not also consider the losses that would reduce the tax burden during drought years. The positive impact is probably equivalent to funding at least 9-25 teachers each year in Alabama. The pay back on the tax credit exceeds a ratio of 8-1 of credit given.

#### **Increasing or Removing the \$10,000 Cap on Tax Credits**

The irrigation tax credit as passed by the legislature in 2011 included a \$10,000 cap on the amount of credit a single tax payer could claim. This was based on concerns that the State might lose substantial income without a cap. However, the economic analyses provided above show that, in fact, the State likely recovers the tax credit almost immediately and the gains are substantial. The \$10,000 credit will

likely provide substantial incentive for a nurseryman investing \$50,000 but \$10,000 would not substantially sway an investment of \$500,000 of a row crop farmer irrigating 500 acres. Figure 3 shows the impact per farm if the \$10,000 cap were removed and replaced by a 10% cap. The payback to the State occurs in 2-6 years and payback ratio is 5-1 to 2.5-1.

With the larger cap, if Alabama could increase its irrigated acreage by 300,000 acres it would amount to a \$60-\$130 million increase to the ETF fund over 20 years or 60-130 teachers each year. Increasing the cap may be a major step in encouraging this investment.



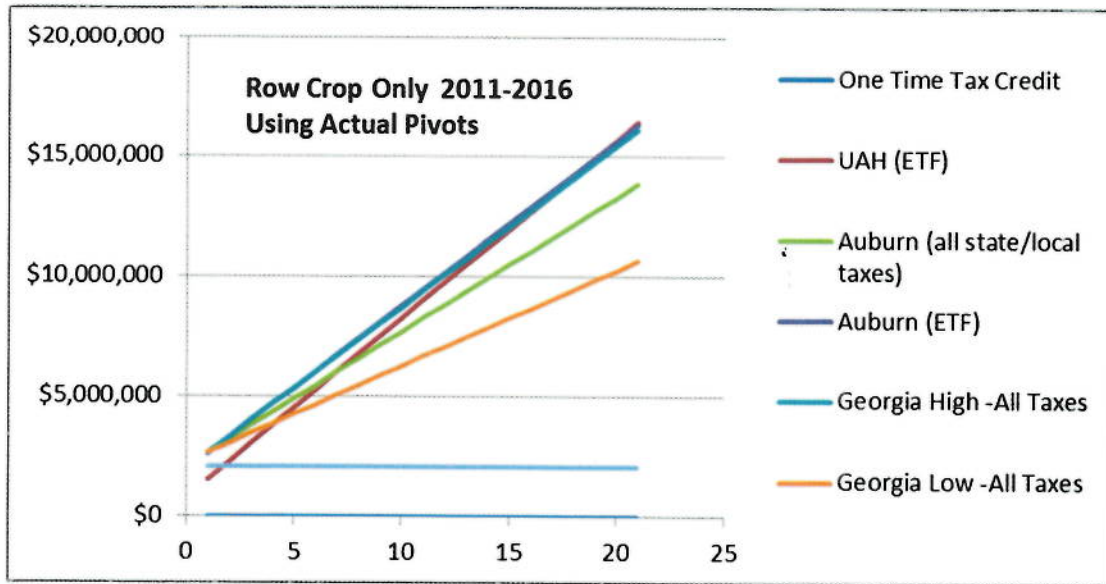
**Figure 3 Example pay back of a 10% cap rather than \$10,000 cap per farm. Note that the payback to the State occurs in 2-6 years and payback ratio is 5-1 to 2.5-1.**

The analyses in figure 2 and figure 3 in the absence of any additional information were based on an assumed row crop 140 acre center pivot at a \$1200 per acre cost. However, in reality not all of the investments were made in row crops – some may have been for nursery, sod or specialty vegetables. The investment and return on this would be different than the row crop estimates

To provide a second estimate, UAH in conjunction with Alabama Office of Water Resources and with additional USDA support, carried out an aerial survey of center pivot. The results of that study showed an increase from approximately 71,000 acres in 2006 to approximately 109,000 acres in 2013. A more detailed study was carried out 2009-2013 for the top 20 irrigating counties. Figure 1 shows the plot of the surveyed acres.

The aerial survey provides another estimate of the impact of the irrigation tax credit. Figure 4 shows the estimate of the irrigation tax credit impact using only the row crop increase determined by the areal survey.





**Figure 4 Estimated Return based on actual construction 2011-2016**

Figure 4 only shows the impact due to row crop construction. It seems clear that some of the tax credits were likely taken for irrigation investments not for row crops but for nursery, sod and vegetables. The impact of this investments need to be analyzed. Based on figure 1 it also looks like that more construction was undertaken compared to tax credits claimed. It is likely the initial investment may be less than row crop investments but returns may be higher.