The Impact of Conservation Land on Tax Revenues in the State of Florida

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Through regression analysis, this study examined the impact of conservation land on per capita sales and use tax revenues in the state of Florida. Taking the percentage of conservation land in each Florida county along with other important explanatory variables, such as real per capita income, population density, and the unemployment rate, the study established a positive relationship between the relative amount of conservation land and tax receipts in Florida's sixty-seven counties. By exploring the manner in which recreational parks and preserves, as well as general conservation land, affect state revenues, the study contributes to the body of economic literature on open space and better informs land use policy decisions.

INTRODUCTION

Significant population growth, commercial development, and urban sprawl have raised important questions about land management and sustainability in the state of Florida. What are the environmental costs of largely unchecked development and building construction? Should the need to promote economic growth outweigh the importance of conserving open space, wildlife habitat, or natural resources? Could the state and local governments adopt a more strategic planning process in which they better integrate the interests of business, residents, and conservationists? These are all important questions, many of which have been addressed through a growing body of literature on conservation and growth management. On the topic of economic growth and conservation, specifically, there is research indicating that the tradeoff between the two is less stark than many might assume.

Various studies have illustrated that open space, greenways, and parks increase property values, facilitate the growth of businesses, promote tourism, and provide a range of cost-saving ecological services (Gies 2). By increasing the market value of houses, proximity to a park or open space leads to higher property tax revenues, which can be used to offset the costs of the land acquisition and maintenance (Crompton 1). Promoting a higher quality of life, parks and natural lands tend to make communities more attractive to high ability workers, whose presence in an area draws in businesses (Gies 5). Parks across the country attract tourists, facilitating economic growth (Gies 7). This holds true for Florida in particular, and the impact ecotourism might have on state revenues will be referenced later in the paper. Finally, well preserved natural lands and green space provide important ecological services, such as maintaining water and air quality as well as mitigating against natural disasters (Gies 13–16). Through green infrastructure or a well-designed and connected system of open space, conservation easements, and greenways, the state and local governments can reduce costs associated with gray, or traditional, infrastructure (Buch 28). In Florida, the benefits of green infrastructure are especially salient with regard to groundwater recharge, a process through which rain percolates through the soil into the subterranean aquifer (Buch 28).

While the aforementioned benefits of land conservation are relatively widely understood and accepted, the need for further research in this field persists as the state, county governments, and other municipalities engage in cost-benefit analyses over whether to set aside land for conservation purposes. Government officials and planning boards must consider how a conservation program might impact revenues and expenses. Moreover, these entities must determine whether land conservation is likely to generate a greater economic benefit than some alternative land use plan. The need to inform these land use policy decisions motivates this paper. Through regression analysis, this study explores the impact of conservation land on tax receipts in the state of Florida. The purpose of this research is to establish a positive link between the percentage of conservation land in Florida counties and per capita sales and use tax revenues and thereby contribute to the body of literature on the economic benefits of land conservation.

SAMPLE

The sample for this study consists of the 67 Florida counties. Data for these counties were collected over an eight-year period from 2000 to 2007, resulting in 536 observations.

DEPENDENT VARIABLE

Per Capita Sales and Use Tax Revenue

To gain a perspective on the economic impact of conservation land in Florida, one must first examine the manner in which the state generates revenue. In Florida, sales and use tax constitutes the primary source of government revenue. These taxes are levied at the time of purchase on the price of an item or service or in some cases on the use of a good or service ("Florida's Sales and Use Taxes"). Additional sources of state revenue include a corporate income tax, a communications services tax, and a documentary stamp tax ("Taxes Administered by the Florida Department of Revenue"). State tax revenues fund education, health and human services, public safety, transportation, general government, local governments, and various other programs. At the county level, property taxes are the most significant revenue sources and are supplemented with a variety of local option sales taxes (Delegal 3).

Since Florida's tax base is predominantly reliant on sales and use tax, per capita sales and use tax revenue was selected to be the dependent variable for this study, functioning as an indicator of economic impact. Consumption activity reflects the relative strength or weakness of local economic conditions. The per capita sales and use tax revenues examined over the eight-year period of this study offer a picture of consumption levels and may illustrate the general economic condition of Florida. Moreover, if a relationship can be established between these tax revenues and the percentage of conservation land in Florida counties, an argument can be fashioned regarding the economic benefit of such natural lands. Factors that might increase state revenues, such as conservation land, are generally considered to be beneficial. Sales and use tax collection data were obtained from the Florida Department of Revenue.

INDEPENDENT VARIABLES

Conservation Land

This variable is generally defined as the percentage of conserved land in a county. Specifically, there are two variations of this variable. For the first regression (Appendix 1), only state and county lands preserved principally for public recreational use were included as conservation areas. Other open, natural lands, including water management district parcels, private conservation easements, state forests, and specially designated wildlife mitigation areas, were excluded from the summed acreage used to calculate this variable. While some of the aforementioned lands may be accessible to the public, their primary function is not necessarily to offer natural resource-based recreation. For the second regression (Appendix 2), however, all private, county, state, and federal conservation lands were summed to arrive at a figure representing the total amount of conservation land in the county.

County residents will certainly spend money as part of a trip to a local or state park, as they will incur transportation costs, likely buy food and drink, and make other purchases associated with outdoor recreational activities. It is important to note, however, that residents who choose to visit a local park and spend money as part of a trip to the park will not spend money as part of other non-park activities. For example, if a consumer buys the same good when he or she visits a park and when he or she goes to the movies, shifting consumption from going to the movies to going to the park will not have an effect on the consumer's purchases and thus sales taxes. One might consider, therefore, how such a trip to a park could result in a higher level of consumer expenditure relative to more passive leisure activities. While the cost of admission into a park or a usage fee may not be significant, outdoor equipment, tools, and other goods are often required for natural resource-based recreation, especially for camping, hunting, fishing, and other water-related activities. Purchasing these items as well as complementary goods, in addition to the possible costs of transportation, lodging, and other services, may raise the cost of natural resource-based recreation compared to other leisure activities. Parks and preserves also attract tourists, who, like county residents, raise the level of spending in the area, leading to higher tax revenues. Given this series of arguments, it is hypothesized that counties with a larger percentage area of conservation land will have higher per capita sales and use tax revenues. Acreage data on the various conservation lands in each county were obtained from the Florida Natural Areas Inventory. This database provides specific information about the conservation parcels in every Florida county.

Real per Capita Income

This variable is defined as per capita income divided by the Consumer Price Index. Per capita income should be positively correlated with sales and use tax revenue, as wealthier individuals tend to have a greater level of real disposable income with which to make purchases. More specifically, for a normal good, an increase in income leads to an increase in demand for that good. If public parks and other recreational lands are considered normal goods, as most goods are, demand for these lands will increase as income rises. Counties with higher levels of per capita income should be populated with residents who exhibit a higher demand for parks and preserves, make expenditures related to recreation on these lands, and thereby raise the level of per capita sales and use tax revenue in the county. Per capita income data were obtained from the USA Counties database and annual CPI data were gathered from the Bureau of Labor Statistics.

Population Density

This variable is defined as the number of people living in a county divided by the area of the county. Areas with higher concentrations of people are likely to have denser commercial developments, where there may be a greater number and variety of local businesses, restaurants, and other establishments at which to consume goods and services. The extent to which population density may affect patterns of commercial development and thereby promote greater convenience for consumers will determine the impact of this variable on per capita tax revenues. Assuming a relationship between this variable and the convenience of consumption does exist, it is hypothesized that counties with a higher population density would have larger per capita sales and use tax revenues. Population density data were obtained from the USA Counties database.

Population Growth

This variable is defined as the annual percent change in population. Population growth involves the movement of people into a county where they will contribute to the overall level of spending among residents. While this fact seems relatively obvious, the costs associated with relocation to a new area are likely to result in expenditures that raise per capita sales and use tax revenues especially during years of heavy growth. While homes sales and real estate transactions associated with population growth would most significantly impact ad valorem property tax collections, the process of settling into a new area often involves the purchase of expensive items, such as appliances, furnishings, or vehicles, which are all subject to the state sales tax. It is hypothesized that population growth will drive up per capita sales and use tax revenues. Population data were obtained from the USA Counties database.

Unemployment Rate

This variable is defined as the percentage of the labor force within a county that is unemployed. While they may be collecting unemployment insurance or have alternative sources of income, the unemployed typically diminish household income, driving down household demand for goods and services. While the unemployment rate may exert a direct effect on consumer behavior and thereby impact sales and use tax revenues, it may also have an indirect effect on consumption. A higher unemployment rate is likely to increase an individual's uncertainty about future income. The economic losses associated with unemployment tend to decrease overall confidence in the economy. This uncertainty and diminished confidence may manifest itself in saving and consumptions patterns, raising the savings rate while lowering present consumption. If both of these effects hold true, a higher unemployment rate should drive down per capita sales and use tax revenues. Unemployment data were obtained from the Bureau of Labor Statistics.

Percentage of Population under 18

This variable is defined as the percentage of the population in a county aged 18 and under. This demographic is not likely to have substantial disposable income, if any, to purchase goods and services. Rather, the consumptive behavior of children and adolescents is reflected in the consumer expenditures of their parents. The cost of raising a child, including all educational provisions, is significant. While this factor may increase the level of consumer spending in counties with a greater percentage of individuals aged 18 and under, it is hypothesized that this variable will have a negative effect on per capita sales and use tax revenues. Included in the population count of a county, the members of this demographic are likely to offset the per capita sales and use tax revenues generated from the expenditures of their parents. These demographic data were obtained from the USA Counties database.

Percentage of Population over 65

This variable is defined as the percentage of the population in a county aged 65 and older. Economic theory regarding the consumptive patterns of people over their lifetime may help clarify the prediction for this variable. The life cycle hypothesis holds that the tendency to consume is greater in both younger and older individuals (Dornbusch and Fischer 150–151). During the stage of life in which people earn their highest level of income, they are more inclined to save for retirement and thereby spend less, but as they grow older they rely on life savings, often spending more (Dornbusch and Fischer 150-151). This relationship between age and consumption tends to support the hypothesis that a larger percentage of residents aged 65 and older should drive up per capita sales and use tax revenues. It is important to note, however, that this older demographic often lives on fixed incomes and may not necessarily have as many expenditures to make as younger consumers. Given this consideration, it is hypothesized that a higher percentage of people aged 65 and older will lead to lower per capita sales and use tax revenues. These demographic data were gathered from the USA Counties database.

Beach County

This variable is a dummy that takes on a value of 1 if a county has beaches or recreational coastline and 0 if it does not. Florida's beaches and coastal areas function as popular tourist destinations and tend to be more populated and highly developed than other inland areas. Residents of the state, like tourists, may vacation in these coastal counties annually. Consumer spending in counties with beaches is

likely to be higher for the aforementioned reasons. Moreover, many parks and outdoor recreational spaces serve as access points to these beaches. If these natural lands have a positive effect on per capita sales and use taxes as predicted earlier, then it would seem that counties with beaches might have a similar impact.

Theme Park

This variable is a dummy that takes on a value of 1 if a county has a theme park, including Walt Disney World, Sea World, Busch Gardens, Cypress Gardens, and others, a water park, or a zoo and 0 if it does not. The list of counties which meet this criteria include Bay, Brevard, Broward, Collier, Duval, Escambia, Hillsborough, Lee, Marion, Miami-Dade, Okaloosa, Orange, Osceola, Palm Beach, Polk, St. John's, Seminole, and Volusia County. In Florida, theme parks and other attractions draw large numbers of tourists and residents who not only make purchases as part of their trip to the park but also pay for lodging, meals, and transportation. To some degree, these commercial parks function as a substitute for natural resource-based recreation available through trips to conservation lands and preserves. It is hypothesized that counties with some kind of commercial attraction will have higher per capita sales and use tax revenues.

GDP Growth

This variable is defined as the annual percentage change in real GDP. Functioning as an indicator of the national economy, the variable should give some picture of general economic conditions. Marginal GDP growth may indicate an economic downturn and thereby account for lower consumer spending. Diminished consumption would be reflected in per capita sales and use tax revenue. More substantial GDP growth, of course, would indicate the opposite, pointing to a strong economy where consumer spending is high. It is hypothesized that a larger positive percentage change in real GDP should be associated with higher per capita sales and use tax revenues. Real GDP data were gathered from the Bureau of Economic Analysis.

RESULTS

Conservation Land

As indicated in Tables 1 and 2, the coefficient for this variable was positive and statistically significant, which confirmed the original hypothesis. As shown in Table 3, the impact of this variable in the first regression was 63.21, indicating that a one standard deviation increase in the percentage of recreational conservation land within a county raises the level of per capita sales and use tax revenue in the county by about $63.00. Specifically, a 5.93% increase in the percentage of recreational conservation land within a county would raise per capita tax revenues by this amount. The percentage of recreational county and state conservation land has a noteworthy impact on per capita tax revenues, as this dollar effect is about 9% of the mean per capita sales and use tax burden in the state. As indicated in Table 4, the impact of general conservation land was lower in the second regression. A one standard deviation increase in the variable raised the per capita level of tax revenues by about $44.00. Here, a 19.63% increase in the percentage of general conservation land would raise per capita tax revenues by this dollar amount.

Real per Capita Income

As indicated in Tables 1 and 2, the coefficient for this variable was positive and statistically significant, which confirmed the original hypothesis. As shown in Table 3 and 6, the impact of this variable in both regressions was 185.00, indicating that a one standard deviation increase in real per capita income raises the level of per capita sales and use tax revenue by $185.00. Per capita income has a substantial impact on sales and use tax revenues, as this dollar effect is about 27% of the mean per capita sales and use tax burden.

Population Density

As shown in Table 1, the coefficient for this variable was positive in the first regression, as predicted, but did not have a statistically significant effect on per capita sales and use tax revenues. As indicated in Table 4, this variable was significant in the second regression, with a one standard deviation increase in the population density of a county raising per capita sales and use tax revenues by about $25.00. The impact of population density is not particularly strong, as this dollar effect is only 3.6% of the mean per capita sales and use tax burden.

Population Growth

As shown in Tables 1 and 2, the coefficient for this variable was negative in both regressions. This ran counter to the original hypothesis. The variable did not attain statistical significance in either regression.

Unemployment Rate

As shown in Tables 1 and 2, the coefficient for this variable was negative and statistically significant, which confirmed the original hypothesis. As indicated in Table 3, the impact of the variable was -32.08 in the first regression, indicating that a one standard deviation increase in the county unemployment rate lowers the level of per capita sales and use tax revenue by approximately $32.00. The unemployment rate appears to have a relatively small impact on per capita tax revenues, as this dollar effect is only about 5% of the mean per capita sales and use tax

burden. As shown in Table 4, this variable had a similarly negative significant effect in the second regression, with a one standard deviation increase in the unemployment rate lowering the level of per capita sales and use tax revenues by about $31.00.

Percentage of Population under 18

As shown in Tables 1 and 2, the coefficient for this variable was negative in both regressions, as predicted. As indicated in Table 3, it was only marginally significant in the first regression with a one standard deviation increase in the percentage of the population aged 18 and under, lowering the level of per capita sales and use tax revenues by about $27.00

Percentage of Population over 65

As shown in Tables 1 and 2, the coefficient for this variable was negative in both regressions, as predicted. As indicated in Table 3, it was statistically significant in the first regression, with a one standard deviation increase in the percentage of the population aged 65 and older lowering the level of per capita sales and use tax revenues by about $50.00. The dollar effect of this variable is approximately 7% of the mean per capita sales and use tax burden in the state.

Beach County

As shown in Tables 1 and 2, the coefficient for this variable was positive in both regressions, as predicted. As shown in Table 3, it was marginally significant in the first regression with a one standard deviation increase in the probability of a county having beach areas raising the level of per capita sales and use tax revenues by approximately $44.00. The dollar effect of this variable is about 6% of the mean per capita sales and use tax burden in the state.

Theme Park

As shown in Tables 1 and 2, the coefficient for this variable was positive and statistically significant, which confirmed the original hypothesis. As indicated in Table 3, the impact of this variable in the first regression was 242.13, indicating that a one standard deviation increase in the probability of a county having some type of a commercial theme park raises the level of per capita sales and use tax revenues by about $242.00. The presence of a commercial attraction appears to have a very sizable impact on per capita tax revenues, as this dollar effect is 35% of the mean per capita sales and use tax burden. As shown in Table 4, this variable had a similarly large impact in the second regression, with a one standard deviation increase in the probability of a county having a commercial attraction raising the level of per capita sales and use tax revenue by about $204.00. Perhaps the strength of the theme park dummy variable stems from the heavy commercialization of the counties that received a value of 1. Per capita sales and use tax revenues in counties with these attractions were well above the mean level of per capita tax revenues in the state.

GDP Growth

As shown in Tables 1 and 2, the coefficient for this variable was positive in both regressions, as predicted, but was not statistically significant in either.

Table 1. Regression 1 Statistical Output

Regression Statistics	
R	0.8083
R Square	0.65335
Adjusted R Square	0.64675
Standard Error	216.21644
Total Number of Cases	536

ANOVA

	d.f.	SS	MS	F	p-level
Regression	10.	46,259,089.35556	4,625,908.93556	98.95088	0.E+0
Residual	525.	24,543,512.76465	46,749.54812		
Total	535.	70,802,602.12022			

	Coefficients	Standard Error	LCL	UCL	t Stat	p-level
Intercept	452.99184	131.53215	146.0653	759.91839	3.44396	0.00062
Conservation Land	10.65971	2.00765	5.97491	15.3445	5.30955	0.
Real Per Capita Income	0.03972	0.00306	0.03259	0.04685	12.99595	0.E+0
Population Density	0.00571	0.02226	-0.04623	0.05765	0.25659	0.79759
Population Growth	-0.97791	5.48206	-13.77015	11.81434	-0.17838	0.85849
Unemployment Rate	-29.98019	11.26832	-56.27449	-3.68589	-2.66057	0.00804
Percentage of Population under 18	-9.40001	5.21973	-21.5801	2.78008	-1.80086	0.0723
Percentage of Population over 65	-7.94725	2.49396	-13.76682	-2.12767	-3.1866	0.00153
Beach County	44.10686	25.27333	-14.86775	103.08146	1.74519	0.08154
Theme Park	242.12801	26.90669	179.34202	304.914	8.9988	0.E+0
GDP Growth	0.89592	10.70448	-24.08269	25.87453	0.0837	0.93333

Table 2. Regression 2 Statistical Output

Regression Statistics	
R	0.80386
R Square	0.6462
Adjusted R Square	0.63946
Standard Error	218.43728
Total Number Of Cases	536

ANOVA

	d.f.	SS	MS	F	p-level
Regression	10.	45,752,307.32163	4,575,230.73216	95.88694	0.E+0
Residual	525.	25,050,294.79859	47,714.84724		
Total	535.	70,802,602.12022			

	Coefficients	Standard Error	LCL	UCL	t Stat	p-level
Intercept	178.41851	134.60156	-135.67043	492.50745	1.32553	0.18557
Conservation Land	2.23181	0.5413	0.96871	3.49491	4.12309	0.00004
Real Per Capita Income	0.04289	0.00296	0.03598	0.04979	14.49195	0.E+0
Population Density	0.04683	0.0223	-0.00522	0.09887	2.09952	0.03625
Population Growth	-3.34508	5.51229	-16.20785	9.5177	-0.60684	0.54422
Unemployment Rate	-28.72209	11.39892	-55.32114	-2.12304	-2.51972	0.01204
Percentage of Population under 18	-2.78477	5.32835	-15.21834	9.64879	-0.52263	0.60145
Percentage of Population over 65	-3.05746	2.45703	-8.79088	2.67595	-1.24437	0.21392
Beach County	31.03602	25.83685	-29.25355	91.32558	1.20123	0.2302
Theme Park	203.76597	26.78137	141.27239	266.25954	7.6085	1.2923E-13
GDP Growth	1.51463	10.81597	-23.72413	26.75339	0.14004	0.88868

Table 3. Regression 1 Impact Assessments

Independent Variable	Coefficient	Standard Deviation	Impact
Conservation Land	10.66	5.93	63.21
Real Per Capita Income	0.04	4,624.94	185.00
Unemployment Rate	-29.98	1.07	-32.08
Percentage of Population under 18	-9.40	2.87	-26.98
Percentage of Population over 65	-7.95	6.33	-50.32
Beach County	44.11	-	44.11
Theme Park	242.13	-	242.13

Note. A variable is considered to be statistically significant at the 0.05 level and marginally significant at the 0.10 level. Where the impact of a variable is reported, it is taken to be the variable's coefficient multiplied by the standard deviation except for dummy variables whose impact is simply the coefficient on the dummy. Here, standard deviation indicates the typical deviation from the mean.

Table 4. Regression 2 Impact Assessments

Independent Variable	Coefficient	Standard Deviation	Impact
Conservation Land	2.23	19.63	43.77
Real Per Capita Income	0.04	4,624.94	185.00
Population Density	0.05	496.15	24.81
Unemployment Rate	-28.72	1.07	-30.73
Theme Park	203.77	-	203.77

Note. A variable is considered to be statistically significant at the 0.05 level and marginally significant at the 0.10 level. Where the impact of a variable is reported, it is taken to be the variable's coefficient multiplied by the standard deviation except for dummy variables whose impact is simply the coefficient on the dummy. Here, standard deviation indicates the typical deviation from the mean.

CONCLUSION

The results of this study suggest that parks, preserves, and general conservation land have a positive impact on per capita tax revenues in the state of Florida. In both regressions, a common set of independent variables attained statistical significance, including the percentage of conservation land in the county, real per capita income, the unemployment rate, and the theme park dummy. Conservation lands promote leisure and encourage residents as well as tourists to engage in a variety of outdoor recreational activities. It seems likely that the costs of natural resource-based recreation would be higher relative to more passive types of leisure activities. The development and growth of the sporting goods industry reflects consumer demand for equipment, tools, and other items related to hunting, fishing, camping, wildlife viewing, mountain biking, and a host of other outdoor pursuits.

In evaluating the results of this paper, one might argue that the percentage of conservation land in a county is generally a reflection of wealth. Counties with higher levels of per capita income would likely be populated with residents who demand more parks, preserves, and green space because they are normal goods. Per capita sales and use tax revenue could ultimately be more attributable to income than conservation land, since the former variable captures the latter. The correlation coefficients between the conservation variables and real per capita income shed light on this issue. As shown in Tables 5 and 6, the correlation coefficient between the percentage of conservation land and per capita income was 0.51 in the first regression and 0.34 in the second regression. While wealthier counties may choose to set aside more recreational natural lands as the demand for leisure may be higher there, overall, there does not seem to be enough correlation to suggest that the percentage of conservation land only reflects the effect of wealth in a county. This lends support to the argument that conservation land has an independent and relatively significant impact on per capita tax revenues.

Table 5. Regression 1 Correlation Matrix

	Tax Revenue	Conserva-tion Land	Real per Capita Income	Popula-tion Density	Popula-tion Growth	Unem-ployment Rate	Percentage of Population under 18	Percentage of Population over 65	Beach County	Theme Park	GDP Growth
Tax Revenue	1.										
Conservation Land	0.42823	1.									
Real per Capita Income	0.74169	0.50513	1.								
Population Density	0.39627	0.32215	0.40257	1.							
Population Growth	-0.01684	-0.0505	0.00339	-0.10913	1.						
Unemployment Rate	-0.25846	0.00173	-0.19703	-0.0391	0.01036	1.					
Percentage of Population under 18	-0.1046	-0.24523	-0.23032	0.01971	-0.0311	0.20747	1.				
Percentage of Population over 65	0.11369	0.40984	0.31432	0.04021	0.18796	0.20562	-0.64132	1.			
Beach County	0.49517	0.36568	0.60165	0.33982	0.07565	-0.03317	-0.30079	0.3863	1.		
Theme Park	0.52943	0.0443	0.40083	0.37821	0.05334	-0.08186	0.25765	-0.10239	0.31548	1.	
GDP Growth	0.02847	3.67537E-21	0.00434	-0.00101	0.0759	-0.27931	0.007	-0.00167	-4.14985E-21	-5.77357E-21	1.

Table 6. Regression 2 Correlation Matrix

	Per Capita Sales and Use Tax Revenue	Conserva-tion Land	Real per Capita Income	Population Density	Population Growth	Unemployment Rate	Percen-tage of Population under 18	Percen-tage of Population over 65	Beach County	Theme Park	GDP Growth
Per Capita Sales and Use Tax Revenue	1.										
Conser-vation Land	0.37662	1.									
Real per Capita Income	0.74169	0.33687	1.								
Popula-tion Density	0.39627	0.01597	0.40257	1.							
Popula-tion Growth	-0.01684	-0.01468	0.00339	-0.10913	1.						
Unem-ployment Rate	-0.25846	-0.21154	-0.19703	-0.0391	0.01036	1.					
Percen-tage of Popula-tion under 18	-0.1046	-0.22111	-0.23032	0.01971	-0.0311	0.20747	1.				
Percen-tage of Popula-tion over 65	0.11369	0.06921	0.31432	0.04021	0.18796	0.20562	-0.64132	1.			
Beach County	0.49517	0.30589	0.60165	0.33982	0.07565	-0.03317	-0.30079	0.3863	1.		
Theme Park	0.52943	0.15759	0.40083	0.37821	0.05334	-0.08186	0.25765	-0.10239	0.31548	1.	
GDP Growth	0.02847	-2.30988E-21	0.00434	-0.00101	0.0759	-0.27931	0.007	-0.00167	-4.14985E-21	-5.77357E-21	1.

This type of research on the economic impact of land conservation is important as the conversation on growth management and land use planning moves forward in Florida. With diverse ecosystems, unique coastal areas, and stores of environmental resources found throughout the state, it is particularly important for Florida communities to implement strategic and well-planned development policies. Furthermore, public officials and the citizenry should remember, especially during hard economic periods, that conservation programs have the potential to be a beneficial investment for a community more so than an unnecessary cost.

Appendix 1. Regression 1 Summary Statistics

Tax Revenue		Population Growth		Beach County	
Mean	687.30965	Mean	1.87564	Mean	0.46269
Mean Standard Error	15.71322	Mean Standard Error	0.07766	Mean Standard Error	0.02156
Median	650.76842	Median	1.68327	Median	0.E+0
Mode	#N/A	Mode	#N/A	Mode	0.E+0
Standard Deviation	363.78745	Standard Deviation	1.79798	Standard Deviation	0.49907
Variance	132,341.31237	Variance	3.23274	Variance	0.24907
Kurtosis	4.28573	Kurtosis	5.31796	Kurtosis	1.0224
Skewness	0.95388	Skewness	1.04234	Skewness	0.14967
Range	2,026.17028	Range	13.21849	Range	1.
Minimum	139.07255	Minimum	-2.70685	Minimum	0.E+0
Maximum	2,165.24283	Maximum	10.51165	Maximum	1.
Sum	368,397.97485	Sum	1,005.34162	Sum	248.
Count	536	Count	536	Count	536

Conservation Land		Unemployment Rate		Theme Park	
Mean	4.98471	Mean	4.40075	Mean	0.26866
Mean Standard Error	0.25621	Mean Standard Error	0.04625	Mean Standard Error	0.01916
Median	2.38212	Median	4.3	Median	0.E+0
Mode	0.E+0	Mode	3.6	Mode	0.E+0
Standard Deviation	5.93158	Standard Deviation	1.07087	Standard Deviation	0.44368
Variance	35.18358	Variance	1.14677	Variance	0.19685
Kurtosis	5.44344	Kurtosis	3.45117	Kurtosis	2.08957
Skewness	1.62883	Skewness	0.69028	Skewness	1.04382
Range	27.15767	Range	6.2	Range	1.
Minimum	0.E+0	Minimum	2.2	Minimum	0.E+0
Maximum	27.15767	Maximum	8.4	Maximum	1.
Sum	2,671.80565	Sum	2,358.8	Sum	144.
Count	536	Count	536	Count	536

Real Per Capita Income		Percentage of Population under 18		GDP Growth	
Mean	14,289.11	Mean	21.83097	Mean	2.6
Mean Standard Error	199.76712	Mean Standard Error	0.12412	Mean Standard Error	0.04015
Median	13,243.31316	Median	21.65	Median	2.6
Mode	15,791.42403	Mode	#N/A	Mode	#N/A
Standard Deviation	4,624.94322	Standard Deviation	2.87354	Standard Deviation	0.92958
Variance	21,390,099.76304	Variance	8.25724	Variance	0.86411
Kurtosis	4.1957	Kurtosis	2.82176	Kurtosis	1.98906
Skewness	1.21546	Skewness	0.05658	Skewness	0.04213
Range	23,142.48695	Range	14.4	Range	3.
Minimum	7,375.20845	Minimum	15.6	Minimum	1.1
Maximum	30,517.6954	Maximum	30.	Maximum	4.1
Sum	7,658,962.95855	Sum	11,701.4	Sum	1,393.6
Count	536	Count	536	Count	536

Population Density		Percentage of Population over 65	
Mean	306.98196	Mean	17.23078
Mean Standard Error	21.43031	Mean Standard Error	0.2734
Median	125.04352	Median	15.1
Mode	#N/A	Mode	14.6
Standard Deviation	496.14762	Standard Deviation	6.32973
Variance	246,162.45664	Variance	40.06554
Kurtosis	20.72445	Kurtosis	2.76647
Skewness	3.72956	Skewness	0.80431
Range	3,293.78089	Range	27.2
Minimum	8.36972	Minimum	7.5
Maximum	3,302.15061	Maximum	34.7
Sum	164,542.32873	Sum	9,235.7
Count	536	Count	536

Appendix 2. Regression 2 Summary Statistics

Per Capita Sales and Use Tax Revenue		Population Growth		Beach County	
Mean	687.30965	Mean	1.87564	Mean	0.46269
Mean Standard Error	15.71322	Mean Standard Error	0.07766	Mean Standard Error	0.02156
Median	650.76842	Median	1.68327	Median	0.E+0
Mode	#N/A	Mode	#N/A	Mode	0.E+0
Standard Deviation	363.78745	Standard Deviation	1.79798	Standard Deviation	0.49907
Variance	132,341.31237	Variance	3.23274	Variance	0.24907
Kurtosis	4.28573	Kurtosis	5.31796	Kurtosis	1.0224
Skewness	0.95388	Skewness	1.04234	Skewness	0.14967
Range	2,026.17028	Range	13.21849	Range	1.
Minimum	139.07255	Minimum	-2.70685	Minimum	0.E+0
Maximum	2,165.24283	Maximum	10.51165	Maximum	1.
Sum	368,397.97485	Sum	1,005.34162	Sum	248.
Count	536	Count	536	Count	536

Conservation Land		Unemployment Rate		Theme	
Mean	24.56716	Mean	4.40075	Mean	0.26866
Mean Standard Error	0.84794	Mean Standard Error	0.04625	Mean Standard Error	0.01916
Median	19.	Median	4.3	Median	0.E+0
Mode	10.	Mode	3.6	Mode	0.E+0
Standard Deviation	19.63116	Standard Deviation	1.07087	Standard Deviation	0.44368
Variance	385.3824	Variance	1.14677	Variance	0.19685
Kurtosis	5.13209	Kurtosis	3.45117	Kurtosis	2.08957
Skewness	1.45101	Skewness	0.69028	Skewness	1.04382
Range	96.	Range	6.2	Range	1.
Minimum	0.E+0	Minimum	2.2	Minimum	0.E+0
Maximum	96.	Maximum	8.4	Maximum	1.
Sum	13,168.	Sum	2,358.8	Sum	144.
Count	536	Count	536	Count	536

Real Per Capita Income		Percentage of Population under 18		GDP Growth	
Mean	14,289.11	Mean	21.83097	Mean	2.6
Mean Standard Error	199.76712	Mean Standard Error	0.12412	Mean Standard Error	0.04015
Median	13,243.31316	Median	21.65	Median	2.6
Mode	15,791.42403	Mode	#N/A	Mode	#N/A
Standard Deviation	4,624.94322	Standard Deviation	2.87354	Standard Deviation	0.92958
Variance	21,390,099.76304	Variance	8.25724	Variance	0.86411
Kurtosis	4.1957	Kurtosis	2.82176	Kurtosis	1.98906
Skewness	1.21546	Skewness	0.05658	Skewness	0.04213
Range	23,142.48695	Range	14.4	Range	3.
Minimum	7,375.20845	Minimum	15.6	Minimum	1.1
Maximum	30,517.6954	Maximum	30.	Maximum	4.1
Sum	7,658,962.95855	Sum	11,701.4	Sum	1,393.6
Count	536	Count	536	Count	536

Population Density		Percentage of Population over 65	
Mean	306.98196	Mean	17.23078
Mean Standard Error	21.43031	Mean Standard Error	0.2734
Median	125.04352	Median	15.1
Mode	#N/A	Mode	14.6
Standard Deviation	496.14762	Standard Deviation	6.32973
Variance	246,162.45664	Variance	40.06554
Kurtosis	20.72445	Kurtosis	2.76647

Skewness	3.72956	Skewness	0.80431
Range	3,293.78089	Range	27.2
Minimum	8.36972	Minimum	7.5
Maximum	3,302.15061	Maximum	34.7
Sum	164,542.32873	Sum	9,235.7
Count	536	Count	536

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