

# Economic Impact of the proposed Pine Woods Retreat Inc.

Prepared for:

Pine Woods Retreat Inc.

Prepared by:

The Bureau of Business Research  
and Economic Development  
**Georgia Southern University**



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Prepared for: **Pine Woods Retreat, Inc.**

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## **EXECUTIVE SUMMARY**

Pine Woods Retreat, Inc. proposes to build and operate a facility for the individualized, holistic treatment of adults, ages 18 and older, diagnosed with serious mental illnesses such as schizophrenia, bipolar disease and depression. Pine Woods will be located approximately 60 miles west of Savannah in Metter, GA.

Pine Woods Retreat will be built in four different phases. Phase I of construction will include a main lodge, dinning hall, cottages and barn and is expected to take place in 2004. Phase II includes the gymnasium and pool, the residence for an executive director and a free standing chapel and is schedule for 2005. Phase III calls for three apartment buildings on site, one built the first year after opening, 2005, the second one three years later, 2008, and the last one added five or six years later, 2010/2011. Last, a Phase IV of construction is expected to add an assisted living facility and a nursing care home. The assisted living facility would be built in 2011 and the nursing home in 2014.

The estimated economic impact of the proposed Pine Woods Retreat is expected to reach approximately \$7.2 million, in 2000 dollars, and create 225 new jobs through the operations of the proposed educational program. It is expected that these will be achieved within five years of the initiation of the program, by 2010. These impacts are expected to be region wide throughout Candler County.

Although construction is a one-time impact, the fact that it takes place in subsequent phases, makes it a continuing injection of money into the local economy complementing the constant boost given by the main operation of the educational program. As shown in Table ES-1, the construction impacts decline, operation impacts increase sustaining a total annual impact of between 230 and 300 jobs over 2004 through 2010. This represents an increase of between 6% and 9% relative to the total employment of Chandler County in 2003. The impacts of the planned phase IV that includes the assisted living facility and the nursing care home have not been included in the estimations of this report.

## **ECONOMIC IMPACT: PINE WOODS RETREAT, INC.**

### **Introduction**

Pine Woods Retreat, Inc. proposes to build and operate a facility for the individualized, holistic treatment of adults, ages 18 and older, diagnosed with serious mental illnesses such as schizophrenia, bipolar disease and depression. Pine Woods will be located approximately 60 miles west of Savannah, near Metter, Georgia.

Pine Woods Retreat will be built in four different phases. Phase I of construction is expected to take place in 2004 and will include a main lodge, dining hall, cottages and barn. Phase II will add the gymnasium and pool, the residence for an executive director and a free standing chapel. and is schedule for 2005.. Three apartment buildings on site will be added in Phase III, one built the first year after opening in 2005, the second one three years later in 2008, and the last one will be added five or six years later in 2010/2011. Last, a Phase IV of construction is expected to add an assisted living facility and a nursing care home. The assisted living facility will be built in 2011 and the nursing home in 2014.

The Bureau of Business Research and Economic Development (BBRED) at Georgia Southern University was asked to prepare an assessment of the economic impact of the Pine Woods Retreat. This report presents the estimated economic impact of construction phases I, II and III, the impact of the operation of the facilities built in these phases and the impact of visitors. The analyses were prepared using IMPLAN. The next section contains a summary of how the direct impacts were estimated and includes a brief discussion of the methodology employed to estimate the total impact of the proposed project.

## **METHODOLOGY: The Model and Data**

The impact estimates were developed using the regional input-output model IMPLAN.<sup>1</sup> The 2000 version of IMPLAN for Candler County was employed for all of the estimates developed.

### **Construction Phases**

Direct expenditures for the construction of the main facilities for Pine Woods have been estimated at around \$13.1 million (For detailed construction budget refer to Table A.1 at the Appendix of this report). Construction is expected to occur in 2004. Deflated to 2000 dollars the direct construction cost will be approximately \$12.0 million. Phase I, the main phase of construction, will provide accommodations, living support services and therapy for 48 individuals. Additional construction to expand and enrich therapy programs is anticipated beginning as early as 2005. Phase II of the construction includes a gymnasium and pool, a chapel and residence for an Executive Director. The total construction cost estimated for Phase II is about \$2.5 million. Phase III of construction calls for three apartment buildings, one built the first year after opening, and the other ones added three and five years later. The expected cost for the building to be constructed in 2005 is around \$2.1 million, for the one in 2008 the construction cost will be around \$2.5 million, and the apartment building to be built in 2010 will cost about \$2.4 million. The following table shows the total expected costs for each year of construction.

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<sup>1</sup>IMPLAN is a product of the Minnesota IMPLAN Group.



**Table 1**

**Construction Costs**

<b>Year</b>	<b>Total Nominal Cost</b>
2004	\$ 13,148,061
2005	\$ 4,624,276
2008	\$ 2,470,114
2010	\$ 2,359,668

There will also be a Phase IV of construction where an assisted living home and nursing care facility will be built. The assisted living facility is expected to be built in 2011 with a cost of about \$1.4 million. The nursing home will be built in 2014 with a cost of approximately \$700,000. But given the distance in time of these plans, their respective economic impacts will not be estimated in this report.

**Operation Phases**

Direct expenditures for the operations of the main building and program implemented in Phase I are estimated at \$3.6 million for 2005. The detailed budget can be seen in the Appendix of this study in Table A.2. The medical expenditures, pharmacy bills and professional fees paid by students to external parties will account for approximately \$1.3 million for 2005 (The detailed calculations of these expenditures are shown in Table A.3 of the Appendix of this report). For the purpose of modeling the economic impact, it was assumed that full operations would begin in 2005. These costs are annual repetitive expenses . Deflated to 2000 dollars, the direct expenditures for operations will result in an increase in direct local spending of \$4.3 million. Phase II will not add any significant additional operating costs. In 2006, the operating cost of the first apartment building will be added to those of Phase I. It is expected that the apartment building constructed in 2005 and associated programs will increase operational costs by \$420,000 in 2006 values. The apartments built in 2008 will add operational costs starting in 2009 by \$380,000. The apartments built in 2010 would start operations in 2011, but for the purpose of this report it will be assumed that the apartments will open in 2010 so as to keep the time frame

of the analysis consistent with IMPLAN, the forecasting economic model used in this report.<sup>2</sup> The operating cost for this building will be around \$390,000 starting in 2010. Table 2 below shows the total operation cost for each year. Costs of operation are cumulative, so, for instance, in 2010 the total cost include the ones from the main facility, the medical expenses and the three apartment buildings.<sup>3</sup>

**Table 2**  
**Operations**

<b>Year</b>	<b>Total Nominal Cost</b>
2005	\$ 4,966,476
2006	\$ 5,086,935
2009	\$ 6,294,205
2010	\$ 6,840,710

**The Model: IMPLAN**

The following provides a brief overview of input-output analysis.

Input-output analysis, a branch of economic modeling and statistics, has the ability to illustrate and quantify the economic interdependence of producing industries in any regional or local economy. Just as each industry produces goods and services, it is also a consumer by purchasing other goods and services for use in the production process. Using the input-output analysis technique, the impact of a specific industry or economic activity can be traced throughout all sectors of the economy.

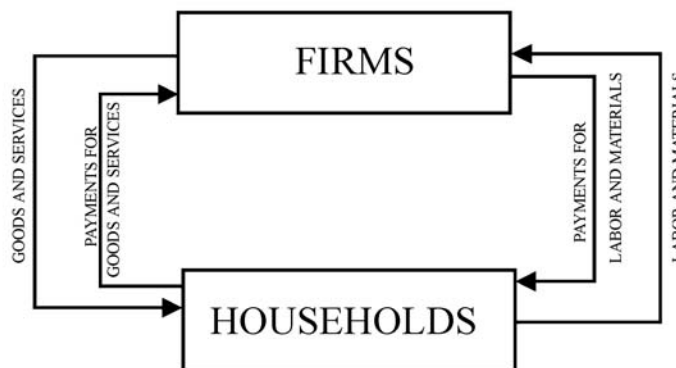
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<sup>2</sup>The latest version of IMPLAN allows users to enter nominal direct expenditures up to 2010.

<sup>3</sup>Direct expenditures were provided by Pine Woods Retreat. All the values are nominal and were inflated using the Consumer Price Index from the BLS and the Construction Cost Index from ENR (Engineering News-Record, from McGraw-Hill Construction).

Economists often view the economy as if it were a series of transactions that flowed in a circle. In order to understand the theory behind input-output models, it is best to understand the Circular Flow of Transactions in a basic economy. Each transaction by one sector has a counterbalancing transaction in at least one other sector. In Figure 1-1, the outside loop refers to such things as goods, services, labor and capital. The households provide firms with such things as labor and materials.<sup>4</sup> In return, the firms provide households with such things as goods and services for sale. The inner loop, on the other hand, identifies the payments for the transaction of the goods and services which are part of the outer loop. The firm pays the household wages and other payments for labor and materials. The household, however, provides payments back to firms for the goods and services it produces.

**FIGURE 2-1**  
**CIRCULAR FLOW OF TRANSACTIONS**



Equilibrium in this simple economy will be maintained as long as there are no leakages from the system. Leakages include savings, imports and taxes. A leakage means that the amount of

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<sup>4</sup> In a private, market economy the households are the ultimate owners of all of the productive resources.

payments going to the firm for its goods and services is less than the income obtained by the household. When leakages occur the total amount of income and goods will shrink unless new spending injections occur, which offset the losses. Some examples of these injections are: 1) the investment of savings by the firms; 2) consumers from outside of the region buying the firm's goods, exports; and/or, 3) government purchases of goods with generated tax revenue. The economy will balance if injections continue to equal leakages. If injections are greater than leakages, the economy will grow. When leakages exceed injections, the economy will shrink.

Input-output models begin by simply assigning dollars to the flow of transactions between businesses, households and other major consumer groups in the economy such as governments.

These transactions are recorded in a table. A hypothetical transactions table is shown as Figure 2. The rows display the transaction of things, goods, and services. The columns show the payments associated with each transaction. The system balances in that there is an accounting for all injections and leakages. In other words, Total Output (Expenditure) is equal to Total Payments (Income/Revenue).

**Figure 2**

**HYPOTHETICAL TRANSACTIONS TABLE**

Outputs*	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Inputs*	A	B	C	D	E	F	Gross inventory accumul- ation(+)	Exports to foreign countries	Govern- ment purchases	Gross private capital formation	House- holds	Total Gross Output
[1] Industry A	10	15	1	2	5	6	2	5	1	3	14	64
[2] Industry B	5	4	7	1	3	8	1	6	3	4	17	59
[3] Industry C	7	2	8	1	5	3	2	3	1	3	5	40
[4] Industry D	11	1	2	8	6	4	0	0	1	2	4	39
[5] Industry E	4	0	1	14	3	2	1	2	1	3	9	40
[6] Industry F	2	6	7	6	2	6	2	4	2	1	8	46
[7] Gross inventory depletion (-)	1	2	1	0	2	1	0	1	0	0	0	8
[8] Imports	2	1	3	0	3	2	0	0	0	0	2	13
[9] Payments to government	2	3	2	2	1	2	3	2	1	2	12	32
[10] Depreciation allowances	1	2	1	0	1	0	0	0	0	0	0	5
[11] Households	19	23	7	5	9	12	1	0	8	0	1	85
[12] Total Gross Outlays	64	59	40	39	40	46	12	23	18	18	72	431

\*Sales to industries and sectors along the top of the table from the industry listed in each row at the left of the table.

\*\*Purchases from industries and sectors at the left of the table by the industry listed at the top of each column.

The transactions table is more than a numerical version of the Circular Flow diagram. The table is actually a set of equations that depict the linkages between the final demand for goods and services and the payments, income or revenue, associated with the production of those goods and services. The solution of the system of equations results in a set of multipliers which show the

relationships between the final demand for a good or service and the intermediate demand among the producers who supply goods and services at the various stages of production. The mathematical manipulation required to solve the set of equations will not be discussed here.<sup>5</sup>

Input-output models are driven by final demand (consumption). Industries selling to consumers respond to the demand for their products by supplying consumers directly. However, in order to supply consumer demand, the directly impacted industries must buy goods and services from other businesses. Hence, indirectly impacted producers supply goods and services to the industries responding to direct demand, which means that, in turn, they must buy goods and services from yet other producers. Each industry that produces goods and services generates demands for other goods and services and so on, in a round by round fashion. These round by round incremental effects are described as multipliers. Within the general framework of input-output analysis, various methodologies can be employed to solve the mathematical equations and derive the multipliers.

IMPLAN relies on a complex database of linked expenditure patterns between 528 processing sectors in the economy. Using data specific down to the county level for the state of Georgia, the program is capable of generating five separate impact measures in the form of multipliers. These are: 1) output multipliers; 2) personal income multipliers; 3) total income multipliers; 4) value-added multipliers; and, 5) employment multipliers. Each of the multipliers is composed of several components or effects. These effects are denoted: 1) direct effects; 2) indirect effects; and, 3) induced effects.

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<sup>5</sup> A general discussion of the mathematical processes for deriving multipliers is found in *The Elements of Input-Output Analysis*, by William H. Miernyk. IMPLAN estimates Leontief Type I multipliers and a modified form of Miernyk's Type III multipliers.

There are three types of multipliers which may be estimated in a system of input-output equations. These are termed Type I, Type II and Type III Leontief multipliers. Only Type I and II multipliers are estimated in the version of IMPLAN used in this study. Type I multipliers include only the direct and indirect effects. The Type II multipliers used in this study demonstrate the full impact of the direct, indirect, and induced effects, where the induced effects are based on income.<sup>6</sup>

The direct effects on any given producer or industry are the output and employment associated with the immediate effects of a change in final demand. Final demands consist of purchases of goods and services for final consumption, as opposed to an intermediate purchase where the goods will be further re-manufactured by a supplier of final demand. For example, expenditures for new bridge construction are direct final demand.

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<sup>6</sup>Induced effects may be estimated by either Type II or Type III Leontief Multipliers. The primary difference between the two types of multipliers arises from the type of constraint imposed on the system of equations. The Type III multipliers used in IMPLAN assumes that the economy is at full employment. Therefore, any change in final demand either increases or decreases population by the number of jobs created or lost. It is therefore assumed that wages do not adjust, only the number of people employed. Each person added or lost adds to or deducts from the average expenditures per person.

Type II multipliers, on the other hand, assume that employment income increases or decreases as final demand changes. Therefore, it is assumed that wages adjust, but not employment. As each employee's income increases, the model assumes that expenditures on all personal consumption items increases.

The indirect effects are the output or employment associated with backward linkages in industry demand. These are the inter-industry effects, i.e. producers buying from other local businesses. To produce the output necessary to serve final demand, directly impacted industries must demand inputs from supporting producers. In order for supporting businesses to produce the intermediate demand for the output going to the directly impacted industries, they require the input of goods and services from other business and employment. Therefore, some portion of the demand for each intermediate producer is attributable to the primary supplier of final demand.

The induced effects are changes in demand associated with the household income generated by the direct and indirect effects of output or employment. Household consumption is related to household income in a stable way and is typically estimated by the propensity to consume. Hence, employment and output generate income which the household uses to demand goods and services. Some part of each region's consumption therefore, is dependent on household income generated by the owners and employees of both directly and indirectly impacted producers. Returning to Figure 1-1 and Table 2, input-output analysis traces how the final demand for goods and services has direct, indirect, and induced effects on industry final demand, total industry output and employment.



## **The Model**

Input-output models are used to calculate the total impact of any change in final demand, new direct expenditures. The total impact is larger than the change in direct expenditures due to what is referred to as the multiplier effect. The multiplier effect is the process of dollars re-circulating in a local economy. For example, the contractor hired to build the facilities will buy concrete, lumber, fuel, insurance, etc. from other businesses in the community. The effect of a business buying from other businesses is referred to as the indirect effect. All of the businesses effected also spend more on labor. The additional wages earned are in turn spent on local goods and services. This is referred to as the induced effect. All these linkages are taken into consideration by the economic model IMPLAN, which is explained below.

Since the IMPLAN model is in base year 2000 dollars, all direct expenditures and results are deflated to base year 2000. The data for direct expenditures for construction and operations were provided by Pine Woods Retreat, Inc. and are part of the Pine Woods Retreat Inc. business plan.

## FINDINGS

The findings section is separated into four parts. The first part will identify the industries already existing in the Candler area by output and employment. This will allow one to identify the impacts as increases in output and employment over the base, preexisting data. The second part will show the economic impact of the construction costs. The third part will discuss the impact on the area of the expenditures generated by the operation of Pine Woods. The fourth and last part shows the economic impact of the visitors' expenditures coming to the area as a result of the presence of Pine Woods.

### Base Data

In order to determine the impact, one must first start from the current situation or data in the area. That is, to estimate the impact of a new business one could calculate it as the output or number of employees above or below the base. The following table shows the base data in year 2000 dollar values for the area by industry.

**Table 3**  
**Base Data**

	<b>Industry</b>	
	<b>Output*</b>	<b>Employment</b>
<b>Manufacturing</b>		
Man Durable	8	69
Man Non Durable	32	231
<b>Non-Manufacturing</b>		
Agriculture/Fish Serv	23	555
Mining	-	-
Construction	35	339
Transportation	34	226
Retail	32	856
FIRE	40	232
Services	45	1,067
<b>Government</b>	8	136
<b>Dummy</b>	0	8
<b>Totals</b>	<b>256</b>	<b>3,719</b>

\*Millions of dollars

Table 3 shows that Service and Retail sectors are the largest in the area. The Service sector comprises 29% of all the jobs in the area and 18% of the output. The Retail sector generates 23% of all the employment and 13% of the regional output.

When looking at the following impacts, it can be seen that they are net new employment and output over the base data.

### **Total Economic Impacts: Construction Phases**

The tables below show the total economic impact of the direct expenditures in base year 2000 dollars and are aggregated by Standard Industrial Classification codes. The identified economic impacts are region-wide for Candler County.

#### ***Phase I***

Estimates of the output impact and employment impact for the Phase I of construction, the main facility of Pine Woods, are shown below in Tables 4 and 5.

**Table 4  
Construction 2004- Output Impact in 2000\$**

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
<b>Manufacturing</b>				
Man Durable	0	130,145	3,045	133,190
Man Non Durable	0	21,051	25,416	46,466
<b>Non-Manufacturing</b>				
Agriculture/Fish Serv	0	53,909	17,434	71,343
Mining	0	0	0	0
Construction	12,023,338	19,729	15,894	12,058,961
Transportation	0	574,305	128,091	702,396
Retail	0	1,080,289	352,671	1,432,960
FIRE	0	183,520	307,967	491,487
Services	0	513,385	285,464	798,850
<b>Government</b>	0	219,000	24,803	243,803
<b>Dummy</b>	0	0	1,714	1,714
<b>Totals</b>	<b>12,023,338</b>	<b>2,795,333</b>	<b>1,162,499</b>	<b>15,981,170</b>

**Multiplier** 1.33







The direct expenditure of approximately \$2.5 million in 2008 deflated to base year is about \$2.1 million. The total impact is \$2.8 million with an output multiplier of 1.32.

**Table 9**  
**Construction 2008 - Employment Impact**

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
<b>Manufacturing</b>				
Man Durable	-	0	-	0
Man Non Durable	-	-	-	-
<b>Non-Manufacturing</b>				
Agriculture/Fish Serv	-	0	-	0
Mining	-	-	-	-
Construction	14	0	-	14
Transportation	-	1	0	2
Retail	-	4	1	5
FIRE	-	2	1	2
Services	-	1	1	2
<b>Government</b>	-	1	-	1
<b>Dummy</b>	-	-	-	-
<b>Totals</b>	<b>14</b>	<b>9</b>	<b>3</b>	<b>26</b>
<b>Multiplier</b>	<b>1.84</b>			

Revenues generated by the \$2.1 million will sustain 26 jobs at Candler County business.

The last building of Phase III of construction will take place in 2010. The impacts are shown in Tables 10 and 11.

**Table 10**  
**Construction 2010- Output Impact in 2000\$**

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
<b>Manufacturing</b>				
Man Durable	0	22,530	419	22,948
Man Non Durable	0	2,462	3,710	6,171
<b>Non-Manufacturing</b>				
Agriculture/Fish Serv	0	11,237	2,546	13,782
Mining	0	0	0	0
Construction	1,912,425	3,721	2,466	1,918,612
Transportation	0	116,265	19,498	135,760
Retail	0	175,093	39,701	214,792
FIRE	0	73,489	52,911	126,399
Services	0	73,675	41,866	115,540
<b>Government</b>	0	45,143	1,780	46,923
<b>Dummy</b>	0	0	239	239
<b>Totals</b>	<b>1,912,425</b>	<b>523,615</b>	<b>165,136</b>	<b>2,601,166</b>

**Multiplier** **1.36**

The estimated total direct expenditures of \$2.4 million in 2010 are deflated to base year 2000 to \$1.9 million. This disbursement is multiplied in the local economy to \$2.6 million. This is a multiplier of 1.36. Hence for every dollar of direct expenditure, the multiplier effect will result in an additional \$0.37 of economic activity.

**Table 11**  
**Construction 2010 - Employment Impact**

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
<b>Manufacturing</b>				
Man Durable	-	0	-	0
Man Non Durable	-	-	-	-
<b>Non-Manufacturing</b>				
Agriculture/Fish Serv	-	0	-	0
Mining	-	-	-	-
Construction	13	0	-	13
Transportation	-	1	0	1
Retail	-	4	1	5
FIRE	-	1	1	2
Services	-	1	1	2
<b>Government</b>	-	1	-	1
<b>Dummy</b>	-	-	-	-
<b>Totals</b>	<b>13</b>	<b>9</b>	<b>2</b>	<b>24</b>

**Multiplier** **1.84**





**Table 13**  
**Operations 2005- Employment Impact**

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
<b>Manufacturing</b>				
Man Durable	-	-	-	-
Man Non Durable	-	-	0	0
<b>Non-Manufacturing</b>				
Agriculture/Fish Serv	-	0	0	0
Mining	-	-	-	-
Construction	-	0	0	1
Transportation	-	0	1	1
Retail	-	1	9	10
FIRE	-	0	1	1
Services	150	3	7	161
<b>Government</b>	-	1	0	1
<b>Dummy</b>	-	-	0	0
<b>Totals</b>	<b>150</b>	<b>6</b>	<b>20</b>	<b>176</b>

**Multiplier** 1.17

In 2006, the total direct expenditures of \$5.1 million resulting from Phase I, II and part of III are deflated to \$4.2 million in base year 2000. Table 14 and 15 below show the economic impact of these expenditures.

**Table 14**  
**Operations 2006 - Output Impact in 2000\$**

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
<b>Manufacturing</b>				
Man Durable	0	273	2,818	3,092
Man Non Durable	0	11,313	23,653	34,965
<b>Non-Manufacturing</b>				
Agriculture/Fish Serv	0	4,384	16,187	20,573
Mining	0	0	0	0
Construction	0	15,580	14,901	30,481
Transportation	0	68,362	119,208	187,568
Retail	0	40,684	326,656	367,342
FIRE	0	34,162	285,101	319,263
Services	4,238,810	176,222	321,620	4,736,652
<b>Government</b>	0	68,207	22,355	90,563
<b>Dummy</b>	0	0	1,584	1,584
<b>Totals</b>	<b>4,238,810</b>	<b>419,187</b>	<b>1,134,083</b>	<b>5,792,083</b>

**Multiplier** 1.37

The estimated total direct expenditures of \$4.2 million in base year are multiplied in the local economy to \$5.8 million.



Tables 16 and 17 below show the total economic impact of the operations for year 2009. This year includes the operations of the main facility and two apartment buildings.

**Table 16**  
**Operations 2009 - Output Impact in 2000\$**

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
<b>Manufacturing</b>				
Man Durable	0	314	3,243	3,557
Man Non Durable	0	13,006	27,222	40,227
<b>Non-Manufacturing</b>				
Agriculture/Fish Serv	0	5,184	18,634	23,819
Mining	0	0	0	0
Construction	0	17,679	17,149	34,828
Transportation	0	75,740	137,198	212,937
Retail	0	46,535	375,954	422,490
FIRE	0	37,290	328,124	365,414
Services	4,843,072	196,990	370,156	5,410,218
<b>Government</b>	0	77,897	25,728	103,626
<b>Dummy</b>	0	0	1,823	1,823
<b>Totals</b>	<b>4,843,072</b>	<b>470,635</b>	<b>1,305,231</b>	<b>6,618,939</b>

**Multiplier** 1.37

The direct expenditure of \$6.3 million in 2009 is deflated to \$4.8 million in base year 2000. This \$4.8 million is multiplied in the regional economy to \$6.6 million. Therefore, for every dollar of direct expenditure, the multiplier effect will result in an additional \$0.37 of economic activity.

**Table 17**  
**Operations 2009- Employment Impact**

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
<b>Manufacturing</b>				
Man Durable	-	-	-	-
Man Non Durable	-	0	0	0
<b>Non-Manufacturing</b>				
Agriculture/Fish Serv	-	0	0	0
Mining	-	-	-	-
Construction	-	0	0	1
Transportation	-	1	1	1
Retail	-	1	11	12
FIRE	-	0	1	2
Services	175	4	8	188
<b>Government</b>	-	1	0	1
<b>Dummy</b>	-	-	0	0
<b>Totals</b>	<b>175</b>	<b>7</b>	<b>22</b>	<b>205</b>

**Multiplier** 1.17

The \$4.8 million in expected direct expenditures will support 175 new jobs in 2009. With the multiplier effect the job creation will reach a total of 205 jobs. This is a job multiplier of 1.17.

Table 18 and 19 below show the economic impacts of Pine Woods' operations for 2010. This includes the operation of the main facility and the three apartment buildings, Phase I, II and III working at full capacity, a 95% occupancy rate.

**Table 18**  
**Operations 2010 - Output Impact in 2000\$**

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
<b>Manufacturing</b>				
Man Durable	0	341	3,529	3,869
Man Non Durable	0	14,148	29,624	43,773
<b>Non-Manufacturing</b>				
Agriculture/Fish Serv	0	5,703	20,276	25,977
Mining	0	0	0	0
Construction	0	19,136	18,663	37,799
Transportation	0	81,242	149,302	230,544
Retail	0	50,526	409,124	459,648
FIRE	0	39,765	357,074	396,837
Services	5,256,145	212,030	402,816	5,870,990
<b>Government</b>	0	84,528	27,999	112,526
<b>Dummy</b>	0	0	1,984	1,984
<b>Totals</b>	<b>5,256,145</b>	<b>507,419</b>	<b>1,420,391</b>	<b>7,183,947</b>
<b>Multiplier</b>	<b>1.37</b>			

The total expenditures in 2010 of \$6.8 million are deflated to \$5.3 million in base year 2000. This will increase regional output by \$7.2 million with a multiplier of 1.37.

**Table 19**  
**Operations 2010- Employment Impact**

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
<b>Manufacturing</b>				
Man Durable	-	-	-	-
Man Non Durable	-	0	0	0
<b>Non-Manufacturing</b>				
Agriculture/Fish Serv	-	0	0	1
Mining	-	-	-	-
Construction	-	0	0	1
Transportation	-	1	1	1
Retail	-	1	12	13
FIRE	-	0	1	2
Services	192	4	9	206
<b>Government</b>	-	1	0	2
<b>Dummy</b>	-	-	0	0
<b>Totals</b>	<b>192</b>	<b>8</b>	<b>24</b>	<b>225</b>
<b>Multiplier</b>	<b>1.17</b>			

The \$6.8 million spent directly in the local economy will generate 192 new jobs. Through the multiplier effect, the job expansion will support a total of 225 new jobs in 2010. This is a job multiplier of 1.17.

## **Total Economic Impact: Visitors**

Pine Woods currently plans to hold, at least, the regular educational programs shown in Table 20.

**Table 20**  
**Regular Educational Programs**  
**to be hold at Pine Woods**

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Family Education  
Breakfast at Pine Woods  
Counseling the Mentally Ill (lunch at Pine Woods)  
Seminar for mental health providers  
Therapy and Family reunification support services  
Emory, Harvard, & GSU student rotation program

Most of the attendees to these programs are going to be visitors that would not otherwise be coming to the Metter community. The number of attendees to these events are preliminary estimates within conservative scenarios. It is expected that as Pine Woods gains reputation through time, the number of participants coming to these programs will increase.

The results of the estimations were divided into two different scenarios, a low and a high scenario. The estimates under the low scenario are very conservative and the ones under the high scenario are potentially more realistic estimates that will most likely accrue once Pine Woods gains more reputation. The detailed calculation of the visitors' expenditures can be viewed at Tables A.4, A.5, and A.6 in the Appendix at the end of this report.

The total direct expenditures of visitors by type are the initial inputs into the IMPLAN model for Candler County. The estimates for total direct expenditures in 1999 prices are \$72,013 under the low scenario and \$122,416 under the high scenario (see Table A.7 from the Appendix). As the base year for IMPLAN is 2000, the direct expenditures are adjusted accordingly and account for \$73,721 for the low scenario and \$125,464 for the high scenario . Estimates of the output impact

and employment impact are shown below in Tables 21 and 22 for the low scenario and in Tables 23 and 24 for the high scenario.

The estimated total direct expenditure of \$73,721 under the low scenario in base year 2000 are multiplied in the regional economy to \$95,230. This can be seen in Table 21 below. This is a result of a multiplier of 1.29. Hence, for every dollar of direct expenditure, the multiplier effect will result in an additional \$0.29 of economic activity. The highest multiplier for the region is in services where every dollar spent by visitors in the region generates an additional \$0.54 in the local economy.

Total new jobs are shown in Table 21 below. A total of two new jobs will be generated annually as a result of the injections to the local economy generated by the new visitors.

**Table 21**  
**Output Impact: Low Scenario in 2000\$**

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
<b>Manufacturing</b>				
Man Durable	0	6	34	39
Man Non Durable	0	126	282	407
<b>Non-Manufacturing</b>				
Agriculture/Fish Serv	0	221	202	421
Mining	0	0	0	0
Construction	0	497	179	676
Transportation	0	1,826	1,426	3,254
Retail	61,610	965	3,916	66,492
FIRE	0	1,372	3,415	4,786
Services	12,111	3,125	3,372	18,606
<b>Government</b>	0	306	224	530
<b>Dummy</b>	0	0	19	19
<b>Totals</b>	<b>73,721</b>	<b>8,444</b>	<b>13,069</b>	<b>95,230</b>
<b>Multiplier</b>	<b>1.29</b>			



**Table 22**  
**Employment Impact: Low Scenario**

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
<b>Manufacturing</b>				
Man Durable	-	-	-	-
Man Non Durable	-	-	-	-
<b>Non-Manufacturing</b>				
Agriculture/Fish Serv	-	-	-	-
Mining	-	-	-	-
Construction	-	-	-	-
Transportation	-	-	-	-
Retail	2	-	0	2
FIRE	-	-	-	-
Services	0	-	-	0
<b>Government</b>	-	-	-	-
<b>Dummy</b>	-	-	-	-
<b>Totals</b>	<b>2</b>	<b>-</b>	<b>0</b>	<b>2</b>
<b>Multiplier</b>	<b>1.05</b>			

As Pine Woods gains reputation, more visitors will be coming to Metter. The economic impacts in terms of output and employment of their expenditures can be seen in Table 23 and 24 below. A total direct expenditure of \$125,464 in year 2000 dollars generates \$163,320 through the multiplier effect. For every dollar spent in the local economy, an additional 30 cents is created. To see th visitors' expenditures broken out by categories please refer to Table A.6 from the Appendix.



## CONCLUSIONS

The estimated economic impact of the proposed Pine Woods Retreat is expected to reach approximately \$7.2 million, in 2000 dollars, and create 225 new jobs through the operations of the proposed educational programs. It is expected that the impacts will be achieved within five years of the initiation of the program, that is by 2010. These impacts are expected to be region wide within Candler County.

Table 25 summarizes the impact by year over a build out of five years. The proposed project will have a fairly stable direct impact since as the construction impacts decline, operation impacts increase sustaining a total annual impact of between 230 and 300 jobs. This will represent an increase in Candler County's employment relative to 2003 of between 6% and 9%. Further, it should be noted there are proposed additional phases beyond 2010. While these are not included here, those phases involve an assisted living facility and a nursing care home. These have not been included as part of the economic assessment of this report due to the problem of accurately estimating those distant costs, but they will contribute to the continuing flow of construction money.

**Table 25**  
**Economic Impacts Summary**

<b>Type</b>	<b>Year</b>	<b>Output</b>	<b>Employment</b>	<b>% of Total Output</b>	<b>% of Total Employment</b>
Construction	2004	15,981,170	158	6%	4%
Operations	2005	5,816,536	176	2%	5%
Construction	2005	5,631,208	53	2%	1%
Operations	2006	5,792,083	176	2%	5%
Construction	2008	2,830,209	26	1%	1%
Operations	2009	6,618,939	205	3%	6%
Construction	2010	2,601,166	24	1%	1%
Operations	2010	7,183,947	225	3%	6%

The project is well positioned to benefit from the region’s rural setting and its proximity to Savannah and its International Airport. Additionally, it will be very close to the university town of Statesboro from which Pine Woods can access the knowledgeable labor pool that the University has to offer. On the other hand, the project will also support solid growth in the region’s economy as mentioned in the previous paragraph.

From the findings of this report it could be said that as Pine Woods gains reputations, it will become one of the larger employers in the region boosting the economic prosperity of Candler County.

## APPENDIX

**Table A.1**  
**Phase I: Construction Costs for Pine Woods Retreat (in 2003 dollars)**

<b>Construction Costs</b>	
Site work	\$ 1,312,000
Lodge	\$ 2,311,000
Dinning Hall	\$ 1,210,000
Residences	\$ 1,782,000
Barn	\$ 352,000
Gen.Cond./Gen.Req.Fee	\$ 900,000
Design/Recon. Contingency	\$ 550,000
Construction Contingency	\$ 250,000
<b>Subtotal Construction</b>	<b>\$ 8,667,000</b>
<b>Equipment and Furnishing Costs</b>	
Lodge	\$ 337,882
Cottages	\$ 169,035
Dining Hall	\$ 104,301
Barn	\$ 23,173
Facilities Equip	\$ 66,164
Maintenance Eq.	\$ 15,416
Tele/Data Infrastr.	\$ 374,645
<b>Subtotal</b>	<b>\$ 1,090,616</b>
<b>Other necessary expenses</b>	
Real Estate	\$ 800,000
Legal, Accounting & Professional Fees	\$ 140,000
Vehicles	\$ 100,000
Development/Fund Raising	\$ 20,000
Recruiting/Salary Expenses/ taxes & benefits prior to operations	\$ 500,000
<b>Subtotal</b>	<b>\$ 1,560,000</b>
<b>Contingency for Exclusions</b>	
Impact, Environment & Development Fees	\$ 20,000
Payment & Performance Bond	\$ 260,000
Materials & Soils testing	\$ 20,000
Hazardous Material Handling	\$ 50,000
Security System	\$ 150,000
Architects & Engineering Fees	\$ 1,000,000
<b>Subtotal</b>	<b>\$ 1,500,000</b>
<b>Construction Grand Total (2003 \$)</b>	<b>\$ 12,817,616</b>
<b>Construction Grand Total (2004 \$)</b>	<b>\$ 13,148,061</b>

Source: Based on estimates provided by Pine Woods Retreat. The value in 2004 dollars was inflated by the Building Cost Index estimated by ENR.

**Table A.2**  
**Phase I: Full Operation Expenses (in 2003 dollars)**

Compensation officer	\$ 125,000
Salaries:	
administrative assistant/secretary	\$ 35,000
director psychiatry	\$ 150,000
program director	\$ 60,000
admissions director	\$ 50,000
4 guidance counselors	\$ 200,000
2 billing clerks	\$ 60,000
development director	\$ 40,000
secretary/receptionist	\$ 30,000
5 work team leaders	\$ 150,000
chef	\$ 35,000
support staff	\$ 395,200
Payroll taxes and fringe benefits	\$ 250,000
Clinical contracted services (therapists)	\$ 190,000
Utilities	\$ 65,000
Insurance	\$ 200,000
Farm expenses	\$ 50,000
Food expenses	\$ 350,000
Housekeeping	\$ 25,000
Professional fees	\$ 150,000
Gardens & grounds	\$ 45,000
Licensing & accreditation	\$ 10,000
Water testing	\$ 5,000
Maintenance	\$ 12,000
Development	\$ 40,000
Supplies and services	\$ 397,000
Vehicle fuel and maintenance	\$ 19,000
Charity Care	\$ 200,000
<b>Subtotal</b>	<b>\$ 3,338,200</b>
Bond Amortization	\$ 114,580
Bad Debt	\$ 4,000
<b>GRAND TOTAL (2003 \$)</b>	<b>\$ 3,456,780</b>
<b>GRAND TOTAL (2005 \$)</b>	<b>\$ 3,629,444</b>

Source: Based on Pine Woods Retreat's estimates. The 2005 value was inflated by the Consumer Price Index estimated by the BLS.

**Table A.3**  
**Students' out of pocket Medical Expenditures (in 2003 dollars)**  
**A.4.1 ESTIMATED MEDICATION EXPENDITURE**

<b>Total pharmacy bill</b>		
\$	2,000	per month per student
\$	24,000	per year per student
\$	1,152,000	per year for 48 students
\$	<b>1,094,400</b>	per year for 45.6 students

**A.4.2 ESTIMATED FEES TO PAY TO EXTERNAL PROFESSIONALS**

***Physician fees for medication management***

\$	81	per visit per student
	13	visits per student per 6-month stay
\$	1,053	fees paid per student per 6-month stay
\$	2,106	fees paid per student per year
\$	101,088	per year for 48 students
\$	<b>96,034</b>	per year for 45.6 students

***Psychotherapy fees not included in Pine Wood's budget***

\$	70	per visit
	13	visits per student per 6-month stay
\$	910	fees paid per student per 6-month stay
\$	1,820	fees paid per student per year
\$	87,360	per year for 48 students
\$	<b>82,992</b>	per year for 45.6 students

\$	<b>179,026</b>	<b>Sub TOTAL</b>
\$	<b>1,273,426</b>	<b>GRAND TOTAL (in 2003 \$)</b>
\$	<b>1,337,033</b>	<b>GRAND TOTAL (in 2005 \$)</b>

Source: BBRED's own calculations based on normal expenditures for people with schizophrenia or bipolar disorder. The inflated value for 2005 was calculated using the Consumer Price Index.

Note: these calculations are based on the assumption of an occupancy rate of 95%, which results in 45.6 students per semester given that the total capacity is for 48 students.



**Table A.4**

<b>Average Visitor Expenditures per Trip per Person per Day (1999 \$values)</b>	
Gasoline	\$18.42
Meals	\$32.28
Apparel	\$10.18
Attractions	\$12.52
Recreation	\$9.48
General Merchandise	\$13.96
Misc. Retail	\$15.17
Accommodations	\$41.43
<b>TOTAL</b>	<b>\$153.43</b>

Source: BBRED's own calculations. Figures shown are consistent with the Domestic Travel Market Report, 2000 Edition, Travel Industry Association of America.

The following conferences are expected to be hold at Pine Woods Retreat during a regular calendar year:

**Table A.5**

## Visitors Expenditures per Conference

### **A.5.1 Family Education**

2 Sundays per month  
24 per year

	Expenditure Scenarios	
	Low (Conservative)	High (Pleasing)
parents per conference	15	20
students	7	10
<b>TOTAL</b>	<b>22</b>	<b>30</b>
people eating out	20	25
staying overnight	2	5
Gasoline	\$10,167	\$14,367
Meals	\$17,819	\$25,179
Apparel	\$733	\$1,833
Attractions	\$901	\$2,254
Recreation	\$682	\$1,706
General Merchandise	\$1,005	\$2,512
Misc. Retail	\$8,371	\$11,829
Accommodations	\$2,983	\$7,457
<b>TOTAL</b>	<b>\$42,662</b>	<b>\$67,135</b>

**A.5.2. Breakfast at Pine Woods**

---

1 per month on Saturdays morning  
 12 per year  
 20 attendees  
 240 attendees per year

	Expenditures
Gasoline	\$4,421
Meals	\$7,747
<b>Total</b>	<b>\$12,168</b>

**A.5.3 Counseling the Mentally Ill (lunch at Pine Woods)**

---

1 per month  
 10 attendees total (won't be eating out)  
 8 won't be eating out  
 2 staying overnight  
 96 not eating out per year  
 24 overnight per year  
 120 staying overnight per year after gaining reputation

	Expenditure Scenarios	
	Low (Conservative)	High (Pleasing)
Gasoline	\$663	\$3,315
Meals	\$1,162	\$5,810
Apparel	\$367	\$1,833
Attractions	\$451	\$2,254
Recreation	\$341	\$1,706
General Merchandise	\$502	\$2,512
Misc. Retail	\$546	\$2,730
Accommodations	\$1,491	\$7,457
<b>Total</b>	<b>\$5,523</b>	<b>\$27,617</b>

**A.5.4 Seminar for mental health providers**

---

1 per year/ 2 or 3 day seminar  
 25 attendees

	Expenditures Scenarios	
	Low (2 days)	High (3 days)
Gasoline	\$921	\$1,381
Meals	\$1,614	\$2,421
Apparel	\$509	\$764
Attractions	\$626	\$939
Recreation	\$474	\$711
General Merchandise	\$698	\$1,047
Misc. Retail	\$758	\$1,137
Accommodations	\$2,071	\$3,107
<b>Total</b>	<b>\$7,671</b>	<b>\$11,507</b>

#### **A.5.5 Therapy and Family reunification support services**

---

3 per year (aprox.)  
4 days  
2 members of the family  
24 people/day per year

	<u>Expenditures</u>
Gasoline	\$442
Meals	\$775
Apparel	\$244
Attractions	\$300
Recreation	\$227
General Merchandise	\$335
Misc. Retail	\$364
Accommodations	\$994
Total	<u>\$3,682</u>

#### **A.5.6 Emory, Harvard, & GSU student rotation program**

---

2 Students (guess-estimate)

	<u>Expenditures</u>
Gasoline	\$36.84
Meals	\$64.56
Apparel	\$20.36
Attractions	\$25.04
Recreation	\$18.96
General Merchandise	\$27.91
Misc. Retail	\$30.33
Accommodations	\$82.85
Total	<u>\$306.85</u>

Based on the mentioned conferences, the following totals were calculated:

**Table A.6**  
**Total Visitors' Expenditures (in 1999\$ values)**

	<b>Low Scenario</b>	<b>High Scenario</b>
<b>Gasoline</b>	\$16,651	\$23,963
<b>Meals</b>	\$29,181	\$41,997
<b>Apparel</b>	\$1,873	\$4,694
<b>Attractions</b>	\$2,304	\$5,772
<b>Recreation</b>	\$1,744	\$4,370
<b>General Merchandise</b>	\$2,568	\$6,433
<b>Misc. Retail</b>	\$10,070	\$16,090
<b>Accommodations</b>	\$7,623	\$19,098
<b>Total</b>	\$72,013	\$122,416

Source: the number of conference and conference attendees is based on Pine Woods' expectations. The visitors' expenditures are based on BBRED's own calculations.

Some conferences did not have a low and a high projection so the final totals, Table A.7, were taken with the same value for the low and the high scenario.