

# WORKING FORESTS

Working Forests	-----Criteria and Rating-----									---Relative Weights---		Comments	
	Lowest Value				Neutral				Highest Value		Assigned Weight		Percent Weight
<b>Forest area layers</b>	1	2	3	4	5	6	7	8	9	Operation	1 to 5		
<b>Group 1 -- land characteristics</b>													
<b>Land cover</b>	non-ag, non-forest (21-31) and open water (11)		herbaceous wetlands (95)			grasslands (71)	cultivated (82) and pasture (81)	woody wetlands (90)	forested (41-43) and shrub/scrub (52)	Map Algebra A (maximum value of layers in group)		Assumption: current land cover is an indicator of suitability for current and near future forest production. National Land Cover Data (NLCD) 2001 classifications. Shrub/scrub may be regenerating forests or have timber potential.	
<b>Soils for woodland management (loblolly pine) site index value</b>	missing	<50 or none		50 to 55		56 to 65		66 to 84	>=85	Map Algebra A		Soils vary by forest productivity site index; use loblolly or as indicator; areas where land cover and soils are most suitable score highest. Classes for index values are based on 2007 Use-Value Manual, NC Department of Revenue, 2007.	
<b>Group 2 -- tax parcel size and value</b>													
<b>Size of parcel</b>	< 12 acres			12 to 50			50 to 500		>500 acres	Overlay 1	3	100.0	Assumption: the larger the parcel size (acres from county parcel data) the more suitable for forest production
<b>Total assessed value per acre</b>	>\$2,500	\$2,100-2,500	\$1,900 - 2,100	\$1,600 - 1,900	missing	\$1,300- 1,600	\$1,000- 1,300	\$700- 1,000	<\$700	Overlay 1	0	0.0	Land value is from county tax assessment land value; this assumes that land that is valued higher than \$1,000 to \$1,600 per acre implies costs that are too high for sustained forest production.
										sum	3	100.0	
	1	2	3	4	5	6	7	8	9	Operation1	1 to 5		
<b>Group 3 -- location factors</b>													
<b>Primary road</b>	<500 feet								>500 feet	Map Algebra B (minimum value of layers in group)			Assumption: controlled burning in working forest areas needs to be at least 500 feet from a primary road. Any one of the three layers would raise the cost of forestry.
<b>Population density</b>	>150 persons		101 to 150		71 to 100		46 to 70	20 to 45	< 20 persons	Map Algebra B (minimum value of layers in group)			Population density in persons per square mile by census block (2000) represents settlement patterns; sparsely settled rural areas are most suitable for sustained forest production; Density classes are based on a study by D.N.Wear et al./Forest Ecology and
<b>Industrial plants or hog lagoons</b>	<2500 feet								>2500 feet	Map Algebra B (minimum value of layers in group)			Assumption: locations near large industrial facilities (or intensive animal operations) are not suitable because of air pollution emissions. This dataset assumes that all large industrial facilities discharge into streams and have an NPDES industrial per
<b>Group 1 Results</b>										Overlay 2	3	42.9	
<b>Group 2 Results</b>										Overlay 2	2	28.6	
<b>Group 3 Results</b>										Overlay 2	2	28.6	
										sum	7	100.0	
<b>Group 4 -- areas not rated (cells not counted in final suitability results)</b>													
<b>Developed land</b>													Developed land is not rated in final map
<b>Military bases</b>													Military bases are not rated in the final map
<b>Waterbodies</b>													Waterbodies (lakes, ponds, wide streams) are not rated in final map

Note: Assigned weight: 1 to 5 with 5 the most important for conservation of agricultural working landscapes; relative weights may be changed when evaluating model results to achieve the best balance between the multiple factors.

Note: Cell size is 98.4 feet on a side or about 9,687 square feet or one-fifth acre. This is consistent with the lowest resolution of the available --land cover data (30-meter resolution); most of the data layers used in the model are mapped at a scale of 1:24,000 or better which implies precision to plus or minus 40 feet or less.

Sources: William B. Farris, CGIA and Division of Coastal Management, Land Suitability Analysis, 2003; Frederick Steiner, *The Living Landscape*; Carteret County Land Suitability Analysis; Steiner et al, A Decade with LESA; NRCS Farmland Protection Program Attachment 3; CTNC project sessions, 2005, TRLC project sessions, 2006, Sustainable Sandhills focus group, 2007.