



## *Economic Impacts From Tennessee Valley Authority's Cherokee Reservoir's Shoreline Property Owners Recreational Expenditures*

**Cherokee Reservoir Facts:** The reservoir, named for the tribe of Native Americans who inhabited the area, has close to 400 miles of shoreline and about 28,780 acres of water surface. Flood storage capacity is estimated at 749,406 acre-feet. The four hydroelectric units at Cherokee have a generating capacity of 135,200 kilowatts of electricity. In a normal year, water level variation is about 27 feet.

Approximately 628 Cherokee Reservoir shoreline property owners with dock permits were surveyed June through September in 2008. Approximately 66.7 percent (419) of the shoreline property owners were permanent residents; the remaining one-third (209) were part-time. The annual mean expenditure for all fixed expenses was \$677.03 (Table 1). The top five mean fixed expenditures were watercraft purchases at \$3,651.81, followed by dock/dock maintenance (\$1,032.44), boat repairs/service (\$415.13), vehicle repair/service (\$157.95), and dock/marina fees (\$60.12). For annual variable expenses, the average mean expenditure across all categories was \$174.19 (Table 2). Likewise, for annual mean variable expenditures, the top five expenditures were food and beverage at \$1,032.48, followed by fuel for watercraft (\$700.83), fuel for vehicles (\$327.23), purchases of retail goods (\$266.58), and purchases of fishing supplies (\$150.81).



This analysis employed an input-output model, IMPLAN, to measure the economic impacts from Cherokee Reservoir shoreline property owners. Numerous communities and/or towns around the lake are impacted economically. Using survey data, annual multi-county (counties surrounding the reservoir) and state-wide economic impacts were conducted from property owners along the reservoir (Table 3). For the multi-county analysis, estimated direct and total impacts (economic activity) were \$5.1 million and \$10.2 million, respectively, as measured through total industry output. This impact financed 110 jobs. Total value added was estimated at \$6.3 million. For the state model, total impacts were estimated at \$10.8 million of economic activity. Estimated total impacts for value added were \$6.6 million. Estimated total number of jobs was 113.

Multipliers measure the additional total industry output, employment, or total value added for an additional million dollars in economic activity. Total industry output (economic activity) multipliers ranged from 2.00 for the multi-county analysis and 2.11 for the state. For every dollar Cherokee Reservoir shoreline property owners spent, an additional \$1.00 was generated throughout the multi-county analysis or \$1.11 throughout the state. Likewise, employment multipliers ranged from 1.80 for the multi-county analysis and 1.85 for the state. For every job created based on Cherokee Reservoir shoreline property owners expenditures, an additional .80 to .85 jobs are created in other indus-

**Table 1. Annual Mean Fixed Expenditures from Cherokee Reservoir Shoreline Property Owners**

Category	Average
<b><i>Annual Fixed Expenses</i></b>	
Watercraft Purchases	<b>\$3,651.81</b>
Dock/Dock Maintenance	<b>\$1,032.44</b>
Boat Repairs/Service	<b>\$415.13</b>
Vehicle Repairs/Service	<b>\$157.95</b>
Dock/Marina Fees	<b>\$60.12</b>
Private Land Access Fees	<b>\$43.40</b>
Fishing License/Fees	<b>\$43.10</b>
Hunting License/Fees	<b>\$12.32</b>
<b><i>Overall Average</i></b>	<b>\$677.03</b>

**Table 2. Annual Mean Variable Expenditures from Cherokee Reservoir Shoreline Property Owners**

Category	Average
<u>Annual Variable Expenses</u>	
Food & Beverages	\$1,032.48
Fuel for Watercraft	\$700.83
Fuel for Vehicles	\$327.23
Retail Goods	\$266.58
Fishing Supplies	\$150.81
Other Expenses	\$89.81
Entertainment	\$78.49
Camping Supplies	\$45.43
Lodging Expenses	\$35.25
Hunting Supplies	\$23.87
Souvenirs/Gifts	\$21.23
Tour Fees	\$6.30
Boat Rental Fees	\$3.66
Other Equipment Rentals	\$2.81
Horseback Riding	\$1.25
Guide/Outfitter Fees	\$0.95
<u>Overall Average</u>	\$174.19

tries throughout the state.

For indirect impacts, the top five industries impacted were real estate, management of companies and enterprises, banking, wholesale trade, and telecommunications. Likewise, for induced impacts, owner-occupied dwellings, state and local education, wholesale trade, real estate, and health care professionals (doctors, dentists, etc.) were the top five industries impacted.



Total Industry Output represents the estimated annual dollar value of production summed across all industries and is a measure of total economic activity. Employment represents the estimated number of total wage and salary employees (both full- and part-time), as well as self-employed. Total Value Added represents the estimated dollar value of wages and salaries including benefits, self-employed income, interests, rents, royalties, dividends, profits, plus excise and sales taxes.

Direct Impacts represent the estimated economic impacts of activities from Cherokee Reservoir shoreline property owners from the survey conducted. Total Impacts are the sum of direct impacts, plus the estimated economic impacts from businesses (i.e., restaurants, lodging, fuel, retail sales, etc.) providing goods and services (Indirect Impacts), and increased expenditures of new household income (Induced Impacts) as a result of shoreline property owners' activities.

**Table 3. Annual Estimated Economic Impacts from Cherokee Reservoir Shoreline Property Owners**

	Total Industry Output <sup>a</sup>		Employment		Total Value Added <sup>a</sup>	
	Direct	Total	Direct	Total	Direct	Total
	(Million \$)		(Number)		(Million \$)	
Multi-County <sup>b</sup>	\$5.1	\$10.2	61	110	\$3.3	\$6.3
State	\$5.1	\$10.8	61	113	\$3.3	\$6.6

<sup>a</sup>2008 dollars; <sup>b</sup>Multi-County region includes Blount, Cocke, Grainger, Greene, Hamblen, Hancock, Hawkins, Jefferson, Knox, Loudon, and Sevier counties.

AIM-AG/AGRI-Industry Modeling & Analysis Group: (Dr. Burton English, Dr. Kim Jensen, and Mr. Jamey Menard), Department of Agricultural Economics, The University of Tennessee Institute of Agriculture. For more information concerning AIM-AG, please contact the group at 865/974-7231 or visit the web site at <http://web.utk.edu/~aimag/>. Data generated for this report from IMPLAN pro, Minnesota IMPLAN Group, 2006. Surveys conducted by the Human Dimensions Research Lab: (Dr. Mark Fly, Becky Stephens, April Griffin, Susan Schexnayder, and Katie Percy), Department of Forestry, Wildlife, and Fisheries, The University of Tennessee Institute of Agriculture.