



Economic Impacts From Tennessee Valley Authority's Douglas Reservoir's Shoreline Property Owners Recreational Expenditures

Douglas Reservoir Facts: The reservoir has 513 miles of shoreline and roughly 28,420 acres of water surface for recreational activities. The lake has a flood storage capacity of 1,081,880 acre-feet. Water used to generate power at Douglas is used repeatedly at the nine TVA hydroelectric plants located along the Tennessee River from Knoxville to Paducah, Kentucky.

Approximately 1,044 Douglas Reservoir shoreline property owners with dock permits were surveyed May through August of 2007. Approximately 58.0 percent (606) of the shoreline property owners were permanent residents; the remaining (438) were part-time. The annual mean expenditure for all fixed expenses was \$936.37 (Table 1). The top five mean fixed expenditures were watercraft purchases at \$4,791.09, followed by dock/dock maintenance (\$1,771.95), boat repairs/service (\$587.05), vehicle repair/service (\$178.05), and dock/marina fees (\$86.53). For annual variable expenses, the average mean expenditure across all categories was \$248.72 (Table 2). Likewise, for annual mean variable expenditures, the top five expenditures were food and beverage at \$1,333.56, followed by fuel for watercraft (\$758.64), other expenses (\$606.04), purchases of retail goods (\$380.25), and fuel for vehicles (\$350.76).



This analysis employed an input-output model, IMPLAN, to measure the economic impacts from Douglas 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 \$11.9 million and \$23.9 million, respectively, as measured through total industry output. This impact financed close to 270 jobs. Total value added was estimated at \$14.9 million. For the state model, total impacts were estimated at \$25.2 million of economic activity. Estimated total impacts for value added were \$15.5 million. Estimated total number of jobs was 273.

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 2.01 for the multi-county analysis and 2.11 for the state. For every dollar Douglas Reservoir shoreline property owners spent, an additional \$1.01 was generated throughout the multi-county analysis or \$1.11 throughout the state. Likewise, employment multipliers ranged from 1.78 for the multi-county analysis and 1.81 for the state. For every job created based on Douglas Reservoir shoreline property owners expenditures, an additional .78 to .81 jobs are created in other indus-

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

Category	Average
<i>Annual Fixed Expenses</i>	
Watercraft Purchases	\$4,791.09
Dock/Dock Maintenance	\$1,771.95
Boat Repairs/Service	\$587.05
Vehicle Repairs/Service	\$178.05
Dock/Marina Fees	\$86.53
Fishing License/Fees	\$38.84
Private Land Access Fees	\$30.13
Hunting License/Fees	\$7.32
<i>Overall Average</i>	<i>\$936.37</i>

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

Category	Average
<i>Annual Variable Expenses</i>	
Food & Beverages	\$1,333.56
Fuel for Watercraft	\$758.64
Other Expenses	\$606.04
Retail Goods	\$380.25
Fuel for Vehicles	\$350.76
Fishing Supplies	\$205.68
Entertainment	\$135.85
Camping Supplies	\$55.46
Hunting Supplies	\$42.07
Souvenirs/Gifts	\$41.08
Lodging Expenses	\$35.75
Other Equipment Rentals	\$17.32
Boat Rental Fees	\$9.72
Horseback Riding	\$4.68
Guide/Outfitter Fees	\$2.13
Tour Fees	\$0.55
<i>Overall Average</i>	\$248.72

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 Douglas 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 Douglas Reservoir Shoreline Property Owners

	Total Industry Output ^a		Employment		Total Value Added ^a	
	<i>Direct</i>	<i>Total</i>	<i>Direct</i>	<i>Total</i>	<i>Direct</i>	<i>Total</i>
	<i>(Million \$)</i>		<i>(Number)</i>		<i>(Million \$)</i>	
Multi-County ^b	\$11.9	\$23.9	151	269	\$7.6	\$14.9
State	\$11.9	\$25.2	151	273	\$7.6	\$15.5

^a2007 dollars; ^bMulti-County region includes Blount, Cocke, Greene, Hamblen, Hawkins, Jefferson, Knox, Loudon, and Sevier counties.

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