



Economic Impacts From Tennessee Valley Authority's Upper East Group Reservoir's Shoreline Property Owners Recreational Expenditures

Upper East Group Reservoirs Facts: The group consists of Boone, Davy Crockett, Fort Patrick Henry, South Holston, Watauga, and Wilbur reservoirs. As a group, the lakes have over 247,000 kilowatts of generating capacity. Flood storage capacity for all the lakes combined is over 480 thousand acre-feet. The lakes as a group are managed for power production, flood control, water supply, water quality, and aquatic ecology.

Approximately 1,661 Upper East Group Reservoirs shoreline property owners with dock permits were surveyed June through September 2008. Approximately 61.1 percent (1,015) of the shoreline property owners were permanent residents; the remaining (646) were part-time. The annual mean expenditure for all fixed expenses was \$920.66 (Table 1). The top five mean fixed expenditures were watercraft purchases at \$3,632.50, followed by dock/dock maintenance (\$2,543.34), boat repairs/service (\$504.98), private land access fees (\$264.10), and dock/marina fees (\$228.97). For annual variable expenses, the average mean expenditure across all categories was \$177.38 (Table 2). Likewise, for annual mean variable expenditures, the top five expenditures were food and beverage at \$1,186.27, followed by fuel for watercraft (\$704.26), fuel for vehicles (\$253.95), purchases of retail goods (\$209.33), and lodging expenses (\$129.67).



This analysis employed an input-output model, IMPLAN, to measure the economic impacts from Upper East Group Reservoirs shoreline property owners. Numerous communities and/or towns along 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 around the reservoirs (Table 3). For the

Table 1. Annual Mean Fixed Expenditures from Upper East Group Reservoirs Shoreline Property Owners

Category	Average
<i>Annual Fixed Expenses</i>	
Watercraft Purchases	\$3,632.50
Dock/Dock Maintenance	\$2,543.34
Boat Repairs/Service	\$504.98
Private Land Access Fees	\$264.10
Dock/Marina Fees	\$228.97
Vehicle Repairs/Service	\$151.98
Fishing License/Fees	\$31.80
Hunting License/Fees	\$7.59
<i>Overall Average</i>	\$920.66

multi-county analysis, estimated direct and total impacts (economic activity) were \$16.9 million and \$30.9 million, respectively, as measured through total industry output. This impact financed more than 370 jobs. Total value added was estimated at \$18.7 million. For the state model, total impacts were estimated at \$35.5 million of economic activity. Estimated total impacts for value added were \$21.7 million. Estimated total number of jobs was 411.

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 1.83 for the multi-county analysis and 2.10 for the state. For every dollar Upper East Group Reservoirs shoreline property owners spent, an additional \$0.83 was generated throughout the multi-county analysis or \$1.10 throughout the state. Likewise, employment multipliers ranged from 1.68 for the multi-county analysis and 1.86 for the state.

Table 2. Annual Mean Variable Expenditures from Upper East Group Reservoirs Shoreline Property Owners

Category	Average
<i>Annual Variable Expenses</i>	
Food & Beverages	\$1,186.27
Fuel for Watercrafts	\$704.26
Fuel for Vehicles	\$253.95
Retail Goods	\$209.33
Lodging Expenses	\$129.67
Fishing Supplies	\$107.72
Other Expenses	\$91.51
Entertainment	\$52.22
Camping Supplies	\$25.40
Hunting Supplies	\$25.38
Boat Rental Fees	\$16.88
Horseback Riding	\$11.30
Souvenirs/Gifts	\$8.41
Other Equipment Rentals	\$6.76
Guide/Outfitter Fees	\$4.55
Tour Fees	\$4.54
<i>Overall Average</i>	<i>\$177.38</i>

For every job created based on Upper East Group Reservoirs shoreline property owners expenditures, an additional .68 to .86 jobs are created in other industries throughout the state.

For indirect impacts, the top five industries impacted were real estate, management of companies and enterprises, radio/television broadcasting, banking, and telecommunications. Likewise, for induced impacts, owner-occupied dwellings, state and local education, health care professionals (doctors, dentists, etc.), hospitals, and food services and drinking places 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 Upper East Group Reservoirs shoreline property owners from the surveys 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 Upper East Group Reservoirs 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	\$16.9	\$30.9	221	371	\$10.3	\$18.7
State	\$16.9	\$35.5	221	411	\$10.7	\$21.7

^a2008 dollars; ^bMulti-County region includes Carter, Greene, Hawkins, Johnson, Sullivan, Unicoi, and Washington counties in Tennessee; Grayson, Scott, and Washington counties in Virginia; and Ashe, Avery, Madison, Mitchell, Watauga, and Yancey counties in North Carolina.

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