



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

Kentucky Reservoir Facts: The reservoir, the largest in the eastern U.S. stretching 184 miles across the states of Kentucky and Tennessee, has 2,064 miles of shoreline and about 160,300 acres of water surface. Flood storage capacity is estimated at 4,008,000 acre-feet, which is more than 2.5 times the capacity of the next largest reservoir in the TVA system. The watershed for the reservoir is 40,200 square miles.

Approximately 1,278 Kentucky Reservoir shoreline property owners with dock permits were surveyed May through August of 2007. Approximately 41.2 percent (527) of the shoreline property owners were permanent residents; the remaining (751) were part-time. The annual mean expenditure for all fixed expenses was \$1,217.65 (Table 1). The top five mean fixed expenditures were watercraft purchases at \$5,847.49, followed by dock/dock maintenance (\$2,754.63), boat repairs/service (\$606.82), vehicle repair/service (\$251.40), and dock/marina fees (\$186.68). For annual variable expenses, the average mean expenditure across all categories was \$301.24 (Table 2). Likewise, for annual mean variable expenditures, the top five expenditures were food and beverage at \$1,596.03, followed by fuel for watercraft (\$912.88), fuel for vehicles (\$705.77), other expenses (\$538.58), and purchases of retail goods (\$426.77).



This analysis employed an input-output model, IMPLAN, to measure the economic impacts from Kentucky 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 \$18.6 million and \$28.4 million,

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

| Category | Average |
|------------------------------|-------------------|
| <i>Annual Fixed Expenses</i> | |
| Watercraft Purchases | \$5,847.49 |
| Dock/Dock Maintenance | \$2,754.63 |
| Boat Repairs/Service | \$606.82 |
| Vehicle Repairs/Service | \$251.40 |
| Dock/Marina Fees | \$186.68 |
| Private Land Access Fees | \$58.10 |
| Fishing License/Fees | \$18.07 |
| Hunting License/Fees | \$18.04 |
| <i>Overall Average</i> | <i>\$1,217.65</i> |

respectively, as measured through total industry output. This impact financed more than 400 jobs. Total value added was estimated at \$17.3 million. For the state model, total impacts were estimated at \$39.2 million of economic activity. Estimated total impacts for value added were \$24.1 million. Estimated total number of jobs was 525.

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 1.52 for the multi-county analysis and 2.10 for the state. For every dollar Kentucky Reservoir shoreline property owners spent, an additional \$0.52 was generated throughout the multi-county analysis or \$1.10 throughout the state. Likewise, employment multipliers ranged from 1.41 for the multi-county analysis and 1.83 for the state. For every job created based on Kentucky Reservoir shoreline property owners expenditures, an addi-

Table 1. Annual Mean Variable Expenditures from Kentucky Reservoir Shoreline Property Owners

| Category | Average |
|---------------------------------|-----------------|
| <i>Annual Variable Expenses</i> | |
| Food & Beverages | \$1,596.03 |
| Fuel for Watercraft | \$912.88 |
| Fuel for Vehicles | \$705.77 |
| Other Expenses | \$538.58 |
| Retail Goods | \$426.77 |
| Fishing Supplies | \$230.53 |
| Hunting Supplies | \$107.42 |
| Entertainment | \$89.93 |
| Camping Supplies | \$82.31 |
| Souvenirs/Gifts | \$42.03 |
| Lodging Expenses | \$41.55 |
| Guide/Outfitter Fees | \$17.46 |
| Other Equipment Rentals | \$16.87 |
| Horseback Riding | \$5.65 |
| Boat Rental Fees | \$4.28 |
| Tour Fees | \$1.83 |
| <i>Overall Average</i> | <i>\$301.24</i> |

tional .41 to .83 jobs are created in other industries throughout the state.

For indirect impacts, the top five industries impacted were real estate, federal electric utilities, radio/television broadcasting, banking, and newspaper publishers. Likewise, for induced impacts, owner-occupied dwellings, state and local education, food services and drinking places, state and local non-education, and banking 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 Kentucky 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 Kentucky Reservoir Shoreline Property Owners

| | Total Industry Output ^a | | Employment | | Total Value Added ^a | |
|----------------------------------|------------------------------------|--------|------------|-------|--------------------------------|--------|
| | Direct | Total | Direct | Total | Direct | Total |
| | (Million \$) | | (Number) | | (Million \$) | |
| Multi-County ^b | \$18.6 | \$28.4 | 287 | 406 | \$11.4 | \$17.3 |
| State | \$18.6 | \$39.2 | 287 | 525 | \$11.9 | \$24.1 |

^a2007 dollars; ^bMulti-County region includes Benton, Carroll, Decatur, Henry, Houston, Humphreys, Perry, and Stewart counties in Tennessee; and Calloway, Livingston, Lyon, Marshall, and Trigg counties in Kentucky.

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.