

**Appendix A**  
**IMPLAN Methodology**

To estimate the economic impacts of the Study Area's recreational users'; loggers'; and coal, gas, and oil miners', expenditures were incorporated into IMPLAN, an input-output model. Input-output models analyze the interdependence of industries in an economy through market based transactions. The model describes the transfer of money between industries and institutions and contains both market-based and non-market financial flows, such as inter-institutional transfers. Output from the model includes descriptive measures of the economy including total industry output (i.e., a measure of economic activity), value-added, indirect business taxes, and employment for 440 industries in the study region's economy (Anderson, Campbell, Morgan, and Scott Counties in Tennessee). Version 3.0 of IMPLAN utilizes a National Trade Flow Model (doubly-constrained gravity model) to estimate a new set of regional purchase coefficients and other trade data that predict local purchases based on a region's characteristics (Lindall, Olson, and Alward, 2006). Not only can the model be used to describe a regional economy, but the model also can be used for predictive purposes, by providing estimates of multipliers.

Multipliers measure the response of the economy to a change in demand or production. Multiplier analysis generally focuses on the effects of exogenous changes on: 1) output of the sectors in the economy; 2) income earned by households because of the new outputs; and 3) employment (in physical terms) that is expected to be generated because of the new outputs. This study uses Type I and Type SAM (Social Accounting Matrix) multipliers. Type I multipliers are calculated by dividing direct plus indirect impacts by the direct impacts, while the Type SAM multipliers are calculated by dividing the sum of the direct, indirect, and induced impacts by the direct impacts. The Type SAM multipliers take into account the expenditures resulting from increased incomes of households as well as inter-institutional transfers resulting from the economic activity. Therefore, Type SAM multipliers assume that as final demand changes, incomes increase along with inter-institutional transfers. As these people and institutions increase expenditures this leads to increased demands from local industries.

The coal mining data used were from U.S. Energy Information Administration (price of coal) and the Appalachian Region Office of Surface Mines (quantities mined) (Tables 4 through 6). Oil and gas well production

data were obtained from the Tennessee Division of Geology in Nashville (Tables 10 through 12; Tables 14 through 16). Oil and gas prices were obtained from an annual publication also originated by the Tennessee Division of Geology (see Reference section, "Oil and Gas Activity in [Year] publications). Data for logging activity came from a variety of sources. USDA's Timber Product Output was used to determine the quantities, types of species, and forest products type removed on public owned lands in the four counties encompassing the Study Area. Tennessee Division of Agriculture, Division of Forestry provided prices for various delivered forest products in the State (Table 20). Acres logged in the Study Area were provided by the Appalachian Region Office of Surface Mines (Table 21). For each of these resource extraction activities, estimated economic impacts were conducted for the Study Area and Petition Area.

From November 11, 2011 to March 1, 2012, surveys were conducted of recreational trail users in the Study Area. One part of the recreational user survey included questions concerning their trip expenditures for input in estimating economic impacts (see Survey Instrument, Appendix C). From the recreational users' surveys, and using secondary source information, the number of recreational users was estimated. The estimated numbers of annual users, along with the survey information, were used to provide estimates of annual direct expenditures in the region. The companion document to this analysis from the Human Dimensions Research Lab in the Forestry, Wildlife & Fisheries department at the University of Tennessee (Schexnayder *et al.*, 2012) details the methodology used to capture and report recreational users' expenditures and estimate annual user days for recreationist in the Study Area. These data were placed into a regional model constructed from 2009 IMPLAN data. Economic impacts were then estimated utilizing the direct expenditure estimates from the recreational users groups. A per user impact was determined for each of these groups. Surveys were also sent to local businesses in the four county Study Area from February 10, 2012 through March 7, 2012 to determine how recreational users impact the local economy (see Survey Instrument, Appendix D). Much of the descriptive information generated for the local businesses section was derived by taking frequencies and averages of the survey data (Tables 25 through 27).

Direct effects, or impacts, are those attributable specifically to the new expenditures in a region.

Economic impacts result because recreational users purchase goods and services from other industries (Direct impacts). For example, expenditures by recreational users at a restaurant leads to the employment of waiters, cooks, and cashiers. These workers represent the direct employment impact of the expenditures.

Indirect effects, or impacts, arise from businesses' expenditures on raw materials, services, supplies, and other operating expenses, which help to support jobs in other local businesses. For example, a restaurant may have sales expand due to recreational users' expenditures, thus requiring more purchases from food services wholesalers and, potentially, greater accounting and legal services from other local firms. Note that only the value added via the local production process, not the total retail sale, gives rise to additional economic benefits for the community. Only the portion of the expenditure actually retained by the local vendor can be used in the calculation of the firm's indirect income impact on the local economy. It is for this reason that retail sales, in isolation, represent a poor measure of economic impact. Hence, when local businesses purchase merchandise for resale, most of the proceeds accrue to the community where the goods were manufactured. Thus, the size of a firm's indirect impact on local incomes depends primarily on the dollar value of locally purchased goods and services and whether or not these same goods and services are locally produced or imported into the community. In addition, the amount of indirect employment generated by the business firm will vary with the amount of under-utilization of workers and capacity existing in local businesses. Although the firm's payments to local vendors increase the amount of local business activity, they will not translate to significant increases in employment if local firms are currently experiencing excess capacity. The model assumes that firms are operating at full capacity, so estimates of indirect effects may overstate economic impacts if firms were actually operating at less than full capacity. ("Full" capacity, in this sense, can be thought of as a "traditional" operating level, generally 70-80% of true plant capacity, thus allowing firms to expand operations in the short-run.)

Induced impacts, or ripple effects, are created as the new income generated by the direct and indirect effects is spent and re-spent within the local economy. For example, part of the wages received by a firm's

employees will be spent on housing. When a restaurant employee rents an apartment in Tennessee, a portion of the rent payment will be used to pay local employees of the apartment complex. These employees will in turn spend a portion of their income in the local community on groceries, housing, etc., thus adding to the amount of local personal income attributable to the firm's activities. However, during each of these subsequent rounds of spending, a large portion of the income generated leaks out of the State economy through taxes, savings, and spending outside the State or region, thereby diminishing the increment to State's or region's income attributable to these firms.

## **Appendix B**

### **IMPLAN 440 Sector Description Aggregation Scheme**

**Table B.1. Aggregation Scheme Used for IMPLAN 440 Sector Descriptions**

<b>Name</b>	<b>IMPLAN Sector</b>	<b>Description</b>
Agriculture Inputs	19	Support activities for agriculture & forestry
Agriculture Inputs	130	Fertilizer manuf
Agriculture Inputs	131	Pesticide & other agricultural chemical manuf
Agriculture Inputs	164	Lime & gypsum product manuf
Agriculture Inputs	203	Farm machinery & equipment manuf
Agriculture Inputs	204	Lawn & garden equipment manuf
Primary Agriculture Crops	1	Oilseed farming
Primary Agriculture Crops	2	Grain farming
Primary Agriculture Crops	3	Vegetable & melon farming
Primary Agriculture Crops	4	Fruit farming
Primary Agriculture Crops	5	Tree nut farming
Primary Agriculture Crops	6	Greenhouse, nursery, & floriculture production
Primary Agriculture Crops	7	Tobacco farming
Primary Agriculture Crops	8	Cotton farming
Primary Agriculture Crops	9	Sugarcane & sugar beet farming
Primary Agriculture Crops	10	All other crop farming
Primary Agriculture Livestock	11	Cattle ranching & farming
Primary Agriculture Livestock	12	Dairy cattle & milk production
Primary Agriculture Livestock	13	Poultry & egg production
Primary Agriculture Livestock	14	Animal production, except cattle & poultry & eggs
Primary Agriculture Livestock	17	Fishing
Primary Agriculture Livestock	18	Hunting & trapping
Secondary Agriculture	41	Dog & cat food manuf
Secondary Agriculture	42	Other animal food manuf
Secondary Agriculture	43	Flour milling & malt manuf
Secondary Agriculture	44	Wet corn milling
Secondary Agriculture	45	Soybean & other oilseed processing
Secondary Agriculture	46	Fats & oils refining & blending
Secondary Agriculture	47	Breakfast cereal manuf
Secondary Agriculture	48	Sugar cane mills & refining
Secondary Agriculture	49	Beet sugar manuf
Secondary Agriculture	50	Chocolate & confectionery manuf from cacao beans
Secondary Agriculture	51	Confectionery manuf from purchased chocolate
Secondary Agriculture	52	Nonchocolate confectionery manuf
Secondary Agriculture	53	Frozen food manuf
Secondary Agriculture	54	Fruit & vegetable canning, pickling, & drying
Secondary Agriculture	55	Fluid milk & butter manuf
Secondary Agriculture	56	Cheese manuf
Secondary Agriculture	57	Dry, condensed, & evaporated dairy product manuf
Secondary Agriculture	58	Ice cream & frozen dessert manuf
Secondary Agriculture	59	Animal (except poultry) slaughtering, rendering, & processing
Secondary Agriculture	60	Poultry processing
Secondary Agriculture	61	Seafood product preparation & packaging
Secondary Agriculture	62	Bread & bakery product manuf
Secondary Agriculture	63	Cookie, cracker, & pasta manuf
Secondary Agriculture	64	Tortilla manuf
Secondary Agriculture	65	Snack food manuf
Secondary Agriculture	66	Coffee & tea manuf
Secondary Agriculture	67	Flavoring syrup & concentrate manuf
Secondary Agriculture	68	Seasoning & dressing manuf

Secondary Agriculture	69	All other food manuf
Secondary Agriculture	70	Soft drink & ice manuf
Secondary Agriculture	71	Breweries
Secondary Agriculture	72	Wineries
Secondary Agriculture	73	Distilleries
Secondary Agriculture	74	Tobacco product manuf
Secondary Agriculture	75	Fiber, yarn, & thread mills
Secondary Agriculture	76	Broadwoven fabric mills
Secondary Agriculture	77	Narrow fabric mills & schiffli machine embroidery
Secondary Agriculture	78	Nonwoven fabric mills
Secondary Agriculture	79	Knit fabric mills
Secondary Agriculture	80	Textile & fabric finishing mills
Secondary Agriculture	81	Fabric coating mills
Secondary Agriculture	82	Carpet & rug mills
Secondary Agriculture	83	Curtain & linen mills
Secondary Agriculture	84	Textile bag & canvas mills
Secondary Agriculture	85	All other textile product mills
Secondary Agriculture	86	Apparel knitting mills
Secondary Agriculture	87	Cut & sew apparel contractors
Secondary Agriculture	88	Men's & boys' cut & sew apparel manuf
Secondary Agriculture	89	Women's & girls' cut & sew apparel manuf
Secondary Agriculture	90	Other cut & sew apparel manuf
Secondary Agriculture	91	Apparel accessories & other apparel manuf
Secondary Agriculture	92	Leather & hide tanning & finishing
Secondary Agriculture	93	Footwear manuf
Secondary Agriculture	94	Other leather & allied product manuf
Forestry Inputs	15	Forest nurseries, forest products, & timber tracts
Forestry Inputs	16	Commercial Logging
Primary Forestry	95	Sawmills & wood preservation
Primary Forestry	104	Pulp mills
Primary Forestry	105	Paper mills
Primary Forestry	106	Paperboard Mills
Secondary Forestry	96	Veneer & plywood manuf
Secondary Forestry	97	Engineered wood member & truss manuf
Secondary Forestry	98	Reconstituted wood product manuf
Secondary Forestry	99	Wood windows & doors & millwork
Secondary Forestry	100	Wood container & pallet manuf
Secondary Forestry	101	Manufactured home (mobile home) manuf
Secondary Forestry	102	Prefabricated wood building manuf
Secondary Forestry	103	All other miscellaneous wood product manuf
Secondary Forestry	107	Paperboard container manuf
Secondary Forestry	108	Coated & laminated paper, packaging paper & plastics film manuf
Secondary Forestry	109	All other paper bag & coated & treated paper manuf
Secondary Forestry	110	Stationery product manuf
Secondary Forestry	111	Sanitary paper product manuf
Secondary Forestry	112	All other converted paper product manuf
Secondary Forestry	295	Wood kitchen cabinet & countertop manuf
Secondary Forestry	296	Upholstered household furniture manuf
Secondary Forestry	297	Nonupholstered wood household furniture manuf
Secondary Forestry	299	Institutional furniture manuf
Secondary Forestry	300	Office furniture manuf
Secondary Forestry	301	Custom architectural woodwork & millwork manuf
Secondary Forestry	302	Showcase, partition, shelving, & locker manuf



Secondary Forestry	303	Mattress manuf
Secondary Forestry	304	Blind & shade manuf
Accommodation & Food Services	411	Hotels & motels, including casino hotels
Accommodation & Food Services	412	Other accommodations
Accommodation & Food Services	413	Food services & drinking places
Arts, Entertainment, & Recreation	346	Motion picture & video industries
Arts, Entertainment, & Recreation	347	Sound recording industries
Arts, Entertainment, & Recreation	402	Performing arts companies
Arts, Entertainment, & Recreation	403	Spectator sports
Arts, Entertainment, & Recreation	404	Promoters of performing arts & sports & agents for public figures
Arts, Entertainment, & Recreation	405	Independent artists, writers, & performers
Arts, Entertainment, & Recreation	406	Museums, historical sites, zoos, & parks
Arts, Entertainment, & Recreation	407	Fitness & recreational sports centers
Arts, Entertainment, & Recreation	408	Bowling centers
Arts, Entertainment, & Recreation	409	Amusement parks, arcades, & gambling industries
Arts, Entertainment, & Recreation	410	Other amusement & recreation industries
Construction	34	Construction of new nonresidential commercial & health care structures
Construction	35	Construction of new nonresidential manuf structures
Construction	36	Construction of other new nonresidential structures
Construction	37	Construction of new residential permanent site single- & multi-family structures
Construction	38	Construction of other new residential structures
Construction	39	Maintenance & repair construction of nonresidential structures
Construction	40	Maintenance & repair construction of residential structures
Finance & Insurance	354	Monetary authorities & depository credit intermediation
Finance & Insurance	355	Nondepository credit intermediation & related activities
Finance & Insurance	356	Securities, commodity contracts, investments, & related activities
Finance & Insurance	357	Insurance carriers
Finance & Insurance	358	Insurance agencies, brokerages, & related activities
Finance & Insurance	359	Funds, trusts, & other financial vehicles
Government	391	Elementary & secondary schools
Government	392	Junior colleges, colleges, universities, & professional schools
Government	427	Postal service
Government	428	Federal electric utilities
Government	429	Other Federal Government enterprises
Government	430	State & local government passenger transit
Government	431	State & local government electric utilities
Government	432	Other state & local government enterprises
Government	437	Employment & payroll for SL Government Non-Education

Government	438	Employment & payroll for SL Government Education
Government	439	Employment & payroll for Federal Non-Military
Government	440	Employment & payroll for Federal Military
Health Care & Social Assistance	394	Offices of physicians, dentists, & other health practitioners
Health Care & Social Assistance	395	Home health care services
Health Care & Social Assistance	396	Medical & diagnostic labs & outpatient & other ambulatory care services
Health Care & Social Assistance	397	Hospitals
Health Care & Social Assistance	398	Nursing & residential care facilities
Health Care & Social Assistance	399	Child day care services
Health Care & Social Assistance	400	Individual & family services
		Community food, housing, & other relief services, including rehabilitation services
Health Care & Social Assistance	401	Printing
Information	113	Support activities for printing
Information	114	Newspaper publishers
Information	341	Periodical publishers
Information	342	Book publishers
Information	343	Directory, mailing list, & other publishers
Information	344	Software publishers
Information	345	Radio & television broadcasting
Information	348	Cable & other subscription programming
Information	349	Internet publishing & broadcasting
Information	350	Telecommunications
Information	351	Data processing, hosting, & related services
Information	352	Other information services
Information	353	Petroleum refineries
Manufacturing	115	Asphalt paving mixture & block manuf
Manufacturing	116	Asphalt shingle & coating materials manuf
Manufacturing	117	Petroleum lubricating oil & grease manuf
Manufacturing	118	All other petroleum & coal products manuf
Manufacturing	119	Petrochemical manuf
Manufacturing	120	Industrial gas manuf
Manufacturing	121	Synthetic dye & pigment manuf
Manufacturing	122	Alkalies & chlorine manuf
Manufacturing	123	Carbon black manuf
Manufacturing	124	All other basic inorganic chemical manuf
Manufacturing	125	Other basic organic chemical manuf
Manufacturing	126	Plastics material & resin manuf
Manufacturing	127	Synthetic rubber manuf
Manufacturing	128	Artificial & synthetic fibers & filaments manuf
Manufacturing	129	Medicinal & botanical manuf
Manufacturing	132	Pharmaceutical preparation manuf
Manufacturing	133	In-vitro diagnostic substance manuf
Manufacturing	134	Biological product (except diagnostic) manuf
Manufacturing	135	Paint & coating manuf
Manufacturing	136	Adhesive manuf
Manufacturing	137	Soap & cleaning compound manuf
Manufacturing	138	Toilet preparation manuf
Manufacturing	139	Printing ink manuf
Manufacturing	140	All other chemical product & preparation manuf
Manufacturing	141	Plastics packaging materials & unlaminated film & sheet manuf
Manufacturing	142	Unlaminated plastics profile shape manuf
Manufacturing	143	Plastics pipe & pipe fitting manuf
Manufacturing	144	

Manufacturing	145	Laminated plastics plate, sheet (except packaging), & shape manuf
Manufacturing	146	Polystyrene foam product manuf
Manufacturing	147	Urethane & other foam product (except polystyrene) manuf
Manufacturing	148	Plastics bottle manuf
Manufacturing	149	Other plastics product manuf
Manufacturing	150	Tire manuf
Manufacturing	151	Rubber & plastics hoses & belting manuf
Manufacturing	152	Other rubber product manuf
Manufacturing	153	Pottery, ceramics, & plumbing fixture manuf
Manufacturing	154	Brick, tile, & other structural clay product manuf
Manufacturing	155	Clay & nonclay refractory manuf
Manufacturing	156	Flat glass manuf
Manufacturing	157	Other pressed & blown glass & glassware manuf
Manufacturing	158	Glass container manuf
Manufacturing	159	Glass product manuf made of purchased glass
Manufacturing	160	Cement manuf
Manufacturing	161	Ready-mix concrete manuf
Manufacturing	162	Concrete pipe, brick, & block manuf
Manufacturing	163	Other concrete product manuf
Manufacturing	165	Abrasive product manuf
Manufacturing	166	Cut stone & stone product manuf
Manufacturing	167	Ground or treated mineral & earth manuf
Manufacturing	168	Mineral wool manuf
Manufacturing	169	Miscellaneous nonmetallic mineral products
Manufacturing	170	Iron & steel mills & ferroalloy manuf
Manufacturing	171	Steel product manuf from purchased steel
Manufacturing	172	Alumina refining & primary aluminum production
Manufacturing	173	Secondary smelting & alloying of aluminum
Manufacturing	174	Aluminum product manuf from purchased aluminum
Manufacturing	175	Primary smelting & refining of copper
Manufacturing	176	Primary smelting & refining of nonferrous metal (except copper & aluminum)
Manufacturing	177	Copper rolling, drawing, extruding & alloying
Manufacturing	178	Nonferrous metal (except copper & aluminum) rolling, drawing, extruding & alloying
Manufacturing	179	Ferrous metal foundries
Manufacturing	180	Nonferrous metal foundries
Manufacturing	181	All other forging, stamping, & sintering
Manufacturing	182	Custom roll forming
Manufacturing	183	Crown & closure manuf & metal stamping
Manufacturing	184	Cutlery, utensil, pot, & pan manuf
Manufacturing	185	Handtool manuf
Manufacturing	186	Plate work & fabricated structural product manuf
Manufacturing	187	Ornamental & architectural metal products manuf
Manufacturing	188	Power boiler & heat exchanger manuf
Manufacturing	189	Metal tank (heavy gauge) manuf
Manufacturing	190	Metal can, box, & other metal container (light gauge) manuf
Manufacturing	191	Ammunition manuf
Manufacturing	192	Arms, ordnance, & accessories manuf
Manufacturing	193	Hardware manuf
Manufacturing	194	Spring & wire product manuf
Manufacturing	195	Machine shops
Manufacturing	196	Turned product & screw, nut, & bolt manuf
Manufacturing	197	Coating, engraving, heat treating & allied activities

Manufacturing	198	Valve & fittings other than plumbing
Manufacturing	199	Plumbing fixture fitting & trim manuf
Manufacturing	200	Ball & roller bearing manuf
Manufacturing	201	Fabricated pipe & pipe fitting manuf
Manufacturing	202	Other fabricated metal manuf
Manufacturing	205	Construction machinery manuf
Manufacturing	206	Mining & oil & gas field machinery manuf
Manufacturing	207	Other industrial machinery manuf
Manufacturing	208	Plastics & rubber industry machinery manuf
Manufacturing	209	Semiconductor machinery manuf
Manufacturing	210	Vending, commercial, industrial, & office machinery manuf
Manufacturing	211	Optical instrument & lens manuf
Manufacturing	212	Photographic & photocopying equipment manuf
Manufacturing	213	Other commercial & service industry machinery manuf
Manufacturing	214	Air purification & ventilation equipment manuf
Manufacturing	215	Heating equipment (except warm air furnaces) manuf
Manufacturing	216	Air conditioning, refrigeration, & warm air heating equipment manuf
Manufacturing	217	Industrial mold manuf
Manufacturing	218	Metal cutting & forming machine tool manuf
Manufacturing	219	Special tool, die, jig, & fixture manuf
Manufacturing	220	Cutting tool & machine tool accessory manuf
Manufacturing	221	Rolling mill & other metalworking machinery manuf
Manufacturing	222	Turbine & turbine generator set units manuf
Manufacturing	223	Speed changer, industrial high-speed drive, & gear manuf
Manufacturing	224	Mechanical power transmission equipment manuf
Manufacturing	225	Other engine equipment manuf
Manufacturing	226	Pump & pumping equipment manuf
Manufacturing	227	Air & gas compressor manuf
Manufacturing	228	Material handling equipment manuf
Manufacturing	229	Power-driven handtool manuf
Manufacturing	230	Other general purpose machinery manuf
Manufacturing	231	Packaging machinery manuf
Manufacturing	232	Industrial process furnace & oven manuf
Manufacturing	233	Fluid power process machinery
Manufacturing	234	Electronic computer manuf
Manufacturing	235	Computer storage device manuf
Manufacturing	236	Computer terminals & other computer peripheral equipment manuf
Manufacturing	237	Telephone apparatus manuf
Manufacturing	238	Broadcast & wireless communications equipment
Manufacturing	239	Other communications equipment manuf
Manufacturing	240	Audio & video equipment manuf
Manufacturing	241	Electron tube manuf
Manufacturing	242	Bare printed circuit board manuf
Manufacturing	243	Semiconductor & related device manuf
Manufacturing	244	Electronic capacitor, resistor, coil, transformer, & other inductor manuf
Manufacturing	245	Electronic connector manuf
Manufacturing	246	Printed circuit assembly (electronic assembly) manuf
Manufacturing	247	Other electronic component manuf
Manufacturing	248	Electromedical & electrotherapeutic apparatus manuf
Manufacturing	249	Search, detection, & navigation instruments manuf
Manufacturing	250	Automatic environmental control manuf
Manufacturing	251	Industrial process variable instruments manuf
Manufacturing	252	Totalizing fluid meters & counting devices manuf

Manufacturing	253	Electricity & signal testing instruments manuf
Manufacturing	254	Analytical laboratory instrument manuf
Manufacturing	255	Irradiation apparatus manuf
Manufacturing	256	Watch, clock, & other measuring & controlling device manuf
Manufacturing	257	Software, audio, & video media reproducing
Manufacturing	258	Magnetic & optical recording media manuf
Manufacturing	259	Electric lamp bulb & part manuf
Manufacturing	260	Lighting fixture manuf
Manufacturing	261	Small electrical appliance manuf
Manufacturing	262	Household cooking appliance manuf
Manufacturing	263	Household refrigerator & home freezer manuf
Manufacturing	264	Household laundry equipment manuf
Manufacturing	265	Other major household appliance manuf
Manufacturing	266	Power, distribution, & specialty transformer manuf
Manufacturing	267	Motor & generator manuf
Manufacturing	268	Switchgear & switchboard apparatus manuf
Manufacturing	269	Relay & industrial control manuf
Manufacturing	270	Storage battery manuf
Manufacturing	271	Primary battery manuf
Manufacturing	272	Communication & energy wire & cable manuf
Manufacturing	273	Wiring device manuf
Manufacturing	274	Carbon & graphite product manuf
Manufacturing	275	All other miscellaneous electrical equipment & component manuf
Manufacturing	276	Automobile manuf
Manufacturing	277	Light truck & utility vehicle manuf
Manufacturing	278	Heavy duty truck manuf
Manufacturing	279	Motor vehicle body manuf
Manufacturing	280	Truck trailer manuf
Manufacturing	281	Motor home manuf
Manufacturing	282	Travel trailer & camper manuf
Manufacturing	283	Motor vehicle parts manuf
Manufacturing	284	Aircraft manuf
Manufacturing	285	Aircraft engine & engine parts manuf
Manufacturing	286	Other aircraft parts & auxiliary equipment manuf
Manufacturing	287	Guided missile & space vehicle manuf
Manufacturing	288	Propulsion units & parts for space vehicles & guided missiles
Manufacturing	289	Railroad rolling stock manuf
Manufacturing	290	Ship building & repairing
Manufacturing	291	Boat building
Manufacturing	292	Motorcycle, bicycle, & parts manuf
Manufacturing	293	Military armored vehicle, tank, & tank component manuf
Manufacturing	294	All other transportation equipment manuf
Manufacturing	298	Metal & other household furniture manuf
Manufacturing	305	Surgical & medical instrument manuf
Manufacturing	306	Surgical appliance & supplies manuf
Manufacturing	307	Dental equipment & supplies manuf
Manufacturing	308	Ophthalmic goods manuf
Manufacturing	309	Dental laboratories
Manufacturing	310	Jewelry & silverware manuf
Manufacturing	311	Sporting & athletic goods manuf
Manufacturing	312	Doll, toy, & game manuf
Manufacturing	313	Office supplies (except paper) manuf
Manufacturing	314	Sign manuf

Manufacturing	315	Gasket, packing, & sealing device manuf
Manufacturing	316	Musical instrument manuf
Manufacturing	317	All other miscellaneous manuf
Manufacturing	318	Broom, brush, & mop manuf
Mining	20	Oil & gas extraction
Mining	21	Coal mining
Mining	22	Iron ore mining
Mining	23	Copper, nickel, lead, & zinc mining
Mining	24	Gold, silver, & other metal ore mining
Mining	25	Stone mining & quarrying
Mining	26	Sand, gravel, clay, & ceramic & refractory minerals mining & quarrying
Mining	27	Other nonmetallic mineral mining & quarrying
Mining	28	Drilling oil & gas wells
Mining	29	Support activities for oil & gas operations
Mining	30	Support activities for other mining
Miscellaneous	423	Religious organizations
Miscellaneous	424	Grantmaking, giving, & social advocacy organizations
Miscellaneous	425	Civic, social, professional, & similar organizations
Miscellaneous	433	*Not an industry (Used & secondhand goods)
Miscellaneous	434	*Not an industry (Scrap)
Miscellaneous	435	*Not an industry (Rest of the world adjustment)
Miscellaneous	436	*Not an industry (Noncomparable imports)
Real Estate	360	Real estate
Real Estate	361	Imputed rental value for owner-occupied dwellings
Retail Trade	320	Retail - Motor vehicle & parts
Retail Trade	321	Retail - Furniture & home furnishings
Retail Trade	322	Retail - Electronics & appliances
Retail Trade	323	Retail - Building material & garden supply
Retail Trade	324	Retail - Food & beverage
Retail Trade	325	Retail - Health & personal care
Retail Trade	326	Retail - Gasoline stations
Retail Trade	327	Retail - Clothing & clothing accessories
Retail Trade	328	Retail - Sporting goods, hobby, book & music
Retail Trade	329	Retail - General merchandise
Retail Trade	330	Retail - Miscellaneous
Retail Trade	331	Retail - Nonstore
Services	339	Couriers & messengers
Services	362	Automotive equipment rental & leasing
Services	363	General & consumer goods rental except video tapes & discs
Services	364	Video tape & disc rental
Services	365	Commercial & industrial machinery & equipment rental & leasing
Services	366	Lessors of nonfinancial intangible assets
Services	367	Legal services
Services	368	Accounting, tax preparation, bookkeeping, & payroll services
Services	369	Architectural, engineering, & related services
Services	370	Specialized design services
Services	371	Custom computer programming services
Services	372	Computer systems design services
Services	373	Other computer related services, including facilities management
Services	374	Management, scientific, & technical consulting services
Services	375	Environmental & other technical consulting services
Services	376	Scientific research & development services
Services	377	Advertising & related services

Services	378	Photographic services
Services	379	Veterinary services
Services	380	All other miscellaneous professional, scientific, & technical services
Services	381	Management of companies & enterprises
Services	382	Employment services
Services	383	Travel arrangement & reservation services
Services	384	Office administrative services
Services	385	Facilities support services
Services	386	Business support services
Services	387	Investigation & security services
Services	388	Services to buildings & dwellings
Services	389	Other support services
Services	390	Waste management & remediation services
Services	393	Other educational services
Services	414	Automotive repair & maintenance, except car washes
Services	415	Car washes
Services	416	Electronic & precision equipment repair & maintenance
Services	417	Commercial & industrial machinery & equipment repair & maintenance
Services	418	Personal & household goods repair & maintenance
Services	419	Personal care services
Services	420	Death care services
Services	421	Dry-cleaning & laundry services
Services	422	Other personal services
Services	426	Private households
Transportation	332	Air transportation
Transportation	333	Rail transportation
Transportation	334	Water transportation
Transportation	335	Truck transportation
Transportation	336	Transit & ground passenger transportation
Transportation	337	Pipeline transportation
Transportation	338	Scenic & sightseeing transportation & support activities for transportation
Transportation	340	Warehousing & storage
Utilities	31	Electric power generation, transmission, & distribution
Utilities	32	Natural gas distribution
Utilities	33	Water, sewage & other systems
Wholesale Trade	319	Wholesale trade

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**Appendix C**  
**Recreational Users Survey Instrument**



**Economic Impacts of OHV Users in the North Cumberland Wildlife Management Area and Emory River Tracts Conservation Easement**

The information below will be used to determine the economic impacts of **OHV users** in the North Cumberland Wildlife Management Area (NCWMA) and the Emory River Tracts Conservation Easement (ERTCE) on local and state economies. For each item, **please write down how much you spent on this trip to recreate in the NCWMA and ERTCE areas.**

<b>Expenditures</b>	<b>Within 25 miles of the NCWMA &amp; ERTCE areas (Anderson, Campbell, Morgan, &amp; Scott Counties)</b>	<b>Greater than 25 miles of the NCWMA &amp; ERTCE areas (does <u>NOT</u> include Anderson, Campbell, Morgan, &amp; Scott Counties)</b>
<b>Lodging:</b>		
Hotel & motel	\$ _____	\$ _____
Bed/breakfast	\$ _____	\$ _____
Rental cabin or home	\$ _____	\$ _____
Campground:	\$ _____	\$ _____
Private Campground (e.g., KOA)	\$ _____	\$ _____
Public Campground	\$ _____	\$ _____
<input type="checkbox"/> No lodging expenses (day trip only or stayed with friends or family, etc.)		
<b>Food &amp; Beverages:</b>		
Food/drinks at a restaurant	\$ _____	\$ _____
Food/drinks at a convenience stores	\$ _____	\$ _____
Groceries at a food store	\$ _____	\$ _____
<b>Transportation to NCWMA and/or ERTCE Sites:</b>		
Gasoline & oil for car, truck, RV	\$ _____	\$ _____
Repair/service for car, truck, RV	\$ _____	\$ _____
Rental fees for car, truck, RV, trailer, etc.	\$ _____	\$ _____
Parking fees, tolls	\$ _____	\$ _____
Other transportation: _____	\$ _____	\$ _____
<b>Off-Highway Vehicle:</b>		
OHV rental fees	\$ _____	\$ _____
OHV repairs & service	\$ _____	\$ _____
OHV supplies & equipment	\$ _____	\$ _____
Trail use, entry, or parking fees	\$ _____	\$ _____
Gasoline & oil for OHV	\$ _____	\$ _____
<b>Other Expenses:</b>		
Entertainment and/or amusement	\$ _____	\$ _____
Camping supplies & equipment	\$ _____	\$ _____
Retail purchases other than groceries & equipment	\$ _____	\$ _____
Souvenirs & gifts	\$ _____	\$ _____
Other types of equipment rentals	\$ _____	\$ _____
Other (please list): _____	\$ _____	\$ _____
<b>TOTAL EXPENDITURES:</b>	\$ _____	\$ _____

**Economic Impacts of Hunters in the North Cumberland Wildlife Management Area and Emory River Tracts Conservation Easement**

The information below will be used to determine the economic impacts of **hunters** in the North Cumberland Wildlife Management Area (NCWMA) and the Emory River Tracts Conservation Easement (ERTCE) on local and state economies. For each item, **please write down how much you spent on this trip to recreate in the NCWMA and ERTCE areas.**

<b>Expenditures</b>	<b>Within 25 miles of the NCWMA &amp; ERTCE areas (Anderson, Campbell, Morgan, &amp; Scott Counties)</b>	<b>Greater than 25 miles of the NCWMA &amp; ERTCE areas (does <u>NOT</u> include Anderson, Campbell, Morgan, &amp; Scott Counties)</b>
<b>Lodging:</b> Hotel & motel Bed/breakfast Rental cabin or home Campground: Private Campground (e.g., KOA) Public Campground <input type="checkbox"/> No lodging expenses (day trip only or stayed with friends or family, etc.)	\$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____	\$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____
<b>Food &amp; Beverages:</b> Food/drinks at a restaurant Food/drinks at a convenience stores Groceries at a food store	\$ _____ \$ _____ \$ _____	\$ _____ \$ _____ \$ _____
<b>Transportation to NCWMA and/or ERTCE Sites:</b> Gasoline & oil for car, truck, RV Repair/service for car, truck, RV Rental fees for car, truck, RV, trailer, etc. Parking fees, tolls Other transportation: _____	\$ _____ \$ _____ \$ _____ \$ _____ \$ _____	\$ _____ \$ _____ \$ _____ \$ _____ \$ _____
<b>Other Expenses:</b> Hunting fees/license Guide/outfitter fees Hunting/camping equipment & supplies Retail purchases other than groceries & equipment Entertainment and/or amusement Souvenirs & gifts Other types of equipment rentals Other (please list): _____	\$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____	\$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____
<p align="right"><b>TOTAL EXPENDITURES:</b></p>	\$ _____	\$ _____

**Economic Impacts of Hikers in the North Cumberland Wildlife Management Area and Emory River Tracts Conservation Easement**

The information below will be used to determine the economic impacts of **hikers** in the North Cumberland Wildlife Management Area (NCWMA) and the Emory River Tracts Conservation Easement (ERTCE) on local and state economies. For each item, **please write down how much you spent on this trip to recreate in the NCWMA and ERTCE areas.**

Expenditures	Within 25 miles of the NCWMA & ERTCE areas (Anderson, Campbell, Morgan, & Scott Counties)	Greater than 25 miles of the NCWMA & ERTCE areas (does <u>NOT</u> include Anderson, Campbell, Morgan, & Scott Counties)
<b>Lodging:</b>		
Hotel & motel	\$ _____	\$ _____
Bed/breakfast	\$ _____	\$ _____
Rental cabin or home	\$ _____	\$ _____
Campground:	\$ _____	\$ _____
Private Campground (e.g., KOA)	\$ _____	\$ _____
Public Campground	\$ _____	\$ _____
<input type="checkbox"/> No lodging expenses (day trip only or stayed with friends or family, etc.)		
<b>Food &amp; Beverages:</b>		
Food/drinks at a restaurant	\$ _____	\$ _____
Food/drinks at a convenience stores	\$ _____	\$ _____
Groceries at a food store	\$ _____	\$ _____
<b>Transportation to NCWMA and/or ERTCE Sites:</b>		
Gasoline & oil for car, truck, RV	\$ _____	\$ _____
Repair/service for car, truck, RV	\$ _____	\$ _____
Rental fees for car, truck, RV, trailer, etc.	\$ _____	\$ _____
Parking fees, tolls	\$ _____	\$ _____
Other transportation: _____	\$ _____	\$ _____
<b>Other Expenses:</b>		
Hiking fees	\$ _____	\$ _____
Guide/outfitter fees	\$ _____	\$ _____
Hiking/camping equipment & supplies	\$ _____	\$ _____
Retail purchases other than groceries & equipment	\$ _____	\$ _____
Entertainment and/or amusement	\$ _____	\$ _____
Souvenirs & gifts	\$ _____	\$ _____
Other types of equipment rentals	\$ _____	\$ _____
Other (please list): _____	\$ _____	\$ _____
<b>TOTAL EXPENDITURES:</b>	\$ _____	\$ _____

**Economic Impacts of Campers in the North Cumberland Wildlife Management Area and  
Emory River Tracts Conservation Easement**

The information below will be used to determine the economic impacts for **campers** in the North Cumberland Wildlife Management Area (NCWMA) and the Emory River Tracts Conservation Easement (ERTCE) on local and state economies. For each item, **please write down how much you spent on this trip to recreate in the NCWMA and ERTCE areas.**

<b>Expenditures</b>	<b>Within 25 miles of the NCWMA &amp; ERTCE areas (Anderson, Campbell, Morgan, &amp; Scott Counties)</b>	<b>Greater than 25 miles of the NCWMA &amp; ERTCE areas (does <u>NOT</u> include Anderson, Campbell, Morgan, &amp; Scott Counties)</b>
<b>Lodging:</b> Hotel & motel Bed/breakfast Rental cabin or home Campground: Private Campground (e.g., KOA) Public Campground <input type="checkbox"/> No lodging expenses (day trip only or stayed with friends or family, etc.)	\$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____	\$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____
<b>Food &amp; Beverages:</b> Food/drinks at a restaurant Food/drinks at a convenience stores Groceries at a food store	\$ _____ \$ _____ \$ _____	\$ _____ \$ _____ \$ _____
<b>Transportation to NCWMA and/or ERTCE Sites:</b> Gasoline & oil for car, truck, RV Repair/service for car, truck, RV Rental fees for car, truck, RV, trailer, etc. Parking fees, tolls Other transportation: _____	\$ _____ \$ _____ \$ _____ \$ _____ \$ _____	\$ _____ \$ _____ \$ _____ \$ _____ \$ _____
<b>Other Expenses:</b> Camping fees Guide/outfitter fees Camping equipment & supplies Retail purchases other than groceries & equipment Entertainment and/or amusement Souvenirs & gifts Other types of equipment rentals Other (please list): _____	\$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____	\$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____
<p align="right"><b>TOTAL EXPENDITURES:</b></p>	\$ _____	\$ _____

**Economic Impacts of Wildlife Viewers in the North Cumberland Wildlife Management Area and Emory River Tracts Conservation Easement**

The information below will be used to determine the economic impacts for **wildlife viewers** in the North Cumberland Wildlife Management Area (NCWMA) and the Emory River Tracts Conservation Easement (ERTCE) on local and state economies. For each item, **please write down how much you spent on this trip to recreate in the NCWMA and ERTCE areas.**

<b>Expenditures</b>	<b>Within 25 miles of the NCWMA &amp; ERTCE areas (Anderson, Campbell, Morgan, &amp; Scott Counties)</b>	<b>Greater than 25 miles of the NCWMA &amp; ERTCE areas (does <u>NOT</u> include Anderson, Campbell, Morgan, &amp; Scott Counties)</b>
<b>Lodging:</b> Hotel & motel Bed/breakfast Rental cabin or home Campground: Private Campground (e.g., KOA) Public Campground <input type="checkbox"/> No lodging expenses (day trip only or stayed with friends or family, etc.)	\$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____	\$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____
<b>Food &amp; Beverages:</b> Food/drinks at a restaurant Food/drinks at a convenience stores Groceries at a food store	\$ _____ \$ _____ \$ _____	\$ _____ \$ _____ \$ _____
<b>Transportation to NCWMA and/or ERTCE Sites:</b> Gasoline & oil for car, truck, RV Repair/service for car, truck, RV Rental fees for car, truck, RV, trailer, etc. Parking fees, tolls Other transportation: _____	\$ _____ \$ _____ \$ _____ \$ _____ \$ _____	\$ _____ \$ _____ \$ _____ \$ _____ \$ _____
<b>Other Expenses:</b> Fees Guide/outfitter fees Hiking/camping equipment & supplies Retail purchases other than groceries & equipment Entertainment and/or amusement Souvenirs & gifts Other types of equipment rentals Other (please list): _____	\$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____	\$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____
<p align="right"><b>TOTAL EXPENDITURES:</b></p>	\$ _____	\$ _____

**Economic Impacts of Horseback Riders in the North Cumberland Wildlife Management Area and Emory River Tracts Conservation Easement**

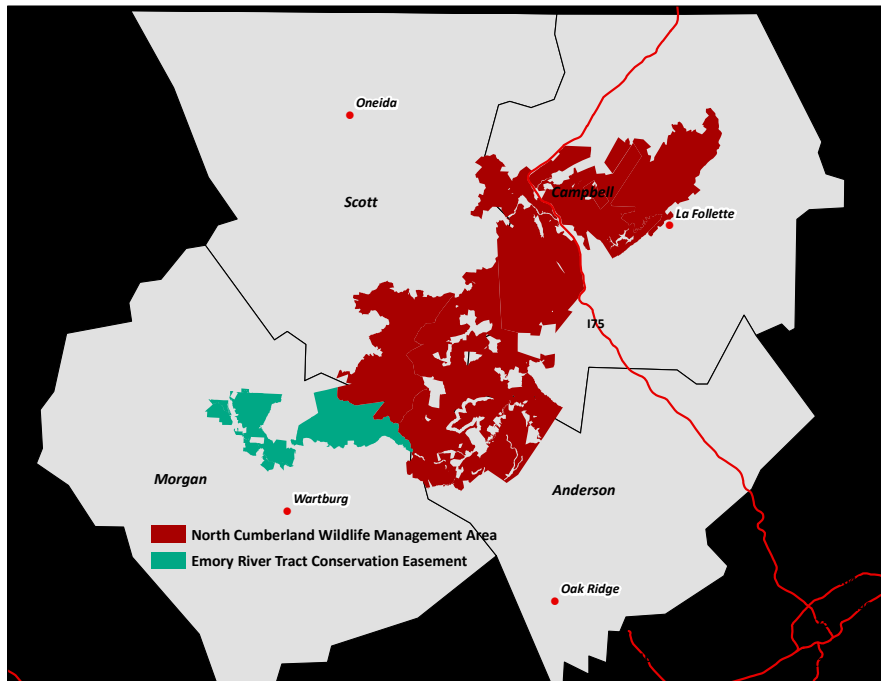
The information below will be used to determine the economic impacts for **horseback riders** in the North Cumberland Wildlife Management Area (NCWMA) and the Emory River Tracts Conservation Easement (ERTCE) on local and state economies. For each item, **please write down how much you spent on this trip to recreate in the NCWMA and ERTCE areas.**

<b>Expenditures</b>	<b>Within 25 miles of the NCWMA &amp; ERTCE areas (Anderson, Campbell, Morgan, &amp; Scott Counties)</b>	<b>Greater than 25 miles of the NCWMA &amp; ERTCE areas (does <u>NOT</u> include Anderson, Campbell, Morgan, &amp; Scott Counties)</b>
<b>Lodging:</b> Hotel & motel Bed/breakfast Rental cabin or home Campground: Private Campground (e.g., KOA) Public Campground <input type="checkbox"/> No lodging expenses (day trip only or stayed with friends or family, etc.)	\$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____	\$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____
<b>Food &amp; Beverages:</b> Food/drinks at a restaurant Food/drinks at a convenience stores Groceries at a food store	\$ _____ \$ _____ \$ _____	\$ _____ \$ _____ \$ _____
<b>Transportation to NCWMA and/or ERTCE Sites:</b> Gasoline & oil for car, truck, RV Repair/service for car, truck, RV Rental fees for car, truck, RV, trailer, etc. Parking fees, tolls Other transportation: _____	\$ _____ \$ _____ \$ _____ \$ _____ \$ _____	\$ _____ \$ _____ \$ _____ \$ _____ \$ _____
<b>Other Expenses:</b> Horseback riding fees Guide/outfitter fees Horseback riding equipment & supplies Retail purchases other than groceries & equipment Entertainment and/or amusement Souvenirs & gifts Other types of equipment rentals Other (please list): _____	\$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____	\$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____
<p align="right"><b>TOTAL EXPENDITURES:</b></p>	\$ _____	\$ _____

**Appendix D**  
**Business Survey Instrument**

## UNIVERSITY OF TENNESSEE SURVEY OF BUSINESSES IN ANDERSON, CAMPBELL, MORGAN AND SCOTT COUNTIES

Researchers at the University of Tennessee are conducting a survey of businesses in Anderson, Campbell, Morgan and Scott Counties to gain a better understanding of the economic effects of recreational and non-recreational use of the **North Cumberland Wildlife Management Area (NCWMA)** and **Emory River Tracts Conservation Easement (ERTCE)** areas (see map below). Thus, we are asking area businesses to answer the following questions and return this questionnaire in the attached self-addressed, stamped envelope. Your participation in this survey is voluntary. We do not ask for your name, the name of your business, or for any information that would allow us to connect your responses to you or your business. The information you provide is confidential and will be released only when aggregated with other responses to the survey.



1. Which of the following best describes the primary type of your business? *Please check only one.*
- |  |  |
|--|--|
| <input type="checkbox"/> Timber/Logging                        | <input type="checkbox"/> Food & Beverage Store                           |
| <input type="checkbox"/> Coal Mining (Surface/Subsurface/Both) | <input type="checkbox"/> Restaurant                                      |
| <input type="checkbox"/> Oil & Gas Mining                      | <input type="checkbox"/> Gasoline Station                                |
| <input type="checkbox"/> Support Activities for Mining         | <input type="checkbox"/> Other Retail (type: _____)                      |
| <input type="checkbox"/> Utility                               | <input type="checkbox"/> Banking/Finance (type: _____)                   |
| <input type="checkbox"/> Construction (type: _____)            | <input type="checkbox"/> Real Estate/Rental/Leasing                      |
| <input type="checkbox"/> Manufacturing (type: _____)           | <input type="checkbox"/> Professional & Technical Services (type: _____) |
| <input type="checkbox"/> Wholesaler                            | <input type="checkbox"/> Waste Management                                |
| <input type="checkbox"/> Motor Vehicles & Parts Dealer         | <input type="checkbox"/> Health Care (type: _____)                       |
| <input type="checkbox"/> Automotive Repair/Service             | <input type="checkbox"/> Recreational/Entertainment (type: _____)        |
| <input type="checkbox"/> Building Materials & Garden Equipment | <input type="checkbox"/> Lodging (type: _____)                           |
| <input type="checkbox"/> Other (please specify: _____)         |  |



2. On average, how many people were employed by your business in 2011?

\_\_\_\_\_ Average number of full-time employees in 2011

\_\_\_\_\_ Average number of part-time employees in 2011

3. Which of the following best reflects total sales for your business in 2011? *Please check only one.*

- less than \$99,999                       \$1,000,000 - \$1,499,999
- \$100,000 - \$249,999                 \$1,500,000 - \$1,999,999
- \$250,000 - \$499,999                 \$2,000,000 - \$2,999,999
- \$500,000 - \$749,999                 \$3,000,000 - \$5,999,999
- \$750,000 - \$999,999                 \$6,000,000 or more

4. What percentage of your business' total sales in 2011 would you attribute to each of the following types of activities? *Should total to 100%. If "none", enter "0".*

- \_\_\_\_\_ % **Recreational** use of the NCWMA and ERTCE areas, including hunting, hiking, camping, off-highway vehicle use, wildlife viewing, horseback riding, etc.
- \_\_\_\_\_ % **Logging** activities in the NCWMA and ERTCE areas
- \_\_\_\_\_ % **Coal mining** activities in the NCWMA and ERTCE areas
- \_\_\_\_\_ % **Oil and gas mining** activities in the NCWMA and ERTCE areas
- \_\_\_\_\_ % **Other** activities in the NCWMA and ERTCE areas (please specify: \_\_\_\_\_)
- \_\_\_\_\_ % Activities unrelated to the NCWMA and ERTCE areas
- 100% Total**

5. In what county is your business located?                      County: \_\_\_\_\_

6. In what zip code is your business located?                      Zip code: \_\_\_\_\_

**Thank you for participating in this survey!**

**Please mail the survey to:**

NCWMA/ERTCE Survey  
 Department of Forestry, Wildlife and Fisheries  
 The University of Tennessee  
 274 Ellington Plant Sciences  
 Knoxville, TN 37996-4563  
**Fax: (865) 974-4714**  
**E-mail: [markfly@utk.edu](mailto:markfly@utk.edu)**

**If you have comments, please use the space below or enclose a separate sheet**