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Recreation Visitor Spending Profiles and Economic Benefit to Corps of Engineers Projects

Wen-Huei Chang, Dennis B. Propst, Daniel J. Stynes, and R. Scott Jackson

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Wen-Huei Chang, Dennis B. Propst, Daniel J. Stynes

Department of Park, Recreation and Tourism Resources
Michigan State University
East Lansing, MI 48824

R. Scott Jackson

Environmental Laboratory
U.S. Army Engineer Research and Development Center
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Final report

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ABSTRACT: The U.S. Army Corps of Engineers (CE) is the largest federal provider of water-based recreation. It manages over 450 water resource development projects throughout the United States. These lake and river projects provide significant recreation opportunities and benefits to visitors and local residents, accommodating over 385 million person visits in 1999.

The purposes of this research are to develop visitor spending profiles and to estimate local and national economic effects of spending by visitors to CE projects. A visitor survey was conducted in the summer of 1999 through early 2000 at 16 CE projects across the nation. The survey was administered by the Engineer Research and Development Center of the U.S. Army Corps of Engineers and the Department of Park, Recreation and Tourism Resources at Michigan State University, with assistance from managers and staff at all 16 participating CE projects.

Segmented spending profiles were developed that can be tailored to project-level spending based on regional visitation data. Total recreation visitation was estimated by using information gathered from this study and from the Natural Resource Management System database. Economic effects of CE visitor spending were estimated by applying visitor spending and use data to regional economic multipliers generated from economic input-output models. These results provide a database for further analyses and improvements in future studies like these.

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Preface

The work reported herein was conducted as a part of the Recreation Management Support Program (RMSP). The RMSP is sponsored by the Headquarters, U.S. Army Corps of Engineers (HQUSACE), and is assigned to the U.S. Army Engineer Research and Development Center (ERDC) under the purview of the Environmental Laboratory (EL). Funding was provided under Department of Army Appropriation No. 96X3123, Operation and Maintenance. The RMSP was managed by Ms. Judy Rice, HQUSACE.

This report was prepared by Drs. Wen-Huei Chang, Dennis B. Propst, and Daniel J. Stynes of the Department of Park, Recreation and Tourism Resources, Michigan State University, and Mr. R. Scott Jackson of the EL.

The study was supervised by Dr. Michael Passmore, Chief, Ecological Resources Branch, Ecosystem and Engineering Division (EED), EL. General supervision was provided by Dr. David J. Tazik, Chief, EED, and Dr. Elizabeth Fleming, Acting Director, EL. Technical reviewers were Ms. Kathleen Perales and Dr. H. Roger Hamilton, EL.

COL James R. Rowan, EN, was Commander and Executive Director of ERDC. Dr. James R. Houston was Director.

1 Introduction

The U.S. Army Corps of Engineers (CE) is the largest federal provider of water-based recreation. It manages over 450 water resource development projects (hereafter referred to as "projects") throughout the United States. These lake and river projects provide significant recreation opportunities and benefits to visitors and local residents, accommodating over 385 million person visits in 1999 ("Natural Resource Management System (NRMS) 2000"). Spending by visitors on goods and services associated with the CE recreation program has an important influence on economic development in many regions of the United States and is an important component of the nation's economy (Jackson et al. 1996).

The most recent nationwide study found that in 1996 about $5.6 billion was spent by CE recreation visitors on trips within 30 miles (48 km) of all CE projects. This spending resulted in $2 billion in income and over 120,000 jobs in industries directly providing goods and services to CE visitors. Secondary effects of CE visitor spending accounted for an additional $1.3 billion in income and 53,000 jobs (Propst et al. 1998).

Economic effects of CE recreation visitor spending have also been estimated at regional and state levels. At the regional level, economic effects of visitor spending for 12 individual projects (Propst et al. 1995a-f; Stynes et al. 1995a-f) and the Upper Mississippi River System (Carlson et al. 1995) were estimated. State level economic effects stemming from both trip and durable goods expenditures were estimated by Jackson et al. (1996).

Reliable estimates of the regional effects of recreation require precise and current measures of money spent by visitors while engaged in recreation-related activities to CE projects. Visitor expenditures are typically arrayed as "spending profiles," which are vectors of average amounts spent (for itemized goods and services) in conjunction with recreational visits to CE projects. Nationally representative visitor spending profiles were developed from survey data collected during 1989 and 1990 at a sample of 12 CE projects (Propst et al. 1992). The results of the 1989-90 survey indicate that spending patterns were highly variable across visitor segments. Significant differences in spending patterns were found to be associated with whether visitors stayed overnight during their visit, the type of lodging they used, boat usage, and whether visitors lived within or outside the county or counties in which the site was located. Results from the 1992 report provide information useful in developing effective sampling strategies for the survey employed in this study.

The purposes of this research are to update the Propst et al. (1992) spending profiles and to estimate local and national economic effects of spending by visitors to CE projects. Segmented spending profiles were developed that can be tailored to project-level spending based on regional visitation data. These spending profiles can then be used for economic impact analysis to estimate how visitor spending benefits regions surrounding CE projects.

To update the spending profiles, a sample of visitors from 16 CE projects reported the amounts they spent for goods and services during their trips to the projects. Spending averages were computed and multiplied by visitation statistics to estimate total annual visitor spending. Generalized spending profiles were developed for two sets of visitor segments: (1) campers, other overnight visitors, and day users, and (2) boaters and nonboaters. These profiles were applied to recreation use data gathered from this survey and from the NRMS to estimate total spending by each segment for each of the 456 CE projects. Sales, income, and employment effects within the local region surrounding each of the 456 CE projects were estimated by applying total visitor spending to regional economic multipliers. The national economic effects were estimated by applying total CE spending to the Micro-Implan Recreation Economic Impact (MI-REC) (Stynes, and Propst 1996; Chang and Propst 2000) and Impact Analysis for Planning (IMPLAN) (Minnesota IMPLAN Group, Inc. 1999) systems.

Note that the term "economic effects" rather than "economic impacts" is used in this study for the economic benefits associated with visitor spending. This is to distinguish two kinds of economic impact analyses identified in previous papers as "significance" and "impact" analysis (Stynes and Propst 1992):

- **Significance analysis** identifies the overall contribution of visitor spending to the region. How much of the sales, income, and employment in the area is associated with visitor spending? No attempt is made here to use a "with vs. without" framework. All spending of recreation visitors associated with their visits to the lakes, including spending by both local residents and tourists, can be included.

- **Impact analysis** identifies the changes in economic activity within the region that results from some action. The spending and related economic activity included in an impact analysis rest on a clear "with vs. without" framework. Only spending that would not otherwise have occurred in the region should be counted (Stynes et al. 2000).

Since the economic impact estimates in this report include the overall contribution of visitor spending from both residents and nonresidents (i.e., a significance analysis), the term "economic effects" is used to indicate that this is not a "pure" economic impact analysis where only effects from new money (i.e., nonresidents) are included.

The remaining report is divided into four sections. The methods section describes the sampling design and approaches used to measure recreation spending and economic effects. The results section reports visitation, spending profiles,

and economic effects for regions surrounding CE projects and the United States as a whole. The limitation section includes issues related to the data analysis and measurement approaches used in this study. The applications and recommendations section provides guidelines and options for applying these results, including local- (project-) level economic impact analysis. Suggestions for improving the credibility of spending profiles and economic impact analysis are also identified in this section.

2 Methods

Survey Site Selection

A total of 16 projects were selected for this study. The site selection procedures were as follows:

a. All 456 CE projects were assigned to one of four groups based on a classification system developed by Becker (1997). In Becker's study, a total of 108 highly visited CE projects were grouped into three categories based on the number of retail establishments and population of the surrounding areas. Five other projects were later added bringing the total to 113 (see Appendix A). The remaining 343 projects were categorized as the fourth group. Projects of the first three groups accounted for 67 percent of CE's total visitation in 1996.

b. Eight projects were randomly selected from each of the four groups with the possibility of selection proportional to visitation (32 projects were selected at this point).

c. Project managers of the 32 projects were asked, in the order in which the projects were selected, to participate in this study. This process was repeated until four project managers in each group agreed to participate. The geographical locations of these 16 projects are shown in Figure 1.

Survey Procedures

Michigan State University (MSU) and the U.S. Army Engineer Research and Development Center (ERDC) developed survey instruments to be used in onsite and mailback surveys (Appendices B and C). Eight hundred surveys were distributed to each of the 16 selected projects across the country. Completed surveys were returned to MSU for processing and analysis. The purpose of the onsite survey was to collect general use data needed for profiling and segmenting of visitors. The purpose of the mailback questionnaire was to measure trip-related expenditures.

Staff at ERDC and MSU visited 4 of the 16 selected projects prior to the survey to provide training materials and observe potential problems. They met with the interviewers (project personnel) and answered questions that they had regarding survey procedures. A website containing survey instructions and

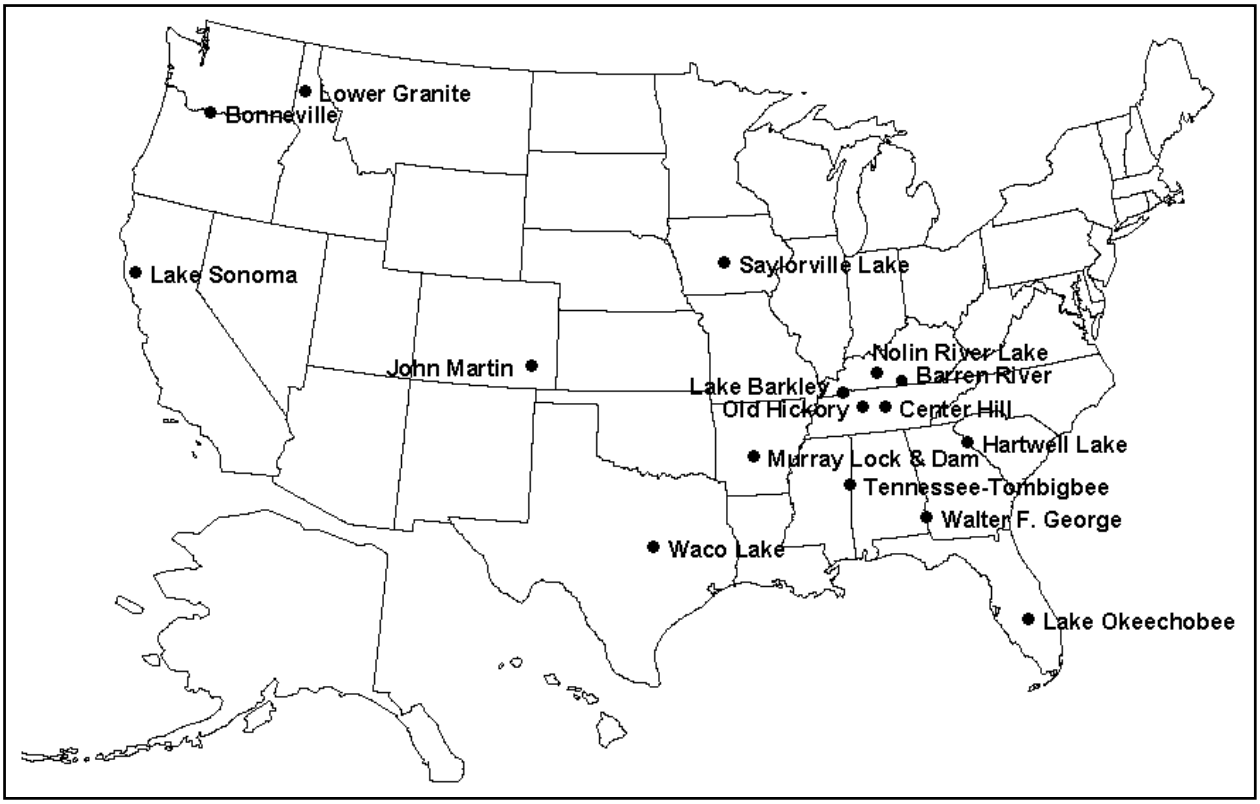

Figure 1. Locations of the 16 CE projects selected for study

frequently asked questions was also developed by MSU staff to assist project managers conducting the survey.

CE personnel distributed and collected the onsite questionnaires and distributed the mailback questionnaires to visitors. During the onsite survey, the CE staff would read the instructions and ask visitors to complete the questionnaire. After completing the questionnaire, those agreeing to complete the mailback portion would receive the survey from CE personnel. Written instructions were provided to the interviewers to follow in obtaining onsite visitor information and distributing mailback questionnaires. These guidelines addressed the allocation of surveys among visitor segments and the random distribution of questionnaires among recreation areas and time periods.

The timeframe for this survey was from June 25 through September 6, 1999, with a total of 24 weekend days and 50 weekdays.[1] A quota of 800 surveys was set for each project.[2] The 800 surveys were distributed among the three market segments according to the following quotas:

- 400 campers (surveyed at campsites).
- 200 boaters (surveyed at boat ramps to both day and overnight visitors).

[1] Except for Lake Okeechobee, which ran through January 2000.
[2] Except for Bonneville Lock and Dam. Only 200 surveys were distributed since no camping and boating facilities were available at this project.

- 200 other nonboating visitors (surveyed at other day use areas to both day and overnight visitors).

Two thirds of the questionnaires were to be distributed on weekend days and one third on weekdays. Survey quotas were also set for various recreation areas at each project in order to obtain the identified target sample for each of the three market segments. Quotas of surveys for individual recreation areas were proportional to reported visitation based on NRMS.

A primary purpose of this study was to obtain a sufficient sample of each segment in order to develop credible expenditure profiles. Since campers and boaters are in the minority at CE projects in comparison to day use nonboaters, these two large categories of visitors were purposefully oversampled out of proportion to their visitation shares. When aggregated visitor information was reported (i.e., party size for all visitors rather than just a given segment), the overall averages were weighted by the 1999 NRMS visitation data for each segment. This was done to convert the survey data into nationally representative information pertaining to CE recreation visitors.

A survey schedule for selected recreation areas at each project was developed. The quota was five visitors per day on a randomly selected weekday and ten visitors per day on a randomly selected weekend day for each market segment. For example, suppose recreation area A's schedule was:

Rec. Area A	**Weekday**	**Weekend**
Camper	6/30	6/27 8/15
Boater	7/13 7/19	7/25

In this case, 5 campers were to be sampled on June 30 (weekday), 10 campers on both June 27 and August 15 (weekend). Five boaters were to be sampled on both July 13 and July 19 and 10 boaters on July 25. In this example, the total number to be sampled for weekday campers was 5, weekend campers 20, weekday boaters 10, and weekend boaters 10.

Instructions were provided to interviewers on how and where to approach visitors in each of the three segments. Interviewers were asked to obtain the list of campers scheduled to depart on the sampled day from a given campground and randomly draw their samples from the list. CE personnel were informed of the importance of distributing the questionnaires on visitors' departure days to eliminate the sampling bias caused by the length of stay. In other words, by sampling only on departure days, researchers eliminated the situation where those who camped longer had a higher chance of being selected.

Instructions were also provided for sampling boaters and other nonboating visitors. In general, boaters and other nonboating visitors were surveyed when they were leaving the recreation areas. Boaters were to be surveyed after they pulled their boats out of the water at the boat ramp and were making preparations to depart. Other nonboating visitors were to be surveyed in the parking lot when they were preparing to leave. This was done so that every visitor party had an

equal chance of being sampled regardless of their length of stay in the recreation areas.

Survey Instruments

Visitor characteristics and trip information were gathered through the onsite surveys while trip spending was measured through the mailback surveys. The CE visitors interviewed onsite were asked questions regarding their current trips such as party size, expected length of stay, and primary purpose (Appendix B). The respondents were asked to report trip spending on the mailback questionnaires after they returned to their homes. Ten spending categories were provided on the mailback questionnaires for trip expenses on lodging, food, transportation, recreation, and other goods or services (Appendix C).

Data Cleaning and Editing

Several rules were set for data cleaning and editing. These rules were made to ensure consistency in data analysis and to filter out extreme numbers (outliers) that would have distorted the results. Reasons for data editing and elimination of cases are described in Appendix D.

Recreation Visits by Segment

Per person trip visits by segment were estimated using the information gathered from this survey and the 1999 Project Recreational Use (PR_USE) database and the 1998 Current Use Fee Area Information (CUR_FEE), Open Facilities (OPEN_FC), and Recreation Area (AR_MAIN) databases[1] from the NRMS. The total number of visitors, number of day users, and percentage of boaters were obtained from the PR_USE database, while the number of campers was estimated from the CUR_FEE, OPEN_FC, and AR_MAIN databases. The PR_USE database contains a project-level reporting of total visitation in person trips (visits) and the percentages of campers and boaters among all visitors. These percentages were based on surveys and therefore subject to sampling and other survey errors.[2] Not all projects have conducted surveys in recent years and therefore the estimates may be dated if visitation patterns have changed over time. CUR_FEE contains a site-by-site reporting of all the revenues and fees collected and the number of designated campsites where fees were charged. CUR_FEE was thought to be a more accurate measure of camping visitation than PR_USE because CUR_FEE is based on fees collected and is updated annually whereas PR_USE is based on traffic estimates applied to survey weights conducted in the past. The OPEN_FC database contains the number of all campsites regardless of whether fees were charged in each recreation area for both CE- and non-CE-managed sites. The AR_MAIN database contains information about the

[1] The latest available CUR_FEE database was 1998.
[2] Results from the CE Traffic-Stop Recreation Use Surveys reported in the Visitor Estimation and Reporting System were the main sources of these percentages.

managing agency for individual recreation areas. The OPEN_FC and AR_MAIN databases were used to estimate the number of campers who stayed at non-CE-managed campgrounds.

In order to estimate total number of campers at each project, total campground use fee revenues (CG_FEE_REV, a field within the 1998 CUR_FEE database) were divided by an average fee per night to estimate the number of camping nights. An average fee of $8 per campsite per night was used taking into account fees at sites with and without electricity, fees at CE-managed and non-CE-managed facilities, and discounts for holders of Golden Age and Golden Access Passports. Camp nights at CE-managed sites were then expanded to include non-CE-managed sites by assuming similar occupancy rates at CE- and non-CE-managed sites. The estimated 1998 camper visitations were then projected to 1999 by using the ratios of 1999 to 1998 camper visits from the PR_USE database. The total CE camping visitation was 7.3 million party days estimated from the revenue data (Table 1), an increase of 1 million from the 1996 estimate (Propst et al. 1998).

Table 1
Summary of Recreation Visits to CE Projects, 1999[1]

Visitation	Camper		Day User		Other Overnight[2]		Total
	Boat	Nonboat	Boat	Nonboat	Boat	Nonboat	
Visits (person trips, MM)	1.2	4.3	80.8	288.1	2.4	8.6	385.5
Average Length of Stay (days)	4.2	3.8	-	-	2.4	3.0	-
Average Party Size (persons)	3.5	2.8	2.8	2.8	3.3	2.5	-
Visits (party days, MM)	1.4	5.9	29.0	104.1	1.8	10.5	152.8

[1] Sources: 1999 NRMS PR_USE database; 1998 NRMS CUR_FEE and PR_USE databases.
[2] Assumes that 3 percent of day users stayed overnight in lodging accommodations outside of project boundaries.

The number of campers in party nights (camp nights) was then converted to camper "visits" using an average camper length of stay of 4.2 nights and party size of 3.5 for boaters and 3.8 nights and 2.8 people for nonboaters gathered from this study. The formula for converting camper party nights to camper person trips is as follows:

Person trips = Party nights × Average Party Size / Average Length of Stay

Camper party nights must be converted to person visits to be consistent with the units for which total and day use visitation are reported in the NRMS system (PR_USE database). A "visit" is defined as the entry of one person onto a CE project to engage in one or more recreational activities regardless of the length of stay. As used in this study, a "person trip" is equivalent to a "visit." Total CE camping visitation nationally was 30.2 million visits (person trips) in 1999 based on the PR_USE database, whereas camping visitation derived from the CUR_FEE database was only 5.5 million person trip visits. The PR_USE

database estimate was more than five times the revenue-based estimate (Table 1).[1]

The number of day use visits was derived by subtracting the revenue-based estimate of camper visits from total visits contained in the NRMS PR_USE database. Three percent of day users were set aside as other overnight visitors based on the survey results from this study. Visitors who stay in hotels, motels, vacation homes, friends and relatives, and other off-project lodging accommodations but visit the project for part of a day are treated as day users in the NRMS database. Since these "other overnight" visitors have significantly different spending patterns than typical day users (Propst et al. 1992), it is important to separate them from day users to estimate total spending. In the past, no information was available to estimate the percentage of day users staying overnight in the area. Following the assumption made in the 1994 study (Jackson et al. 1996), 1 percent of day users was set aside as other overnight visitors for the 1996 estimates (Propst et al. 1998). However, this percentage was adjusted upward to 3 percent in this study based on the new 1999/2000 survey information.

Campers, day users, and other overnight visitors were further divided into boaters and nonboaters based upon the proportion of boaters reported by each project in the 1999 NRMS database. This approach resulted in six visitor segments:

- Campers who boat.
- Campers who do not boat.
- Day users who boat.
- Day users who do not boat.
- Other overnight visitors who boat
- Other overnight visitors who do not boat.

Estimates of the number of visitors for each segment in person trips (visits) were converted to party days using average lengths of stay and party sizes for each segment (Table 1). The conversion to party days allows comparisons with previous studies (Propst et al. 1992, 1998).

Visitor spending was originally measured in party trips. To be compatible with NRMS data, all spending was converted to a per person trip basis. This conversion has the practical advantage of making the spending data more usable by project managers.

[1] The revenue-based estimate of camper visits in 1996 was 7.7 million. The reason for the difference (higher estimates in party days but lower in person trips when comparing the 1999 estimates to the 1996 estimates) was that different factors were used to convert camper party days to person trips. An average camper length of stay of 2.8 days and party size of 3.4 were used for the 1996 estimate. Because longer length of stay and smaller party size figures were used in this study compared to the 1996 study, the resulted estimates of camper person trips were smaller than the 1996 estimates.

Visitor Spending by Segment

Spending profiles for each of the six segments were developed. Trip spending included spending on goods and services consumed during a trip such as gasoline, food, and lodging in 10 spending categories. Expenditures for durable goods (items like boats and recreation vehicles that are used on multiple trips) were not included. Trip spending within 30 miles and outside 30 miles of the projects was estimated for each segment.

Due to the low response rates at some projects, the visitor segments were reduced to three (camper, day user, and other overnight visitor) when reporting spending profiles at the project level. The boater and nonboater segments were combined based on NRMS visitation shares so there would be a larger sample in each segment. The segmented visitor spending profiles (three segments) were estimated for three projects, Saylorville Lake, Barren River Lake, and John Martin Dam, where there were at least 10 surveyed visitors in each segment.

Estimates of Economic Effects

Four components are needed to estimate economic effects: recreation spending, visitor use estimates, capture rates, and economic multipliers (Jackson et al., 1992).

Economic effects = Number of visits × Average spending per visit × Capture rate × Regional economic multiplier

For this report, the first two components were derived from the surveys and the NRMS database. Capture rates and economic multipliers were generated by the IMPLAN system. IMPLAN is a microcomputer-based input-output (I-O) modeling system that was originally developed by the U.S. Department of Agriculture, Forest Service, as a DOS application. It is currently maintained by the Minnesota IMPLAN Group Inc., which has modified IMPLAN to fit the Windows™ environment (Minnesota IMPLAN Group, Inc. 1999).

Local economic multipliers

Multipliers for regions around CE projects were estimated using regional models constructed with IMPLAN DOS version 91-F. These multipliers were estimated for a previous study that estimated local impacts of visitor spending at CE projects in 1996 (Propst et al. 1998; Becker 1997). Counties within a 30-mile radius of 108 projects were used as study regions (see Becker 1997 for details). An I-O model was estimated for each of these regions using the 1990 IMPLAN databases. Next, a national average recreation spending profile was applied to each model--with 100,000 visits as a consistent level of recreation use--and the various aggregate multipliers were then calculated from the impact analysis. These multipliers reflect the structural economic characteristics of each region. All the multipliers were price-adjusted to reflect the current year (1999). For

details on how local economic multipliers were estimated, refer to Propst et al. (1998).

The "average" project has a capture rate of 66 percent (Table 2), meaning that, on average, about two thirds of visitor spending in the local region was captured locally as direct sales effects. Direct effects are the changes in sales, income, and jobs in those businesses or agencies that initially receive the visitor spending (e.g., parks, motels, campgrounds, restaurants, grocery stores, attractions, and retail stores). Capture rates varied from 53 to 83 percent, with most projects ranging between 60 and 70 percent. The capture rate is not 100 percent due to an economic impact concept called "leakage." In this case, "leakage" refers to visitor purchases of goods (e.g., gasoline, groceries and souvenirs) that are not manufactured in the local area. Only the retail margins associated with these purchases generally accrue to the local economy. The rest (wholesale, transportation, and manufacturing costs) escapes or "leaks from" the local area to distant intermediate or production sectors.

The Type I multiplier captures the indirect effects besides the direct effects from visitor spending.[1] Indirect effects are the changes in sales, income, and jobs in "backward linked" industries. These are firms that supply goods and services to those businesses that sell directly to the visitor. For example, motels purchase linen supplies, utilities, and other goods and services in the local area in order to provide lodging for the visitors. Indirect effects associated with recreation spending were quite small and exhibited limited regional variation. The average project had a Type I sales multiplier of 1.18, meaning that each dollar of direct sales generated an additional 18 cents in sales in industries that supply goods and services to tourism businesses (i.e., "backward linked" industries). The Type I sales multiplier varied minimally from 1.09 to 1.28 across the 108 projects.

The Type III multiplier captures both indirect and induced effects.[2] Induced effects are the changes in economic activity in the region resulting from household spending of income earned through the direct or indirect effects of the visitor spending. For example, motel and linen supply employees live in the region and spend some of their earnings on housing, groceries, education, clothing, and other goods and services. This spending will generate new rounds of sales, income, and job effects. The average project had a Type III sales multiplier of 1.66, meaning that each dollar of direct sales generated 18 cents in indirect sales and another 48 cents in induced effects. Type III sales multipliers varied somewhat more than their Type I counterparts from a low of 1.4 to a high of 2.0.

The Type III multipliers used in this and the previous reports were adjusted downward to correct for a bias in the IMPLAN DOS version multiplier procedures. The induced effects estimated in the DOS version of IMPLAN (version 91-F) assumed an average salary associated with each job. As wages in recreation and tourism-related sectors are lower than average, this approach recirculates too much income as induced effects. Therefore, induced effects were

[1] The Type I multiplier is the ratio of direct plus indirect effects to direct effects.
[2] The Type III multiplier is the ratio of direct plus indirect plus induced effects to direct effects.

recomputed based on total income generated rather than jobs.[1] For recreation spending, the revised induced effects are about half of those estimated with the standard IMPLAN Type III procedures. The adjusted multipliers are comparable to those from the newer Windows version of IMPLAN when the traditional Type II multipliers are used. However, researchers now recommend the use of the Type SAM multipliers generated by the latest version of IMPLAN-Pro as these most accurately reflect induced effects in outdoor recreation and tourism applications (Stynes et al. 2000).

The SAM framework tracks both market and nonmarket flows. The non-market flows are transactions between nonindustrial institutions such as households to government, government to households, and so on. These flows are called "inter-institutional transfers" (Alward and Lindall 1996). Since total personal income is income from all sources, including employment income and transfer payments that are based on both place of work and place of residence, some of this income may not be related to personal consumption expenditures in the region. The SAM multiplier approach enables the model to account for commuting, social security tax payments, household income tax payments, and savings and hence adjusts the Type II multipliers for income that is not normally respent immediately within the region, such as commuting workers who live outside the region and retirement benefits (Minnesota IMPLAN Group, Inc. 2000). The Type SAM multipliers are more conservative than the traditional Type II multipliers for tourism and recreation applications as the induced effects are smaller and are likely more realistic for tourism and recreation applications (Stynes et al. 2000). Researchers have found that Type SAM multipliers are still 10 to 20 percent lower than downwardly adjusted Type III multipliers. Thus, total economic effects in this report may still be inflated by 10 to 20 percent. Type SAM multipliers are not used in this report for project-level impact estimates because the authors wanted to be able to compare the economic effects in this report with comparable data in previous reports (e.g., Propst et al. 1998).

Income and job multipliers were used to convert direct sales to direct, indirect, and induced income and employment effects. Type I income multipliers measure the direct and indirect income associated with each dollar of direct sales, while Type III multipliers also measure the induced effects. For an average project, each dollar of direct sales generated 52 cents in direct income, 9 cents in indirect income (0.61 minus 0.52), and 16 cents in induced income (0.87 minus 0.61) in the local region (Table 2). Employment multipliers are defined similarly but on the basis of the number of jobs per million dollars in direct sales. For an average project, each million dollars in direct sales supported about 32 direct jobs, 3 indirect jobs (35 minus 32), and 8 induced jobs (43 minus 35) for a total job impact of 43 jobs per million dollars of direct sales (Table 2).

Total visitor spending was obtained by multiplying average spending per person trip by the number of person trips for each segment and then summing the results across segments. Economic effects at the project level were estimated by multiplying total visitor spending by capture rates and multipliers that were unique to each project (averages were used when there were no multipliers

[1] For details on the revised Type III multipliers, refer to Propst et al. (1998).

Table 2
Economic Multipliers for Regions Surrounding 108 CE Projects[1]

Multiplier	Sales	Income[2]	Jobs[3]
Average Across 108 Regions			
Direct effects	1.00	0.52	31.86
Type I multiplier	1.18	0.61	34.48
Type III multiplier	1.66	0.87	42.81
Capture rate[4]	0.66		
Range (minimum - maximum)			
Type I multiplier	1.09 - 1.28	0.51 - 0.72	21.78 - 49.57
Type III multiplier	1.37 - 1.99	0.66 - 1.11	27.74 - 59.43
Capture rate[4]	0.53 - 0.83		

[1] Region defined as all counties within 30-mile radius of the project. Multipliers were originally computed by Becker (1997) using IMPLAN DOS version 91-F with 1990 database. All the Type III multipliers were modified downward to adjust the induced effects bias and price-adjusted to reflect current year value based on the approaches used in the 1996 regional impact report (Propst et al. 1998).
[2] Income per dollar of direct sales. Income includes employee compensation and proprietor and other property income.
[3] Jobs per million dollars in direct sales. Jobs are not full-time equivalent. Any full-time and part-time job is counted as one job.
[4] Capture rate is the percentage of visitor spending captured as direct sales within the region.

estimated for the projects). Only trip spending within 30 miles of the projects was included in local economic effect estimates.

National economic effects

National economic effects of CE visitor spending on trips were estimated by applying total trip spending (including both within and outside 30 miles of the projects) to an I-O model of the U.S. economy. A U.S. model was developed using IMPLAN-Pro version 2.0 with a 1997 database. Visitor spending was multiplied by total use to estimate total U.S. spending by CE visitors. The MI-REC system was used to bridge the total spending into the appropriate industrial sectors of the U.S. I-O model (Stynes and Propst 1996; Chang et al. 1998). Total employment, income, and sales due to direct and secondary effects were estimated by IMPLAN.

Two adjustments were made for the estimate of national economic effects. First, visitor spending outside 30 miles estimated for this study was adjusted upward based on the results of a previous study (Propst et al. 1992). This adjustment was necessary due to the low response rates and low sample sizes in certain segments. Total visitor spending outside 30 miles was adjusted upward from $1,895 million to $3,775 million. This adjustment was done by multiplying the Propst et al. (1992) results (price-adjusted to 1999) by the ratio of within 30-mile spending between the two surveys. This adjustment increased the estimated total visitor spending for both within and outside 30 miles from $8,009 to $9,888 million.

The national estimates of employment effects were adjusted based on the approach described in Stynes et al. (1998). The need for this adjustment stems from an issue of scale in which local jobs to sales ratios are much higher than the national ratios. Local regions around CE projects averaged 32 direct jobs per million dollars in direct sales, while the United States as a whole averaged 15 jobs per million. This adjustment is based on the facts that direct jobs are created primarily in the local areas around CE projects where the costs of labor are lower, making the ratio of jobs to sales higher.

National job effects estimated in this report were adjusted for this problem. The local models were assumed to yield an accurate estimate of the direct jobs associated with direct local sales to visitors. The revised national estimates of direct job effects were the sum of local direct jobs plus direct jobs from the sales that occurred outside the local areas. That is, the local jobs to sales ratios were applied to sales captured within local regions and the national ratios were applied to sales captured outside local regions. This same approach was also used to adjust the secondary job estimates and national job impact estimates for all trip spending.

3 Results

The results are provided in seven sections. The first section presents response rate data. The second section describes the characteristics of the respondents. Section three provides respondents' recreational use information and spending profiles across all projects. Visitors were grouped into six market segments based on their lodging types and boating activity. Section four reports recreational use information and spending profiles separately for three individual projects. Section five describes the economic effects of visitor spending at the project level, and sections six and seven summarize the economic effects of visitor spending at district, division, and national levels.

Response Rates

A total of 8,101 parties were approached for the onsite surveys. A party was defined as all occupants of a single vehicle. Of these parties, 47 refused to participate and 8,054 completed the onsite surveys. One hundred and twenty-four parties who completed the onsite surveys refused to participate in the mailback surveys, leaving a mailback sampling frame of 7,930 parties. Of the remaining 7,930 parties who agreed to participate in the mailback surveys, 1,650 returned their trip spending questionnaires, yielding a response rate of 21 percent (Table 3). The response rates ranged from 31 percent at Barren River Lake to 7 percent at Murray Lock and Dam.

Because names and addresses were not obtained during the onsite interviews, it was not possible to employ the usual follow-up reminder techniques that typically enhance response rates in sample surveys. Not having names and addresses also prevented checking for nonresponse bias (i.e., the extent to which the spending profiles of those who did not return their mailback questionnaires were different from those who did). The seriousness of the low response rate and its implications in terms of data usefulness are discussed in the limitations section of this report. For now, it is important to note that the sample sizes were sufficient to develop credible spending profiles for the six segments at the national level, which was one of the primary purposes of this study.

Response rates for the six targeted visitor segments are shown in Table 4. These response rates varied significantly from segment to segment. The other overnight/boater segment had the highest response rate at 29 percent, while the day user/nonboater segment had the lowest response rate at 11 percent. In

Table 3
Response Rates for Mailback Surveys by Project

Project Name	Number of Onsite Interviews	Refusals for Mailback Surveys	Number of Mailback Surveys Distributed	Mailbacks Returned	Response Rates, %
Barren River Lake	587	7	580	182	31
Bonneville Lock and Dam	200	57	143	14	10
Center Hill Lake	589	n/a[1]	589	119	20
Hartwell Lake	238	n/a[1]	238	47	20
John Martin Dam	799	n/a[1]	799	164	21
Lake Barkley	528	3	525	117	22
Lake Okeechobee	497	n/a[1]	497	130	26
Lake Sonoma	584	0	584	95	16
Lower Granite Lock and Dam	535	n/a[1]	535	51	10
Murray Lock and Dam	108	n/a[1]	108	8	7
Nolin River Lake	264	n/a[1]	264	35	13
Old Hickory Lock and Dam	505	n/a[1]	505	107	21
Saylorville Lake	842	27	815	212	26
Tennessee-Tombigbee Waterway	804	30	774	202	26
Waco Lake	414	n/a[1]	414	64	15
Walter F. George Lake	560	n/a[1]	560	103	18
Total	8,054	124	7,930	1,650	21

[1] No information on refusals.

Table 4
Response Rates for Mailback Surveys by Visitor Segment

Project Name	Number of Mailback Surveys Distributed[1]	Mailbacks Returned[1]	Response Rate[1] %
Day user/nonboater	1,823	194	11
Day user/boater	1,632	250	15
Camper/nonboater	2,040	468	23
Camper/boater	1,991	436	22
Other overnight user/nonboater	205	38	19
Other overnight user/boater	238	68	29
Total	7,929	1,454	18

[1] Includes only surveys for which visitor segments were identifiable.

general, overnight visitors had higher response rates than day visitors, and boaters had higher response rates than nonboaters.

General Characteristics of CE Recreation Visitors

Visitor use and spending information were weighted by the 1999 NRMS visitation data of each segment as provided in Table 1. The general characteristics of CE recreation visitors are shown in Figures 2-7. Sixty-seven percent of the CE visitors lived within 30 miles of the CE projects (Figure 2). When asked

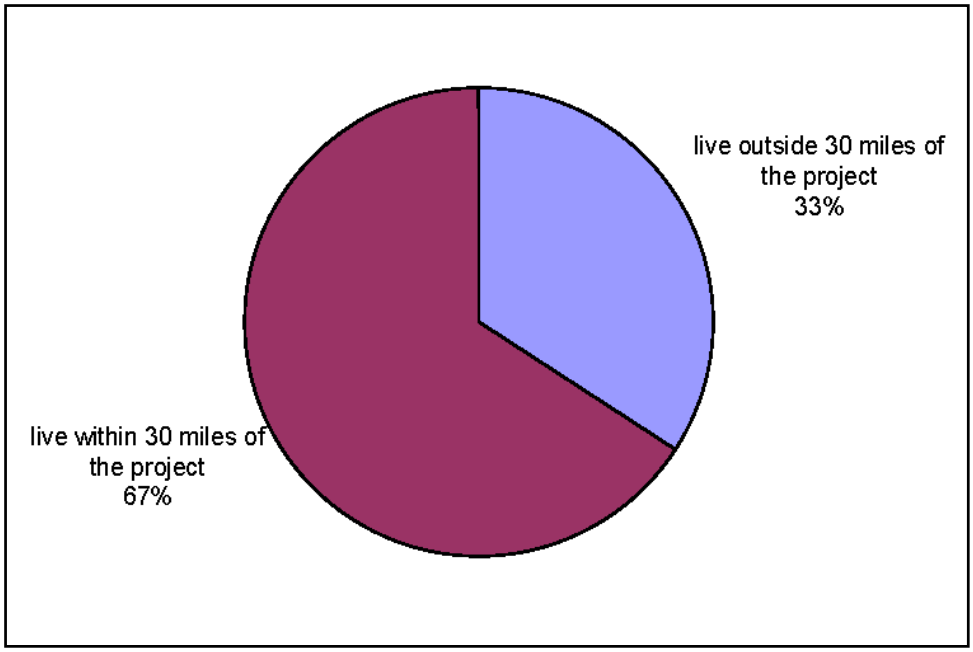

Figure 2. Permanent residence of CE visitors (weighted by the NRMS visitation data), 1999 (n = 7,790)

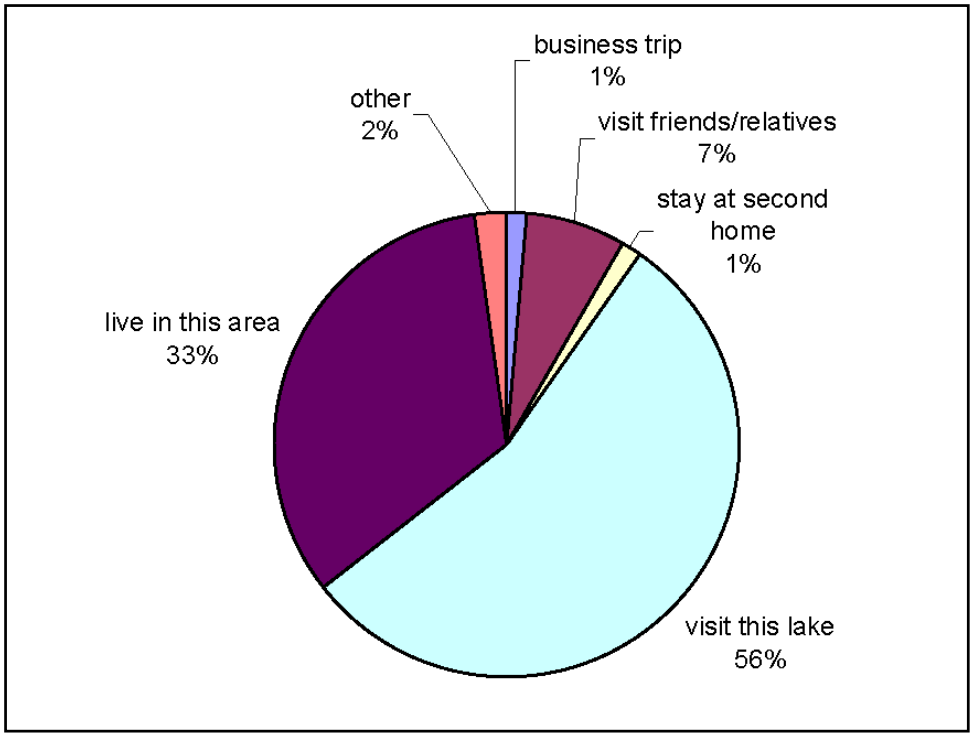

Figure 3. Primary purpose to visit the area where respondents were interviewed (weighted by the NRMS visitation data), 1999 (n = 7,782)

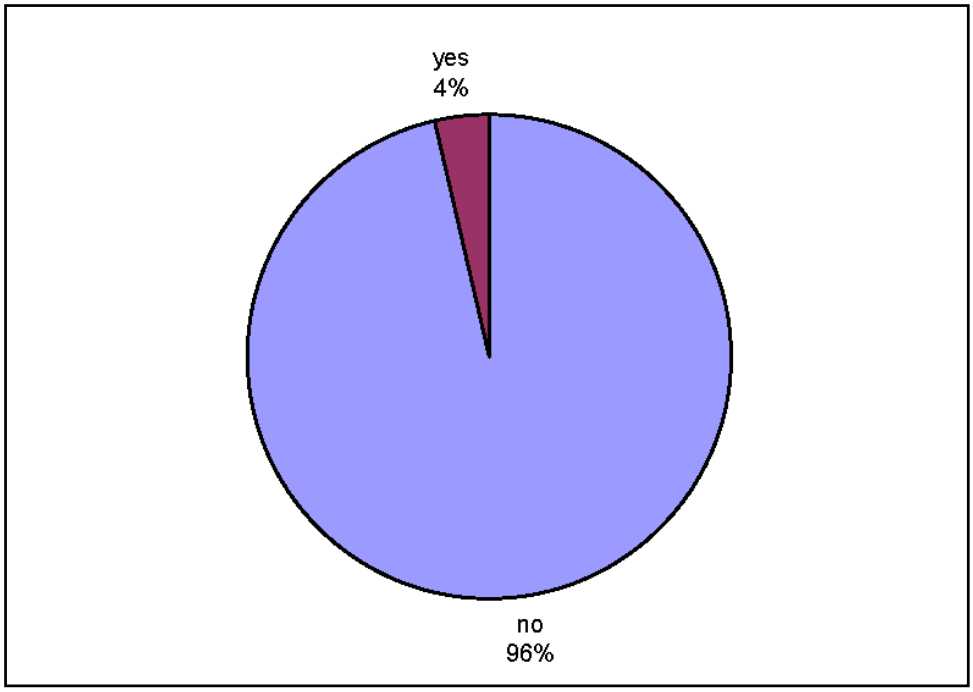

Figure 4. Percentage of CE visitors who stayed overnight within 30 miles of the projects (weighted by the NRMS visitation data), 1999 (n = 7,979)

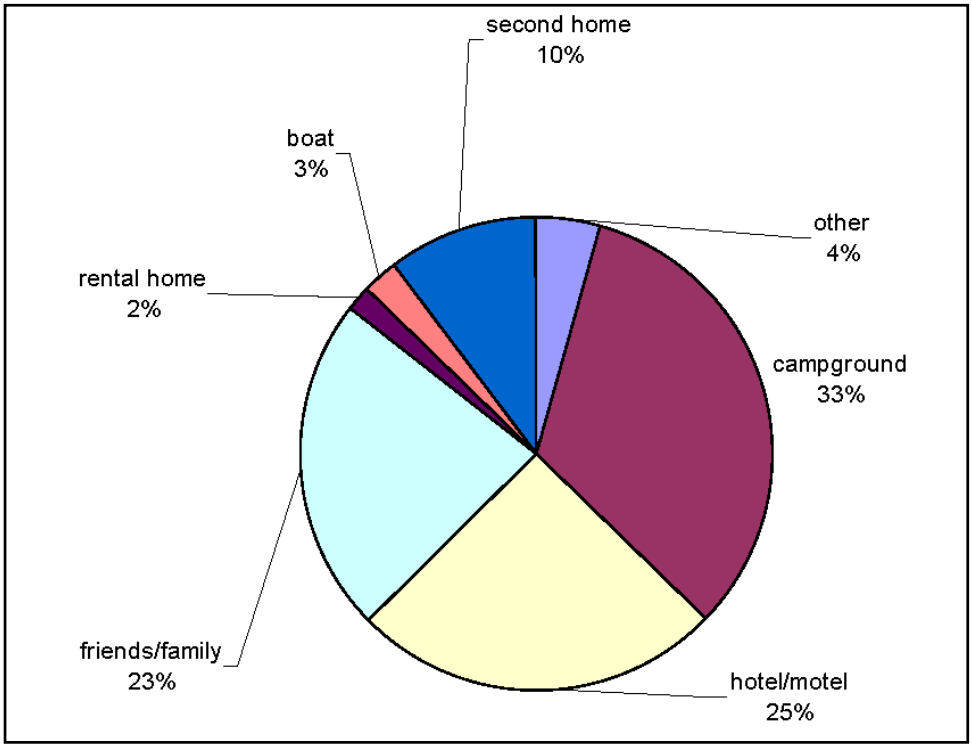

Figure 5. Lodging type for CE visitors who stayed overnight within 30 miles of the projects (weighted by the NRMS visitation data), 1999 (n = 4,256)

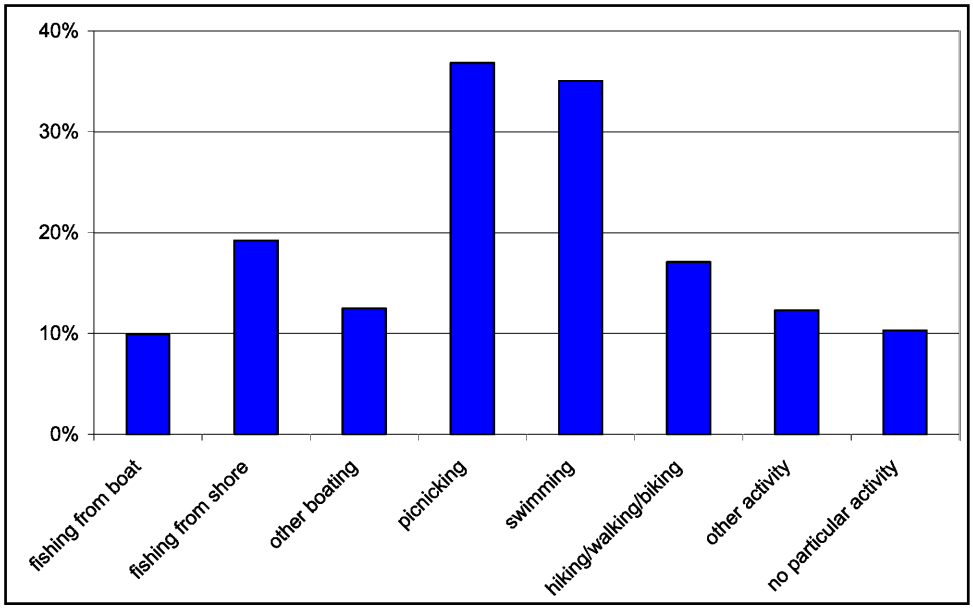

Figure 6. Recreation activities participated in on current trip (weighted by the NRMS visitation data), 1999 (n = 7,840). Note: Camping was excluded from this estimate because it was treated as a type of lodging in the survey

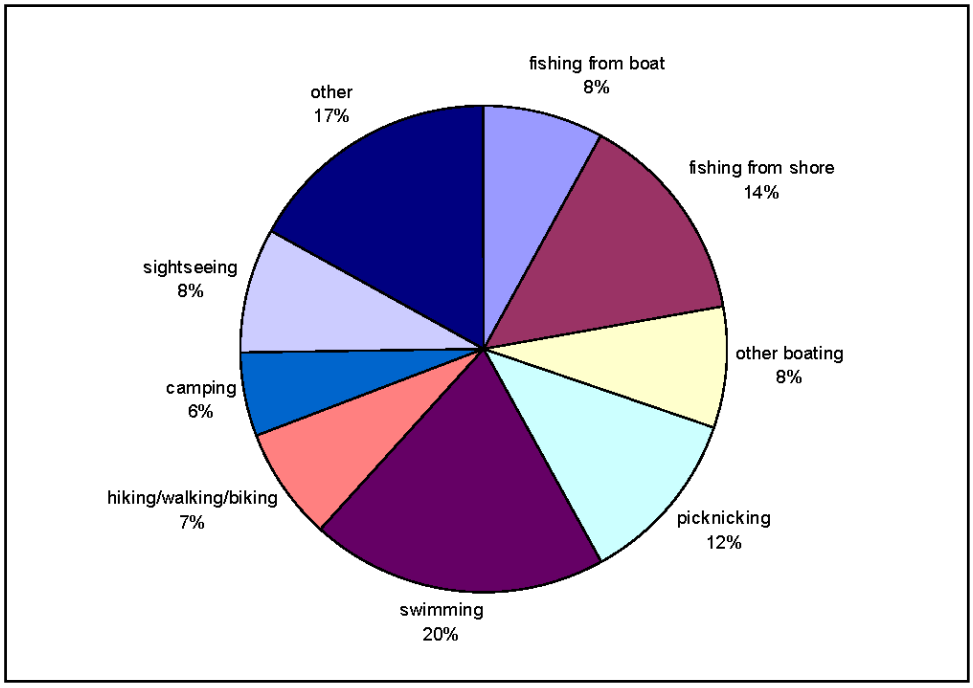

Figure 7. Primary activity participated in on current trip (weighted by the NRMS visitation data), 1999 (n = 7,650)

about why they visited the area where they were surveyed, 56 percent reported that their primary purpose was to visit the given lake. Another 33 percent reported they visited the area because they lived nearby (Figure 3).

In total, only 4 percent of the visitors stayed overnight when visiting CE projects (Figure 4). About 33 percent of the visitors who stayed overnight stayed in campgrounds. Another 25 percent of the overnight visitors stayed in hotels or motels (Figure 5).

Picnicking and swimming were the most frequently participated activities for all CE visitors. About 37 percent of the visitors said they picnicked when they visited the CE projects and 35 percent said they swam (Figure 6). The participation rates for all other activities were between 10 and 20 percent. When asked to identify the primary activity on their trips to the lakes, almost 20 percent of the visitors reported swimming and 12 percent reported picnicking. About 22 percent of the visitors reported either fishing from boat or fishing from shore as their primary activities (Figure 7). Participation in outdoor recreation activities was highly seasonal. Since the surveys were not begun until June, it is not surprising that swimming and picnicking ranked this high. If the surveys had begun in April or earlier, it is likely that fishing may have received a higher ranking (this is particularly true for projects in the South).

Trip Spending and Other Characteristics

Typical CE visitors (i.e., the weighted average of spending profiles for the six segments) in 1999 spent $15.47 per person trip within 30 miles of the project and $4.80 outside 30 miles of the project for a total of $20.26 for the entire trip (Table 5). Of the expenditures made within 30 miles of the project, visitors spent the most on groceries, restaurants, and gas and oil (about $3 to $4 per person trip on each category). Spending on these three categories accounted for about 70 percent of the total spending. The overall party size (weighted average) was 2.77 people and the length of stay within 30 miles of the project was slightly more than 1 day (0.14 nights) for all visitors.

On a segment-by-segment basis, the per person trip spending within 30 miles of the project varied from $12 for day use nonboaters to $84 for overnight boaters (Table 5). Total trip spending, both within and outside 30 miles, varied from $15 per person trip for day use nonboaters to $107 for overnight boaters. In general, boaters spent more than nonboaters, and overnight visitors and campers spent more than day visitors.

The percent errors (standard error divided by mean) for trip spending were about 5 percent for campers and 20 percent for the other overnight visitors. The percent errors for the day user segments (boaters or nonboaters) were about 10 percent. The 95-percent confidence interval for trip spending for each segment is average spending plus and minus two standard errors. Thus, the 95-percent confidence interval for spending within 30 miles of the project for campers who boated was $58.50 to $71.50 per person trip ($65 plus or minus $6.50). This

Table 5
Summary of CE Visitor Spending Profiles, 1999 (all projects, dollars per person trip, six segments)

Spending Category	Camper				Day User				Other Overnight				Weighted Average[2]
	Boater		Nonboater		Boater		Nonboater		Boater		Nonboater		
	Mean	Pct. Error[1]	Mean	Pct. Error	Mean	Pct. Error	Mean	Pct. Error	Mean	Pct. Error	Mean	Pct. Error	
Spending Within 30 miles													
Hotel, motels, cabins, B&B, and rental homes	0.73	36%	0.11	69%	0.00	-	0.00	-	17.17	49%	17.79	30%	0.51
Camping fee	13.65	5%	14.12	5%	0.00	-	0.00	-	0.10	74%	0.03	100%	0.20
Restaurants, bars, etc.	7.06	10%	8.10	9%	2.35	15%	2.93	21%	12.47	19%	13.97	18%	3.19
Groceries and take out food	18.00	6%	14.66	6%	3.87	9%	3.87	13%	12.98	23%	5.57	27%	4.13
Gas & oil	11.13	5%	7.68	6%	6.14	11%	2.43	12%	13.55	15%	6.52	19%	3.45
Other auto expenses	0.86	38%	1.33	49%	1.50	62%	0.27	70%	5.37	85%	0.00	-	0.57
Other boat expenses	4.38	20%	0.00	-	1.88	50%	0.00	0%	10.75	36%	0.00	-	0.47
Entertainment and recreation fees	2.06	19%	2.57	15%	0.86	19%	0.46	27%	3.84	36%	1.46	44%	0.61
Sporting goods and boat equipment	4.20	15%	1.33	25%	2.73	33%	0.76	38%	4.37	29%	2.09	59%	1.24
Other expenses	2.95	16%	5.24	18%	0.44	41%	1.17	51%	2.97	39%	1.49	37%	1.09
Total (within 30 miles)	**65.03**	**5%**	**55.12**	**5%**	**19.75**	**10%**	**11.89**	**12%**	**83.56**	**23%**	**48.92**	**16%**	**15.47**
Total Trip Spending													
Hotel, motels, cabins, B&B, and rental homes	1.20	29%	1.28	38%	0.00	-	0.00	-	19.61	44%	28.60	41%	0.78
Camping fee	15.05	5%	18.03	6%	0.00	-	0.00	-	0.19	86%	0.03	100%	0.25
Restaurants, bars, etc.	8.80	10%	12.24	9%	2.76	14%	3.35	20%	16.79	16%	24.09	33%	3.90
Groceries and take out food	24.01	5%	21.11	6%	5.07	7%	4.34	12%	19.23	17%	7.59	23%	4.91
Gas & oil	15.98	5%	15.95	7%	8.16	9%	3.24	10%	19.12	18%	13.94	17%	4.80
Other auto expenses	1.83	41%	2.24	32%	1.56	59%	0.39	57%	5.62	81%	0.00	-	0.69
Other boat expenses	5.44	16%	0.00	-	2.01	47%	0.00	-	13.24	33%	0.00	-	0.52
Entertainment and recreation fees	2.39	19%	4.68	18%	0.87	19%	0.56	27%	4.30	33%	2.40	33%	0.74
Sporting goods and boat equipment	5.95	14%	2.31	25%	4.10	24%	0.88	34%	5.59	29%	3.18	46%	1.67
Other expenses	4.22	15%	8.00	14%	0.54	38%	2.31	49%	3.65	33%	2.27	33%	2.02
Total trip spending	**84.88**	**5%**	**85.84**	**5%**	**25.07**	**9%**	**15.08**	**11%**	**107.34**	**19%**	**82.12**	**26%**	**20.26**
Party size	3.53	2%	2.76	3%	2.78	4%	2.77	4%	3.27	7%	2.47	7%	2.77
Total nights	4.62	4%	5.20	5%	0.00	-	0.00	-	2.90	10%	6.24	19%	0.23
Nights w/in 30 miles	4.25	4%	3.81	5%	0.00	-	0.00	-	2.42	12%	3.00	20%	0.14
# of cases	422		426		249		193		66		37		1,393

1 Pct. Error = Standard Error / Mean. Two standard errors equal 95% confidence interval.
2 Weighted average of the six segments based on visitation in Table 1.

means that if the study were repeated 100 times, the average spending amount by this segment would fall between $58.50 and $71.50 in 95 out of 100 repetitions. This is a respectable error range for visitor expenditure surveys in general and is consistent with the 1989/90 survey results (Propst et al. 1992). The reason why the percent error, and hence the confidence interval, doubles and then quadruples from campers to day users to other overnight visitors, respectfully, is related to sample size. Since the formula for computing sampling error has sample size in the denominator, as sample size decreases, percent error increases. In examining the results in Table 5, sample sizes for the other overnight segments are relatively small and hence the relevant spending profiles are less stable and reliable (i.e., more prone to error) than those of the campers and day users.

Trip Spending and Other Characteristics at the Project Level

Only three projects had sufficient sample sizes to justify the computation of spending profiles from the survey data: Saylorville Lake, Barren River Lake, and John Martin Dam (Tables 6 - 8). Due to the low sample size at the project level, the visitor segments were reduced to three instead of six. The boater and non-boater segments were combined based on percent of boaters reported in the NRMS so there would be more sample in each segment. The three segments were then weighted based on visitation computed in Table 1 to compute the overall averages in the last columns of Tables 6-8. Among these three projects, the lowest weighted average spending for trips within 30 miles of the project was found at Barren River Lake ($11 per person trip); the highest weighted average spending was at John Martin Dam ($26 per person trip). Since day users accounted for more than 95 percent of the total visits at all three projects according to the NRMS data, the differences in weighted average spending at these projects were heavily influenced in a downward direction by the day user spending, which is typically much lower than that of campers and other overnight segments. The average spending for day users was $10 at Barren River Lake, $17 at Saylorville Lake, and $25 at John Martin Dam for trips within 30 miles of the project.

The weighted average party size ranged from 2.45 people at John Martin Dam to 2.8 people at Barren River Lake. These numbers are similar to the 16-lake average of 2.77 people (Table 5). The numbers of nights away from home were also similar to the 16-lake average at two out of the three projects. Visitors spent an average of 0.12 nights and 0.14 nights within 30 miles of John Martin Dam and Barren River Lake, respectively, while the overall average for the 16 lakes was 0.14 nights. Visitors spent an average of 0.25 and 0.22 total nights away from home (within and outside 30 miles) on trips to John Martin Dam, respectively, while the overall average for the 16 lakes was 0.23 nights. The nights away from home were higher for Saylorville visitors. The average was 0.19 nights on trips within 30 miles and 0.3 nights in total trip length.

Table 6
Summary of Visitor Spending Profiles at Saylorville Lake, 1999 (dollars per person trip, three segments[1])

Spending Category	Camper		Day User		Other Overnight[3]		Weighted Average[4]
	Mean	Pct. Error[2]	Mean	Pct. Error	Mean	Pct. Error	
Spending Within 30 Miles							
Hotel, motels, cabins, B&B, and rental homes	0.00	-	0.00	-	15.03	7%	0.43
Camp fee	13.72	11%	0.00	-	0.07	10%	0.38
Restaurants, bars, etc.	6.68	21%	5.85	37%	11.68	23%	6.03
Groceries and take out food	14.71	12%	5.08	23%	5.16	31%	5.35
Gas & oil	7.82	11%	2.25	21%	6.02	18%	2.51
Other auto expenses	0.18	95%	0.16	80%	0.05	10%	0.16
Other boat expenses	0.27	7%	0.10	10%	1.42	14%	0.15
Entertainment and recreation fees	3.74	30%	1.00	60%	1.34	49%	1.08
Sporting goods and boat equipment	1.44	77%	1.58	91%	2.36	14%	1.60
Other expenses	5.01	40%	0.62	57%	1.14	14%	0.75
Total (within 30 miles)	**53.57**	**10%**	**16.63**	**20%**	**44.27**	**20%**	**18.43**
Total Trip Spending							
Hotel, motels, cabins, B&B, and rental homes	0.67	76%	0.00	-	23.04	7%	0.67
Camp fee	15.93	12%	0.00	-	0.07	10%	0.44
Restaurants, bars, etc.	8.19	19%	5.85	37%	19.66	38%	6.30
Groceries and take out food	18.44	12%	5.26	22%	7.37	26%	5.69
Gas & oil	13.06	19%	2.74	24%	11.84	18%	3.28
Other auto expenses	0.76	77%	0.16	80%	0.05	10%	0.17
Other boat expenses	0.86	8%	0.10	10%	1.42	14%	0.16
Entertainment and recreation fees	4.34	29%	1.00	60%	2.03	40%	1.12
Sporting goods and boat equipment	1.61	79%	1.60	90%	3.17	54%	1.65
Other expenses	6.33	33%	0.71	59%	1.72	14%	0.89
Total trip spending	**70.20**	**11%**	**17.42**	**21%**	**70.37**	**28%**	**20.37**
Party size	2.80	6%	2.73	10%	2.87	10%	2.73
Total nights	5.28	14%	0.00	-	5.55	19%	0.30
Nights w/in 30 miles	3.99	13%	0.00	-	2.74	21%	0.19
# of cases	106		85		10		201

[1] Boaters and nonboaters were combined based on percent of visitors boating at each project (from 1999 NRMS database).
[2] Pct. Error = Standard Error / Mean. Two standard errors equal 95% confidence interval.
[3] The 16-project average spending for the other overnight nonboater segment was used to compute weighted spending for the other overnight segment. This was done due to low sample size (less than 5) for the other overnight nonboater segment at this project.
[4] Averages are weighted by the number of visits by each of the three segments at this project.

Table 7
Summary of Visitor Spending Profiles at Barren River Lake, 1999 (dollars per person trip, three segments[1])

Spending Category	Camper		Day User		Other Overnight[3]		Weighted Average[4]
	Mean	Pct. Error[2]	Mean	Pct. Error	Mean	Pct. Error	
Spending Within 30 Miles							
Hotel, motels, cabins, B&B, and rental homes	0.22	87%	0.00	-	15.91	36%	0.46
Camp fee	9.69	9%	0.00	-	0.03	87%	0.16
Restaurants, bars, etc.	4.64	22%	2.26	37%	13.57	19%	2.63
Groceries and take out food	8.20	16%	2.65	30%	5.81	28%	2.84
Gas & oil	5.34	15%	2.26	21%	7.16	19%	2.45
Other auto expenses	0.27	69%	1.01	12%	0.29	7%	0.98
Other boat expenses	0.43	5%	0.12	9%	0.21	7%	0.13
Entertainment and recreation fees	1.19	45%	0.70	45%	1.64	42%	0.73
Sporting goods and boat equipment	0.97	46%	0.59	48%	2.28	59%	0.64
Other expenses	1.22	42%	0.19	71%	1.43	41%	0.24
Total (within 30 miles)	**32.18**	**10%**	**9.77**	**23%**	**48.34**	**17%**	**11.26**
Total Trip Spending							
Hotel, motels, cabins, B&B, and rental homes	0.22	87%	0.00	-	25.10	46%	0.72
Camp fee	9.73	9%	0.00	-	0.03	87%	0.17
Restaurants, bars, etc.	5.27	22%	2.62	35%	22.54	32%	3.23
Groceries and take out food	12.03	11%	3.25	28%	8.12	24%	3.54
Gas & oil	9.38	11%	3.38	18%	13.89	18%	3.79
Other auto expenses	0.71	71%	1.07	11%	0.29	7%	1.04
Other boat expenses	0.51	5%	0.12	9%	0.21	7%	0.13
Entertainment and recreation fees	1.33	46%	0.70	45%	2.44	33%	0.76
Sporting goods and boat equipment	0.97	46%	0.87	48%	3.52	50%	0.94
Other expenses	1.39	39%	0.19	71%	2.10	38%	0.26
Total trip spending	**41.54**	**8%**	**12.19**	**18%**	**78.23**	**25%**	**14.58**
Party size	3.57	8%	2.80	10%	2.53	9%	2.80
Total nights	3.31	11%	0.00	-	5.78	19%	0.22
Nights w/in 30 miles	3.28	11%	0.00	-	2.91	19%	0.14
# of cases	105		51		18		174

[1] Boaters and nonboaters were combined based on percent of visitors boating at each project (from 1999 NRMS database).
[2] Pct. Error = Standard Error / Mean. Two standard errors equal 95% confidence interval.
[3] The 16-project average spending for the other overnight nonboater segment was used to compute weighted spending for the other overnight segment. This was done due to low sample size (less than 5) for the other overnight nonboater segment at this project.
[4] Averages are weighted by the number of visits by each of the three segments at this project.

Table 8
Summary of Visitor Spending Profiles at John Martin Dam, 1999 (dollars per person trip, three segments[1])

Spending Category	Camper		Day User		Other Overnight[3]		Weighted Average[4]
	Mean	Pct. Error[2]	Mean	Pct. Error	Mean	Pct. Error	
Spending Within 30 Miles							
Hotel, motels, cabins, B&B, and rental homes	0.05	11%	0.00	-	11.51	47%	0.33
Camp fee	6.27	15%	0.00	-	0.00	-	0.10
Restaurants, bars, etc.	3.47	30%	8.03	71%	9.71	32%	8.00
Groceries and take out food	11.67	18%	7.74	55%	5.36	42%	7.74
Gas & oil	8.62	17%	7.27	35%	7.20	31%	7.29
Other auto expenses	0.04	74%	0.73	89%	0.01	11%	0.70
Other boat expenses	0.11	8%	0.00	-	0.57	11%	0.02
Entertainment and recreation fees	1.25	32%	0.56	96%	1.52	67%	0.60
Sporting goods and boat equipment	0.83	48%	0.09	9%	3.85	96%	0.21
Other expenses	2.57	43%	0.55	63%	0.25	11%	0.57
Total (within 30 miles)	**34.89**	**14%**	**24.95**	**48%**	**39.97**	**24%**	**25.54**
Total Trip Spending							
Hotel, motels, cabins, B&B, and rental homes	6.82	51%	0.00	-	14.55	40%	0.53
Camp fee	13.67	17%	0.00	-	0.00	-	0.22
Restaurants, bars, etc.	14.80	27%	9.69	72%	16.91	32%	9.98
Groceries and take out food	27.20	19%	11.15	42%	10.46	43%	11.39
Gas & oil	31.04	17%	8.39	31%	19.45	30%	9.07
Other auto expenses	1.90	51%	0.73	89%	0.01	11%	0.73
Other boat expenses	0.23	5%	0.00	-	0.57	11%	0.02
Entertainment and recreation fees	6.36	41%	0.57	95%	2.91	57%	0.73
Sporting goods and boat equipment	4.88	61%	0.48	97%	5.32	73%	0.69
Other expenses	11.56	32%	0.55	63%	0.99	92%	0.73
Total trip spending	**118.48**	**17%**	**31.56**	**43%**	**71.17**	**24%**	**34.08**
Party size	3.00	9%	2.45	22%	2.20	15%	2.45
Total nights	5.84	14%	0.00	-	5.42	35%	0.25
Nights w/in 30 miles	2.93	14%	0.00	-	2.61	19%	0.12
# of cases	109		23		21		153

[1] Boaters and nonboaters were combined based on percent of visitors boating at each project (from 1999 NRMS database).
[2] Pct. Error = Standard Error / Mean. Two standard errors equal 95% confidence interval.
[3] The 16-project average spending for the other overnight nonboater segment was used to compute weighted spending for the other overnight segment. This was done due to low sample size (less than 5) for the other overnight nonboater segment at this project.
[4] Averages are weighted by the number of visits by each of the three segments at this project.

Economic Effects at the Project Level

The project-level estimates of visits, spending, economic effects, and multipliers are reported in Appendix E. Visits were estimated for all 456 projects using the 1998 and 1999 NMRS project-specific data (Table E1). Estimates of economic effects for these projects were based on the spending profiles developed in this study and multipliers generated from 108 I-O models for the regions around each project (Table E5). The spending profiles (within 30 miles only) in Table 5 were applied to visitation at each project to obtain estimates of total spending (Table E2) and economic effects on sales (Table E2), income (Table E3), and jobs (Table E4).

Barren River Lake (in Louisville District) serves to illustrate the interpretation of the findings, as well as the approach. Barren River Lake reported 1.5 million visits in 1999 with camping revenues of $205,608 (1998 figures). There were 365 CE-managed campsites at Barren River Lake and 99 non-CE-managed campsites. Boaters accounted for 13 percent of the visits. Based on these data from the 1999 and 1998 NRMS databases, Barren River Lake hosted 26,000 camping visits (person trips), 1.45 million day use visits, and 43,000 other overnight visits (Table 9). Based on the camping revenue data used in this report, 1.7 percent of visits to Barren River Lake were by campers, as opposed to the 10-percent figure from the PR_USE database in the NRMS. By multiplying visitor spending for each segment by total number of visits for each segment, total spending for each segment was estimated. In total, recreation visitors to Barren River Lake spent $22.49 million in the local area in 1999 (Table 9).

Table 9
Visitation and Spending at Barren River Lake, 1999

Visitation and Spending	Campers		Day Users		Other Overnight		Total
	Boater	Nonboater	Boater	Nonboater	Boater	Nonboater	
Visits	3,344	22,382	188,421	1,260,971	5,653	37,829	1,518,600
Spending ($MM)	0.22	1.23	3.72	15.00	0.47	1.85	22.49

Table 10
Economic Effects of Visitor Spending at Barren River Lake, 1999

Effect	Direct	Indirect	Induced	Total
Sales ($MM)	14.75	2.66	7.03	24.44
Income ($MM)	7.65	1.39	3.87	12.90
Jobs[1]	470	39	123	632

[1] Not full-time equivalent. Any full-time and part-time job is counted as one job.

Barren River Lake is illustrative of projects where primary spending data were collected (Table 7) and project-specific multipliers were estimated for the surrounding region using an I-O model. The multipliers for Barren River Lake are reported in Appendix Table E5. Sixty-four percent of the $22.49 million in visitor spending was captured as direct sales by the local economy -- $14.75 million in sales (Table 10). These direct sales accounted for another $2.66 million in indirect sales and $7.03 million in induced sales for a total sales effect of $24.44 million.

Income and employment effects for Barren River Lake are interpreted similarly. Visitor spending accounted for $7.65 million in income and 470 jobs in businesses directly serving visitors (Table 10). Another $1.39 million in income and 39 jobs were associated with backward-linked industries through indirect effects. Total effects including direct, indirect, and induced effects of the $22.49 million visitor in spending were $24.44 million in sales, $12.90 million in income, and 632 jobs in the local region.

Economic Effects at District and Division Levels

The availability of visitation, spending, and economic impact estimates for all 456 CE projects makes it a simple task to generate economic effects for CE districts and divisions. Division and district totals are reported in Table 11. It should be noted that these are simply aggregations of the local impacts of individual projects in each district or division. The findings do not therefore cover all impacts on the larger region, but only the sum of the impacts on local areas around projects in a given district or division. A complete estimate of impacts for the larger regions would need to include visitor spending outside local areas surrounding each project and should employ multipliers for the larger region. However, to estimate multipliers at district and division levels is beyond the scope of this project and requires additional data that were not available for this study.

Approximately half of the income and employment effects occurred in two of the Corps' eight divisions: Great Lakes and Ohio River, and Southwestern. Fifty-five percent of these effects occurred in seven of the Corps' 31 districts. Comparisons of the relative impacts of projects in each district or division should take into account the demographic and economic characteristics of the regions. For example, a thousand jobs in a district with relatively low population and economic activity has a much greater relative impact than a thousand jobs in a heavily populated, economically diverse district. District and division personnel may find these comparisons useful, especially when compared with the economic effects of other industries (e.g., agriculture or manufacturing). However, since the estimates at district and division levels do not cover all impacts on the larger region (i.e., they are only the sum of the impacts on local areas around projects), recreation impacts may be underestimated when compared with other industries' impacts at the district and division level.

National Economic Effects

Aggregation of local effects

The aggregation may be taken one step further to the national level, with the same caveats as above. Summing visitor spending at all 456 projects (Table E2) yielded a total of $6 billion in trip-related expenditures associated with recreational use of CE projects in 1999 (Table 12). These were trip expenditures

Table 11
Summary Results for All CE Districts, 1999

Division	District	Visits in Person Trips (1,000's)			Total[1] Spending	Sales Effects[1]		Income Effects[1]		Job Effects[2]	
		Camper	Day User3	Total		Direct	Total	Direct	Total	Direct	Total
Great Lakes and Ohio River (LRD)	Detroit	0	1,885	1,885	25	16	27	8	14	515	692
	Huntington	364	29,990	30,354	433	282	470	147	249	9,154	12,321
	Louisville	779	27,938	28,717	433	279	454	145	238	9,158	12,134
	Nashville	273	40,826	41,098	631	403	661	204	341	12,911	17,341
	Pittsburgh	107	6,682	6,789	105	69	117	36	62	2,187	2,968
	Subtotal	1,523	107,321	108,844	1,627	1,050	1,728	540	904	33,924	45,456
Mississippi Valley (MVD)	Rock Island	186	19,188	19,374	282	185	307	95	161	5,950	7,995
	St. Louis	234	15,812	16,045	259	166	265	81	133	5,547	7,254
	St. Paul	77	9,822	9,898	180	117	205	61	109	3,837	5,317
	Vicksburg	167	10,761	10,928	173	110	174	55	89	3,763	4,932
	Subtotal	663	55,583	56,246	895	578	952	292	492	19,097	25,497
North Atlantic (NAD)	Baltimore	88	2,322	2,411	41	27	44	14	23	860	1,154
	New England	50	6,978	7,028	97	63	105	33	55	2,019	2,713
	Norfolk	0	328	328	5	3	5	2	3	102	137
	Philadelphia	0	1480	1,480	25	16	27	8	14	515	693
	Subtotal	138	11,108	11,246	167	110	181	57	96	3,496	4,698
Northwestern (NWD)	Kansas City	342	11,719	12,061	204	134	222	70	117	4,276	5,747
	Omaha	220	13,509	13,729	207	132	213	68	112	4,347	5,721
	Portland	51	9,872	9,923	150	98	163	51	86	3,135	4,211
	Seattle	15	2,953	2,968	45	30	49	15	26	944	1,269
	Walla Walla	44	7,141	7,185	105	69	117	36	62	2,206	3,003
	Subtotal	672	45,194	45,866	712	463	765	241	404	14,909	19,951

(Continued)

[1] In millions.
[2] Number of jobs. Includes full-time and part-time jobs.
[3] Includes other overnight visits as reported in NRMS database.

Table 11 (Concluded)

Division	District	Visits in Person Trips (1,000's)			Total Spending	Sales Effects		Income Effects		Job Effects	
		Camper	Day User3	Total		Direct	Total	Direct	Total	Direct	Total
Pacific Ocean (POD)	Alaska	5	134	140	2	1	2	1	1	44	59
	Subtotal	5	134	140	2	1	2	1	1	44	59
South Atlantic (SAD)	Jacksonville	135	7,188	7323	118	77	128	40	68	2,467	3,315
	Mobile	403	35,766	36,169	597	386	624	206	336	11,404	15,264
	Savannah	242	17,992	18,234	287	189	313	98	166	5,825	7,874
	Wilmington	146	6,108	6,254	102	63	98	32	51	2,139	2,737
	Subtotal	925	67,054	67,979	1,103	715	1,163	376	621	21,835	29,191
South Pacific (SPD)	Albuquerque	26	1,048	1,073	16	11	17	5	9	335	451
	Los Angeles	17	7,765	7,782	103	80	141	43	77	1,769	2,543
	Sacramento	48	2,243	2,291	38	24	40	13	22	725	980
	San Francisco	28	1,106	1,134	18	12	19	6	10	363	487
	Subtotal	119	12,161	12,280	175	126	218	67	119	3,192	4,461
Southwestern (SWD)	Fort Worth	524	26,344	26,868	421	288	478	155	261	8,415	11,388
	Galveston	0	2,543	2,543	33	25	40	13	22	627	846
	Little Rock	368	29,209	29,577	469	305	537	157	281	10,308	14,522
	Tulsa	538	23,376	23,914	357	251	418	125	215	7,533	10,290
	Subtotal	1,430	81,471	82,901	1,281	868	1,473	451	779	26,883	37,046
All CE Projects Total		5,476	380,026	385,501	5,962	3,912	6,481	2,024	3,416	123,380	166,358

Table 12
Summary of Total CE Visits and Trip Spending Within 30 Miles of 456 Projects, 1999

Visitation and Spending	Camper		Day User		Other Overnight		Total
	Boat	Nonboat	Boat	Nonboat	Boat	Nonboat	
Visits (Person Trips, MM)[1]	1.2	4.3	80.8	288.1	2.4	8.6	385.5
Percent of Total	0.3%	1.1%	21.0%	74.7%	0.6%	2.2%	100%
Total Spending in Local Regions (within 30 miles, $MM)[2]	76	237	1,597	3,426	203	423	5,962
Percent of Total	1.3%	4.0%	26.8%	57.5%	3.4%	7.1%	100%

[1] From Table 1.
[2] Total Spending = Average spending per person trip (from Table 5) × Visits in person trips.

within 30 miles of CE projects and not total trip expenses. Day users accounted for 84 percent of this total spending. Other overnight visitors accounted for 11 percent of total spending as compared to 5 percent for campers. Boaters accounted for 22 percent of visits on CE projects and 31 percent of all spending.

In 1999, the $6 billion in visitor spending associated with the CE recreation program resulted in direct effects of approximately $3.9 billion in sales, $2 billion in income, and 123,000 jobs within the counties around CE projects (Table 13). When secondary effects were considered, the local economic effects of CE visitor spending totaled $6.5 billion in sales, $3.4 billion in income, and 166,000 jobs. It is important to recall that these effects were the result of spending by CE visitors locally (within 30 miles of projects' borders) and employed local area multipliers, not national ones. Total effects represented slightly more than 0.1 percent of total U.S. jobs and 0.05 percent of total U.S. income. In terms of secondary impacts, induced effects dominated indirect effects by about 3 to 1. This reflects the labor-intensive nature of the tourism industry.

Table 13
Economic Effects of Recreation Visitor Local Trip Spending on 456 CE Projects,[1] 1999

Effect	Sales ($MM)	Income ($MM)	Jobs (number of jobs)[2]
Direct	3,912	2,024	123,380
Indirect	706	369	10,217
Induced	1,864	1,022	32,762
Total Effects	6,481	3,416	166,358

1. Impacts on counties within 30 miles of CE projects of visitor trip spending within 30 miles of the projects. The total trip spending was $5,962 million.
2. Includes full-time and part-time jobs.

Use of national I-O model

The economic effects of CE visitor spending on the U.S. economy were also determined by applying total spending to a U.S. I-O model. Total trip spending for all CE visitors in the United States was estimated by applying average person

trip spending to the total number of person trips for each segment in Table 1. Trip spending for the entire trip (both within and outside 30 miles) was used to estimate the economic effects of CE visitors' trip spending on the U.S. economy. The estimated trip spending for all CE visitors in the United States in 1999 was $7.8 billion from the survey. For reasons previously explained in Chapter 2, this figure was adjusted upward to $9.6 billion.

Ninety-two percent of CE visitor spending was captured by the national economy, 8 percent went to foreign imports, which resulted in a direct sales effect of $8.9 billion (Table 14). This spending also resulted in $3.9 billion in direct income and supported about 200,000 direct jobs. When secondary effects were considered, the national economic effects of CE visitor spending totaled $10.6 billion in income and about 350,000 jobs. Total effects from total trip spending represented slightly more than 0.2 percent of total U.S. jobs and 0.15 percent of total U.S. income. It is important to distinguish these results (U.S. model, or "top-down" approach) from the aggregation of local effects (local models, or "bottom-up" approach). The top-down effects were the results of total trip spending by CE visitors (both within and outside 30 miles of projects' borders) and employed national multipliers. These effects were much higher than the aggregation of local effects because of the higher capture rate (most of the spending was captured by the U.S. economy) and higher multipliers.

Table 14
Economic Effects of CE Visitor Total Trip Spending on the U.S. Economy,[1] 1999

Effect	Sales ($MM)	Income ($MM)	Jobs (number of jobs)[2]
Direct	8,909	3,866	199,192
Indirect	6,662	3,197	60,458
Induced	6,673	3,548	87,201
Total Effects	22,244	10,610	346,851

[1] Impacts of total trip spending both within and outside 30 miles of the projects. Because of low response rates and low sample sizes on some segments, the total trip spending was modified upward from the survey estimate of $7,810 million to $9,644 million. This modification was done by comparing visitor spending outside 30 miles estimated from this study to the 1989/1990 survey (Propst et al. 1992).
[2] Includes full-time and part-time jobs.

4 Limitations

The major limitation of this study is the uncertainty about representativeness of the sample due to the low response rates to the mailback portion of the survey. The low response rates resulted from a combination of factors: the inability to send follow-up reminders and the use of project personnel to make visitor contacts and distribute the survey instruments. Sending two follow-up reminders, as typically recommended in survey research, normally doubles the response rate in visitor expenditure surveys (Dillman 1978), but increases the cost and requires visitors to provide their names and addresses. Even though project personnel were trained and the research personnel at MSU were available to answer questions, it is not possible to know the extent to which procedures and instructions were followed. Even under the best of circumstances, visitors may respond differently to government employees distributing questionnaires than to trained interviewers who are under government contract.

Having noted this important limitation, we still feel that eight of the twelve national spending profiles in Table 5 are representative and reliable enough to be used to estimate economic effects and for other purposes. We say this with some confidence because we were fortunate to have the results of a similar study conducted 10 years earlier. In this study (Propst et al. 1992), a similar methodology was followed with two major exceptions: two follow-up reminders were sent and a small number of trained, university graduate student researchers distributed the surveys. In the earlier study, the response rates were 60 to 80 percent, much higher than in the current study. By price-adjusting and then comparing the results of this study with those of Propst et al. (1992), Chang and Propst (2000) were able to conclude that there were no significant differences between the spending profiles for the camper and the day user segments (boaters and nonboaters, both within 30 miles, and for total trip spending) between the two studies. This provides a good deal of confidence in using the figures from the 1999 survey for these segments and referring to the data as "nationally representative." The same cannot be said about the other overnight segments, for which there were fairly major differences between the two studies. For this reason, we recommend using the price-adjusted profiles from Propst et al. (1992) rather than from this study for the four other overnight segments.

A second limitation was related to the timing of the beginning of the survey. The availability of funding for the study necessitated beginning the surveys in June. However, half of the sampled projects were located in the southern tier of states where the recreation season, particularly as related to fishing, begins much earlier (February - April). This is the time during which fishing tournaments are

typically held. According to project managers, these fishing tournaments attract anglers who spend a great deal of money in the local area. Thus, it is not clear how much our spending figures for the camping, day use, and other overnight segments were affected by not surveying this category of visitor more completely. Since the NRMS reports annual, not seasonal, visitation, the use estimates should be inclusive of the early season anglers and other visitor types. To check the accuracy of the spending profiles, the results from this study may be compared to the 1996 National Survey and Fishing, Hunting, and Wildlife-Related Recreation (U.S. Department of the Interior 1997), which is funded by the Fish and Wildlife Service of the U.S. Department of the Interior and Bureau of the Census of the U.S. Department of Commerce. Among other things, this survey reports angler expenditure data by state.

The third limitation is the use of the old IMPLAN Type III multipliers. The Type III multipliers used in this and the previous reports were adjusted downward to correct for a bias in the IMPLAN DOS version multiplier procedures. However, even with the adjustment, we found that the downwardly adjusted Type III multipliers are still 10 to 20 percent higher than the Type SAM multipliers. Type SAM multipliers are calculated by the latest version of IMPLAN-Pro and are thought to be more accurate in reflecting induced effects in outdoor recreation and tourism applications (Stynes et al. 2000). We did not use Type SAM multipliers in this report for project-level impact estimates because we wanted to be able to compare the economic effects in this report with comparable data in previous reports (e.g., Propst et al. 1998).

5 Applications and Recommendations

The economic effects estimated in this report may be used to assess the CE recreation program at the project, district, or division level. There are two basic applications, discussed below, that can be handled by utilizing the findings in this report.

Estimating Economic Effects of CE Visitor Spending in a Given Year

In this report, the economic effects of CE visitor spending in 1999 were estimated for each project, district, division, and the nation as a whole. CE managers may compute economic effects for any given year by using the following equation:

Economic Effects = Average Spending per Visit × Total Annual Visits × Capture Rate × Regional Economic Multipliers

Managers should obtain updated NRMS visitation data (no conversion necessary since the spending data reported is in person trips), price inflate the spending data to the year of study, and apply the total spending to local capture rates and regional multipliers (assume capture rates and multipliers will not change too much over time). For a simplified approach on conducting economic impact analysis for CE projects, refer to the worksheet provided in Appendix A of Propst et al. (1998). For the range of multipliers and to download an Excel spreadsheet for the computation of economic impacts at multicounty level, visit the web page of Dr. Daniel Stynes, MSU, at http://www.msu.edu/user/stynes/usace ("CE Project Recreation Economic Impact Calculator"). Managers can also refer to the classification table (Appendix A) developed by Becker (1997) to choose multipliers by matching similar projects where multipliers have been computed.

Evaluating the Economic Impacts of a Proposed Action or Management Alternative

Evaluation of alternatives is another important feature of economic impact analysis. In this case, managers must define the action or alternative to be

evaluated and estimate the change in visitors and spending due to the action. For example, project managers and planners may conduct "what if" analysis by using the segmented spending profiles and regional multipliers reported in this study. Questions like "what if the percent of day use boaters increases from 20 to 40 percent at this project?" or "what if a new hotel is open on the lake (more overnight users)?" can be answered by applying the segmented spending profiles to the proposed change in visits.

This study interviewed about 8,000 visitors at 16 CE recreation project across the nation to collect recreation use information. More than 1,600 mailback questionnaires were returned from these visitors, and the results were used to estimate visitor trip spending. Total CE recreation visitation was estimated by using information gathered from this study and from the NRMS database. Economic multipliers were computed for the nation by using an I-O model, and the project-level multipliers were modified from a previous study. Economic effects of CE visitor spending were estimated by applying visitor spending and use data to regional economic multipliers. The analysis and findings in this report suggest a number of ways to improve future studies of this kind:

a. Future studies like these should employ follow-up reminders (at least two) and use trained interviewers rather than project staff to distribute the surveys and instruct visitors. In comparing this survey with the survey conducted in 1989, it was concluded that the low response rate of this study was largely due to the lack of follow-ups. By employing follow-up reminders, the response rate may more than double and thus provide adequate sample sizes for individual projects and all visitor segments (resident and nonresident). Also, the use of trained interviewers instead of CE staff to distribute questionnaires will provide more control in survey quality since continuity among projects and surveys will result from trained staff with only one job.

b. Future recreation use surveys could be modified to include variables useful for economic impact analysis. Information such as percent of residents vs. nonresidents, conversion variables for switching between different units (party trips to person days, etc.), and percent of CE visitors who stay overnight off premise can be gathered via other use surveys that the CE may conduct regularly or irregularly. With this information, the visitation estimates from the NRMS can be fine-tuned to better fit any future economic impact analysis.

c. Newer IMPLAN databases should be obtained for updating regional economic multipliers. Currently, all the regional economic multipliers at the project level were estimated using the 1990 database. Although the errors due to multipliers are more likely to be the smallest compared to other components in an economic impact analysis (i.e., spending, visits, etc.), it will be very difficult to verify if the multipliers are still suitable for the region after more than 10 years. Also, the old database cannot be used in the current IMPLAN model (IMPLAN-Pro 2.0, Windows version) and thus cannot be used to compute the Type SAM multipliers. It is not necessary to obtain new IMPLAN databases and compute multipliers every year since multipliers typically do not change much over time (3 to 5 years). However, new databases should be obtained at least

every 5 years so the change in regional economies (i.e., new industries, shift in business types and linkages, population change) can be reflected in the multipliers.

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Appendix A
Classification of Corps of Engineers Projects

Classification of Corps of Engineers Projects

Multiplier	High Retail Establishments (1,350 +) /High Population (500,000 +)	High Retail Establishments (1,350 +) /Low Population (under 500,000)	Low Retail Establishments (under 1,350) /Low Population (under 500,000)
High Sales Multiplier (1.75 +)	**I** J. Percy Priest, TN Canyon Lake, TX Cheatham, TN David D. Terry, AR Hansen Dam, CA Pine Flat, CA Saylorville, IA Sepulveda Dam, CA Shenango, PA Smithville Lake, MO Whittier Narrows, CA W. H. Harsha, KY (N = 12)	**II** Willamette, OR Barkley, KY Beaver, AR Bluestone, WV Stockton Lake, MO Table Rock, AR Whitney, TX (N = 7)	**III** Oahe, SD Ouachita, AR Bull Shoals, AR Englebright, CA Lake Sharpe, SD Norfork, AR Pomme de Terre, MO Waco Lake, TX (N = 8)
Medium Sales Multiplier (1.58 – 1.74)	**IV** Addicks, TX Alum Creek, OH Blue Marsh, PA Bonneville, OR Chatfield, CO Cherry Creek, CO Deer Creek, OH Grapevine Lake, TX Hartwell Lake, GA J Strom Thurmond, SC Joe Pool Lake, TX Keystone Lake, OK Lewisville Lake, TX Oologah Lake, OK (N = 14)	**V** McNary, OR Raystown, PA Shelbyville, KY Cecil M. Harden, IN Center Hill, TN John H. Kerr, NC Kaweah, CA Lake O' The Pines, TX Nolin River, KY Senecaville, OH Texoma Lake, TX West Point, AL Murray, AR Success, CA (N = 14)	**VI** Cumberland, KY Mendocino, CA Milford, KS Barren River, KY Belton Lake, TX Black Butte, CA Cordell Hull, TN Dardanelle, AR Degray, AR Eufaula Lake, OK Fort Gibson, OK Greers Ferry, AR H. Truman, MO Laurel River, KY Lower Granite, WA Mark Twain, MO Millwood, AR New Hogan, CA Rathbun Lake, IA Sam Rayburn, TX Somerville, TX Summersville, WV Tenkiller, OK Wappapello, MO Wright Patman, TX (N = 25)
Low Sales Multiplier (under 1.57)	**VII** Sidney Lanier, GA Allatoona Lake, GA B Everett Jordon, NC Falls Lake, NC Lavon Lake, TX (N = 5)	**VIII** Monroe, IN Rend Lake, IL W. Kerr Scott, NC Woodruff, AL (N = 4)	**IX** Dworshak, ID Arkabuta, MS Blue Mountain, AR Canton, OK Carlyle, IL Dale Hollow, TN Dannelly, AL Eastman, CA Grenada Lake, MS Hensley, CA Lake Celilo, WA Lake Seminole, FL Lake Umatilla, OR Lewis and Clark, SD Nimrod, AR Philpott Lake, VA Rough River, KY Sardis Lake, MS Walter F. George, AL (N = 19)

Source: "Classification of Corps of Engineers Projects for Economic Impact Assessment" (Becker 1997).
Note: All Type III multipliers were modified downward to adjust the induced effects bias (Propst et al. 1998).

Appendix B
Onsite Survey Questionnaire

U.S. ARMY CORPS OF ENGINEERS RECREATION VISITOR SURVEY

1. **Including yourself, how many persons are in your vehicle today? _____**

2. **How many miles (one-way) did you travel from your home to this lake?_____**

3. **What is your primary purpose to visit this area? (check one)**
   1. [ ] Business trip
   2. [ ] Visit friends/relatives
   3. [ ] Stay at second home
   4. [ ] Visit this Lake
   5. [ ] I live in this area
   6. [ ] Other (please specify):_____

4. **Have you spent or do you plan to spend any nights away from your home while on this trip?**

   [ ]YES
   Proceed to question 4.a

   [ ]NO →

   4.e. How many hours will you spend in total at this lake today? _____
   Proceed to question 5.

   4.a. How many nights will you spend away from your home on this trip?_____

   4.b. How many of these nights will you spend within 30 miles of the lake?_____

   4.c. What type of lodging are you using in the local area? (check one)
   [ ] Campground
   [ ] Hotel/motel/lodge/cabin
   [ ] Home of friends/family
   [ ] Rental home
   [ ] Boat
   [ ] Second home

   4.d. Is this lodging: (check one)
   [ ] ON Corps' property
   [ ] OFF Corps' property

5. **What recreation activities have the people in your vehicle participated in, or plan to participate in, while on this trip to the lake? (check all that apply)**
   1. [ ] Fishing from boat
   2. [ ] Fishing from shore
   3. [ ] Other boating
   4. [ ] Picnicking
   5. [ ] Swimming
   6. [ ] Hiking/walking/biking
   7. [ ] No particular activity
   8. [ ] Other (please specify): _____

6. **What is your primary recreation activity on this trip to the lake?_____**

7. **What is the ZIP code of your permanent home? _____**

Please return this questionnaire to your CE manager/staff. Thank you for your participation and have a nice day!

FILLED OUT BY CE MANAGER/STAFF ONLY **ID # : _ - _ _ _ _**

_____
Project

Record time distributed_____ AM/ PM

_____
Recreation Area Name

DATE:_____/_____
MM DD

Appendix C
Mailback Survey Questionnaire

U.S. ARMY CORPS OF ENGINEERS RECREATION EXPENDITURE SURVEY

INSTRUCTIONS

Please fill in the blanks below for spending on your party's recent trip to the CE Lake. The amounts in COLUMN A and B should add up to the total amount of money your party spent for that item.

EXAMPLE

Let's say the people in your vehicle spent $52 at hotels within 30 miles of the lake and spent zero on lodging anywhere else. You would enter $52 in COLUMN A and "0" in COLUMN B for this item. In addition, your group spent $60 at restaurants during the trip, of which $22 was spent within 30 miles of the lake, you would enter $22 in COLUMN A and $38 in COLUMN B for this item.

	within 30 miles (Column A)	beyond 30 miles (Column B)
1. Hotels, motels, cabins, B&B, rental homes	$ 52	$ 0
2. Restaurants, bars, and other eating and drinking places	$ 22	$ 38

Please enter 0 if you spent nothing: DON'T LEAVE BLANKS!

The questions that follow are based on your recent recreation trip to the:

ID # : «ID» - _ __ __

«PROJ_NAME»
Project

Where you were interviewed on_____/_____.

_____
Recreation Area Name

At that time there were_____ people in your vehicle. Record expenses for these people only.

START HERE

	Spending within 30 miles of the lake (Column A)	Spending beyond 30 miles (Column B)
LODGING		
1. Hotels, motels, cabins, B&B, rental homes	$_____	$_____
2. Campground fees (including hookups)	$_____	$_____
FOOD AND BEVERAGES		
1. Restaurants, bars, and other eating and drinking places	$_____	$_____
2. Groceries, and take out food including alcohol and tobacco	$_____	$_____
TRANSPORTATION		
1. Gas and oil for auto, boat, RV, etc.	$_____	$_____
2. Other auto expenses (repairs, parking, tolls, etc.)	$_____	$_____
3. Other boat expenses (repairs, rentals, slip fees, etc., *excluding equipment*)	$_____	$_____
RECREATION		
1. Attractions, entertainment, and recreation fees (including day use fees at Corps of Engineers day use areas)	$_____	$_____
2. Sporting goods and boat equipment	$_____	$_____
OTHER EXPENSES (clothing, souvenirs, maps, books, etc.)	$_____	$_____

After recording your expenses, please answer these two questions.

1. In total, how many nights did you spend away from home on this trip? _____nights
2. How many nights did you spend within 30 miles of the lake where you were interviewed? _____nights

You can peel off this yellow sticker and seal this form (optional) before you drop it into a mailbox. No need to add postage. THANK YOU FOR YOUR HELP

Appendix D
Data Editing and Cleaning

Data Editing and Cleaning

Rules and variable definitions:

1. Resident: based on miles traveled from home. 0-29 miles = resident; 30 and more miles = nonresident.
2. Overnight users: visitors who spent nights away from home.
3. Camper: respondents who answered camping as the type of lodging in question 4, or mentioned camping in question 5 or 6 in the onsite survey were coded as campers.
4. Other overnight visitors: visitors spent over night other than campers.
5. Party size: based on onsite survey. If no data available from the onsite survey, information from the mailback survey was used.
6. Nights away from home: based on mailback surveys. If no data available from the onsite survey, information from the mailback survey was used.
7. Boater: respondents who checked boating in question 5, or mentioned any boating activities in question 5 or 6 in the onsite survey were coded as boaters.

Re-coded cases:

1. Anyone who spent money on boating categories was coded as a boater.
2. Overnight visitors who only spent money on camping but did not spend money on other types of lodging were re-coded as campers.
3. Overnight visitors who spent money on *both camping and other lodging types* were examined and coded on a case-by-case basis.
4. Overnight visitors who returned mailback surveys but were unable to be matched with onsite surveys (i.e., no ID numbers on the mailbacks) were coded as campers if they spent money on camping; otherwise coded as other overnight users.
5. The spending on lodging was zeroed out if the respondent was identified as day user.

Filtered cases:

Fifty-seven cases were eliminated from final analysis due to one or both of the following situations:

1. Visitors who stayed for more than 30 days were excluded from the analysis since they would have an upward bias to the average per trip spending.
2. Cases were excluded when the reported party sizes were more than 12 people. This was done to eliminate the group tours that would distort the average per party spending.

Detection of outliers:

1. Survey responses were examined on a case-by-case basis for any single entry of spending that was more than $500 for any item. The corresponding per-day and per-person expenses were reviewed so large spending figures were not categorized as outliers simply because the visitors stayed longer in the region.
2. Ten spending entries were identified as outliers: one reported $500 on hotel expense for one night for a party of two; two others reported more than $60 per night of camping fees at Corps campgrounds for groups of two and three people; three visitors reported $3,100 on groceries for 1 day (company picnic expenses); four visitors reported spending more than $2,000 on sporting goods ($2,000, $15,000, $33,000, and $35,000).

Appendix E
Summary Results for all Corps of Engineers Projects

Table E1
Visits by Segments for All CE Projects in 1999 (in person trips, 1,000's) (Continued)

Division	District	Project	Campers		Day Users (inc. OVN)[1]		Total
			Boater	Nonboater	Boater	Nonboater	
LRD	Detroit	Duluth-Superior Harbor	0.00	0.00	0.00	1,079.20	1,079.20
		Keweenaw Waterway	0.00	0.00	17.42	156.78	174.20
		St. Marys River	0.00	0.00	0.00	618.80	618.80
		Sturgeon Bay and Lake Michigan Ship Canal	0.00	0.00	0.00	13.20	13.20
	Huntington	# Alum Creek Lake	1.22	14.03	226.99	2,610.36	2,852.60
		Atwood Lake	3.43	30.90	124.67	1,121.99	1,280.99
		Beach City Lake	0.00	0.00	0.55	54.47	55.02
		Beech Fork Lake	2.72	14.26	118.06	619.83	754.87
		Belleville Locks and Dam <Ohio R>	0.00	0.00	152.05	692.65	844.70
		# Bluestone Lake	1.99	37.84	70.50	1,339.47	1,449.80
		Bolivar Dam	0.00	0.00	0.00	223.25	223.25
		Burnsville Lake	1.46	19.37	32.54	432.25	485.62
		Capt Anthony Meldahl Locks and Dam <Ohio R>	0.00	0.00	230.10	446.67	676.78
		Charles Mill Lake	0.86	42.21	15.52	760.32	818.91
		Clendening Lake	0.00	0.00	32.14	168.72	200.86
		# Deer Creek Lake	0.11	11.05	40.19	3,979.24	4,030.60
		Delaware Lake	1.40	18.60	57.44	763.16	840.60
		Dewey Lake	0.02	0.38	35.24	845.67	881.30
		Dillon Lake	0.11	11.09	14.05	1,391.21	1,416.46
		Dover Dam	0.00	0.00	2.01	199.19	201.20
		East Lynn Lake	0.77	6.22	33.88	274.13	315.00
		Fishtrap Lake	0.01	0.34	34.38	825.04	859.77
		Grayson Lake	0.30	4.63	39.86	624.51	669.30
		Greenup Locks and Dam <Ohio R>	0.00	0.00	553.70	1,355.60	1,909.30
		John W Flannagan Dam and Reservoir	0.15	1.39	42.03	378.27	421.85
		Leesville Lake	1.22	5.18	30.59	130.40	167.39
		London Locks and Dam <Kanawha River>	0.00	0.00	0.00	1.00	1.00
		Marmet Locks and Dam <Kanawha River>	0.00	0.00	0.00	68.20	68.20

(Sheet 1 of 15)

[1] Includes other overnight visits.
Notes: LRD = Great Lakes and Ohio River; MVD = Mississippi Valley; NAD = North Atlantic; NWD = Northwestern; POD = Pacific Ocean; SAD = South Atlantic; SPD = South Pacific; SWD = Southwestern.
! Projects where surveys were conducted to create the spending profiles for this study.
Projects where the IMPLAN economic impact models have been built (Becker 1997).

Table E1 (Continued)

Division	District	Project	Campers		Day Users (inc. OVN)		Total
			Boater	Nonboater	Boater	Nonboater	
LRD (cont)	Huntington (cont)	Mohawk Dam	0.02	0.11	32.61	218.26	251.00
		Mohicanville Dam	0.00	0.00	0.00	12.78	12.78
		North Branch Kokosing River Lake	0.01	0.20	9.64	183.14	192.99
		North Fork of Pound River Lake	0.00	0.00	0.00	137.10	137.10
		Paint Creek Lake	0.54	12.86	34.05	817.26	864.70
		Paintsville Lake	0.00	0.00	112.78	692.78	805.56
		Piedmont Lake	0.00	0.00	36.72	138.15	174.87
		Pleasant Hill Lake	0.32	31.32	6.92	684.96	723.51
		R D Bailey Lake	0.06	0.79	44.61	592.65	638.10
		Racine Locks and Dam <Ohio R>	0.00	0.00	41.75	84.76	126.50
		Robert C. Byrd Locks and Dam <Ohio R>	0.00	0.00	18.41	58.29	76.70
		# Senecaville Lake	2.15	28.58	79.04	1,050.12	1,159.90
		# Summersville Lake	2.19	11.49	145.88	765.84	925.40
		Sutton Lake	0.37	8.83	21.86	524.64	555.70
		Tappan Lake	3.55	20.12	104.95	594.73	723.35
		Tom Jenkins Dam and Burr Oak Lake	0.23	7.49	14.08	455.11	476.90
		Willow Island Locks and Dam <Ohio R>	0.00	0.00	62.08	220.12	282.20
		Wills Creek Lake	0.00	0.00	0.96	30.90	31.85
		Winfield Lock and Dam <Kanawha River>	0.00	0.00	68.83	336.07	404.90
		Yatesville Lake	0.00	0.00	65.65	299.05	364.70
	Louisville	!# Barren River Lake	3.34	22.38	194.07	1,298.80	1,518.60
		Brookville Lake	2.84	17.44	134.74	827.68	982.70
		Buckhorn Lake	0.13	1.75	20.91	277.81	300.60
		Caesar Creek Lake	2.06	16.63	145.66	1,178.55	1,342.90
		Cagles Mill Lake	0.66	15.93	9.34	224.07	250.00
		Cannelton Lock and Dam + Ohio River	0.00	0.00	2.30	43.70	46.00
		Carr Creek Lake	0.42	4.20	58.80	594.49	657.90
		Cave Run Lake	0.00	0.00	10.33	505.97	516.30
		# Cecil M. Harden Lake	3.06	17.34	212.76	1,205.64	1,438.80
		Clarence J Brown Dam and Reservoir	0.28	4.32	60.49	947.62	1,012.70
		Green River Lake	1.81	16.30	101.50	913.49	1,033.10
		Greenriver +2 Locks	0.00	0.00	1.89	25.11	27.00
		J. Edward Roush Lake	0.39	7.34	21.97	417.40	447.10
		John T. Myers Lock and Dam	0.00	0.00	9.27	176.13	185.40

(Sheet 2 of 15)

Table E1 (Continued)

Division	District	Project	Campers		Day Users (inc. OVN)		Total
			Boater	Nonboater	Boater	Nonboater	
LRD (cont)	Louisville (cont)	Kentucky River + 4 Locks	0.00	0.00	9.24	122.76	132.00
		Lock & Dam 52 + Ohio River	0.00	0.00	1.79	33.92	35.70
		Lock & Dam 53 + Ohio River	0.00	0.00	0.55	7.35	7.90
		Markland Lock and Dam + Ohio River	0.13	0.50	63.48	238.79	302.90
		Mcalpine Lock and Dam + Ohio River	0.00	0.00	15.07	236.03	251.10
		Mississinewa Lake	4.33	43.78	72.95	737.64	858.70
		# Monroe Lake	6.33	28.85	211.34	962.77	1,209.30
		Newburgh Lock and Dam + Ohio River	0.00	0.00	34.64	460.26	494.90
		!# Nolin River Lake	3.06	12.23	416.94	1,667.77	2,100.00
		Patoka Lake	3.14	28.30	113.11	1,017.95	1,162.50
		# Rough River Lake	3.13	19.22	279.69	1,718.07	2,020.10
		Salamonie Lake	36.58	420.69	547.23	6,293.19	7,297.70
		Smithland Lock and Dam + Ohio River	0.00	0.00	1.46	19.44	20.90
		Taylorsville Lake	0.00	0.00	201.33	917.17	1,118.50
		West Fork Of Mill Creek Lake	0.04	4.09	8.87	877.70	890.70
		# William H Harsha Lake	4.38	21.40	174.90	853.92	1,054.60
	Nashville	!# Barkley Lock and Dam Lake Barkley	5.71	32.36	611.94	3,467.68	4,117.70
		!# Center Hill Lake	5.08	20.33	791.32	3,165.27	3,982.00
		# Cheatham Lock and Dam	0.92	3.93	457.55	1,950.60	2,413.00
		# Cordell Hull Dam and Reservoir	1.94	14.20	409.34	3,001.83	3,427.30
		# Dale Hollow Lake	17.93	30.53	1,249.98	2,128.35	3,426.80
		# J Percy Priest Dam and Reservoir	2.30	13.03	994.33	5,634.54	6,644.20
		# Laurel River Lake	0.00	0.00	21.70	249.60	271.30
		Martins Fork Lake	0.00	0.00	27.30	133.30	160.60
		! Old Hickory Lock and Dam	10.98	34.78	2,837.34	8,984.90	11,868.00
		# Wolf Creek Dam Lake Cumberland	40.84	37.70	2,448.66	2,260.30	4,787.50
	Pittsburgh	Berlin Lake	6.40	11.88	155.65	289.07	463.00
		Conemaugh River Lake	0.00	0.00	8.30	95.50	103.80
		Crooked Creek Lake	0.10	0.85	38.52	311.63	351.10
		Dashields Locks and Dam <Ohio River>	0.00	0.00	13.78	7.42	21.20
		East Branch Clarion River Lake	0.15	0.47	56.92	180.25	237.80
		Emsworth Locks and Dams <Ohio River>	0.00	0.00	33.08	49.62	82.70
		Gray's Landing Locks and Dam	0.00	0.00	2.80	1.51	4.30

(Sheet 3 of 15)

Table E1 (Continued)

Division	District	Project	Campers		Day Users (inc. OVN)		Total
			Boater	Nonboater	Boater	Nonboater	
LRD (cont)	Pittsburgh (cont)	Hannibal Locks and Dam <Ohio River>	0.00	0.00	15.34	8.26	23.60
		Hildebrand Lock and Dam <Monongahela River>	0.00	0.00	4.80	1.60	6.40
		Kinzua Dam and Allegheny Reservoir	1.22	4.34	78.02	276.62	360.20
		Lock and Dam 2 <Allegheny River>	0.00	0.00	28.91	12.39	41.30
		Lock and Dam 3 <Allegheny River>	0.00	0.00	9.49	5.11	14.60
		Lock and Dam 4 <Allegheny River>	0.00	0.00	10.99	5.92	16.90
		Lock and Dam 5 <Allegheny River>	0.00	0.00	6.05	3.26	9.30
		Lock and Dam 6 <Allegheny River>	0.00	0.00	3.78	2.52	6.30
		Lock and Dam 7 <Allegheny River>	0.00	0.00	4.90	4.01	8.90
		Lock and Dam 8 <Allegheny River>	0.00	0.00	4.68	2.52	7.20
		Lock and Dam 9 <Allegheny River>	0.00	0.00	4.68	3.12	7.80
		Locks and Dam 2 <Monongahela River>	0.00	0.00	7.56	3.24	10.80
		Locks and Dam 3 <Monongahela River>	0.00	0.00	2.67	1.44	4.10
		Locks and Dam 4 <Monongahela River>	0.00	0.00	2.67	1.44	4.10
		Loyalhanna Lake	0.12	1.33	19.41	223.24	244.10
		Mahoning Creek Lake	0.58	2.85	8.17	39.90	51.50
		Maxwell Locks and Dam <Monongahela River>	0.00	0.00	6.06	4.04	10.10
		Michael J Kirwan Dam and Reservoir	1.40	4.68	56.70	189.82	252.60
		Montgomery Locks and Dam <Ohio River>	0.00	0.00	13.65	7.35	21.00
		Morgantown Lock and Dam <Monongahela River>	0.00	0.00	1.05	1.05	2.10
		Mosquito Creek Lake	2.66	11.35	228.25	973.05	1,215.30
		New Cumberland Locks and Dam <Ohio River>	0.00	0.00	18.80	18.80	37.60
		Opekiska Lock and Dam <Monongahela River>	0.00	0.00	0.80	0.80	1.60
		Pike Island Locks and Dam <Ohio River>	0.00	0.00	11.40	17.10	28.50
		Point Marion Lock and Dam <Monongahela River>	0.00	0.00	0.96	0.64	1.60
		# Shenango River Lake	6.81	16.67	179.81	440.22	643.50
		Stonewall Jackson Lake	0.66	1.28	132.79	257.77	392.50
		Tionesta Lake	0.77	8.85	34.02	391.26	434.90
		Tygart Lake	0.89	3.36	106.29	399.86	510.40
		Union City Dam	0.00	0.00	0.00	40.40	40.40
		Woodcock Creek Lake	0.14	6.83	8.50	416.63	432.10
		Youghiogheny River Lake	1.55	8.80	101.03	572.52	683.90

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Table E1 (Continued)

Division	District	Project	Campers		Day Users (inc. OVN)		Total
			Boater	Nonboater	Boater	Nonboater	
MVD	Rock Island	Coralville Lake	8.65	20.19	379.97	886.59	1,295.40
		Farmdale Dam	0.00	0.00	0.00	41.30	41.30
		Illinois Waterway	0.00	0.00	0.00	128.00	128.00
		Lake Red Rock	6.61	66.85	108.64	1,098.49	1,280.60
		Mississippi River Pools 11-22 (10 L&D)	6.15	41.15	1,983.18	13,272.02	15,302.50
		!# Saylorville Lake	5.12	31.46	180.59	1,109.33	1,326.50
	St. Louis	# Carlyle Lake	8.97	43.78	487.97	2,382.46	2,923.19
		# Clarence Cannon Dam and Mark Twain Lake	16.36	24.54	701.40	1,052.10	1,794.39
		# Lake Shelbyville	12.20	55.58	442.06	2,013.85	2,523.70
		# Rend Lake	15.74	33.44	768.72	1,633.52	2,451.42
		Rivers Project - Illinois River	0.00	0.00	205.95	382.48	588.43
		Rivers Project - Lower River	0.00	0.00	157.96	293.36	451.33
		Rivers Project - Upper River	0.05	0.07	1,296.32	1,944.48	3,240.92
		# Wappapello Lake	7.42	15.77	655.65	1,393.25	2,072.09
	St. Paul	Baldhill Dam Lake Ashtabula	1.57	2.78	57.91	102.94	165.20
		Eau Galle Flood Control Project	0.05	1.12	5.62	134.77	141.56
		Homme Lake	0.31	0.70	23.25	51.74	76.00
		Lac Qui Parle Lake	0.00	0.00	1.45	46.95	48.40
		Lake Traverse	0.00	0.00	41.64	97.16	138.80
		Mississippi River Headwaters Lakes Project	11.13	18.96	724.32	1,233.31	1,987.72
		Mississippi River Pool U+L St Anthony Falls	0.00	0.00	12.00	68.00	80.00
		Mississippi River Pool No 1	0.00	0.00	20.02	80.08	100.10
		Mississippi River Pool No 2	0.00	0.00	221.67	270.93	492.60
		Mississippi River Pool No 3	0.00	0.00	497.82	331.88	829.70
		Mississippi River Pool No 4	0.90	0.30	1,021.27	340.42	1,362.90
		Mississippi River Pool No 5	6.02	2.58	265.30	113.70	387.60
		Mississippi River Pool No 5a	0.00	0.00	259.44	172.96	432.40
		Mississippi River Pool No 6	0.00	0.00	351.46	189.25	540.70
		Mississippi River Pool No 7	0.00	0.00	301.02	129.01	430.03
		Mississippi River Pool No 8	16.94	9.12	673.75	362.79	1,062.60
		Mississippi River Pool No 9	3.02	1.01	518.38	172.79	695.20
		Mississippi River Pool No 10	0.00	0.00	585.20	315.11	900.30
		Orwell Lake	0.00	0.00	2.63	23.67	26.30

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Table E1 (Continued)

Division	District	Project	Campers		Day Users (inc. OVN)		Total
			Boater	Nonboater	Boater	Nonboater	
MVD (cont)	Vicksburg	# Arkabutla Lake	1.59	7.25	177.40	808.16	994.40
		Bayou Bodcau Reservoir	0.01	0.03	28.43	161.13	189.60
		Caddo Lake	0.00	0.00	0.30	29.80	30.10
		# Degray Lake	16.01	48.04	582.14	1,746.41	2,392.60
		Enid Lake	4.31	11.09	215.46	554.03	784.90
		# Grenada Lake	0.84	2.51	484.21	1,452.64	1,940.20
		Lake Greeson	4.70	15.73	93.65	313.52	427.60
		# Lake Ouachita	11.59	32.99	306.52	872.40	1,223.50
		Ouachita-Black Rivers (4 L&D, Calion Pool)	0.00	0.00	28.75	91.05	119.80
		Ouachita-Black Rivers (4 L&D, Columbia Pool)	0.00	0.00	112.44	191.46	303.90
		Ouachita-Black Rivers (4 L&D, Felsenthal Pool)	5.32	3.12	110.85	65.10	184.40
		Ouachita-Black Rivers (4 L&D, Jonesville Pool)	0.00	0.00	72.24	307.96	380.20
		Pearl River (3 Locks and Dams)	0.00	0.00	41.60	166.40	208.00
		Red River Waterway (5 Locks & Dams)	0.00	0.00	9.83	186.77	196.60
		# Sardis Lake	0.56	1.14	506.19	1,027.71	1,535.60
		Wallace Lake	0.00	0.00	0.00	16.80	16.80
NAD	Baltimore	Almond Lake	1.68	3.57	86.29	183.36	274.90
		Alvin R Bush - Kettle Creek	1.69	2.64	47.22	73.85	125.40
		Aylesworth Creek Lake	0.00	0.00	0.00	2.70	2.70
		Cowanesque Lake	2.63	6.14	26.50	61.83	97.10
		Curwensville Lake	0.90	1.82	11.84	24.04	38.60
		East Sidney Lake	1.60	3.11	3.40	6.60	14.70
		Foster Joseph Sayers Dam	3.24	6.88	133.76	284.23	428.10
		Jennings Randolph Lake	0.62	1.78	19.21	54.68	76.30
		# Raystown Lake	8.70	22.37	285.72	734.71	1,051.50
		Tioga-Hammond Lakes	0.96	12.69	12.72	168.94	195.30
		Whitney Point	1.68	3.57	32.21	68.44	105.90
	New England	Ball Mountain Lake	0.00	5.90	0.00	47.30	53.20
		Barre Falls Dam	0.00	0.00	1.26	124.25	125.50
		Birch Hill Dam	0.41	7.86	22.59	429.14	460.00
		Black Rock Lake	0.00	0.00	0.73	72.27	73.00
		Blackwater Dam	0.00	0.00	1.15	27.65	28.80
		Buffumville Lake	0.00	0.00	10.04	101.56	111.60

(Sheet 6 of 15)

Table E1 (Continued)

Division	District	Project	Campers		Day Users (inc. OVN)		Total
			Boater	Nonboater	Boater	Nonboater	
NAD (cont)	New England (cont)	Cape Cod Canal	0.93	30.11	112.62	3,641.44	3,785.10
		Charles River Natural Valley Storage Project	0.00	0.00	9.31	39.69	49.00
		Colebrook River Lake	0.00	0.00	19.58	110.93	130.50
		Conant Brook Dam	0.00	0.00	0.00	26.60	26.60
		East Brimfield Lake	0.00	0.00	15.64	114.66	130.30
		Edward Macdowell Lake	0.00	0.00	3.42	53.58	57.00
		Franklin Falls Dam	0.00	0.00	1.85	35.15	37.00
		Hancock Brook Lake	0.00	0.00	0.10	10.00	10.10
		Hodges Village Dam	0.00	0.00	1.70	83.30	85.00
		Hop Brook Lake	0.00	0.00	10.57	140.43	151.00
		Hopkinton-Everett Lake	0.00	0.00	20.82	395.49	416.30
		Knightville Dam	0.02	0.78	0.76	24.64	26.20
		Littleville Lake	0.00	0.00	6.37	39.13	45.50
		Mansfield Hollow Lake	0.00	0.00	114.98	459.92	574.90
		North Hartland Lake	0.00	2.39	0.00	27.40	29.79
		North Springfield Lake	0.00	0.00	0.00	33.20	33.20
		Northfield Brook Lake	0.00	0.00	0.00	40.70	40.70
		Otter Brook Lake	0.00	0.00	0.00	48.73	48.73
		Surry Mountain Lake	0.00	0.00	0.00	89.53	89.53
		Thomaston Dam	0.00	0.00	0.00	102.80	102.80
		Townshend Lake	0.00	0.00	0.00	40.68	40.68
		Tully Lake	0.00	0.00	0.69	16.61	17.30
		Union Village Dam	0.00	0.00	0.00	25.41	25.41
		West Hill Dam	0.00	0.00	1.42	69.58	71.00
		West Thompson Lake	0.36	1.19	21.79	72.96	96.30
		Westville Lake	0.00	0.00	1.11	54.59	55.70
	Norfolk	AIW Albemarle and Ches and Dismal Swamp Canal	0.00	0.00	73.38	220.13	293.50
		Gathright Dam-Lake Moomaw	0.00	0.00	0.00	34.30	34.30
	Philadelphia	Beltzville Lake	0.00	0.00	142.87	265.33	408.20
		# Blue Marsh Lake	0.00	0.00	176.91	359.18	536.09
		Francis E Walter Dam	0.00	0.00	141.65	141.65	283.30
		IWW Delaware R to Chesapeake Bay C + D Canal	0.00	0.00	136.50	73.50	210.00
		Prompton Lake	0.00	0.00	33.68	8.42	42.10

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Table E1 (Continued)

Division	District	Project	Campers		Day Users (inc. OVN)		Total
			Boater	Nonboater	Boater	Nonboater	
NWD	Kansas City	Blue Springs Lake	0.33	2.97	29.45	265.05	297.80
		Clinton Lake	4.01	18.25	148.04	674.40	844.70
		Harlan County Lake	2.42	6.55	134.12	362.61	505.70
		# Harry S Truman Dam and Reservoir	24.43	13.74	1,000.79	562.94	1,601.90
		Hillsdale Lake	5.67	6.93	99.44	121.54	233.59
		Kanopolis Lake	1.73	8.45	29.99	146.42	186.60
		Long Branch Lake	0.46	2.24	47.09	229.91	279.70
		Longview Lake	0.58	4.66	79.46	642.90	727.60
		Melvern Lake	6.94	17.84	83.56	214.86	323.20
		# Milford Lake	3.83	13.58	100.32	355.67	473.40
		Perry Lake	8.03	18.73	219.67	512.55	758.97
		# Pomme De Terre Lake	15.26	18.65	749.82	916.45	1,700.18
		Pomona Lake	6.10	18.29	124.35	373.06	521.80
		# Rathbun Lake	3.85	21.80	79.88	452.67	558.20
		# Smithville Lake	17.72	31.51	381.81	678.77	1,109.80
		# Stockton Lake	7.42	14.40	366.28	711.00	1,099.10
		Tuttle Creek Lake	0.10	1.59	39.80	623.60	665.10
		Wilson Lake	4.01	9.35	48.07	112.17	173.60
	Omaha	Bear Creek Lake	0.17	3.17	16.01	304.16	323.50
		# Big Bend Dam Lake Sharpe	2.17	9.27	227.00	967.75	1,206.20
		Bluestem Lake	0.20	0.60	3.65	10.95	15.40
		Bowman Haley Lake	0.09	0.59	4.18	27.94	32.80
		Branched Oak Lake	3.48	8.12	50.31	117.39	179.30
		# Chatfield Lake	0.89	6.56	201.15	1,475.10	1,683.70
		# Cherry Creek Lake	0.39	5.14	217.01	2,883.07	3,105.60
		Cold Brook Lake	0.00	0.15	0.00	35.45	35.60
		Conestoga Lake	0.49	1.32	6.86	18.53	27.20
		Cottonwood Springs Lake	0.00	0.30	0.00	6.60	6.90
		Fort Peck Project	2.66	3.39	137.30	174.75	318.10
		Fort Randall Dam Lake Francis Case	3.04	13.86	148.32	675.68	840.90
		Garrison Dam Lake Sakakawea	18.17	27.26	469.19	703.78	1,218.40
		# Gavins Point Project	5.97	53.77	154.42	1,389.74	1,603.90
		Glenn Cunningham Lake	0.29	2.65	14.08	126.68	143.70

(Sheet 8 of 15)

Table E1 (Continued)

Division	District	Project	Campers		Day Users (inc. OVN)		Total
			Boater	Nonboater	Boater	Nonboater	
NWD (cont)	Omaha (cont)	Holmes Lake	0.00	0.00	15.73	377.57	393.30
		# Oahe Dam Lake Oahe	7.87	20.24	424.53	1,091.66	1,544.30
		Olive Creek Lake	0.26	1.88	0.60	4.37	7.10
		Pawnee Lake	2.33	4.52	32.42	62.93	102.20
		Pipestem Lake	0.07	1.09	4.78	74.86	80.80
		Site 10 Yankee Hill Lake Saltcreek Tributary	0.02	0.09	2.62	14.87	17.60
		Snyder-Winnebago	1.01	1.46	23.71	34.12	60.30
		Stagecoach Lake	0.22	1.35	1.32	8.11	11.00
		Standing Bear Lake	0.00	0.00	11.13	90.07	101.20
		Twin Lakes	0.00	0.00	2.67	13.03	15.70
		Wagontrain Lake	0.74	2.97	1.50	5.99	11.20
		Wehrspann Lake	0.00	0.00	11.73	281.57	293.30
		Zorinsky Lake	0.00	0.00	14.00	335.90	349.90
	Portland	Blue River Lake	0.00	0.00	0.00	56.98	56.98
		!# Bonneville Lock and Dam	0.07	1.06	185.75	2,910.03	3,096.90
		Cottage Grove Lake	2.99	3.51	181.77	213.38	401.65
		Cougar Lake	0.00	0.00	0.00	76.07	76.07
		Detroit Lake	0.00	0.00	0.00	26.97	26.97
		Dexter Lake	0.00	0.00	282.35	126.85	409.21
		Dorena Lake	1.51	6.03	68.82	275.29	351.64
		Fall Creek Lake	0.26	0.14	31.59	16.27	48.26
		Fern Ridge Lake	0.61	2.79	165.96	756.04	925.40
		Foster Lake	0.43	2.91	78.18	523.18	604.70
		Green Peter Lake	0.34	1.57	52.78	240.45	295.14
		Hills Creek	0.00	0.00	0.60	14.44	15.04
		# John Day Lock and Dam, Lake Umatilla	3.70	7.87	601.40	1,277.98	1,890.95
		Lookout Point Lake	0.00	0.00	39.55	118.65	158.20
		Lost Creek Lake	5.92	5.69	250.34	240.52	502.48
		# The Dalles Lock and Dam, Lake Celilo	0.82	2.47	244.54	733.63	981.47
		Willamette Falls Locks	0.00	0.00	24.45	17.71	42.16
		Willow Creek	0.00	0.00	9.59	30.38	39.97

(Sheet 9 of 15)

Table E1 (Continued)

Division	District	Project	Campers		Day Users (inc. OVN)		Total
			Boater	Nonboater	Boater	Nonboater	
NWD (cont)	Seattle	Albeni Falls Dam and Lake Pend Oreille	1.12	8.24	28.48	208.85	246.70
		Chief Joseph Dam and Rufus Woods Lake	0.35	1.72	24.48	119.54	146.10
		Keystone Harbor	0.56	1.68	195.34	586.02	783.60
		Lake Washington Ship Canal	0.00	0.00	335.39	1,122.81	1,458.20
		Libby Dam and Lake Koocanusa	0.53	0.53	110.77	110.77	222.60
		Mud Mountain Dam Project White River	0.00	0.00	0.00	111.00	111.00
	Walla Walla	# Dworshak Dam & Reservoir	0.65	2.31	49.41	175.19	227.56
		Ice Harbor Lock & Dam, Lake Sacajawea	2.81	9.97	99.40	352.42	464.60
		Little Goose Lock & Dam, Lake Bryan	1.01	3.37	44.03	147.39	195.80
		!# Lower Granite Lock & Dam	2.77	7.48	264.45	715.00	989.70
		Lower Monumental Lock & Dam, Lake West	1.59	5.34	33.27	111.39	151.60
		Lucky Peak Lake	0.00	0.00	240.28	510.60	750.88
		# McNary Lock & Dam, Lake Wallula	0.67	6.03	422.97	3,806.73	4,236.40
		Mill Creek Lake	0.00	0.00	11.78	156.52	168.30
POD	Alaska	Chena River Lakes	0.31	4.84	8.06	126.29	139.50
SAD	Jacksonville	Fernandina Harbor	0.00	0.00	0.00	66.50	66.50
		Four River Basins	0.00	0.00	50.40	201.60	252.00
		! Lake Okeechobee and Waterway	37.73	97.02	1,909.75	4,910.79	6,955.30
		Miami Harbor	0.00	0.00	0.00	48.70	48.70
	Mobile	Alabama River Lakes Claiborne	1.74	3.38	70.85	137.53	213.50
		# Alabama River Lakes Dannelly	4.43	3.78	911.95	776.84	1,697.00
		# Alabama River Lakes Woodruff	4.50	4.88	738.16	799.67	1,547.20
		# Allatoona Lake	32.98	64.02	1,897.54	3,683.46	5,678.00
		Black Warrior and Tombigbee Lakes	2.68	7.25	1,164.31	3,147.96	4,322.20
		Carters Lake	3.87	6.31	236.46	385.80	632.44
		George W. Andrews Lake	0.19	0.24	177.23	225.57	403.23
		# Lake Seminole	4.26	7.58	367.09	652.60	1,031.53
		# Lake Sidney Lanier	27.67	51.38	2,655.14	4,930.97	7,665.16
		Okatibbee Lake	3.42	12.88	199.32	749.83	965.46
		! Tennessee-Tombigbee Waterway	18.92	38.40	1,012.38	2,055.43	3,125.13
		!# Walter F. George Lake	23.10	34.65	2,626.32	3,939.48	6,623.55
		# West Point Project	10.53	29.97	578.27	1,645.84	2,264.60

(Sheet 10 of 15)

Table E1 (Continued)

Division	District		Project	Campers		Day Users (inc. OVN)		Total
				Boater	Nonboater	Boater	Nonboater	
SAD (cont)	Savannah	!#	Hartwell Lake	30.87	62.67	3,311.97	6,724.30	10,129.80
		#	J. Strom Thurmond Lake	14.04	126.37	671.94	6,047.45	6,859.80
			New Savannah Bluff Lock and Dam	0.00	0.00	1.43	141.37	142.80
			Richard B Russell Dam and Lake	4.20	3.44	601.51	492.15	1,101.30
	Wilmington	#	B Everett Jordan Dam and Lake	10.89	38.59	249.75	885.47	1,184.70
			Cape Fear River <3 Locks and Dams>	0.00	0.00	10.35	58.67	69.02
		#	Falls Lake	0.67	3.26	107.14	523.11	634.18
		#	John H Kerr Dam and Reservoir	26.72	47.51	816.47	1,451.50	2,342.20
		#	Philpott Lake	1.96	7.39	191.57	720.67	921.60
		#	W Kerr Scott Dam and Reservoir	2.25	6.39	284.29	809.12	1,102.05
SPD	Albuquerque		Abiquiu Dam	0.13	1.52	6.83	78.52	87.00
			Cochiti Lake	0.45	4.57	23.81	240.77	269.60
			Conchas Lake	2.49	5.05	41.93	85.13	134.60
			Galisteo Dam	0.00	0.00	0.00	4.73	4.73
			Jemez Canyon Dam	0.00	0.00	0.00	17.36	17.36
		!	John Martin Dam	0.57	4.62	35.04	283.47	323.70
			Santa Rosa Dam and Lake	0.39	5.12	4.66	61.89	72.06
			Trinidad Lake	0.01	0.97	1.62	160.00	162.60
			Two Rivers Dam	0.00	0.00	0.00	1.80	1.80
	Los Angeles		Alamo Lake	2.63	8.33	74.19	234.95	320.10
			Brea Dam	0.00	0.00	0.00	291.20	291.20
			Carbon Canyon Dam	0.00	0.00	0.00	263.10	263.10
			Fullerton Dam	0.00	0.00	0.00	294.90	294.90
		#	Hansen Dam	0.00	0.00	0.00	1,140.00	1,140.00
			Mojave River Dam	0.00	3.52	0.00	4.88	8.40
			Painted Rock Dam	0.00	0.00	0.00	0.00	0.00
			Prado Dam	0.00	2.20	0.00	423.20	425.40
			Salinas Dam Santa Margarita Lake	0.00	0.00	29.90	94.70	124.60
			Santa Fe Dam	0.00	0.00	0.00	414.10	414.10
		#	Sepulveda Dam	0.00	0.00	0.00	2,100.00	2,100.00
		#	Whittier Narrows Dam	0.00	0.00	0.00	2,400.00	2,400.00

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Table E1 (Continued)

Division	District		Project	Campers		Day Users (inc. OVN)		Total
				Boater	Nonboater	Boater	Nonboater	
SPD (cont)	Sacramento	#	Black Butte Lake	1.36	3.33	38.17	93.45	136.32
		#	Eastman Lake	0.46	1.94	11.72	49.98	64.10
		#	Harry L Englebright Lake	0.51	0.54	44.30	46.10	91.45
		#	Hensley Lake	1.44	2.07	52.38	75.38	131.27
		#	Lake Kaweah	1.32	3.74	109.55	311.79	426.40
			Martis Creek Lake	0.04	0.91	1.04	25.01	27.00
		#	New Hogan Lake	5.23	11.11	59.22	125.84	201.40
		#	Pine Flat Lake	2.95	2.41	178.42	145.98	329.76
			Stanislaus River Parks	0.06	0.26	83.16	378.83	462.30
		#	Success Lake	2.08	6.58	98.96	313.39	421.01
	San Francisco	#	Lake Mendocino	6.46	16.61	152.06	391.02	566.15
		!	Lake Sonoma	1.84	3.42	124.91	231.98	362.16
			S F Bay Model Regional Visitor Center	0.00	0.00	2.06	203.77	205.83
SWD	Fort Worth		Aquilla Dam & Lake	0.00	0.00	17.52	47.38	64.90
			Bardwell Lake	1.41	8.64	68.31	419.64	498.00
		#	Belton Lake	5.38	21.51	449.88	1,799.53	2,276.30
			Benbrook Lake	1.30	11.68	120.31	1,082.81	1,216.10
		#	Canyon Lake	5.88	23.51	246.56	986.25	1,262.20
			Cooper Lake	2.53	8.96	48.69	172.63	232.80
		#	Ferrells Bridge Dam Lake O' The Pines	6.92	16.94	275.95	675.60	975.40
			Granger Lake	1.38	7.23	54.75	287.44	350.80
		#	Grapevine Lake	3.30	15.05	280.50	1,277.84	1,576.70
			Hords Creek Lake	0.87	13.59	28.80	451.24	494.50
		#	Joe Pool Lake	14.51	18.47	310.65	395.37	739.00
			Lake Georgetown	7.49	23.72	118.92	376.57	526.70
		#	Lavon Lake	3.10	9.29	407.75	1,223.26	1,643.40
		#	Lewisville Lake	7.32	25.96	675.49	2,394.92	3,103.70
			Navarro Mills Lake	1.60	10.72	69.22	463.25	544.80
			O.C. Fisher Lake	0.05	5.35	9.75	965.05	980.20
			Proctor Lake	2.82	8.92	74.27	235.20	321.20
			Ray Roberts Lake	9.62	16.39	816.70	1,390.59	2,233.30
		#	Sam Rayburn Reservoir	13.61	20.42	645.07	967.60	1,646.70
		#	Somerville Lake	13.33	47.26	276.59	980.63	1,317.80

(Sheet 12 of 15)

Table E1 (Continued)

Division	District	Project	Campers		Day Users (inc. OVN)		Total
			Boater	Nonboater	Boater	Nonboater	
SWD (cont)	Fort Worth (cont)	Stillhouse Hollow Reservoir	0.68	2.29	99.09	331.74	433.80
		Town Bluff Dam B.A. Steinhagen Lake	3.27	10.95	73.92	247.46	335.60
		!# Waco Lake	2.23	18.08	192.51	1,557.58	1,770.40
		# Whitney Lake	7.00	29.84	216.95	924.90	1,178.70
		# Wright Patman Dam and Lake	4.65	28.55	155.58	955.72	1,144.50
	Galveston	# Addicks Dam	0.00	0.00	0.00	1,814.10	1,814.10
		Barker Dam	0.00	0.00	0.00	555.80	555.80
		Wallisville Reservoir	0.00	0.00	27.66	145.24	172.90
	Little Rock	# Beaver Lake	9.95	25.58	658.92	1,694.36	2,388.80
		# Blue Mountain Lake	1.73	4.93	45.41	129.23	181.30
		# Bull Shoals Lake	14.27	16.10	2,595.40	2,926.73	5,552.50
		Clearwater Lake	4.63	13.90	90.94	272.82	382.30
		# Dardanelle Lake - Ark. Riv. Nav. Sys	4.78	17.97	414.22	1,558.24	1,995.20
		# David D. Terry Lock and Dam - Ark. Riv. Nav. Sys	0.41	1.31	313.29	992.09	1,307.10
		Dequeen Lake	1.00	3.54	47.84	169.62	222.00
		Dierks Lake	1.15	6.51	23.02	130.42	161.10
		Gillham Lake	1.02	4.99	19.63	95.85	121.50
		# Greers Ferry Lake	16.66	59.07	1,211.78	4,296.29	5,583.80
		John Paul Hammerschmidt Lake	0.51	3.75	103.25	757.19	864.70
		# Millwood Lake	2.37	4.82	198.93	403.88	610.00
		!# Murray Lock and Dam - Ark. Riv. Nav. Sys	1.45	13.06	73.15	658.34	746.00
		# Nimrod Lake	2.08	7.37	81.43	288.72	379.60
		# Norfork Lake	14.40	15.60	781.59	846.72	1,658.30
		Norrell Lock and Dam - Ark. Riv. Nav. Sys	0.00	0.00	14.69	25.01	39.70
		Ozark Lake - Ark. Riv. Nav. Sys	0.26	1.61	64.59	396.74	463.20
		Pool 3 Lock and Dam - Ark. Riv. Nav. Sys	0.16	0.72	14.01	63.82	78.70
		Pool 4 Lock and Dam - Ark. Riv. Nav. Sys	0.00	0.00	178.73	362.87	541.60
		Pool 5 Lock and Dam - Ark. Riv. Nav. Sys	0.39	2.23	26.13	148.05	176.80
		Rockefeller Lake-Ormand L & D- Ark. Riv. Nav. Sys	0.21	1.66	22.16	179.27	203.30
		# Table Rock Lake	12.27	59.93	865.23	4,224.36	5,161.80
		Toad Suck Ferry Lock and Dam- Ark. Riv. Nav. Sys	0.71	4.36	62.01	380.92	448.00
		Wilbur D. Mills Lock and Dam- Ark. Riv. Nav. Sys	2.57	6.01	90.28	210.64	309.50

(Sheet 13 of 15)

Table E1 (Continued)

Division	District	Project	Campers		Day Users (inc. OVN)		Total
			Boater	Nonboater	Boater	Nonboater	
SWD (cont)	Tulsa	Arcadia Lake	0.93	5.72	28.85	177.20	212.69
		Birch Lake	0.27	3.60	7.48	99.41	110.77
		Broken Bow Lake	0.79	14.98	45.77	869.66	931.20
		# Canton Lake	2.70	14.17	138.40	726.62	881.90
		Chouteau Lock and Dam 17	0.05	0.86	11.04	172.94	184.90
		Copan Lake	0.25	2.58	5.74	57.99	66.56
		Council Grove	0.12	11.68	3.22	318.29	333.30
		El Dorado Lake	2.16	33.83	35.53	556.58	628.10
		Elk City Lake	0.12	3.94	3.80	122.94	130.80
		# Eufaula Lake	5.95	43.65	249.30	1,828.20	2,127.10
		Fall River Lake	0.07	3.35	2.80	137.08	143.30
		# Fort Gibson Lake	2.59	34.40	166.58	2,213.09	2,416.65
		Fort Supply Lake	0.09	4.59	4.99	244.62	254.30
		Great Salt Plains	0.09	8.66	2.84	280.91	292.50
		Heyburn Lake	0.24	3.18	8.57	113.85	125.84
		Hugo Lake	0.44	3.97	33.21	298.90	336.52
		Hulah Lake	0.39	6.12	5.22	81.86	93.59
		John Redmond Reservoir	0.07	3.67	4.01	196.59	204.34
		Kaw Lake	0.56	5.69	13.69	138.46	158.41
		# Keystone Lake	4.19	28.04	160.38	1,073.29	1,265.90
		Marion Reservoir	3.20	12.81	79.76	319.03	414.80
		Newt Graham Lock and Dam 18	0.10	1.21	15.08	173.41	189.80
		# Oologah Lake	1.00	8.99	124.80	1,123.23	1,258.02
		Optima Lake	0.01	0.47	0.65	31.87	33.00
		Pat Mayse Lake	0.67	21.67	6.40	207.07	235.82
		Pearson-Skubitz Big Hill Lake	0.94	5.75	21.13	129.77	157.57
		Pine Creek Lake	0.69	6.25	19.92	179.24	206.10
		Robert S. Kerr, Lock and Dam 15	0.12	5.93	18.35	899.20	923.60
		Sardis Lake	0.22	7.21	8.59	277.79	293.82
		Skiatook Lake	0.63	7.28	46.23	531.70	585.84
		# Tenkiller Ferry Lake	4.93	30.31	155.96	958.03	1,149.24
		# Texoma Lake	24.91	93.73	1,222.51	4,598.97	5,940.13
		Toronto Lake	0.74	17.66	3.57	85.73	107.70

(Sheet 14 of 15)

Table E1 (Concluded)

Division	District	Project	Campers		Day Users (inc. OVN)		Total
			Boater	Nonboater	Boater	Nonboater	
SWD (cont)	Tulsa (cont)	Truscott Brine Lake, Area VIII	0.00	0.00	1.50	6.00	7.50
		Waurika Lake	1.15	7.05	65.24	400.76	474.20
		Wd Mayo Lock and Dam 14	0.07	0.69	9.81	99.23	109.80
		Webbers Falls Lock and Dam 16	0.09	1.45	30.63	479.92	512.10
		Wister Lake	0.23	11.15	8.09	396.49	415.96
		Total	1,174	4,302	83,264	296,762	385,501
		Average	2.57	9.43	182.60	650.79	845.40

(Sheet 15 of 15)

Table E2
Regional Economic Impacts for All CE Projects: Sales[1] (Continued)

Division	District	Project	Total Spending ($MM)	Sales Effects ($MM)			
				Direct	Indirect	Induced	Total
LRD	Detroit	Duluth-Superior Harbor	14.00	9.18	1.65	4.37	15.21
		Keweenaw Waterway	2.41	1.58	0.28	0.75	2.62
		St. Marys River	8.03	5.26	0.95	2.51	8.72
		Sturgeon Bay and Lake Michigan Ship Canal	0.17	0.11	0.02	0.05	0.19
	Huntington	# Alum Creek Lake	39.62	24.57	4.14	13.36	42.07
		Atwood Lake	19.17	12.58	2.26	5.99	20.83
		Beach City Lake	0.72	0.47	0.08	0.22	0.78
		Beech Fork Lake	11.55	7.58	1.36	3.61	12.55
		Belleville Locks and Dam <Ohio R>	12.27	8.13	1.77	3.58	13.47
		# Bluestone Lake	21.11	13.85	2.49	6.60	22.94
		Bolivar Dam	2.90	1.90	0.34	0.91	3.15
		Burnsville Lake	7.47	4.90	0.88	2.34	8.12
		Capt Anthony Meldahl Locks and Dam <Ohio R>	10.77	7.06	1.27	3.36	11.70
		Charles Mill Lake	12.58	8.25	1.49	3.93	13.67
		Clendening Lake	2.88	1.89	0.34	0.90	3.13
		# Deer Creek Lake	53.10	34.83	6.27	16.60	57.69
		Delaware Lake	12.26	8.04	1.45	3.83	13.32
		Dewey Lake	11.75	7.43	1.26	4.78	13.47
		Dillon Lake	18.97	12.44	2.24	5.93	20.61
		Dover Dam	2.63	1.72	0.31	0.82	2.85
		East Lynn Lake	4.68	3.07	0.55	1.46	5.09
		Fishtrap Lake	11.46	7.54	1.59	3.08	12.21
		Grayson Lake	9.24	6.06	1.09	2.89	10.04
		Greenup Locks and Dam <Ohio R>	29.55	19.38	3.49	9.24	32.11
		John W Flannagan Dam and Reservoir	5.90	3.87	0.70	1.84	6.41
		Leesville Lake	2.72	1.78	0.32	0.85	2.95
		London Locks and Dam <Kanawha River>	0.01	0.01	0.00	0.00	0.01
		Marmet Locks and Dam <Kanawha River>	0.88	0.58	0.10	0.28	0.96

(Sheet 1 of 15)

[1] Impacts on counties within 30 miles of CE projects of visitor trip spending within 30 miles of the projects.
Notes: LRD = Great Lakes and Ohio River; MVD = Mississippi Valley; NAD = North Atlantic; NWD = Northwestern; POD = Pacific Ocean; SAD = South Atlantic; SPD = South Pacific; SWD = Southwestern.
! Projects where surveys were conducted to create the spending profiles for this study.
Projects where the IMPLAN economic impact models have been built (Becker 1997).

Table E2 (Continued)

Division	District	Project	Total Spending ($MM)	Sales Effects ($MM)			
				Direct	Indirect	Induced	Total
LRD (cont)	Huntington (cont)	Mohawk Dam	3.54	2.32	0.42	1.11	3.85
		Mohicanville Dam	0.17	0.11	0.02	0.05	0.18
		North Branch Kokosing River Lake	2.60	1.70	0.31	0.81	2.82
		North Fork of Pound River Lake	1.78	1.17	0.21	0.56	1.93
		Paint Creek Lake	12.08	7.92	1.43	3.78	13.13
		Paintsville Lake	11.42	7.49	1.35	3.57	12.41
		Piedmont Lake	2.59	1.70	0.31	0.81	2.81
		Pleasant Hill Lake	10.78	7.07	1.27	3.37	11.71
		R D Bailey Lake	8.70	5.71	1.03	2.72	9.45
		Racine Locks and Dam <Ohio R>	2.00	1.31	0.24	0.63	2.17
		Robert C. Byrd Locks and Dam <Ohio R>	1.15	0.76	0.14	0.36	1.25
		# Senecaville Lake	17.04	11.18	2.01	5.33	18.52
		# Summersville Lake	13.86	9.09	1.64	4.33	15.06
		Sutton Lake	7.79	5.11	0.92	2.43	8.46
		Tappan Lake	11.32	7.43	1.34	3.54	12.30
		Tom Jenkins Dam and Burr Oak Lake	6.64	4.35	0.78	2.07	7.21
		Willow Island Locks and Dam <Ohio R>	4.20	2.75	0.50	1.31	4.56
		Wills Creek Lake	0.42	0.28	0.05	0.13	0.46
		Winfield Lock and Dam <Kanawha River>	5.85	3.83	0.69	1.83	6.35
		Yatesville Lake	5.30	3.20	0.36	1.54	5.10
	Louisville	!# Barren River Lake	22.49	14.75	2.66	7.03	24.44
		Brookville Lake	14.79	9.83	1.37	4.39	15.58
		Buckhorn Lake	4.16	2.73	0.49	1.30	4.52
		Caesar Creek Lake	19.49	12.78	2.30	6.09	21.17
		Cagles Mill Lake	4.03	2.64	0.48	1.26	4.38
		Cannelton Lock and Dam + Ohio River	0.62	0.39	0.08	0.19	0.66
		Carr Creek Lake	9.24	6.06	1.09	2.89	10.04
		Cave Run Lake	6.79	4.45	0.80	2.12	7.37
		# Cecil M. Harden Lake	21.39	14.03	2.53	6.69	23.24
		Clarence J Brown Dam and Reservoir	13.85	9.09	1.64	4.33	15.05
		Green River Lake	15.06	9.88	1.78	4.71	16.36
		Greenriver +2 Locks	0.37	0.24	0.04	0.11	0.40
		J. Edward Roush Lake	6.32	4.14	0.75	1.97	6.87

(Sheet 2 of 15)

Table E2 (Continued)

Division	District	Project	Total Spending ($MM)	Sales Effects ($MM)			
				Direct	Indirect	Induced	Total
LRD (cont)	Louisville (cont)	John T. Myers Lock and Dam	2.48	1.63	0.29	0.78	2.70
		Kentucky River + 4 Locks	1.79	1.18	0.21	0.56	1.95
		Lock & Dam 52 + Ohio River	0.48	0.31	0.06	0.15	0.52
		Lock & Dam 53 + Ohio River	0.11	0.07	0.01	0.03	0.12
		Markland Lock and Dam + Ohio River	4.51	3.07	0.74	1.67	5.47
		Mcalpine Lock and Dam + Ohio River	3.39	2.22	0.40	1.06	3.68
		Mississinewa Lake	13.84	9.08	1.63	4.33	15.04
		# Monroe Lake	19.06	12.50	2.25	5.96	20.71
		Newburgh Lock and Dam + Ohio River	6.72	4.32	0.64	1.89	6.86
		!# Nolin River Lake	31.52	20.67	3.72	9.85	34.24
		Patoka Lake	17.41	11.42	2.06	5.44	18.92
		# Rough River Lake	29.59	19.41	3.49	9.25	32.15
		Salamonie Lake	119.02	73.56	12.27	29.51	115.33
		Smithland Lock and Dam + Ohio River	0.28	0.19	0.03	0.09	0.31
		Taylorsville Lake	16.25	10.30	1.97	4.21	16.48
		West Fork Of Mill Creek Lake	11.80	7.29	1.26	2.79	11.33
		# William H Harsha Lake	16.32	10.71	1.93	5.10	17.73
		!# Barkley Lock and Dam Lake Barkley	60.36	39.59	7.13	18.86	65.58
		!# Center Hill Lake	59.61	39.10	7.04	18.63	64.77
		# Cheatham Lock and Dam	35.47	23.26	4.19	11.08	38.53
		# Cordell Hull Dam and Reservoir	48.69	31.94	5.75	15.22	52.90
		# Dale Hollow Lake	57.47	37.70	6.78	17.96	62.44
		# J Percy Priest Dam and Reservoir	95.44	62.48	12.48	36.65	111.61
		# Laurel River Lake	3.71	2.27	0.35	0.99	3.61
		Martins Fork Lake	2.32	1.59	0.39	0.91	2.89
		! Old Hickory Lock and Dam	180.49	110.04	17.03	47.55	174.62
		# Wolf Creek Dam Lake Cumberland	86.97	55.47	8.46	20.43	84.36
	Pittsburgh	Berlin Lake	8.18	5.65	1.41	3.56	10.61
		Conemaugh River Lake	1.42	1.02	0.16	0.48	1.66
		Crooked Creek Lake	4.93	3.23	0.58	1.54	5.35
		Dashields Locks and Dam <Ohio River>	0.39	0.26	0.05	0.12	0.43
		East Branch Clarion River Lake	3.60	2.36	0.43	1.13	3.92
		Emsworth Locks and Dams <Ohio River>	1.36	0.89	0.16	0.42	1.48

(Sheet 3 of 15)

Table E2 (Continued)

Division	District	Project	Total Spending ($MM)	Sales Effects ($MM)			
				Direct	Indirect	Induced	Total
LRD (cont)	Pittsburgh (cont)	Gray's Landing Locks and Dam	0.08	0.05	0.01	0.02	0.09
		Hannibal Locks and Dam <Ohio River>	0.44	0.30	0.05	0.13	0.47
		Hildebrand Lock and Dam <Monongahela River>	0.12	0.08	0.01	0.04	0.14
		Kinzua Dam and Allegheny Reservoir	5.59	3.67	0.66	1.75	6.08
		Lock and Dam 2 <Allegheny River>	0.79	0.52	0.09	0.25	0.85
		Lock and Dam 3 <Allegheny River>	0.27	0.18	0.03	0.08	0.29
		Lock and Dam 4 <Allegheny River>	0.31	0.21	0.04	0.10	0.34
		Lock and Dam 5 <Allegheny River>	0.17	0.11	0.02	0.05	0.19
		Lock and Dam 6 <Allegheny River>	0.11	0.08	0.01	0.04	0.12
		Lock and Dam 7 <Allegheny River>	0.16	0.10	0.02	0.05	0.17
		Lock and Dam 8 <Allegheny River>	0.13	0.09	0.02	0.04	0.15
		Lock and Dam 9 <Allegheny River>	0.14	0.09	0.02	0.04	0.15
		Locks and Dam 2 <Monongahela River>	0.21	0.13	0.02	0.06	0.22
		Locks and Dam 3 <Monongahela River>	0.08	0.05	0.01	0.02	0.08
		Locks and Dam 4 <Monongahela River>	0.08	0.05	0.01	0.02	0.08
		Loyalhanna Lake	3.40	2.23	0.40	1.06	3.69
		Mahoning Creek Lake	0.89	0.58	0.10	0.28	0.97
		Maxwell Locks and Dam <Monongahela River>	0.18	0.12	0.02	0.06	0.20
		Michael J Kirwan Dam and Reservoir	4.04	2.69	0.51	1.78	4.98
		Montgomery Locks and Dam <Ohio River>	0.39	0.26	0.05	0.12	0.42
		Morgantown Lock and Dam <Monongahela River>	0.04	0.02	0.00	0.01	0.04
		Mosquito Creek Lake	18.35	12.04	2.17	5.74	19.94
		New Cumberland Locks and Dam <Ohio River>	0.65	0.43	0.08	0.20	0.71
		Opekiska Lock and Dam <Monongahela River>	0.03	0.02	0.00	0.01	0.03
		Pike Island Locks and Dam <Ohio River>	0.47	0.31	0.06	0.15	0.51
		Point Marion Lock and Dam <Monongahela River>	0.03	0.02	0.00	0.01	0.03
		# Shenango River Lake	10.96	7.19	1.29	3.42	11.91
		Stonewall Jackson Lake	6.33	4.15	0.75	1.98	6.87
		Tionesta Lake	6.35	4.16	0.75	1.98	6.90
		Tygart Lake	7.73	5.07	0.91	2.41	8.40
		Union City Dam	0.52	0.34	0.06	0.16	0.57
		Woodcock Creek Lake	5.97	3.92	0.71	1.87	6.49
		Youghiogheny River Lake	10.20	6.69	1.20	3.19	11.08

(Sheet 4 of 15)

Table E2 (Continued)

Division	District	Project	Total Spending ($MM)	Sales Effects ($MM)			
				Direct	Indirect	Induced	Total
MVD	Rock Island	Coralville Lake	21.39	14.03	2.52	6.68	23.24
		Farmdale Dam	0.54	0.35	0.06	0.17	0.58
		Illinois Waterway	1.66	1.09	0.20	0.52	1.80
		Lake Red Rock	20.71	13.59	2.45	6.47	22.50
		Mississippi River Pools 11-22 (10 L&D)	217.68	142.78	25.70	68.03	236.51
		!# Saylorville Lake	20.36	12.74	2.74	6.56	22.04
	St. Louis	# Carlyle Lake	44.45	27.84	3.73	10.42	41.99
		# Clarence Cannon Dam and Mark Twain Lake	31.22	19.32	4.11	10.25	33.68
		# Lake Shelbyville	39.53	24.98	4.05	8.76	37.79
		# Rend Lake	40.67	27.37	3.82	9.46	40.66
		Rivers Project - Illinois River	9.41	6.17	1.11	2.94	10.23
		Rivers Project - Lower River	7.22	4.74	0.85	2.26	7.84
		Rivers Project - Upper River	53.24	34.92	6.29	16.64	57.85
		# Wappapello Lake	33.59	21.14	3.65	10.60	35.39
	St. Paul	Baldhill Dam Lake Ashtabula	2.84	1.72	0.30	1.01	3.03
		Eau Galle Flood Control Project	1.93	1.27	0.23	0.60	2.10
		Homme Lake	1.23	0.78	0.17	0.36	1.31
		Lac Qui Parle Lake	0.64	0.42	0.08	0.20	0.70
		Lake Traverse	2.16	1.42	0.26	0.68	2.35
		Mississippi River Headwaters Lakes Project	33.42	20.58	3.86	12.06	36.50
		Mississippi River Pool U+L St Anthony Falls	1.14	0.75	0.13	0.36	1.24
		Mississippi River Pool No 1	1.47	0.97	0.17	0.46	1.60
		Mississippi River Pool No 2	8.30	5.86	1.29	3.04	10.20
		Mississippi River Pool No 3	15.06	9.20	1.72	5.13	16.04
		Mississippi River Pool No 4	26.56	17.67	3.90	12.95	34.52
		Mississippi River Pool No 5	7.74	5.39	1.33	3.43	10.15
		Mississippi River Pool No 5a	7.85	5.15	0.93	2.45	8.53
		Mississippi River Pool No 6	10.05	6.59	1.19	3.14	10.92
		Mississippi River Pool No 7	8.18	5.77	1.27	3.00	10.04
		Mississippi River Pool No 8	20.87	13.69	2.46	6.52	22.68
		Mississippi River Pool No 9	13.70	8.98	1.62	4.28	14.88
		Mississippi River Pool No 10	16.73	10.98	1.98	5.23	18.18
		Orwell Lake	0.36	0.24	0.04	0.11	0.40

(Sheet 5 of 15)

Table E2 (Continued)

Division	District	Project	Total Spending ($MM)	Sales Effects ($MM)			
				Direct	Indirect	Induced	Total
MVD (cont)	Vicksburg	# Arkabutla Lake	14.82	9.54	0.87	3.89	14.29
		Bayou Bodcau Reservoir	2.71	1.78	0.32	0.85	2.94
		Caddo Lake	0.39	0.26	0.05	0.12	0.43
		# Degray Lake	38.92	24.35	3.89	10.64	38.88
		Enid Lake	12.73	8.35	1.50	3.98	13.84
		# Grenada Lake	29.50	18.16	2.16	5.82	26.14
		Lake Greeson	7.26	4.76	0.86	2.27	7.89
		# Lake Ouachita	20.51	12.95	2.19	8.13	23.27
		Ouachita-Black Rivers (4 L&D, Calion Pool)	1.80	1.18	0.21	0.56	1.96
		Ouachita-Black Rivers (4 L&D, Columbia Pool)	4.91	3.22	0.58	1.54	5.34
		Ouachita-Black Rivers (4 L&D, Felsenthal Pool)	3.76	2.47	0.44	1.17	4.08
		Ouachita-Black Rivers (4 L&D, Jonesville Pool)	5.56	3.64	0.66	1.74	6.04
		Pearl River (3 Locks and Dams)	3.06	2.01	0.36	0.96	3.32
		Red River Waterway (5 Locks & Dams)	2.64	1.73	0.31	0.82	2.86
		# Sardis Lake	24.37	15.31	1.82	5.73	22.86
		Wallace Lake	0.22	0.14	0.03	0.07	0.24
NAD	Baltimore	Almond Lake	4.55	2.98	0.54	1.42	4.94
		Alvin R Bush - Kettle Creek	2.23	1.47	0.26	0.70	2.43
		Aylesworth Creek Lake	0.04	0.02	0.00	0.01	0.04
		Cowanesque Lake	1.88	1.24	0.22	0.59	2.05
		Curwensville Lake	0.73	0.46	0.11	0.07	0.63
		East Sidney Lake	0.43	0.34	0.07	0.22	0.63
		Foster Joseph Sayers Dam	7.17	4.70	0.85	2.24	7.79
		Jennings Randolph Lake	1.26	0.83	0.15	0.39	1.37
		# Raystown Lake	17.50	11.48	2.07	5.47	19.02
		Tioga-Hammond Lakes	3.23	2.12	0.38	1.01	3.51
		Whitney Point	1.89	1.24	0.22	0.59	2.05
	New England	Ball Mountain Lake	0.94	0.62	0.11	0.29	1.02
		Barre Falls Dam	1.64	1.07	0.19	0.51	1.78
		Birch Hill Dam	6.51	4.27	0.77	2.04	7.08
		Black Rock Lake	0.95	0.63	0.11	0.30	1.04
		Blackwater Dam	0.38	0.25	0.05	0.12	0.42
		Buffumville Lake	1.53	1.01	0.18	0.48	1.67

(Sheet 6 of 15)

Table E2 (Continued)

Division	District	Project	Total Spending ($MM)	Sales Effects ($MM)			
				Direct	Indirect	Induced	Total
NAD (cont)	New England (cont)	Cape Cod Canal	51.39	33.71	6.07	16.06	55.83
		Charles River Natural Valley Storage Project	0.72	0.47	0.08	0.22	0.78
		Colebrook River Lake	1.86	1.22	0.22	0.58	2.02
		Conant Brook Dam	0.35	0.23	0.04	0.11	0.37
		East Brimfield Lake	1.83	1.20	0.22	0.57	1.98
		Edward Macdowell Lake	0.77	0.50	0.09	0.24	0.84
		Franklin Falls Dam	0.50	0.33	0.06	0.15	0.54
		Hancock Brook Lake	0.13	0.09	0.02	0.04	0.14
		Hodges Village Dam	1.12	0.73	0.13	0.35	1.21
		Hop Brook Lake	2.05	1.34	0.24	0.64	2.23
		Hopkinton-Everett Lake	5.58	3.66	0.66	1.74	6.06
		Knightville Dam	0.38	0.25	0.04	0.12	0.41
		Littleville Lake	0.65	0.42	0.08	0.20	0.70
		Mansfield Hollow Lake	8.45	5.54	1.00	2.64	9.18
		North Hartland Lake	0.49	0.32	0.06	0.15	0.53
		North Springfield Lake	0.43	0.28	0.05	0.13	0.47
		Northfield Brook Lake	0.53	0.35	0.06	0.16	0.57
		Otter Brook Lake	0.63	0.41	0.07	0.20	0.69
		Surry Mountain Lake	1.16	0.76	0.14	0.36	1.26
		Thomaston Dam	1.33	0.87	0.16	0.42	1.45
		Townshend Lake	0.53	0.35	0.06	0.16	0.57
		Tully Lake	0.23	0.15	0.03	0.07	0.25
		Union Village Dam	0.33	0.22	0.04	0.10	0.36
		West Hill Dam	0.93	0.61	0.11	0.29	1.01
		West Thompson Lake	1.51	0.99	0.18	0.47	1.64
		Westville Lake	0.73	0.48	0.09	0.23	0.80
	Norfolk	AIW Albemarle and Ches and Dismal Swamp Canal	4.44	2.91	0.52	1.39	4.83
		Gathright Dam-Lake Moomaw	0.44	0.29	0.05	0.14	0.48
	Philadelphia	Beltzville Lake	6.53	4.28	0.77	2.04	7.09
		# Blue Marsh Lake	8.48	5.56	1.00	2.65	9.22
		Francis E Walter Dam	4.90	3.21	0.58	1.53	5.32
		IWW Delaware R to Chesapeake Bay C + D Canal	3.90	2.56	0.46	1.22	4.24
		Prompton Lake	0.84	0.55	0.10	0.26	0.91

(Sheet 7 of 15)

Table E2 (Continued)

Division	District	Project	Total Spending ($MM)	Sales Effects ($MM)			
				Direct	Indirect	Induced	Total
NWD	Kansas City	Blue Springs Lake	4.26	2.79	0.50	1.33	4.63
		Clinton Lake	13.21	8.67	1.56	4.13	14.36
		Harlan County Lake	8.12	5.33	0.96	2.54	8.82
		# Harry S Truman Dam and Reservoir	31.28	20.52	3.69	9.78	33.98
		Hillsdale Lake	4.48	2.94	0.53	1.40	4.86
		Kanopolis Lake	3.13	2.05	0.37	0.98	3.40
		Long Branch Lake	4.15	2.72	0.49	1.30	4.51
		Longview Lake	10.35	6.79	1.22	3.24	11.25
		Melvern Lake	6.03	3.95	0.71	1.88	6.55
		# Milford Lake	7.78	5.10	0.92	2.43	8.45
		Perry Lake	12.95	8.49	1.53	4.05	14.07
		# Pomme De Terre Lake	30.11	19.75	3.56	9.41	32.72
		Pomona Lake	8.93	5.86	1.05	2.79	9.70
		# Rathbun Lake	9.05	5.94	1.07	2.83	9.83
		# Smithville Lake	19.94	13.08	2.35	6.23	21.67
		# Stockton Lake	18.41	12.08	2.17	5.76	20.01
		Tuttle Creek Lake	9.04	5.93	1.07	2.83	9.83
		Wilson Lake	3.27	2.14	0.39	1.02	3.55
	Omaha	Bear Creek Lake	4.48	2.57	0.25	0.71	3.53
		# Big Bend Dam Lake Sharpe	18.11	11.88	2.14	5.66	19.68
		Bluestem Lake	0.27	0.18	0.03	0.08	0.29
		Bowman Haley Lake	0.49	0.32	0.06	0.15	0.53
		Branched Oak Lake	3.28	2.15	0.39	1.03	3.57
		# Chatfield Lake	23.90	14.83	2.26	6.16	23.26
		# Cherry Creek Lake	42.39	27.81	5.00	13.25	46.06
		Cold Brook Lake	0.47	0.31	0.06	0.15	0.51
		Conestoga Lake	0.49	0.32	0.06	0.15	0.54
		Cottonwood Springs Lake	0.10	0.07	0.01	0.03	0.11
		Fort Peck Project	5.59	3.67	0.66	1.75	6.08
		Fort Randall Dam Lake Francis Case	12.93	8.48	1.53	4.04	14.05
		Garrison Dam Lake Sakakawea	21.95	14.40	2.59	6.86	23.85
		# Gavins Point Project	24.72	13.75	1.50	3.63	18.89
		Glenn Cunningham Lake	2.11	1.39	0.25	0.66	2.30

(Sheet 8 of 15)

Table E2 (Continued)

Division	District	Project	Total Spending ($MM)	Sales Effects ($MM)			
				Direct	Indirect	Induced	Total
NWD (cont)	Omaha (cont)	Holmes Lake	5.24	3.44	0.62	1.64	5.69
		# Oahe Dam Lake Oahe	24.96	16.37	2.95	7.80	27.12
		Olive Creek Lake	0.19	0.12	0.02	0.06	0.21
		Pawnee Lake	1.92	1.26	0.23	0.60	2.08
		Pipestem Lake	1.14	0.75	0.13	0.36	1.24
		Site 10 Yankee Hill Lake Saltcreek Tributary	0.26	0.17	0.03	0.08	0.28
		Snyder-Winnebago	1.10	0.72	0.13	0.34	1.20
		Stagecoach Lake	0.22	0.15	0.03	0.07	0.24
		Standing Bear Lake	1.41	0.92	0.17	0.44	1.53
		Twin Lakes	0.23	0.15	0.03	0.07	0.25
		Wagontrain Lake	0.32	0.23	0.06	0.11	0.39
		Wehrspann Lake	3.91	2.56	0.46	1.22	4.24
		Zorinsky Lake	4.66	3.06	0.55	1.46	5.06
	Portland	Blue River Lake	0.74	0.48	0.09	0.23	0.80
		!# Bonneville Lock and Dam	41.82	27.43	4.94	13.07	45.44
		Cottage Grove Lake	7.08	4.65	0.84	2.21	7.70
		Cougar Lake	0.99	0.65	0.12	0.31	1.07
		Detroit Lake	0.35	0.23	0.04	0.11	0.38
		Dexter Lake	7.75	5.07	0.91	2.59	8.57
		Dorena Lake	5.49	3.60	0.65	1.72	5.96
		Fall Creek Lake	0.92	0.58	0.09	0.29	0.96
		Fern Ridge Lake	13.59	8.91	1.60	4.25	14.76
		Foster Lake	8.66	5.68	1.02	2.71	9.41
		Green Peter Lake	4.37	2.87	0.52	1.37	4.75
		Hills Creek	0.20	0.13	0.02	0.06	0.22
		# John Day Lock and Dam, Lake Umatilla	30.25	19.84	3.57	9.45	32.87
		Lookout Point Lake	2.39	1.57	0.28	0.75	2.60
		Lost Creek Lake	9.23	6.05	1.09	2.88	10.03
		# The Dalles Lock and Dam, Lake Celilo	14.99	9.83	1.77	4.69	16.29
		Willamette Falls Locks	0.76	0.50	0.09	0.24	0.82
		Willow Creek	0.60	0.39	0.07	0.19	0.65

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Table E2 (Continued)

Division	District	Project	Total Spending ($MM)	Sales Effects ($MM)			
				Direct	Indirect	Induced	Total
NWD (cont)	Seattle	Albeni Falls Dam and Lake Pend Oreille	3.85	2.53	0.45	1.20	4.19
		Chief Joseph Dam and Rufus Woods Lake	2.20	1.44	0.26	0.69	2.39
		Keystone Harbor	11.95	7.84	1.41	3.74	12.99
		Lake Washington Ship Canal	21.81	14.31	2.58	6.82	23.70
		Libby Dam and Lake Koocanusa	3.89	2.55	0.46	1.22	4.23
		Mud Mountain Dam Project White River	1.44	0.94	0.17	0.45	1.56
	Walla Walla	# Dworshak Dam & Reservoir	3.51	2.30	0.41	1.10	3.81
		Ice Harbor Lock & Dam, Lake Sacajawea	7.45	4.89	0.88	2.33	8.10
		Little Goose Lock & Dam, Lake Bryan	3.11	2.04	0.37	0.97	3.38
		!# Lower Granite Lock & Dam	15.58	10.22	1.84	4.87	16.93
		Lower Monumental Lock & Dam, Lake West	2.56	1.68	0.30	0.80	2.78
		Lucky Peak Lake	11.82	7.93	2.23	5.61	15.77
		# McNary Lock & Dam, Lake Wallula	58.89	38.63	6.95	18.41	63.99
		Mill Creek Lake	2.28	1.50	0.27	0.71	2.48
POD	Alaska	Chena River Lakes	2.10	1.38	0.25	0.66	2.28
SAD	Jacksonville	Fernandina Harbor	0.86	0.57	0.10	0.27	0.94
		Four River Basins	3.70	2.43	0.44	1.16	4.02
		! Lake Okeechobee and Waterway	112.77	73.97	13.31	35.25	122.53
		Miami Harbor	0.63	0.41	0.07	0.20	0.69
	Mobile	Alabama River Lakes Claiborne	3.61	2.37	0.43	1.13	3.93
		# Alabama River Lakes Dannelly	30.28	18.87	2.78	5.90	27.55
		# Alabama River Lakes Woodruff	26.89	17.83	3.59	6.46	27.87
		# Allatoona Lake	94.46	63.53	13.11	22.42	99.06
		Black Warrior and Tombigbee Lakes	66.57	43.66	7.86	20.81	72.33
		Carters Lake	10.71	7.03	1.26	3.35	11.64
		George W. Andrews Lake	6.78	4.45	0.80	2.12	7.37
		# Lake Seminole	17.09	10.60	1.63	3.94	16.17
		# Lake Sidney Lanier	125.97	84.19	16.82	45.59	146.59
		Okatibbee Lake	14.97	9.82	1.77	4.68	16.26
		! Tennessee-Tombigbee Waterway	51.89	34.03	6.13	16.22	56.38
		!# Walter F. George Lake	111.27	66.04	10.24	24.87	101.16
		# West Point Project	36.18	23.16	3.97	10.34	37.47

(Sheet 10 of 15)

Table E2 (Continued)

Division	District	Project	Total Spending ($MM)	Sales Effects ($MM)			
				Direct	Indirect	Induced	Total
SAD (cont)	Savannah	!# Hartwell Lake	164.26	109.90	22.40	51.06	183.35
		# J. Strom Thurmond Lake	100.84	64.58	12.15	28.97	105.70
		New Savannah Bluff Lock and Dam	1.86	1.22	0.22	0.58	2.03
		Richard B Russell Dam and Lake	19.85	13.02	2.34	6.20	21.56
	Wilmington	# B Everett Jordan Dam and Lake	19.72	12.79	1.66	4.65	19.09
		Cape Fear River <3 Locks and Dams>	0.98	0.65	0.12	0.31	1.07
		# Falls Lake	9.32	6.00	0.76	2.10	8.87
		# John H Kerr Dam and Reservoir	40.83	24.68	3.76	12.09	40.52
		# Philpott Lake	14.02	8.33	1.01	3.44	12.78
		# W Kerr Scott Dam and Reservoir	17.14	10.58	1.12	3.94	15.65
SPD	Albuquerque	Abiquiu Dam	1.26	0.83	0.15	0.39	1.37
		Cochiti Lake	3.92	2.57	0.46	1.22	4.26
		Conchas Lake	2.45	1.61	0.29	0.77	2.66
		Galisteo Dam	0.06	0.04	0.01	0.02	0.07
		Jemez Canyon Dam	0.23	0.15	0.03	0.07	0.24
		! John Martin Dam	4.73	3.10	0.56	1.48	5.13
		Santa Rosa Dam and Lake	1.21	0.79	0.14	0.38	1.32
		Trinidad Lake	2.16	1.42	0.26	0.68	2.35
		Two Rivers Dam	0.02	0.02	0.00	0.01	0.03
	Los Angeles	Alamo Lake	5.28	3.46	0.62	1.65	5.74
		Brea Dam	3.78	2.48	0.45	1.18	4.10
		Carbon Canyon Dam	3.41	2.24	0.40	1.07	3.71
		Fullerton Dam	3.83	2.51	0.45	1.20	4.16
		# Hansen Dam	14.79	12.23	3.09	6.63	21.95
		Mojave River Dam	0.26	0.17	0.03	0.08	0.28
		Painted Rock Dam	0.00	0.00	0.00	0.00	0.00
		Prado Dam	5.61	3.68	0.66	1.75	6.10
		Salinas Dam Santa Margarita Lake	1.87	1.23	0.22	0.59	2.04
		Santa Fe Dam	5.37	3.52	0.63	1.68	5.84
		# Sepulveda Dam	27.24	22.53	5.69	12.21	40.43
		# Whittier Narrows Dam	31.13	25.76	6.43	14.13	46.33

(Sheet 11 of 15)

Table E2 (Continued)

Division	District		Project	Total Spending ($MM)	Sales Effects ($MM)			
					Direct	Indirect	Induced	Total
SPD (cont)	Sacramento	#	Black Butte Lake	2.31	1.37	0.19	0.63	2.19
		#	Eastman Lake	1.04	0.68	0.15	0.28	1.11
		#	Harry L Englebright Lake	1.62	1.06	0.19	0.51	1.76
		#	Hensley Lake	2.32	1.40	0.13	0.48	2.01
		#	Lake Kaweah	6.70	4.40	0.95	1.84	7.19
			Martis Creek Lake	0.40	0.25	0.05	0.17	0.47
		#	New Hogan Lake	3.86	2.53	0.46	1.21	4.20
		#	Pine Flat Lake	6.07	3.98	0.72	1.90	6.60
			Stanislaus River Parks	6.73	3.78	0.56	2.23	6.58
		#	Success Lake	6.70	4.46	1.07	2.59	8.12
	San Francisco	#	Lake Mendocino	9.69	6.36	1.14	3.03	10.53
		!	Lake Sonoma	6.02	3.81	0.68	2.05	6.54
			S F Bay Model Regional Visitor Center	2.69	1.60	0.15	0.55	2.29
SWD	Fort Worth		Aquilla Dam & Lake	0.99	0.65	0.12	0.31	1.08
			Bardwell Lake	7.49	4.91	0.88	2.34	8.13
		#	Belton Lake	34.60	21.36	3.46	8.94	33.76
			Benbrook Lake	17.37	11.40	2.05	5.43	18.88
		#	Canyon Lake	19.80	13.91	2.91	7.72	24.54
			Cooper Lake	3.95	2.59	0.47	1.23	4.29
		#	Ferrells Bridge Dam Lake O' The Pines	16.11	10.84	1.92	5.83	18.59
			Granger Lake	5.40	3.54	0.64	1.69	5.87
		#	Grapevine Lake	23.68	18.16	3.57	7.78	29.50
			Hords Creek Lake	7.28	4.78	0.86	2.28	7.91
		#	Joe Pool Lake	13.80	10.62	2.08	4.29	16.99
			Lake Georgetown	9.25	6.07	1.09	2.89	10.05
		#	Lavon Lake	25.39	20.46	3.84	7.19	31.49
		#	Lewisville Lake	47.57	36.35	7.21	16.60	60.15
			Navarro Mills Lake	8.20	5.38	0.97	2.56	8.91
			O.C. Fisher Lake	13.03	8.54	1.54	4.07	14.15
			Proctor Lake	5.33	3.50	0.63	1.67	5.79
			Ray Roberts Lake	37.22	24.41	4.39	11.63	40.44
		#	Sam Rayburn Reservoir	28.50	17.19	2.90	8.74	28.83
		#	Somerville Lake	22.17	14.32	2.44	6.06	22.83

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Table E2 (Continued)

Division	District	Project	Total Spending ($MM)	Sales Effects ($MM)			
				Direct	Indirect	Induced	Total
SWD (cont)	Fort Worth (cont)	Stillhouse Hollow Reservoir	6.61	4.34	0.78	2.07	7.19
		Town Bluff Dam B. A. Steinhagen Lake	5.62	3.69	0.66	1.76	6.11
		!# Waco Lake	25.51	16.99	3.39	9.83	30.21
		# Whitney Lake	18.79	12.22	2.22	8.02	22.45
		# Wright Patman Dam and Lake	17.63	11.38	1.92	6.24	19.55
	Galveston	# Addicks Dam	23.53	18.50	3.48	7.78	29.75
		Barker Dam	7.21	4.73	0.85	2.25	7.83
		Wallisville Reservoir	2.48	1.63	0.29	0.78	2.70
	Little Rock	# Beaver Lake	38.27	25.01	5.52	13.53	44.07
		# Blue Mountain Lake	3.04	1.74	0.26	0.59	2.59
		# Bull Shoals Lake	95.87	64.49	11.79	45.94	122.22
		Clearwater Lake	6.57	4.31	0.78	2.05	7.14
		# Dardanelle Lake - Ark.Riv.Nav.Sys	30.46	19.08	3.24	8.06	30.38
		# David D. Terry Lock and Dam - Ark.Riv.Nav.Sys	19.74	13.15	3.04	7.07	23.26
		Dequeen Lake	3.49	2.29	0.41	1.09	3.80
		Dierks Lake	2.62	1.72	0.31	0.82	2.85
		Gillham Lake	2.01	1.32	0.24	0.63	2.18
		# Greers Ferry Lake	86.25	55.12	9.61	29.74	94.47
		John Paul Hammerschmidt Lake	12.29	8.06	1.45	3.84	13.36
		# Millwood Lake	9.96	6.30	1.10	3.00	10.41
		!# Murray Lock and Dam - Ark.Riv.Nav.Sys	10.93	7.24	1.67	3.71	12.62
		# Nimrod Lake	6.05	3.19	0.44	1.02	4.64
		# Norfork Lake	29.67	18.17	2.96	14.16	35.29
		Norrell Lock and Dam - Ark.Riv.Nav.Sys	0.64	0.42	0.08	0.20	0.70
		Ozark Lake - Ark.Riv.Nav.Sys	6.65	4.36	0.78	2.08	7.22
		Pool 3 Lock and Dam - Ark.Riv.Nav.Sys	1.18	0.77	0.14	0.37	1.28
		Pool 4 Lock and Dam - Ark.Riv.Nav.Sys	8.57	5.62	1.01	2.68	9.31
		Pool 5 Lock and Dam - Ark.Riv.Nav.Sys	2.63	1.73	0.31	0.82	2.86
		Rockefeller Lake-Ormand L & D-Ark.Riv.Nav.Sys	2.91	1.91	0.34	0.91	3.16
		# Table Rock Lake	77.59	51.19	10.70	28.63	90.53
		Toad Suck Ferry Lock and Dam-Ark.Riv.Nav.Sys	6.57	4.31	0.78	2.05	7.14
		Wilbur D. Mills Lock and Dam-Ark.Riv.Nav.Sys	5.18	3.40	0.61	1.62	5.63

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Table E2 (Continued)

Division	District	Project	Total Spending ($MM)	Sales Effects ($MM)			
				Direct	Indirect	Induced	Total
SWD (cont)	Tulsa	Arcadia Lake	3.30	2.16	0.39	1.03	3.58
		Birch Lake	1.67	1.09	0.20	0.52	1.81
		Broken Bow Lake	13.15	8.62	1.55	4.11	14.28
		# Canton Lake	13.37	7.95	1.41	2.58	11.94
		Chouteau Lock and Dam 17	2.53	1.66	0.30	0.79	2.75
		Copan Lake	1.03	0.68	0.12	0.32	1.12
		Council Grove	4.85	3.18	0.57	1.52	5.27
		El Dorado Lake	9.99	6.55	1.18	3.12	10.86
		Elk City Lake	1.90	1.25	0.22	0.59	2.07
		# Eufaula Lake	31.89	21.35	4.15	9.11	34.60
		Fall River Lake	2.03	1.33	0.24	0.63	2.20
		# Fort Gibson Lake	34.37	24.92	3.36	11.73	40.01
		Fort Supply Lake	3.54	2.32	0.42	1.11	3.85
		Great Salt Plains	4.19	2.75	0.49	1.31	4.55
		Heyburn Lake	1.85	1.22	0.22	0.58	2.01
		Hugo Lake	4.84	3.18	0.57	1.51	5.26
		Hulah Lake	1.54	1.01	0.18	0.48	1.67
		John Redmond Reservoir	2.84	1.87	0.34	0.89	3.09
		Kaw Lake	2.44	1.60	0.29	0.76	2.65
		# Keystone Lake	19.21	15.12	3.26	7.10	25.49
		Marion Reservoir	6.78	4.44	0.80	2.12	7.36
		Newt Graham Lock and Dam 18	2.65	1.74	0.31	0.83	2.88
		# Oologah Lake	17.83	14.02	3.10	6.53	23.64
		Optima Lake	0.45	0.30	0.05	0.14	0.49
		Pat Mayse Lake	4.06	2.66	0.48	1.27	4.41
		Pearson-Skubitz Big Hill Lake	2.52	1.65	0.30	0.79	2.74
		Pine Creek Lake	3.15	2.06	0.37	0.98	3.42
		Robert S. Kerr, Lock and Dam 15	12.39	8.13	1.46	3.87	13.47
		Sardis Lake	4.20	2.76	0.50	1.31	4.56
		Skiatook Lake	8.34	5.47	0.98	2.61	9.06
		# Tenkiller Ferry Lake	17.79	11.17	2.47	5.68	19.31
		# Texoma Lake	92.86	70.99	12.33	37.90	121.22

(Sheet 14 of 15)

Table E2 (Concluded)

Division	District	Project	Total Spending ($MM)	Sales Effects ($MM)			
				Direct	Indirect	Induced	Total
SWD (cont)	Tulsa (cont)	Toronto Lake	2.21	1.45	0.26	0.69	2.40
		Truscott Brine Lake, Area VIII	0.11	0.07	0.01	0.03	0.12
		Waurika Lake	7.07	4.64	0.83	2.21	7.68
		Wd Mayo Lock and Dam 14	1.54	1.01	0.18	0.48	1.67
		Webbers Falls Lock and Dam 16	6.97	4.57	0.82	2.18	7.58
		Wister Lake	5.95	3.90	0.70	1.86	6.46
		Total	5,962	3,912	706	1,864	6,481
		Average	13.07	8.58	1.55	4.09	14.21

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Table E3
Regional Economic Impacts for All CE Projects: Income[1] (Continued)

Division	District	Project	Income Effects ($MM)			
			Direct	Indirect	Induced	Total
LRD	Detroit	Duluth-Superior Harbor	4.76	0.86	2.41	8.03
		Keweenaw Waterway	0.82	0.15	0.41	1.38
		St. Marys River	2.73	0.50	1.38	4.60
		Sturgeon Bay and Lake Michigan Ship Canal	0.06	0.01	0.03	0.10
	Huntington	# Alum Creek Lake	12.15	2.19	7.41	21.75
		Atwood Lake	6.52	1.18	3.30	11.00
		Beach City Lake	0.24	0.04	0.12	0.41
		Beech Fork Lake	3.93	0.71	1.99	6.63
		Belleville Locks and Dam <Ohio R>	4.76	0.94	1.99	7.68
		# Bluestone Lake	7.18	1.30	3.63	12.11
		Bolivar Dam	0.98	0.18	0.50	1.66
		Burnsville Lake	2.54	0.46	1.28	4.29
		Capt Anthony Meldahl Locks and Dam <Ohio R>	3.66	0.67	1.85	6.18
		Charles Mill Lake	4.28	0.78	2.16	7.22
		Clendening Lake	0.98	0.18	0.50	1.65
		# Deer Creek Lake	18.05	3.28	9.13	30.46
		Delaware Lake	4.17	0.76	2.11	7.03
		Dewey Lake	3.79	0.64	2.58	7.01
		Dillon Lake	6.45	1.17	3.26	10.88
		Dover Dam	0.89	0.16	0.45	1.51
		East Lynn Lake	1.59	0.29	0.80	2.68
		Fishtrap Lake	4.46	0.86	1.73	7.05
		Grayson Lake	3.14	0.57	1.59	5.30
		Greenup Locks and Dam <Ohio R>	10.05	1.83	5.08	16.95
		John W Flannagan Dam and Reservoir	2.01	0.36	1.01	3.39
		Leesville Lake	0.92	0.17	0.47	1.56
		London Locks and Dam <Kanawha River>	0.00	0.00	0.00	0.01

(Sheet 1 of 15)

[1] Impacts on counties within 30 miles of CE projects of visitor trip spending within 30 miles of the projects. Income includes employee compensation and proprietor and other property income.
Notes: LRD = Great Lakes and Ohio River; MVD = Mississippi Valley; NAD = North Atlantic; NWD = Northwestern; POD = Pacific Ocean; SAD = South Atlantic; SPD = South Pacific; SWD = Southwestern.
!. Projects where surveys were conducted to create the spending profiles for this study.
#. Projects where the IMPLAN economic impact models have been built (Becker 1997).

Table E3 (Continued)

Division	District	Project	Income Effects ($MM) Direct	Indirect	Induced	Total
LRD (cont)	Huntington (cont)	Marmet Locks and Dam <Kanawha River>	0.30	0.05	0.15	0.51
		Mohawk Dam	1.20	0.22	0.61	2.03
		Mohicanville Dam	0.06	0.01	0.03	0.10
		North Branch Kokosing River Lake	0.88	0.16	0.45	1.49
		North Fork of Pound River Lake	0.60	0.11	0.31	1.02
		Paint Creek Lake	4.11	0.75	2.08	6.93
		Paintsville Lake	3.88	0.71	1.96	6.55
		Piedmont Lake	0.88	0.16	0.44	1.48
		Pleasant Hill Lake	3.67	0.67	1.85	6.18
		R D Bailey Lake	2.96	0.54	1.49	4.99
		Racine Locks and Dam <Ohio R>	0.68	0.12	0.34	1.15
		Robert C. Byrd Locks and Dam <Ohio R>	0.39	0.07	0.20	0.66
		# Senecaville Lake	5.80	1.05	2.93	9.78
		# Summersville Lake	4.71	0.86	2.38	7.95
		Sutton Lake	2.65	0.48	1.34	4.47
		Tappan Lake	3.85	0.70	1.95	6.49
		Tom Jenkins Dam and Burr Oak Lake	2.26	0.41	1.14	3.81
		Willow Island Locks and Dam <Ohio R>	1.43	0.26	0.72	2.41
		Wills Creek Lake	0.14	0.03	0.07	0.24
		Winfield Lock and Dam <Kanawha River>	1.99	0.36	1.00	3.35
		Yatesville Lake	1.61	0.19	0.87	2.67
	Louisville	!# Barren River Lake	7.65	1.39	3.87	12.90
		Brookville Lake	5.20	0.63	2.31	8.13
		Buckhorn Lake	1.41	0.26	0.71	2.39
		Caesar Creek Lake	6.63	1.20	3.35	11.18
		Cagles Mill Lake	1.37	0.25	0.69	2.31
		Cannelton Lock and Dam + Ohio River	0.20	0.04	0.10	0.34
		Carr Creek Lake	3.14	0.57	1.59	5.30
		Cave Run Lake	2.31	0.42	1.17	3.89
		# Cecil M. Harden Lake	7.27	1.32	3.68	12.27
		Clarence J Brown Dam and Reservoir	4.71	0.86	2.38	7.95
		Green River Lake	5.12	0.93	2.59	8.64

(Sheet 2 of 15)

Table E3 (Continued)

Division	District	Project	Income Effects ($MM) Direct	Indirect	Induced	Total
LRD (cont)	Louisville (cont)	Greenriver + 2 Locks	0.12	0.02	0.06	0.21
		J. Edward Roush Lake	2.15	0.39	1.09	3.62
		John T. Myers Lock and Dam	0.84	0.15	0.43	1.43
		Kentucky River + 4 Locks	0.61	0.11	0.31	1.03
		Lock & Dam 52 + Ohio River	0.16	0.03	0.08	0.27
		Lock & Dam 53 + Ohio River	0.04	0.01	0.02	0.06
		Markland Lock and Dam + Ohio River	1.79	0.42	0.94	3.15
		Mcalpine Lock and Dam + Ohio River	1.15	0.21	0.58	1.94
		Mississinewa Lake	4.71	0.85	2.38	7.94
		# Monroe Lake	6.48	1.18	3.28	10.93
		Newburgh Lock and Dam +Ohio River	2.27	0.34	1.03	3.64
		!# Nolin River Lake	10.72	1.95	5.42	18.08
		Patoka Lake	5.92	1.08	2.99	9.99
		# Rough River Lake	10.06	1.83	5.09	16.98
		Salamonie Lake	38.21	6.21	15.86	60.28
		Smithland Lock and Dam +Ohio River	0.10	0.02	0.05	0.16
		Taylorsville Lake	5.18	0.96	2.24	8.37
		West Fork Of Mill Creek Lake	3.53	0.59	1.51	5.63
		# William H Harsha Lake	5.55	1.01	2.80	9.36
	Nashville	!# Barkley Lock and Dam Lake Barkley	20.52	3.73	10.37	34.62
		!# Center Hill Lake	20.27	3.68	10.24	34.19
		# Cheatham Lock and Dam	12.06	2.19	6.09	20.34
		# Cordell Hull Dam and Reservoir	16.56	3.01	8.37	27.93
		# Dale Hollow Lake	19.54	3.55	9.88	32.97
		# J Percy Priest Dam and Reservoir	30.78	6.62	19.99	57.39
		# Laurel River Lake	1.11	0.17	0.52	1.81
		Martins Fork Lake	0.87	0.21	0.51	1.59
		! Old Hickory Lock and Dam	55.08	8.51	25.13	88.71
		# Wolf Creek Dam Lake Cumberland	26.96	3.92	10.70	41.59
	Pittsburgh	Berlin Lake	3.06	0.76	1.97	5.79
		Conemaugh River Lake	0.50	0.08	0.26	0.83
		Crooked Creek Lake	1.68	0.30	0.85	2.83

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Table E3 (Continued)

Division	District	Project	Income Effects ($MM)			
			Direct	Indirect	Induced	Total
LRD (cont)	Pittsburgh (cont)	Dashields Locks and Dam <Ohio River>	0.13	0.02	0.07	0.23
		East Branch Clarion River Lake	1.23	0.22	0.62	2.07
		Emsworth Locks and Dams <Ohio River>	0.46	0.08	0.23	0.78
		Gray's Landing Locks and Dam	0.03	0.00	0.01	0.05
		Hannibal Locks and Dam <Ohio River>	0.14	0.02	0.06	0.22
		Hildebrand Lock and Dam <Monongahela River>	0.04	0.01	0.02	0.07
		Kinzua Dam and Allegheny Reservoir	1.90	0.35	0.96	3.21
		Lock and Dam 2 <Allegheny River>	0.27	0.05	0.13	0.45
		Lock and Dam 3 <Allegheny River>	0.09	0.02	0.05	0.16
		Lock and Dam 4 <Allegheny River>	0.11	0.02	0.05	0.18
		Lock and Dam 5 <Allegheny River>	0.06	0.01	0.03	0.10
		Lock and Dam 6 <Allegheny River>	0.04	0.01	0.02	0.07
		Lock and Dam 7 <Allegheny River>	0.05	0.01	0.03	0.09
		Lock and Dam 8 <Allegheny River>	0.05	0.01	0.02	0.08
		Lock and Dam 9 <Allegheny River>	0.05	0.01	0.02	0.08
		Locks and Dam 2 <Monongahela River>	0.07	0.01	0.04	0.12
		Locks and Dam 3 <Monongahela River>	0.03	0.00	0.01	0.04
		Locks and Dam 4 <Monongahela River>	0.03	0.00	0.01	0.04
		Loyalhanna Lake	1.15	0.21	0.58	1.95
		Mahoning Creek Lake	0.30	0.05	0.15	0.51
		Maxwell Locks and Dam <Monongahela River>	0.06	0.01	0.03	0.11
		Michael J Kirwan Dam and Reservoir	1.38	0.27	0.98	2.63
		Montgomery Locks and Dam <Ohio River>	0.13	0.02	0.07	0.22
		Morgantown Lock and Dam <Monongahela River>	0.01	0.00	0.01	0.02
		Mosquito Creek Lake	6.24	1.13	3.15	10.53
		New Cumberland Locks and Dam <Ohio River>	0.22	0.04	0.11	0.37
		Opekiska Lock and Dam <Monongahela River>	0.01	0.00	0.00	0.02
		Pike Island Locks and Dam <Ohio River>	0.16	0.03	0.08	0.27
		Point Marion Lock and Dam <Monongahela River>	0.01	0.00	0.00	0.02
		# Shenango River Lake	3.73	0.68	1.88	6.29
		Stonewall Jackson Lake	2.15	0.39	1.09	3.63
		Tionesta Lake	2.16	0.39	1.09	3.64

(Sheet 4 of 15)

Table E3 (Continued)

Division	District	Project	Income Effects ($MM)			
			Direct	Indirect	Induced	Total
LRD (cont)	Pittsburgh (cont)	Tygart Lake	2.63	0.48	1.33	4.43
		Union City Dam	0.18	0.03	0.09	0.30
		Woodcock Creek Lake	2.03	0.37	1.03	3.43
		Youghiogheny River Lake	3.47	0.63	1.75	5.85
Mvd	Rock Island	Coralville Lake	7.27	1.32	3.68	12.27
		Farmdale Dam	0.18	0.03	0.09	0.31
		Illinois Waterway	0.56	0.10	0.29	0.95
		Lake Red Rock	7.04	1.28	3.56	11.88
		Mississippi River Pools 11-22 (10 L&D)	74.02	13.45	37.41	124.87
		!# Saylorville Lake	5.98	1.24	3.43	10.65
	St. Louis	# Carlyle Lake	12.75	1.83	5.42	20.00
		# Clarence Cannon Dam and Mark Twain Lake	9.66	1.98	5.37	17.00
		# Lake Shelbyville	12.13	2.12	4.71	18.96
		# Rend Lake	12.71	1.99	4.98	19.68
		Rivers Project - Illinois River	3.20	0.58	1.62	5.40
		Rivers Project - Lower River	2.45	0.45	1.24	4.14
		Rivers Project - Upper River	18.10	3.29	9.15	30.54
		# Wappapello Lake	10.48	1.71	5.48	17.67
	St. Paul	Baldhill Dam Lake Ashtabula	0.74	0.15	0.53	1.42
		Eau Galle Flood Control Project	0.66	0.12	0.33	1.11
		Homme Lake	0.34	0.09	0.19	0.62
		Lac Qui Parle Lake	0.22	0.04	0.11	0.37
		Lake Traverse	0.73	0.13	0.37	1.24
		Mississippi River Headwaters Lakes Project	10.23	2.02	6.69	18.93
		Mississippi River Pool U+L St Anthony Falls	0.39	0.07	0.20	0.65
		Mississippi River Pool No 1	0.50	0.09	0.25	0.84
		Mississippi River Pool No 2	3.19	0.75	1.75	5.70
		Mississippi River Pool No 3	4.60	0.86	2.76	8.22
		Mississippi River Pool No 4	9.62	2.13	7.20	18.95
		Mississippi River Pool No 5	2.90	0.68	1.84	5.42
		Mississippi River Pool No 5a	2.67	0.48	1.35	4.50
		Mississippi River Pool No 6	3.42	0.62	1.73	5.77

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Table E3 (Continued)

Division	District	Project	Income Effects ($MM) Direct	Indirect	Induced	Total
MVD (cont)	St. Paul (cont)	Mississippi River Pool No 7	3.14	0.74	1.73	5.61
		Mississippi River Pool No 8	7.10	1.29	3.59	11.97
		Mississippi River Pool No 9	4.66	0.85	2.35	7.86
		Mississippi River Pool No 10	5.69	1.03	2.88	9.60
		Orwell Lake	0.12	0.02	0.06	0.21
	Vicksburg	# Arkabutla Lake	5.14	0.41	2.02	7.57
		Bayou Bodcau Reservoir	0.92	0.17	0.47	1.55
		Caddo Lake	0.13	0.02	0.07	0.23
		# Degray Lake	12.00	1.89	5.58	19.47
		Enid Lake	4.33	0.79	2.19	7.31
		# Grenada Lake	8.50	0.94	3.04	12.48
		Lake Greeson	2.47	0.45	1.25	4.17
		# Lake Ouachita	6.86	1.17	4.44	12.47
		Ouachita-Black Rivers (4 L&D, Calion Pool)	0.61	0.11	0.31	1.03
		Ouachita-Black Rivers (4 L&D, Columbia Pool)	1.67	0.30	0.84	2.82
		Ouachita-Black Rivers (4 L&D, Felsenthal Pool)	1.28	0.23	0.65	2.16
		Ouachita-Black Rivers (4 L&D, Jonesville Pool)	1.89	0.34	0.95	3.19
		Pearl River (3 Locks and Dams)	1.04	0.19	0.53	1.75
		Red River Waterway (5 Locks & Dams)	0.90	0.16	0.45	1.51
		# Sardis Lake	7.18	0.80	3.03	11.00
		Wallace Lake	0.07	0.01	0.04	0.13
NAD	Baltimore	Almond Lake	1.55	0.28	0.78	2.61
		Alvin R Bush - Kettle Creek	0.76	0.14	0.38	1.28
		Aylesworth Creek Lake	0.01	0.00	0.01	0.02
		Cowanesque Lake	0.64	0.12	0.32	1.08
		Curwensville Lake	0.22	0.05	0.03	0.30
		East Sidney Lake	0.16	0.04	0.12	0.31
		Foster Joseph Sayers Dam	2.44	0.44	1.23	4.11
		Jennings Randolph Lake	0.43	0.08	0.22	0.72
		# Raystown Lake	5.95	1.08	3.01	10.04
		Tioga-Hammond Lakes	1.10	0.20	0.55	1.85
		Whitney Point	0.64	0.12	0.32	1.08

(Sheet 6 of 15)

Table E3 (Continued)

Division	District	Project	Income Effects ($MM)			
			Direct	Indirect	Induced	Total
NAD (cont)	New England	Ball Mountain Lake	0.32	0.06	0.16	0.54
		Barre Falls Dam	0.56	0.10	0.28	0.94
		Birch Hill Dam	2.22	0.40	1.12	3.74
		Black Rock Lake	0.32	0.06	0.16	0.55
		Blackwater Dam	0.13	0.02	0.07	0.22
		Buffumville Lake	0.52	0.09	0.26	0.88
		Cape Cod Canal	17.47	3.17	8.83	29.48
		Charles River Natural Valley Storage Project	0.24	0.04	0.12	0.41
		Colebrook River Lake	0.63	0.11	0.32	1.07
		Conant Brook Dam	0.12	0.02	0.06	0.20
		East Brimfield Lake	0.62	0.11	0.31	1.05
		Edward Macdowell Lake	0.26	0.05	0.13	0.44
		Franklin Falls Dam	0.17	0.03	0.09	0.28
		Hancock Brook Lake	0.04	0.01	0.02	0.08
		Hodges Village Dam	0.38	0.07	0.19	0.64
		Hop Brook Lake	0.70	0.13	0.35	1.18
		Hopkinton-Everett Lake	1.90	0.34	0.96	3.20
		Knightville Dam	0.13	0.02	0.07	0.22
		Littleville Lake	0.22	0.04	0.11	0.37
		Mansfield Hollow Lake	2.87	0.52	1.45	4.85
		North Hartland Lake	0.17	0.03	0.08	0.28
		North Springfield Lake	0.15	0.03	0.07	0.25
		Northfield Brook Lake	0.18	0.03	0.09	0.30
		Otter Brook Lake	0.21	0.04	0.11	0.36
		Surry Mountain Lake	0.39	0.07	0.20	0.67
		Thomaston Dam	0.45	0.08	0.23	0.76
		Townshend Lake	0.18	0.03	0.09	0.30
		Tully Lake	0.08	0.01	0.04	0.13
		Union Village Dam	0.11	0.02	0.06	0.19
		West Hill Dam	0.32	0.06	0.16	0.54
		West Thompson Lake	0.51	0.09	0.26	0.86
		Westville Lake	0.25	0.05	0.13	0.42

(Sheet 7 of 15)

Table E3 (Continued)

Division	District	Project	Income Effects ($MM) Direct	Indirect	Induced	Total
NAD (cont)	Norfolk	AIW Albemarle and Ches and Dismal Swamp Canal	1.51	0.27	0.76	2.55
		Gathright Dam-Lake Moomaw	0.15	0.03	0.08	0.26
	Philadelphia	Beltzville Lake	2.22	0.40	1.12	3.75
		# Blue Marsh Lake	2.88	0.52	1.46	4.87
		Francis E Walter Dam	1.67	0.30	0.84	2.81
		IWW Delaware R to Chesapeake Bay C + D Canal	1.33	0.24	0.67	2.24
		Prompton Lake	0.28	0.05	0.14	0.48
NWD	Kansas City	Blue Springs Lake	1.45	0.26	0.73	2.44
		Clinton Lake	4.49	0.82	2.27	7.58
		Harlan County Lake	2.76	0.50	1.40	4.66
		# Harry S Truman Dam and Reservoir	10.63	1.93	5.37	17.94
		Hillsdale Lake	1.52	0.28	0.77	2.57
		Kanopolis Lake	1.06	0.19	0.54	1.79
		Long Branch Lake	1.41	0.26	0.71	2.38
		Longview Lake	3.52	0.64	1.78	5.94
		Melvern Lake	2.05	0.37	1.04	3.46
		# Milford Lake	2.65	0.48	1.34	4.46
		Perry Lake	4.40	0.80	2.23	7.43
		# Pomme De Terre Lake	10.24	1.86	5.17	17.27
		Pomona Lake	3.04	0.55	1.53	5.12
		# Rathbun Lake	3.08	0.56	1.56	5.19
		# Smithville Lake	6.78	1.23	3.43	11.44
		# Stockton Lake	6.26	1.14	3.16	10.56
		Tuttle Creek Lake	3.07	0.56	1.55	5.19
		Wilson Lake	1.11	0.20	0.56	1.88
	Omaha	Bear Creek Lake	1.36	0.14	0.40	1.89
		# Big Bend Dam Lake Sharpe	6.16	1.12	3.11	10.39
		Bluestem Lake	0.09	0.02	0.05	0.15
		Bowman Haley Lake	0.17	0.03	0.08	0.28
		Branched Oak Lake	1.12	0.20	0.56	1.88
		# Chatfield Lake	8.42	1.16	3.53	13.11
		# Cherry Creek Lake	14.41	2.62	7.29	24.32

(Sheet 8 of 15)

Table E3 (Continued)

Division	District	Project	Income Effects ($MM)			
			Direct	Indirect	Induced	Total
NWD (cont)	Omaha (cont)	Cold Brook Lake	0.16	0.03	0.08	0.27
		Conestoga Lake	0.17	0.03	0.08	0.28
		Cottonwood Springs Lake	0.03	0.01	0.02	0.06
		Fort Peck Project	1.90	0.35	0.96	3.21
		Fort Randall Dam Lake Francis Case	4.40	0.80	2.22	7.42
		Garrison Dam Lake Sakakawea	7.46	1.36	3.77	12.59
		# Gavins Point Project	6.29	0.73	1.99	9.02
		Glenn Cunningham Lake	0.72	0.13	0.36	1.21
		Holmes Lake	1.78	0.32	0.90	3.00
		# Oahe Dam Lake Oahe	8.49	1.54	4.29	14.32
		Olive Creek Lake	0.06	0.01	0.03	0.11
		Pawnee Lake	0.65	0.12	0.33	1.10
		Pipestem Lake	0.39	0.07	0.20	0.65
		Site 10 Yankee Hill Lake Saltcreek Tributary	0.09	0.02	0.04	0.15
		Snyder-Winnebago	0.37	0.07	0.19	0.63
		Stagecoach Lake	0.08	0.01	0.04	0.13
		Standing Bear Lake	0.48	0.09	0.24	0.81
		Twin Lakes	0.08	0.01	0.04	0.13
		Wagontrain Lake	0.13	0.03	0.06	0.23
		Wehrspann Lake	1.33	0.24	0.67	2.24
		Zorinsky Lake	1.58	0.29	0.80	2.67
	Portland	Blue River Lake	0.25	0.05	0.13	0.42
		!# Bonneville Lock and Dam	14.22	2.58	7.19	23.99
		Cottage Grove Lake	2.41	0.44	1.22	4.06
		Cougar Lake	0.34	0.06	0.17	0.57
		Detroit Lake	0.12	0.02	0.06	0.20
		Dexter Lake	2.88	0.45	1.43	4.76
		Dorena Lake	1.87	0.34	0.94	3.15
		Fall Creek Lake	0.31	0.04	0.16	0.51
		Fern Ridge Lake	4.62	0.84	2.33	7.79
		Foster Lake	2.95	0.54	1.49	4.97
		Green Peter Lake	1.49	0.27	0.75	2.51

(Sheet 9 of 15)

Table E3 (Continued)

Division	District	Project	Income Effects ($MM) Direct	Indirect	Induced	Total
NWD (cont)	Portland (cont)	Hills Creek	0.07	0.01	0.03	0.11
		# John Day Lock and Dam, Lake Umatilla	10.29	1.87	5.20	17.35
		Lookout Point Lake	0.81	0.15	0.41	1.37
		Lost Creek Lake	3.14	0.57	1.59	5.29
		# The Dalles Lock and Dam, Lake Celilo	5.10	0.93	2.58	8.60
		Willamette Falls Locks	0.26	0.05	0.13	0.43
		Willow Creek	0.20	0.04	0.10	0.34
	Seattle	Albeni Falls Dam and Lake Pend Oreille	1.31	0.24	0.66	2.21
		Chief Joseph Dam and Rufus Woods Lake	0.75	0.14	0.38	1.26
		Keystone Harbor	4.06	0.74	2.05	6.86
		Lake Washington Ship Canal	7.42	1.35	3.75	12.51
		Libby Dam and Lake Koocanusa	1.32	0.24	0.67	2.23
		Mud Mountain Dam Project White River	0.49	0.09	0.25	0.83
	Walla Walla	# Dworshak Dam & Reservoir	1.19	0.22	0.60	2.01
		Ice Harbor Lock & Dam, Lake Sacajawea	2.53	0.46	1.28	4.27
		Little Goose Lock & Dam, Lake Bryan	1.06	0.19	0.54	1.79
		!# Lower Granite Lock & Dam	5.30	0.96	2.68	8.94
		Lower Monumental Lock & Dam, Lake West	0.87	0.16	0.44	1.47
		Lucky Peak Lake	4.36	1.24	3.19	8.78
		# McNary Lock & Dam, Lake Wallula	20.03	3.64	10.12	33.78
		Mill Creek Lake	0.78	0.14	0.39	1.31
POD	Alaska	Chena River Lakes	0.71	0.13	0.36	1.20
SAD	Jacksonville	Fernandina Harbor	0.29	0.05	0.15	0.49
		Four River Basins	1.26	0.23	0.64	2.12
		! Lake Okeechobee and Waterway	38.34	6.97	19.38	64.69
		Miami Harbor	0.21	0.04	0.11	0.36
	Mobile	Alabama River Lakes Claiborne	1.23	0.22	0.62	2.07
		# Alabama River Lakes Dannelly	8.92	1.33	3.06	13.30
		# Alabama River Lakes Woodruff	9.10	1.87	3.56	14.52
		# Allatoona Lake	37.19	7.46	13.04	57.69
		Black Warrior and Tombigbee Lakes	22.63	4.11	11.44	38.19
		Carters Lake	3.64	0.66	1.84	6.15

(Sheet 10 of 15)

Table E3 (Continued)

Division	District	Project	Income Effects ($MM) Direct	Indirect	Induced	Total
SAD (cont)	Mobile (cont)	George W. Andrews Lake	2.31	0.42	1.17	3.89
		# Lake Seminole	5.17	0.73	2.11	8.01
		# Lake Sidney Lanier	48.46	9.44	25.82	83.72
		Okatibbee Lake	5.09	0.92	2.57	8.59
		! Tennessee-Tombigbee Waterway	17.64	3.20	8.92	29.76
		!# Walter F. George Lake	31.97	5.04	13.18	50.19
		# West Point Project	12.23	2.01	5.70	19.95
	Savannah	!# Hartwell Lake	57.56	11.85	28.19	97.60
		# J. Strom Thurmond Lake	33.38	6.44	15.97	55.79
		New Savannah Bluff Lock and Dam	0.63	0.12	0.32	1.07
		Richard B Russell Dam and Lake	6.75	1.23	3.41	11.38
	Wilmington	# B Everett Jordan Dam and Lake	7.08	0.85	2.60	10.53
		Cape Fear River <3 Locks and Dams>	0.33	0.06	0.17	0.56
		# Falls Lake	3.33	0.39	1.18	4.91
		# John H Kerr Dam and Reservoir	12.10	1.81	6.42	20.33
		# Philpott Lake	4.13	0.53	1.86	6.52
		# W Kerr Scott Dam and Reservoir	5.46	0.53	2.11	8.10
SPD	Albuquerque	Abiquiu Dam	0.43	0.08	0.22	0.72
		Cochiti Lake	1.33	0.24	0.67	2.25
		Conchas Lake	0.83	0.15	0.42	1.41
		Galisteo Dam	0.02	0.00	0.01	0.04
		Jemez Canyon Dam	0.08	0.01	0.04	0.13
		! John Martin Dam	1.61	0.29	0.81	2.71
		Santa Rosa Dam and Lake	0.41	0.07	0.21	0.69
		Trinidad Lake	0.74	0.13	0.37	1.24
		Two Rivers Dam	0.01	0.00	0.00	0.01
	Los Angeles	Alamo Lake	1.80	0.33	0.91	3.03
		Brea Dam	1.28	0.23	0.65	2.17
		Carbon Canyon Dam	1.16	0.21	0.59	1.96
		Fullerton Dam	1.30	0.24	0.66	2.19
		# Hansen Dam	6.60	1.78	3.80	12.17
		Mojave River Dam	0.09	0.02	0.04	0.15

(Sheet 11 of 15)

Table E3 (Continued)

Division	District	Project	Income Effects ($MM) Direct	Indirect	Induced	Total
SPD (cont)	Los Angeles (cont)	Painted Rock Dam	0.00	0.00	0.00	0.00
		Prado Dam	1.91	0.35	0.96	3.22
		Salinas Dam Santa Margarita Lake	0.64	0.12	0.32	1.08
		Santa Fe Dam	1.83	0.33	0.92	3.08
		# Sepulveda Dam	12.15	3.27	7.00	22.43
		# Whittier Narrows Dam	13.89	3.73	8.11	25.73
	Sacramento	# Black Butte Lake	0.70	0.09	0.34	1.13
		# Eastman Lake	0.36	0.08	0.16	0.59
		# Harry L Englebright Lake	0.55	0.10	0.28	0.93
		# Hensley Lake	0.78	0.07	0.27	1.11
		# Lake Kaweah	2.31	0.50	1.03	3.83
		Martis Creek Lake	0.14	0.03	0.10	0.26
		# New Hogan Lake	1.31	0.24	0.66	2.22
		# Pine Flat Lake	2.07	0.38	1.04	3.48
		Stanislaus River Parks	2.00	0.32	1.29	3.61
		# Success Lake	2.49	0.60	1.48	4.57
	San Francisco	# Lake Mendocino	3.30	0.60	1.67	5.56
		! Lake Sonoma	2.09	0.39	1.16	3.64
		S F Bay Model Regional Visitor Center	0.89	0.08	0.31	1.27
Swd	Fort Worth	Aquilla Dam & Lake	0.34	0.06	0.17	0.57
		Bardwell Lake	2.55	0.46	1.29	4.29
		# Belton Lake	11.28	1.91	5.07	18.27
		Benbrook Lake	5.91	1.07	2.99	9.97
		# Canyon Lake	7.83	1.62	4.35	13.80
		Cooper Lake	1.34	0.24	0.68	2.27
		# Ferrells Bridge Dam Lake O' The Pines	5.72	1.02	3.25	10.00
		Granger Lake	1.84	0.33	0.93	3.10
		# Grapevine Lake	10.44	2.07	4.52	17.03
		Hords Creek Lake	2.48	0.45	1.25	4.18
		# Joe Pool Lake	6.11	1.21	2.49	9.81
		Lake Georgetown	3.14	0.57	1.59	5.31
		# Lavon Lake	11.65	2.23	4.20	18.08

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Table E3 (Continued)

Division	District	Project		Income Effects ($MM) Direct	Indirect	Induced	Total
SWD (cont)	Fort Worth (cont)	#	Lewisville Lake	20.93	4.18	9.64	34.75
			Navarro Mills Lake	2.79	0.51	1.41	4.70
			O.C. Fisher Lake	4.43	0.80	2.24	7.47
			Proctor Lake	1.81	0.33	0.92	3.06
			Ray Roberts Lake	12.65	2.30	6.40	21.35
		#	Sam Rayburn Reservoir	8.83	1.51	4.85	15.19
		#	Somerville Lake	7.40	1.27	3.35	12.02
			Stillhouse Hollow Reservoir	2.25	0.41	1.14	3.79
			Town Bluff Dam B.A. Steinhagen Lake	1.91	0.35	0.97	3.23
		!#	Waco Lake	9.15	1.85	5.45	16.45
		#	Whitney Lake	6.45	1.18	4.39	12.02
		#	Wright Patman Dam and Lake	6.13	1.04	3.47	10.64
	Galveston	#	Addicks Dam	9.99	2.03	4.50	16.52
			Barker Dam	2.45	0.45	1.24	4.14
			Wallisville Reservoir	0.84	0.15	0.43	1.42
	Little Rock	#	Beaver Lake	12.86	2.77	7.38	23.02
		#	Blue Mountain Lake	0.79	0.12	0.32	1.23
		#	Bull Shoals Lake	34.06	6.16	25.14	65.36
			Clearwater Lake	2.23	0.41	1.13	3.77
		#	Dardanelle Lake - Ark.Riv.Nav.Sys	9.35	1.68	4.31	15.34
		#	David D. Terry Lock and Dam - Ark.Riv.Nav.Sys	7.19	1.71	3.97	12.87
			Dequeen Lake	1.19	0.22	0.60	2.00
			Dierks Lake	0.89	0.16	0.45	1.50
			Gillham Lake	0.68	0.12	0.35	1.15
		#	Greers Ferry Lake	27.61	4.67	15.61	47.89
			John Paul Hammerschmidt Lake	4.18	0.76	2.11	7.05
		#	Millwood Lake	3.31	0.57	1.64	5.52
		!#	Murray Lock and Dam - Ark.Riv.Nav.Sys	3.98	0.94	2.09	7.01
		#	Nimrod Lake	1.45	0.22	0.57	2.25
		#	Norfork Lake	8.78	1.49	7.51	17.78
			Norrell Lock and Dam - Ark.Riv.Nav.Sys	0.22	0.04	0.11	0.37
			Ozark Lake - Ark.Riv.Nav.Sys	2.26	0.41	1.14	3.81

(Sheet 13 of 15)

Table E3 (Continued)

Division	District	Project	Income Effects ($MM)			
			Direct	Indirect	Induced	Total
SWD (cont)	Little Rock (cont)	Pool 3 Lock and Dam - Ark.Riv.Nav.Sys	0.40	0.07	0.20	0.68
		Pool 4 Lock and Dam - Ark.Riv.Nav.Sys	2.91	0.53	1.47	4.92
		Pool 5 Lock and Dam - Ark.Riv.Nav.Sys	0.90	0.16	0.45	1.51
		Rockefeller Lake-Ormand L & D-Ark.Riv.Nav.Sys	0.99	0.18	0.50	1.67
		# Table Rock Lake	26.69	5.25	15.50	47.44
		Toad Suck Ferry Lock and Dam-Ark.Riv.Nav.Sys	2.23	0.41	1.13	3.77
		Wilbur D. Mills Lock and Dam-Ark.Riv.Nav.Sys	1.76	0.32	0.89	2.97
	Tulsa	Arcadia Lake	1.12	0.20	0.57	1.89
		Birch Lake	0.57	0.10	0.29	0.96
		Broken Bow Lake	4.47	0.81	2.26	7.54
		# Canton Lake	3.39	0.73	1.37	5.49
		Chouteau Lock and Dam 17	0.86	0.16	0.44	1.45
		Copan Lake	0.35	0.06	0.18	0.59
		Council Grove	1.65	0.30	0.83	2.78
		El Dorado Lake	3.40	0.62	1.72	5.73
		Elk City Lake	0.65	0.12	0.33	1.09
		# Eufaula Lake	10.38	2.11	5.07	17.56
		Fall River Lake	0.69	0.13	0.35	1.16
		# Fort Gibson Lake	13.60	1.88	6.74	22.22
		Fort Supply Lake	1.20	0.22	0.61	2.03
		Great Salt Plains	1.42	0.26	0.72	2.40
		Heyburn Lake	0.63	0.11	0.32	1.06
		Hugo Lake	1.65	0.30	0.83	2.78
		Hulah Lake	0.52	0.09	0.26	0.88
		John Redmond Reservoir	0.97	0.18	0.49	1.63
		Kaw Lake	0.83	0.15	0.42	1.40
		# Keystone Lake	7.64	1.85	4.02	13.52
		Marion Reservoir	2.30	0.42	1.16	3.89
		Newt Graham Lock and Dam 18	0.90	0.16	0.46	1.52
		# Oologah Lake	7.10	1.75	3.70	12.55
		Optima Lake	0.15	0.03	0.08	0.26
		Pat Mayse Lake	1.38	0.25	0.70	2.33

(Sheet 14 of 15)

Table E3 (Concluded)

Division	District	Project	Income Effects ($MM)			
			Direct	Indirect	Induced	Total
SWD (cont)	Tulsa (cont)	Pearson-Skubitz Big Hill Lake	0.86	0.16	0.43	1.44
		Pine Creek Lake	1.07	0.19	0.54	1.80
		Robert S. Kerr, Lock and Dam 15	4.21	0.77	2.13	7.11
		Sardis Lake	1.43	0.26	0.72	2.41
		Skiatook Lake	2.84	0.52	1.43	4.78
		# Tenkiller Ferry Lake	5.38	1.28	3.12	9.79
		# Texoma Lake	33.35	6.20	19.69	59.24
		Toronto Lake	0.75	0.14	0.38	1.27
		Truscott Brine Lake, Area VIII	0.04	0.01	0.02	0.06
		Waurika Lake	2.40	0.44	1.22	4.06
		Wd Mayo Lock and Dam 14	0.52	0.10	0.26	0.88
		Webbers Falls Lock and Dam 16	2.37	0.43	1.20	4.00
		Wister Lake	2.02	0.37	1.02	3.41
		Total	2,024	369	1,022	3,416
		Average	4.44	0.81	2.24	7.49

(Sheet 15 of 15)

Table E4
Regional Economic Impacts for All CE Projects: Jobs[1] (Continued)

Division	District	Project	Job Effects (Number of Jobs)			
			Direct	Indirect	Induced	Total
LRD	Detroit	Duluth-Superior Harbor	292.73	24.04	76.64	393.41
		Keweenaw Waterway	50.40	4.14	13.20	67.73
		St. Marys River	167.85	13.78	43.94	225.57
		Sturgeon Bay and Lake Michigan Ship Canal	3.58	0.29	0.94	4.81
	Huntington	# Alum Creek Lake	962.53	68.18	272.56	1303.27
		Atwood Lake	400.96	32.92	104.98	538.86
		Beach City Lake	15.02	1.23	3.93	20.19
		Beech Fork Lake	241.61	19.84	63.26	324.71
		Belleville Locks and Dam <Ohio R>	233.55	23.79	53.14	310.48
		# Bluestone Lake	441.51	36.25	115.59	593.36
		Bolivar Dam	60.56	4.97	15.85	81.38
		Burnsville Lake	156.26	12.83	40.91	210.01
		Capt Anthony Meldahl Locks and Dam <Ohio R>	225.15	18.49	58.95	302.59
		Charles Mill Lake	263.07	21.60	68.88	353.55
		Clendening Lake	60.29	4.95	15.78	81.03
		# Deer Creek Lake	1110.41	91.18	290.72	1492.31
		Delaware Lake	256.30	21.05	67.10	344.46
		Dewey Lake	246.90	17.61	85.85	350.36
		Dillon Lake	396.65	32.57	103.85	533.06
		Dover Dam	54.94	4.51	14.38	73.83
		East Lynn Lake	97.88	8.04	25.63	131.54
		Fishtrap Lake	214.42	21.85	45.70	281.96
		Grayson Lake	193.15	15.86	50.57	259.58
		Greenup Locks and Dam <Ohio R>	617.94	50.74	161.79	830.47
		John W Flannagan Dam and Reservoir	123.42	10.13	32.31	165.86
		Leesville Lake	56.82	4.67	14.88	76.37
		London Locks and Dam <Kanawha River>	0.27	0.02	0.06	0.35
		Marmet Locks and Dam <Kanawha River>	18.50	1.52	4.84	24.86

(Sheet 1 of 14)

[1] Impacts on counties within 30 miles of CE projects of visitor trip spending within 30 miles of the projects. Includes full-time and part-time jobs.
Notes: LRD = Great Lakes and Ohio River; MVD = Mississippi Valley; NAD = North Atlantic; NWD = Northwestern; POD = Pacific Ocean; SAD = South Atlantic; SPD = South Pacific; SWD = Southwestern.
!. Projects where surveys were conducted to create the spending profiles for this study.
#. Projects where the IMPLAN economic impact models have been built (Becker 1997).

Table E4 (Continued)

Division	District	Project	Job Effects (Number of Jobs)			
			Direct	Indirect	Induced	Total
LRD (cont)	Huntington (cont)	Mohawk Dam	74.09	6.08	19.40	99.57
		Mohicanville Dam	3.47	0.28	0.91	4.66
		North Branch Kokosing River Lake	54.28	4.46	14.21	72.95
		North Fork of Pound River Lake	37.19	3.05	9.74	49.98
		Paint Creek Lake	252.61	20.74	66.14	339.50
		Paintsville Lake	238.88	19.62	62.54	321.04
		Piedmont Lake	54.07	4.44	14.16	72.66
		Pleasant Hill Lake	225.45	18.51	59.03	302.99
		R D Bailey Lake	181.90	14.94	47.62	244.46
		Racine Locks and Dam <Ohio R>	41.86	3.44	10.96	56.25
		Robert C. Byrd Locks and Dam <Ohio R>	24.13	1.98	6.32	32.43
		# Senecaville Lake	356.44	29.27	93.32	479.02
		# Summersville Lake	289.88	23.80	75.90	389.58
		Sutton Lake	162.87	13.37	42.64	218.88
		Tappan Lake	236.77	19.44	61.99	318.21
		Tom Jenkins Dam and Burr Oak Lake	138.75	11.39	36.33	186.47
		Willow Island Locks and Dam <Ohio R>	87.76	7.21	22.98	117.95
		Wills Creek Lake	8.81	0.72	2.31	11.84
		Winfield Lock and Dam <Kanawha River>	122.27	10.04	32.01	164.32
		Yatesville Lake	114.74	5.88	33.01	153.64
	Louisville	!# Barren River Lake	470.35	38.62	123.15	632.12
		Brookville Lake	326.10	19.34	80.10	425.54
		Buckhorn Lake	87.00	7.14	22.78	116.92
		Caesar Creek Lake	407.47	33.46	106.68	547.61
		Cagles Mill Lake	84.26	6.92	22.06	113.24
		Cannelton Lock and Dam + Ohio River	13.71	1.29	3.65	18.65
		Carr Creek Lake	193.23	15.87	50.59	259.69
		Cave Run Lake	141.91	11.65	37.15	190.72
		# Cecil M. Harden Lake	447.33	36.73	117.12	601.18
		Clarence J Brown Dam and Reservoir	289.73	23.79	75.86	389.38
		Green River Lake	314.91	25.86	82.45	423.21
		Greenriver + 2 Locks	7.67	0.63	2.01	10.30
		J. Edward Roush Lake	132.14	10.85	34.60	177.58
		John T. Myers Lock and Dam	51.96	4.27	13.60	69.84

(Sheet 2 of 14)

Table E4 (Continued)

Division	District	Project	Job Effects (Number of Jobs)			
			Direct	Indirect	Induced	Total
LRD (cont)	Louisville (cont)	Kentucky River + 4 Locks	37.47	3.08	9.81	50.36
		Lock & Dam 52 + Ohio River	10.01	0.82	2.62	13.45
		Lock & Dam 53 + Ohio River	2.24	0.18	0.59	3.01
		Markland Lock and Dam + Ohio River	85.01	9.90	25.43	120.33
		Mcalpine Lock and Dam + Ohio River	70.83	5.82	18.54	95.19
		Mississinewa Lake	289.40	23.76	75.77	388.94
		# Monroe Lake	398.53	32.73	104.34	535.60
		Newburgh Lock and Dam + Ohio River	153.88	10.07	35.78	199.73
		!# Nolin River Lake	659.06	54.12	172.55	885.73
		Patoka Lake	364.13	29.90	95.33	489.36
		# Rough River Lake	618.83	50.81	162.02	831.66
		Salamonie Lake	2510.13	183.29	554.33	3247.76
		Smithland Lock and Dam + Ohio River	5.93	0.49	1.55	7.97
		Taylorsville Lake	368.75	32.39	81.33	482.47
		West Fork Of Mill Creek Lake	274.40	18.56	54.39	347.34
		# William H. Harsha Lake	341.30	28.03	89.36	458.68
	Nashville	!# Barkley Lock and Dam Lake Barkley	1262.22	103.65	330.47	1696.34
		!# Center Hill Lake	1246.54	102.36	326.36	1675.26
		# Cheatham Lock and Dam	741.67	60.90	194.18	996.75
		# Cordell Hull Dam and Reservoir	1018.23	83.61	266.59	1368.43
		# Dale Hollow Lake	1201.81	98.69	314.65	1615.15
		# J. Percy Priest Dam and Reservoir	2093.42	180.21	673.41	2947.04
		# Laurel River Lake	70.56	5.40	17.91	93.88
		Martins Fork Lake	41.56	5.49	13.89	60.93
		! Old Hickory Lock and Dam	3407.12	269.63	858.69	4535.44
		# Wolf Creek Dam Lake Cumberland	1827.61	129.62	395.06	2352.29
	Pittsburgh	Berlin Lake	148.06	19.43	54.44	221.92
		Conemaugh River Lake	32.85	2.54	9.42	44.81
		Crooked Creek Lake	103.06	8.46	26.98	138.50
		Dashields Locks and Dam <Ohio River>	8.24	0.68	2.16	11.07
		East Branch Clarion River Lake	75.37	6.19	19.73	101.29
		Emsworth Locks and Dams <Ohio River>	28.41	2.33	7.44	38.18
		Gray's Landing Locks and Dam	1.67	0.14	0.44	2.25

(Sheet 3 of 14)

Table E4 (Continued)

Division	District	Project	Job Effects (Number of Jobs)			
			Direct	Indirect	Induced	Total
LRD (cont)	Pittsburgh (cont)	Hannibal Locks and Dam <Ohio River>	9.91	0.76	2.67	13.34
		Hildebrand Lock and Dam <Monongahela River>	2.60	0.21	0.68	3.50
		Kinzua Dam and Allegheny Reservoir	116.96	9.60	30.62	157.18
		Lock and Dam 2 <Allegheny River>	16.43	1.35	4.30	22.08
		Lock and Dam 3 <Allegheny River>	5.68	0.47	1.49	7.63
		Lock and Dam 4 <Allegheny River>	6.57	0.54	1.72	8.83
		Lock and Dam 5 <Allegheny River>	3.61	0.30	0.95	4.86
		Lock and Dam 6 <Allegheny River>	2.39	0.20	0.63	3.21
		Lock and Dam 7 <Allegheny River>	3.30	0.27	0.86	4.43
		Lock and Dam 8 <Allegheny River>	2.80	0.23	0.73	3.76
		Lock and Dam 9 <Allegheny River>	2.96	0.24	0.78	3.98
		Locks and Dam 2 <Monongahela River>	4.30	0.35	1.12	5.77
		Locks and Dam 3 <Monongahela River>	1.59	0.13	0.42	2.14
		Locks and Dam 4 <Monongahela River>	1.59	0.13	0.42	2.14
		Loyalhanna Lake	71.01	5.83	18.59	95.44
		Mahoning Creek Lake	18.59	1.53	4.87	24.98
		Maxwell Locks and Dam <Monongahela River>	3.83	0.31	1.00	5.15
		Michael J Kirwan Dam and Reservoir	93.14	7.20	30.15	130.48
		Montgomery Locks and Dam <Ohio River>	8.16	0.67	2.14	10.97
		Morgantown Lock and Dam <Monongahela River>	0.76	0.06	0.20	1.02
		Mosquito Creek Lake	383.79	31.51	100.48	515.78
		New Cumberland Locks and Dam <Ohio River>	13.60	1.12	3.56	18.27
		Opekiska Lock and Dam <Monongahela River>	0.58	0.05	0.15	0.78
		Pike Island Locks and Dam <Ohio River>	9.79	0.80	2.56	13.16
		Point Marion Lock and Dam <Monongahela River>	0.61	0.05	0.16	0.82
		# Shenango River Lake	229.14	18.82	59.99	307.95
		Stonewall Jackson Lake	132.30	10.86	34.64	177.80
		Tionesta Lake	132.75	10.90	34.76	178.41
		Tygart Lake	161.58	13.27	42.30	217.15
		Union City Dam	10.96	0.90	2.87	14.73
		Woodcock Creek Lake	124.91	10.26	32.70	167.88
		Youghiogheny River Lake	213.21	17.51	55.82	286.53

(Sheet 4 of 14)

Table E4 (Continued)

Division	District	Project	Job Effects (Number of Jobs)			
			Direct	Indirect	Induced	Total
MVD	Rock Island	Coralville Lake	447.24	36.73	117.10	601.06
		Farmdale Dam	11.20	0.92	2.93	15.06
		Illinois Waterway	34.72	2.85	9.09	46.66
		Lake Red Rock	433.11	35.56	113.40	582.07
		Mississippi River Pools 11-22 (10 L&D)	4552.06	373.79	1191.80	6117.65
		!# Saylorville Lake	471.27	38.10	122.73	632.11
	St. Louis	# Carlyle Lake	974.04	49.10	202.47	1225.61
		# Clarence Cannon Dam and Mark Twain Lake	703.53	55.80	194.64	953.97
		# Lake Shelbyville	795.52	49.97	158.48	1003.97
		# Rend Lake	847.52	52.57	180.15	1080.24
		Rivers Project - Illinois River	196.82	16.16	51.53	264.52
		Rivers Project - Lower River	150.96	12.40	39.52	202.89
		Rivers Project - Upper River	1113.45	91.43	291.52	1496.40
		# Wappapello Lake	764.85	54.19	206.89	1025.92
	St. Paul	Baldhill Dam Lake Ashtabula	77.13	4.55	20.32	101.99
		Eau Galle Flood Control Project	40.45	3.32	10.59	54.36
		Homme Lake	29.89	2.81	6.97	39.67
		Lac Qui Parle Lake	13.39	1.10	3.51	18.00
		Lake Traverse	45.17	3.71	11.83	60.71
		Mississippi River Headwaters Lakes Project	770.50	62.75	229.91	1063.16
		Mississippi River Pool U+L St Anthony Falls	23.87	1.96	6.25	32.08
		Mississippi River Pool No 1	30.77	2.53	8.06	41.35
		Mississippi River Pool No 2	144.87	18.22	46.87	209.95
		Mississippi River Pool No 3	335.91	25.82	96.15	457.88
		Mississippi River Pool No 4	557.35	57.97	211.04	826.35
		Mississippi River Pool No 5	170.46	19.75	59.53	249.74
		Mississippi River Pool No 5a	164.17	13.48	42.98	220.63
		Mississippi River Pool No 6	210.17	17.26	55.03	282.45
		Mississippi River Pool No 7	142.67	17.94	46.16	206.77
		Mississippi River Pool No 8	436.46	35.84	114.27	586.57
		Mississippi River Pool No 9	286.42	23.52	74.99	384.93
		Mississippi River Pool No 10	349.95	28.74	91.62	470.30
		Orwell Lake	7.61	0.62	1.99	10.23

(Sheet 5 of 14)

Table E4 (Continued)

Division	District	Project	Job Effects (Number of Jobs)			
			Direct	Indirect	Induced	Total
MVD (cont)	Vicksburg	# Arkabutla Lake	288.40	11.92	74.12	374.44
		Bayou Bodcau Reservoir	56.60	4.65	14.82	76.06
		Caddo Lake	8.22	0.67	2.15	11.05
		# Degray Lake	882.94	60.82	222.72	1166.48
		Enid Lake	266.31	21.87	69.72	357.90
		# Grenada Lake	637.67	28.22	116.24	782.13
		Lake Greeson	151.89	12.47	39.77	204.12
		# Lake Ouachita	458.39	36.79	159.96	655.14
		Ouachita-Black Rivers (4 L&D, Calion Pool)	37.69	3.09	9.87	50.65
		Ouachita-Black Rivers (4 L&D, Columbia Pool)	102.75	8.44	26.90	138.09
		Ouachita-Black Rivers (4 L&D, Felsenthal Pool)	78.59	6.45	20.58	105.63
		Ouachita-Black Rivers (4 L&D, Jonesville Pool)	116.18	9.54	30.42	156.14
		Pearl River (3 Locks and Dams)	63.94	5.25	16.74	85.93
		Red River Waterway (5 Locks & Dams)	55.10	4.52	14.43	74.05
		# Sardis Lake	553.80	23.51	110.27	687.58
		Wallace Lake	4.56	0.37	1.19	6.12
NAD	Baltimore	Almond Lake	95.14	7.81	24.91	127.86
		Alvin R Bush - Kettle Creek	46.72	3.84	12.23	62.78
		Aylesworth Creek Lake	0.73	0.06	0.19	0.98
		Cowanesque Lake	39.40	3.24	10.32	52.95
		Curwensville Lake	17.85	1.65	1.98	21.47
		East Sidney Lake	10.58	1.05	4.07	15.70
		Foster Joseph Sayers Dam	149.87	12.31	39.24	201.42
		Jennings Randolph Lake	26.42	2.17	6.92	35.50
		# Raystown Lake	366.03	30.06	95.83	491.92
		Tioga-Hammond Lakes	67.50	5.54	17.67	90.72
		Whitney Point	39.52	3.25	10.35	53.11
	New England	Ball Mountain Lake	19.63	1.61	5.14	26.38
		Barre Falls Dam	34.27	2.81	8.97	46.05
		Birch Hill Dam	136.23	11.19	35.67	183.09
		Black Rock Lake	19.93	1.64	5.22	26.79
		Blackwater Dam	8.02	0.66	2.10	10.78
		Buffumville Lake	32.09	2.63	8.40	43.12
		Cape Cod Canal	1074.59	88.24	281.34	1444.18

(Sheet 6 of 14)

Table E4 (Continued)

Division	District	Project	Job Effects (Number of Jobs)			
			Direct	Indirect	Induced	Total
NAD (cont)	New England (cont)	Charles River Natural Valley Storage Project	14.97	1.23	3.92	20.12
		Colebrook River Lake	38.93	3.20	10.19	52.33
		Conant Brook Dam	7.22	0.59	1.89	9.70
		East Brimfield Lake	38.17	3.13	9.99	51.30
		Edward Macdowell Lake	16.08	1.32	4.21	21.61
		Franklin Falls Dam	10.37	0.85	2.72	13.94
		Hancock Brook Lake	2.76	0.23	0.72	3.71
		Hodges Village Dam	23.36	1.92	6.12	31.40
		Hop Brook Lake	42.87	3.52	11.22	57.61
		Hopkinton-Everett Lake	116.68	9.58	30.55	156.81
		Knightville Dam	7.96	0.65	2.08	10.69
		Littleville Lake	13.49	1.11	3.53	18.13
		Mansfield Hollow Lake	176.72	14.51	46.27	237.49
		North Hartland Lake	10.19	0.84	2.67	13.69
		North Springfield Lake	9.01	0.74	2.36	12.10
		Northfield Brook Lake	11.04	0.91	2.89	14.84
		Otter Brook Lake	13.22	1.09	3.46	17.76
		Surry Mountain Lake	24.29	1.99	6.36	32.64
		Thomaston Dam	27.88	2.29	7.30	37.47
		Townshend Lake	11.03	0.91	2.89	14.83
		Tully Lake	4.82	0.40	1.26	6.47
		Union Village Dam	6.89	0.57	1.80	9.26
		West Hill Dam	19.52	1.60	5.11	26.23
		West Thompson Lake	31.50	2.59	8.25	42.33
		Westville Lake	15.31	1.26	4.01	20.58
	Norfolk	AIW Albemarle and Ches and Dismal Swamp Canal	92.87	7.63	24.31	124.81
		Gathright Dam-Lake Moomaw	9.30	0.76	2.44	12.50
	Philadelphia	Beltzville Lake	136.54	11.21	35.75	183.50
		# Blue Marsh Lake	177.38	14.57	46.44	238.38
		Francis E Walter Dam	102.44	8.41	26.82	137.67
		IWW Delaware R to Chesapeake Bay C + D Canal	81.63	6.70	21.37	109.70
		Prompton Lake	17.51	1.44	4.58	23.53

(Sheet 7 of 14)

Table E4 (Continued)

Division	District	Project	Job Effects (Number of Jobs)			
			Direct	Indirect	Induced	Total
NWD	Kansas City	Blue Springs Lake	89.08	7.31	23.32	119.71
		Clinton Lake	276.32	22.69	72.35	371.36
		Harlan County Lake	169.81	13.94	44.46	228.21
		# Harry S Truman Dam and Reservoir	654.05	53.71	171.24	879.00
		Hillsdale Lake	93.61	7.69	24.51	125.81
		Kanopolis Lake	65.37	5.37	17.11	87.85
		Long Branch Lake	86.86	7.13	22.74	116.73
		Longview Lake	216.46	17.77	56.67	290.90
		Melvern Lake	126.05	10.35	33.00	169.40
		# Milford Lake	162.68	13.36	42.59	218.63
		Perry Lake	270.80	22.24	70.90	363.94
		# Pomme De Terre Lake	629.71	51.71	164.87	846.29
		Pomona Lake	186.77	15.34	48.90	251.00
		# Rathbun Lake	189.25	15.54	49.55	254.34
		# Smithville Lake	417.08	34.25	109.20	560.53
		# Stockton Lake	385.08	31.62	100.82	517.52
		Tuttle Creek Lake	189.11	15.53	49.51	254.16
		Wilson Lake	68.38	5.62	17.90	91.90
	Omaha	Bear Creek Lake	98.77	5.31	16.25	120.33
		# Big Bend Dam Lake Sharpe	378.73	31.10	99.16	508.99
		Bluestem Lake	5.59	0.46	1.46	7.51
		Bowman Haley Lake	10.27	0.84	2.69	13.80
		Branched Oak Lake	68.67	5.64	17.98	92.29
		# Chatfield Lake	519.61	32.58	119.26	671.45
		# Cherry Creek Lake	886.54	72.80	232.11	1191.45
		Cold Brook Lake	9.79	0.80	2.56	13.15
		Conestoga Lake	10.31	0.85	2.70	13.86
		Cottonwood Springs Lake	2.14	0.18	0.56	2.88
		Fort Peck Project	116.97	9.61	30.63	157.20
		Fort Randall Dam Lake Francis Case	270.42	22.21	70.80	363.42
		Garrison Dam Lake Sakakawea	459.08	37.70	120.19	616.97
		# Gavins Point Project	513.85	22.81	72.08	608.73
		Glenn Cunningham Lake	44.18	3.63	11.57	59.38
		Holmes Lake	109.52	8.99	28.67	147.19

(Sheet 8 of 14)

Table E4 (Continued)

Division	District	Project	Job Effects (Number of Jobs)			
			Direct	Indirect	Induced	Total
NWD (cont)	Omaha (cont)	# Oahe Dam Lake Oahe	522.00	42.86	136.67	701.54
		Olive Creek Lake	3.97	0.33	1.04	5.34
		Pawnee Lake	40.10	3.29	10.50	53.89
		Pipestem Lake	23.82	1.96	6.24	32.01
		Site 10 Yankee Hill Lake Saltcreek Tributary	5.34	0.44	1.40	7.18
		Snyder-Winnebago	23.03	1.89	6.03	30.95
		Stagecoach Lake	4.66	0.38	1.22	6.26
		Standing Bear Lake	29.46	2.42	7.71	39.59
		Twin Lakes	4.74	0.39	1.24	6.37
		Wagontrain Lake	6.54	0.74	1.72	9.00
		Wehrspann Lake	81.68	6.71	21.38	109.77
		Zorinsky Lake	97.44	8.00	25.51	130.95
	Portland	Blue River Lake	15.46	1.27	4.05	20.77
		!# Bonneville Lock and Dam	874.59	71.82	228.98	1175.39
		Cottage Grove Lake	148.14	12.16	38.79	199.09
		Cougar Lake	20.63	1.69	5.40	27.73
		Detroit Lake	7.31	0.60	1.92	9.83
		Dexter Lake	155.39	11.72	39.40	206.51
		Dorena Lake	114.77	9.42	30.05	154.24
		Fall Creek Lake	20.83	1.34	5.02	27.19
		Fern Ridge Lake	284.12	23.33	74.39	381.84
		Foster Lake	181.19	14.88	47.44	243.50
		Green Peter Lake	91.35	7.50	23.92	122.77
		Hills Creek	4.19	0.34	1.10	5.63
		# John Day Lock and Dam, Lake Umatilla	632.55	51.94	165.61	850.10
		Lookout Point Lake	50.06	4.11	13.11	67.27
		Lost Creek Lake	193.00	15.85	50.53	259.38
		# The Dalles Lock and Dam, Lake Celilo	313.48	25.74	82.07	421.30
		Willamette Falls Locks	15.85	1.30	4.15	21.31
		Willow Creek	12.58	1.03	3.29	16.90
	Seattle	Albeni Falls Dam and Lake Pend Oreille	80.55	6.61	21.09	108.26
		Chief Joseph Dam and Rufus Woods Lake	45.96	3.77	12.03	61.76
		Keystone Harbor	249.94	20.52	65.44	335.90
		Lake Washington Ship Canal	456.13	37.46	119.42	613.01

(Sheet 9 of 14)

Table E4 (Continued)

Division	District	Project	Job Effects (Number of Jobs)			
			Direct	Indirect	Induced	Total
NWD (cont)	Seattle (cont)	Libby Dam and Lake Koocanusa	81.44	6.69	21.32	109.45
		Mud Mountain Dam Project White River	30.11	2.47	7.88	40.46
	Walla Walla	# Dworshak Dam & Reservoir	73.39	6.03	19.22	98.63
		Ice Harbor Lock & Dam, Lake Sacajawea	155.83	12.80	40.80	209.42
		Little Goose Lock & Dam, Lake Bryan	65.13	5.35	17.05	87.53
		!# Lower Granite Lock & Dam	325.84	26.76	85.31	437.91
		Lower Monumental Lock & Dam, Lake West	53.57	4.40	14.03	72.00
		Lucky Peak Lake	252.47	31.78	93.89	378.15
		# McNary Lock & Dam, Lake Wallula	1231.58	101.13	322.45	1655.16
		Mill Creek Lake	47.78	3.92	12.51	64.21
POD	Alaska	Chena River Lakes	43.90	3.60	11.49	58.99
SAD	Jacksonville	Fernandina Harbor	18.04	1.48	4.72	24.24
		Four River Basins	77.46	6.36	20.28	104.10
		! Lake Okeechobee and Waterway	2358.27	193.65	617.43	3169.36
		Miami Harbor	13.21	1.08	3.46	17.75
	Mobile	Alabama River Lakes Claiborne	75.59	6.21	19.79	101.58
		# Alabama River Lakes Dannelly	622.60	40.15	118.82	781.57
		# Alabama River Lakes Woodruff	526.09	52.99	116.02	695.11
		# Allatoona Lake	1592.33	159.45	328.93	2080.70
		Black Warrior and Tombigbee Lakes	1392.08	114.31	364.47	1870.85
		Carters Lake	224.05	18.40	58.66	301.11
		George W. Andrews Lake	141.81	11.64	37.13	190.59
		# Lake Seminole	347.41	22.93	76.27	446.61
		# Lake Sidney Lanier	2209.94	217.79	706.73	3134.46
		Okatibbee Lake	312.97	25.70	81.94	420.61
		! Tennessee-Tombigbee Waterway	1085.05	89.10	284.08	1458.24
		!# Walter F. George Lake	2187.00	154.01	509.56	2850.57
		# West Point Project	687.21	58.62	186.39	932.22
	Savannah	!# Hartwell Lake	3303.01	313.87	885.42	4502.29
		# J. Strom Thurmond Lake	2067.88	182.24	511.57	2761.70
		New Savannah Bluff Lock and Dam	38.99	3.20	10.21	52.40
		Richard B Russell Dam and Lake	415.02	34.08	108.66	557.76

(Sheet 10 of 14)

Table E4 (Continued)

Division	District	Project	Job Effects (Number of Jobs)			
			Direct	Indirect	Induced	Total
SAD (cont)	Wilmington	# B Everett Jordan Dam and Lake	377.43	18.13	76.48	472.04
		Cape Fear River <3 Locks and Dams>	20.59	1.69	5.39	27.68
		# Falls Lake	176.59	8.23	34.26	219.09
		# John H Kerr Dam and Reservoir	904.47	52.21	224.85	1181.53
		# Philpott Lake	302.03	19.87	65.51	387.42
		# W Kerr Scott Dam and Reservoir	358.20	15.61	75.57	449.38
SPD	Albuquerque	Abiquiu Dam	26.32	2.16	6.89	35.37
		Cochiti Lake	81.95	6.73	21.46	110.13
		Conchas Lake	51.25	4.21	13.42	68.88
		Galisteo Dam	1.28	0.11	0.34	1.73
		Jemez Canyon Dam	4.71	0.39	1.23	6.33
		! John Martin Dam	98.83	8.12	25.87	132.81
		Santa Rosa Dam and Lake	25.32	2.08	6.63	34.03
		Trinidad Lake	45.26	3.72	11.85	60.83
		Two Rivers Dam	0.49	0.04	0.13	0.66
	Los Angeles	Alamo Lake	110.44	9.07	28.91	148.42
		Brea Dam	78.99	6.49	20.68	106.15
		Carbon Canyon Dam	71.36	5.86	18.68	95.91
		Fullerton Dam	79.99	6.57	20.94	107.50
		# Hansen Dam	233.33	33.16	79.88	346.36
		Mojave River Dam	5.38	0.44	1.41	7.23
		Painted Rock Dam	0.00	0.00	0.00	0.00
		Prado Dam	117.32	9.63	30.72	157.67
		Salinas Dam Santa Margarita Lake	39.20	3.22	10.26	52.68
		Santa Fe Dam	112.32	9.22	29.41	150.95
		# Sepulveda Dam	429.81	61.08	147.15	638.04
		# Whittier Narrows Dam	490.67	70.41	171.16	732.24
	Sacramento	# Black Butte Lake	44.12	2.68	10.41	57.21
		# Eastman Lake	20.00	2.10	4.45	26.56
		# Harry L Englebright Lake	33.84	2.78	8.86	45.48
		# Hensley Lake	37.53	1.92	7.58	47.04
		# Lake Kaweah	129.13	13.58	28.74	171.45
		Martis Creek Lake	7.28	0.68	2.64	10.61

(Sheet 11 of 14)

Table E4 (Continued)

Division	District	Project	Job Effects (Number of Jobs) Direct	Indirect	Induced	Total
SPD (cont)	Sacramento (cont)	# New Hogan Lake	80.81	6.64	21.16	108.61
		# Pine Flat Lake	127.03	10.43	33.26	170.72
		Stanislaus River Parks	122.80	8.44	36.81	168.04
		# Success Lake	122.68	14.45	37.13	174.26
	San Francisco	# Lake Mendocino	202.72	16.65	53.07	272.44
		! Lake Sonoma	117.04	10.32	33.69	161.06
		S F Bay Model Regional Visitor Center	43.01	2.14	8.60	53.75
SWD	Fort Worth	Aquilla Dam & Lake	20.77	1.71	5.44	27.91
		Bardwell Lake	156.57	12.86	40.99	210.42
		# Belton Lake	743.24	57.41	154.02	954.67
		Benbrook Lake	363.31	29.83	95.12	488.26
		# Canyon Lake	377.02	41.68	120.13	538.82
		Cooper Lake	82.59	6.78	21.62	110.99
		# Ferrells Bridge Dam Lake O' The Pines	351.68	28.27	103.59	483.54
		Granger Lake	112.92	9.27	29.56	151.76
		# Grapevine Lake	405.30	42.45	104.17	551.92
		Hords Creek Lake	152.26	12.50	39.86	204.63
		# Joe Pool Lake	235.44	24.75	57.20	317.39
		Lake Georgetown	193.41	15.88	50.64	259.93
		# Lavon Lake	416.75	44.63	93.94	555.31
		# Lewisville Lake	817.30	85.89	223.73	1126.91
		Navarro Mills Lake	171.48	14.08	44.90	230.45
		O. C. Fisher Lake	272.41	22.37	71.32	366.10
		Proctor Lake	111.47	9.15	29.18	149.81
		Ray Roberts Lake	778.27	63.91	203.76	1045.94
		# Sam Rayburn Reservoir	604.01	43.17	158.75	805.93
		# Somerville Lake	468.28	34.08	103.99	606.35
		Stillhouse Hollow Reservoir	138.33	11.36	36.22	185.91
		Town Bluff Dam B. A. Steinhagen Lake	117.60	9.66	30.79	158.04
		!# Waco Lake	553.13	51.18	167.01	771.32
		# Whitney Lake	402.18	33.08	137.17	572.43
		# Wright Patman Dam and Lake	368.99	31.23	112.93	513.14
		# Addicks Dam	424.63	41.23	107.36	573.23

(Sheet 12 of 14)

Table E4 (Continued)

Division	District	Project	Job Effects (Number of Jobs)			
			Direct	Indirect	Induced	Total
SWD (cont)	Galveston	Barker Dam	150.76	12.38	39.47	202.61
		Wallisville Reservoir	51.90	4.26	13.59	69.75
	Little Rock	# Beaver Lake	844.57	96.66	244.56	1185.80
		# Blue Mountain Lake	68.22	3.77	11.99	83.98
		# Bull Shoals Lake	2184.75	193.96	898.71	3277.41
		Clearwater Lake	137.43	11.29	35.98	184.70
		# Dardanelle Lake - Ark.Riv.Nav.Sys	675.77	52.43	161.63	889.83
		# David D. Terry Lock and Dam - Ark.Riv.Nav.Sys	410.92	52.56	123.69	587.17
		Dequeen Lake	73.07	6.00	19.13	98.20
		Dierks Lake	54.85	4.50	14.36	73.71
		Gillham Lake	42.02	3.45	11.00	56.47
		# Greers Ferry Lake	1931.03	146.20	579.38	2656.60
		John Paul Hammerschmidt Lake	257.07	21.11	67.30	345.48
		# Millwood Lake	210.09	17.61	55.96	283.66
		!# Murray Lock and Dam - Ark.Riv.Nav.Sys	226.67	28.95	64.60	320.22
		# Nimrod Lake	132.40	6.58	19.26	158.24
		# Norfork Lake	684.06	51.45	275.16	1010.66
		Norrell Lock and Dam - Ark.Riv.Nav.Sys	13.42	1.10	3.51	18.04
		Ozark Lake - Ark.Riv.Nav.Sys	139.02	11.42	36.40	186.83
		Pool 3 Lock and Dam - Ark.Riv.Nav.Sys	24.68	2.03	6.46	33.17
		Pool 4 Lock and Dam - Ark.Riv.Nav.Sys	179.20	14.72	46.92	240.84
		Pool 5 Lock and Dam - Ark.Riv.Nav.Sys	55.07	4.52	14.42	74.01
		Rockefeller Lake-Ormand L & D-Ark.Riv.Nav.Sys	60.84	5.00	15.93	81.76
		# Table Rock Lake	1657.04	162.25	525.66	2344.95
		Toad Suck Ferry Lock and Dam-Ark.Riv.Nav.Sys	137.34	11.28	35.96	184.57
		Wilbur D. Mills Lock and Dam-Ark.Riv.Nav.Sys	108.36	8.90	28.37	145.63
	Tulsa	Arcadia Lake	68.96	5.66	18.05	92.67
		Birch Lake	34.87	2.86	9.13	46.86
		Broken Bow Lake	274.91	22.57	71.98	369.46
		# Canton Lake	326.14	26.17	49.12	401.42
		Chouteau Lock and Dam 17	52.97	4.35	13.87	71.18
		Copan Lake	21.64	1.78	5.66	29.08
		Council Grove	101.41	8.33	26.55	136.29

(Sheet 13 of 14)

Table E4 (Concluded)

Division	District	Project	Job Effects (Number of Jobs)			
			Direct	Indirect	Induced	Total
SWD (cont)	Tulsa (cont)	El Dorado Lake	208.96	17.16	54.71	280.83
		Elk City Lake	39.77	3.27	10.41	53.45
		# Eufaula Lake	711.65	62.83	162.62	937.10
		Fall River Lake	42.40	3.48	11.10	56.99
		# Fort Gibson Lake	681.59	48.08	196.68	926.35
		Fort Supply Lake	74.03	6.08	19.38	99.49
		Great Salt Plains	87.58	7.19	22.93	117.71
		Heyburn Lake	38.74	3.18	10.14	52.07
		Hugo Lake	101.26	8.32	26.51	136.09
		Hulah Lake	32.15	2.64	8.42	43.20
		John Redmond Reservoir	59.46	4.88	15.57	79.91
		Kaw Lake	51.07	4.19	13.37	68.63
		# Keystone Lake	391.45	46.73	108.79	546.97
		Marion Reservoir	141.70	11.64	37.10	190.44
		Newt Graham Lock and Dam 18	55.38	4.55	14.50	74.43
		# Oologah Lake	363.28	43.65	99.73	506.67
		Optima Lake	9.49	0.78	2.49	12.76
		Pat Mayse Lake	84.96	6.98	22.24	114.18
		Pearson-Skubitz Big Hill Lake	52.64	4.32	13.78	70.75
		Pine Creek Lake	65.77	5.40	17.22	88.39
		Robert S. Kerr, Lock and Dam 15	259.19	21.28	67.86	348.34
		Sardis Lake	87.85	7.21	23.00	118.07
		Skiatook Lake	174.36	14.32	45.65	234.33
		# Tenkiller Ferry Lake	403.38	40.29	105.17	548.85
		# Texoma Lake	1934.93	179.38	652.68	2767.00
		Toronto Lake	46.23	3.80	12.10	62.13
		Truscott Brine Lake, Area VIII	2.31	0.19	0.60	3.10
		Waurika Lake	147.88	12.14	38.72	198.74
		Wd Mayo Lock and Dam 14	32.24	2.65	8.44	43.32
		Webbers Falls Lock and Dam 16	145.82	11.97	38.18	195.97
		Wister Lake	124.37	10.21	32.56	167.14
		Total	123,380	10,217	32,762	166,358
		Average	270.57	22.40	71.85	364.82

(Sheet 14 of 14)

Table E5
Economic Multipliers for Regions Surrounding 108 CE Projects[1] (Continued)

Division	District	Project	Capture Rate[2]	Sales		Income[3]			Jobs[4]		
				Type I	Type III	Direct	Type I	Type III	Direct	Type I	Type III
LRD	Huntington	Alum Creek Lake	66%	1.22	1.66	0.59	0.70	0.95	28.74	31.67	38.21
		Bluestone Lake	63%	1.17	1.81	0.51	0.60	0.94	33.23	35.60	47.15
		Deer Creek Lake	66%	1.21	1.62	0.59	0.71	0.93	28.42	31.32	37.37
		Senecaville Lake	66%	1.14	1.59	0.53	0.59	0.83	33.19	35.15	43.31
		Summersville Lake	60%	1.11	1.59	0.50	0.56	0.83	35.81	37.65	47.95
	Louisville	Barren River Lake	64%	1.19	1.68	0.51	0.60	0.86	34.96	38.25	47.57
		Cecil M. Harden Lake	64%	1.15	1.59	0.52	0.60	0.84	35.59	37.92	46.20
		Monroe Lake	62%	1.17	1.57	0.52	0.60	0.82	34.13	36.62	44.15
		Nolin River Lake	63%	1.19	1.60	0.50	0.60	0.81	35.79	38.93	46.83
		Rough River Lake	62%	1.17	1.56	0.48	0.57	0.77	37.65	40.20	47.66
		William H Harsha Lake	68%	1.24	1.78	0.59	0.72	1.03	27.72	30.95	39.25
	Nashville	Barkley Lock and Dam Lake Barkley	65%	1.20	1.79	0.49	0.60	0.92	33.51	36.39	47.17
		Center Hill Lake	61%	1.16	1.59	0.49	0.57	0.80	31.14	33.53	41.43
		Cheatham Lock and Dam	69%	1.25	1.82	0.54	0.68	1.00	26.11	29.55	38.28
		Cordell Hull Dam and Reservoir	61%	1.15	1.59	0.50	0.58	0.81	30.96	33.41	41.21
		Dale Hollow Lake	64%	1.15	1.52	0.49	0.56	0.75	32.95	35.28	42.41
		J Percy Priest Dam and Reservoir	69%	1.25	1.88	0.54	0.68	1.02	26.21	29.64	39.28
		Laurel River Lake	72%	1.16	1.63	0.49	0.57	0.82	32.24	34.74	43.98
		Wolf Creek Dam Lake Cumberland	68%	1.15	1.58	0.47	0.53	0.75	33.14	35.67	44.60
	Pittsburgh	Shenango River Lake	67%	1.19	1.85	0.52	0.61	0.98	34.65	37.32	48.54
MVD	Rock Island	Saylorville Lake	67%	1.28	1.99	0.55	0.71	1.11	31.83	35.84	47.68
	St. Louis	Carlyle Lake	63%	1.13	1.51	0.46	0.52	0.72	34.99	36.75	44.03
		Clarence Cannon Dam and Mark Twain Lake	62%	1.21	1.74	0.50	0.60	0.88	36.41	39.30	49.38
		Lake Shelbyville	63%	1.16	1.51	0.49	0.57	0.76	31.85	33.85	40.20
		Rend Lake	67%	1.14	1.49	0.46	0.54	0.72	30.96	32.88	39.46
		Wappapello Lake	63%	1.17	1.67	0.50	0.58	0.84	36.19	38.75	48.54

(Sheet 1 of 4)

[1] Region defined as all counties within 30-mile radius of the project. Multipliers were originally computed by Becker (1997) using IMPLAN DOS version 91-F with 1990 database. All Type III multipliers were modified downward to adjust the induced effects bias and price-adjusted to reflect current year value based on the approaches used in the 1996 regional impact report (Propst et al. 1998).
[2] Capture rate is the percentage of visitor spending captured as direct sales within the region.
[3] Income per dollar of direct sales. Income includes employee compensation and proprietor and other property income.
[4] Jobs per million dollars in direct sales. Includes full-time and part-time jobs.
Notes: LRD = Great Lakes and Ohio River; MVD = Mississippi Valley; NAD = North Atlantic; NWD = Northwestern; POD = Pacific Ocean; SAD = South Atlantic; SPD = South Pacific; SWD = Southwestern.

Table E5 (Continued)

Division	District	Project	Capture Rate	Sales		Income			Jobs		
				Type I	Type III	Direct	Type I	Type III	Direct	Type I	Type III
MVD (cont)	Vicksburg	Arkabutla Lake	64%	1.09	1.50	0.54	0.58	0.79	30.25	31.50	39.27
		Degray Lake	63%	1.16	1.60	0.49	0.57	0.80	36.26	38.76	47.90
		Grenada Lake	62%	1.12	1.44	0.47	0.52	0.69	35.12	36.67	43.07
		Lake Ouachita	63%	1.17	1.80	0.53	0.62	0.96	35.40	38.24	50.59
		Sardis Lake	63%	1.12	1.49	0.47	0.52	0.72	36.18	37.71	44.92
NAD	Baltimore	Raystown Lake	63%	1.15	1.65	0.54	0.61	0.89	35.93	38.25	46.90
	Philadelphia	Blue Marsh Lake	65%	1.18	1.69	0.57	0.66	0.94	30.66	32.97	40.74
NWD	Kansas City	Harry S Truman Dam and Reservoir	63%	1.21	1.73	0.47	0.57	0.84	36.98	39.97	49.60
		Milford Lake	63%	1.23	1.69	0.44	0.55	0.80	38.52	42.14	51.12
		Pomme De Terre Lake	60%	1.17	1.77	0.43	0.52	0.83	44.94	47.59	59.43
		Rathbun Lake	61%	1.19	1.74	0.50	0.59	0.89	36.51	39.31	49.76
		Smithville Lake	67%	1.22	1.95	0.54	0.67	1.07	31.54	34.82	46.76
		Stockton Lake	70%	1.25	1.88	0.54	0.66	1.01	31.61	35.27	46.31
	Omaha	Big Bend Dam Lake Sharpe	62%	1.19	1.77	0.50	0.59	0.92	37.43	40.48	51.65
		Chatfield Lake	71%	1.22	1.74	0.54	0.67	0.97	24.71	27.81	35.81
		Cherry Creek Lake	71%	1.22	1.74	0.54	0.67	0.97	24.71	27.81	35.81
		Gavins Point Project	63%	1.23	1.37	0.49	0.59	0.66	38.73	42.30	46.60
		Oahe Dam Lake Oahe	78%	1.22	1.87	0.47	0.58	0.93	31.41	34.51	46.60
	Portland	Bonneville Lock and Dam	71%	1.24	1.72	0.59	0.72	1.00	28.70	31.94	39.50
		John Day Lock and Dam, Lake Umatilla	56%	1.11	1.37	0.46	0.51	0.66	37.36	39.02	44.26
		The Dalles Lock and Dam, Lake Celilo	62%	1.15	1.57	0.57	0.65	0.88	35.04	37.23	45.27
	Walla Walla	Dworshak Dam & Reservoir	57%	1.10	1.37	0.53	0.58	0.74	38.42	40.49	46.81
		Lower Granite Lock & Dam	62%	1.17	1.71	0.49	0.58	0.89	39.18	41.95	53.05
		McNary Lock & Dam, Lake Wallula	61%	1.17	1.60	0.51	0.60	0.84	33.81	36.41	44.41
SAD	Mobile	Alabama River Lakes Dannelly	62%	1.15	1.46	0.47	0.54	0.70	32.99	35.12	41.41
		Alabama River Lakes Woodruff	66%	1.20	1.56	0.51	0.62	0.81	29.51	32.48	38.98
		Allatoona Lake	67%	1.21	1.56	0.59	0.70	0.91	25.07	27.57	32.75
		Lake Seminole	62%	1.15	1.53	0.49	0.56	0.76	32.78	34.94	42.14
		Lake Sidney Lanier	67%	1.20	1.74	0.58	0.69	0.99	26.25	28.84	37.23
		Walter F. George Lake	59%	1.16	1.53	0.48	0.56	0.76	33.12	35.45	43.17
		West Point Project	64%	1.17	1.62	0.53	0.61	0.86	29.67	32.20	40.24
	Savannah	Hartwell Lake	67%	1.20	1.67	0.52	0.63	0.89	30.05	32.91	40.97
		J. Strom Thurmond Lake	64%	1.19	1.64	0.52	0.62	0.86	32.02	34.84	42.76

(Sheet 2 of 4)

Table E5 (Continued)

Division	District	Project	Capture Rate	Sales		Income			Jobs		
				Type I	Type III	Direct	Type I	Type III	Direct	Type I	Type III
SAD (cont)	Wilmington	B Everett Jordan Dam and Lake	65%	1.13	1.49	0.55	0.62	0.82	29.52	30.94	36.92
		Falls Lake	64%	1.13	1.48	0.56	0.62	0.82	29.41	30.78	36.49
		John H Kerr Dam and Reservoir	60%	1.15	1.64	0.49	0.56	0.82	36.64	38.76	47.87
		Philpott Lake	59%	1.12	1.53	0.50	0.56	0.78	36.27	38.66	46.53
		W Kerr Scott Dam and Reservoir	62%	1.11	1.48	0.52	0.57	0.77	33.85	35.32	42.47
SPD	Los Angeles	Hansen Dam	83%	1.25	1.79	0.54	0.68	1.00	19.08	21.79	28.32
		Sepulveda Dam	83%	1.25	1.79	0.54	0.68	1.00	19.08	21.79	28.32
		Whittier Narrows Dam	83%	1.25	1.80	0.54	0.68	1.00	19.05	21.78	28.42
	Sacramento	Black Butte Lake	59%	1.14	1.60	0.51	0.58	0.82	32.22	34.17	41.78
		Eastman Lake	60%	1.09	1.43	0.56	0.60	0.79	26.81	28.18	33.60
		Harry L Englebright Lake	63%	1.18	1.87	0.55	0.66	1.05	29.11	31.82	42.38
		Hensley Lake	60%	1.09	1.43	0.56	0.60	0.79	26.85	28.19	33.56
		Lake Kaweah	66%	1.22	1.64	0.53	0.64	0.87	29.38	32.47	39.01
		New Hogan Lake	56%	1.15	1.74	0.53	0.61	0.95	32.46	34.69	44.42
		Pine Flat Lake	67%	1.24	1.82	0.56	0.69	1.02	27.48	30.72	39.04
		Success Lake	66%	1.22	1.64	0.53	0.64	0.87	29.38	32.47	39.01
	San Francisco	Lake Mendocino	63%	1.18	1.72	0.55	0.65	0.96	30.75	33.46	42.31
SWD	Fort Worth	Belton Lake	62%	1.16	1.58	0.53	0.62	0.86	34.79	37.48	44.69
		Canyon Lake	70%	1.21	1.76	0.56	0.68	0.99	27.11	30.11	38.74
		Ferrells Bridge Dam Lake O' The Pines	67%	1.18	1.72	0.53	0.62	0.92	32.44	35.05	44.61
		Grapevine Lake	77%	1.20	1.62	0.58	0.69	0.94	22.32	24.66	30.39
		Joe Pool Lake	77%	1.20	1.60	0.57	0.69	0.92	22.17	24.50	29.89
		Lavon Lake	81%	1.19	1.54	0.57	0.68	0.88	20.37	22.55	27.14
		Lewisville Lake	76%	1.20	1.66	0.58	0.69	0.96	22.49	24.85	31.00
		Sam Rayburn Reservoir	60%	1.17	1.68	0.51	0.60	0.88	35.14	37.65	46.88
		Somerville Lake	65%	1.17	1.59	0.52	0.61	0.84	32.69	35.07	42.33
		Waco Lake	67%	1.20	1.78	0.54	0.65	0.97	32.55	35.57	45.39
		Whitney Lake	65%	1.18	1.84	0.53	0.62	0.98	32.92	35.63	46.86
		Wright Patman Dam and Lake	65%	1.17	1.72	0.54	0.63	0.93	32.41	35.16	45.08
	Galveston	Addicks Dam	79%	1.19	1.61	0.54	0.65	0.89	22.96	25.19	30.99

(Sheet 3 of 4)

Table E5 (Concluded)

Division	District	Project	Capture Rate	Sales		Income			Jobs		
				Type I	Type III	Direct	Type I	Type III	Direct	Type I	Type III
SWD (cont)	Little Rock	Beaver Lake	65%	1.22	1.76	0.51	0.63	0.92	33.77	37.63	47.41
		Blue Mountain Lake	57%	1.15	1.49	0.45	0.52	0.71	39.23	41.40	48.29
		Bull Shoals Lake	67%	1.18	1.90	0.53	0.62	1.01	33.88	36.88	50.82
		Dardanelle Lake - Ark.Riv.Nav.Sys	63%	1.17	1.59	0.49	0.58	0.80	35.42	38.16	46.64
		David D. Terry Lock and Dam - Ark.Riv.Nav.Sys	67%	1.23	1.77	0.55	0.68	0.98	31.24	35.24	44.65
		Greers Ferry Lake	64%	1.17	1.71	0.50	0.59	0.87	35.03	37.68	48.19
		Millwood Lake	63%	1.17	1.65	0.53	0.62	0.88	33.32	36.12	44.99
		Murray Lock and Dam - Ark.Riv.Nav.Sys	66%	1.23	1.74	0.55	0.68	0.97	31.29	35.28	44.20
		Nimrod Lake	53%	1.14	1.46	0.45	0.53	0.71	41.55	43.62	49.66
		Norfork Lake	61%	1.16	1.94	0.48	0.57	0.98	37.65	40.49	55.63
		Table Rock Lake	66%	1.21	1.77	0.52	0.62	0.93	32.37	35.54	45.81
	Tulsa	Canton Lake	59%	1.18	1.50	0.43	0.52	0.69	41.02	44.31	50.49
		Eufaula Lake	67%	1.19	1.62	0.49	0.59	0.82	33.34	36.28	43.90
		Fort Gibson Lake	73%	1.13	1.61	0.55	0.62	0.89	27.35	29.28	37.17
		Keystone Lake	79%	1.22	1.69	0.51	0.63	0.89	25.88	28.97	36.17
		Oologah Lake	79%	1.22	1.69	0.51	0.63	0.90	25.92	29.03	36.15
		Tenkiller Ferry Lake	63%	1.22	1.73	0.48	0.60	0.88	36.12	39.73	49.15
		Texoma Lake	76%	1.17	1.71	0.47	0.56	0.83	27.26	29.78	38.98
		Average	66%	1.18	1.66	0.52	0.61	0.87	31.86	34.48	42.81

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REPORT DOCUMENTATION PAGE

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Wen-Huei Chang, Dennis B. Propst, Daniel J. Stynes, R. Scott Jackson

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Michigan State University, Department of Park, Recreation and Tourism Resources
East Lansing, MI 48824;
U.S. Army Engineer Research and Development Center
Environmental Laboratory
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

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14. ABSTRACT

The U.S. Army Corps of Engineers (CE) is the largest federal provider of water-based recreation. It manages over 450 water resource development projects throughout the United States. These lake and river projects provide significant recreation opportunities and benefits to visitors and local residents, accommodating over 385 million person visits in 1999.

The purposes of this research are to develop visitor spending profiles and to estimate local and national economic effects of spending by visitors to CE projects. A visitor survey was conducted in the summer of 1999 through early 2000 at 16 CE projects across the nation. The survey was administered by the Engineer Research and Development Center of the U.S. Army Corps of Engineers and the Department of Park, Recreation and Tourism Resources at Michigan State University, with assistance from managers and staff at all 16 participating CE projects.

Segmented spending profiles were developed that can be tailored to project-level spending based on regional visitation data. Total recreation visitation was estimated by using information gathered from this study and from the Natural Resource Management System database. Economic effects of CE visitor spending were estimated by applying visitor spending and use data to regional economic multipliers generated from economic input-output models. These results provide a database for further analyses and improvements in future studies like these.

15. SUBJECT TERMS
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