OCS Study
BOEM 2014-660

Measuring County-level Tourism and Recreation in the Gulf of Mexico Region: Data, Methods, and Estimates



U.S. Department of the Interior
Bureau of Ocean Energy Management
Gulf of Mexico OCS Region

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Prepared under BOEM Contract
M11PD00256
by
Eastern Research Group, Inc.
110 Hartwell Ave.
Lexington, MA 02421-3136

Published by

U.S. Department of the Interior
Bureau of Ocean Energy Management
Gulf of Mexico OCS Region

New Orleans, LA
September 2014

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CITATION

Eastern Research Group, Inc. 2014. Measuring county-level tourism and recreation in the Gulf of Mexico region: Data, methods, and estimates. U.S. Dept. of the Interior, Bureau of Ocean Energy Management, Gulf of Mexico OCS Region, New Orleans, LA. OCS Study BOEM 2014-660. 58 pp.

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1.0 INTRODUCTION

1.1 Purpose

The Outer Continental Shelf Lands Act (OCSLA) and the National Environmental Policy Act (NEPA) set requirements for assessing the impacts of leasing offshore areas for oil and gas exploration and development in the Gulf of Mexico. Oil and gas facilities operating in the Gulf of Mexico produced 4.2 billion barrels of oil and 20.3 billion Mcf of natural gas between 2005 and December 2013 (BOEM, 2013). Under this project, the Bureau of Ocean and Energy Management (BOEM) has contracted with Eastern Research Group, Inc. (ERG) to develop data for assessing the impacts of leasing offshore areas on the travel, tourism, and recreation industries in the Gulf of Mexico region.

Tourism is a significant driver of economic activity and impacts a broad range of economic sectors in the Gulf region. Some of these sectors, such as hotels and air transportation, depend on tourism for most or all of their business. Other sectors, such as retailers and restaurants, depend on a more even mix of tourists and local residents for their business. This paper will present a methodology for estimating the effects of tourism on these various sectors. The data compiled for this report indicate that the tourism industry in the Gulf region accounted for slightly more than one million jobs (approximately 4.5 percent of total employment) in 2009. This report also develops county-level estimates of the scale of tourism, travel, and recreation for 64 counties in the Gulf region. These data will help BOEM assess the impacts of routine operations associated with offshore energy development, as well as the impacts of accidental events, such as oil spills.

This report discusses the methods and data ERG used in developing measures of the economic scales of tourism and recreation in the Gulf region. This process involved:

- Developing three county-level tourism and recreation measures.
- Determining the appropriate data sources to use for the measures that were developed.
- Developing Tourism Commodity Ratios (TCRs) that could be used to determine the proportion of a tourism commodity that is attributable to tourism.
- Developing a spreadsheet to capture state and county tourism and recreation data and applying the newly developed measures noted above.
- Providing sample tourism and recreation data that integrates the TCRs, tourism and recreation measures, and spreadsheet developed.

Section 1.2 reviews previous work performed, under contract with the Minerals Management Service (MMS)[1], that provides input into the work described in this report. The unpublished report (Kaplan and Whitman, 2008) developed similar measures to the ones developed in this report. This report, however, expands on the work performed in the Kaplan and Whitman report, providing up-to-date data and using more detailed data sources for the measures. This project also involved developing a spreadsheet tool for use in extracting and presenting the data that are summarized in this report.

[1] On October 1, 2011, the Bureau of Ocean Energy Management, Regulation and Enforcement (formerly the Minerals Management Service) was officially reorganized into the Bureau of Safety and Environmental Enforcement (BSEE) and the Bureau of Ocean Energy Management (BOEM).

1.2 Review of Previous Work

In 2008, MMS contracted with ERG to develop county-specific estimates of the scale of travel, tourism, and recreation in the Gulf region. The estimates were to be based on a common methodology and comparable data so that MMS would be able to aggregate the estimates into labor market areas, states, or other geographic areas. The results of this effort were summarized in an unpublished MMS report that will be referred to as Kaplan and Whitman (2008). The Kaplan and Whitman (2008) method followed a multi-step process:

1. Travel and tourism was defined using Bureau of Economic Analysis (BEA) travel and tourism satellite accounts. This definition identified which industries are considered part of the travel and tourism industry. However, many industries that service travelers and tourists also provide services to local residents. Thus, BEA developed Tourism Commodity Ratios (TCRs) to determine the percentage of each travel, tourism, and recreation (TTR)-related industry that could be attributed to travel and tourism. The TCRs used in the Kaplan and Whitman (2008) study reflect national-level estimates of the amount of each industry attributable to travel and tourism.

2. The industries included in the travel and tourism definition were then mapped to North American Industrial Classification System (NAICS) codes. Mapping to NAICS codes allows for extracting data from sources such as the Census Bureau and applying the TCRs to data for those NAICS codes to estimate travel and tourism economic activity.

3. Next, local recreation was added into the estimates because MMS was also interested in recreation by the local population. Thus, Kaplan and Whitman (2008) determined which industries represented recreational activities.[2]

4. Travel and tourism industries and activities associated with the coast were used to separate coastal from non-coastal activities. This allowed for determining which industries and activities would be more likely to be affected by OCS operations.

5. Finally, the contribution from national and state parks, wildlife refuges, and seashores were included in the analysis from separate data sources since data provided by the Census Bureau did not include these entities.

Similar to this report, Kaplan and Whitman's estimates focused on employment, payroll, and establishments as economic measures. The primary data source for the estimates of TTR in the analysis came from the Census Bureau's 2005 *County Business Patterns* data.

[2] Local recreation is included because events, such as oil spills, may lead tourists to cancel trips to a region, but the local population may still participate in local recreational activities, such as going to movies or golfing in the region.

2.0 METHODOLOGICAL APPROACH

2.1 Overview

The methodology used in this report follows the general approach used in Kaplan and Whitman (2008), but expands on the methods where necessary. This section is a brief overview of the methods ERG used, which are discussed in more detail in the sections that follow. ERG followed a five-step process to develop estimates of travel and tourism in the Gulf region.

Step 1. Define the measures of travel, tourism, and recreation. This first step sets out the definitions of travel, tourism and recreation, including the economic measures: Travel and Tourism (TT), Recreation (RE), and Travel and Tourism Sensitive to OCS operations (TTOCS). Developing these three measures included (1) defining the scope of each measure (i.e., what they are supposed to measure) and (2) identifying the economic indicators to track for each one. Section 2.2 discusses Step 1 in detail.

Step 2. Define the NAICS codes that comprise each measure. This step began by identifying the industries that would be included in each measure from Step 1. Next, ERG mapped those sectors to an initial set of NAICS codes and then determined if all of the relevant sectors were included. ERG then compared this initial set with other definitions of travel and tourism with the objective of ensuring the set used in this report will cover all of the necessary sectors. During this step, ERG also determined the sectors to include in the RE measure. The RE measure is meant to capture the scale of recreational activities, regardless of whether tourists or local residents engage in these activities. Section 2.3 discusses Step 2 in detail.

Step 3. Determine the Tourism Commodity Ratio (TCR) for each defined sector. As noted in Section 1.2, the TCR is the percentage of an industry that can be attributed to consumption by travel and tourism sources (rather than from consumption by local sources). BEA provides national-level TCRs based on BLS data. This project also assessed the feasibility of developing localized TCRs; however, the conclusion was that without purchasing specialized and detailed data, localized TCRs are not feasible at this time. TCRs are discussed in Section 2.4.1 and the assessment of the feasibility of localized TCRs is presented in Appendix A.

Step 4. Define the percentage of each travel and tourism sector that is sensitive of OCS operations. Not all travel and tourism in the Gulf will be related to coastal activities and be sensitive to OCS operations. BOEM is interested in the percentage that can be considered sensitive to OCS operations. This step is discussed in Section 2.4.2.

Step 5. Determine an appropriate data source for measuring travel and tourism. Kaplan and Whitman (2008) used Census' *County Business Patterns* data. The method developed in this report uses the Bureau of Labor Statistics' *Quarterly Census of Earnings and Wages* (QCEW). ERG incorporated the Census Bureau's *Nonemployer Statistics* data to account for smaller establishments in the counties. Finally, the method developed under this project follows Kaplan and Whitman (2008) and includes data on national parks (i.e., public assets) which are not reported in the QCEW data. These data sources are discussed in Section 2.5.

2.2 Definitions of Measures

ERG developed the following three measures of tourism and recreation for counties and parishes in the Gulf of Mexico:

- **Travel and Tourism (TT)**: the economic activity of sectors associated with visitors who travel to an area. Bureau of Economic Analysis (BEA) defines a "visitor" as a person who travels outside of his or her usual environment[3], who stays overnight in a hotel or motel for less than a year. The term "visitor" excludes travelers who expect to be compensated at the location of their visit, e.g., migrant workers, relocating workers, or diplomats and military personnel traveling to and from their duty stations and their home county (Zemanek, 2011).
- **Recreation (RE)**: the economic activity for sectors that supply recreation activities. Recreation is defined as something a person does to relax, have fun, or for enjoyment. Both visitors and residents can use a location's assets, goods, and services for recreation.
- **Travel and Tourism Sensitive to OCS Operations (TTOCS)**: the economic activity for travel and tourism (TT; see above) sectors that depend on (are sensitive to) coastal resources. This will be the same sectors as under the TT measure above multiplied by an adjustment factor to reflect the percentage of the sector that is close to the shore.

The following economic indicators were calculated for each of these measures:

- **Employment:** In short, employment is the number of paid employees.[4] The primary data source used in this project is the BLS *Quarterly Census of Employment and Wages* (QCEW) which counts filled jobs. The number of filled jobs can be full or part-time, temporary or permanent (US DOL BLS, 2013a).[5]
- **Payroll:** The total amount of compensation paid to employees. The QCEW measure of total wages includes wages paid for labor as well as "bonuses, stock options, severance pay, profit distributions, cash value of meals and lodging, tips and other gratuities, and, in some States, employer contributions to certain deferred compensation plans such as 401(k) plans" (USDOL BLS, 2013a).
- **Number of establishments:** Establishments are single economic units (e.g., a farm, a mine, a factory, or a store) that produce goods or services. Establishments are typically at one physical location and engaged in one, or predominantly one, type of economic activity (USDOL BLS, 2013a).

[3] Zemanek (2011) defines this as someone who travels outside the area of his/her normal every day activities.
[4] For nonemployer establishments, however we count employment as one person.
[5] US DOL BLS (2013b) also provides a comparison of its employment measure for QCEW to other measures of employment.

2.3 Industries to Include

This section discusses the selection of industries to include in the three measures (TT, RE, TTOCS). The industries for the travel and tourism sensitive to OCS operations (TTOCS) measure are the same as the travel and tourism (TT) industries, but the data for those industries is multiplied by a percentage to reflect the level of activity that this close to the coast and thus more likely to be affected by OCS operations (see Section 2.4.2 below). Thus, this section focuses on selecting the industries for the TT measure (Section 2.3.1) and the RE measure (Section 2.3.2).

2.3.1 Travel and Tourism

A first step in analyzing the tourism sector is to determine the goods and services that would be consumed by visitors to an area. BEA developed an initial list of goods and services that could be considered travel and tourism-related commodities,[6] which Kaplan and Whitman (2008) used as a starting point; they mapped this initial list to NAICS codes and then made some adjustments to that list. This report uses, as a starting point, the list of NAICS codes Kaplan and Whitman developed. ERG reviewed the industries selected in Kaplan and Whitman and then compared that industry list to the set of industries used by the U.S. Travel Association (USTA) and National Oceanic and Atmospheric Administration (NOAA).

BEA's List of Travel and Tourism-Related Goods and Services[7]

The Bureau of Economic Analysis (BEA) is responsible for the national income and product accounts (NIPAs). The NIPAs are a set of input-output economic accounts that provide information on the value and composition of output produced in the United States during a given period and on the distribution and uses of the income generated by that production. In 1998, BEA recognized the desirability of developing an analytical measure of travel and tourism activities in the U.S. (Okubo and Planting, 1998). To do this, BEA used data from the BLS *Consumer Expenditure Survey*, a quarterly interview and diary survey on the buying habits of American consumers in which respondents place some of their expenditures into an "out of town trips" category (BLS, 2007). To identify the BEA sectors that would form the set of satellite tourism accounts, BEA mapped the sectors in the BLS *Consumer Expenditure Survey* to its own list of sectors. This list of sectors appears in Table 1 below.

Table 1

2005 Travel and Tourism Commodities and Ratios

BLS Consumer Expenditure Survey[a]	BEA Travel and Tourism Satellite Accounts[b]
Food prepared by consumer unit	Food services and drinking places
Food	Food services and drinking places
Alcoholic beverages purchased	Food services and drinking places
Lodging	Traveler accommodations
Gasoline	Gasoline
Motor oil	None
Auto rental	Automotive Rental
Truck rental	Other vehicle rental
Motorcycle rental	Other vehicle rental

[6] BEA also developed TCRs for the goods and services which are discussed in more detail in Section 2.4.1.
[7] This section was taken from Kaplan and Whitman (2008) and was updated accordingly.

BLS Consumer Expenditure Survey[a]	BEA Travel and Tourism Satellite Accounts[b]
Aircraft rental	Other vehicle rental
Parking fees	Parking lots and garages
Tolls	Highway tolls
Local transportation	Passenger rail transportation services Passenger water transportation services Interurban bus transportation Interurban charter bus transportation Urban transit systems and other transportation services
Taxi and Limousine services	Taxi Service
Recreation expenses	Scenic and sightseeing transportation services Travel arrangement and reservation services
Participant sports	Participant sports
Movie, other admissions	Motion pictures and performing arts
Admissions to sports events	Spectator sports
Other entertainment services	All other recreation and entertainment
Boat and trailer rental	Other vehicle rental
Rental of campers	Other vehicle rental
Rental of other vehicles	Other vehicle rental
None	Domestic passenger air transportation services
None	International passenger air transportation services
None	Automotive repair services
None	Gambling
None	Nondurable Personal Consumption Expenses (PCE) commodities other than gasoline

[a] In conjunction with "out-of-town trips". Source: Table 1202, Income before taxes: annual means, standard errors and coefficient of variation, Consumer Expenditure Survey, 2006, from Crain, 2007.
[b] Source: Kern and Kocis, 2007.

Mapping the BEA List of Goods and Services to NAICS Codes

The next step was to map the commodities (goods and services) in Table 1 to NAICS codes. In performing the analysis for the Kaplan and Whitman (2008) report, ERG compiled an initial list of six-digit NAICS codes, which might directly or indirectly be comprised of travel, tourism, and recreation-related economic activity. Table 2 through Table 6 lists the six-digit NAICS codes by sector for this preliminary list.

Table 2

Retail Trade Sectors

NAICS		Description
Aggregated	**6-Digit**	
445/// Food and Beverage Stores	445110	Supermarkets and Other Grocery (except Convenience Stores)
	445120	Convenience Stores
	445210	Meat Markets
	445220	Fish and Seafood Markets
	445230	Fruit and Vegetable Markets
	445291	Baked Goods Stores
	445292	Confectionary and Nut Stores
	445299	All Other Specialty Food Stores
	445310	Beer, Wine, and Liquor Stores
447/// Gasoline Stations	447110	Gasoline Stations with Convenience Stores
	447190	Other Gasoline Stores
452/// General Merchandise Stores	452111	Department Stores (except Discount Department Stores)
	452112	Discount Department Stores
	452910	Warehouse Clubs and Supercenters
	452990	All Other General Merchandise Stores

Source: U.S. Census, 2013.

Table 3

Transportation Sectors

NAICS		Description
Aggregated	**6-Digit**	
481/// Air Transportation	481111	Scheduled Passenger Air Transportation
	481112	Scheduled Freight Air Transportation
	481211	Nonscheduled Chartered Passenger Air Transportation
	481212	Nonscheduled Chartered Freight Air Transportation
	481219	Other Nonscheduled Air Transportation
485/// Transit and Ground Passenger Transportation	485111	Mixed Mode Transit Systems
	485112	Commuter Rail Systems
	485113	Bus and Other Motor Vehicle Transit Systems
	485119	Other Urban Transit Systems
	485210	Interurban and Rural Bus Transportation
	485310	Taxi Service
	485320	Limousine Service
	485410	School and Employee Bus Transportation
	485510	Charter Bus Industry
	485991	Special Needs Transportation
	485999	All Other Transit and Ground Passenger Transportation
487/// Scenic and Sightseeing Transportation	487110	Scenic and Sightseeing Transportation, Land
	487210	Scenic and Sightseeing Transportation, Water
	487990	Scenic and Sightseeing Transportation, Other

Source: U.S. Census, 2013.

Table 4

Real Estate, Rental and Leasing Sectors

NAICS		Description
Aggregated	**6-Digit**	
53211/ Passenger Car Rental and Leasing	532111	Passenger Car Rental
	532112	Passenger Car Leasing
5615// Travel Arrangement and Reservation Services	561510	Travel Agencies
	561520	Tour Operations
	561591	Convention and Visitors Bureaus
	561599	All Other Travel Arrangement and Reservation Services

Source: U.S. Census, 2013.

Table 5

Arts, Entertainment and Recreation Sectors

NAICS		Description
Aggregated	6-Digit	
71//// Arts, Entertainment and Recreation	711110	Theater Companies and Dinner Theaters
	711120	Dance Companies
	711130	Musical Groups and Artists
	711190	Other Performing Arts Companies
	711211	Sports Teams and Clubs
	711212	Racetracks
	711219	Other Spectator Sports
	711310	Promoters of Performing Arts, Sports, and Similar Events with Facilities
	711320	Promoters of Performing Arts, Sports, and Similar Events without Facilities
	711410	Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures
	711510	Independent Artists, Writers, and Performers
	712110	Museums
	712120	Historical Sites
	712130	Zoos and Botanical Gardens
	712190	Nature Parks and Other Similar Institutions
	713110	Amusement and Theme Parks
	713120	Amusement Arcades
	713210	Casinos (except Casino Hotels)
	713290	Other Gambling Industries
	713910	Golf Courses and Country Clubs
	713920	Skiing Facilities
	713930	Marinas
	713940	Fitness and Recreational Sports Centers
	713950	Bowling Centers
	713990	All Other Amusement and Recreation Industries

Source: U.S. Census, 2013.

Table 6

Accommodation and Food Services Sectors

NAICS		Description
Aggregated	6-Digit	
72//// Accommodation and Food Services	721110	Hotels (except Casino Hotels) and Motels
	721120	Casino Hotels
	721191	Bed and Breakfast Inns
	721199	All Other Traveler Accommodation
	721211	RV (Recreational Vehicle) Parks and Campgrounds
	721214	Recreational and Vacation Camps (except Campgrounds)
	721310	Rooming and Boarding Houses
	722110	Full-Service Restaurants
	722211	Limited-Service Restaurants
	722212	Cafeterias, Grill Buffets, and Buffets
	722213	Snack and Nonalcoholic Beverage Bars
	722310	Food Service Contractors
	722320	Caterers
	722330	Mobile Food Services
	722410	Drinking Places (Alcoholic Beverages)

Source: U.S. Census, 2013.

ERG compared this initial list to the list in the BEA travel and tourism list (Table 1).[8] Based on this comparison, three industries were added to bring the lists into closer agreement:

- 532120 Truck, Utility Trailer, and RV (Recreational Vehicle) Rental and Leasing
- 811111 General Automotive Repair
- 812930 Parking Lots and Garages

Next, in reviewing the initial list, a number of industries were deleted that did not appear to be tourism-related, including:

- 481112 Scheduled Freight Air Transportation
- 481212 Nonscheduled Chartered Freight Air Transportation
- 485410 School and Employee Bus Transportation
- 485991 Special Needs Transportation
- 532112 Passenger Car Leasing
- 711310 Promoters of Performing Arts, Sports, and Similar Events with Facilities
- 711320 Promoters of Performing Arts, Sports, and Similar Events without Facilities
- 711410 Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures
- 721310 Rooming and Boarding Houses

[8] Some of this initial list development was done in the Kaplan and Whitman (2008) report.

- 722310 Food Service Contractors
- 722320 Caterers

These deletions were made in light of BOEM guidance about what constituted tourism. Car leasing and staying at a rooming or boarding house implies a longer-term stay than is typically associated with tourism and recreation, such as a temporary work assignment or temporary lodgings while relocating to the area. Freight transportation and school or employee transport were considered unrelated to tourism and recreation. The final list of industries generated for Kaplan and Whitman is presented in Table 7 below.

Comparing Initial List of NAICS Codes with USTA and NOAA Definitions

In developing the data for this report, two additional sources of travel and tourism data were identified and compared the list in Table 7 to those two sources. The two additional sources were:

- The U.S. Travel Association (USTA; formerly known as the Travel Industry Association) developed the Travel Economic Impact Model (TEIM) to estimate national and regional economic impacts of travel activities (USTA 2010). ERG contacted USTA, which sent a list of industries in the TEIM (Tian, 2011).

- NOAA's Digital Coast website has links to NOAA data sources, including its Economics: National Ocean Watch (ENOW) database (US DOC NOAA, 2012). Tourism is one of the economic sectors tracked in ENOW through the National Ocean Economics Program (NOEP) (USDOC NOAA, 2012). This section compares the industries included in the definition of tourism with those in Kaplan and Whitman (2008).[9]

The NAICS codes included in both the USTA and NOAA data are identified in Table 7.

The USTA list shows a much greater overlap with the initial list that was developed for this report than the NOAA ENOW industry list. However, the initial list includes nine 6-digit industries that are not in the USTA list:

- 485111 Mixed Mode Transit Systems
- 485112 Commuter Rail Systems
- 485113 Bus and Other Motor Vehicle Transit Systems
- 485119 Other Urban Transit Systems
- 485999 All Other Transit and Ground Passenger Transportation
- 532120 Truck, Utility Trailer, and RV (Recreational Vehicle) Rental and Leasing
- 721214 Recreational and Vacation Camps (except Campgrounds)
- 722330 Mobile Food Services
- 812930 Parking Lots and Garages

ERG and BOEM discussed these industries in 2008 (in developing the Kaplan and Whitman report) and decided that tourists would use intra-urban means of transport (i.e., the first five bullets and the last bullet) to get around the city they were visiting or to reach nearby attractions. NAICS 532120 was

[9] We also examined the U.S. Department of Commerce, International Trade Administration (ITA) as a possible alternate source for tourism economic impacts. However, ITA uses the BEA data (USDOC ITA 2011).

included because a tourist might rent an RV once he or she arrived in the area. Tourists might also stay in recreational and vacation camps or avail themselves of mobile food services when sightseeing.

Table 7

Industries Considered in "Travel and Tourism" by Kaplan and Whitman (2008) Compared to NOAA ENOW and USTA Definitions

NAICS6-Digit Code	Description	ERG Initial List	NOAA ENOW	USTA
445110	Supermarkets and Other Grocery (except Convenience) Stores	*		*
445120	Convenience Stores	*		*
445210	Meat Markets	*		*
445220	Fish and Seafood Markets	*		*
445230	Fruit and Vegetable Markets	*		*
445291	Baked Goods Stores	*		*
445292	Confectionary and Nut Stores	*		*
445299	All Other Specialty Food Stores	*		*
445310	Beer, Wine and Liquor Stores	*		*
447110	Gasoline Stations with Convenience Stores	*		*
447190	Other Gasoline Stores	*		*
452111	Department Stores (except Discount Department Stores)	*		*
452112	Discount Department Stores	*		*
452910	Warehouse Clubs and Supercenters	*		*
452990	All Other General Merchandise Stores	*		*
481111	Scheduled Passenger Air Transportation	*		*
481211	Nonscheduled Chartered Passenger Air Transportation	*		*
481219	Other Nonscheduled Air Transportation	*		*
485111	Mixed Mode Transit Systems	*		
485112	Commuter Rail Systems	*		
485113	Bus and Other Motor Vehicle Transit Systems	*		
485119	Other Urban Transit Systems	*		
485210	Interurban and Rural Bus Transportation	*		*
485310	Taxi Service	*		*
485320	Limousine Service	*		*
485510	Charter Bus Industry	*		*
485999	All Other Transit and Ground Passenger Transportation	*		
487110	Scenic and Sightseeing Transportation, Land	*		*
487210	Scenic and Sightseeing Transportation, Water	*	*	*
487990	Scenic and Sightseeing Transportation, Other	*	*	*
532111	Passenger Car Rental	*		*
532120	Truck, Utility Trailer, and RV (Recreational Vehicle) Rental and Leasing	*		
561510	Travel Agencies	*		*
561520	Tour Operations	*		*
561591	Convention and Visitors Bureaus	*		*
561599	All Other Travel Arrangement and Reservation Services	*		*
711110	Theater Companies and Dinner Theaters	*		*
711120	Dance Companies	*		*
711130	Musical Groups and Artists	*		*
711190	Other Performing Arts Companies	*		*
711211	Sports Teams and Clubs	*		*
711212	Racetracks	*		*
711219	Other Spectator Sports	*		*
711510	Independent Artists, Writers, and Performers	*		*
712110	Museums	*		*

NAICS6-Digit Code	Description	ERG Initial List	NOAA ENOW	USTA
712120	Historical Sites	*		*
712130	Zoos and Botanical Gardens	*	*	*
712190	Nature Parks and Other Similar Institutions	*	*	*
713110	Amusement and Theme Parks	*		*
713120	Amusement Arcades	*		*
713210	Casinos (except Casino Hotels)	*		*
713290	Other Gambling Industries	*		*
713910	Golf Courses and Country Clubs	*		*
713920	Skiing Facilities	*		*
713930	Marinas	*	*	*
713940	Fitness and Recreational Sports Centers	*		*
713950	Bowling Centers	*		*
713990	All Other Amusement and Recreation Industries	*	*	*
721110	Hotels (except Casino Hotels) and Motels	*	*	*
721120	Casino Hotels	*		*
721191	Bed-and-Breakfast Inns	*	*	*
721199	All Other Traveler Accommodation	*		*
721211	RV (Recreational Vehicle) Parks and Campgrounds	*	*	*
721214	Recreational and Vacation Camps (except Campgrounds)	*		
722110	Full-Service Restaurants	*	*	*
722211	Limited-Service Restaurants	*	*	*
722212	Cafeterias, Grill Buffets, and Buffets	*	*	*
722213	Snack and Nonalcoholic Beverage Bars	*	*	*
722330	Mobile Food Services	*		
722410	Drinking Places (Alcoholic Beverages)	*		*
811111	General Automotive Repair	*		*
812930	Parking Lots and Garages	*		

Source: Kaplan & Whitman (2008), USDOC NOAA (2012), and USTA (2010).

Table 8 provide a list of industries in the USTA and NOAA ENOW data that are not in the Kaplan and Whitman initial list. Of particular interest are the four industries included by NOAA ENOW:

- 339920 Sporting and Athletic Goods Manufacturing
- 441222 Boat Dealers
- 532292 Recreation Goods Rental
- 611620 Sports and Recreation Instruction

Only one of the four industries (NAICS 441222) is also included in the USTA list.

ERG considered whether to add each of these additional industries to the Table 7 list and made the following determinations about their inclusion in the study:

- **<u>Exclude</u> Sporting and Athletic Goods Manufacturing (NAICS 339920).** Visitors do not have direct contact with sporting and athletic goods manufacturing; therefore, this NAICS was not considered appropriate to include.

- **<u>Exclude</u> Boat Dealers (NAICS 441222).** This NAICS was not included because it is highly unlikely for a visitor to purchase a boat for use during a vacation.

- **<u>Include</u> Recreation Goods Rental (NAICS 532292) and Sports and Recreation Instruction (NAICS 611620).** The rental and purchase of instruction to use sports and recreational goods could very well be part of a visitor's activities. For example, someone may sign up for diving classes and rent scuba diving equipment during a vacation. Fishing, surfing, sailing, kayaking, and bird-watching are additional examples of activities that involve NAICS industries 532292 and 6111620.

In contrast, 29 industries included in the USTA list are neither on the initial list developed by Kaplan and Whitman (2008) nor on NOAA's ENOW list. These include industries specifically rejected by MMS when the Kaplan and Whitman (2008) report was developed, such as freight transport (NAICS 481112 and 481212). ERG considered most, if not all, of the 29 industries to be more related to consumption by local residents than consumption by tourists to include within the definition of tourism and recreation (e.g., car washes).

Table 8

Additional Industries in Other Definitions of Tourism

NAICS Code	Description	NOAA ENOW Tourism	USTA
443	Electronics and Appliance Stores		*
444	Building Material and Garden Equipment and Supplies Dealers		*
446	Health and Personal Care Stores		*
448	Clothing and Clothing Accessories Stores		*
451	Sporting Goods Hobby, Book, and Music Stores		*
453	Miscellaneous Store Retailers		*
4411	Automobile Dealers		*
4413	Automotive Parts, Accessories, and Tire Stores		*
4821	Rail Transportation		*
4881	Support Activities for Air Transportation		*
339920	Sporting and Athletic Goods Manufacturing	*	
441210	Recreational Vehicle Dealers		*
441221	Motorcycle, ATV, and Personal Watercraft Dealers		*
441222	Boat Dealers	*	*
441229	All Other Motor Vehicle Dealers		*
481112	Scheduled Freight Air Transportation		*
481212	Nonscheduled Chartered Freight Air Transportation		*
483112	Deep Sea Passenger Transportation		*
483114	Coastal and Great Lakes Passenger Transportation		*
483212	Inland Water Transportation		*
532292	**Recreation Goods Rental**	*	
611620	**Sports and Recreation Instruction**	*	
711310	Promoters of Performing Arts, Sporting Events, with facilities		*
711320	Promoters of Performing Arts, Sporting Events, without facilities		*
711410	Agent and Managers for Artists, Athletes, etc.		*
811112	Automotive Exhaust System Repair		*
811113	Automotive Transmission Repair		*
811118	Other Automotive Mechanical and Electrical Repair		*
811121	Automotive Body, Paint, and Interior Repair and Maintenance		*
811122	Automotive Glass Replacement Shops		*
811191	Automotive Oil Change and Lubrication Shops		*
811192	Car Washes		*
811198	All Other Automotive Repair and Maintenance		*

Source: USDOC NOAA (2012) and USTA (2010).

Note: Industries listed in bold text were included in the travel and tourism measure defined in this report. All other listed sectors were excluded.

2.3.2 Recreation

Table 9 contains the list of industries that were used for the Recreation measure. It begins with NAICS 441210 (recreational vehicle dealers) and dealers of other forms of recreational transport, e.g., motorcycles, ATV, personal watercraft, and boats (NAICS 441221 and 441222). Sightseeing on land, water, or other (NAICS 487110, 487210, and 487990) and the rental of recreational goods (NAICS 532292) and instruction on how to properly use the sports and recreational equipment (NAICS 611620) were included. Visitors and residents both might make use of tour operations and visitors bureaus when researching recreational opportunities (NAICS 561520 and 561591). The rest of the industries in Table 9

correspond to those in NAICS 71 industries (Arts, Entertainment, and Recreation) and NAICS 72 (Accommodations and Food Services) as listed in Table 7. ERG did not include travel agencies or other travel arrangement services (NAICS 561510 and 561599) because these services relate to travel *outside* the region of interest, and the intent was to measure the importance of recreation *within* the region. It was assumed that the goods and services provided by the industries listed in Table 9 would be consumed by either visitors or residents. That is, 100% of these industries are counted as "recreation."

Table 9

List of Recreation Industries

NAICS Code	Description
441210	Recreational Vehicle Dealers
441221	Motorcycle, ATV, and Personal Watercraft Dealers
441222	Boat Dealers
487110	Scenic and Sightseeing Transportation, Land
487210	Scenic and Sightseeing Transportation, Water
487990	Scenic and Sightseeing Transportation, Other
532292	Recreation Goods Rental
561520	Tour Operations
561591	Convention and Visitors Bureaus
611620	Sports and Recreation Instruction
711110	Theater Companies and Dinner Theaters
711120	Dance Companies
711130	Musical Groups and Artists
711190	Other Performing Arts Companies
711211	Sports Teams and Clubs
711212	Racetracks
711219	Other Spectator Sports
711510	Independent Artists, Writers, and Performers
712110	Museums
712120	Historical Sites
712130	Zoos and Botanical Gardens
712190	Nature Parks and Other Similar Institutions
713110	Amusement and Theme Parks
713120	Amusement Arcades
713210	Casinos (except Casino Hotels)
713290	Other Gambling Industries
713910	Golf Courses and Country Clubs
713920	Skiing Facilities
713930	Marinas
713940	Fitness and Recreational Sports Centers
713950	Bowling Centers
713990	All Other Amusement and Recreation Industries
721110	Hotels (except Casino Hotels) and Motels
721120	Casino Hotels
721191	Bed-and-Breakfast Inns
721199	All Other Traveler Accommodation
721211	RV (Recreational Vehicle) Parks and Campgrounds
721214	Recreational and Vacation Camps (except Campgrounds)
722110	Full-Service Restaurants
722211	Limited-Service Restaurants
722212	Cafeterias, Grill Buffets, and Buffets
722213	Snack and Nonalcoholic Beverage Bars
722330	Mobile Food Services
722410	Drinking Places (Alcoholic Beverages)

Source: ERG determination of recreation industries (see text).

2.4 Tourism Commodity Ratios and Sectors Sensitive to OCS Operations

This section discusses two adjustments to the data that are made in deriving estimates of the economic activity in Gulf Coast counties. First, ERG adjusted each sector for the percentage attributable to tourism. This adjustment recognizes that the economic activity in some sectors (e.g., restaurants) is not derived completely from tourism. The adjustment is done by using an estimated percentage to reflect the amount derived from travel and tourism. These percentages are referred to as Tourism Commodity Ratios (TCRs). Second, a methodology is employed to estimate the fraction of tourism activities that are sensitive to coastal resources. This adjustment reflects the fact tourism sectors that are dependent on coastal resources are particularly sensitive to OCS operations.

2.4.1 Tourism Commodity Ratios

As discussed in Section 2.3.1, BEA developed a set of satellite tourism accounts by mapping data from BLS to its set of sectors (Okubo and Planting, 1998). Key to the BEA method was their recognition that many of the activities—such as eating in restaurants—are done by both visitors and non-visitors. Okubo and Planting (1998) recognize that the basic building blocks of input-output (I-O) accounts are commodities and, thus, are not easily separated by type of consumer (i.e., visitor or non-visitor). They developed a "Tourism Commodity Ratio" or TCR that splits a commodity between tourism and non-tourism consumption. Hotels, for example, are considered 100 percent tourism-related while eating and drinking places are considered only 20 percent tourism-related (Kern and Kocis, 2007).

The split is based on the BLS *Consumer Expenditure Survey*, a quarterly interview and diary survey on the buying habits of U.S. consumers (BLS, 2007). As discussed in Section 2.3.1, BEA developed a cross-walk between the BLS and BEA sectors (see Table 1). BEA then developed TCRs for each sector based on the data from the BLS *Consumer Expenditure Survey*. The BLS survey allows respondents to place portions of purchases into an "out of town" category which forms the basis of the TCRs (BLS, 2007). The BLS TCRs are provided in Table 10.

ERG used the TCRs in Table 10 as a starting point and then assigned the TCRs to the travel and tourism NAICS codes described in Section 2.3.1. In some cases, a TCR is applied to an entire 3-digit industry. For example, the BEA TCR for "traveler accommodations" (1.00) is assigned to the NAICS codes in the 721 industry (accommodations), and the "food services and drinking places" TCR of 0.20 is extended to all entries in the 722 industry (food services). In other cases, the assignments are done on a finer basis. The TCR for motion pictures and performing arts (0.36) is extended to NAICS codes 711110, 711120, 711130, 711190, and 711510. The TCR for spectator sports (0.43) is extended to NAICS 711211, 711212, and 711219.

The TCR for urban transportation systems and other transportation services (0.17) is extended to NAICS 485511, 485112, 485113, 485119, and 495999. NAICS 485999 specifically includes scheduled shuttle services between hotels, airports, or other destination points. Limousine services (NAICS 485320) comprises transportation services by limousine or luxury sedan on a reserved basis, including hearse rental with driver. It does not include establishments that operate over regular routes and on regular schedules but it could include specially-reserved pick-ups at an airport (Census, 2007). Thus, ERG includes NAICS 485320 in the list of NAICS considered in tourism and recreation and extends the TCR for urban transportation systems (0.17) to it. Bus transportation between cities (interurban) are considered entirely within the BEA travel and tourism accounts; ERG extends the TCR (1.0) to NAICS 485210 and 485510 (interurban and rural bus transportation and charter bus transportation).

Table 10

Tourism Commodity Ratios for BEA Travel and Tourism Satellite Accounts

BEA Travel and Tourism Satellite Accounts	Tourism Commodity Ratio
Traveler accommodations	1.00
Passenger rail transportation services	1.00
Interurban bus transportation	1.00
Interurban charter bus transportation	1.00
Scenic and sightseeing transportation services	1.00
Domestic passenger air transportation services	1.00
International passenger air transportation services	1.00
Travel arrangement and reservation services	0.96
Passenger water transportation services	0.93
Other vehicle rental	0.92
Automotive Rental	0.90
Gambling	0.50
Spectator sports	0.43
Motion pictures and performing arts	0.36
Taxi Service	0.31
All other recreation and entertainment	0.30
Participant sports	0.29
Food services and drinking places	0.20
Parking lots and garages	0.18
Gasoline	0.17
Urban transit systems and other transportation services	0.17
Highway tolls	0.09
Automotive repair services	0.06
Nondurable Personal Consumption Expenses (PCE) commodities other than gasoline	0.04

Source: Kern and Kocis, 2007.

NAICS 532120 (truck, utility vehicle, and recreational vehicle rental and leasing) has a mix of short-term and long-term activities. While rental activities might be associated with tourism and recreation (e.g., traveling to remotely located fish camps), leasing activities are less likely to be associated with travel and tourism. Thus, extending the TCR for vehicle rental (0.92) to this NAICS code will result in a slight overestimate for tourism and recreation. ERG does not anticipate that this will be a large effect on the estimate.

An important limitation of the BEA TCRs is that they are defined at a national level and not at a more local level (e.g., state or county-specific). ERG expects that it is reasonable to assume that sector-specific TCRs vary for different localities. That is, the percentage of economic activity derived from travel and tourism is likely to be lower or higher in some areas compared to the nation as a whole. Therefore, the TT and TTOCS measures developed in this report are likely to somewhat underestimate the scale of tourism industries in areas that are more dependent on tourism that the nation as a whole. Similarly, the TT and TTOCS measures are likely to somewhat overstate the scale of tourism industries in areas that are less dependent on tourism than the nation as a whole.

ERG did, however, assess the feasibility of developing localized TCRs. This assessment is described in more detail in Appendix A. In short, ERG found that developing localized TCRs is not feasible at this time. Specifically, ERG was unable to identify publicly available local TCRs. Furthermore, developing state-specific (or other local-level specific) TCRs requires state-level input/output tables and these do not exist at this time. The U.S. Travel Association (USTA) provide these data, but at cost; NOAA data are also insufficient to develop local TCRs. Thus, despite the limitations of the TCRs in Table 10, they still represent the best available data on TCRs for use in this study.

2.4.2 Sectors Sensitive to OCS Operations

The next step is to identify the portion of the TT measure that is particularly sensitive to offshore oil and gas operations and related infrastructure in the Gulf. This measure, referred to as TTOCS, is defined as the portion of the TT measure that occurs close to the coast. This section details the derivation of a percentage that can be applied to the estimates of tourism to provide an estimate of the level of tourism that is coastal-related, or sensitive to OCS operations.

Data from NOAA's ENOW is used to parse out the portion of the TT measure that is coastal-related. NOAA ENOW uses QCEW data to build its *Ocean and Great Lakes Jobs Snapshot* (USDOC NOAA, 2012). NOAA ENOW considers the 17 industries listed in Table 11 to be in the coastal tourism industry. The employment and wages associated with establishments that are located in ZIP codes along the coast ("coastal" ZIP codes) are aggregated to estimate the ocean-related tourism industry.[10] ERG used the NOAA data to make this adjustment for two reasons. First, NOAA's coastal tourism measure is geared toward measuring tourism close to the coast. Second, NOAA constructed this measure using the confidential QCEW data.

For the purpose of scaling the BOEM travel and tourism estimates to the portions that are sensitive to OCS operations, ERG used the NOAA set of tourism industries listed in Table 11 and calculated the ratio of the NOAA ocean-related tourism to the total tourism estimated for those 17 industries. The BOEM travel and tourism estimate was then multiplied by this ratio or scalar to calculate the TTOCS estimate. The equation for the scalar is:

$$\frac{\sum_{n=17} \text{NOAA Tourism Industries, in coastal ZIP codes in county}}{\sum_{n=17} \text{NOAA Tourism Industries, in all ZIP codes in county}}$$

where *n* is the 17 industries listed in Table 11.

The numerator was available through the NOAA ENOW, and the denominator was calculated using QCEW data (USDOC NOAA, 2012). The ratio was calculated on a combined industry basis but differed by county/parish and by the parameter in question (i.e., establishments, employment, and wages). The ratio varied from 0.0 (where there are no tourism industries in the coastal ZIP codes) to 1.0 where all tourism in the county/parish occurs within the coastal ZIP codes. For example, assume that a county has:

- 4 hotels
- 10 inns
- 14 marinas
- 20 restaurants

[10] To do this, NOAA used confidential QCEW data that was not available to us under this contract.

- 2 boat dealers, and
- 4 water-based scenic and sightseeing tour operators

This results in a total of 54 establishments. Assume further that all the marinas, boat dealers, and water-based tour operators are in coastal ZIP codes, but only half the hotels, inns, and restaurants are in coastal ZIP codes (i.e., a total of 37 establishments in coastal ZIP codes). The OCS-sensitive adjustment for establishments in the county is 37/54 or 68.5%. Thus, for this county, the Travel and Tourism (TT) estimates for establishments *for each sector* is multiplied by 68.5% to calculate the TTOCS.

Table 11

NOAA Tourism Industries

NAICS Code	Description
339920	Sporting and Athletic Goods Manufacturing
441222	Boat Dealers
487210	Scenic and Sightseeing Transportation, Water
487990	Scenic and Sightseeing Transportation, Other
532292	Recreation Goods Rental
611620	Sports and Recreation Instruction
712130	Zoos and Botanical Gardens
712190	Nature Parks and Other Similar Institutions
713930	Marinas
713990	All Other Amusement and Recreation Industries
721110	Hotels (except Casino Hotels) and Motels
721191	Bed-and-Breakfast Inns
721211	RV (Recreational Vehicle) Parks and Campgrounds
722110	Full-Service Restaurants
722211	Limited-Service Restaurants
722212	Cafeterias, Grill Buffets, and Buffets
722213	Snack and Nonalcoholic Beverage Bars

Source: USDOC NOAA, 2012

2.5 Data Sources

The following data sources were used to develop the tourism and recreation measures:

- Bureau of Labor Statistics' Quarterly Census of Employment and Wages (QCEW)
- Census Bureaus' Nonemployer Statistics
- Publicly available data on public assets

Each of these data sources is described in more detail below. The time frames that are available for this analysis from these data sources differ. Table 12 provides a summary of the frequencies and time frames of these data sources.

Table 12

Summary Information on Data Sources

Data Source	*Data frequency*	*Time frames that are currently available at the time of this report*	*Time frame used in reporting results in this report*
QCEW	***Quarterly with an annual summary***	***Through first quarter 2012 (quarterly data) and through 2011 (annual summary data)***	***2009***
Nonemployer data	***Annual***	***Through 2009***	***2009***
Public asset data	***Varies, mostly annual***	***2009***	***2009***

2.5.1 Quarterly Census of Employment and Wages (QCEW)

The U.S. Department of Labor, Bureau of Labor Statistics (BLS), in cooperation with State Employment Security Agencies, prepares the QCEW (USDOL BLS, 2012a). QCEW data are a near-census of employees covered by State unemployment insurance and Federal workers covered by the Unemployment Compensation for Federal Employees (UCFE) program. QCEW reports data on the number of establishments, employees, and wages. When necessary, BLS suppresses data to prevent the disclosure of data for an individual business and does not include data on self-employed individuals. Quarterly data are released about six to seven months after the close of the quarter while an annual summary is available about 10 months after the end of the calendar year (USDOL BLS 2012a).

ERG investigated the possibility of obtaining access to BLS confidential data (USDOL BLS, 2012b) at the ZIP code level for the purpose of identifying businesses in areas adjacent to the coast. At the time the approach for this project was being developed, BLS was restricting access to confidential QCEW data due to the large number of projects underway at that time. Researchers were being allowed to submit applications for access, and new projects would be allowed in the order in which they were approved.

Despite the lack of access to the confidential QCEW data, ERG used the publicly available QCEW data for this project. The QCEW data form the basis of most the data that are used in developing the estimates of travel and tourism. The quarterly data are available through the first quarter of 2012 and the annual data are available through 2011. However, to be consistent with other data in this report, data from 2009 were used.

One issue in the QCEW data was suppression of data at the more detailed (e.g., six digit) NAICS code levels. The issue that arose is that for some aggregated NAICS codes (e.g., four-digit codes), some six-digit codes are suppressed and some are not. The goal of this data development is to provide the most detailed data available for use by BOEM. To resolve this, ERG developed an algorithm to pull the most detailed NAICS data available into the spreadsheet reports that were developed. An example of how this algorithm works is provided in Section 3.2.

2.5.2 Nonemployer Statistics

The Census Bureau *Nonemployer Statistics* program collects data on businesses that have no paid employment or payroll, are subject to federal income taxes, and have receipts of $1,000 or more (U.S. Census, 2012b). For the most part, the data cover self-employed individuals operating under a legal organization such as a sole proprietorship, partnership, or corporation. The data are compiled from annual or quarterly business income tax returns filed with the Internal Revenue Service (IRS). Data are released approximately 18 months after the end of the year. For example, the 2009 annual data were released on July 28, 2011 (U.S. Census 2012b).

The nonemployer data fill a gap left by the scope of the QCEW data: self-employed individuals. For the purposes of analyzing travel and tourism, this may be an important group since there may be a number of one-person entities that provide travel and tourism services.

Given that these are "nonemployers," data on the number of employees is not found in these data. To calculate employment for nonemployer establishments ERG assumed that each nonemployer has one (e.g., the owner) employee. Census avoids the disclosure of data for an individual entity by adding noise to a value in a given cell, cell suppression, or complimentary cell suppression.

2.5.3 Public Assets

National and state parks are key aspects of coastal-related tourism and recreation, but a consistent source of data on these public assets is not available. To address this, ERG researched the coastal public assets in the Gulf. ERG searched the U.S. National Park Service, respective state park services, and Google for publications, such as budgets, databases of park employees, park administrative documents, park or groups of park specific studies or publications, individual park descriptions, travel advertisement and information web pages for parks, news articles discussing incidents or trends at parks and any department updates with relevant employment and payroll information.[11]

From these searches, employment and payroll data were available only for national parks. State-level information was obtained through a search for employment and payroll information on each state's website for the department of wildlife, or equivalent organization. In addition, the operating and maintenance budgets for state wildlife or parks and recreation departments were used with the number of operating facilities to estimate the average payroll per entity. In doing so, ERG assumed that each facility and park received equal portions of the budget. Table 13 shows the sources used for parks information collection.

If employee or payroll data were not available for a particular park, the average employment or wage was applied. When a park, refuge, or seashore crossed county boundaries, the employment and payroll data was evenly split among the relevant counties.

To be consistent with the Census *Nonemployer Statistics* data being used in this report, data from 2009 for all pertinent parks, refuges, and seashores were used, with the exception of Shepard State Park in Jackson County, Mississippi, where 2012 data was used. Data from 2010, 2011, and 2012 was also collected when available from the sources previously mentioned. See Appendix B for the data collected.

[11] Relevant websites and publications were searched using terms such as "$," "dollar," "wages," "budget," "staff," "employ(ees/ee/ment)," and "jobs."

Table 13

Parks Information Sources

Type of Information	Information Source
State	
Alabama	▪ Alabama Department of Conservation and Natural Resources ▪ Alabama Department of Finance
Florida	▪ Florida Department of State ▪ Florida Division of Recreation and Parks
Louisiana	▪ Louisiana Department of Culture, Recreation and Tourism ▪ Louisiana Department of Wildlife and Fisheries
Texas	▪ Texas Parks and Wildlife Department
National Parks	▪ U.S. National Park Service
National Wildlife Refuges	▪ U.S. Fish and Wildlife Service

2.6 Summary of Proposed Measures

Table 14 summarizes the industries in the TT, RE, and TTOCS measures and the TCRs that are applied to the three parameters to measure TT, RE, and TTOCS in each sector. There are 74 industries in the final list for Travel and Tourism and 44 industries in the final list for Recreation.[12] The percentages shown in the TT column are the 2009 TCR values from Zemanek (2011). If an industry was considered as recreation, then 100% of the industry supply was assumed to be consumed by visitors and residents (see entries in the RE column). The TTOCS column identifies which sectors have county-specific adjustments applied for coastal-dependent activity.

[12] The list of Recreation industries is not a subset of the travel and tourism industries. There are three industries in the recreation list that are not on the travel and tourism list (recreational vehicle dealers; motorcycle, ATV, and personal watercraft dealers; and boat dealers).

Table 14

Industries in BOEM TT, RE, and TTOCS Measures

NAICS Code	Description	TT [a]	RE	TTOCS [b]
441210	Recreational Vehicle Dealers		100%	
441221	Motorcycle, ATV, and Personal Watercraft Dealers		100%	
441222	Boat Dealers		100%	
445110	Supermarkets and Other Grocery (except Convenience) Stores	3%		*
445120	Convenience Stores	3%		*
445210	Meat Markets	3%		*
445220	Fish and Seafood Markets	3%		*
445230	Fruit and Vegetable Markets	3%		*
445291	Baked Goods Stores	3%		*
445292	Confectionary and Nut Stores	3%		*
445299	All Other Specialty Food Stores	3%		*
445310	Beer, Wine and Liquor Stores	3%		*
447110	Gasoline Stations with Convenience Stores	16%		*
447190	Other Gasoline Stores	16%		*
452111	Department Stores (except Discount Department Stores)	3%		*
452112	Discount Department Stores	3%		*
452910	Warehouse Clubs and Supercenters	3%		*
452990	All Other General Merchandise Stores	3%		*
481111	Scheduled Passenger Air Transportation	100%		*
481211	Nonscheduled Chartered Passenger Air Transportation	100%		*
481219	Other Nonscheduled Air Transportation	100%		*
485111	Mixed Mode Transit Systems	16%		*
485112	Commuter Rail Systems	16%		*
485113	Bus and Other Motor Vehicle Transit Systems	16%		*
485119	Other Urban Transit Systems	16%		*
485210	Interurban and Rural Bus Transportation	100%		*
485310	Taxi Service	34%		*
485320	Limousine Service	16%		*
485510	Charter Bus Industry	100%		*
485999	All Other Transit and Ground Passenger Transportation	16%		*
487110	Scenic and Sightseeing Transportation, Land	100%	100%	*
487210	Scenic and Sightseeing Transportation, Water	100%	100%	*
487990	Scenic and Sightseeing Transportation, Other	100%	100%	*
532111	Passenger Car Rental	91%		*
532120	Truck, Utility Trailer, and RV (Recreational Vehicle) Rental and Leasing	94%		*
532292	Recreation Goods Rental	27%	100%	*
561510	Travel Agencies	95%		*
561520	Tour Operations	95%	100%	*
561591	Convention and Visitors Bureaus	95%	100%	*
561599	All Other Travel Arrangement and Reservation Services	95%		*
611620	Sports and Recreation Instruction	27%	100%	*
711110	Theater Companies and Dinner Theaters	30%	100%	*
711120	Dance Companies	30%	100%	*
711130	Musical Groups and Artists	30%	100%	*
711190	Other Performing Arts Companies	30%	100%	*
711211	Sports Teams and Clubs	35%	100%	*

NAICS Code	Description	TT [a]	RE	TTOCS [b]
711212	Racetracks	35%	100%	*
711219	Other Spectator Sports	35%	100%	*
711510	Independent Artists, Writers, and Performers	30%	100%	*
712110	Museums	26%	100%	*
712120	Historical Sites	26%	100%	*
712130	Zoos and Botanical Gardens	26%	100%	*
712190	Nature Parks and Other Similar Institutions	26%	100%	*
713110	Amusement and Theme Parks	26%	100%	*
713120	Amusement Arcades	26%	100%	*
713210	Casinos (except Casino Hotels)	51%	100%	*
713290	Other Gambling Industries	51%	100%	*
713910	Golf Courses and Country Clubs	27%	100%	*
713920	Skiing Facilities	27%	100%	*
713930	Marinas	27%	100%	*
713940	Fitness and Recreational Sports Centers	27%	100%	*
713950	Bowling Centers	27%	100%	*
713990	All Other Amusement and Recreation Industries	27%	100%	*
721110	Hotels (except Casino Hotels) and Motels	100%	100%	*
721120	Casino Hotels	100%	100%	*
721191	Bed-and-Breakfast Inns	100%	100%	*
721199	All Other Traveler Accommodation	100%	100%	*
721211	RV (Recreational Vehicle) Parks and Campgrounds	100%	100%	*
721214	Recreational and Vacation Camps (except Campgrounds)	100%	100%	*
722110	Full-Service Restaurants	18%	100%	*
722211	Limited-Service Restaurants	18%	100%	*
722212	Cafeterias, Grill Buffets, and Buffets	18%	100%	*
722213	Snack and Nonalcoholic Beverage Bars	18%	100%	*
722330	Mobile Food Services	18%	100%	*
722410	Drinking Places (Alcoholic Beverages)	18%	100%	*
811111	General Automotive Repair	9%		*
812930	Parking Lots and Garages	16%		*

[a] Percentages are the TCR estimates from Zemanek (2011).

[b] Proportions for TTOCS are county or parish-specific based on method outlined in Section 2.3.5.

3.0 DEVELOPMENT OF TOURISM AND RECREATION SPREADSHEET

ERG developed a spreadsheet to compute the amount of employment, payroll, and number of establishments for Travel and Tourism (TT), Recreation (RE), and Travel and Tourism Sensitive to OCS Operations (TTOCS) in each of the sectors identified in Table 14. Details of the database are described in Table 15. The spreadsheet is accompanied by a set of instructions explaining how to use it and how to update it with new data.

Table 15

Contents of Spreadsheet

Table Item	Description
Years Covered	2009*
Frequency	Annual data
Data Sources	BLS QCEW, Census Nonemployer Statistics, NOAA ENOW, and data collected on National and state parks
Data Measured	Employment, Annual Payroll, Number of Establishments
Outputs	TT, TTOCS, and RE

* Data for other available years can be inserted into the spreadsheet as needed.

3.1 Spreadsheet Contents

This section describes the worksheets (tabs) included in the Microsoft® Excel® spreadsheet, including screenshots. Table 16 lists the types of tabs that were included, with a description of the components of each tab. More details on the different tabs are provided in the sections that follow. The spreadsheet itself contains detailed directions on its use.

Table 16

Description of Spreadsheet Tabs and Pages

Excel Tab Name	Tab Description
Index Tab	This tab allows the user to jump to the tabs for each state and county through hyperlinks.
Summary Tables Tab	This tab provides a summary of the 2009 data for each state and county for the three measures (TT, TTOCS, and RE). This tab also includes hyperlinks to all state and county tabs.
Dynamic Table Tab	This tab allows the user to enter a Federal Information Processing Standard (FIPS) code and pull up the data for a specific FIPS-defined place that has been included in the spreadsheet (e.g., states and counties). This allows users to select find data for specific state or county and pull it into this tab for cutting and pasting to other formats.
State tabs (one for each state)	These tabs provide employment, establishment, and payroll data for each state in the study (5 total tabs). Each tab also includes hyperlinks back to the Index Tab and the Summary Tables tab.
County tabs (one for each county)	These tabs provide employment, establishment, and payroll data for each county/Parish in the study (64 total tabs). Each tab also includes hyperlinks back to the index tab and the Summary Tables tab.
Parks Tab	This tab allows users to manually input parks data (employment and payroll data). The data entered into this tab feeds into the state and county tabs.
Backend Data and Lookup Tab(s)	These tabs include all lookup tables and backend data (QCEW, non-employer, ENOW). This is where the state and county tabs pull data from.

3.1.1 Summary Tables Tab

As shown in Figure 1, the Summary Tables tab presents the county- and state-level results. In Figure 1, Table 1 shows the total employees, annual payroll, and number of establishments for Alabama and its associated study counties for 2009. Table 2 of this figure shows the TT metric for employees, annual payroll, and number of establishments from 2009, including the ratio of TT to state and county totals (Table 1 in Figure 2). Tables 3 and 4 of Figure 1 provide the same information for TTOCS and RE, respectively.

Table 1. County and State Total Employment, Payroll, and Establishment Data.

	2009 Total Employment	2009 Annual Payroll	2009 Total Establishments
AL State Level	1,776,659	$ 67,811,185,328	424,936
Baldwin County	65,352	$ 2,125,997,839	19,949
Mobile County	168,533	$ 6,410,132,883	39,133
Sum of These Counties	233,885	$ 8,536,130,722	59,082

Table 2. County and State Employment, Payroll, and Establishment Data for Travel and Tourism.

	2009 TT Total Employment	2009 TT Annual Payroll	2009 TT Total Establishments	2009 Percent TT of Total Employment	2009 Percent TT of Annual Payroll	2009 Percent TT of Total Establishments
AL State Level	59,299	$ 1,097,509,095	8,388	3.3%	1.6%	2.0%
Baldwin County	3,804	$ 74,579,539	483	5.8%	3.5%	2.4%
Mobile County	5,979	$ 112,089,809	767	3.5%	1.7%	2.0%
Sum of These Counties	9,784	$ 186,669,348	1,250	4.2%	2.2%	2.1%

Table 3. County and State Employment, Payroll, and Establishment Data for Travel and Tourism Sensitive to OCS Operations.

	2009 TTOCS Total Employment	2009 TTOCS Annual Payroll	2009 TTOCS Total Establishments	2009 Percent TTOCS of Total Employment	2009 Percent TTOCS of Annual Payroll	2009 Percent TTOCS of Total Establishments
AL State Level	5,191	$ 146,330,961	801	0.3%	0.2%	0.2%
Baldwin County	3,371	$ 68,895,258	423	5.2%	3.2%	2.1%
Mobile County	2,110	$ 45,027,972	284	1.3%	0.7%	0.7%
Sum of These Counties	5,481	$ 113,923,230	706	2.3%	1.3%	1.2%

Table 4. County and State Employment, Payroll, and Establishment Data for Recreation-Specific Industries.

	2009 RE Total Employment	2009 RE Annual Payroll	2009 RE Total Establishments	2009 Percent RE of Total Employment	2009 Percent RE of Annual Payroll	2009 Percent RE of Total Establishments
AL State Level	181,032	$ 2,742,152,290	23,502	10.2%	4.0%	5.5%
Baldwin County	10,673	$ 185,772,105	1,300	16.3%	8.7%	6.5%
Mobile County	16,490	$ 253,853,100	2,202	9.8%	4.0%	5.6%
Sum of These Counties	27,164	$ 439,625,205	3,501	11.6%	5.2%	5.9%

Figure 1. Screenshot of Summary Tables

3.1.2 Dynamic Table Tab

Using the same information appearing in the summary tables in Figure 1, the Dynamic Table tab goes a step further, combining the county tourism and recreation measure information into a single table (See Figure 2). As the lower left hand portion of Figure 2 indicates, the tab includes a list of Federal Information Processing Standard (FIPS) codes associated with each of the counties that can be entered into the pink box at the top of the tab. By entering a FIPS code in the pink box, the summary table of tourism and recreation measures for that particular county will be generated.

3.1.3 State and County Tabs

The state and county tabs pull from QCEW and Census Bureau nonemployer data to display employment, payroll, and establishment data from 2009 (See Figure 3). Figure 4 shows the columns in the state and county tabs to the left of those shown in Figure 3. These show how each industry is listed by NAICS code (NAICS codes included in this spreadsheet are described in Table 14) and colored based on its three-digit NAICS grouping. This figure also shows how users can toggle between a "default" selection of NAICS codes and a "manual" selection of NAICS codes.

Enter FIPS:	28045					
Hancock County, Mississippi						
	Total Employment	**Annual Payroll**	**Establishments**	**Percent of Total Employment**	**Percent of Annual Payroll**	**Percent of Total Establishments**
County Wide	12,990	$ 491,758,299	3,945	100%	100%	100%
Travel and Tourism	414	$ 9,905,436	105	3.2%	2.0%	2.7%
Travel and Tourism Sensitive to OCS Operation	357	$ 7,958,476	93	2.8%	1.6%	2.3%
Recreation-Specific Industries	970	$ 23,848,803	289	7.5%	4.8%	7.3%

County/State	**FIPS**
Baldwin County, Alabama	1003
Mobile County, Alabama	1097

Figure 2. Screenshot of Dynamic Table

QCEW Data				Census Bureau Nonemployer Data					Totals		
2009 Data Disclose	2009 Employe	2009 Payroll (	2009 Establishmen	Est Flag	Pay Flag	2009 Employe	2009 Payroll ($	2009 Establishmen	2009 Employe	2009 Payrc	2009 Establishmen
	186384	$4,127,018,810	9091			7838	$517,404,000	7838	194222	###########	16929
	169501	$3,736,419,582	6044			2947	$217,348,000	2947	172448	###########	8991
	161031	$3,588,314,285	3581	#N/A	#N/A	#N/A	#N/A	#N/A	161031	###########	3581
	8470	$148,105,297	2463	#N/A	#N/A	#N/A	#N/A	#N/A	8470	$148,105,297	2463
	11543	$282,271,832	1758			4194	$234,030,000	4194	15737	$516,301,832	5952
	2372	$55,552,659	315	#N/A	#N/A	#N/A	#N/A	#N/A	2372	$55,552,659	315
	1146	$31,470,335	217	#N/A	#N/A	#N/A	#N/A	#N/A	1146	$31,470,335	217
	2548	$65,443,721	339			918	$45,395,000	918	3466	$110,838,721	1257
	2548	$65,443,721	339	#N/A	#N/A	#N/A	#N/A	#N/A	2548	$65,443,721	339
	5477	$129,805,117	887			2746	$148,177,000	2746	8223	$277,982,117	3633
	1098	$23,197,048	212	#N/A	#N/A	#N/A	#N/A	#N/A	1098	$23,197,048	212
	832	$13,963,883	176	#N/A	#N/A	#N/A	#N/A	#N/A	832	$13,963,883	176
	3547	$92,644,186	498	#N/A	#N/A	#N/A	#N/A	#N/A	3547	$92,644,186	498
	5339	$108,327,396	1289			697	$66,026,000	697	6036	$174,353,396	1986

Figure 3. Screenshot of State and County Tabs (Partial Screenshot; Florida Tab)

Back to Index	Back to Summary Table				Florida		QCEW Data		
FIPS 12000	Toggle Default-Manua	Manual Selecti	Default Selecti	NAIC	Collapse Table / Show All Rows NAICS Description	TT/RE (Percer	2009 Data Disclose	2009 Employe	2009 Payroll (
Travel and Tourism Data	Default			445	Food and Beverage Stores	3%		186384	$4,127,018,810
Travel and Tourism Data	Default		x	4451	Grocery Stores	3%		169501	$3,736,419,582
Travel and Tourism Data	Default			445110	Supermarkets and Other Grocery (except Convenience) Stores	3%		161031	$3,588,314,285
Travel and Tourism Data	Default			445120	Convenience Stores	3%		8470	$148,105,297
Travel and Tourism Data	Default		x	4452	Specialty Food Stores	3%		11543	$282,271,832
Travel and Tourism Data	Default			445210	Meat Markets	3%		2372	$55,552,659
Travel and Tourism Data	Default			445220	Fish and Seafood Markets	3%		1146	$31,470,335
Travel and Tourism Data	Default			44523	Fruit and Vegetable Markets	3%		2548	$65,443,721
Travel and Tourism Data	Default			445230	Fruit and Vegetable Markets	3%		2548	$65,443,721
Travel and Tourism Data	Default			44529	Other Specialty Food Stores	3%		5477	$129,805,117
Travel and Tourism Data	Default			445291	Baked Goods Stores	3%		1098	$23,197,048
Travel and Tourism Data	Default			445292	Confectionery and Nut Stores	3%		832	$13,963,883
Travel and Tourism Data	Default			445299	All Other Specialty Food Stores	3%		3547	$92,644,186
Travel and Tourism Data	Default		x	4453	Beer, Wine, and Liquor Stores	3%		5339	$108,327,396
Travel and Tourism Data	Default			445310	Beer, Wine, and Liquor Stores	3%		5339	$108,327,396
Travel and Tourism Data	Default		x	4471	Gasoline Stations	16%		36821	$729,273,515
Travel and Tourism Data	Default			447110	Gasoline Stations with Convenience Stores	16%		33744	$662,362,539
Travel and Tourism Data	Default			447190	Other Gasoline Stations	16%		3077	$66,910,976
Travel and Tourism Data	Default		x	452	General Merchandise Stores	3%		180951	$3,871,008,930
Travel and Tourism Data	Default			4521	Department Stores	3%		78569	$1,573,471,656
Travel and Tourism Data	Default			452111	Department Stores (except Discount Department Stores)	3%		35974	$775,533,185
Travel and Tourism Data	Default			452112	Discount Department Stores	3%		42595	$797,938,471
Travel and Tourism Data	Default			4529	Other General Merchandise Stores	3%		102382	$2,297,537,274
Travel and Tourism Data	Default			452910	Warehouse Clubs and Supercenters	3%		87871	$2,048,487,893
Travel and Tourism Data	Default			452990	All Other General Merchandise Stores	3%		14511	$249,049,381
Travel and Tourism Data	Default		x	481111	Scheduled Passenger Air Transportation	100%		25802	$1,376,123,587
Travel and Tourism Data	Default		x	481211	Nonscheduled Chartered Passenger Air Transportation	100%		1902	$115,753,337
Travel and Tourism Data	Default		x	481219	Other Nonscheduled Air Transportation	100%		533	$35,445,720
Travel and Tourism Data	Default		x	4851	Urban Transit Systems	16%		2299	$85,612,617

Figure 4. User Manipulation of State and County Tab (Partial Screenshot; Florida Tab)

3.1.4 Parks Tab

Figure 5 shows a sequence of three screenshots showing the Parks tab. Users can manually populate the pink input cells (2nd and 3rd frames of the figure) with the park name, employment data, payroll data, and establishment data from 2009 for as many parks as exist in the county.[13] Figure 5 shows only through Microsoft® Excel® column AD (input cells for two parks); however, this tab allows for data entry of all parks in a county in columns to the right not shown in the screen shot. The first frame of the screen shot shows Excel® columns B through F, which sum the data from the pink input cells. These data are then fed into the calculation of TTOCS in the Summary Table tab.

B	C	D	E	F
County, State	State County FIP	2009 Parks Employment	2009 Parks Annual Payroll	2009 Parks Establishments
Calhoun County, Texas	48057	27	$ 2,594,950	3
Cameron County, Texas	48061	19	$ 2,235,294	2
Chambers County, Texas	48071	14	$ 1,501,450	3
Galveston County, Texas	48167	11	$ 642,294	1

G	H	I	J
Park Name (1)	2009 Employment	2009 Annual Payroll	2009 Establishments
Bon Secour National Wildlife Refuge	3	$ 441,000	1
Bon Secour National Wildlife Refuge	3	$ 441,000	1
Camp Helen State Park	7	$ 296,814	1
Charlotte Harbor State Park	7	$ 296,814	1
Chassahowitzka NWR (Including Crystal	12	$ 1,073,000	1

K	L	M	N
Park Name (2)	2009 Employment	2009 Annual Payroll	2009 Establishments
Gulf State Park	32	$ 686,420	1
Marine Resources Division Laboratory, Dauphin Island	17	$ 1,105,053	1
Saint Andrews State Park	7	$ 296,814	1

Figure 5. Selected Screenshots of Parks Data Tab

[13] The version of the spreadsheet developed for this project was populated with parks data for 2009 by ERG.

3.2 Spreadsheet Development

ERG developed the spreadsheet in Microsoft® Excel®. Compared to developing a database in Microsoft® Access®, developing the spreadsheet in Excel® provided a more user-friendly platform capable of manual manipulations while minimizing the level of development effort. One programming requirement was to minimize the file size to ensure a satisfactory processing speed. To accomplish this, unnecessary data (i.e., data related to counties, states, or NAICS codes not included in the study) were filtered out.

As shown in Figure 6, the pre-filtered data are housed in separate worksheet tabs, which feeds into the state and county tabs. One problem that was resolved was how to report totals for aggregated NAICS codes when some of the sub-NAICS codes are suppressed in the QCEW data. ERG used a combination of Excel® logic functions and Microsoft® Visual Basic® for Applications (VBA) programming to create a "default" option that pulls the most detailed NAICS data available based on QCEW data availability. For example, in a situation where five six-digit NAICS codes can be aggregated into one four-digit NAICS code, the default are calculated in one of the following ways as ranked below:

- If data are available for ALL six-digit NAICS codes: The default will show all six-digit NAICS codes and filter out or hide the four-digit NAICS code.

- If data are NOT available for at least one six-digit NAICS code, but are available for the four-digit NAICS code: The default will show the four-digit NAICS code and filter out or hide the six-digit NAICS codes.

- If data are available for some but not all of the six-digit NAICS codes and are also NOT available for the four -digit NAICS code: The default will show data for the available six-digit NAICS codes and filter out or hide the six-digit NAICS codes for which data are not available.

- If data are NOT available for ANY of the six-digit NAICS codes and are also not available for the four-digit NAICS code: The spreadsheet will filter out or hide all of the data.

3.3 User Functionality

As mentioned above, the spreadsheet was programmed to give users the ability to toggle between a "default" option displaying data at the most detailed available NAICS codes, and a "manual" option to provide additional flexibility to run the analysis while excluding certain NAICS codes. For example, a user who decided that he or she wants to exclude transportation-related NAICS codes from the analysis, may select the "manual" option to manipulate the NAICS codes.

The spreadsheet was also programmed to allow for future data years to be pulled into the tool. The tool is accompanied with user instructions about where to find the raw data, how to manipulate the data to minimize file size, and how to incorporate the data into the tool.

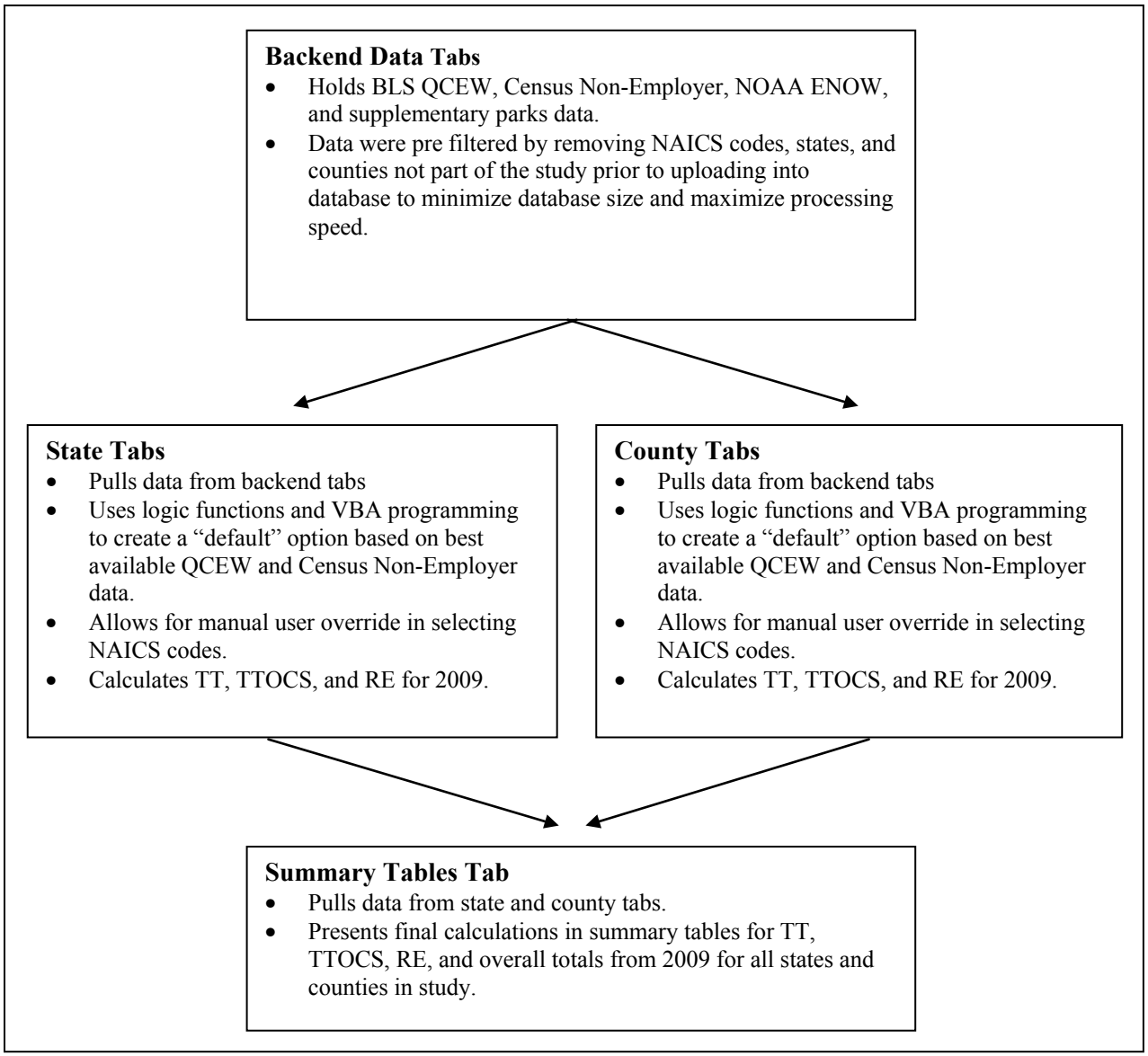


Figure 6. Structure of Spreadsheet and Flow of Data through Tabs and Pages

4.0 SUMMARY ESTIMATES FOR 2009 DATA

This section provides sample data, by state, for each of the counties and parishes included in the study. These data include the three measures tourism and recreation measures of: (1) Travel and Tourism (TT), (2) Recreation (RE), and (3) Travel and Tourism Sensitive to OCS Operations (TTOCS) that were developed by ERG (See Section 2.0) and captured in the spreadsheet (See Section 3.0). For each of the state-specific tables below, these three tourism and recreation measures are presented, by county, for total employment, annual payroll, and total establishments. The tables are arranged alphabetically, by state.

Table 17

2009 Employment, Payroll, and Establishment Data Related to Tourism and Recreation for Alabama Counties in Project Area*

County	Total Employment			Annual Payroll (dollars $)			Total Establishments		
	TT	TTOCS	RE	TT	TTOCS	RE	TT	TTOCS	RE
Baldwin County	3,804	3,371	10,673	$74,579,539	$68,895,258	$185,772,105	483	423	1,300
Mobile County	5,979	2,110	16,490	$112,089,809	$45,027,972	$253,853,100	767	284	2,202

Source: ERG estimates based on methods described in this report.

* TT: Travel and Tourism
TTOCS: Travel and Tourism Sensitive to OCS Operations
RE: Recreation

Table 18

2009 Employment, Payroll, and Establishment Data Related to Tourism and Recreation for Florida Counties in Project Area*

County	Total Employment			Annual Payroll (dollars $)			Total Establishments		
	TT	TTOCS	RE	TT	TTOCS	RE	TT	TTOCS	RE
Bay County	4,925	4,540	12,315	$110,278,601	$105,615,600	$43,172,069	549	547	1,468
Charlotte County	1,999	1,658	6,255	$39,827,148	33,939,689	$118,970,461	397	393	1,038
Citrus County	1,317	683	4,015	$27,430,733	$16,809,379	$78,457,916	301	163	790
Collier County	9,336	9,068	22,466	$281,171,013	$262,209,216	$622,223,101	1,008	708	2,614
Dixie County	87	37	264	$1,637,492	$820,640	$4,735,701	24	11	71
Escambia County	4,510	4,414	13,864	$91,861,025	$87,567,862	$247,132,754	686	682	1,983
Franklin County	291	275	682	$5,904,489	$4,986,861	$13,636,614	55	52	127
Gulf County	190	181	463	$4,422,465	$3,801,651	$8,843,560	41	39	93
Hernando County	1,488	80	5,352	$26,178,259	$1,405,973	$87,180,265	281	29	846
Hillsborough County	21,206	8,289	62,337	$569,525,303	$269,372,141	$1,534,713,978	3,080	1,297	8,761
Jefferson County	51	suppressed	185	$1,240,570	suppressed	$3,154,918	27	7	71
Lee County	11,899	7,396	32,352	$300,996,551	$197,588,652	$739,823,134	1,702	1,353	4,404
Levy County	326	246	1,013	$7,816,493	$6,302,776	$23,925,339	100	72	276
Manatee County	3,991	3,203	14,227	$97,115,677	$88,823,849	$319,408,310	782	649	2,280
Monroe County	6,907	6,709	12,433	$219,956,792	$215,200,196	$379,267,061	907	894	1,968
Okaloosa County	3,766	3,402	12,725	$88,361,944	$84,141,357	$257,142,624	582	540	1,545
Pasco County	4,027	1,239	12,758	$78,387,008	$24,954,060	$229,520,003	863	384	2,450
Pinellas County	18,317	14,846	48,299	$455,820,171	$379,805,825	$1,072,659,227	2,873	2,624	7,391
Santa Rosa County	1,419	1,289	4,706	$27,792,258	$26,050,877	$81,643,930	260	256	847
Sarasota County	7,604	5,692	21,659	$193,173,500	$154,282,006	$478,989,810	1,282	1,014	3,464
Taylor County	189	189	475	$2,953,082	$2,953,082	$6,629,269	36	36	83
Wakulla County	73	72	147	$3,637,375	$1,111,375	$5,456,753	38	37	120
Walton County	2,195	2,181	4,603	$58,163,064	$57,569,436	$111,421,969	203	189	563
Washington County	94	0	432	$1,717,054	$0	$7,517,267	38	0	105

Source: ERG estimates based on methods described in this report.

* TT: Travel and Tourism
TTOCS: Travel and Tourism Sensitive to OCS Operations
RE: Recreation

Table 19

2009 Employment, Payroll, and Establishment Data Related to Tourism and Recreation for Louisiana Parishes (Counties) in Project Area*

Parish	Total Employment			Annual Payroll (dollars $)			Total Establishments		
	TT	TTOCS	RE	TT	TTOCS	RE	TT	TTOCS	RE
Calcasieu Parish	6,128	0	11,986	$152,216,369	$0	$244,278,520	410	0	1,075
Cameron Parish	112	0	48	$8,048,264	$0	$2,916,498	19	suppressed	35
Iberia Parish	656	611	2,025	$12,819,993	12,347,740	$33,527,202	137	116	377
Jefferson Parish	7,840	2,650	23,522	$227,374,269	74,133,186	$611,654,409	1,420	439	3,325
Lafourche Parish	1,045	279	2,899	$23,991,840	$9,030,524	$51,419,860	200	68	500
Lafayette Parish	4,557	0	14,739	$88,249,273	$0	$266,213,632	628	0	1,698
Orleans Parish	16,947	11,928	33,243	$506,041,289	$362,045,753	$894,252,135	1,613	1,102	4,089
Plaquemines Parish	351	344	856	$11,519,448	$10,648,162	$25,832,868	72	69	163
St. Bernard Parish	178	174	270	$7,379,633	$2,802,224	$10,617,248	66	62	194
St. Charles Parish	399	0	1,190	$7,390,403	$0	$20,884,516	131	0	331
St. John the Baptist Parish	545	0	1,481	$8,733,017	$0	$20,725,144	116		303
St. Mary Parish	939	258	2,081	$23,970,654	$6,343,973	$37,144,310	112	34	289
St. Tammany Parish	3,066	205	10,952	$57,101,119	$3,892,450	$180,861,425	669	58	1,813
Tangipahoa Parish	1,374	0	4,366	$19,499,818	$0	$56,938,610	254	0	669
Terrebonne Parish	1,541	1,536	4,992	$29,193,568	28,632,996	$93,447,527	222	209	579
Vermilion Parish	376	350	1,184	$7,910,583	$7,678,863	$19,893,443	102	85	280

Source: ERG estimates based on methods described in this report.

* TT: Travel and Tourism
TTOCS: Travel and Tourism Sensitive to OCS Operations
RE: Recreation

Table 20

2009 Employment, Payroll, and Establishment Data Related to Tourism and Recreation for Mississippi Counties in Project Area*

County	Total Employment			Annual Payroll (dollars $)			Total Establishments		
	TT	TTOCS	RE	TT	TTOCS	RE	TT	TTOCS	RE
Hancock County	414	357	970	$9,905,436	$7,958,476	$23,848,803	105	93	289
Harrison County	11,927	11,867	19,279	$324,402,005	$320,999,284	$448,553,629	420	419	1,039
Jackson County	1,601	1,536	4,528	$29,550,877	$25,146,123	$70,427,081	274	270	681

Source: ERG estimates based on methods described in this report.

* TT: Travel and Tourism
TTOCS: Travel and Tourism Sensitive to OCS Operations
RE: Recreation

Table 21

2009 Employment, Payroll, and Establishment Data Related to Tourism and Recreation for Texas Counties in Project Area*

County	Total Employment			Annual Payroll (dollars $)			Total Establishments		
	TT	TTOCS	RE	TT	TTOCS	RE	TT	TTOCS	RE
Aransas County	548	517	1,410	$15,209,436	$11,828,848	$30,344,821	123	92	263
Brazoria County	2,562	155	8,801	$47,631,223	$4,098,053	$142,628,141	524	62	1,520
Calhoun County	250	221	745	$5,968,224	$5,670,679	$11,977,420	49	49	128
Cameron County	4,330	894	12,999	$72,361,977	$17,769,641	$192,017,100	651	122	1,991
Chambers County	367	103	1,084	$7,529,024	$2,956,542	$16,034,439	76	23	178
Galveston County	5,049	3,859	14,779	$107,592,964	$87,214,743	$251,468,836	608	418	1,779
Harris County	64,116	1,978	189,548	$1,606,884,179	$45,342,179	$3,828,562,295	8,876	406	24,625
Jefferson County	3,372	558	11,824	$63,536,540	$11,384,197	$203,345,603	414	85	1,198
Jim Wells County	416	0	1,448	$6,166,121	$0	$19,290,756	65	0	210
Kenedy County	77	0	77	$4,092,728	$0	$4,092,728	3	suppressed	4
Kleberg County	458	430	1,401	$9,838,787	$9,442,633	$22,047,584	66	61	180
Liberty County	545	50	1,591	$12,578,183	$2,709,488	$28,251,917	103	1	301
Matagorda County	378	360	1,192	$8,514,783	$6,596,499	$19,352,100	86	75	234
Nueces County	5,952	4,576	18,442	$109,966,923	$96,587,481	$288,521,697	703	465	2,090
Orange County	710	0	2,411	$10,405,909	$0	$32,482,419	121	0	339
Refugio County	63	63	252	$1,101,229	$1,101,229	$3,163,063	16	16	47
San Patricio County	699	610	2,107	$12,087,774	$11,118,770	$28,366,852	117	79	315
Victoria County	1,018	suppressed	3,491	$17,137,867	suppressed	$52,265,454	140	suppressed	427
Willacy County	118	suppressed	348	$1,692,462	suppressed	$4,691,397	37	suppressed	98

Source: ERG estimates based on methods described in this report.

* TT: Travel and Tourism
TTOCS: Travel and Tourism Sensitive to OCS Operations
RE: Recreation

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APPENDIX A:

FEASIBILITY OF DEVELOPING LOCALIZED TOURISM COMMODITY RATIOS

ERG assessed the feasibility of developing localized tourism commodity ratios (TCR) at the state or county and parish levels. TCRs specify the proportion of a tourism-related commodity that is purchased by tourists. The methodology developed in Kaplan and Whitman (2008) uses the *national* TCRs developed by the Bureau of Economic Analysis (USDOC BEA 2011; Kern and Kocis 2007). To determine whether more localized (e.g., specific to counties or states) TCRs could be developed; the following information sources were explored:

- ***Internet and literature searches.*** ERG conducted Internet and literature searches related to the development of tourism and recreational estimates and impacts at scales smaller than the national level (e.g., regional, state, local).
- ***Bureau of Economic Analysis.*** ERG spoke with Paul Kern, manager for BEA's Travel and Tourism Satellite Accounts, to gather insights about the possibility of developing state-specific TCRs and the data that would need to be available in order to do so (Kern 2011; Zemanek 2011; and Kern and Kocis 2007).
- ***U.S. Travel Association (USTA).*** ERG contacted Tien X. Tian, USTA Chief Economist, about the Travel Economic Impact Model (TEIM) used to estimate national and regional economic impacts of travel activities.
- ***State and Congressional District Data .*** ERG examined the state and congressional district data available on the USTA website to establish the type of tourism-related direct economic impact estimates available (e.g., employment, spending).
- ***National Oceanic and Atmospheric Administration (NOAA) tourism measures***. ERG investigated the tourism measures used by NOAA, primarily through the Agency's Economics: National Ocean Watch (ENOW) database and web links provided through the NOAA's Digital Coast website.

The result of this research is that developing localized TCRs is not feasible at this time. Specifically, ERG was unable to identify publicly available local TCRs. According to Mr. Kern at BEA, the problem with developing state-specific TCRs is that you need state input and output tables, and the latter do not exist at this time. The government records what comes into and goes out of the nation as a whole, but state import and export data are not sufficient to develop these tables.

ERG considered calculating localized tourism commodity ratios from data generated from USTA's TEIM data. However, USTA would need to develop these data by performing a "customized research" project for BOEM. ERG also examined the state and congressional district data publicly available on the USTA website. First, these estimates include direct, indirect, and induced impacts, while the focus in this project in on direct impacts. Second, an alternative could use the USTA estimates to evaluate the importance of tourism in an absolute sense by rank ordering districts by employment, spending, or payroll. However, it would be necessary to compare each variable to total employment, spending, and payroll for all industries in a district in order to measure the relative importance of tourism to a specific district. Information on how USTA calculates indirect and induced impacts was not available and therefore it was not possible to calculate comparable values for all industries in a district. In sum, the available USTA data are not sufficient for calculating a local TCR.

NOAA's approach defines the data for the tourism and recreation sector by a combination of geography and industry. As a result, NOAA's data do not incorporate a tourism commodity ratio.

Although ERG assesses that local TCRs are not feasible, ERG identified an alternative approach wherein coastally-related tourism and recreation estimates are developed through a combination of industry and location. This approach is discussed in more detail in Section 2.0.

APPENDIX B:

COLLECTED PARKS DATA

Table B-1

Employment and Wage Information Associated with State and National Parks, Historical Parks, Wildlife Refuges, and Wildlife Management Areas in the Coastal Counties of the Gulf of Mexico

Park, Refuge, or Seashore	Counties and Parishes	State(s)	2009 Total Payroll and Benefits	2009 Employees
Bon Secour National Wildlife Refuge	Mobile County and Baldwin County	AL	$441,000	3
Claude Peteet Mariculture Center, Gulf Shores	Baldwin County	AL	$1,105,053	17
Gulf State Park	Baldwin County	AL	$686,420	32
Marine Resources Division Laboratory, Dauphin Island	Mobile County	AL	$1,105,053	17
Meaher State Park	Baldwin County	AL	$686,420	32
Mobile-Tensaw Delta-WL Holland WMA	Mobile County and Baldwin County	AL	$686,420	2
Grand Bay NWR	Mobile County and Jackson County, MS	AL & MS	$146,500 [b]	1 [b]
Upper Delta WMA	Mobile County and Baldwin County	AL	$686,420	2
Alafia River State Park	Hillsborough	FL	$296,814	7
Anclote Key State Park	Pasco County	FL	$296,814	7
Bahia Honda State Park	Monroe County	FL	$296,814	7
Bald Point State Park	Franklin County	FL	$296,814	7
Big Cypress National Preserve	Collier County	FL	$6,122,613	89
Big Lagoon State Park	Escambia County	FL	$296,814	7
Blackwater River State Park	Santa Rosa County	FL	$296,814	7
Caladesi Island State Park	Pinellas County	FL	$296,814	7
Camp Helen State Park	Bay County	FL	$296,814	7
Cayo Costa State Park	Lee County	FL	$296,814	7
Cedar Key Scrub State Reserve	Levy County	FL	$296,814	7
Charlotte Harbor State Park	Charlotte County	FL	$296,814	7
Chassahowitzka NWR (Including Crystal River, Egmount Key, Passage Key and Pinellas)	Citrus County	FL	$1,073,000	12
Cockroach Bay State Park	Hillsborough County	FL	$296,814	7

Park, Refuge, or Seashore	Counties and Parishes	State(s)	2009 Total Payroll and Benefits	2009 Employees
Crystal River Archeological State Park	Citrus County	FL	$296,814	7
Crystal River Preserve State Park	Citrus County	FL	$296,814	7
Curry Hammock State Park	Monroe County	FL	$296,814	7
Dagny Johnson Key Largo Hammock State Park	Monroe County	FL	$296,814	7
Delnor-Wiggins Pass State Park	Collier County	FL	$296,814	7
DeSoto National Memorial	Manatee County	FL	$556,405	11
Dry Tortugas National Park	Monroe County	FL	$1,002,934	15
Edgmont Key State Park	Hillsborough County	FL	$296,814	7
Estero Bay State Park	Lee County	FL	$296,814	7
Everglades National Park	Collier County	FL	$11,055,370	164
Everglades National Park	Monroe County	FL	$11,055,370	164
Fort Zachary Taylor State Park	Monroe County	FL	$296,814	7
Fred Gannon Rocky Bayou State Park	Okaloosa County	FL	$296,814	7
Gasparilla Island State Park	Charlotte County	FL	$296,814	7
Grayton Beach State Park	Walton County	FL	$296,814	7
Gulf Islands National Seashore	Escambia and Santa Rosa and Okaloosa Counties	FL	$3,402,721	60
Henderson Beach State Park	Okaloosa County	FL	$296,814	7
Homosassa Spring State Park	Citrus County	FL	$296,814	7
Honeymoon Island State Park	Pinellas County	FL	$296,814	7
Indian Key State Park	Monroe County	FL	$296,814	7
J.N. 'Ding' Darling NWR (Caloosahatchee, Matlacha Pass and Pine Island)	Lee County	FL	$888,500	7
J.N. 'Ding' Darling NWR (including Island Bay)	Charlotte County	FL	$888,500	7
John Pennekamp Coral Reef State Park	Monroe County	FL	$296,814	7
Lignumvitae Key State Park	Monroe County	FL	$296,814	7
Long Key State Park	Monroe County	FL	$296,814	7
Lower Suwannee NWR (Including Cedar Keys)	Levy County	FL	$771,000	5

Park, Refuge, or Seashore	Counties and Parishes	State(s)	2009 Total Payroll and Benefits	2009 Employees
Madira Bickel Mound State Archaelogical Site	Manatee County	FL	$296,814	7
Mound Key Archeological State Park	Lee County	FL	$296,814	7
National Key Deer NWR (including Great White Heron Key West, and Crocodile Lake)	Monroe County	FL	$1,294,000	9
Navarre Beach State Park	Santa Rosa County	FL	$296,814	7
Oscar Scherer State Park	Sarasota County	FL	$296,814	7
Perdido Key State Park	Escambia County	FL	$296,814	7
Saint Andrews State Park	Bay County	FL	$296,814	7
San Marcos de Apaleche State Park	Wakulla County	FL	$296,814	7
San Pedro Underwater Archaelogical Preserve State Park	Monroe County	FL	$296,814	7
Skyway Fishing Pier State Park	Hillsborough County	FL	$296,814	7
St. George Island State Park	Franklin County	FL	$296,814	7
St. Joseph Peninsula State Park	Gulf County	FL	$296,814	7
St. Marks National Wildlife Refuge	Wakulla County	FL	$1,263,000	11
St. Vincent National Wildlife Refuge	Gulf and Franklin Counties	FL	$324,000	2
Stump Pass Beach State Park	Charlotte County	FL	$296,814	7
Tarklin Bayou State Park	Escambia County	FL	$296,814	7
Ten Thousand Islands (operated through Florida Panther NWR)	Collier County	FL	$1,487,000	8
Terra Ceia State Park	Manatee County	FL	$296,814	7
Topsail Hill State Park	Walton County	FL	$296,814	7
Werner-Boyce Salt Springs State Park	Pasco County	FL	$296,814	7
Windley Key Fossil Reef State Park	Monroe County	FL	$296,814	7
Yellow River Marsh State Park	Santa Rosa County	FL	$296,814	7
Atchafalaya Delta Wildlife Management Area	Saint Mary	LA	$267,572	3
Attakapas Island Wildlife Management Area	Iberia and Saint Mary	LA	$267,572	3
Bayou Sauvage National Wildlife Refuge	Orleans Parish	LA	$301,857	2
Bayou Segnette State Park	Jefferson Parish	LA	$468,163	11

Park, Refuge, or Seashore	Counties and Parishes	State(s)	2009 Total Payroll and Benefits	2009 Employees
Bayou Teche NWR	Saint Mary	LA	$301,857	2
Big Branch Marsh National Wildlife Refuge	Saint Tammany Parish	LA	$301,857	2
Breton National Wildlife Refuge	Plaquemines and Saint Bernard Parish	LA	$301,857	2
Cameron Prairie National Wildlife Refuge	Cameron	LA	$532,000	8
Cypremort Point State Park	Saint Mary	LA	$468,163	11
Delta National Wildlife Refuge	Plaquemines Parish	LA	$301,857	2
Grand Isle State Park	Jefferson Parish	LA	$468,163	11
Jean LaFitte National Historical Park and Preserve	Orleans, Jefferson, St. Bernard, Lafourche, Lafayette Parishes	LA	$4,275,552	74
Lacassine National Wildlife Refuge	Cameron	LA	$588,000	5
Mandalay National Wildlife Refuge	Terrebonne Parish	LA	$293,000	2
Marsh Island Wildlife Refuge	Iberia	LA	$267,572	3
Pass a Loutre Wildlife Management Area	Plaquemines Parish	LA	$267,572	3
Rockefeller Wildlife Refuge	Cameron and Vermilion	LA	$267,572	3
Sabine National Wildlife Refuge	Cameron	LA	$480,000	6
Southwest Louisiana Refuges (Shell Keys National Wildlife Refuge)	Iberia	LA	$724,000	0
State Wildlife Refuge	Vermilion	LA	$267,572	3
Terrebonne Barrier Islands Refuge	Terrebonne Parish	LA	$267,572	3
Wisner Wildlife Management Area	Lafourche Parish	LA	$267,572	3
Gulf Islands National Seashore	Harrison and Jackson County	MS	$3,402,721	60
Sandhill Crane NWR	Jackson County	MS	$739,000	3
Shepard State Park	Jackson County	MS	$116,533 [c]	1 [c]
Grand Bay NWR	Jackson County and Mobile County, AL	MS and AL	$146,500 [b]	1 [b]
Anahuac National Wildlife Refuge	Chambers County	TX	$1,002,500	6
Aransas and Matagorda Island National Wildlife Refuge Complex	Aransas and Calhoun	TX	$2,096,000	19
Atkinson Island Wilderness Management Area	Harris County and Chambers	TX	$249,475	4

Park, Refuge, or Seashore	Counties and Parishes	State(s)	2009 Total Payroll and Benefits	2009 Employees
Battleship Texas State Park	Harris County	TX	$642,294	11
Big Boggy National Wildlife Refuge	Matagorda County	TX	$709,667	5
Big Thicket National Preserve	Liberty	TX	$2,709,488	50
Brazoria National Wildlife Refuge	Brazoria County	TX	$709,667	5
Candy Cain Abshier Wilderness Management Area	Chambers County	TX	$249,475	4
Corpus Christi Ecological Services Field Office	Nueces	TX	$1,788,000	14
Fulton Mansion State Park	Aransas	TX	$642,294	11
Galveston Island State Park	Galveston County	TX	$642,294	11
Goose Island State Park	Aransas	TX	$642,294	11
Guadalupe Delta Wilderness Management Area	Calhoun	TX	$249,475	4
JD Muphree Wilderness Management Area	Jefferson County	TX	$249,475	4
Justin Hurst Wilderness Management Area	Brazoria County	TX	$249,475	4
Laguna Atacosa National Wildlife Refuge	Cameron	TX	$1,593,000	8
Lake Corpus Christi SP	Nueces	TX	$642,294	11
Lipantitlan SHS	Nueces	TX	$642,294	11
Mad Island Wilderness Management Area	Matagorda County	TX	$249,475	4
Matagorda Island Wilderness Management Area	Matagorda County	TX	$249,475	4
McFaddin National Wildlife Refuge	Jefferson County	TX	$1,405,000	6
Mustang Island State Park	Nueces	TX	$642,294	11
Padre Island National Seashore	Kenedy, Kleberg	TX	$4,092,728	77
Resaca de la Palma State Park	Cameron	TX	$642,294	11
Sabine Pass Battleground State Park	Jefferson	TX	$642,294	11
San Bernard National Wildlife Refuge	Brazoria County and Matagorda County	TX	$709,667	5
San Jacinto State Park	Harris County	TX	$642,294	11
Sea Rim State Park	Jefferson County	TX	$642,294	11
Sheldon Lake SP & Environmental Learning Center	Harris County	TX	$642,294	11
Sheldon Lake Wildlife Management Area	Harris County	TX	$249,475	4

Park, Refuge, or Seashore	Counties and Parishes	State(s)	2009 Total Payroll and Benefits	2009 Employees
Texas Point National Wildlife Refuge	Jefferson County	TX	$19,000	0
Walter Umphrey State Park	Jefferson County	TX	$642,294	11
Welder Flats Wilderness Management Area	Calhoun	TX	$249,475	4

[a] A number of parks within the same state have the same values for payroll and employees. For many parks, no direct estimate of employees or payroll was available. In these cases, ERG estimated total employment and payroll for parks and recreation in the state. Then the total was divided evenly among the parks.

[b] Because the Grand Bay NWR is located in two counties and two states, the data collected was evenly split between Alabama and Mississippi.

[c] Data for Shepard State Park is from 2012 as 2009 data was not available.

The Department of the Interior Mission

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The Department also has a major responsibility for American Indian reservation communities and for people who live in island communities.

The Bureau of Ocean Energy Management Mission

The Bureau of Ocean Energy Management (BOEM) works to manage the exploration and development of the nation's offshore resources in a way that appropriately balances economic development, energy independence, and environmental protection through oil and gas leases, renewable energy development and environmental reviews and studies.