

*The Economic Impact of Diving the
USS Oriskany on the Regional Economy*

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Final Report

Prepared for the:
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Introduction

Florida has the most active and diverse artificial reef program in the United States with more than 2,000 documented public artificial reefs, including 400-plus submerged vessels along 1,200 miles of Gulf of Mexico and Atlantic Ocean shoreline. The most recent, and to date, most significant addition to Florida's fleet of sunken vessels is the USS Oriskany. The decommissioned Essex Class attack aircraft carrier was sunk off the coast of Pensacola on May 17, 2006. Numerous county, state, and federal agencies were responsible for bringing the Oriskany to Pensacola and its successful sinking, at a total cost of \$18.4 million (Horn et al., 2006)¹. Given its significance as the world's largest artificial reef and its exceptional lure for divers throughout the U.S. and internationally, it is important to accurately monitor the economic value that visiting divers generate to the region and its citizens. To this end, the Tourism Division of the Pensacola Chamber of Commerce commissioned a study to assess the economic impact of sinking the Oriskany on the regional economy.

The study develops a web-based survey of recreational divers to estimate all dive-related expenditure patterns from non-local divers, including expenditures from accompanying non-diving group members, and a portion of spending from local divers that is assumed would otherwise leave the region. Two versions of the regional economic model are estimated;

1. A two-county model capturing all economic impacts to Escambia and Baldwin counties. The primary findings are:
 - Total dive-trip related expenditures are an estimated \$2.2 million.
 - Dive-related expenditures drive an economic impact of \$3.6 million in local output, 67 additional jobs, and \$1.4 million in local income.
2. A single-county model isolating the economic impacts to Escambia County. The primary findings are:
 - Total dive-trip related expenditures are an estimated \$1.2 million.
 - Total economic impacts of the Oriskany are \$2 million in local output, 37 additional jobs, and \$740,000 in local income.

Diver Profiles and Expenditure Patterns

To accurately estimate the economic impact, we need to estimate the total number of dive-related trips taken to the Oriskany, and also construct diver profiles, detailing diver residency, length of trip, choice of accommodation and location, and all dive-related expenditures.

¹ Horn, B., Dodrill, J., and Mille, K. 2006. Dive Assessment of the Oriskany Artificial Reef, Division of Marine Fisheries and Management Artificial Reef Program, FWC.

To estimate the total number of divers visiting the region to dive the Oriskany, we contacted all dive shops and boat operators operating in Pensacola/Gulf Shores, Alabama. We estimate a total of 4,209 chartered dive trips out to the Oriskany in the first year since its sinking.

To generate a profile of divers that travel to the area to dive the Oriskany, we obtained liability release forms for all divers that chartered a trip to the Oriskany through the Scuba Shack Dive Shop, located in Pensacola. From zip codes stated on the forms, we can estimate how many divers are local and how many travel from outside the region. From the 498 divers sampled, Table 1 provides a breakdown of divers by county of residence.

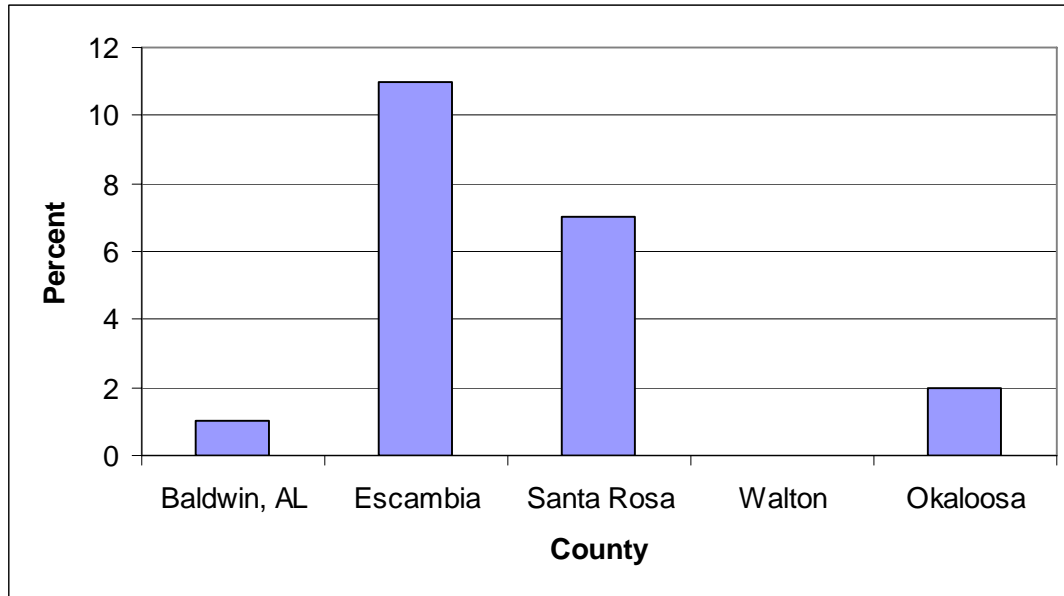
Table 1 - Diver Breakdown by County of Residence

State	Number of Visitors	State	Number of Visitors
Alabama	40	Maine	4
Arizona	21	Missouri	4
Arkansas	1	Mississippi	11
California	4	North Carolina	5
Colorado	2	New Mexico	1
Connecticut	1	New York	6
D.C.	1	Ohio	1
Florida	157	South Carolina	1
Georgia	47	Tennessee	31
Illinois	4	Texas	51
Indiana	4	Utah	1
Kansas	4	Virginia	10
Kentucky	6	Washington	1
Louisiana	52	Wisconsin	1
Massachusetts	1	International	
Maryland	2	Armed Forces Europe	3
Michigan	7	UK	1

Approximately 32 percent of divers sampled are Floridians, 10 percent are from Louisiana and Texas, with a further 9 percent and 8 percent from Georgia and Alabama respectively. Interestingly, 2 percent of all visitors traveled from Arizona, with three divers providing a European armed forces address, and one diver traveling from the UK.

A further breakdown illustrates the percentage of divers by county in the local area. The largest percentage (11 percent) of all divers are from Escambia County, with 7 percent from Santa Rosa, 2 percent from Okaloosa, and 1 percent from Baldwin County, Alabama.

Figure 1 - Percent of Total Divers, by County in Region of Interest



To complete diver profiles, trip-related expenditure patterns must be estimated. To accurately measure all trip-related expenditures, Haas Center researchers developed a web-based survey to ask a series of questions regarding socio-demographic details (age, gender, income etc.), general diving experience, as well as Oriskany-specific trip-related questions regarding the length of the trip and all related expenditures (such as lodging costs, charter boat trip costs, gear rentals/purchases, restaurant bills etc.). Using email addresses from the liability release forms, we contacted 247 divers contacted, receiving 131 replies - a 53 percent response rate.

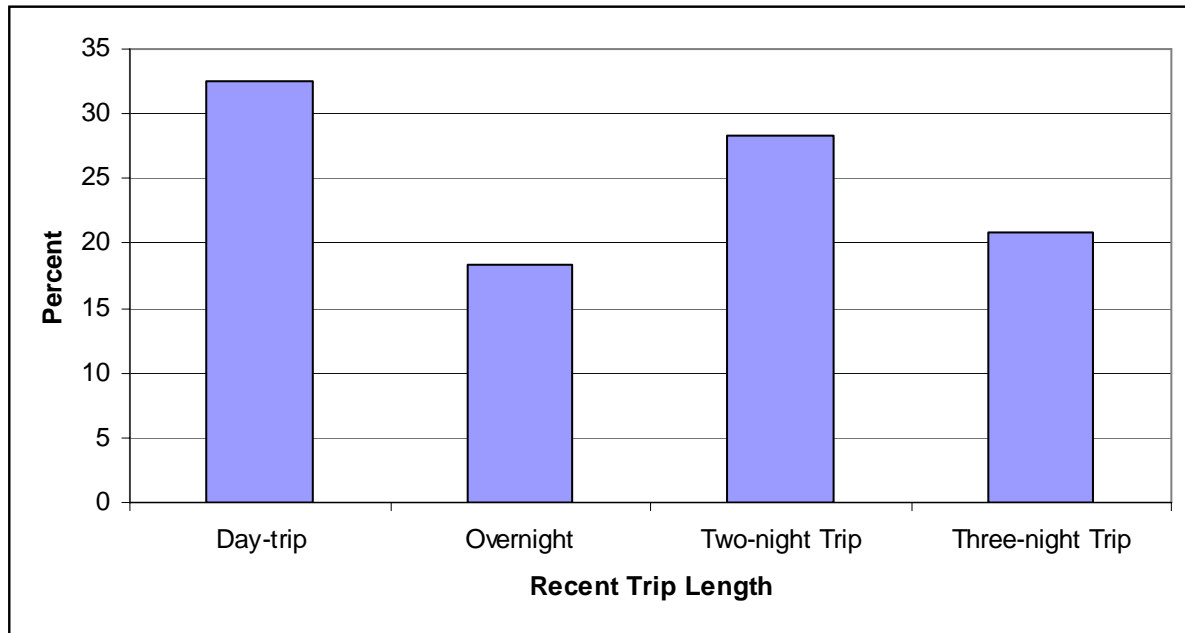
A socio-demographic breakdown of the out-of-town divers suggests that the average age of divers visiting the region is 44 years of age, 76 percent of whom are male. Data also indicate that the Oriskany attracts a well educated, high income earning cohort with the average diver holding a bachelor’s degree, and commanding an annual household income in excess of \$100,000.

Table 2 – Socio-demographic Details

Variable	Mean
Age	44 Years
Male	76.4 percent
Married	48.3 percent
Household Income	\$102,500
Education	Bachelor’s Degree

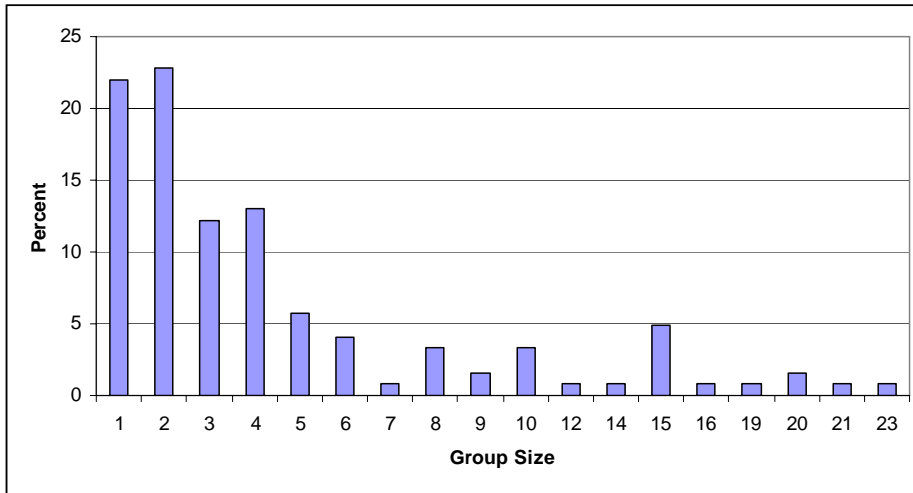
To estimate total dive-related spending flows into the region, divers were asked to state the length of trips taken to dive the Oriskany. Figure 2 provides a breakdown of trip length based on respondents' most recent trip.

Figure 2 - Recent Dive Trip Length



The most popular trip length for the most recent trip is a day-trip with one-third of divers traveling to the area and returning home on the same day. Approximately 18 percent of visitors stay for one night, with a further 28 percent and 21 percent of divers taking a two-night or three-night stay respectively.

Figure 3 - Travel Group Size



The most popular group size traveling to the area is a single diver or in a group of two. Approximately 45 percent of divers visiting the area to dive the Oriskany travel alone or with a single companion. A further 31 percent travel in groups of three to five. Data also show that a significant number of divers travel in larger groups with almost 15 percent of divers traveling in groups of ten or more.

For the impact study, where visitors choose to stay and the type of accommodation they stay in are important components of the model inputs. Figure 4 reveals that two-thirds of visitors that take overnight trips stay in hotel or motel accommodation.

Figure 4 - Lodging Type

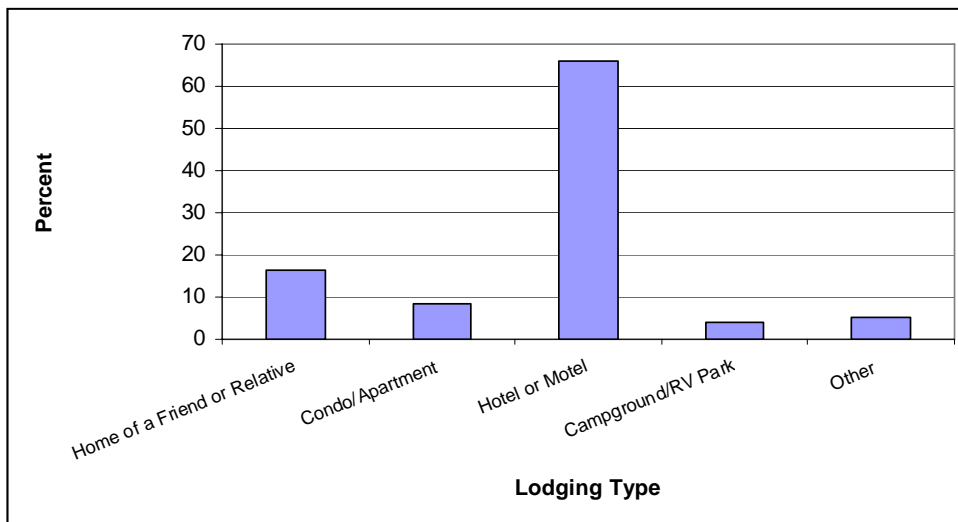


Figure 5 - Lodging Location

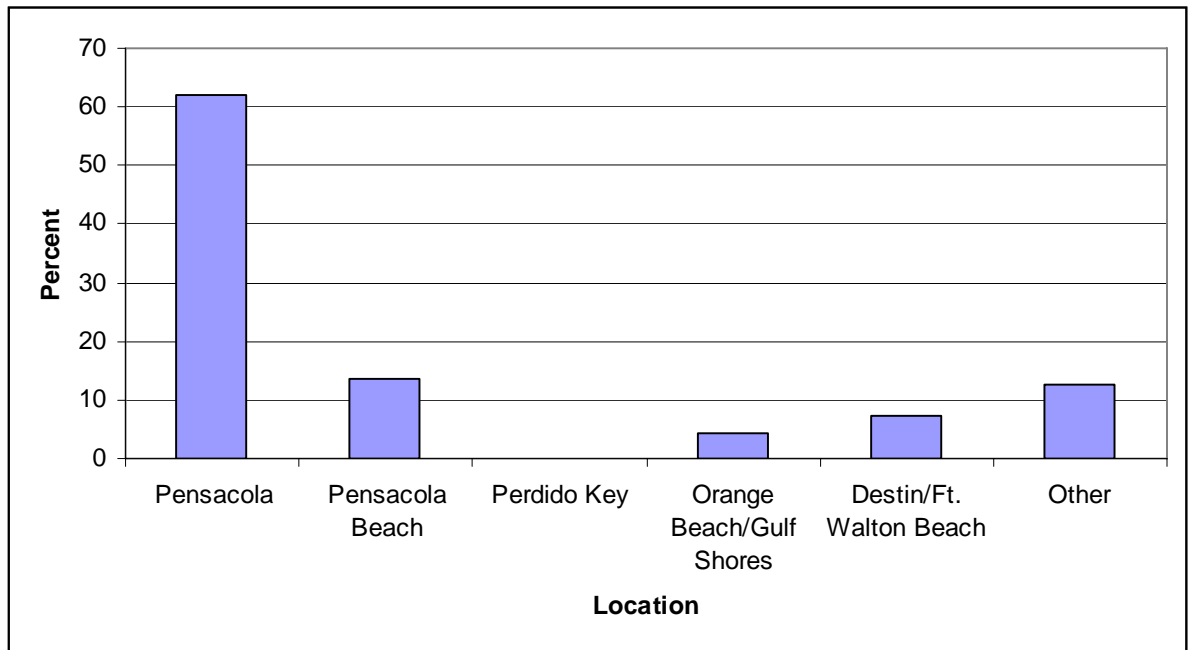


Figure 5 shows that over 75 percent of visitors coming to the region to dive the Oriskany stay either in Pensacola or on Pensacola Beach. The other 25 percent of visitors choose to stay outside Escambia County. Over 4 percent stay at Orange Beach, AL, while 7 percent stay in the Destin/Fort Walton Beach vicinity.

Diver responses to the survey instrument are used to estimate total dive-related spending. Dive-related spending is traced for three groups. As Table 3 shows, non-local divers provide the largest component of dive-related expenditures in the model, spending, on average, \$463 per trip. Spending by any non-divers in the travel group is also included. This represents \$103 per trip. Finally, we also include a portion of local diver expenditures (\$352 per trip) as spending that otherwise would have left the region.

Table 3 - All Oriskany Trip-related Expenditures

Spending Category	Non-local Trips		Local Trips
	Divers - Average Expenditure	Non-Divers - Average Expenditure	Average Expenditure
Lodging	\$90.2	\$0	\$0
Charter Boat Fee	\$173.7	\$0	\$172.0
Gear Purchases	\$18.8	\$0	\$31.5
Rental Equipment	\$11.4	\$0	\$33.5
Breathing Gas	\$15.0	\$0	\$22.3
Groceries	\$24.0	\$9.6	\$6.0
Bar/Restaurant	\$75.1	\$31.2	\$28.0
Entertainment	\$18.9	\$22.4	\$12.6
Shopping	\$25.7	\$30.4	\$19.0
Other	\$10.6	\$9.5	\$27.5
Total	\$463.4	\$103.1	\$352.4

Average spending estimates are then extrapolated to the total number of individuals in each category to estimate total dive-related expenditures for each group. These form inputs into the regional economic model. Secondary spending flows and leakages are then traced through the economy to measure the total economic impact of the Oriskany on the regional economy. Results for the two regional scenarios are presented in Table 4.

Table 4 – Total Economic Impacts

Area of Interest	Direct Spending	Total Economic Impact
Two-county Region (Escambia and Baldwin)	\$2.2 million	Output \$3.6 million Employment 67 jobs Income - \$1.4 million
Escambia County	\$1.2 million	Output \$2.0 million Employment 37 jobs Income - \$740,000

Total estimated dive-related expenditures in the two-county region of Escambia and Baldwin counties are \$2.2 million. These generate total economic impacts of over \$3.6 million in local output. Output represents the estimated increase in total production for all sectors of the economy and is a measure of overall economic activity. All dive-related spending also generates 67 additional jobs and \$1.4 million in local income. Isolating Escambia County, \$1.2 million in total dive-related expenditures generate total economic impacts of over \$2 million in local output, 37 jobs, and \$740,000 in additional income.