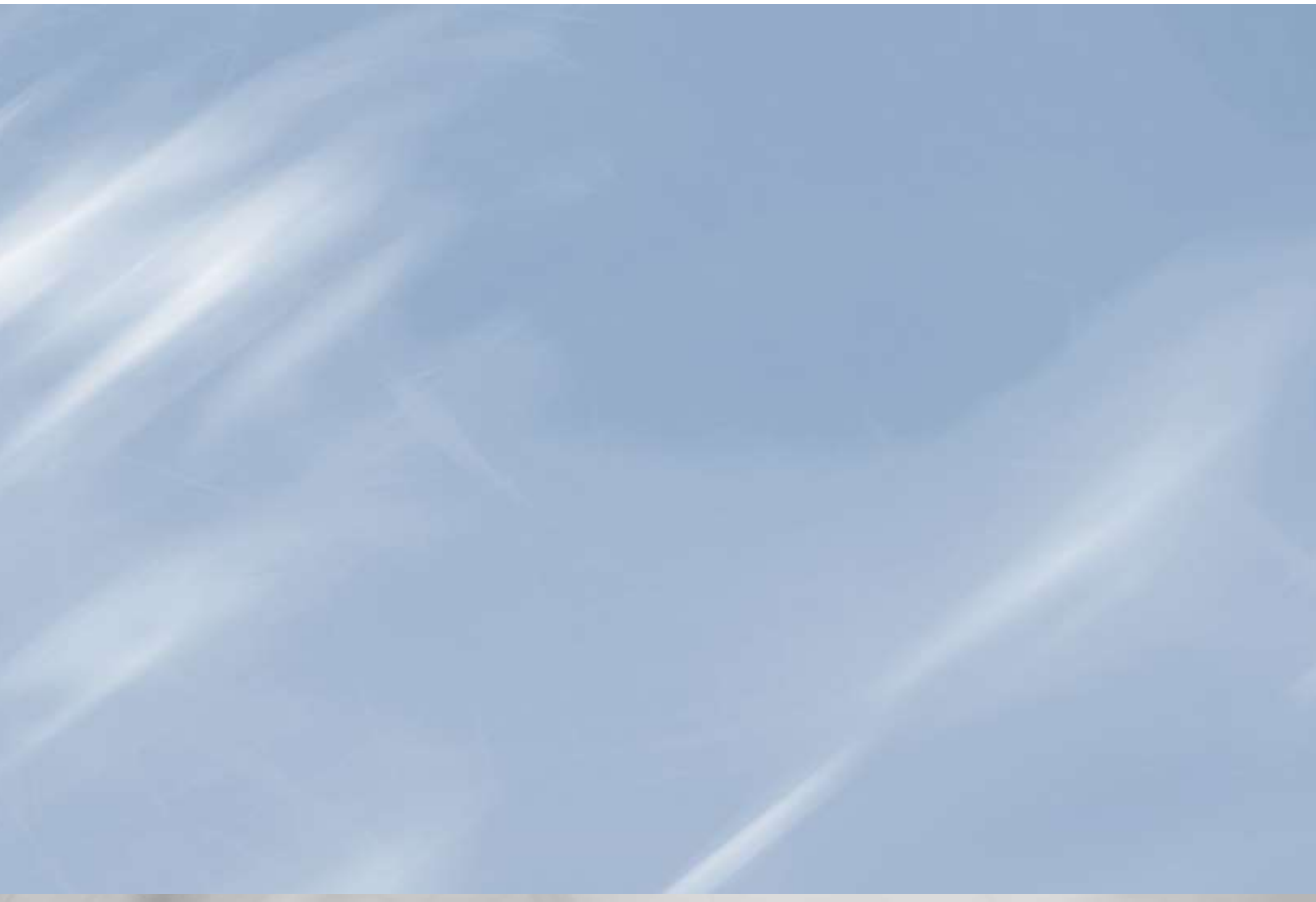

Economic Impact and Importance of Power Boating in Idaho

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Economic Impact and Importance of Power Boating in Idaho: A County-Level Study

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Section 1: Executive Summary

Powerboating provides a major recreational opportunity in Idaho and, in addition to the enjoyment provided by activities related to powerboating, significant impacts in terms of employment and economic activity are generated in many counties and for the State as a whole. In order to show the economic importance of Idaho powerboating, the Idaho Department of Parks and Recreation (IDPR) contracted with the Department of Economics at Boise State University (BSU) to perform this study of the economic importance of powerboating, county-by-county and statewide in Idaho.

The economic impacts from powerboating stem from expenditures on equipment such as boats, trailers, and related equipment as well as from spending that occurs when powerboating trips are made. In 2015:

- 92,730 powerboats were registered in Idaho to 80,691 households. This does not include powerboats registered to businesses.
- It is estimated that these boats were taken on 411,559 trips. Of these, 342,941 were day trips and 58,618 were overnight trips
- The 80,691 households spent a total of $335.3 million on:
    - Boats and Equipment: $124.0 million
    - Maintenance and Repair: $21.9 million
    - Moorage and Storage: $11.0 million
    - Fuel: $64.8 million
    - Lodging (including camping): $13.3 million
    - Food and Beverages: $60.1 million
    - Other Retail: $40.3 million

As expected, boat ownership and usage is concentrated in the most populated counties and those that have water: Ada, Bannock, Bonner, Bonneville, Canyon, Kootenai, Nez Perce, and Twin Falls. The top counties in terms total expenditures are Ada, Bonner, Canyon, Kootenai, Nez Perce, and Valley. As an aside, residents of the state of Washington comprise the third largest group of boat owners registered in Idaho.

The primary purpose of the study is to estimate the economic impact of powerboating activity in the State. This is measured as the amount of employment, income, and output that is directly and indirectly related the spending of powerboat users. Powerboat owners spent $335 million on boats, equipment, fuel, lodging, food, and other retail. The sales of the retailers increased and, as a result, the employment, income, and sales of local output increased. Some of this spending became income to the retailers selling these goods and services. The retailers and their employees were then able to increase their spending. Thus, the total economic impact of the $335 million in spending by powerboat users on employment, income, and output is greater than the impact of just the spending by boat owners. The results for the State can be summarized as follows.

- The spending of $335.3 million:
    - Increases employment by 3,088.6
    - Increases labor income by $88.0 million
    - Increases value added, which is the summation of labor income, interest, rent, and profit, by $133.9 million
    - Increases output of locally produced goods and services by $227.9 million

These results can be summarized in terms of "multipliers", spending multipliers and employment multipliers, presented in Table 1, below.

Table 1. Spending & Employment Multipliers

Spending Multipliers: Each $1 million increase in spending by powerboat owners is associated with a:	Employment multipliers: Spending by powerboat owners that causes a 1 unit increase in employment is associated with a:
9.2 unit increase in employment	1.26 unit change in employment
$262,452 increase in labor income	$28,493 increase in labor income
$399,744 increase in labor income, interest, rent, and profit	$43,353 increase in labor income, interest, rent, and profit
$679,680 increase in the output and sales of locally produced goods and services	$73,787 increase in the output and sales of locally produced goods and services

Section 2: Introduction

This report provides estimates of the economic impact of powerboating on the Idaho economy. Economic impact analyses of programs for various parks and recreation departments across the country have been generated since the formulation of Input-Output methodology and cost-benefit analysis in economics[1,2]. The need for such studies becomes apparent considering the fact that many programs are directly or indirectly subsidized by investments from public sector funds. As such, the economic effects of these programs, in addition to the recreational opportunities provided, are of concern to policymakers. In this report, we estimate the economic role of powerboating in terms of its gross effect as well as its impact on the State and for each of the counties. The results of this study provide valuable information to state and local officials charged with making responsible decisions regarding the use of public funds.

This report is organized as follows. Sections 1 and 2 are the Executive Summary and Introduction, respectively. Section 3 reports estimates of the various types of spending that "trigger" the economic impacts on sales and employment. Section 4 describes the economic impact model used to estimate the impacts of powerboating for Idaho and each of its 44 counties. Section 5 presents the overall conclusions of this report.

Brief Description of Methodology

Economic impact analyses are data intensive endeavors. They require information on a wide range of consumption activities undertaken by a diverse set of economic actors. For this report, we devised and implemented a plan for data collection that relied on survey and secondary data sources. Our goal was to deliver the most accurate estimate of the economic impact of powerboating for the State of Idaho. The estimates for this report are based on estimates of expenditures made by registration holders for the purchase, use, and maintenance of their powerboats. We also include the activity of firms involved in the rental of powerboats. Data

[1] Leontief, W. W. (1986).
[2] Weisbrod, G., Weisbrod, B. (1997).

were collected via paper and electronic surveys as well as through the Bureau of Labor Statistics, the Census Bureau, and the Idaho Department of Transportation. The survey provided a large amount of data that were used to describe the patterns of powerboating activities as well as to estimate the economic impacts through the use of a standard economic model known as Input-Output Analysis. The procedures for obtaining survey data are described in the following section and the description of Input-Output Analysis is provided in Section Four.

Survey and Sampling

The data used for the analysis in this study were based on a survey of powerboat owners. The IDPR provided the research team with powerboating registration information on all 96,845 powerboats registered to individuals and businesses in Idaho. Each registration included name, address, and county of residence, as well as boat information such as the year, length, horsepower, fuel type, body type, and recreation/use areas (lakes or rivers). The survey itself and sampling techniques employed are described below.

Survey Description. The survey contained three major sections focused on the trips and expenditures relating to powerboating over the previous twelve months. The first section focused on the number, locations, and expenditures of day powerboating trips. For each outing, recipients were asked about the counties visited, the month of each outing, and the type of boat used. They were also asked about the location most frequently visited, the number of adults and children in the party, and their expenditures on food, beverages, fuel and other expenses. The second section focused on overnight powerboating trips. Several questions were similar to those in the day trip section of the survey. They were asked the number, locations, and expenditures of overnight powerboating trips. Recipients were asked about the number of overnight outings, the month of these outings, the number of nights spent for each trip, and the type of boat used for each trip. They were also asked for information about the location most frequently visited, the length of stays, number of people in the party, and expenditures on

lodging, food, fuel and other expenses related to the trip in both the home county and the destination county. Finally, the third section of the survey focused on the expenditures relating to powerboat ownership and maintenance, including purchases of powerboats, trailers, boat-related equipment, maintenance, modifications, moorage and storage, and other purchases. The same survey questions were asked in the mailed survey and the online survey. A sample survey and the associated cover letter are provided in Appendix A.

Sampling and Response Rates. Of the 96,845 registrants, the research team eliminated 1,043 registrants who did not reside in Idaho or the nearby states of Washington, Wyoming, Utah, Montana, Oregon, and California. For the remaining 95,802 registrants, the research team removed all businesses from the dataset, thereby reducing the registration population to 92,730 entries. In order to make these registration data suitable for survey sampling, the research team corrected the dataset for inconsistencies in spelling and other minor typographical errors in the names of the towns, cities, or counties in which the registrants reside.

The research team then reduced the dataset from the level of individual powerboat registrations to the level of households in order to obtain a sample of representative households. We did this by eliminating "duplicate registrants" on the basis of Last Name and Address. For example, if multiple entries appear for people with the last name "Smith" at a specific address, we count them as a single entry. This step reduces our dataset to 80,691 entries which we consider our household population. The research team then targeted 15,000 surveys to a random sample of households with powerboat registrations. Given the potential of errors in the addresses of the sampled households due to those that may have moved since powerboat registration or addresses that may have been entered incorrectly on their powerboat registration, the research team sampled an additional 2,910 households to act as a back-up sample. The total number of households sampled in this study was, therefore, 17,910.

In order to ensure that a significant number of households from small Idaho counties were included in the study, the research team devised the following sampling rule. For counties with more than 3,000 households, a random selection of 15% of the households were sampled. For counties with between 1,000 and 3,000 households, a random selection of 20% of the households were sampled. For counties with between 1,000 and 300 households, 40% of the households were randomly sampled. For counties with less than 300 households, we randomly sampled 80% of the households. A total of 17,910 paper surveys were mailed to households in November 2015 with the option to return the completed survey via mail or to take an online survey using the Qualtrics survey program.

The results of the sampling strategy and response rates by county can be seen in Table 2, below. The average response rate was 20%, with rates ranging from 9.9% in Power County to 33.3% in Cassia County. The data from the paper survey responses were entered in Excel, following the formatting of the electronic survey responses. The latter dataset was then appended to the former. Registration data, excluding personal identifiers, was then merged with the survey response data.

The results of the survey provide two major types of information. The first is the use patterns of powerboating on a county-by-county basis and the amount of money that users spend both in their home county and destination counties on powerboating activities and equipment. This helps give a clear picture of the locations most used across the state, the type of use, and the originating location of users at each destination. The second type of information garnered through the survey data pertains to the spending on powerboating activities both statewide and for each county. In order to estimate the economic impacts of these expenditures, the research team used a standard Input-Output Analysis methodology to calculate the impacts on incomes, employment, and output attributable to powerboating activities. The major findings about trips and expenditures on powerboating and the economic impacts are provided in the following section. A more detailed explanation of the methodology used to estimate the numbers used in the I-O analysis for in this study is provided in Appendix 2 of this report.

Table 2. Idaho Power Boat Registrations and Survey Data by County or State of Registration

Idaho County or State of Registration	Number of Boat Registrants	Total Household Registrants	Number of Sampled Households	Surveys Returned	Survey Response Rate
Ada	14,716	13,027	1,954	458	23.4%
Adams	338	303	121	36	29.8%
Bannock	2,867	2,517	503	126	25.0%
Bear Lake	440	365	146	28	19.2%
Benewah	901	794	317	67	21.1%
Bingham	1,795	1,526	305	69	22.6%
Blaine	978	896	358	61	17.0%
Boise	490	443	177	35	19.8%
Bonner	6,414	5,350	803	136	16.9%
Bonneville	3,782	3,328	499	121	24.2%
Boundary	1,089	930	372	67	18.0%
Butte	128	118	94	21	22.3%
Camas	57	52	42	8	19.0%
Canyon	6,853	6,077	912	164	18.0%
Caribou	342	302	121	24	19.8%
Cassia	1,144	950	380	69	18.2%
Clark	26	22	18	6	33.3%
Clearwater	869	782	313	84	26.8%
Custer	212	201	161	52	32.3%
Elmore	1,268	1,141	228	47	20.6%
Franklin	597	531	212	50	23.6%
Fremont	663	577	231	50	21.6%
Gem	1,027	899	360	66	18.3%
Gooding	718	610	244	60	24.6%
Idaho	775	722	289	69	23.9%
Jefferson	1,226	1,044	209	45	21.5%
Jerome	1,038	902	361	73	20.2%
Kootenai	14,454	12,329	1,850	310	16.8%
Latah	1,612	1,387	277	77	27.8%
Lemhi	259	233	186	39	21.0%
Lewis	275	248	198	35	17.7%
Lincoln	218	199	159	32	20.1%
Madison	613	530	212	58	27.4%
Minidoka	972	842	337	57	16.9%
Nez Perce	3,189	2,825	565	119	21.1%
Oneida	191	165	132	21	15.9%
Owyhee	626	532	213	24	11.3%
Payette	1,277	1,073	214	27	12.6%
Power	350	302	121	12	9.9%
Shoshone	931	818	327	35	10.7%
Teton	433	403	403	56	13.9%
Twin Falls	3,058	2,704	541	122	22.6%
Valley	1,310	1,159	232	53	22.8%
Washington	668	587	235	56	23.8%
Other Western States					
California	891	703	282	49	17.4%
Montana	88	79	63	11	17.5%
Oregon	149	119	95	25	26.3%
Utah	658	524	210	49	23.3%
Washington	9,664	8,443	1,266	219	17.3%
Wyoming	91	78	62	10	16.1%
Total	92,730	80,691	17,910	3,588	20.0%

Section 3: Description of Major Findings

This section describes the major findings of this study in terms of the usage patterns of powerboating at the county level, the expenditures associated with powerboating trips, and spending on boats and related equipment, maintenance, and storage.

Types of Trips

This study focuses on two types of activities, day trips and overnight trips. Based on the estimated number of households and the response rates for each county, the research team estimates that a total of 411,559 powerboating trips were taken to Idaho destinations during the sample period.[3] The vast majority of trips, 352,941 were day trips and the remaining 58,618 were overnight trips. In general, the counties with the highest number of day trips were also those with the highest number of overnight trips. The top ten Idaho counties for day trips were (in the order from highest): Kootenai, Bonner, Benewah, Ada, Valley, Bonneville, Clearwater, Elmore, Nez Perce, and Fremont; with day trips to Kootenai county being by far the most frequent. For overnight trips, Kootenai ranked number three, with Valley and Bonner counties accounting for more overnight trips. The remaining Idaho counties in the top ten for overnight trips were Elmore, Fremont, Clearwater, Washington, Owyhee, Benewah, and Nez Perce. Statewide, the average length of stay for an overnight trip was 2.86 nights, with Benewah County reporting the highest number at nearly 8 nights. For most of these counties, the overnight trips form a relatively low percentage of the total number of trips but for four counties, Valley, Elmore, Fremont, and Owyhee, overnight trips comprise over 20% of the total trips taken. Relatively high percentages of overnight trips are also recorded for Adams, Idaho, Madison and Washington counties. The estimated day and overnight powerboating trips for each Idaho destination county are presented in Table 3, below.

[3] The estimation process is explained in Appendix B.

Table 3. Idaho Powerboating Trips by Destination County

Destination County	Estimated Number of Day Trips	Estimated Number of Overnight Trips	Overnight Trips as a Percent of All Trips	Average Length of Overnight Trips
Ada	19,848	1,697	7.9%	2.03
Adams	2,787	1,282	31.5%	2.01
Bannock	1,416	159	10.1%	1.67
Bear Lake	5,822	1,280	18.0%	3.56
Benewah	24,972	2,712	9.8%	7.77
Bingham	3,776	223	5.6%	1.50
Blaine	4,563	642	12.3%	2.42
Boise	5,687	357	5.9%	1.70
Bonner	33,626	7,123	17.5%	2.96
Bonneville	18,948	1,321	6.5%	1.98
Boundary	3,192	240	7.0%	2.17
Butte	45	-	0.0%	-
Camas	472	64	11.9%	2.06
Canyon	9,036	197	2.1%	3.04
Caribou	3,529	399	10.2%	1.97
Cassia	6,878	330	4.6%	1.87
Clark	22	-	0.0%	-
Clearwater	16,858	3,344	16.6%	2.02
Custer	8,182	1,721	17.4%	2.24
Elmore	16,746	5,036	23.1%	2.89
Franklin	5,979	650	9.8%	2.42
Fremont	13,599	3,529	20.6%	5.62
Gem	3,619	175	4.6%	4.53
Gooding	2,945	67	2.2%	6.50
Idaho	5,619	1,663	22.8%	4.56
Jefferson	1,956	-	0.0%	1.63
Jerome	1,236	30	2.4%	1.50
Kootenai	49,653	5,821	10.5%	2.73
Latah	270	-	0.0%	1.50
Lemhi	1,484	192	11.5%	5.78
Lewis	697	67	8.8%	2.58
Lincoln	22	-	0.0%	-
Madison	607	163	21.2%	2.88
Minidoka	5,574	139	2.4%	2.50
Nez Perce	14,453	1,901	11.6%	2.01
Oneida	1,978	168	7.8%	1.61
Owyhee	7,530	2,178	22.4%	4.04
Payette	1,416	-	0.0%	2.50
Power	7,125	471	6.2%	2.44
Shoshone	539	86	13.8%	2.00
Teton	787	-	0.0%	5.00
Twin Falls	12,745	1,228	8.8%	2.84
Valley	19,510	9,098	31.8%	2.10
Washington	7,193	2,863	28.5%	4.05
State Boating Totals	352,941	58,618	10.6%	2.86

Expenditures by Type

When recreationists go on day or overnight powerboating trips, they have expenditures for a variety of goods and services. These trip related expenditures plus the spending on equipment, maintenance, and storage, i.e. direct sales, generate increased economic activity and

employment. The spending on these categories creates increased demand for the goods and services provided by other sectors in the Idaho economy, i.e. inter-industry sales, thereby increasing incomes and employment again. These effects, in turn, create income to Idaho household, part of which will be spent. This too increases economic activity and employment in the State. For example, boaters buy fuel which requires the fuel sellers to hire more workers and therefore pay more in income. This increase in income for the seller of fuel in turn is spent on groceries and other goods and services, which also causes income and spending and employment to increase. As described in greater detail in Section Four, the initial spending on equipment and trips are the inputs into the Input-Output Analysis that are used in this report to estimate the economic impacts of powerboating in Idaho. In Input-Output analysis powerboating expenditures were tracked in several categories relevant to equipment, maintenance, and storage as well as spending related to powerboating trips, including fuel, lodging, food and beverage spending at retails stores and restaurants, sporting goods, boat rental, and other retail spending categories. Table 4 lists, county-by-county, spending category-by-spending category of the inputs entered into the Input-Output model. These are the expenditures that "trigger" the additional spending and employment known as the multiplier effects.

As seen in Table 4, spending related to powerboating totals over $335 million statewide. The top counties in terms of total spending are (in the order from the highest): Kootenai, Ada, Bonner, Valley, Nez Perce, Canyon, and Bonneville. Of note is that the mix of spending for equipment, maintenance, and storage relative to trip-related expenditures varies significantly across these counties. In the top two counties, Ada and Kootenai, annual spending on boats, trailers, and related equipment and parts as well as maintenance and repair comprise the bulk of powerboating spending. In other counties, such as Bonner, Bonneville, Nez Perce, and Valley counties, trip related expenditures are more important than equipment expenditures.

Next, we look carefully at the day and overnight trip expenditures by destination county. Tables 5 and 6 below provide detailed summaries and numerical description on how boaters spend money while on powerboating trips. Table 5 shows the day trip expenditures by county and Table 6 shows the overnight trip expenditures by county. These expenditure numbers do not

include the non-trip related expenses such as new and used boats, trailers, hitches, modification, maintenance, moorage, and storage.

Table 4. Spending on Power Boating Related Products and Services by Destination County

Destination County	Boats, Jet Skis, Trailers, Equipment, and Parts	Maintenance and Repair	Moorage and Storage	Boat and Vehicle Fuel	Campsites and Overnight Lodging	Food and Beverages Including Restaurants	Other Retail	Total
Ada	42,171,417	3,357,122	1,385,951	4,636,642	137,603	3,440,582	5,254,583	60,383,900
Adams	121,699	45,642	24,627	448,798	140,446	378,700	204,730	1,364,641
Bannock	2,572,289	480,947	266,977	277,876	24,645	276,654	459,583	4,358,970
Bear Lake	336,501	140,296	77,642	1,147,363	450,188	1,048,486	248,421	3,448,898
Benewah	568,479	133,232	108,805	1,000,089	68,676	1,134,357	596,745	3,610,383
Bingham	709,722	172,850	71,804	710,148	16,458	285,461	348,941	2,315,385
Blaine	589,731	113,598	42,880	712,783	41,345	796,954	329,181	2,626,472
Boise	166,895	576,050	63,836	595,477	993	465,615	198,512	2,067,378
Bonner	6,697,112	2,504,421	1,612,777	8,266,994	5,494,454	9,903,021	4,814,541	39,293,321
Bonneville	4,087,655	848,081	238,205	2,487,246	402,757	2,156,674	1,915,532	12,136,150
Boundary	553,632	145,580	135,623	398,482	67,943	333,919	208,437	1,843,616
Butte	9,526	2,810	1,508	958	0	519	5,761	21,080
Camas	21,731	2,374	0	27,257	0	15,134	8,340	74,837
Canyon	5,924,312	1,723,566	183,313	1,699,370	3,338	1,050,031	1,983,649	12,567,579
Caribou	265,926	49,442	13,132	470,768	130,037	537,149	366,554	1,833,007
Cassia	1,302,638	180,933	61,154	713,942	24,515	758,886	791,044	3,833,113
Clark	9,876	3,667	0	2,023	0	495	2,276	18,335
Clearwater	608,486	187,511	35,879	2,542,454	533,632	2,699,056	959,818	7,566,836
Custer	62,468	13,711	8,272	752,250	276,571	1,325,255	532,321	2,970,847
Elmore	729,194	236,228	96,271	2,302,050	402,876	1,918,718	709,317	6,394,653
Franklin	220,925	59,673	40,010	887,821	105,033	792,840	264,694	2,370,997
Fremont	367,882	80,906	27,062	1,878,863	680,330	2,207,973	708,696	5,951,712
Gem	199,133	47,838	16,345	781,377	5,116	464,397	303,830	1,818,037
Gooding	127,395	35,546	20,306	410,098	11,005	244,207	72,934	921,491
Idaho	633,172	104,920	24,615	1,258,507	287,105	1,169,410	347,140	3,824,869
Jefferson	577,678	209,090	41,675	269,864	0	230,753	267,400	1,596,460
Jerome	1,432,860	129,582	17,484	117,193	1,372	73,092	156,287	1,927,870
Kootenai	39,330,892	6,965,167	5,096,999	14,259,503	1,096,680	12,964,472	10,102,534	89,816,247
Latah	1,173,697	137,721	101,413	28,422	0	36,299	216,846	1,694,398
Lemhi	82,264	33,546	7,468	410,095	253,690	295,561	201,343	1,283,967
Lewis	100,111	38,418	4,960	160,041	1,844	69,591	27,556	402,522
Lincoln	59,433	4,664	0	1,178	0	655	2,519	68,449
Madison	587,179	189,402	62,812	176,661	688	98,019	62,732	1,177,493
Minidoka	418,605	141,680	39,723	843,824	5,220	556,919	386,611	2,392,581
Nez Perce	5,080,777	1,119,151	216,693	3,746,509	240,787	2,135,768	1,739,975	14,279,660
Oneida	96,125	15,807	2,090	147,676	24,794	197,897	74,596	558,985
Owyhee	238,976	48,656	25,471	849,658	126,996	722,852	465,417	2,478,026
Payette	692,956	147,646	3,245	181,730	0	78,592	104,165	1,208,335
Power	57,137	8,247	10,288	859,514	94,757	573,083	156,477	1,759,502
Shoshone	881,665	66,842	30,383	137,401	0	126,582	140,158	1,383,031
Teton	291,513	29,680	18,999	93,010	0	112,724	46,814	592,740
Twin Falls	1,933,318	716,900	153,591	1,760,854	82,028	1,215,582	1,040,745	6,903,019
Valley	1,472,707	561,045	564,150	4,664,383	1,763,081	6,085,652	2,721,788	17,832,805
Washington	399,191	47,830	24,891	1,690,315	339,767	1,128,636	722,170	4,352,799
Total:	123,964,879	21,858,017	10,979,326	64,807,468	13,336,770	60,107,221	40,271,714	335,325,397

For each county, spending on trips is allocated to either residents of a given county, “Resident Spending,” or to non-residents of the county, “Non-Resident Spending”. As seen in Table 5, more than 50% of recreational day trips in Bear Lake, Bonner, Custer, Elmore, Franklin,

Fremont, Idaho, Kootenai, Power and Valley counties are by *non-residents*. This is particularly important because, in terms of economic impacts, these expenditures by non-county residents bring revenues into the local economy from elsewhere, thereby having a greater impact on that county's employment, income, and economic activity than spending by residents.

Tables 5 and 6 show that the number of powerboating day trips greatly outnumber those of overnight trips, with day trips comprising approximately 90% of all powerboating trips statewide. Even in those counties with relatively higher percentages of overnight trips, day trips still significantly outnumber overnight powerboating trips. In terms of trip-related expenditures, however, the expenditures on overnight trips increases in importance for many counties in the state, and, in some counties, surpasses expenditures for day trips. Although the number of overnight trips compared to day trips is relatively low overall, the spending is not inconsequential and in some counties such as Valley County, spending on overnight trips is greater than for day trips.

Table 5. Day Trip Powerboating Expenditures by Destination County

Destination County	Estimated Number of Day Trips	Resident Spending	Non-Resident Spending	Total Spending	Non-Resident Spending as a Percent of Total Spending
Ada	19,848	$6,348,136	$1,821,483	$8,169,619	22.3%
Adams	2,787	$318,650	$64,880	$383,530	16.9%
Bannock	1,416	$439,933	$147,508	$587,442	25.1%
Bear Lake	5,822	$631,517	$1,126,887	$1,758,405	64.1%
Benewah	24,972	$1,297,703	$1,133,627	$2,431,330	46.6%
Bingham	3,776	$897,124	$154,094	$1,051,218	14.7%
Blaine	4,563	$913,317	$427,458	$1,340,775	31.9%
Boise	5,687	$651,699	$371,972	$1,023,671	36.3%
Bonner	33,626	$5,990,122	$9,143,772	$15,133,894	60.4%
Bonneville	18,948	$2,508,326	$2,146,326	$4,654,652	46.1%
Boundary	3,192	$520,685	$190,478	$711,163	26.8%
Butte	45	$1,618	-	$1,618	0.0%
Camas	472	$40,437	-	$40,437	0.0%
Canyon	9,036	$2,558,128	$760,854	$3,318,982	22.9%
Caribou	3,529	$757,651	$336,103	$1,093,754	30.7%
Cassia	6,878	$1,170,776	$370,919	$1,541,695	24.1%
Clark	22	$2,630	-	$2,630	0.0%
Clearwater	16,858	$4,091,627	$1,026,646	$5,118,273	20.1%
Custer	8,182	$668,997	$853,742	$1,522,740	56.1%
Elmore	16,746	$1,421,016	$2,086,416	$3,507,432	59.5%
Franklin	5,979	$703,530	$802,427	$1,505,956	53.3%
Fremont	13,599	$1,173,895	$1,865,256	$3,039,151	61.4%
Gem	3,619	$1,004,251	$412,301	$1,416,552	29.1%
Gooding	2,945	$515,909	$140,160	$656,069	21.4%
Idaho	5,619	$814,566	$850,252	$1,664,818	51.1%
Jefferson	1,956	$529,315	$144,954	$674,269	21.5%
Jerome	1,236	$188,462	$7,727	$196,189	3.9%
Kootenai	49,653	$11,838,716	$15,180,519	$27,019,235	56.2%
Latah	270	$69,933	-	$69,933	0.0%
Lemhi	1,484	$348,451	$184,944	$533,395	34.7%
Lewis	697	$160,013	$64,454	$224,467	28.7%
Lincoln	22	$1,976	-	$1,976	0.0%
Madison	607	$148,064	$88,727	$236,791	37.5%
Minidoka	5,574	$1,421,286	$127,050	$1,548,336	8.2%
Nez Perce	14,453	$3,591,485	$2,048,260	$5,639,745	36.3%
Oneida	1,978	$208,213	$94,038	$302,252	31.1%
Owyhee	7,530	$354,582	$584,323	$938,905	62.2%
Payette	1,416	$219,414	$68,444	$287,857	23.8%
Power	7,125	$325,067	$787,617	$1,112,684	70.8%
Shoshone	539	$277,396	-	$277,396	0.0%
Teton	787	$195,580	$27,535	$223,115	12.3%
Twin Falls	12,745	$2,227,733	$606,056	$2,833,790	21.4%
Valley	19,510	$1,885,191	$4,419,842	$6,305,034	70.1%
Washington	7,193	$871,362	$677,892	$1,549,254	43.8%
State Boating Totals	352,941	$60,304,480	$51,345,946	$111,650,426	31.4%

Table 6. Overnight Trip Powerboating Expenditures by Destination County

Destination County	Estimated Number of Overnight Trips	Resident Spending	Non-Resident Spending	Total Spending	Non-Resident Spending as a Percent of Total Spending
Ada	1,697	$5,031,428	$379,261	$5,410,688	7.0%
Adams	1,282	$248,240	$326,175	$574,415	56.8%
Bannock	159	$813,065	$34,731	$847,796	4.1%
Bear Lake	1,280	$67,386	$873,208	$940,594	92.8%
Benewah	2,712	$168,321	$230,294	$398,615	57.8%
Bingham	223	$172,837	$86,307	$259,144	33.3%
Blaine	642	$509,276	$114,490	$623,766	18.4%
Boise	357	$165,454	$83,114	$248,568	33.4%
Bonner	7,123	$733,933	$8,984,594	$9,718,527	92.4%
Bonneville	1,321	$769,277	$436,668	$1,205,946	36.2%
Boundary	240	$174,779	$152,272	$327,051	46.6%
Butte	-	-	-	-	0.0%
Camas	64	$18,674	-	$18,674	0.0%
Canyon	197	$1,142,745	$118,378	$1,261,123	9.4%
Caribou	399	$191,628	$143,056	$334,684	42.7%
Cassia	330	$193,251	$63,163	$256,414	24.6%
Clark	-	-	-	-	0.0%
Clearwater	3,344	$266,012	$1,046,500	$1,312,511	79.7%
Custer	1,721	$329,222	$789,478	$1,118,700	70.6%
Elmore	5,036	$129,528	$1,355,123	$1,484,651	91.3%
Franklin	650	$163,039	$280,565	$443,604	63.2%
Fremont	3,529	$124,441	$1,965,840	$2,090,281	94.0%
Gem	175	$504,233	$26,280	$530,513	5.0%
Gooding	67	$123,233	$26,801	$150,034	17.9%
Idaho	1,663	$210,468	$1,010,710	$1,221,178	82.8%
Jefferson	-	-	-	-	0.0%
Jerome	30	$156,067	-	$156,067	0.0%
Kootenai	5,821	$3,458,331	$2,681,981	$6,140,312	43.7%
Latah	-	-	-	-	0.0%
Lemhi	192	$121,247	$531,374	$652,621	81.4%
Lewis	67	$84,649	$13,410	$98,059	13.7%
Lincoln	-	-	-	-	0.0%
Madison	163	$216,705	$20,690	$237,395	8.7%
Minidoka	139	$269,506	$25,263	$294,769	8.6%
Nez Perce	1,901	$674,326	$873,023	$1,547,349	56.4%
Oneida	168	$67,568	$40,373	$107,942	37.4%
Owyhee	2,178	$460,459	$529,877	$990,336	53.5%
Payette	-	-	-	-	0.0%
Power	471	$186,120	$197,906	$384,027	51.5%
Shoshone	86	$94,566	-	$94,566	0.0%
Teton	-	-	-	-	0.0%
Twin Falls	1,228	$659,539	$209,757	$869,296	24.1%
Valley	9,098	$300,292	$6,389,651	$6,689,943	95.5%
Washington	2,863	$358,015	$973,018	$1,331,033	73.1%
State Boating Totals	58,618	$19,357,862	$31,013,332	$50,371,194	36.5%

Economic and Employment Effects of Powerboating Expenditures

The expenditures on equipment and activities related to powerboating have a multiplier effect on economic activity in Idaho. The spending detailed above on trips and on equipment such as

boats, trailers, hitches, and modifications as well as on maintenance, moorage and storage increases the level of economic activity, incomes, and employment in the counties where those expenditures occur. As shown in Table 4 above, these expenditures are substantial in many Idaho counties and total $335.3 million statewide. These direct expenditures result in "indirect" economic impacts in industries that service the demands of boating activities and those sectors of the economy that supply inputs to boating related industries. In addition, there are the "induced" impacts when employees of all these firms spend their income on groceries, car repair, movies, etc. Increased demand for food and beverages by boating recreationists, for example, leads to increased activity and employment for food and beverage wholesalers. The increase in direct and indirect economic activity will also generate additional effects due to increased demand and incomes in other sectors of the economy not directly related to boating. When it all plays out there will be few areas of the local economy that have not been affected by the boating activity. This process is known as the multiplier effect and is described more fully in Section Four.

Table 7 details the total economic impact of powerboating by county. Direct Employment is the number of jobs in industries directly involved in powerboating. Total Employment includes the direct employment plus the additional jobs created through the indirect and induced economic effects. Labor Income is the total amount of wages, salaries and benefits payed to workers directly employed in serving the power boaters. Value Added is the value of incomes attributable to boating activities. It includes Labor Income plus interest, rent, and profit. Output is the value of the local industry's output, that is, its sales.

As presented in Table 7, in 2015, powerboating in the State sustained an estimated 3,089 jobs; generated $87.99 million in labor income; generated $133.9 million in value added (labor income, interest, rent, and profit); and generated $227.9 million in total sales of locally produced goods and services. The top seven Idaho counties in terms of employment due to powerboating are, in order, Kootenai, Bonner, Ada, Valley, Nez Perce, Bonneville, and Canyon. These seven counties account for 71% of all powerboating related employment; 78% of all powerboating related labor income; 79% of all powerboating related value added and 77% of

all powerboating related sales of locally produced goods and services. Labor income exceeds $3 million in each of these counties, with increased labor income exceeding $24 million in Kootenai County.

Table 7. Impacts of Powerboating Activities by Destination County

Destination County	Direct Employment	Total Employment	Total Labor Income	Total Value Added	Sales
Ada	224.2	330.5	$14,347,627	$22,253,334	$34,041,268
Adams	12.3	14.1	$268,933	$417,741	$783,720
Bannock	35.4	45.8	$1,106,023	$1,877,341	$3,282,960
Bear Lake	54.2	64.5	$1,261,603	$1,861,254	$3,781,681
Benewah	34.9	38.9	$752,751	$1,052,451	$2,039,801
Bingham	13.6	15.7	$375,838	$580,070	$995,017
Blaine	25.1	28.0	$466,378	$663,948	$1,344,012
Boise	23.1	25.8	$538,400	$775,330	$1,377,418
Bonner	417.2	524.8	$12,586,306	$19,903,566	$36,369,870
Bonneville	81.6	106.4	$3,118,419	$4,699,380	$7,925,178
Boundary	18.2	21.4	$560,363	$842,193	$1,493,374
Butte	0.1	0.1	$4,499	$6,944	$10,461
Camas	0.4	0.5	$3,260	$6,604	$16,967
Canyon	79.2	102.1	$3,185,201	$4,863,087	$7,743,339
Caribou	18.3	19.9	$321,730	$454,727	$900,317
Cassia	27.9	32.9	$770,205	$1,104,807	$2,019,926
Clark	0.1	0.1	$298	$1,253	$3,619
Clearwater	64.7	75.7	$1,519,620	$2,167,977	$4,277,637
Custer	29.8	35.1	$702,386	$997,571	$2,014,115
Elmore	55.9	64.3	$1,540,853	$2,119,709	$3,853,888
Franklin	21.0	24.5	$393,895	$581,638	$1,235,415
Fremont	77.4	89.6	$1,641,255	$2,362,058	$4,897,121
Gem	13.6	15.6	$258,245	$381,433	$770,902
Gooding	5.9	6.4	$129,646	$204,162	$365,262
Idaho	32.4	38.9	$786,841	$1,107,087	$2,220,248
Jefferson	27.9	17.5	$282,609	$446,843	$883,405
Jerome	6.2	7.5	$322,676	$478,010	$696,248
Kootenai	592.3	776.9	$24,152,026	$37,668,581	$61,646,372
Latah	7.1	9.0	$288,272	$511,394	$788,915
Lemhi	13.1	15.7	$270,959	$420,640	$903,704
Lewis	2.0	2.3	$51,276	$90,103	$151,982
Lincoln	0.3	0.3	$8,592	$13,690	$21,045
Madison	6.8	8.5	$260,759	$418,860	$661,305
Minidoka	20.2	22.4	$396,219	$597,780	$1,150,003
Nez Perce	94.5	115.8	$3,388,228	$5,102,003	$8,530,852
Oneida	2.6	3.0	$102,862	$133,001	$208,676
Owyhee	23.2	25.7	$412,666	$587,929	$1,220,662
Payette	6.0	7.3	$245,074	$351,915	$567,943
Power	13.7	14.5	$254,183	$360,816	$701,294
Shoshone	4.9	6.1	$215,827	$356,084	$548,837
Teton	3.8	4.5	$117,121	$180,180	$310,775
Twin Falls	46.2	61.4	$1,967,932	$2,870,959	$4,778,024
Valley	183.8	234.8	$8,010,230	$11,196,331	$18,664,055
Washington	29.8	33.6	$600,941	$859,274	$1,703,435
Total	2,450.90	3,088.60	$87,989,026	$133,930,060	$227,901,048

In addition to increased employment and labor income, powerboating adds substantially to the overall level of economic activity for Idaho and in many Idaho counties. For the state as a whole, over $225 million generated in output/sales stems from powerboating activities and expenditures. It is notable that much of the difference between the Value Added and Sales figures is attributable to some tax revenues such as sales and excise taxes. A significant portion of these tax revenues is local in nature and therefore means additional tax revenues for the counties in which these activities take place. Kootenai, Bonner, Ada, Valley, and Canyon counties are chief among the counties benefiting from this additional economic activity and tax revenues.

Another way of measuring the multiplier effect of powerboating related economic activity generated as the activity ripples across different sectors of the economy is to estimate the amount of increased employment, income, and value added stemming from each additional direct job in the powerboating industry. These are shown at the county level in Table 8. In Ada County, for example, the employment multiplier is reported as 1.47. This number indicates that spending on powerboating activities that is sufficient to directly sustain one job, indirectly creates enough spending to sustain an additional 0.47 jobs. In addition, the spending that sustains 1.47 jobs also sustains an additional $63,994 in labor income and $99,255 in sales of locally produced goods and services.

The multipliers for powerboating are significant, however relatively small compared to the multipliers in other industries. Most of the spending is for retail purchases on goods that are produced outside the state. Powerboats, life jackets, food, fuel are produced elsewhere and local production is primarily in retail services. By contrast the multipliers for the dairy industry are at least 2.5. Dairy requires locally produced feed; locally produced veterinarian services; locally produced transportation.

In the next section of this report, a more detailed explanation is provided of the economic concepts and methodology used. A general description of Input-Output Analysis is provided first followed by an explanation of how the data on spending on powerboating equipment and

activities gets translated into the estimates of the employment, income, and overall economic activity determined in this study.

Table 8. Multiplier Effects of Powerboating Activities by County

County	Employment	Labor Income	Value Added
Ada	1.47	$63,994	$99,255
Adams	1.15	$21,922	$34,052
Bannock	1.29	$31,252	$53,046
Bear Lake	1.19	$23,263	$34,321
Benewah	1.11	$21,584	$30,177
Bingham	1.15	$27,604	$42,604
Blaine	1.11	$18,596	$26,473
Boise	1.11	$23,260	$33,496
Bonner	1.26	$30,170	$47,710
Bonneville	1.30	$38,232	$57,615
Boundary	1.18	$30,726	$46,179
Butte	1.09	$35,718	$55,137
Camas	1.07	$7,359	$14,908
Canyon	1.29	$40,203	$61,382
Caribou	1.09	$17,549	$24,804
Cassia	1.18	$27,610	$39,604
Clark	1.11	$3,769	$15,834
Clearwater	1.17	$23,474	$33,490
Custer	1.18	$23,598	$33,516
Elmore	1.15	$27,563	$37,918
Franklin	1.16	$18,725	$27,650
Fremont	1.16	$21,202	$30,513
Gem	1.15	$18,979	$28,032
Gooding	1.09	$22,015	$34,668
Idaho	1.20	$24,273	$34,152
Jefferson	0.63	$10,131	$16,018
Jerome	1.21	$52,334	$77,528
Kootenai	1.31	$40,779	$63,601
Latah	1.27	$40,642	$72,099
Lemhi	1.19	$20,613	$31,999
Lewis	1.14	$25,274	$44,412
Lincoln	1.13	$34,264	$54,595
Madison	1.25	$38,511	$61,861
Minidoka	1.11	$19,653	$29,650
Nez Perce	1.23	$35,871	$54,014
Oneida	1.15	$39,268	$50,773
Owyhee	1.11	$17,800	$25,360
Payette	1.22	$40,717	$58,468
Power	1.06	$18,550	$26,332
Shoshone	1.25	$44,303	$73,093
Teton	1.19	$30,766	$47,331
Twin Falls	1.33	$42,560	$62,090
Valley	1.28	$43,579	$60,913
Washington	1.13	$20,177	$28,850

Section 4: Methodology

As a major source of spending on recreational activities in Idaho, powerboating generates significant economic impacts in many counties and for the state as a whole. In this section of the report, an overview of the methodology used in economic studies to determine these impacts is provided. Some key concepts and terminology important for an understanding of the results of this study are described. In addition, an explanation is given of the types of expenditures, their relevance to key economic sectors in Idaho, and their role in determining the economic impacts estimated here.

Overview of Input-Output Methodology

Economists have established a variety of measures for understanding the economic impact of activities across different parts of the economy. These avenues of economic impacts on jobs and overall economic output are well known and can be estimated by the use of a technique known as Input-Output (I-O) analysis. An underlying concept in I-O analysis is the notion that industries are closely linked and that economic activity in one industry ripples across other sectors of the economy, generating impacts both directly and indirectly.

The initial economic impacts from powerboating stem from the expenditures on boats, related equipment, and maintenance activities as well as expenditures each time a boating trip is made. The impacts from these expenditures are known as *direct effects*. For example, the immediate effects of boating trips often comprise expenditures on fuel, food, and lodging. These expenditures directly increase employment, income and output in the industries that support these activities at both the county and state levels. In this present study, the direct effects involve total spending that occurs due to the decision to recreate through the use of powerboats in the 44 counties of the State of Idaho.

In addition to the direct effects of powerboating, we also measure the *indirect effects*. These are additional business and jobs that are created in non-powerboating related industries that support the direct effects of the powerboating recreation. These stem from purchases on the part of suppliers of goods and services to support the direct powerboating expenditures. These

effects can be considered as supply-chain effects and stem from the fact that when purchases are made from one industry, those input suppliers must purchase inputs from other industries. For example, when meals are purchased at a restaurant to support the demands of powerboating participants, that firm must then purchase its food, beverages and related inputs from others. These types of purchases from "backward linked" industries constitute the inter-industry indirect effects of the initial economic activity.

Finally, there are economic impacts caused by the direct and indirect dollars being re-spent in the economy. These subsequent economic impacts occur when purchases of goods and services from the direct and indirect economic activities related to powerboating increase incomes of households that are employed by these industries. The increases in household spending are termed the *induced effects* of powerboating in the state. For example, when employees in the affected industries spend their income on items such as food, clothing, entertainment and automobiles, these purchases will stimulate economic activity throughout the study area's economy.

The direct, indirect and induced effects are well known to economists and cumulatively constitute the total impacts of powerboating on employment, personal income and total output. The presence of indirect and induced economic effects means that an initial increase in demand for a given industry's output will get multiplied in the economy. The size of the multiplier effects is of primary concern in I-O analysis and is an important component in determining the overall economic impacts of industry changes. In essence, multipliers determine how the direct change in final demand of a single industry ripples throughout all the other industries in an economy. In order to capture the overall impacts, I-O models use the concept of a multiplier. Multipliers signify that the extent to which jobs in a specific industry generate economic activity in other industries. Multipliers are estimated on the basis of historical data across a multitude of industrial sectors of the economy. Two basic types of multipliers are recognized in standard I-O analysis. Type I multipliers measure the direct changes and the indirect effects of an industry's backward linkages. Type II multipliers, also known as SAM multipliers, are larger in magnitude and more broad-based by virtue of the fact that they include the direct, indirect, and induced effects. It assumes wage, salaries and other

income circulate through the economy along with backward linkages of business purchases. Type II multipliers measure the direct, indirect, and induced impacts from a change in final demands as measured by sales (i.e. the value of local output). Because the sum of the direct, indirect, and induced measures the total impact of an industry to an economy, this study employs Type II multipliers. Once the Type II multipliers for the powerboating industry are calculated, they can be used to estimate the changes in overall economic activity. For this study, we employ data that examine inter-industry linkages in Idaho to estimate the impacts of powerboating on each county and for the state as a whole.

There are a variety of I-O modeling software programs and data systems that are available for economic impact modeling. They include programs from REMI *Economic Modeling Inc*, EMSI - *Economic Modeling Specialists, Inc.*, RIMS II- *Regional Input-Output Modeling System*, and IMPLAN-*Impact Analysis for Planning.* IMPLAN is one of the most tested and most widely used modeling software, being originally developed for the United States Department of Agriculture Forest Service in the late 1970s and early 1980s. IMPLAN has been refined and used for a wide variety of economic activity assessment by both the private and public sectors, including food and lodging operations, capital expenditures on equipment related to recreational activities, and resulting tax revenues generated by these activities. In addition, the IMPLAN model has great flexibility, robustness, and transparency and, unlike some I-O models, the IMPLAN model itself and the economic data used are updated frequently. For these reasons, IMPLAN was chosen as the software platform and data system for this analysis.

For this study, output and employment multipliers for various IMPLAN sectors relevant to the powerboating industry are used. These include sectors such as food and beverages including restaurants, fuel, accommodations, moorage and storage, and vehicles, trailers and related equipment. The IMPLAN analysis used here employs a model of inter-industry linkages from 2013 and economic data from 2015. This is the most recent model for the 44 counties in Idaho in order to obtain multipliers for economic output and employment. The model provides multipliers for 536 different industrial sectors, each with an industry-specific indirect multiplier for itself and each of the other 535 industries. IMPLAN provides a comprehensive set of disaggregated multipliers that can be used to estimate the indirect and induced impacts

separately from the total impact at the regional level. Further, data is available at the county level and thereby enables the I-O model employed here to be able to separately analyze the effects on the overall economy of the state as well as the impacts on the economy of each Idaho county.

Translating Expenditures into Economic Effects

As described above, the IMPLAN model used in this study contains 536 different economic sectors. The data generated by the survey to powerboat registrants enabled the research team to allocate expenditures across a number of industrial sectors. The expenditure categories shown in Table 4 in the previous section are each aggregated from a number of economic sectors. For example, expenditures aggregated into the Food and Beverages category are aggregated across several different economic sectors including food and beverage stores, food service and drinking places, and others. The disaggregated expenditure data were allocated into the relevant industrial sectors of the IMPLAN model of the Idaho economy in order to determine the direct, indirect, and induced impacts from powerboating on each of the 44 counties in the state and the state as a whole.

In terms of the economic impacts of the powerboating industry, the direct effects stem from the actual expenditures across the relevant industrial sectors related to powerboating. An increase in the demand for powerboating services, for example, will create additional employment and salaries within powerboating industry. This study uses the expenditure data received by the survey respondents as inputs into the relevant expenditure categories described above. The indirect effects stem from the purchases of goods and services by the powerboating industry from suppliers in other industries. In effect, the powerboating industry's backward linkages, as its purchases from other firms ripple through the economy in a chain-like manner, constitute the indirect effects of powerboating. The induced effects stem from the increase in wage and salary earnings and other household income that ripples through the economy as direct and indirect dollars are spent and re-spent in the national economy. The IMPLAN model of the Idaho economy estimates these indirect effects using multiplier analysis

for each Idaho county. Table 8 in the previous section shows the calculated multiplier effects for all 44 Idaho counties.

Section 5: Summary

This study uses the expenditure data received by the survey respondents as inputs and first determines the amounts and types of spending on activities directly related to powerboating. We estimate that, in 2015, over $335 million was spent on powerboating activities in the state. More than $145 million was spent on boats, jets skis, related equipment, and maintenance; another nearly $11 million on moorage and storage; and over $178 million on food, fuel, lodging and miscellaneous retail. Survey results showed that powerboat ownership is concentrated in the most populated counties: Ada, Bannock, Bonneville, Canyon, Kootenai, Nez Perce, and Twin Falls, and boat usage is concentrated in those counties that have access to the water: Kootenai, Bonner, Valley, Nez Perce, Fremont, and Bear Lake. The top counties in terms of trips and trip-related expenditures are Ada, Bonner, Clearwater, Kootenai, and Valley counties.

In addition, the economic analysis performed for this study estimates the increase in employment, income, and economic activity created both directly and indirectly by all types of powerboating-related spending. We estimate that Statewide, 3,100 jobs are attributed to powerboating; $88 million in labor income; $46 million in interest income, rental income, and profit; and $228 million in sales. Idaho counties with highest gains from total economic impact of powerboating are associated with population and/or water, e.g. Kootenai, Bonner, Ada, Valley, Nez Perce, Bonneville, and Canyon.

Section 6: References

Leontief, W. W. (1986). *Input-Output Economics.* 2nd ed., New York: Oxford University Press.

Weisbrod, G., Weisbrod, B. (1997). Measuring economic impacts of projects and programs, Economic Development Research Group, Boston, MA.

Appendix A: Economic Impacts Survey and Cover Letter -- Recreational Powerboating in Idaho

Please answer the following questions considering only the period of the last 12 months
Note: You can also answer these questions online at http://tinyurl.com/idaho-boating by entering the Survey Identifier Number found at the top of this survey

For any / all power boats you own [a power boat is defined as a boat with a mechanical engine, e.g. jet ski, jet boat, ski boat, fishing boat, sail boat, pontoon boat etc.], please answer the following questions:

1. Did you use your power boat(s) for recreation in Idaho in the last 12 months? ☐ Yes ☐ No ***If NO please skip to Section III (question #15)***

SECTION I: DAY TRIPS OVER THE LAST 12 MONTHS

2. What is the total number of **day trips** (daily outings) that you have taken with your power boat(s) in Idaho during the **last twelve months?** _____ (An individual **daily** outing with your power boat is defined as some amount of time -- without spending a night-- that you spend using your power boat within a day.)

3. For the **day trips** (outings) you made with your power boat(s) during the last 12 months, please list the Idaho counties in which you recreated with your power boat, the month the outing took place, and check-mark the types of power boats used on that outing – ***JS*** refers to jet skis, ***Sail*** refers to sailboats, ***SB*** to small power boats 16 feet and under in length, and ***LB*** to large power boats 16 feet or more in length. (If you do not know the county, please list the name of the lake or river that you visited).

Outings	*County or Counties Visited*	*Month of Outing*	*Types of Boat(s) Used*			
			JS	*Sail*	*SB*	*LB*
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

4. For the day trips (outings) identified above, what was the percent of the trips for which power boating was the primary purpose? _____ Percent

From your list of recreational day trip outings with a power boat, please select a **single location** that you visited most frequently on a day trip (daily outing), and answer questions 5-7 below:

5. Identify the county and the recreation site name of this location?

   County: _____ Site name: _____

6. For most typical day trips with a power boat at this location, how many adults and children, including yourself, participated? _____Adults _____ Children (17 and under)

7. Please estimate the total amount you spent during your typical recreational power boat outing identified above using the following categories. If you have not made any purchases for the specified categories, please enter zero ($0).

Item	***Amount Spent in Home County***	***Amount Spent in Destination County***
Food and beverage in restaurants	$	$
Food and beverage in stores	$	$
Round trip fuel for vehicle / fuel for power boat	$	$
All other purchases	$	$

SECTION II: OVERNIGHT TRIPS OVER THE LAST 12 MONTHS

8. What is the total number of **overnight trips** (overnight outings) that you have taken with your power boat(s) in Idaho during the **last twelve months?** _____ (A single overnight outing with your power boat is defined as some amount of time – from at least one night to a number of days – that you use your power boat.)

9. For the **overnight trips** (outings) you made with your power boat(s) during the last 12 months, please list the Idaho counties in which you recreated with your power boat, the month the outing took place, the number of nights spent on each outing, and check-mark the types of power boats used – ***JS*** refers to jet skis, ***Sail*** refers to sailboats, ***SB*** to small power boats 16 feet and under in length, and ***LB*** to large power boats 16 feet or more in length. (If you do not know the county, please list the name of the lake or river that you visited).

Outings	***County or Counties Visited***	***Month of Outing***	***Number of Nights***	***Types of Boat(s) Used***			
				JS	***Sail***	***SB***	***LB***
1							
2							
3							

4							
5							
6							
7							
8							
9							
10							

10. For the overnight trips (outings) identified in question #9, what was the percent of the trips for which power boating was the primary purpose? _____ Percent

From your list of overnight recreational outings with a power boat in question #9, please select a **single location** that you visited most frequently (or spent the greatest amount of time away from your primary place of residence) on an overnight trip (outing), and answer questions 11-14 below:

11. Identify the county and the recreation site name of this location?

County: _____ Site name: _____

12. How many nights did you typically spend during an overnight recreational power boat outing at this location? _____

13. How many adults and children, including yourself, participated in the recreational overnight trip with a power boat at this location? _____Adults _____ Children (17 and under)

14. Please estimate the total amount of money you spent during your recreational power boat outing identified above using the following categories. If you have not made any purchases for the specified categories, please enter zero ($0).

Item	***Amount Spent in Home County***	***Amount Spent in Destination County***
Lodging (hotel, motel, cabin rental etc.)	$	$
Lodging campgrounds (private or public)	$	$
Food and beverage in restaurants	$	$
Food and beverage in stores	$	$
Round trip fuel for vehicle and fuel for	$	$

power boat		
Other retail purchases of equipment & supplies	$	$
All other purchases	$	$

SECTION III: HOUSEHOLD EXPENDITURES OVER THE LAST 12 MONTHS

15. How much did your household spend on the following items related to owning a power boat during the **last twelve months?** Please estimate to the best of your ability. If you have not made any purchases for the specified categories, please enter zero ($0).

Item	***Total Expenditures last 12 months***	***County where purchased***
New or used power boat	$	
Trailer & hitch	$	
Equipment (e.g. life jackets, skis, electronics, wakeboards, etc.)	$	
Maintenance & Repair (e.g. painting, parts etc.)	$	
Modifications and upgrades (e.g. new motor)	$	
Storage dues / moorage expenses	$	
All other purchases	$	

Idaho Department of Parks and Recreation
PO Box 83720
5657 Warm Springs Avenue
Boise, Idaho 83720-0065

Date
«First_Name» «Middle_Initial» «Last_Name»
«Address»
«City» «State» «Zipcode»

Dear Power Boat Registration Holder:

The Idaho Department of Parks and Recreation in conjunction with the Economics Department at Boise State University is conducting a survey of registered power boat users. This survey is for research purposes only and your participation is voluntary. Fully completed surveys will be eligible to enter to a drawing for ***five gift cards of $500 each at the outdoor sporting goods store, Cabela's*** at the completion of the surveying process. The drawing for gift cards will take place on December 21, 2015. Your participation in this survey will give us a better picture of power boat recreation activity and annual economic impact of power boat recreation in the state and in each county. As a registered Idaho power boat owner, you were randomly selected to participate in this survey.

Please take a few minutes to answer the questions in the attached survey questionnaire. After completing the questionnaire, return it by mail in the enclosed prepaid envelope. If you did not use your power boat for recreation in the last twelve months in Idaho, please complete only the applicable questions and return the survey.

The questionnaire has an identification number for the purposes of sorting responses and to identify the winners of the drawing for gift cards. After the gift cards are sent to winners of the drawing, all identifying information will be removed. All your responses will remain strictly confidential and will only be used for statistical purposes. Neither your name nor any other identifying information will be used with the data.

This survey has been approved by the Institutional Review Board at Boise State University. If you have questions about your rights as a survey participant, you may contact the Boise State University Institutional Review Board (IRB), which is concerned with the protection of volunteers in research projects. You may reach the board office between 8:00 AM and 5:00 PM, Monday through Friday, by calling (208) 426-5401 or by writing: Institutional Review Board, Office of Research Compliance, Boise State University, 1910 University Dr., Boise, ID 83725-1138.

Thank you for participating in this important survey. If any questions should arise regarding this survey, please contact the Zeynep Hansen at the Economics Department at Boise State University at 208-426-3314 or at zeynephansen@boisestate.edu.

Sincerely,

Dave Claycomb
Recreation programs Bureau Chief
Idaho Department of Parks and Recreation
(In conjunction with Boise State University Economics Department Research Team for the power boating study)

Enclosures: Survey, Return Envelope

Appendix B: An Explanation of How Estimates Were Made Using Data from the Survey

Day Trips

The objective is to calculate the total amount of spending on day trips in each spending category in each county. The final calculation is to multiply the average amount spent per trip by the total number of trips taken.

1. Tally the number of registered boat owners by county
2. Tally the number of registered boat owners that responded to the survey by county
3. Tally the number of survey respondents in each county that went on at least one-day trip from the home county to a destination county
4. Tally the total number of day trips taken by survey respondents from the home county to a destination county
5. Calculate the average number of day trips per survey respondent by dividing #4 by #2
6. Estimate the total number of day trips taken by the population of registered boat owners for each county by multiplying the average number of day trips taken by each survey respondent, #5, by the number of registered boat owners, #1.
7. From the survey, calculate the average amount spent on the "typical day trip" in each spending category
8. For each spending category, calculate the total amount spent by multiplying the average amount spent on a typical day trip by the total number of day trips taken. This is distributed across all counties from the home county to the destination county.

Overnight Trips

The objective is to calculate the total amount of spending on overnight trips in each spending category in each county. The final calculation is to multiply the average amount spent per night by the total number of nights spent on overnight trips.

Much the same way as with day trips, but not exactly:

1. Estimate the total number of nights spent on overnight trips. This is number of nights not the number of trips.
2. The average amount spent per night in each spending category is calculated
3. The two are multiplied to get the total amount spent by the population of boat registrants in each spending category in each county.

The following tables show the estimates for purchases of food and beverages related to the trip. Purchases are not limited to restaurants but include all purchases whether in restaurants, grocery stores, convenient stores, etc.

Table 9. Spending on Food & Beverages

Idaho County or State of Registration	Resident Population Spending ($)	Non-Resident Population Spending ($)	Resident plus Non-Resident ($)
Ada	717,795	275,009	992,803
Adams	2,969	61,378	64,348
Bannock	28,670	23,132	51,802
Bear Lake	136,172	490,481	626,654
Benewah	64,230	549,750	613,981
Bingham	17,939	7,628	25,567
Blaine	77,812	68,867	146,680
Boise	18,938	230,878	249,816
Bonner	3,304,068	9,100,405	12,404,473
Bonneville	334,775	387,971	722,745
Boundary	57,398	4,857	62,256
Butte	-	-	-
Camas	-	-	-
Canyon	184,564	230,566	415,129
Caribou	32,419	114,550	146,969
Cassia	195,836	167,676	363,513
Clark			
Clearwater	109,147	214,529	323,675
Custer	8,314	205,091	213,405
Elmore	196,045	612,809	808,854
Franklin	38,012	125,886	163,898
Fremont	243,240	565,043	808,283
Gem	24,482	91,442	115,924
Gooding	19,521	46,573	66,094
Idaho	16,602	353,855	370,457
Jefferson	26,745	75,718	102,463
Jerome	1,706	-	1,706
Kootenai	4,652,251	12,744,498	17,396,749
Latah	-	-	-
Lemhi	14,001	19,435	33,436
Lewis	-	-	-
Lincoln	-	-	-
Madison	4,088	1,326	5,414
Minidoka	43,783	11,689	55,471
Nez Perce	238,263	488,889	727,152
Oneida	2,914	26,188	29,101
Owyhee	43,258	317,281	360,540
Payette	15,963	4,149	20,111
Power	35,925	334,894	370,819
Shoshone	-	-	-
Teton	10,206	-	10,206
Twin Falls	215,575	97,040	312,615
Valley	469,252	1,633,935	2,103,187
Washington	-	188,262	188,262
Other Western States			
California	-	-	-
Montana	-	-	-
Oregon	-	3,117	3,117
Utah	-	-	-
Washington	-	123	123
Wyoming	-	28,850	28,850
Total	11,602,878	29,903,770	41,506,648

Table 10. Spending on Fuel for Vehicle and Powerboat: Day Trips Only

Idaho County or State of Registration	Resident Population Spending ($)	Non-Resident Population Spending ($)	Total Population Sending ($)
Ada	4,003,963	459,763	4,463,726
Adams	10,392	118,851	129,243
Bannock	80,037	29,440	109,477
Bear Lake	298,979	539,237	838,216
Benewah	173,525	875,538	1,049,063
Bingham	549,200	75,740	624,940
Blaine	108,729	157,634	266,363
Boise	65,495	724,969	790,463
Bonner	3,952,277	12,049,978	16,002,254
Bonneville	2,029,621	966,805	2,996,426
Boundary	128,438	5,829	134,267
Butte	-	-	-
Camas	-	25,623	25,623
Canyon	1,389,134	931,578	2,320,712
Caribou	150,338	210,786	361,124
Cassia	365,679	348,661	714,339
Clark	-	-	-
Clearwater	482,511	1,130,293	1,612,803
Custer	31,887	343,273	375,160
Elmore	1,037,961	2,501,513	3,539,475
Franklin	189,582	376,413	565,995
Fremont	268,482	1,201,877	1,470,359
Gem	231,127	186,205	417,332
Gooding	78,863	101,879	180,742
Idaho	82,348	793,855	876,203
Jefferson	66,159	93,192	159,350
Jerome	26,021	41,388	67,409
Kootenai	12,993,188	10,380,307	23,373,496
Latah	837	-	837
Lemhi	51,551	26,431	77,982
Lewis	4,538	107,183	111,720
Lincoln	-	-	-
Madison	32,835	2,652	35,487
Minidoka	272,210	69,952	342,162
Nez Perce	2,232,991	1,601,332	3,834,323
Oneida	18,800	62,374	81,174
Owyhee	157,303	1,138,215	1,295,517
Payette	164,946	64,308	229,254
Power	330,375	842,673	1,173,048
Shoshone	19,950	-	19,950
Teton	6,698	-	6,698
Twin Falls	1,021,175	383,933	1,405,107
Valley	1,140,318	3,004,564	4,144,881
Washington	842,518	865,871	1,708,389
Other Western States			
California	-	-	-
Montana	-	-	-
Oregon	-	6,983	6,983
Utah	-	-	-
Washington	-	1,740	1,740
Wyoming	-	18,405	18,405
Total	35,090,978	42,867,243	77,958,221