

Section 4

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# Annual Economic Impact of Non-Motorized Boating

## 4. Annual Economic Impact of Non-Motorized Boating

This section of the report summarizes the economic impact of non-motorized boating in California.

This section is organized as follows:

- A. *Economic Impact Analyses*
- B. *Methodology for Determining the Economic Contribution of Non-Motorized Boating in California*
- C. *Results of Economic Impact Analysis for Non-Motorized Boating in California.*

### A. Economic Impact Analyses

Economic impact analyses measure the change in overall economic activity (growth or contraction) brought to a nation, state, or region due to a particular event or activity. One type of economic impact study measures the change in economic activity resulting from a specific action – for example building a new golf course or whitewater rafting on a particular river. These studies look only at new economic activity in the region resulting from that activity. A second type of economic impact study determines the total economic contribution, or economic significance, of a particular activity – in this case non-motorized boating. The analyses described in this section are of the second type of economic impact – the total contribution to the economy from non-motorized boating in California.

This study examined the total contribution of non-motorized boating to the State economy, that is, the economic contribution or economic significance of non-motorized boating in California. The study estimated the extent of this economic contribution in the State and answered the following questions. Does non-motorized boating result in a significant contribution to California’s economy? Does non-motorized boating create jobs in the State? How much state and local tax revenues can be attributed to non-motorized boating?

Economic impact and economic contribution studies are quite different from economic benefit studies, which determine the recreational user value of an activity (Section 5). This economic contribution study was not concerned with the intangible value of benefits to boaters, but with the economic contributions resulting from boaters’ actual expenditures. Economic impact and economic contribution studies measure the impacts of actual transactions in the economy.

This economic impact study utilized the industry standard economic impact analysis software, IMPLAN (“impact planning”) to measure the economic contribution of non-motorized boating in California.<sup>1</sup> Input-output economic models use national and



regional economic data to measure this “ripple effect” of economic activity.

The total output or economic impact consists of three different types of effects:

1. Direct effects – immediate spending on purchases for final use. For example, purchases of boats, equipment, and trip expenditures such as food, gas, rentals, guides, etc.
2. Indirect effects – spending by industries that result from the direct expenditures. For example, changes in sales, in sectors within the region that supply goods and services related to non-motorized boating.
3. Induced effects – expenditures by employees in directly and indirectly impacted businesses for housing, utilities, groceries, etc.

The total economic significance, or output, of an activity such as non-motorized boating is the sum of the direct, indirect, and induced effects. That is, the total economic contribution is equal to: (Direct expenditures) + (Indirect expenditures) + (Induced expenditures).

### B. Methodology for Determining the Economic Contribution of Non-Motorized Boating in California

This analysis of the economic contribution of non-motorized boating utilized the MIG IMPLAN Professional Software, Version 2.0, combined with State of California 2004 data.<sup>2</sup> These were the most up-to-date economic modeling resources available at the time of this study. The final economic impact estimates were adjusted to 2006 year dollars, reflecting the year for which survey data were obtained.

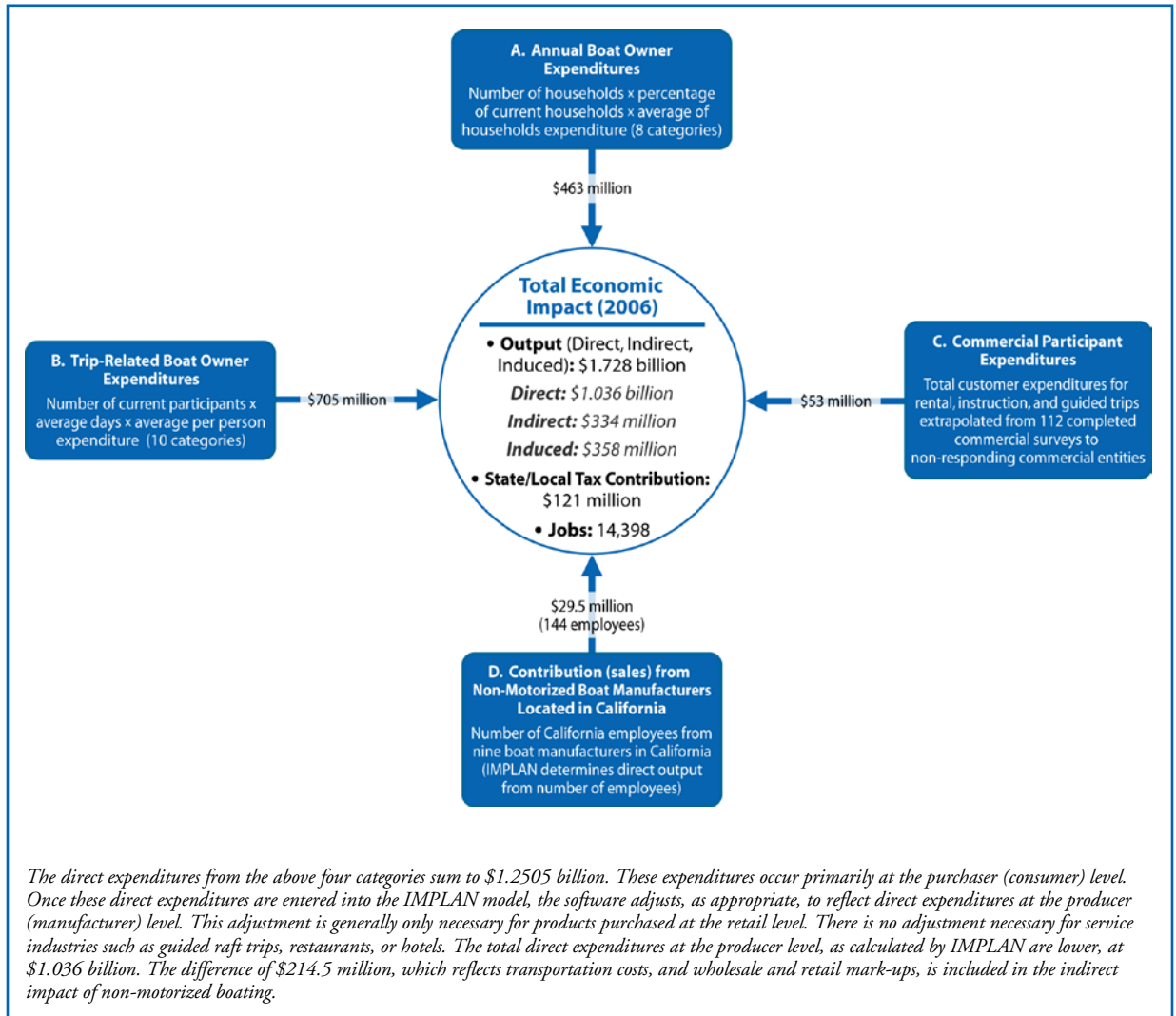
The analyses included estimated non-motorized boating expenditures in four broad areas: (1) annual expenditures by non-motorized boat owners; (2) trip expenditures by non-motorized boat owners;

(3) consumer expenditures for non-motorized boat rentals, instruction, and guided trips; and (4) contributions from non-motorized boat manufacturers in California. **Exhibit 4-1**, on the next page, illustrates the four major categories of direct expenditures. These four expenditure areas can be further defined into six different sets of economic data, including expenditures and participation figures:

1. Number of non-motorized boat owning households. These data on total number of non-motorized boat owning households statewide, and in each of the ten DBW regions, were based on the statewide and regional random telephone survey results.
2. Average annual household expenditures of non-motorized boat owning households. These data were generated from results of the statewide random telephone survey for eight different expenditure categories.
3. Number of participant days for non-motorized boating trips, among non-motorized boat owning households. This figure was based on the statewide and regional random telephone surveys, using the average number of days of non-motorized boating per current participant.
4. Average per day non-motorized boat owner trip expenditures. These data were from the statewide random telephone survey for trip expenditures, adjusted to a per-person and per-day basis, for ten different expenditure categories.
5. Participation and expenditures for non-motorized boat rentals, instruction, and guided trips. These data were based on results of the commercial survey of 112 non-motorized boating commercial and institutional entities, and extrapolated by region to an estimated population of about 243 such entities.
6. Estimated gross sales output from nine non-motorized boat manufacturers located in California. The economic contribution of these businesses was based on the number of California employees at each business. The IMPLAN software calculated the value of sales based on average sales per employee ratios for the boat building industry.

**Exhibit 4.1**

**Economic Impact Methodology Flow Chart for Non-Motorized Boating in California (2006)**



In general, there are limitations to economic impact studies. The results of this study utilized average (mean) participation and expenditure figures from the statewide random telephone survey. This methodology was consistent with other similar economic impact analyses.

It is important to note that mean participation and spending figures were highly variable, and reflected a wide range of responses, thus using the mean (rather than a median) could have overstated results. At the same time, there were several other factors that made the results of this

current non-motorized boating study conservative. Given the nature of these types of economic impact studies – with single large dollar value results based on a number of smaller inputs – erring on the side of conservatism provided more realistic and supportable results.

Factors that led to a more conservative estimate of the impact of non-motorized boating included:

- This study did not obtain data on non-motorized boating trip expenditures from out-of-state participants that owned their own boats. California offers unique non-motorized

boating opportunities, particularly for whitewater rafting and kayaking, sea kayaking, windsurfing, and kiteboarding. For example, the active-user Internet survey included responses from boaters in Nevada, Colorado, New York, North Carolina, Texas, and New Zealand that traveled to California to boat. Travelers from out-of-state incur significant expenses for food, lodging, and travel.

- This study also did not include trip expenditures for club and commercial/institutional participants, nor did it include annual expenditures for club participants. The limited data available in these categories were not adequate to provide reasonable expenditure estimates that could be extrapolated to the entire California population of commercial and club participants. Total trip expenditures for these participants were lower than for boat owners.
- This study had lower trip expenditure data from the statewide random survey than found in other types of studies of non-motorized boating participants. This difference may have been due to the true random nature of the large-scale statewide telephone survey, as compared to many other recreation participation studies that were based on a panel of outdoor enthusiast respondents, and then extrapolated to the general public. Also, the results of the statewide and regional random telephone surveys indicated that a large share of non-motorized boating took place close to home, and thus respondents incurred relatively little trip-related expenditures.

### C. Results of Economic Impact Analysis for Non-Motorized Boating in California

The total economic contribution of non-motorized boating in California in 2006 was \$1.7 billion. **Table 4.1**, above, illustrates the direct, indirect, and induced components of the total output figure.

**Table 4.1**  
Total Economic Contribution (Output) of Non-Motorized Boating in California (2006)

Impact Category	Value
Direct	\$1,036,581,606
Indirect	334,126,729
Induced	357,618,180
<b>Total</b>	<b>\$1,728,326,515</b>

**Table 4.2**  
Employment Impact of Non-Motorized Boating in California (2006)

Impact Category	Number of Jobs
Direct	9,391
Indirect	2,212
Induced	2,795
<b>Total</b>	<b>14,398</b>

In 2006, California’s Gross State Product (GSP) was \$1,727,355,000,000.<sup>3</sup> Thus, non-motorized boating contributed 0.1 percent of California’s GSP.

There were approximately 1.7 million non-motorized boats in California in 2006. Thus, the annual economic impact of each individual non-motorized boat in California was just over \$1,000.

Non-motorized boating in California provided 14,398 jobs in 2006. **Table 4.2**, above, illustrates the direct, indirect, induced, and total number of jobs created by non-motorized boating in California.

Non-motorized boating activities generate state and local tax revenues, which represent benefits to the State of California and its residents in general. Using IMPLAN, the total state and local tax impact of non-motorized boating in California in 2006 was \$121 million. The largest share of contributions to the total tax revenues were from indirect business taxes (sales tax and property tax) and personal income tax.

**Table 4.3**  
**Comparison of Two Economic Impact Studies**  
**for Boating in California**

Category	Non-Motorized Boating, California, 2006	Boating Needs Assessment 2000, All Boating <sup>a</sup>
Direct Impact	\$1,036,581,606	\$10,200,000,000
<b>Total Economic Output</b>	<b>\$1,728,326,515</b>	<b>\$16,500,000,000</b>
Average "Multiplier"	1.67	1.62
<b>Total State/Local Taxes</b>	<b>\$120,900,000</b>	<b>\$1,418,000,000</b>
Direct Jobs	9,391	181,500
<b>Total Jobs</b>	<b>14,398</b>	<b>284,000</b>

<sup>a</sup> This analysis includes all motorized boating-related activities, including commercial fishing, and sailboats over eight feet in length.

**Table 4.3**, above, provides a comparison of the total output, employment, and state and local tax impacts of non-motorized boating from this study, to the economic impacts of all (motorized boats and sailboats over eight feet) boating from the 2002, *California Boating Facilities Needs Assessment* (BNA).<sup>4</sup> While the results of the current study were almost ten times lower than the BNA study, the \$1.7 billion impact of non-motorized boating appeared reasonable for non-motorized boating activities.

The BNA estimate for California total boating economic output in 2000 was \$16.5 billion, almost ten times greater than the 2006 figure for just non-motorized boating. This large difference was due, in part, to the fact that the BNA figure reflects a significantly broader range of economic activity, including commercial fishing, fish wholesalers, and all manufacturing, distribution, and sales activity related to motorized boats.

The economic impact of non-motorized boating estimate of \$1.7 billion also included manufacturing, distribution, and sales activity specific to non-motorized boats. However, there were very few non-motorized boat manufacturers located in California, and non-motorized boats are significantly less costly than motorized boats. In addition, one of the major attractions of non-motorized boating is that it is a relatively low cost activity. For most participants, a typical non-motorized boating trip involved a short drive to a nearby waterway, and perhaps a picnic lunch. Thus, per-trip expenditures for non-motorized boaters in this study were less than per-trip expenditures for motorized boaters in the BNA.

**Table 4.4**, on the next page, summarizes direct, indirect, induced, and total economic output by region.<sup>a</sup> **Table 4.5**, following Table 4.4, provides a comparison of the economic output per boat in each of the ten regions.

**Table 4.6**, on the next page, summarizes the total number of jobs (direct, indirect, and induced) resulting from non-motorized boating in each region. The three regions with the greatest number of jobs were the South Coast, Sacramento Basin, and Central Valley. The high number of non-motorized boating jobs in the South Coast region primarily reflected the large population in that region.

**Table 4.7**, on the next page, provides a comparison of state and local tax revenues that resulted from non-motorized boating in each region. The South Coast, Sacramento Basin, San Francisco Bay Area, and Central Valley regions contributed the majority of state and local tax revenues resulting from non-motorized boating.

<sup>a</sup> Because the statewide random survey may not have captured instances in which boaters residing in one region spent funds in another region, these data have lower accuracy than the statewide figures.



## 4. Annual Economic Impact of Non-Motorized Boating

**Table 4.4**  
Total Economic Contribution (Output) of Non-Motorized Boating by Region in California\* (2006)

Region	Direct	Indirect	Induced	Total Output	Percent of NMB Output
1. North Coast	\$64,041,891	\$18,109,472	\$20,415,829	\$102,567,192	5.9%
2. San Francisco Bay Area	158,866,834	47,393,152	50,311,438	256,571,424	14.8%
3. Central Coast	54,141,437	14,973,504	15,373,199	84,488,140	4.9%
4. South Coast	260,463,512	94,986,353	108,257,719	463,707,584	26.9%
5. San Diego	118,063,031	36,992,679	37,635,889	192,691,599	11.1%
6. Northern Interior	11,378,947	2,056,936	2,218,253	15,654,136	0.9%
7. Sacramento Basin	201,221,111	62,214,521	68,233,659	331,669,291	19.2%
8. Central Valley	141,442,884	50,463,560	47,370,763	239,277,207	13.9%
9. Eastern Sierra	3,020,764	559,451	491,889	4,072,104	0.2%
10. Southern Interior	23,941,195	6,377,101	7,309,542	37,627,838	2.2%
<b>Total</b>	<b>\$1,036,581,606</b>	<b>\$334,126,729</b>	<b>\$357,618,180</b>	<b>\$1,728,326,515</b>	<b>100.0%</b>

**Table 4.5**  
Total Economic Contribution (Output) per Non-Motorized Boat by Region in California\* (2006)

Region	Total Output	Boats by Region	Economic Output per Boat
1. North Coast	\$102,567,192	105,349	\$974
2. San Francisco Bay Area	256,571,424	297,465	\$863
3. Central Coast	84,488,140	98,903	\$854
4. South Coast	463,707,584	398,837	\$1,163
5. San Diego	192,691,599	154,119	\$1,250
6. Northern Interior	15,654,136	17,608	\$889
7. Sacramento Basin	331,669,291	365,619	\$907
8. Central Valley	239,277,207	175,805	\$1,361
9. Eastern Sierra	4,072,104	6,252	\$651
10. Southern Interior	37,627,838	77,030	\$488
<b>Total</b>	<b>\$1,728,326,515</b>	<b>1,696,987</b>	<b>\$1,018</b>

**Table 4.6**  
Employment Impact of Non-Motorized Boating by Region in California\* (2006)

Region	Employment	Percent of NMB Jobs
1. North Coast	932	6.5%
2. San Francisco Bay Area	1,861	12.9%
3. Central Coast	713	4.9%
4. South Coast	3,574	24.8%
5. San Diego	1,536	10.7%
6. Northern Interior	184	1.3%
7. Sacramento Basin	3,042	21.1%
8. Central Valley	2,192	15.2%
9. Eastern Sierra	40	0.3%
10. Southern Interior	324	2.3%
<b>Total</b>	<b>14,398</b>	<b>100.0%</b>

**Table 4.7**  
State and Local Tax Impact of Non-Motorized Boating by Region in California\* (2006)

Region	State and Local Taxes
1. North Coast	\$7,406,816
2. San Francisco Bay Area	17,543,443
3. Central Coast	5,937,358
4. South Coast	31,776,621
5. San Diego	12,445,035
6. Northern Interior	1,218,744
7. Sacramento Basin	24,458,161
8. Central Valley	17,256,822
9. Eastern Sierra	289,882
10. Southern Interior	2,601,369
<b>Total</b>	<b>\$120,934,251</b>

\*IMPLAN analyses were conducted for each of the ten regions, based on region-specific participation and expenditures. The regional results were then proportionally adjusted to match the total statewide output, jobs, and tax revenues.

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## Section 4 Endnotes

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- <sup>1</sup> Minnesota IMPLAN Group, Inc. *IMPLAN Pro User's Guide, Analysis Guide, Data Guide* (Stillwater, Minnesota: MIG, February 2004).
- <sup>2</sup> Minnesota IMPLAN Group, Inc. (MIG). *IMPLAN Professional, Version 2.0*.
- <sup>3</sup> Bureau of Economic Analysis. "Regional Economic Account." (<http://www.bea.gov/regional/gsp/action.cfm>)
- <sup>4</sup> NewPoint Group, Sacramento State University Sacramento Foundation, Planning and Applied Economics, Bay Area Economics, Public Research Institute. *California Boating Facilities Needs Assessment, Volume V Boating Economic Assessment and Demand Projections* (Sacramento, California: Department of Boating and Waterways, October 15, 2002).