

Development of a Web-based Economic Impact Calculator for Marinas in the United States

Sponsored project report to Association of Marina Industries, Warren, RI

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Summary

The objective of this sponsored research project was to develop a second-generation web-based tool (application) for calculation of economic impacts of commercial marina operations in the United States, under the sponsorship of the Association of Marina Industries (AMI). This revised product extends the functionality of the original calculator tool to allow users to analyze eight specific operating activity types for up to three years. Annual financial statement information was obtained for 42 commercial marinas in the U.S. and compiled into a database to calculate a weighted average profile of income and expenditures. Economic models were constructed for seven regions of the U.S. (Atlantic-North, Atlantic-South, Gulf of Mexico, Great Lakes, Pacific-North, Pacific-South, Central) using the *Implan* software and associated economic databases for 2013 (Implan Group, LLC). The economic models were customized to reflect the specific operating characteristics of commercial marinas based on the profile of expenditures. Tables of economic multipliers were developed for each region. The marina economic impact calculator website application was developed using MySQL and PHP programming language. Inputs required by users of the website are gross annual revenues, year of data, and location selected from a pull-down menu of states. The calculator generates a report showing economic impacts for industry output (revenues), labor income (employee compensation/benefits and proprietor income), value added (Gross Domestic Product), employment (fulltime and part-time jobs), and taxes paid to state/local and federal governments. The results also show impacts by major economic sector according to the North American Industry Classification System (NAICS). Results represent prevailing relationships in the regions, but can be interpreted as impacts at the state level. Reports can be saved as a Portable Document File (pdf). The website has user controls requiring users to login with a username and password. Administrator tools are provided for user account management and statistical summaries of user reports. The calculator tool application code has been transferred for permanent hosting on the AMI website.

Introduction: Economic Impact Analysis

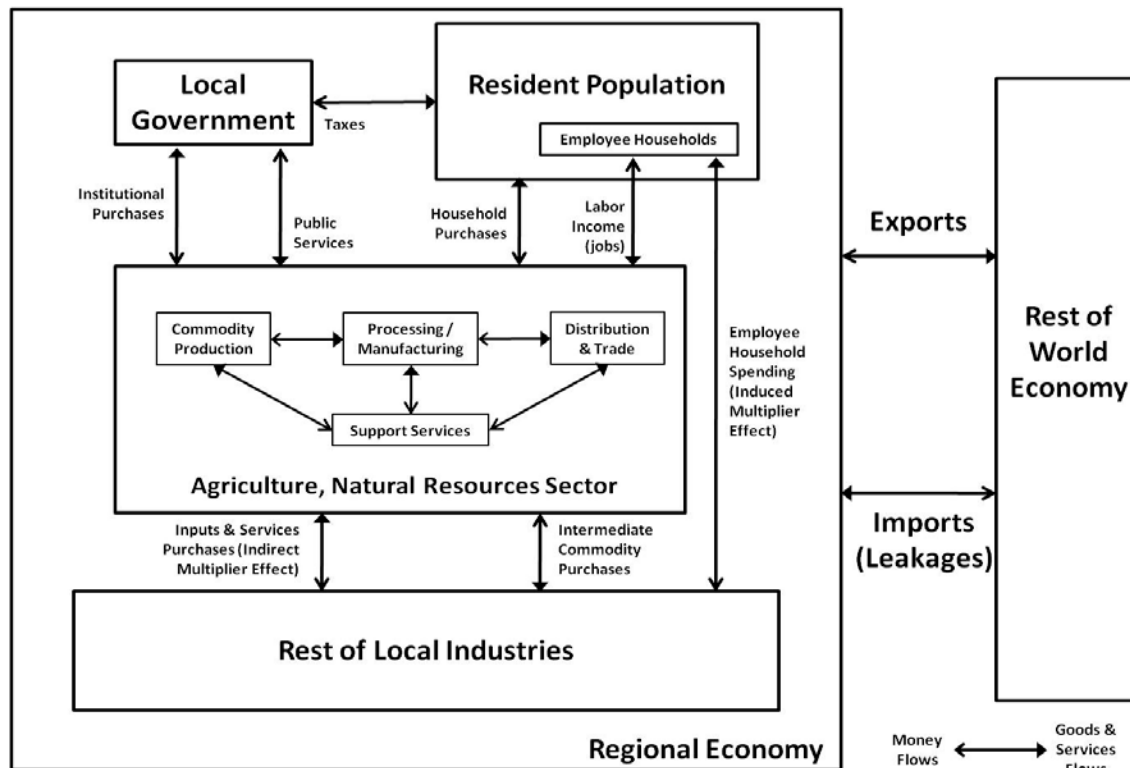
Assessment of the economic contributions of specific industries is important to making informed public policy decisions regarding economic and community development, job creation, environmental regulation, labor and human resources, and taxation, among other issues.

Regional economic impact analysis is typically conducted using a technique known as input-output analysis/social accounting matrices (IO-SAM), which develops models that represents a regional economy in terms of relationships between producers and consumers¹. This analytical approach is based on the notion that any activity that generates payments has an effect on other parts of a given economy. An expenditure by one entity becomes income to another entity. As an analogy, a stone thrown into a lake generates waves that spread out in all directions. In economic impact analysis, these secondary effects are measured through economic

¹ Miller, R.E and P.D Blair. Input-output analysis: foundations and extensions, 2nd ed. Cambridge University Press, Cambridge, U.K, 750 pages, 2009.

multipliers for each type of activity (industry sector) obtained from regional economic models. The relationships captured in IO-SAM models are illustrated in Figure 1.

Figure 1. Diagram of linkages in a regional economy



Models for the marina economic impact calculator application were developed using the *IMPLAN* software and state databases licensed from *IMPLAN* Group LLC². The *IMPLAN* model includes accounts for industrial and commodity production, employment, labor and property income, household and institutional consumption, domestic and international trade (imports, exports), government taxes, transfer payments (such as welfare and retirement), and capital investment. The *IMPLAN* databases are derived from the National Income and Product Accounts for the United States (U.S. Department of Commerce, Bureau of Economic Analysis), the Quarterly Census of Employment and Wages (U.S. Bureau of Labor Statistics), and other sources. *IMPLAN* characterizes 536 industry sectors. Economic multipliers are calculated for each industry to estimate the secondary effects of new demand that generates further economic activity as it is re-spent in the local economy (Miller and Blair, 2009). Indirect effects multipliers represent the economic activity generated within specific supply chains through the purchase of intermediate inputs from vendor firms. Induced effects multipliers represent the impacts of spending by households of industry employees and by federal, state, and local government entities. The indirect and induced multipliers were applied only to foreign and domestic exports, or sales to visitors from outside the state of Florida, which represent new money flowing into the regional economy, while direct effects

² *IMPLAN* software for impact analysis and social accounting, version 3, and U.S. state data for 2013 (release 3). Huntersville, NC. www.implan.com.

multipliers only were applied to the outputs sold to in-state markets. The total economic impacts were calculated as the sum of direct, indirect and induced effects.

Different measures of economic impacts used include industry output or revenue (sales), employment (full-time and part-time or seasonal positions), value added, labor income (employee wages, salaries, benefits, proprietor earnings), other property income (dividends, interest, royalties, rents, corporate dividends etc.), and tax on production and imports. Value added is a broad measure of net economic activity that is comparable to the Gross Domestic Product (GDP), and represents the sum of labor and property income, taxes on production and imports, and capital consumption (depreciation).

Marina Regions

IMPLAN models were developed for seven separate regions of the United States, as shown in Figure 2. The regions were defined to represent different climatic coastal areas, plus a central region for non-coastal states. The state of Florida was divided into the South Atlantic and Gulf of Mexico regions, and the states of New York and Pennsylvania were divided between the North Atlantic and Great Lakes regions. Alaska was included in the Pacific Northwest region, and Hawaii was included in the Pacific-South region.

Figure 2. U.S. regions for economic analysis of the marina industry.



Regional Model Development

Marina operating activities were modeled in terms of eight specific activities, plus all other activities, as shown in Table 1. The scope of activities was determined based on advice from industry representatives. Each activity corresponds to a specific *IMPLAN* industry sector, determined based upon definitions of the North American Industry Classification System (NAICS). All other activities not captured by the specific activities can be assigned to industry sector 496-Other Amusement and Recreation Industries.

Table 1. Marina activities modeled and corresponding *IMPLAN* industry sectors

Marina Activity	<i>IMPLAN</i> Industry Sector
Boat sales	396-Retail Motor Vehicle and Parts Dealers
Fuel sales	402-Retail Gasoline Stores
Merchandise sales	404-Retail Sporting Goods, Hobby, Musical Instrument and Book Stores
Boat storage	416-Warehousing and Storage
Lease Revenues	440-Real Estate
Boat rental	443-General and Consumer Goods Rental Except Video Tapes and Discs
Food and beverage services	501-Full-Service Restaurants
Boat service	508-Personal and Household Goods Repair and Maintenance
All other activities	496-Other Amusement and Recreation Industries

The *IMPLAN* models for each region were customized for the marina sector (496) based on financial statement information obtained from 42 different commercial marinas indicated in Table 1. The distribution of marina firms contributing information by region is summarized in Table 2. A total of \$110 million in annual expenditures were reported by the contributing marinas. The annual operating expenditures reported by these firms are summarized in Table 3 by industry sector in the economic model. The top ten expenditure categories were proprietor income (representing 21.4% of total), employee compensation (13.6%), other amusement and recreation services (8.6%), petroleum refineries (7.4%), gasoline stores (5.3%), real estate (5.2%), monetary authorities and depository credit intermediation (4.2%), office administrative services (3.9%), state and local government non-education (3.8%), and nonresidential maintenance and repair construction (3.5%). The 39 largest expenditure categories were used for model customization, representing 99 percent of expenditures reported. The industry gross absorption coefficients for *IMPLAN* sector 496-Other amusement and recreation services (the sector in which commercial marinas are classified), were modified using these expenditure shares.

Table 2. Number of marinas by region contributing financial statement information used for economic model customization

Region	Number
Appalachian	3
Midwest	2
Mountain	2
Northeast	4
Pacific	7
South-Central	11
Southeast	13
Total	<u>42</u>

Table 3. Summary of marina annual expenditures reported for economic model customization, by economic sector

Sector code	Sector Name	Sum of Amount (\$)	Share of Total	Cumulative Percent
6001	Proprietor Income	23,441,200	0.213527	21.35%
5001	Employee Compensation	14,892,928	0.135661	34.92%
496	Other amusement and recreation industries	9,406,179	0.085681	43.49%
156	Petroleum refineries	8,076,380	0.073568	50.84%
402	Gasoline stores	5,852,848	0.053314	56.18%
440	Real estate	5,697,793	0.051902	61.37%
433	Monetary authorities and depository credit intermediation	4,574,340	0.041668	65.53%
462	Office administrative services	4,274,315	0.038935	69.43%
12001	State/Local Govt Non-Education	4,194,094	0.038204	73.25%
62	Nonresidential maintenance and repair	3,858,333	0.035146	76.76%
8001	Tax on Production and Imports	3,083,525	0.028088	79.57%
454	Management consulting services	2,847,726	0.025940	82.16%
504	Automotive repair and maintenance, except car washes	2,422,521	0.022067	84.37%
49	Electric power transmission and distribution	1,877,023	0.017098	86.08%
416	Warehousing and storage	1,818,857	0.016568	87.74%
437	Insurance carriers	1,792,971	0.016332	89.37%
405	General merchandise stores	1,778,717	0.016202	90.99%
461	Management of companies and enterprises	1,768,889	0.016113	92.60%
445	Commercial and industrial machinery and equipment rental and leasing	1,329,416	0.012110	93.81%
448	Accounting, tax preparation, bookkeeping, and payroll services	761,614	0.006938	94.51%
414	Scenic and sightseeing transportation and support activities for transportation	660,243	0.006014	95.11%
438	Insurance agencies, brokerages, and related activities	594,778	0.005418	95.65%
443	General and consumer goods rental except video tapes and discs	547,071	0.004983	96.15%
447	Legal services	486,736	0.004434	96.59%
442	Automotive equipment rental and leasing	288,910	0.002632	96.85%
464	Employment services	282,698	0.002575	97.11%
457	Advertising, public relations, and related services	275,221	0.002507	97.36%
51	Water, sewage and other systems	266,470	0.002427	97.61%
395	Wholesale trade	266,446	0.002427	97.85%
406	Miscellaneous store retailers	248,282	0.002262	98.07%
471	Waste management and remediation services	240,196	0.002188	98.29%
467	Investigation and security services	220,376	0.002007	98.49%
439	Funds, trusts, and other financial vehicles	212,860	0.001939	98.69%
499	Hotels and motels, including casino hotels	165,992	0.001512	98.84%
469	Landscape and horticultural services	158,298	0.001442	98.98%
512	Other personal services	156,344	0.001424	99.13%
468	Services to buildings	146,732	0.001337	99.26%
58	Other nonresidential structures	126,844	0.001155	99.37%

The resulting multipliers for each marina operating activity and region were obtained as shown in Table 4. These multipliers for industry output, value added, labor income and business taxes represent the value per million dollars of gross revenues received. Each multiplier has components for direct, indirect, and induced effects, which sum to the total effect. Multipliers vary across regions, reflecting differences in industry concentration, level of economic development, the degree to which industry inputs are sourced locally, and general macroeconomic factors.

Table 4. Final demand economic multipliers for the marina industry, by region and industry sector

U.S. Region	Marina Activity (Industry Sector)	Impact Type	Employment (Fulltime and Part- time Jobs)	Industry Output (Direct Revenues)	Value Added (GDP)	Labor Income	Tax on Production and Imports
Impacts per million dollars revenue							
Central	Boat sales-Retail (396)	Direct Effect	1.6	\$206,000	\$157,125	\$92,480	\$36,621
		Indirect Effect	0.4	\$61,508	\$33,998	\$19,422	\$2,151
		Induced Effect	3.4	\$455,824	\$268,286	\$169,050	\$18,554
		Total Effect	5.4	\$723,332	\$459,408	\$280,952	\$57,326
	Fuel- Retail (402)	Direct Effect	1.5	\$108,000	\$69,376	\$51,452	\$12,902
		Indirect Effect	0.3	\$47,071	\$26,868	\$14,225	\$1,540
		Induced Effect	1.7	\$230,256	\$134,873	\$84,344	\$9,529
		Total Effect	3.5	\$385,327	\$231,117	\$150,021	\$23,971
	Merchandise sales (404)	Direct Effect	7.2	\$416,000	\$261,875	\$170,835	\$48,294
		Indirect Effect	1.2	\$187,291	\$106,905	\$56,600	\$6,126
		Induced Effect	6.4	\$868,813	\$508,817	\$318,770	\$35,752
		Total Effect	14.9	\$1,472,105	\$877,597	\$546,205	\$90,172
	Boat storage (416)	Direct Effect	9.3	\$1,000,000	\$564,449	\$439,684	\$8,572
		Indirect Effect	3.2	\$466,754	\$270,231	\$143,890	\$15,645
		Induced Effect	14	\$1,915,141	\$1,109,216	\$684,986	\$80,884
		Total Effect	26.5	\$3,381,895	\$1,943,895	\$1,268,560	\$105,101
	Lease Revenues (440)	Direct Effect	6.3	\$1,000,000	\$747,184	\$93,087	\$35,173
		Indirect Effect	2.1	\$282,790	\$151,953	\$88,045	\$9,264
		Induced Effect	13.4	\$1,837,800	\$1,063,516	\$670,326	\$73,504
		Total Effect	21.7	\$3,120,590	\$1,962,654	\$851,458	\$117,940
	Boat rental (443)	Direct Effect	10.5	\$1,000,000	\$714,418	\$556,877	\$85,256
		Indirect Effect	1.9	\$316,494	\$189,909	\$87,511	\$13,998
		Induced Effect	15.8	\$2,140,543	\$1,248,797	\$777,240	\$89,403
		Total Effect	28.2	\$3,457,038	\$2,153,123	\$1,421,628	\$188,657
	Food and beverage services (501)	Direct Effect	19.9	\$1,000,000	\$504,216	\$428,607	\$66,011
		Indirect Effect	2.6	\$475,887	\$242,479	\$136,075	\$18,569
		Induced Effect	13.3	\$1,793,242	\$1,047,520	\$651,038	\$75,119
		Total Effect	35.7	\$3,269,129	\$1,794,215	\$1,215,720	\$159,699
	Boat service (508)	Direct Effect	6.2	\$1,000,000	\$585,799	\$258,314	\$53,238
		Indirect Effect	2.1	\$326,990	\$177,862	\$100,148	\$14,126
		Induced Effect	12.4	\$1,694,276	\$985,680	\$617,244	\$69,375
		Total Effect	20.7	\$3,021,266	\$1,749,342	\$975,705	\$136,739
	All other activities (496)	Direct Effect	15.3	\$1,000,000	\$406,248	\$341,112	\$65,136
		Indirect Effect	5.3	\$672,912	\$364,392	\$232,172	\$30,975
		Induced Effect	13.8	\$1,860,466	\$1,087,399	\$677,666	\$77,639
		Total Effect	34.4	\$3,533,378	\$1,858,039	\$1,250,950	\$173,749
Great Lakes	Boat sales-Retail (396)	Direct Effect	1.6	\$206,000	\$156,634	\$93,646	\$36,107
		Indirect Effect	0.4	\$70,155	\$41,981	\$24,298	\$2,656
		Induced Effect	3.4	\$512,460	\$312,256	\$196,416	\$21,053
		Total Effect	5.4	\$788,615	\$510,871	\$314,360	\$59,816
	Fuel- Retail (402)	Direct Effect	1.6	\$108,000	\$67,142	\$49,304	\$13,248
		Indirect Effect	0.3	\$55,645	\$34,424	\$18,522	\$2,162
		Induced Effect	1.7	\$263,640	\$160,134	\$100,173	\$10,954

U.S. Region	Marina Activity (Industry Sector)	Impact Type	Employment (Fulltime and Part- time Jobs)	Industry Output (Direct Revenues)	Value Added (GDP)	Labor Income	Tax on Production and Imports
Impacts per million dollars revenue							
	Merchandise sales (404)	Total Effect	3.6	\$427,285	\$261,699	\$168,000	\$26,365
		Direct Effect	7.3	\$416,000	\$259,825	\$170,725	\$49,049
		Indirect Effect	1.2	\$212,820	\$131,655	\$70,840	\$8,269
		Induced Effect	6.6	\$994,628	\$603,871	\$378,094	\$41,197
	Boat storage (416)	Total Effect	15.1	\$1,623,448	\$995,350	\$619,659	\$98,515
		Direct Effect	8.8	\$1,000,000	\$590,274	\$452,696	\$8,490
		Indirect Effect	2.9	\$478,380	\$295,942	\$155,751	\$20,252
		Induced Effect	14.2	\$2,175,787	\$1,309,323	\$809,324	\$92,131
	Lease Revenues (440)	Total Effect	25.9	\$3,654,168	\$2,195,539	\$1,417,770	\$120,874
		Direct Effect	4.6	\$1,000,000	\$806,768	\$118,383	\$65,909
		Indirect Effect	1.5	\$226,689	\$132,153	\$75,190	\$9,229
		Induced Effect	12.6	\$1,936,865	\$1,167,326	\$736,931	\$77,816
	Boat rental (443)	Total Effect	18.8	\$3,163,554	\$2,106,246	\$930,503	\$152,954
		Direct Effect	10.4	\$1,000,000	\$717,971	\$578,134	\$83,275
		Indirect Effect	1.7	\$338,770	\$218,646	\$103,330	\$17,248
		Induced Effect	16	\$2,424,989	\$1,467,837	\$913,243	\$101,831
	Food and beverage services (501)	Total Effect	28.1	\$3,763,759	\$2,404,454	\$1,594,707	\$202,354
		Direct Effect	19.1	\$1,000,000	\$522,688	\$447,693	\$63,562
		Indirect Effect	2.4	\$512,826	\$278,942	\$160,365	\$21,117
		Induced Effect	13.9	\$2,101,257	\$1,272,379	\$790,372	\$88,506
	Boat service (508)	Total Effect	35.4	\$3,614,083	\$2,074,010	\$1,398,430	\$173,186
		Direct Effect	5.5	\$1,000,000	\$632,563	\$231,759	\$71,351
		Indirect Effect	1.9	\$358,643	\$201,623	\$116,479	\$15,066
		Induced Effect	12.6	\$1,911,706	\$1,155,765	\$725,499	\$78,278
	All other activities (496)	Total Effect	19.9	\$3,270,349	\$1,989,951	\$1,073,738	\$164,695
		Direct Effect	16	\$1,000,000	\$406,248	\$341,112	\$65,136
		Indirect Effect	4.9	\$677,805	\$394,114	\$242,563	\$32,537
		Induced Effect	13.9	\$2,104,813	\$1,275,913	\$795,566	\$88,088
		Total Effect	34.8	\$3,782,617	\$2,076,275	\$1,379,241	\$185,760
Gulf of Mexico	Boat sales-Retail (396)	Direct Effect	1.5	\$206,000	\$161,336	\$93,402	\$37,656
		Indirect Effect	0.4	\$61,159	\$34,322	\$19,577	\$2,536
		Induced Effect	3.4	\$467,836	\$277,002	\$172,691	\$20,291
		Total Effect	5.2	\$734,996	\$472,661	\$285,670	\$60,483
	Fuel- Retail (402)	Direct Effect	1.4	\$108,000	\$71,505	\$51,783	\$14,391
		Indirect Effect	0.3	\$47,738	\$27,605	\$14,615	\$1,924
		Induced Effect	1.7	\$239,072	\$141,018	\$87,409	\$10,517
		Total Effect	3.4	\$394,809	\$240,127	\$153,807	\$26,831
	Merchandise sales (404)	Direct Effect	6.8	\$416,000	\$271,553	\$170,694	\$50,882
		Indirect Effect	1.2	\$188,504	\$109,005	\$57,710	\$7,595
		Induced Effect	6.4	\$894,774	\$527,404	\$327,093	\$39,211
		Total Effect	14.4	\$1,499,278	\$907,962	\$555,496	\$97,688
	Boat storage (416)	Direct Effect	8.5	\$1,000,000	\$604,491	\$387,969	\$7,739
		Indirect Effect	3.2	\$467,433	\$276,049	\$145,517	\$19,038
		Induced Effect	13.6	\$1,945,297	\$1,132,901	\$693,712	\$87,182
		Total Effect	25.2	\$3,412,730	\$2,013,441	\$1,227,198	\$113,960
	Lease Revenues (440)	Direct Effect	6.7	\$1,000,000	\$732,875	\$118,741	\$52,534
		Indirect Effect	2.5	\$331,836	\$183,762	\$106,571	\$13,052
		Induced Effect	12.7	\$1,819,491	\$1,062,964	\$660,846	\$78,017
		Total Effect	21.8	\$3,151,328	\$1,979,602	\$886,159	\$143,603
	Boat rental (443)	Direct Effect	9.3	\$1,000,000	\$748,231	\$568,869	\$113,887
		Indirect Effect	1.8	\$297,184	\$179,238	\$85,756	\$15,440
		Induced Effect	15.9	\$2,228,368	\$1,311,162	\$809,989	\$98,764
		Total Effect	26.9	\$3,525,552	\$2,238,630	\$1,464,614	\$228,092
	Food and beverage services (501)	Direct Effect	18.9	\$1,000,000	\$527,530	\$446,194	\$70,467

U.S. Region	Marina Activity (Industry Sector)	Impact Type	Employment	Industry	Value	Labor	Tax on	
			(Fulltime and Part-time Jobs)	Output (Direct Revenues)	Added (GDP)	Income	Production and Imports	
Impacts per million dollars revenue								
	Boat service (508)	Indirect Effect	2.6	\$457,690	\$240,120	\$133,513	\$19,440	
		Induced Effect	13.2	\$1,864,175	\$1,095,382	\$674,170	\$83,304	
		Total Effect	34.8	\$3,321,865	\$1,863,032	\$1,253,878	\$173,211	
		Direct Effect	5.6	\$1,000,000	\$621,388	\$252,281	\$65,576	
		Indirect Effect	2	\$313,614	\$174,006	\$98,271	\$15,578	
		Induced Effect	12.1	\$1,719,532	\$1,008,060	\$624,886	\$74,890	
	All other activities (496)	Total Effect	19.8	\$3,033,146	\$1,803,453	\$975,438	\$156,043	
		Direct Effect	14.8	\$1,000,000	\$406,248	\$341,112	\$65,136	
		Indirect Effect	5.6	\$761,975	\$417,951	\$261,503	\$37,267	
		Induced Effect	14.2	\$1,994,201	\$1,172,216	\$723,356	\$88,635	
		Total Effect	34.6	\$3,756,176	\$1,996,415	\$1,325,971	\$191,038	
		North Pacific	Boat sales-Retail (396)	Direct Effect	1.6	\$206,000	\$158,044	\$97,080
	Indirect Effect			0.3	\$60,728	\$35,360	\$19,375	\$2,459
	Induced Effect			3	\$447,477	\$275,925	\$172,592	\$20,388
	Total Effect			5	\$714,205	\$469,329	\$289,047	\$61,940
	Fuel- Retail (402)		Direct Effect	1.4	\$108,000	\$71,507	\$55,348	\$108,000
			Indirect Effect	0.3	\$45,791	\$27,679	\$13,952	\$45,791
			Induced Effect	1.5	\$228,573	\$140,161	\$86,973	\$228,573
			Total Effect	3.2	\$382,365	\$239,347	\$156,273	\$382,365
	Merchandise sales (404)		Direct Effect	7.1	\$416,000	\$264,927	\$180,663	\$51,276
			Indirect Effect	1	\$188,422	\$113,892	\$57,409	\$7,283
			Induced Effect	5.8	\$862,575	\$529,581	\$329,647	\$39,632
			Total Effect	14	\$1,466,998	\$908,401	\$567,719	\$98,191
	Boat storage (416)		Direct Effect	7.8	\$1,000,000	\$632,913	\$480,773	\$8,980
Indirect Effect			2.2	\$384,968	\$241,447	\$119,328	\$16,054	
Induced Effect			12.8	\$1,915,327	\$1,164,807	\$716,409	\$89,698	
Total Effect			22.8	\$3,300,295	\$2,039,167	\$1,316,511	\$114,731	
Lease Revenues (440)	Direct Effect		4.8	\$1,000,000	\$802,328	\$100,012	\$45,059	
	Indirect Effect		1.3	\$202,981	\$118,021	\$64,942	\$8,179	
	Induced Effect		11.9	\$1,796,565	\$1,095,909	\$690,784	\$79,404	
	Total Effect		18	\$2,999,545	\$2,016,258	\$855,737	\$132,642	
Boat rental (443)	Direct Effect		10.9	\$1,000,000	\$704,116	\$498,117	\$155,864	
	Indirect Effect		1.8	\$341,007	\$214,941	\$95,350	\$18,004	
	Induced Effect		14.4	\$2,125,523	\$1,307,539	\$815,436	\$97,510	
	Total Effect		27.1	\$3,466,530	\$2,226,595	\$1,408,902	\$271,379	
Food and beverage services (501)	Direct Effect		17.7	\$1,000,000	\$558,659	\$484,640	\$62,007	
	Indirect Effect		2.1	\$426,262	\$232,644	\$129,019	\$18,587	
	Induced Effect		12.3	\$1,823,290	\$1,114,964	\$687,244	\$85,381	
	Total Effect		32.1	\$3,249,552	\$1,906,267	\$1,300,903	\$165,975	
Boat service (508)	Direct Effect		4.8	\$1,000,000	\$674,857	\$236,878	\$84,011	
	Indirect Effect		1.4	\$245,877	\$143,577	\$79,346	\$12,426	
	Induced Effect		11.6	\$1,728,730	\$1,059,048	\$664,076	\$77,807	
	Total Effect		17.8	\$2,974,607	\$1,877,481	\$980,301	\$174,244	
All other activities (496)	Direct Effect		15.8	\$1,000,000	\$406,248	\$341,112	\$65,136	
	Indirect Effect		4.6	\$638,138	\$359,678	\$212,344	\$37,834	
	Induced Effect		12	\$1,781,800	\$1,091,911	\$677,123	\$82,683	
	Total Effect		32.4	\$3,419,938	\$1,857,837	\$1,230,579	\$185,653	
South Pacific	Boat sales-Retail (396)		Direct Effect	1.4	\$206,000	\$163,393	\$93,051	\$43,372
			Indirect Effect	0.3	\$61,324	\$37,506	\$21,310	\$2,075
			Induced Effect	2.8	\$450,119	\$283,609	\$181,059	\$18,554
			Total Effect	4.6	\$717,443	\$484,508	\$295,421	\$64,001
	Fuel- Retail (402)		Direct Effect	1	\$108,000	\$83,705	\$68,831	\$11,447
			Indirect Effect	0.2	\$34,714	\$21,873	\$11,450	\$1,110
		Induced Effect	1.5	\$239,141	\$149,373	\$93,957	\$10,173	
		Total Effect	2.7	\$381,855	\$254,951	\$174,238	\$22,731	

U.S. Region	Marina Activity (Industry Sector)	Impact Type	Employment (Fulltime and Part- time Jobs)	Industry Output (Direct Revenues)	Value Added (GDP)	Labor Income	Tax on Production and Imports
Impacts per million dollars revenue							
	Merchandise sales (404)	Direct Effect	6.5	\$416,000	\$280,049	\$179,658	\$58,203
		Indirect Effect	1	\$186,779	\$117,685	\$61,606	\$5,975
		Induced Effect	5.5	\$870,020	\$545,756	\$345,941	\$36,308
		Total Effect	13	\$1,472,799	\$943,490	\$587,205	\$100,486
	Boat storage (416)	Direct Effect	8.5	\$1,000,000	\$601,531	\$475,377	\$10,725
		Indirect Effect	2.8	\$434,881	\$281,456	\$149,000	\$14,060
		Induced Effect	11.6	\$1,852,072	\$1,150,266	\$716,214	\$79,583
		Total Effect	22.9	\$3,286,953	\$2,033,253	\$1,340,591	\$104,368
	Lease Revenues (440)	Direct Effect	5	\$1,000,000	\$795,009	\$101,664	\$37,560
		Indirect Effect	1.6	\$209,875	\$129,264	\$76,368	\$6,244
		Induced Effect	9.3	\$1,507,173	\$939,821	\$597,221	\$61,205
		Total Effect	15.9	\$2,717,048	\$1,864,094	\$775,253	\$105,010
	Boat rental (443)	Direct Effect	10.9	\$1,000,000	\$703,033	\$575,602	\$72,981
		Indirect Effect	1.9	\$366,574	\$237,831	\$109,619	\$18,357
		Induced Effect	13	\$2,075,699	\$1,295,068	\$812,729	\$88,388
		Total Effect	25.9	\$3,442,273	\$2,235,931	\$1,497,950	\$179,726
	Food and beverage services (501)	Direct Effect	18.2	\$1,000,000	\$546,367	\$477,843	\$56,747
		Indirect Effect	2.3	\$480,023	\$265,332	\$151,044	\$19,882
		Induced Effect	11.5	\$1,832,561	\$1,143,346	\$715,936	\$78,305
		Total Effect	32	\$3,312,585	\$1,955,045	\$1,344,823	\$154,935
	Boat service (508)	Direct Effect	5.6	\$1,000,000	\$626,408	\$282,647	\$91,168
		Indirect Effect	1.9	\$329,471	\$194,180	\$111,194	\$15,174
		Induced Effect	10.4	\$1,654,430	\$1,036,317	\$657,641	\$68,569
		Total Effect	17.8	\$2,983,901	\$1,856,905	\$1,051,482	\$174,911
	All other activities (496)	Direct Effect	14.6	\$1,000,000	\$406,248	\$341,112	\$65,136
		Indirect Effect	4.7	\$691,382	\$402,488	\$255,573	\$29,999
		Induced Effect	11.5	\$1,830,384	\$1,143,996	\$720,346	\$77,636
		Total Effect	30.8	\$3,521,766	\$1,952,732	\$1,317,032	\$172,770
North Atlantic	Boat sales-Retail (396)	Direct Effect	1.6	\$206,000	\$158,253	\$99,944	\$31,677
		Indirect Effect	0.4	\$69,203	\$43,444	\$24,844	\$2,563
		Induced Effect	3.2	\$515,381	\$330,913	\$209,307	\$20,846
		Total Effect	5.2	\$790,584	\$532,610	\$334,095	\$55,086
	Fuel- Retail (402)	Direct Effect	1.4	\$108,000	\$70,747	\$55,422	\$11,100
		Indirect Effect	0.3	\$52,817	\$34,071	\$18,038	\$2,042
		Induced Effect	1.7	\$269,924	\$172,784	\$108,713	\$11,045
		Total Effect	3.4	\$430,742	\$277,601	\$182,173	\$24,187
	Merchandise sales (404)	Direct Effect	7.1	\$416,000	\$265,624	\$184,209	\$43,080
		Indirect Effect	1.1	\$212,382	\$136,997	\$72,531	\$8,212
		Induced Effect	6.4	\$1,012,984	\$648,729	\$408,784	\$41,255
		Total Effect	14.5	\$1,641,366	\$1,051,351	\$665,524	\$92,547
	Boat storage (416)	Direct Effect	8.3	\$1,000,000	\$611,880	\$437,312	\$9,218
		Indirect Effect	2.6	\$460,725	\$297,878	\$154,087	\$19,374
		Induced Effect	13.6	\$2,182,001	\$1,388,992	\$867,155	\$90,185
		Total Effect	24.5	\$3,642,725	\$2,298,749	\$1,458,555	\$118,777
	Lease Revenues (440)	Direct Effect	4.4	\$1,000,000	\$815,307	\$117,056	\$64,398
		Indirect Effect	1.3	\$214,204	\$129,786	\$73,268	\$8,805
		Induced Effect	11.7	\$1,876,957	\$1,199,915	\$763,172	\$73,928
		Total Effect	17.4	\$3,091,160	\$2,145,008	\$953,496	\$147,130
	Boat rental (443)	Direct Effect	9.6	\$1,000,000	\$738,506	\$601,412	\$76,725
		Indirect Effect	1.6	\$327,219	\$219,616	\$102,494	\$17,301
		Induced Effect	15.4	\$2,460,466	\$1,572,119	\$986,004	\$101,307
		Total Effect	26.6	\$3,787,685	\$2,530,240	\$1,689,910	\$195,333
	Food and beverage services (501)	Direct Effect	18.2	\$1,000,000	\$545,238	\$468,732	\$63,042
		Indirect Effect	2.2	\$475,433	\$275,608	\$156,905	\$21,020

U.S. Region	Marina Activity (Industry Sector)	Impact Type	Employment (Fulltime and Part- time Jobs)	Industry Output (Direct Revenues)	Value Added (GDP)	Labor Income	Tax on Production and Imports
Impacts per million dollars revenue							
	Boat service (508)	Induced Effect	13.5	\$2,150,502	\$1,374,828	\$861,441	\$88,671
		Total Effect	33.9	\$3,625,935	\$2,195,674	\$1,487,078	\$172,733
		Direct Effect	5	\$1,000,000	\$660,822	\$232,189	\$66,887
		Indirect Effect	1.6	\$301,695	\$183,655	\$105,074	\$13,458
	All other activities (496)	Induced Effect	11.7	\$1,871,677	\$1,197,116	\$757,406	\$75,068
		Total Effect	18.3	\$3,173,373	\$2,041,593	\$1,094,669	\$155,414
		Direct Effect	14.6	\$1,000,000	\$406,248	\$341,112	\$65,136
		Indirect Effect	4.6	\$666,779	\$405,222	\$254,456	\$31,064
		Induced Effect	13.3	\$2,117,592	\$1,355,000	\$852,069	\$86,840
		Total Effect	32.6	\$3,784,371	\$2,166,471	\$1,447,637	\$183,040
	South Atlantic	Direct Effect	1.6	\$206,000	\$156,718	\$94,043	\$31,902
		Indirect Effect	0.5	\$67,995	\$38,348	\$21,923	\$2,606
		Induced Effect	3.7	\$495,893	\$298,036	\$183,511	\$21,330
		Total Effect	5.8	\$769,888	\$493,102	\$299,476	\$55,838
	Fuel- Retail (402)	Direct Effect	1.4	\$108,000	\$70,486	\$54,188	\$10,978
		Indirect Effect	0.3	\$51,251	\$29,822	\$15,624	\$1,964
		Induced Effect	1.9	\$257,001	\$153,814	\$94,127	\$11,214
		Total Effect	3.7	\$416,251	\$254,121	\$163,938	\$24,156
	Merchandise sales (404)	Direct Effect	7.2	\$416,000	\$261,953	\$169,855	\$41,950
		Indirect Effect	1.4	\$209,369	\$121,824	\$63,828	\$8,022
		Induced Effect	7.2	\$964,094	\$577,171	\$353,845	\$41,801
		Total Effect	15.8	\$1,589,463	\$960,948	\$587,529	\$91,773
	Boat storage (416)	Direct Effect	9.8	\$1,000,000	\$545,169	\$445,549	\$12,111
		Indirect Effect	3.9	\$542,079	\$320,717	\$168,047	\$22,333
		Induced Effect	16	\$2,155,063	\$1,280,023	\$776,325	\$95,486
		Total Effect	29.7	\$3,697,142	\$2,145,910	\$1,389,921	\$129,930
	Lease Revenues (440)	Direct Effect	6.5	\$1,000,000	\$736,745	\$95,492	\$46,658
		Indirect Effect	2.5	\$325,549	\$181,340	\$102,483	\$13,072
		Induced Effect	15	\$2,029,699	\$1,206,269	\$742,229	\$85,992
		Total Effect	24.1	\$3,355,248	\$2,124,354	\$940,204	\$145,722
	Boat rental (443)	Direct Effect	10.5	\$1,000,000	\$715,592	\$544,193	\$109,871
		Indirect Effect	2.2	\$349,538	\$213,464	\$99,012	\$17,742
		Induced Effect	17.8	\$2,380,066	\$1,425,301	\$872,731	\$103,741
		Total Effect	30.5	\$3,729,604	\$2,354,357	\$1,515,936	\$231,354
	Food and beverage services (501)	Direct Effect	19.2	\$1,000,000	\$521,783	\$451,260	\$59,400
		Indirect Effect	2.8	\$477,212	\$255,449	\$142,144	\$20,441
		Induced Effect	15	\$2,006,498	\$1,198,784	\$730,517	\$88,373
		Total Effect	36.9	\$3,483,710	\$1,976,017	\$1,323,921	\$168,214
	Boat service (508)	Direct Effect	5.8	\$1,000,000	\$608,437	\$211,379	\$69,452
		Indirect Effect	2.2	\$336,241	\$187,049	\$105,556	\$15,526
		Induced Effect	13.9	\$1,873,955	\$1,118,691	\$687,777	\$80,185
		Total Effect	22	\$3,210,196	\$1,914,177	\$1,004,712	\$165,163
	All other activities (496)	Direct Effect	14.8	\$1,000,000	\$406,248	\$341,112	\$65,136
		Indirect Effect	5.8	\$679,496	\$386,418	\$247,778	\$32,664
		Induced Effect	15.4	\$2,059,049	\$1,231,940	\$753,267	\$90,120
		Total Effect	35.9	\$3,738,546	\$2,024,606	\$1,342,158	\$187,920

Detailed tax multipliers for the regional marina models are presented in Table 6. Multipliers are provided for various kinds of state, local and federal taxes, reflecting prevailing taxation rates per million dollars of industry output (revenue) in each region. Specific types of taxes estimated include social insurance tax (employer and employee portion of payroll taxes), sales tax, property tax, motor vehicle licenses, severance tax, corporate profits tax, personal income tax, and various fees and fines (non-taxes). Taxes on production and imports are part of the business taxes estimated in the main tables.

Table 6. State/local and federal government tax multipliers by activity and region

Marina Activity	Tax Item	Central	Great Lakes	Gulf of Mexico	North Pacific	South Pacific	North Atlantic	South Atlantic
Tax dollars generated per million dollars revenue								
Boat sales-Retail (396)	Dividends	81	100	111	78	85	90	102
	Social Ins Tax- Employee Contribution	190	185	152	95	261	143	137
	Social Ins Tax- Employer Contribution	366	359	294	184	505	276	265
	Tax on Production and Imports: Sales Tax	27,915	24,460	28,123	25,564	27,601	19,982	25,958
	Tax on Production and Imports: Property Tax	17,468	25,344	20,006	19,035	23,185	25,932	19,429
	Tax on Production and Imports: Motor Vehicle Lic	537	537	456	527	694	369	447
	Tax on Production and Imports: Severance Tax	2,105	21	1,175	6,332	15	9	18
	Tax on Production and Imports: Other Taxes	2,238	2,915	3,191	3,264	4,216	3,101	2,496
	Tax on Production and Imports: S/L NonTaxes	350	345	705	502	822	81	920
	Corporate Profits Tax	1,036	2,159	449	621	1,524	2,532	1,021
	Personal Tax: Income Tax	4,288	8,593	782	2,813	9,031	9,598	3,286
	Personal Tax: NonTaxes (Fines- Fees	976	1,172	1,484	948	1,597	1,248	1,427
	Personal Tax: Motor Vehicle License	309	351	290	339	364	273	275
	Personal Tax: Property Taxes	95	156	120	115	114	179	113
	Personal Tax: Other Tax (Fish/Hunt)	224	129	83	255	76	93	46
	Total State and Local Tax	58,179	66,825	57,423	60,671	70,089	63,905	55,942
	Social Ins Tax- Employee Contribution	16,432	17,532	15,958	17,363	15,884	18,413	17,446
	Social Ins Tax- Employer Contribution	14,719	15,857	14,083	15,900	14,329	16,586	15,941
	Tax on Production and Imports: Excise Taxes	4,418	4,077	4,494	4,421	4,916	3,695	4,324
	Tax on Production and Imports: Custom Duty	1,829	1,688	1,860	1,831	2,036	1,530	1,790
	Tax on Production and Imports: Fed NonTaxes	465	429	473	465	518	389	455
	Corporate Profits Tax	8,648	9,757	9,031	8,446	8,928	10,240	9,841
	Personal Tax: Income Tax	18,266	23,814	22,146	21,176	23,876	28,344	20,973
	Total Federal Tax	64,778	73,154	68,045	69,602	70,486	79,196	70,770
Fuel- Retail (402)	Dividends	38	49	52	38	40	45	49
	Social Ins Tax- Employee Contribution	94	94	76	46	121	71	69
	Social Ins Tax- Employer Contribution	182	182	148	89	233	138	134
	Tax on Production and Imports: Sales Tax	11,673	10,781	12,476	10,279	9,803	8,774	11,230
	Tax on Production and Imports: Property Tax	7,304	11,171	8,875	7,653	8,235	11,386	8,405
	Tax on Production and Imports: Motor Vehicle Lic	225	237	202	212	246	162	194
	Tax on Production and Imports: Severance Tax	880	9	521	2,546	5	4	8
	Tax on Production and Imports: Other Taxes	936	1,285	1,416	1,312	1,497	1,362	1,080
	Tax on Production and Imports: S/L NonTaxes	146	152	313	202	292	35	398
	Corporate Profits Tax	488	1,063	211	305	706	1,258	489
	Personal Tax: Income Tax	2,303	4,613	423	1,535	5,430	5,266	1,810
	Personal Tax: NonTaxes (Fines- Fees	524	629	803	518	961	684	786
	Personal Tax: Motor Vehicle License	166	189	157	185	219	150	152
	Personal Tax: Property Taxes	51	84	65	63	68	98	62
	Personal Tax: Other Tax (Fish/Hunt)	121	69	45	139	45	51	26
	Total State and Local Tax	25,132	30,607	25,783	25,123	27,901	29,485	24,891
	Social Ins Tax- Employee Contribution	8,589	9,245	8,434	9,082	8,867	9,827	9,325
	Social Ins Tax- Employer Contribution	7,314	8,059	7,071	7,731	6,618	8,319	8,043
	Tax on Production and Imports: Excise Taxes	1,847	1,797	1,993	1,778	1,746	1,622	1,870
	Tax on Production and Imports: Custom Duty	765	744	825	736	723	672	774
	Tax on Production and Imports: Fed NonTaxes	194	189	210	187	184	171	197
	Corporate Profits Tax	4,078	4,806	4,247	4,152	4,139	5,086	4,716

Marina Activity	Tax Item	Central	Great Lakes	Gulf of Mexico	North Pacific	South Pacific	North Atlantic	South Atlantic
	Tax dollars generated per million dollars revenue							
	Personal Tax: Income Tax	9,809	12,785	11,983	11,560	14,357	15,551	11,554
	Total Federal Tax	32,598	37,625	34,764	35,226	36,633	41,248	36,480
Merchandise sales (404)	Dividends	161	202	223	160	174	185	208
	Social Ins Tax- Employee Contribution	363	359	299	181	507	276	271
	Social Ins Tax- Employer Contribution	702	694	579	351	981	534	525
	Tax on Production and Imports: Sales Tax	43,910	40,285	45,422	40,526	43,335	33,570	42,664
	Tax on Production and Imports: Property Tax	27,476	41,741	32,313	30,175	36,402	43,567	31,932
	Tax on Production and Imports: Motor Vehicle Lic	845	885	736	835	1,089	620	735
	Tax on Production and Imports: Severance Tax	3,312	34	1,898	10,037	23	14	30
	Tax on Production and Imports: Other Taxes	3,520	4,801	5,154	5,174	6,619	5,210	4,103
	Tax on Production and Imports: S/L NonTaxes	551	568	1,139	795	1,291	135	1,512
	Corporate Profits Tax	2,063	4,377	904	1,273	3,116	5,178	2,087
	Personal Tax: Income Tax	8,347	16,967	1,520	5,540	17,989	19,159	6,442
	Personal Tax: NonTaxes (Fines- Fees	1,901	2,314	2,884	1,868	3,182	2,490	2,798
	Personal Tax: Motor Vehicle License	602	694	563	667	725	544	539
	Personal Tax: Property Taxes	185	308	233	227	227	358	221
	Personal Tax: Other Tax (Fish/Hunt)	437	255	162	502	150	186	91
	Total State and Local Tax	94,372	114,484	94,029	98,310	115,809	112,028	94,159
	Social Ins Tax- Employee Contribution	31,799	34,387	31,122	33,776	31,386	36,419	34,331
	Social Ins Tax- Employer Contribution	28,183	30,689	27,681	30,302	27,804	32,157	31,589
	Tax on Production and Imports: Excise Taxes	6,950	6,714	7,258	7,009	7,719	6,207	7,106
	Tax on Production and Imports: Custom Duty	2,877	2,780	3,005	2,902	3,196	2,570	2,942
	Tax on Production and Imports: Fed NonTaxes	732	707	764	738	813	653	748
	Corporate Profits Tax	17,222	19,785	18,189	17,307	18,258	20,938	20,117
	Personal Tax: Income Tax	35,555	47,021	43,029	41,711	47,559	56,578	41,112
	Total Federal Tax	123,318	142,084	131,048	133,745	136,734	155,523	137,945
Boat storage (416)	Dividends	381	479	588	400	401	455	462
	Social Ins Tax- Employee Contribution	893	865	681	443	1,223	644	660
	Social Ins Tax- Employer Contribution	1,727	1,672	1,316	857	2,364	1,246	1,275
	Tax on Production and Imports: Sales Tax	51,179	49,428	52,988	47,353	45,009	43,085	60,402
	Tax on Production and Imports: Property Tax	32,026	51,214	37,695	35,258	37,808	55,915	45,209
	Tax on Production and Imports: Motor Vehicle Lic	984	1,086	859	976	1,131	796	1,041
	Tax on Production and Imports: Severance Tax	3,860	42	2,214	11,728	24	19	43
	Tax on Production and Imports: Other Taxes	4,103	5,890	6,012	6,045	6,874	6,686	5,809
	Tax on Production and Imports: S/L NonTaxes	642	697	1,329	929	1,341	174	2,140
	Corporate Profits Tax	4,876	10,374	2,386	3,191	7,166	12,736	4,640
	Personal Tax: Income Tax	19,292	38,630	3,350	12,782	40,866	41,787	15,206
	Personal Tax: NonTaxes (Fines- Fees	4,393	5,269	6,358	4,309	7,228	5,432	6,604
	Personal Tax: Motor Vehicle License	1,391	1,580	1,241	1,539	1,646	1,187	1,273
	Personal Tax: Property Taxes	428	701	514	523	515	781	523
	Personal Tax: Other Tax (Fish/Hunt)	1,010	580	358	1,159	342	405	215
	Total State and Local Tax	127,185	168,509	117,888	127,493	153,939	171,346	145,503
	Social Ins Tax- Employee Contribution	75,179	79,804	69,310	79,657	72,625	81,143	81,887
	Social Ins Tax- Employer Contribution	69,369	73,965	62,955	74,039	67,027	74,986	76,762
	Tax on Production and Imports: Excise Taxes	8,100	8,238	8,467	8,190	8,017	7,966	10,061
	Tax on Production and Imports: Custom Duty	3,354	3,411	3,505	3,391	3,319	3,298	4,165
	Tax on Production and Imports: Fed NonTaxes	853	867	891	862	844	839	1,059
	Corporate Profits Tax	40,711	46,890	47,995	43,388	41,991	51,504	44,716
	Personal Tax: Income Tax	82,182	107,057	94,849	96,240	108,045	123,400	97,043
	Total Federal Tax	279,748	320,232	287,972	305,766	301,869	343,136	315,693
Lease Revenues (440)	Dividends	664	746	831	677	670	658	767
	Social Ins Tax- Employee Contribution	553	528	461	268	655	393	424
	Social Ins Tax- Employer Contribution	1,070	1,020	891	519	1,267	759	820
	Tax on Production and Imports: Sales Tax	57,432	62,547	66,771	54,745	45,286	53,369	67,744
	Tax on Production and Imports: Property Tax	35,938	64,807	47,500	40,762	38,041	69,262	50,704
	Tax on Production and Imports: Motor Vehicle Lic	1,105	1,374	1,082	1,128	1,138	986	1,168
	Tax on Production and Imports: Severance Tax	4,331	53	2,790	13,559	24	23	48
	Tax on Production and Imports: Other Taxes	4,604	7,453	7,576	6,989	6,917	8,282	6,515

Marina Activity	Tax Item	Central	Great Lakes	Gulf of Mexico	North Pacific	South Pacific	North Atlantic	South Atlantic
	Tax dollars generated per million dollars revenue							
	Tax on Production and Imports: S/L NonTaxes	720	882	1,675	1,074	1,349	215	2,400
	Corporate Profits Tax	8,493	16,152	3,372	5,395	11,985	18,438	7,696
	Personal Tax: Income Tax	13,034	25,527	2,430	8,365	23,794	27,466	10,329
	Personal Tax: NonTaxes (Fines- Fees	2,968	3,482	4,613	2,820	4,209	3,570	4,486
	Personal Tax: Motor Vehicle License	940	1,044	900	1,007	959	780	865
	Personal Tax: Property Taxes	289	463	373	342	300	513	355
	Personal Tax: Other Tax (Fish/Hunt)	682	383	259	758	199	266	146
	Total State and Local Tax	132,822	186,461	141,525	138,409	136,793	184,982	154,466
	Social Ins Tax- Employee Contribution	49,242	51,350	49,176	50,622	41,220	52,067	54,545
	Social Ins Tax- Employer Contribution	42,963	45,127	42,632	44,859	35,914	45,693	49,357
	Tax on Production and Imports: Excise Taxes	9,090	10,424	10,669	9,468	8,066	9,868	11,284
	Tax on Production and Imports: Custom Duty	3,764	4,316	4,417	3,920	3,340	4,086	4,672
	Tax on Production and Imports: Fed NonTaxes	957	1,097	1,123	997	849	1,039	1,188
	Corporate Profits Tax	70,912	73,008	67,810	73,360	70,223	74,561	74,169
	Personal Tax: Income Tax	55,523	70,744	68,819	62,978	62,909	81,109	65,919
	Total Federal Tax	232,450	256,068	244,645	246,204	222,521	268,423	261,133
Boat rental (443)	Dividends	363	443	478	360	380	407	448
	Social Ins Tax- Employee Contribution	849	842	711	412	1,200	654	646
	Social Ins Tax- Employer Contribution	1,641	1,628	1,374	797	2,319	1,265	1,248
	Tax on Production and Imports: Sales Tax	91,868	82,748	106,055	112,005	77,507	70,854	107,553
	Tax on Production and Imports: Property Tax	57,486	85,738	75,447	83,397	65,108	91,954	80,500
	Tax on Production and Imports: Motor Vehicle Lic	1,767	1,818	1,719	2,308	1,948	1,309	1,854
	Tax on Production and Imports: Severance Tax	6,928	70	4,431	27,741	41	30	76
	Tax on Production and Imports: Other Taxes	7,365	9,861	12,034	14,299	11,838	10,996	10,344
	Tax on Production and Imports: S/L NonTaxes	1,152	1,166	2,660	2,198	2,309	286	3,811
	Corporate Profits Tax	4,641	9,592	1,938	2,867	6,800	11,387	4,499
	Personal Tax: Income Tax	21,900	44,020	4,036	13,857	46,183	48,895	16,729
	Personal Tax: NonTaxes (Fines- Fees	4,987	6,004	7,661	4,672	8,169	6,355	7,265
	Personal Tax: Motor Vehicle License	1,579	1,800	1,495	1,668	1,860	1,389	1,400
	Personal Tax: Property Taxes	486	799	619	567	582	913	575
	Personal Tax: Other Tax (Fish/Hunt)	1,146	661	431	1,256	386	474	237
	Total State and Local Tax	204,157	247,189	221,090	268,405	226,631	247,169	237,184
	Social Ins Tax- Employee Contribution	80,243	86,397	79,825	81,586	78,651	90,854	86,477
	Social Ins Tax- Employer Contribution	65,907	71,981	65,752	68,874	65,755	76,131	75,131
	Tax on Production and Imports: Excise Taxes	14,540	13,791	16,946	19,371	13,806	13,101	17,914
	Tax on Production and Imports: Custom Duty	6,020	5,710	7,016	8,020	5,716	5,424	7,417
	Tax on Production and Imports: Fed NonTaxes	1,531	1,452	1,784	2,039	1,453	1,379	1,886
Food and beverage services (501)	Corporate Profits Tax	38,755	43,356	38,974	38,991	39,847	46,048	43,360
	Personal Tax: Income Tax	93,292	121,994	114,290	104,331	122,100	144,391	106,760
	Total Federal Tax	300,288	344,680	324,587	323,214	327,329	377,328	338,945
	Dividends	280	366	382	289	310	338	357
	Social Ins Tax- Employee Contribution	866	861	715	448	1,245	664	634
	Social Ins Tax- Employer Contribution	1,675	1,665	1,383	866	2,406	1,284	1,227
	Tax on Production and Imports: Sales Tax	77,766	70,820	80,538	68,502	66,816	62,656	78,200
	Tax on Production and Imports: Property Tax	48,662	73,379	57,294	51,005	56,127	81,315	58,530
	Tax on Production and Imports: Motor Vehicle Lic	1,496	1,556	1,306	1,412	1,679	1,157	1,348
	Tax on Production and Imports: Severance Tax	5,865	60	3,365	16,967	35	27	55
	Tax on Production and Imports: Other Taxes	6,234	8,439	9,138	8,745	10,205	9,724	7,521
	Tax on Production and Imports: S/L NonTaxes	975	998	2,020	1,344	1,991	253	2,771
	Corporate Profits Tax	3,581	7,934	1,547	2,306	5,546	9,461	3,586
	Personal Tax: Income Tax	18,469	38,068	3,415	12,602	40,940	42,565	14,472
	Personal Tax: NonTaxes (Fines- Fees	4,206	5,193	6,482	4,249	7,242	5,533	6,285
	Personal Tax: Motor Vehicle License	1,331	1,557	1,265	1,517	1,649	1,210	1,211
	Personal Tax: Property Taxes	410	691	524	516	516	795	497
	Personal Tax: Other Tax (Fish/Hunt)	967	571	365	1,143	342	413	205
	Total State and Local Tax	172,785	212,159	169,738	171,910	197,049	217,394	176,900
	Social Ins Tax- Employee Contribution	72,322	78,920	71,389	79,301	73,120	82,983	78,229
	Social Ins Tax- Employer Contribution	67,289	73,642	66,181	74,824	68,212	77,316	73,816

Marina Activity	Tax Item	Central	Great Lakes	Gulf of Mexico	North Pacific	South Pacific	North Atlantic	South Atlantic
	Tax dollars generated per million dollars revenue							
	Tax on Production and Imports: Excise Taxes	12,308	11,803	12,868	11,847	11,902	11,585	13,025
	Tax on Production and Imports: Custom Duty	5,096	4,887	5,328	4,905	4,928	4,797	5,393
	Tax on Production and Imports: Fed NonTaxes	1,296	1,242	1,355	1,247	1,253	1,219	1,371
	Corporate Profits Tax	29,899	35,861	31,122	31,359	32,497	38,256	34,561
	Personal Tax: Income Tax	78,677	105,500	96,695	94,884	108,240	125,700	92,360
	Total Federal Tax	266,886	311,856	284,937	298,368	300,151	341,856	298,755
	Dividends	426	548	588	476	430	499	550
	Social Ins Tax- Employee Contribution	614	604	489	304	847	447	442
	Social Ins Tax- Employer Contribution	1,186	1,168	946	588	1,637	864	854
	Tax on Production and Imports: Sales Tax	66,586	67,348	72,555	71,915	75,431	56,374	76,782
	Tax on Production and Imports: Property Tax	41,666	69,782	51,615	53,546	63,363	73,161	57,469
	Tax on Production and Imports: Motor Vehicle Lic	1,281	1,480	1,176	1,482	1,895	1,041	1,324
	Tax on Production and Imports: Severance Tax	5,022	57	3,031	17,812	40	24	54
	Tax on Production and Imports: Other Taxes	5,338	8,025	8,232	9,181	11,521	8,749	7,384
	Tax on Production and Imports: S/L NonTaxes	835	949	1,820	1,411	2,247	227	2,721
	Corporate Profits Tax	5,446	11,868	2,385	3,794	7,681	13,974	5,516
	Personal Tax: Income Tax	14,973	29,477	2,682	9,592	32,404	31,553	11,060
Boat service (508)	Personal Tax: NonTaxes (Fines- Fees	3,410	4,021	5,091	3,234	5,732	4,101	4,804
	Personal Tax: Motor Vehicle License	1,079	1,205	994	1,155	1,305	897	926
	Personal Tax: Property Taxes	332	535	412	393	408	589	380
	Personal Tax: Other Tax (Fish/Hunt)	784	442	286	870	271	306	156
	Total State and Local Tax	148,977	197,510	152,302	175,752	205,211	192,806	170,421
	Social Ins Tax- Employee Contribution	55,895	59,132	53,618	57,786	55,276	59,639	57,841
	Social Ins Tax- Employer Contribution	47,660	51,664	45,265	50,805	46,401	51,993	51,393
	Tax on Production and Imports: Excise Taxes	10,539	11,225	11,593	12,438	13,436	10,423	12,789
	Tax on Production and Imports: Custom Duty	4,363	4,647	4,800	5,150	5,563	4,316	5,295
	Tax on Production and Imports: Fed NonTaxes	1,109	1,182	1,220	1,309	1,414	1,097	1,346
	Corporate Profits Tax	45,470	53,644	47,973	51,596	45,004	56,508	53,161
	Personal Tax: Income Tax	63,784	81,691	75,946	72,221	85,671	93,179	70,586
	Total Federal Tax	228,820	263,185	240,415	251,304	252,765	277,156	252,411
	Dividends	290	373	420	291	315	338	365
	Social Ins Tax- Employee Contribution	704	691	601	334	969	529	519
	Social Ins Tax- Employer Contribution	1,360	1,336	1,163	646	1,874	1,023	1,004
	Tax on Production and Imports: Sales Tax	84,608	75,962	88,826	76,624	74,507	66,395	87,361
	Tax on Production and Imports: Property Tax	52,944	78,707	63,190	57,052	62,588	86,167	65,387
	Tax on Production and Imports: Motor Vehicle Lic	1,627	1,669	1,440	1,579	1,872	1,226	1,506
	Tax on Production and Imports: Severance Tax	6,381	65	3,711	18,978	39	29	62
	Tax on Production and Imports: Other Taxes	6,783	9,052	10,079	9,782	11,380	10,304	8,402
	Tax on Production and Imports: S/L NonTaxes	1,061	1,071	2,228	1,504	2,220	268	3,096
	Corporate Profits Tax	3,705	8,074	1,702	2,318	5,639	9,459	3,665
	Personal Tax: Income Tax	19,350	38,234	3,670	12,177	40,872	42,047	14,913
	Personal Tax: NonTaxes (Fines- Fees	4,406	5,215	6,966	4,105	7,229	5,465	6,477
	Personal Tax: Motor Vehicle License	1,395	1,563	1,360	1,466	1,646	1,195	1,248
	Personal Tax: Property Taxes	429	694	563	499	515	785	513
	Personal Tax: Other Tax (Fish/Hunt)	1,013	574	392	1,104	342	408	211
	Total State and Local Tax	186,057	223,279	186,310	188,459	212,008	225,637	194,728
	Social Ins Tax- Employee Contribution	69,475	73,766	71,065	69,745	67,867	76,761	74,555
	Social Ins Tax- Employer Contribution	54,647	59,067	55,628	55,871	53,114	61,586	60,430
	Tax on Production and Imports: Excise Taxes	13,391	12,660	14,193	13,252	13,272	12,276	14,551
	Tax on Production and Imports: Custom Duty	5,544	5,242	5,876	5,487	5,495	5,083	6,025
	Tax on Production and Imports: Fed NonTaxes	1,410	1,333	1,494	1,395	1,397	1,292	1,532
	Corporate Profits Tax	30,938	36,495	34,225	31,518	33,043	38,252	35,321
	Personal Tax: Income Tax	82,429	105,960	103,925	91,680	108,059	124,169	95,173
	Total Federal Tax	257,834	294,523	286,405	268,949	282,246	319,419	287,587

The calculator tool also incorporates deflators to convert values to 2013 dollars for application of the employment multiplier, to maintain the correct ratio of industry output to employment. Deflators in the model are provided out to the year 2030, as shown in Table 7. Deflators are specific to each industry sector and represent national averages across all regions.

Table 7. Deflators for the marina sector, by industry and year, 2013-30

Year	Boat sales-Retail (396)	Fuel-Retail (402)	Merchandise sales (404)	Boat storage (416)	Lease Revenues (440)	Boat rental (443)	Food and beverage services (501)	Boat service (508)	All other activities (496)
2013	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2014	1.0086	1.0086	1.0086	1.0252	1.0266	1.0185	1.0219	1.0266	1.0271
2015	1.0172	1.0172	1.0172	1.0511	1.0540	1.0373	1.0443	1.0538	1.0549
2016	1.0259	1.0259	1.0259	1.0776	1.0821	1.0565	1.0671	1.0818	1.0835
2017	1.0347	1.0347	1.0347	1.1047	1.1109	1.0761	1.0905	1.1106	1.1129
2018	1.0436	1.0436	1.0436	1.1326	1.1405	1.0960	1.1144	1.1401	1.1430
2019	1.0526	1.0526	1.0526	1.1611	1.1709	1.1162	1.1388	1.1704	1.1740
2020	1.0616	1.0616	1.0616	1.1904	1.2020	1.1369	1.1637	1.2014	1.2058
2021	1.0707	1.0707	1.0707	1.2204	1.2341	1.1579	1.1892	1.2334	1.2385
2022	1.0799	1.0799	1.0799	1.2512	1.2669	1.1793	1.2153	1.2661	1.2721
2023	1.0891	1.0891	1.0891	1.2751	1.2912	1.2012	1.2385	1.2903	1.2964
2024	1.0985	1.0985	1.0985	1.2995	1.3158	1.2234	1.2622	1.3150	1.3212
2025	1.1079	1.1079	1.1079	1.3243	1.3410	1.2460	1.2863	1.3401	1.3464
2026	1.1174	1.1174	1.1174	1.3496	1.3666	1.2691	1.3109	1.3658	1.3722
2027	1.1270	1.1270	1.1270	1.3754	1.3928	1.2925	1.3360	1.3919	1.3984
2028	1.1367	1.1367	1.1367	1.4017	1.4194	1.3164	1.3615	1.4185	1.4252
2029	1.1464	1.1464	1.1464	1.4285	1.4465	1.3408	1.3875	1.4456	1.4524
2030	1.1562	1.1562	1.1562	1.4558	1.4742	1.3656	1.4141	1.4733	1.4802

Marina Economic Impact Calculator Programing and Features

The marina economic impact calculator tool was programmed in mySQL/PHP language, which is compatible with the existing AMI website.


The calculator tool has the following features:


- Login with user email address and password and create profile
- User interface: requires state/region, year and gross revenues for each marina activity
- Multiplier and deflator lookup tables
- Reports for impacts by direct, indirect, induced, total effects for output, employment, value added, labor income, for up to three years
- Impacts by major industry group (two-digit NAICS)
- Tax impacts to state/local and federal governments
- Report generator to produce a PDF document to save results
- Model documentation and region map


- Administrator tools for user management and statistical reports on system usage by user, date

An example of the input page for the marina economic impact calculator tool with data for one year is shown in Figure 3, and the results tables are shown in Figures 4-6.

Figure 3. Example of marina calculator tool input page







Marina Economic Impact Calculator

This calculator tool estimates the economic impacts of marinas using regional economic multipliers.

Documentation
View Region Map
Profile
Log Out

Select the state for your business, and the calculator will show the appropriate region for analysis. Then enter values for annual gross revenues in each of the marina activity categories, for up to three years. After clicking the "Run Calculation" button, calculated impacts for your region will be shown in the tables below.

State Florida East ▼

Region Atlantic South

Run Calculation

	Year 1	Year 2	Year 3
Marina Activity	2016 ▼	2013 ▼	2013 ▼
Boat Sales	<input type="text" value="1000000"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Fuel Sales	<input type="text" value="1000000"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Merchandise Sales	<input type="text" value="1000000"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Boat Storage	<input type="text" value="1000000"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Lease Revenues	<input type="text" value="1000000"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Boat Rentals	<input type="text" value="1000000"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Food & Beverage Services	<input type="text" value="1000000"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Boat Service	<input type="text" value="1000000"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
All Other Activities	<input type="text" value="1000000"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Total	<input type="text" value="9000000"/>	<input type="text" value="0"/>	<input type="text" value="0"/>

2016
2013
2013

Figure 4. Example of marina economic impact calculator tool results for summary economic impacts

Summary Economic Impacts				
Impact Type	Employment (Jobs)	Industry Output	Value Added (GDP)	Labor Income
Direct	78	\$6,730,000	\$4,023,131	\$2,407,071
Indirect	22	\$3,038,730	\$1,734,431	\$966,395
Induced	106	\$14,221,318	\$8,490,029	\$5,194,329
Total Impact	206	\$23,990,048	\$14,247,592	\$8,567,795

- Industry output represents sales revenues.
- Employment represents fulltime and part-time jobs.
- Value added is equivalent to Gross Domestic Product (GDP) and represents labor income, other property income and business taxes.
- See the table below for a detailed listing of local/state and federal tax impacts.
- Note that these economic measures are independent and should not be added together

Figure 5. Example of marina economic impact calculator results by major industry group

Economic Impacts by Major Industry Group				
Impact Type	Employment (Jobs)	Industry Output	Value Added (GDP)	Labor Income
Agriculture, Forestry, Fisheries	0	\$88,610	\$51,085	\$32,398
Mining	0	\$33,342	\$14,855	\$5,253
Utilities	0	\$531,891	\$230,585	\$57,786
Construction	6	\$1,112,952	\$424,433	\$312,265
Manufacturing	1	\$1,141,266	\$370,166	\$168,110
Wholesale Trade	4	\$801,544	\$542,474	\$279,514
Retail Trade	25	\$1,821,538	\$1,188,747	\$774,917
Transportation	15	\$1,620,499	\$841,328	\$663,270
Information and Communications	0	\$893,843	\$418,079	\$185,995
Finance and Insurance	7	\$1,496,177	\$718,629	\$481,440
Real Estate and Rentals	27	\$4,642,961	\$3,353,267	\$812,879
Professional and Technical Services	7	\$1,235,398	\$739,032	\$609,172
Management of Companies	0	\$305,952	\$173,688	\$143,922
Administrative and Waste Services	11	\$704,940	\$473,355	\$390,916
Education	0	\$162,648	\$99,645	\$89,926
Health Care and Social Services	14	\$1,393,386	\$832,842	\$757,530
Arts, Entertainment and Recreation	16	\$1,260,913	\$533,549	\$439,835
Accommodation and Food Services	29	\$1,592,867	\$848,942	\$691,468
Other Services	15	\$1,599,149	\$968,222	\$537,719
Government and non-NAICS	15	\$1,550,171	\$1,424,668	\$1,133,471
Total	206	\$23,990,048	\$14,247,592	\$8,567,795

Figure 6. Example of marina economic impact calculator results for personal and business taxes generated for state/local and federal governments

State and Local Tax Impacts

Description	Tax
Dividends	\$3,308
Social Ins Tax- Employee Contribution	\$3,802
Social Ins Tax- Employer Contribution	\$7,352
Tax on Production and Imports: Sales Tax	\$557,894
Tax on Production and Imports: Property Tax	\$417,565
Tax on Production and Imports: Motor Vehicle Lic	\$9,617
Tax on Production and Imports: Severance Tax	\$394
Tax on Production and Imports: Other Taxes	\$53,654
Tax on Production and Imports: S/L NonTaxes	\$19,769
Corporate Profits Tax	\$33,199
Personal Tax: Income Tax	\$94,247
Personal Tax: NonTaxes (Fines- Fees)	\$40,932
Personal Tax: Motor Vehicle License	\$7,889
Personal Tax: Property Taxes	\$3,239
Personal Tax: Other Tax (Fish/Hunt)	\$1,333
Total State and Local Tax	\$1,254,194

Federal Tax Impacts

Description	Tax
Social Ins Tax- Employee Contribution	\$494,636
Social Ins Tax- Employer Contribution	\$442,462
Tax on Production and Imports: Excise Taxes	\$92,924
Tax on Production and Imports: Custom Duty	\$38,473
Tax on Production and Imports: Fed NonTaxes	\$9,782
Corporate Profits Tax	\$319,962
Personal Tax: Income Tax	\$601,480
Total Federal Tax	\$1,999,719

Total Local, State & Federal Tax	\$3,253,913
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