A PROFILE OF MARINE TRADES IN MAINE

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Maine Marine Trade Association

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Summary

• Marine trades firms most often engage in several different business activities simultaneously. Few firms specialize in only one business.

• There are marine trades firms located throughout the state. The industry has high concentrations of firms in the Casco Bay, mid-coast (Boothbay to Rockland) and Hancock County regions. In these areas, boat building alone accounts for as much as one third of manufacturing employment.

• Employment in the industry is between 2,500 and 3,000. Most of this employment is year-round.

• Total wages paid by the industry is about $85 million, resulting in an average wage of about $25,000. Many wages are above both state and national wages for comparable occupations.

• Total employment including both direct and indirect employment is about 5,000.

• Total sales for boat builders and dealers and marinas are estimated at over $612 million in 2000.

• The marine industry is estimated to have sold 2.41 million gallons of gasoline and 887,000 gallons of diesel fuel in 1999.[1]

• Over half of firms with waterfront locations provide shore access to the public.

• The boat building industry in Maine plays a particularly important part in the state's technology-based economic development strategy. One of the key technology areas designated by the Legislature for the state is advanced materials and composites. Many of the leading companies in this field in Maine are in the boat building industry. Future development of these technologies in Maine will heavily depend on the role and success of the boat building industry.

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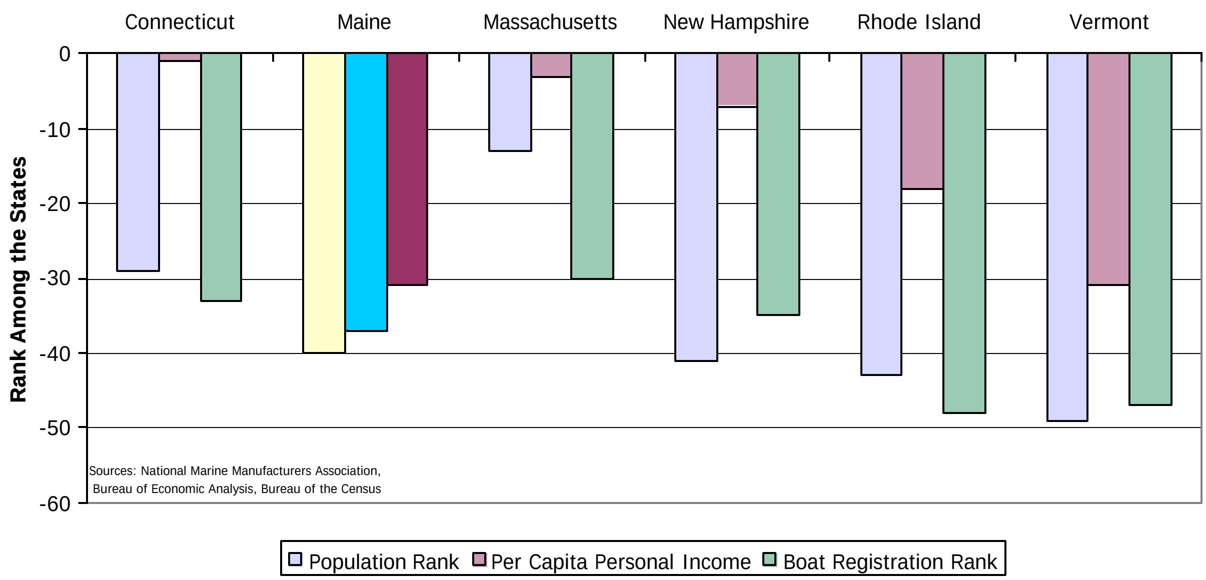
[1] These sales are those directly from marinas and boat services to recreational boats and do not include fuel purchased at filling stations directly into trailered boats or portable fuel tanks.

Boats and Maine

Maine is a state of boats, and a state known for its boats and boating opportunities. From the renowned products of Hinckley Yachts and Old Town Canoe to the thousands of Maine-built lobster boats working the waters of New England, Maine boats are among the best that can be bought anywhere in the world. Maine's coastal waters are home to some of the best cruising anywhere; simply look at the homeports from Europe to the Caribbean of the boats sailing through Mt. Desert Island's Great Harbor in July and August. From Sebago Lake to the Allagash, Maine's inland waters supply a variety of boating experiences that is unmatched in almost any state.

It is difficult to capture the role that boats play in Maine's economy and life today in any statistic. But the following figure shows that Maine might be called the most "boating intensive" state in New England. The figure shows the rank of each state in boats registered compared with their rank in population and personal income (as a measure of wealth). Maine ranks 40^{th} nationally in population and 37^{th} in per capital personal income, but 31^{st} in boat registrations. In other words, there are more boats in Maine than would be expected given our population and economic wealth. And Maine is the only state in New England about which this can be said. In the other states there are fewer boats than population rank (every other state except New Hampshire) or fewer boats than per capita income rank (every other state).

Figure 1
New England States Ranked by
Population, Per Capita Income, and Boat Registrations



This study examines the role of the marine trades- the firms that build, sell, and service Maine's boating needs. A survey of firms in the industries was undertaken in 2000. This survey plus other information allows a fairly accurate picture of the role of the marine trades in the Maine economy today.

The Survey

The Survey Research Center of the Edmund S. Muskie School of Public Service conducted the survey. A survey form was mailed to all members of the Maine Marine Trade Association. In addition, the names and addresses of firms in boat building and repair, marinas, and boat dealers were gathered from Maine Department of Labor data; members of the MMTA were deleted from this list and the remainder was also provided surveys. A total of 415 surveys were mailed. An initial response of 100 was augmented by phone calls to non-respondents in order to secure additional returns. A total of 167 responses were returned, an overall response rate of about 40%.

Industry Profile[2]

Table 1 shows the various types of businesses in which survey respondents engage. Most businesses in the marine trades industry undertake more than one type of business, and table 1 reflects the number of respondents who indicated that they undertake each type of business activity. Thus the total shown reflects multiple responses by many respondents.

Table 1
Marine Trades Business Types

Business Type	Number
Marina	26
Boat Yard	78
Commercial Boat Builder	21
Recreational Boat Builder	38
Boat & Motor Dealer	60
Specialized Trade	70
Accessories & Parts	22
Marine Services	8
Specialized Products	16
Boat Transport	18
Chandlery	20
Boat Storage	86

[2] The survey excluded Bath Iron Works from the sample. BIW is obviously a key part of the maritime industry in Maine, but it's unique role as a ship builder and as a supplier to the Navy makes it significantly different than the other firms in the industry. These characteristics would distort data from the rest of the industry, and so BIW is not considered part of this study.

Table 2 (following page) shows the distribution of different types of businesses. The top part of the table shows the number of firms in each business and the other types of businesses that they operate; the bottom part of the tables shows the percentage distributions. The table may be read down or across. For example, of the 26 responding firms that operate marinas, 13 or 50% also operate general service boat yards; 5 (16%) provide boat transport services, while 19 (62%) provide boat storage. Table 3 indicates that boat yard services, boat and motor sales, and sales of specialized marine products (such as docks, canvas products, etc.) provide the largest proportion of revenue for most firms. Marina services along with boat transport and storage provide smaller proportions.

Table 3
Percent of Business Revenues

	N	Avg Percent
Marina	36	16%
Boat Yard	74	41%
Boat & Motor Dealer	51	41%
Accessories & Parts	66	17%
Specialized Products	9	44%
Boat Transport	17	18%
Boat Storage	81	17%

Table 2
Mixtures of Business Services and Products

	Marina	Boat Yard	Commercial Boat Builder	Recreational Boat Builder	Boat & Motor Dealer	Specialized Trade	Accessories & Parts	Marine Services	Specialized Products	Boat Transport	Chandlery	Boat Storage
Marina		13	3	5	12	13	3	0	4	5	4	16
Boat Yard	13		10	17	20	22	7	3	7	12	10	35
Commercial Boat Builder	3	10		12	3	4	1	2	1	5	3	8
Recreational Boat Builder	5	17	12		6	7	3	5	2	5	5	15
Boat & Motor Dealer	12	20	3	6		21	4	1	5	9	8	23
Specialized Trade	13	22	4	7	21		7	4	6	9	12	26
Accessories & Parts	3	7	1	3	4	7		2	4	0	4	8
Marine Services	0	3	2	5	1	4	2		0	0	1	3
Specialized Products	4	7	1	2	5	6	4	0		3	5	7
Boat Transport	5	12	5	5	9	9	0	0	3		5	14
Chandlery	4	10	3	5	8	12	4	1	5	5		11
Boat Storage	16	35	8	15	23	26	8	3	7	14	11	
	Marina	Boat Yard	Commercial Boat Builder	Recreational Boat Builder	Boat & Motor Dealer	Specialized Trade	Accessories & Parts	Marine Services	Specialized Products	Boat Transport	Chandlery	Boat Storage
Marina		17%	14%	13%	20%	19%	14%	0%	25%	28%	20%	19%
Boat Yard	50%		48%	45%	33%	31%	32%	38%	44%	67%	50%	41%
Commercial Boat Builder	12%	13%		32%	5%	6%	5%	25%	6%	28%	15%	9%
Recreational Boat Builder	19%	22%	57%		10%	10%	14%	63%	13%	28%	25%	17%
Boat & Motor Dealer	46%	26%	14%	16%		30%	18%	13%	31%	50%	40%	27%
Specialized Trade	50%	28%	19%	18%	35%		32%	50%	38%	50%	60%	30%
Accessories & Parts	12%	9%	5%	8%	7%	10%		25%	25%	0%	20%	9%
Marine Services	0%	4%	10%	13%	2%	6%	9%		0%	0%	5%	3%
Specialized Products	15%	9%	5%	5%	8%	9%	18%	0%		17%	25%	8%
Boat Transport	19%	15%	24%	13%	15%	13%	0%	0%	19%		25%	16%
Chandlery	15%	13%	14%	13%	13%	17%	18%	13%	31%	28%		13%
Boat Storage	62%	45%	38%	39%	38%	37%	36%	38%	44%	78%	55%	

Employment and Wages

According to the Maine Department of Labor, firms in boat building and repair, marinas, and boat dealers employed 3,040 people in the second quarter of 2000. As table 4 shows, in 1999 survey respondents employed 2,216. Thus, about two thirds of employment in the industry is represented in the survey. As Table 4 shows, although the boating season in Maine is relatively short, the industry operates year round. Peak employment is indeed reached during the summer (third quarter), but for the survey respondents only 275 additional employees were added compared to the first quarter. Peak summer employment was only 5% higher than average annual employment.

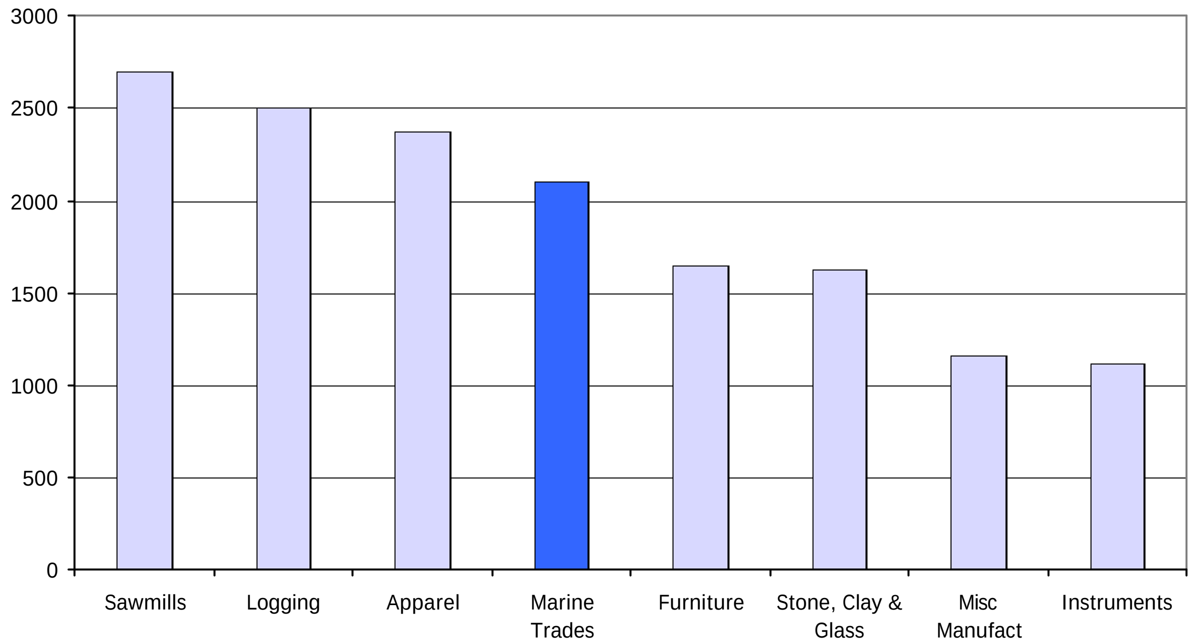
Table 4
Industry Employment
(Survey Respondents)

	Firms	Mean	Q1	Q2	Q3	Q4	Avg Annual
Marina	33	17	490	608	639	523	562
Boat Yard	77	16	1,120	1,280	1,300	1,213	1,226
Commercial Boat Builder	19	19	260	285	275	275	270
Recreational Boat Builder	38	31	1,119	1,180	1,211	1,225	1,184
Boat & Motor Dealer	58	17	885	1,022	1,061	955	980
Specialized Trade	21	7	150	161	162	147	155
Accessories & Parts	67	11	629	760	786	662	706
Marine Services	8	9	69	73	69	68	70
Specialized Products	14	12	159	182	186	166	172
Boat Transport	18	14	218	279	286	234	253
Chandlery	19	14	243	273	291	259	266
Boat Storage	83	16	1,210	1,399	1,428	1,305	1,332
ALL RESPONDENTS	161	13	1,974	2,216	2,250	2,106	2,128

The most seasonal of the firms are those that operate marinas and boat transport. Firms selling accessories and parts are also somewhat more seasonal. But firms in these businesses do not have large swings in employment; peak employment is only 12% above average annual employment. Firms in the boat building business, both commercial and recreational, have steady year round employment; peak quarterly employment is 98% of average annual employment.

The many types of business that firms in marine trades engage in make it difficult to compare with other industries. An industry is defined by the products it makes, so as traditionally defined in the standard industrial classification (SIC) the marine trades is comprised of firms in the boat building (manufacturing), marina (transportation services), and boat dealer (retail) industries. Taking employment for all of the firms together to reflect the multiple goods and services produced. The marine trades employ about the same, though a little less, than each of forest harvesting, sawmills, and apparel, and somewhat more than four other manufacturing industries.

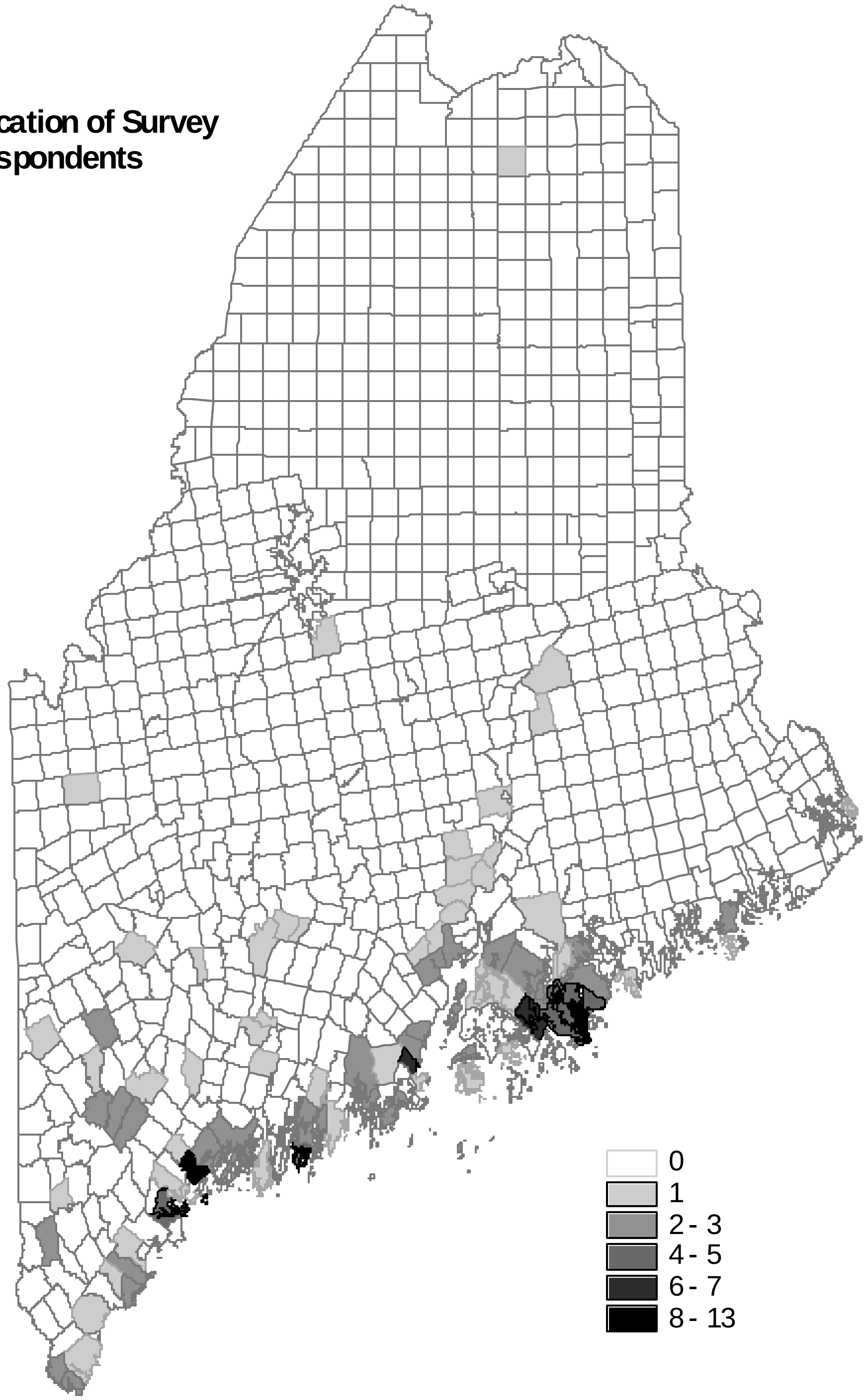
Figure 2
Comparison of Maine Marine Trades Employment with Similarly Sized Industries in Maine
1999 Employment



The Marine Trades Industry is concentrated on the coast, as would be expected, but as the map on the following page shows, firms in the industry are located throughout the state. In measuring the density of firms per town, two regions stand out. One is the Mount Desert Island area, particularly the western part of the island in the towns of Mt. Desert, Southwest Harbor, and Tremont. The other is in the Casco Bay region, particularly in Portland and South Portland. There are also concentrations in the mid coast region from Boothbay to Rockland, and up the Penobscot River to Old Town.

The role of the marine trades in the communities where they are located is perhaps best seen by looking at three centers of marine trades: the Mt. Desert Island area, Boothbay Harbor, and the Rockland area. All three are centers of the boat building industry, and in each area boat building is the most important manufacturing industry. In the Mt. Desert Island area, boat building accounts for 37% of manufacturing in the Ellsworth-Bar Harbor Labor Market Area. Indeed, Hinckley Yachts is now the third largest employer in Hancock County after International Paper in Bucksport and the Jackson Laboratories in Bar Harbor. In the Boothbay Harbor Labor Market Area, boat building is 38% of manufacturing jobs, while in the Rockland area it is 12% of manufacturing jobs.

Location of Survey Respondents



Total wages paid by the industry are more difficult to estimate. Fewer survey respondents provided wage data than employment data. However, combining data from the survey with information from the Department of Labor results in an annual estimate of about $85 million in direct wages. This total indicates that average wages in the industry between $23,300 and $25,000 per year.

The Maine Marine Trade Association has conducted periodic surveys of wages paid in the industry. Appendix A contains the results of the 1999 wage survey, which indicates that, 21 of the 32 job categories surveyed paid wages above the state-wide average wage of $12.75. Table 5 compares wages in the Marine Trades for selected occupations with comparable occupational wages in Maine. In 10 of 15 occupation types examined, the average wages in the Marine Trades are higher than for same occupations statewide.

Table 5
Comparison of Marine Trades and Maine Wages in Comparable Occupations

	Marine Trades	Maine	Occupational Code*
General Manager	$20.34	$26.30	19005
Yard Manager	$18.26	$11.85	81011
Purchasing Agent	$14.61	$19.27	13008
Foreman	$15.95	$16.63	51101
Carpenter	$14.09	$11.89	87102
Lift/Crane Operator	$14.17	$15.39	97944
Transport Driver	$16.00	$12.17	97102
Electrician	$14.74	$16.17	87202
Mechanics	$13.77	$13.30	85110
Painters	$12.67	$12.52	87402
Riggers	$13.24	$12.16	93108
Yard Labor	$9.89	$8.45	79041
Sales Clerk	$9.52	$8.46	49011
Bookkeeper	$12.53	$10.41	53338
Secretary	$10.94	$10.35	53108

* Dictionary of Occupational Codes. Designates the comparable occupation in Maine Department of Labor Data.

The relatively high wages in Maine marine trades can also be shown by comparing Maine's wages with national wages in the same sectors. Table 6 shows wages for selected occupations from the 1999 Maine Marine Trades Industries wage survey with data from the National Marine Manufacturer's Association wage survey for the same period. It is noteworthy that the wages of production occupations in Maine are higher than wages for comparable positions nationally. This reflects in part the high value of boats that are built and serviced in Maine.

Table 6 Comparison of Wages in Selected Marine Trades Occupations U.S. and Maine		
	US	Maine
Carpenter	$12.16	$14.09
Electrician	$12.61	$14.74
Fiberglasser	$11.31	$12.25
Payroll Clerk	$13.88	$12.53
Secrtary	$11.10	$10.94
Purchasing	$18.77	$14.61
Service Manager	$21.77	$13.42
Maine Data: Maine Marine Trade Association U.S. Data: National Marine Manufacturers Association		

Industry Sales

Total industry sales are not available, but may be estimated from payroll data. Using wages from the Maine Department of Labor, total sales may be estimated by reference to the payroll/sales ratios measured by the 1997 Economic Census. For marinas and boat dealers these ratios measure sales are retail. For boat builders, they measure value of shipments f.o.b. factory. These calculations result in the following estimates for 2000:

Table 7 Estimated Value of Sales/Shipments		
Boat Building	$	367,924,110
Marinas	$	118,215,645
Boat Dealers	$	126,151,671
TOTAL	$	612,291,426

Economic Impact of the Marine Trades

In order to estimate the total economic impact of the Maine marine trades, employment data from the survey was combined with data from the Department of Labor and analyzed using the econometric models of Maine regions developed by Regional Economic Models Inc. and maintained by the University of Southern Maine. Table 6 shows the direct employment in the marine trades in 2000, the indirect (multiplier effect) employment, and the total employment for each of eight regions.

Table 7 Economic Impacts of Marine Trades			
	Direct Employment	Indirect Effect	Total Employment
Hancock-Washington	904	713	1,617
Penobscot-Piscataquis	185	125	310
Kennebec-Somerset	48	14	62
Waldo-Knox	591	578	1,169
Lincoln-Sagadahoc	291	134	425
Cumberland	486	584	1,070
Androscoggin-Franklin-Oxford	32	28	59
York	141	125	266
Statewide	2,679	2,300	4,978

Both the statewide and regional economic importance of the industry is apparent from Table 6. Statewide, the industry accounts for nearly 5,000 direct and indirect jobs. The industry has a multiplier effect of 1.86, which is a relatively high effect for Maine, where multipliers generally do not exceed 2.0. The industry's economic importance in Hancock and Washington counties, Waldo and Knox counties, and in Cumberland county is also apparent. In all of these counties, the marine trades account for more than one thousand jobs. The highest impacts are in Hancock and Washington counties, where a total of more than 1,600 jobs are indirectly related to marine trades.

Another perspective on the economic impact of the marine trades, particularly the boat-building sector, comes in a forthcoming study of the sectors of the Maine economy that the Legislature has designated as key to the state's technological future.[3] One of these sectors is the advanced materials-composites sector, which utilizes complex man-made materials to make products that are lighter, stronger, and more durable. The boat building industry was a pioneer in the application of composite materials when it shifted away from wood towards fiberglass, and in the last decade Maine boat builders have been among the leaders in developing even lighter and stronger materials through the incorporation of such materials as carbon and aramid (Kevlar) fibers into the boat building process.

The Maine industry's use of advanced materials has been important for two reasons. Most important, of course, has been the ability to maintain or increase competitive position in the boating market. Hinckley's Picnic Boat™ and Talaria™, the jet powered yachts that has fueled significant employment growth for the company, was made possible in part by the use of composite materials. Small companies such as North End Composites, which makes carbon fiber spars for sail boats as well as molds and tooling for boat builders in Maine and nationally, are developing additional products. There are also a number of manufacturers of canoes, kayaks, and rowing shells using composite materials.

[3] Colgan, et. al. Forthcoming, 2002. *Assessing the Evolution of Maine's Technology Clusters.* Maine Science and Technology Foundation.

The widespread use of composite materials in the boat building industry is key to the future growth of composite-related industries in Maine. The industry is a key customer for suppliers of composites such as St.Gobain-BTI (formerly Brunswick Technologies). The boat building industry is also creating a workforce skilled in developing and applying advanced materials that can be a key resource for the future of this technology in Maine. It is thus almost certainly the case that the future of this technology for Maine's future depends in large part on the success of the boat building industry and marine trades.

The Marine Trades and Government

Several questions concerning the marine trades and government have been raised. One is the level of sales of gasoline and diesel fuel. The survey indicates that 70% of firms providing marina services sell fuel, and that total reported fuel sales from survey respondents for 1999 was 826,390 gallons of gasoline and 303,946 gallons of diesel fuel. Adjusting these figures to a total population of 100 marinas (Maine DOL data) yields an estimate of 2.41 million gallons of gasoline in 1999 and 887,000 gallons of diesel fuel. Taking into account the sampling error in the survey, the actual sales for 1999 were between 2.1 and 2.7 million gallons of gasoline and 754,000 and 1.01 million gallons of diesel. NOTE: These sales are those directly from marinas and boat services and do not include fuel purchased at filling stations directly into trailered boats or portable fuel tanks.

Table 5 shows that marine trades firms also pay a number of other types of licenses and fees to state and local governments in Maine. In addition, of those firms that are located on the water, over half provide free public access to the shore through their facilities.

Table 8
Fees Paid and Public Access Provided

	N	Percent
Submerged Lands Lease	21	24%
Dealer License Fees	53	60%
Weight & Measure Fees	17	19%
Waste Generator Fees	35	39%
Underground Tank Fees	9	10%
Other Fees	26	28%
Public Access*	38	51%

* Firms with waterfront locations only

Appendix 1

1999 MAINE MARINE TRADE ASSOCIATION

SURVEY

of

WAGES • EMPLOYEE BENEFITS • SERVICE RATES[4]

INTRODUCTION

The MAINE MARINE TRADE ASSOCIATION has for many years conducted surveys of marine trades firms (boatbuilders, boat yards, marinas, marine dealers, etc.). This current survey is intended to be completed on an annual basis and covers the areas of wages, employee benefits, and service rates. It is conducted for the sole purpose of providing MMTA member firms with accurate and up to date information for them to study and use for comparisons.

MMTA is most grateful to those firms who participated and took the time from their busy schedules to gather the data necessary to complete the questionnaire. It should be made perfectly clear that all individual responses have been held in the strictest confidence by MMTA staff, and that no other firms or organizations had any access to the identity of those firms who participated in this survey. All individual response forms have been destroyed. A total of one hundred and fifty-two questionnaires were distributed to MMTA member firms. Forty-two firms responded, representing a 28% sampling.

As authorized by the Board of Directors this survey will automatically be mailed to those firms who responded to the questionnaire and made available to other MMTA member firms upon request. This survey will not be offered for sale or to any other firm or organization. It is intended for the exclusive use of the members of the Association. This survey **should not** be redistributed, photocopied, or reproduced in any manner, which would fail to protect the ownership rights of the Association.

In order for the Association to continue to produce a meaningful survey we would encourage you to complete and return the attached comment/suggestion questionnaire.

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[4] NOTE: This Survey was conducted by Maine Marine Trade Association of its members rather than by the Muskie School. It is included here to provide additional information on wages in the industry.

EMPLOYEE WAGES

In a departure from previous surveys it was requested that all wages/salaries be reported as an hourly rate. All wages reported here are reported as $/hour.

Job Title	High	Low	Median	Average	# of Responses
General Manager	$36.75	$10.00	$19.25	$20.34	29
Yard Manager	$27.50	$ 9.50	$19.43	$18.26	12
Business Manager	$22.12	$12.00	$15.00	$15.69	5
Service Manager	$27.10	$ 9.50	$17.00	$17.54	19
Service Writer	$16.25	$10.00	$14.00	$13.42	3
Office Manager	$22.56	$ 8.00	$15.00	$14.23	17
Parts Manager	$19.00	$ 8.50	$11.20	$11.80	8
Store Manager	$ 9.00	$ 6.50	$ 8.00	$ 7.83	3
Purchasing Agent	$24.00	$11.75	$13.00	$14.61	9
Dockmaster	$13.75	$ 9.25	$10.10	$11.03	3
Foreman	$22.50	$ 9.25	$15.75	$15.95	22
Carpenter	$20.00	$ 7.75	$14.09	$14.09	66
Travelift Operator	$20.50	$11.50	$13.50	$14.39	11
Forklift Operator	$17.00	$ 8.00	$12.79	$12.65	4
Crane Operator	$20.00	$ 9.50	$12.62	$13.68	5
Transport Driver	$16.00	$16.00	$16.00	$16.00	1
Electrician	$17.00	$11.00	$15.00	$14.74	5
Mechanic	$19.00	$ 8.50	$13.50	$13.77	57
Painter	$25.00	$ 8.00	$13.00	$12.67	47
Fiberglasser	$18.00	$ 9.00	$12.25	$12.25	28
Rigger (Power)	$17.00	$10.00	$12.00	$13.08	5

Rigger (Sail)	$18.50	$ 9.00	$13.50	$13.29	15
Yard Labor	$28.00	$ 5.15	$ 9.00	$ 9.89	28
Dockhand	$10.50	$ 6.25	$ 7.75	$ 7.85	10
Sales Person (boats)	$22.00	$10.75	$13.13	$14.75	4
Sales clerk	$15.00	$ 5.15	$ 9.75	$ 9.52	8
Finance/Insurance		NO RESPONSES			
Human Resources	$12.00	$12.00	$12.00	$12.00	1
Computer Programmer	11.14	$11.14	$11.14	$11.14	1
Bookkeeper	$17.00	$ 7.00	$12.50	$12.53	18
Secretary	$15.00	$ 8.50	$10.00	$10.94	12
Office Clerk	$14.00	$ 6.25	$ 9.88	$ 9.92	12

PROFILE OF FIRMS RESPONDING

A total of 42 businesses responded to this survey. Most offered services in more than one category. A total of 96 services were offered by these 42 firms. The following is a breakdown of those services.

Category	**Firms Reporting**
Boatbuilder	14
Boatyard	33
Marina	14
Marine Retail	12
Dealer	17
Other	6

Those companies that indicated “other” as the type of business included restaurant/store; dock manufacturer; hardware manufacturer; marine systems and marine contractor.

The majority of responding firms were located in Cumberland County (10), Knox County (7), and Hancock County (6). Other respondents were located in Waldo, Oxford, Lincoln, York, Kennebec, Sagadahoc and Penobscot counties. Thirty-three firms were located on the coast, 8 inland and 1 offered no information regarding location.

Thirty-two firms accounted for a total of 512 employees. Of those the majority (20) had 10 or fewer employees; 10 firms had 11 – 50 employees; and 2 firms reported more than 50 employees.