



# **Workforce Survey Massachusetts Marine Trades April 2016**



**MASSACHUSETTS MARINE TRADES  
EDUCATIONAL TRUST**



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EDUCATIONAL TRUST**

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## **2016 Workforce Study – Executive Summary**

**April, 2016**

The recreational marine industry in the U.S. has an estimated annual economic impact of 35.4 billion dollars according to the National Marine Manufacturers Association. The Association states that this impacts a lot of boaters (87.3 million took to the water in 2014) and the economic benefit from this activity impacts all of us many times over.

Here in Massachusetts the total annual economic impact of our marine industry is 2.1 billion dollars. We have an estimated 934 marine businesses including marinas, boatyards, dealerships, repair shops and related pursuits. These businesses employ roughly 11,318 persons. The total annual retail sales of just boats, engines, and marine accessories are 224.2 million dollars.

AND, our Massachusetts industry has a major problem. Business owners cannot find qualified workers, in particular marine technicians, to fill existing positions and the employment picture for the future looks even gloomier considering the aging of our existing workforce.

This workforce shortage is not a new problem for our industry, and is not confined to Massachusetts. It is a severe problem in most areas of the U.S., causing disruption in services and influencing the consumer in a distinct negative fashion. It has been recently exacerbated by our growing economy and related job growth. It is almost impossible for our industry to service customers in the manner they have become accustomed to and deserve.

To this end the Massachusetts Marine Trades Educational Trust, an affiliate of the Massachusetts Marine Trades Association, commissioned a workforce survey here in April of 2016, to attempt to define our workforce needs, both immediate and for the future. The Trust will use the findings of this survey,

along with other data, to promote both the available jobs and careers in our industry and the training and education in the necessary areas in an attempt to alleviate our workforce issues.

The aims of this survey are similar to those of the Massachusetts Marine Trades Workforce Assessment of 2005, conducted by the Urban Harbors Institute of UMass/Boston (study available at [www.uhi.umb.edu](http://www.uhi.umb.edu)) in collaboration with the South Coastal Workforce Investment Board, the Massachusetts Marine Trades Association and Massasoit Community College. That study looked at marine workforce issues in the South Coastal area of our state, and led to a state workforce grant to promote training for the industry called JOBS IN BOATING. It is hoped that our current state wide study will result in similar efforts in recruitment and for training the marine workforce and in promoting the jobs and careers in the Massachusetts marine industry.

The overall aims of our 2016 workforce survey are:

- To determine the extent of the marine industry's labor needs in the Commonwealth.
- To ascertain which skill sets are most in demand and for which there is a lack of qualified people.
- To identify the current and future workforce challenges faced by the industry.
- To ascertain the needs for formal training and certification.
- To ascertain the most favorable types of training and the timing of that training to best suit the industry timetable.
- To develop a statistical foundation for future initiatives.
- To compile crucial information to help stabilize the marine industry in Massachusetts, to enable it to better serve the consumer, and to encourage the growth of the industry.

Over 300 surveys were sent out via e-mail and 170 of those were opened by the targeted Commonwealth marine businesses. These emails included key members of the Massachusetts Marine Trades Association as well as key non-members. 64 responded to the survey.

Key findings of the study are presented herein.

## **KEY FINDINGS:**

### ***A. Industry Profile***

- Survey responses were pretty evenly distributed from the geographical areas of Massachusetts --- North Shore, South Shore, Cape & Islands, South Coast, with the exception of Western Massachusetts where the small number of businesses corresponds with a low response count.
- The vast majority of businesses responding were those concentrating on maintenance and repairs: boatyards, service shops, marinas, dealers, and those that sold engines.
- The average number of years in business for the 64 respondents was approximately 41.
- 77% of the respondents were businesses serving coastal areas.

### ***B. Labor Needs***

- The 64 respondents employed 1592 full time employees; roughly 80% of their employees are full time/year round positions.
- The 64 respondents indicated a need for 396 full time employees for key jobs in the next five years; a conservative extrapolation of this data suggests the potential for 2500-3000 jobs over the next 5 years.
- 80% of the survey respondents indicated that the growth of their businesses was inhibited by an inability to hire qualified employees. 89% of respondents indicated that it was difficult to find employees with the same skills as their employees retire.
- Technicians dominated the most difficult positions to fill led by “Master techs” and Outboard techs, followed by diesel, sterndrive, electrical & fiberglass technicians.
- Our industry makes use of substantial outsourcing/subcontracting to deliver product, maintenance, and repairs. The survey respondents cite lack of employee expertise and excessive workload as the primary reasons why.

### **C. Education & Training**

- The majority of respondent’s current employees received education, training or certification from vocational schools or marine manufacturers followed by high schools, community colleges & universities.
- 75% of the respondents provide formal on the job training for their employees.
- 92% of respondents train and educate employees at company expense.
- The TOP TEN skill sets which respondents identified for preparation/training purposes are: Outboard Tech., Master Tech., Electrical Tech., Stern Drive Tech., Diesel Tech., Inboard Tech., Fiberglass Tech., Travel Lift Operator, Rigger, Painter-Varnisher.
- 80% of respondents felt a need for local education centers (classrooms, workshops) providing training/certification. Off season (winter) would be the choice of timing for such training for existing employees.
- 84% of respondents indicate that our industry is undergoing change that will definitely increase the demand for preparation/training. They cite substantial technological advances as a key reason. People skills (soft skills), computer skills, as well as advanced training in mechanical, electrical, and boat systems skills lead the list of training needs.

*Edwin R. Lofgren, Jr,*

*Randall Lyons,*

*Mac Donaldson*

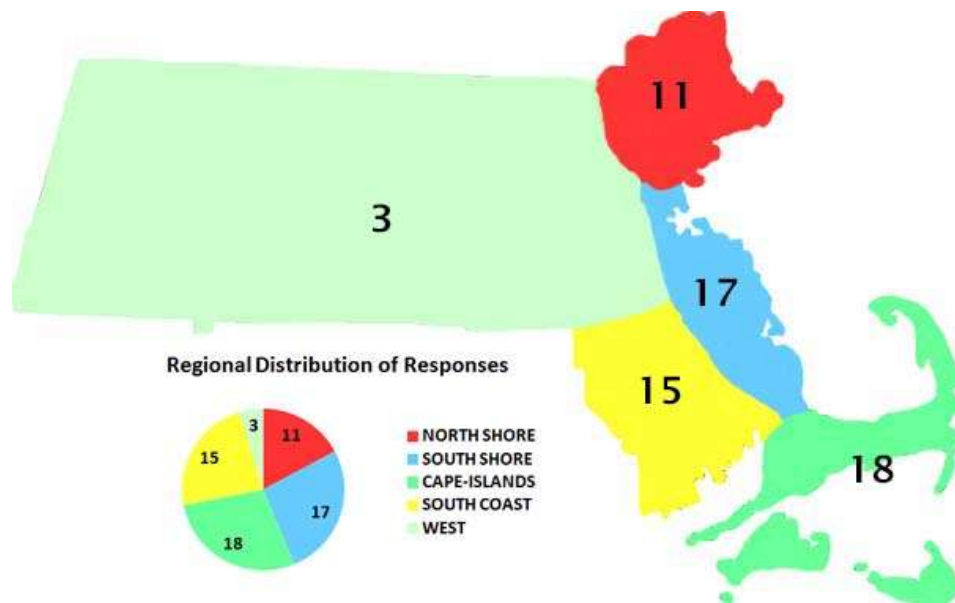
**Trustees, Massachusetts Marine Trades Education Trust**

A special thanks is due to Terry Martin of 3A Marine Service for his excellent computer work and for composing, compiling, illustrating, and editing our Survey.

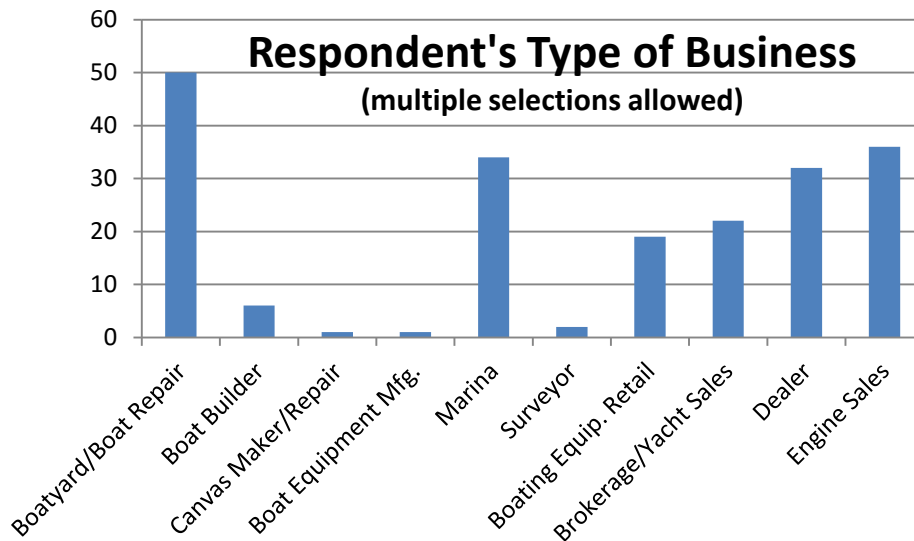
# MMTA Workforce Survey

Responses: 64

Survey completion: Apr 4, 2016



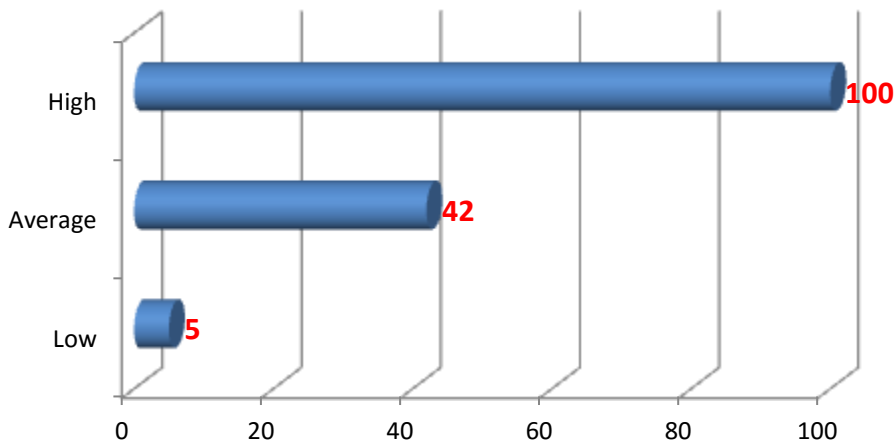
Q1.



**Other responses for Q1 (type of business):** assembly of sail boat rigging, sales of sail control products, education, boat trailer sales and repair, Vendor of law and permitting services to marinas and boatyards, fuel, valet rack, pump out, Rack Storage, Nonprofit trade association, Dredging, Manufacturer Hard Tops, Towers and Enclosures/Canvas, Marine Electronics- Sales Service, Installation, Training

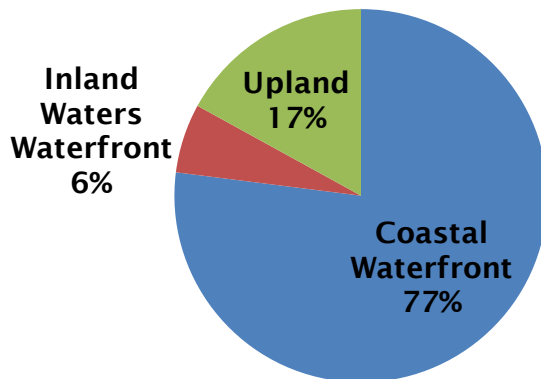
**Q2.**

### Years in Business

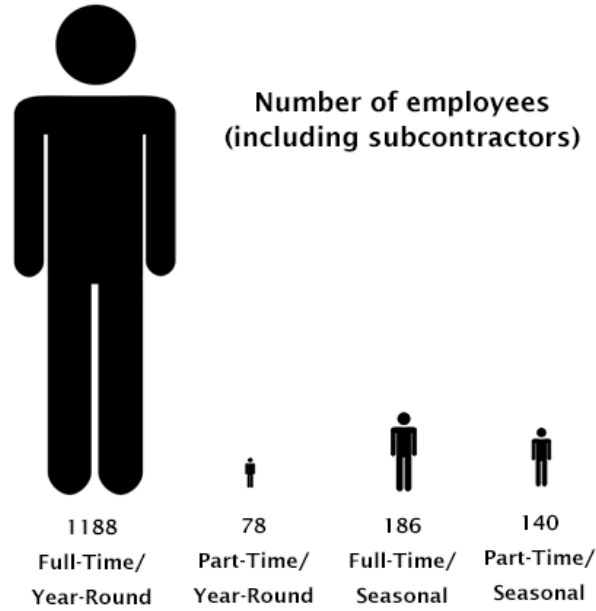


**Q3.**

### Business Location

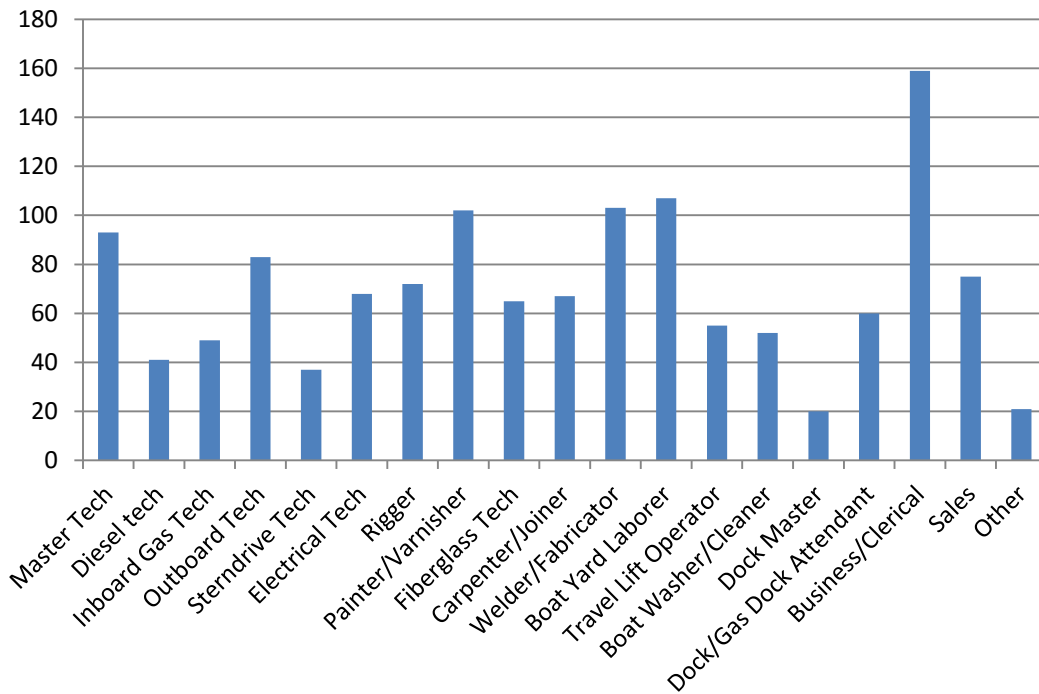


Q4.



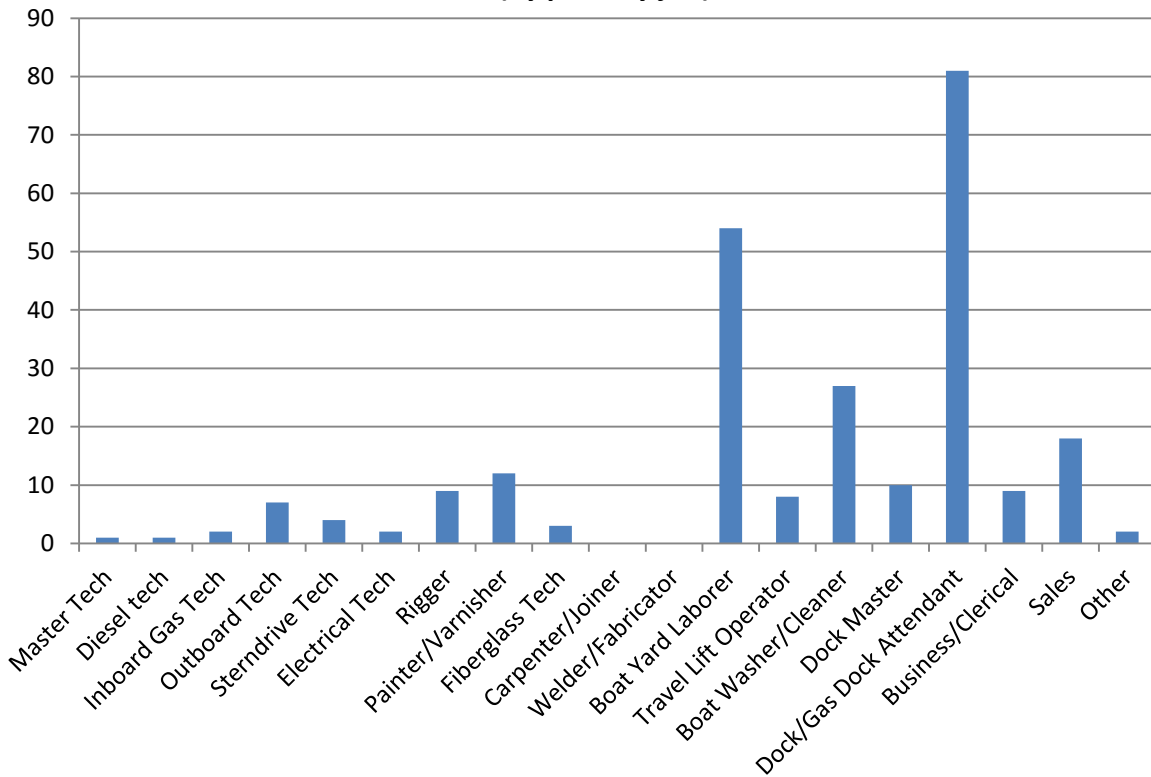
Q5.

**Year-Round Employees  
(by primary job)**



Q6.

**Seasonal Employees (FT or PT)**  
(by primary job)



Q7. Number of Year-Round employees to be hired in next 5 years by Primary job:

Job Title	All respondents	North Shore	South Shore	Cape & Islands	South Coast	West
Master Tech	51	7	21	9	11	3
Diesel Tech	20	0	7	6	7	0
Inboard Gas Tech	14	0	9	5	0	0
Outboard Tech	38	9	8	12	8	1
Sterndrive Tech	16	2	6	3	3	2
Electrical Tech	26	1	6	6	13	0
Rigger	23	6	4	3	10	0
Painter/Varnisher	21	4	5	4	8	0
Fiberglass Tech	24	2	13	2	7	0
Carpenter/Joiner	15	1	6	4	4	0



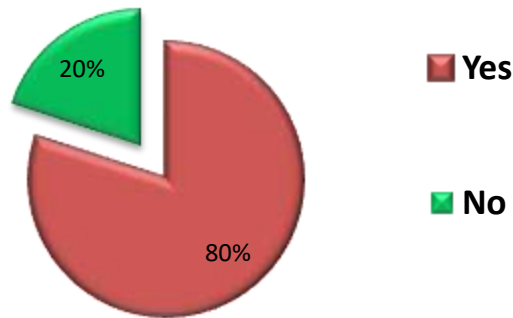
Welder/Fabricator	21	1	1	1	18	0
Boat Yard Laborer	41	12	8	10	10	1
Travel Lift Operator	10	1	4	3	2	0
Boat Washer/Cleaner	24	5	5	9	4	1
Dock Master	3	1	1	1	0	0
Dock/Gas Dock Attendant	0	0	0	0	0	0
Business/Clerical	20	4	7	2	7	0
Sales	22	6	6	5	5	0
Other	7	0	1	3	3	0

**Q8. Number of Seasonal employees to be hired in next 5 years by Primary job:**

<b>Job Title</b>	<b>All respondents</b>	<b>North Shore</b>	<b>South Shore</b>	<b>Cape &amp; Islands</b>	<b>South Coast</b>	<b>West</b>
Master Tech	0	0	0	0	0	0
Diesel Tech	0	0	0	0	0	0
Inboard Gas Tech	0	0	0	0	0	0
Outboard Tech	5	2	1	1	1	0
Sterndrive Tech	2	0	1	0	0	1
Electrical Tech	3	0	1	0	2	0
Rigger	8	1	3	0	2	2
Painter/Varnisher	5	0	2	0	3	0
Fiberglass Tech	1	0	0	0	0	1
Carpenter/Joiner	0	0	0	0	0	0
Welder/Fabricator	0	0	0	0	0	0
Boat Yard Laborer	51	10	17	14	8	2
Travel Lift Operator	1	0	0	1	0	0
Boat Washer/Cleaner	40	6	21	6	6	1
Dock Master	1	0	0	0	0	1
Dock/Gas Dock Attendant	56	1	15	34	5	1
Business/Clerical	6	1	3	2	0	0
Sales	3	0	1	2	0	0

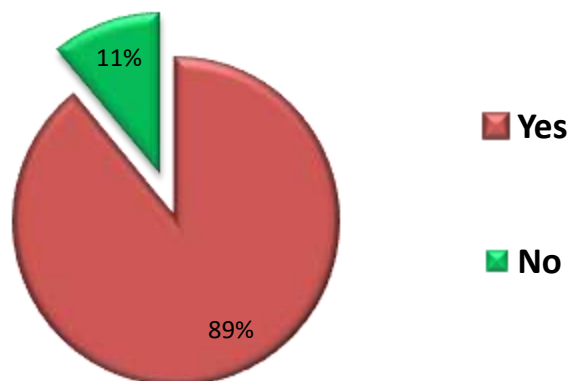
Q9.

**Ability to expand and grow your business inhibited by not being able to hire qualified employees**



Q10.

**As skilled employees retire, is it difficult to find replacements with the same skills?**

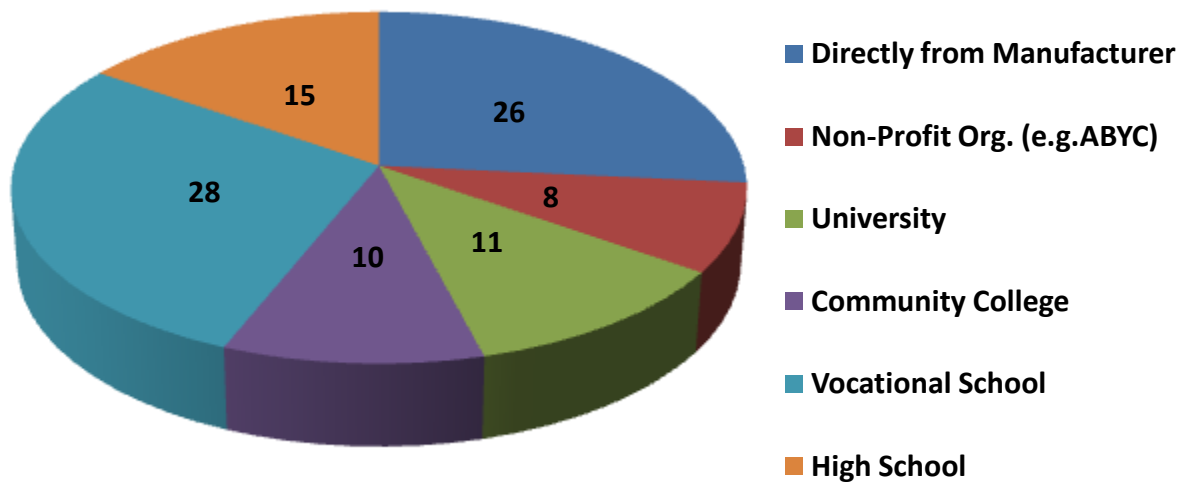


**Q11. Choose THREE most difficult positions to fill:**

- Master Tech 34
- Outboard Tech 27
- Diesel Tech 15
- Sterndrive Tech 13
- Electrical Tech 12
- Fiberglass Tech 11
- Rigger 9
- Boat Yard Laborer 6
- Inboard Gas Engine Tech 6
- Painter/Varnisher 5
- Business/Clerical 5
- Sales 5
- Carpenter/Joiner 4
- Welder/Fabricator 4
- Dock Master 4
- Travel Lift Operator 3
- Boat Washer/Cleaner 1
- Dock/Gas Dock Attendant 0
- Other 9
  - IT, CDL driver, Engineers who know waterfront, Admin, CDL Transport Driver, Electronics, Canvas Fabricator, Managers

**Q12.**

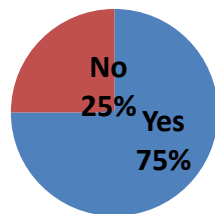
**Where did current employees obtain education, training, or certification prior to employment?**



- **Other responses for Q12 (employee education)**
  - We train our own people, there is really no training available for the skills we need
  - on the job training
  - Most are time and experience in their field.
  - on the job training
  - prior employment
  - They were trained after we hired them
  - On job training
  - Various on line and class room seminars
  - Graduate school
  - Mostly on the job experience.
  - military
  - self taught
  - O.J.T.
  - OJT
  - Other boat yards
  - On the job
  - employer trained, mass maritime
  - On the job
  - Trade Specific Schools- Landing School, IRYS
  - from previous employer
  - other boatyards
  - Experience
  - work experience other organizations
  - on the job
  - Previous employer
  - ON THE JOB TRAINING
  - on the job
  - past jobs
  - On the Job, Military

**Q13.**

**Do you provide formal on-the-job training?**

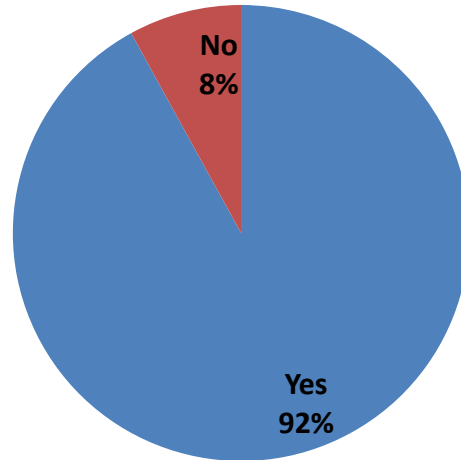


**Q14. If “YES” on Q13, Describe what types of OJT you offer:**

- Primarily factory training. On location with experienced current employees.
- All technicians are sent to manufacturer’s school every year. They are also shadowed and taught by the experienced technicians
- Basically work from the ground up, mirror others working with you, when qualified then send to more formal training
- WE PAY FOR TECHS TO GO TO SCHOOL EACH YEAR NEW TECHS TRAIN WITH EXPERIENCED TECHS
- We work with a training consultant both on site and off site to keep our staff members up to date and in compliance with licenses. In addition we push our mech. staff to go offsite for training opp.
- Technical instruction
- Mentorship from veteran employees. 2) Manufacturer training programs. 3) Online tech courses.
- In house online training also hands in
- apprenticeship, off-site manufacturer school
- Equipment operation, mechanics hands on, rigging, prep, customer satisfaction
- We have two service managers, one dedicated to supervisory and training functions who conduct o.j.t. on rigging, outboards, inboards, stern drives, boat systems, etc. We also have OSHA & other train
- forklift, travel lift, rigging
- We allow them to start with the simpler work , send them to the various schools and help them grow
- Manufacturers’ schools, abra, awlgrip, shop talks, foreman training, safety training
- yard operations
- Dealer training throughout the year
- Hands on
- We have training modules that we've developed for specific areas, as well as a lot of OJT, and sending techs to specific trainings (raymarine, ABYC, NEMA...)
- ABYC fast track, group study in shop. As much dealer ship related training as possible, Cummins, Mercury, Yanmar, westerbeke etc....
- Mercury class, yamaha class, other techs skills
- Start as assistant then take online courses then go to factory schools
- Mercury Marine schools 2 weeks per year.... Forklift and general material handling training and certifications
- Rigging basic tech and manufactures school
- Hands on technical training in the field.
- Manufacturer schooling. In house training
- Hands on training. We pair new employees with skilled employees
- sales, informational
- OEM Schools. In-House training by other employees

Q15.

**Do you send employees for further training/certification at your own expense?**



**Q16. If “NO” on Q15, Describe why you do not send employees for further training/certification at your own expense:**

- Nonprofit with limited funding.
- We send people to seminars offered by distributors and manufacturers but not many are offered.
- There is no where to send people to learn work ethics and common sense.

**Q17. For which of the following skill sets would you prefer a new hire to have relevant qualifications/credentials before commencing employment:**

- Master Tech 29
- Diesel Tech 23
- Inboard Gas Engine Tech 21
- Outboard Tech 42
- Sterndrive Tech 27
- Electrical Tech 31
- Rigger 15
- Painter/Varnisher 9
- Fiberglass Tech 17
- Carpenter/Joiner 8
- Welder/Fabricator 9
- Boat Yard Laborer 7

- Travel Lift Operator 16
- Boat Washer/Cleaner 5
- Dock Master 3
- Dock/Gas Dock Attendant 0
- Business/Clerical 9
- Sales 7
- Other 12
  - CDL driver
  - At this point we are hiring anyone that might possibly work out
  - computer skills
  - Engineering license with waterfront
  - Surveyor
  - Event Planning
  - Willingness to work, follow directions, be neat, have common sense
  - attitude, honesty in skill description
  - Canvas Fabricator
  - NMEA
  - Management

**Q18. Do you see the need for local education centers offering training/certification in multiple marine trades:**

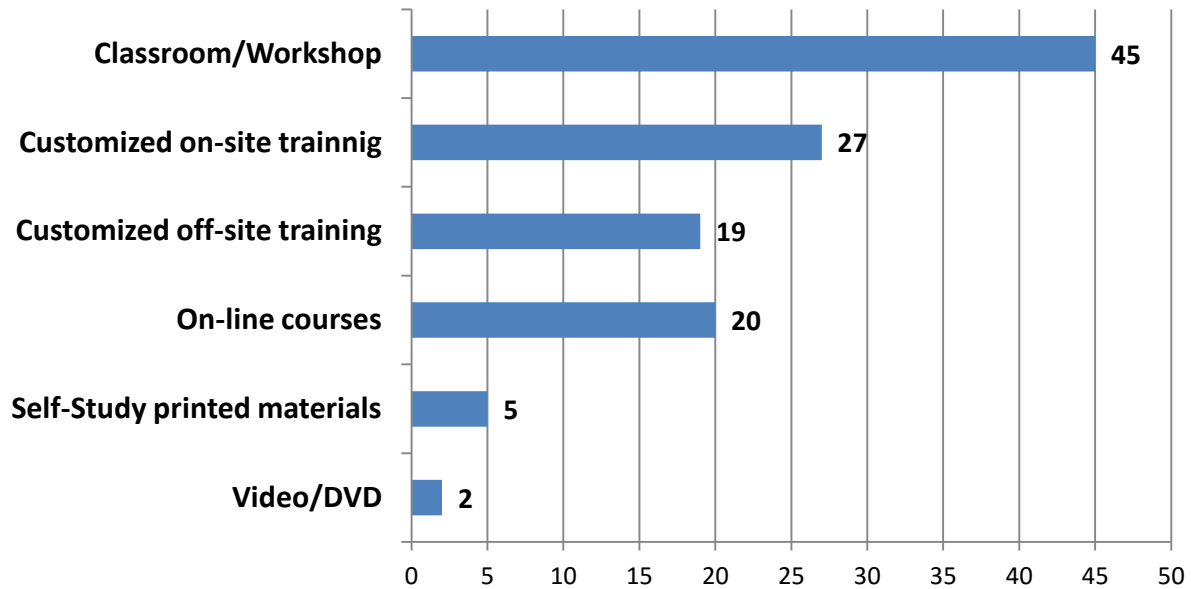
	All respondents	North Shore	South Shore	Cape & Islands	South Coast	West
Yes	60	11	16	17	13	3
No	3	0	0	1	2	0
Add'l Comment	12	2	3	5	2	0

- enhance the ones that exist
- ON A LIMITED BASIS ONLY, WORK ETHICS AND GENERAL INTELLIGENCE AND THE ABILITY TO APPLY PRIOR EXPERIENCE IS MORE IMPORTANT
- There needs to be manufacturer support for this to be worthwhile. Students working on the instructor's 25-year-old outboard isn't helpful enough
- We need to market the field as a field with successful people, not losers who couldn't work in other professions
- A school that is local and offers a variety of training
- I think the more opportunity for training and education the better off our industry will be in the long run.
- We work on engines that we are not a dealer for routinely
- Hard to say. There is a need for young able bodies to want to work at boatyard. We can train skills to people willing to learn. With basic work habits.
- Better coordination of ones that exist
- Yes, but seems the industry will have limited capacity to absorb.
- Needs to be training that can be used for everyday repairs and maintenance

- Cape Cod has two very good technical high schools. The marine programs at both schools should be supported by state and local agencies in addition to the marine businesses that hope to hire their graduates.

**Q19.**

**In what TWO ways would you prefer to see training at local centers delivered?**

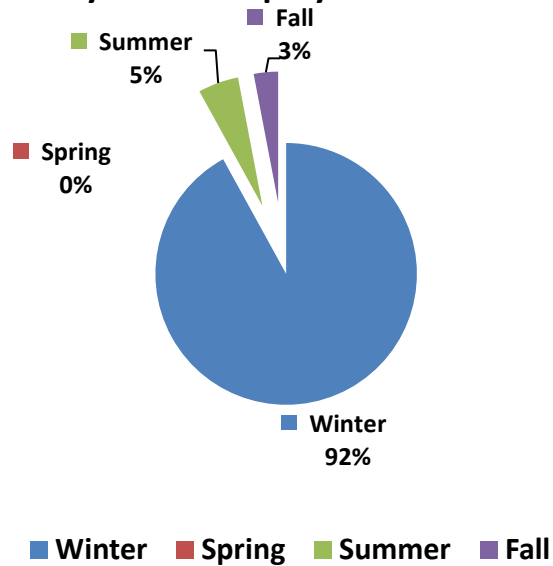


**Other: Internships**



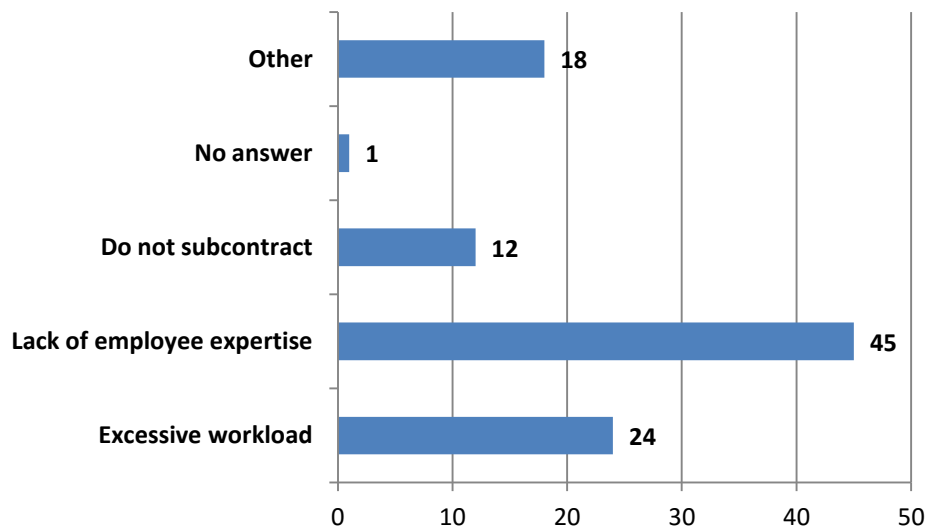
Q20.

**Best time of year for employees to attend training?**



Q21.

**If you subcontract work out from your business, why is this?**



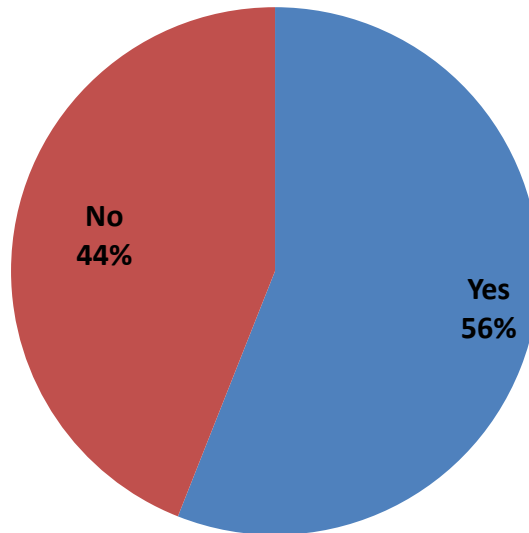
Reasons given with responses marked "Other":

- Employees are part-time and do not have expertise in certain areas, such as web development
- Government restrictions
- Bottom paint blasting is a specialty.
- We only need these temps for spring and fall services

- Space Constraints as well as workload
- Occasional skilled work that does not justify hiring
- Seasonal work requirements which they are better qualified.... crane and lift operations for docks
- We hire subcontractors to perform work that our technicians are not experienced to perform.

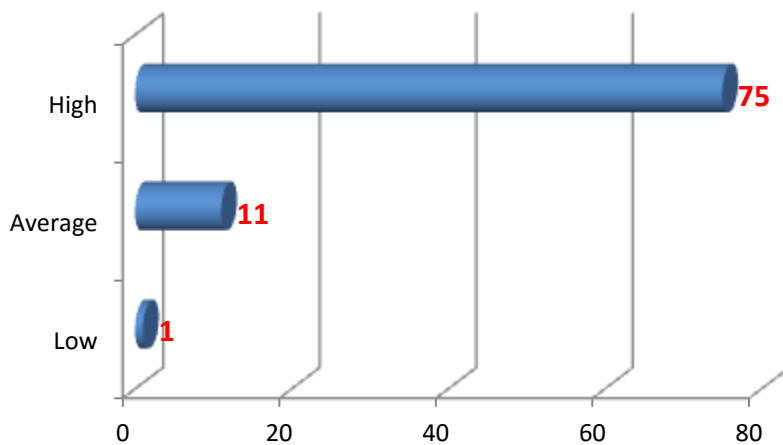
**Q22.**

**Do your customers/boaters use subcontractors?**



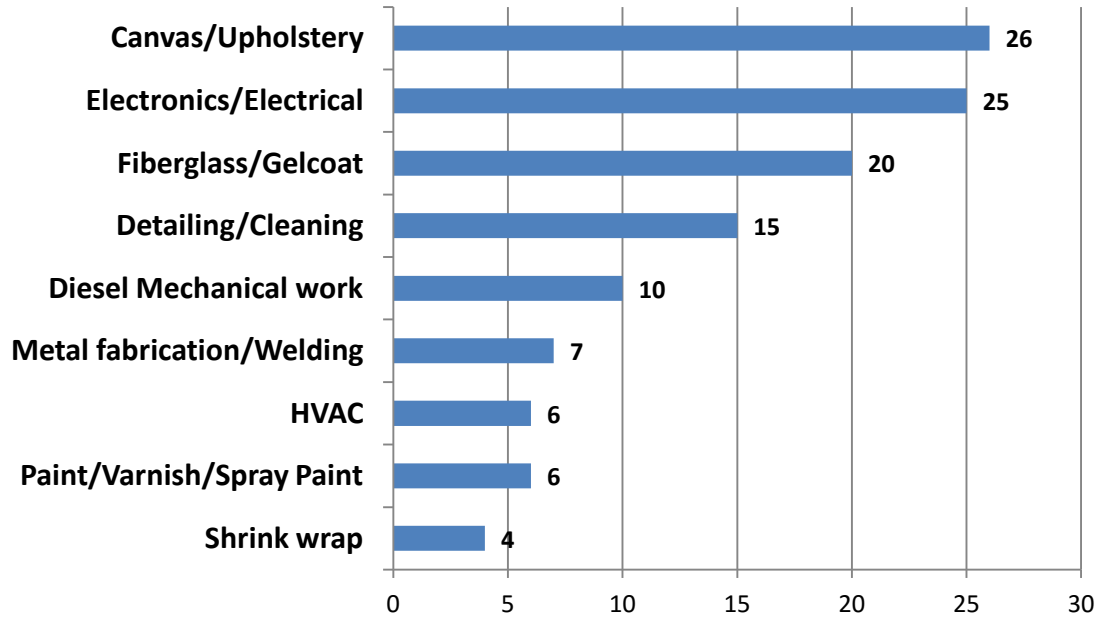
**Q23.**

**Estimate how many DIFFERENT contractors enter your facility per year.**



**Q24.**

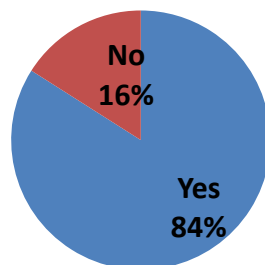
**What types of jobs are contractors (referenced in Q23) hired to do\*:**



- Actual responses have been categorized and summarized.
- Other responses mentioned:
  - Bottom strip/paint
  - Sailboat rigging/splicing
  - Lettering
  - Engine overhaul
  - Transport

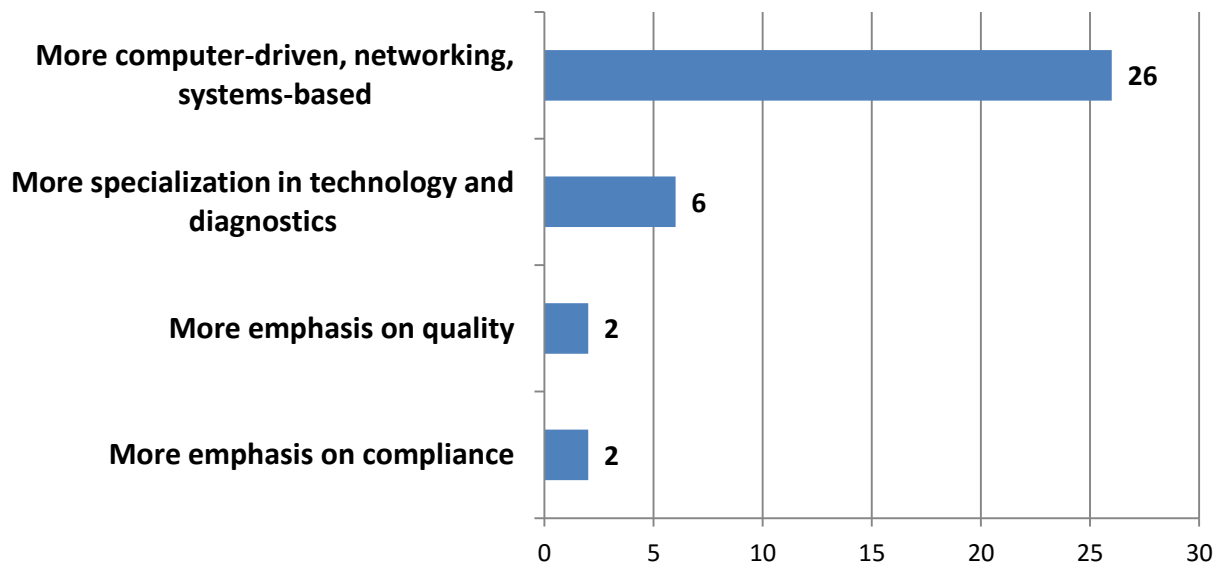
**Q25.**

**Do you perceive changes in the industry that will ultimately change the skill sets, or training, required by your employees?**



**Q26.**

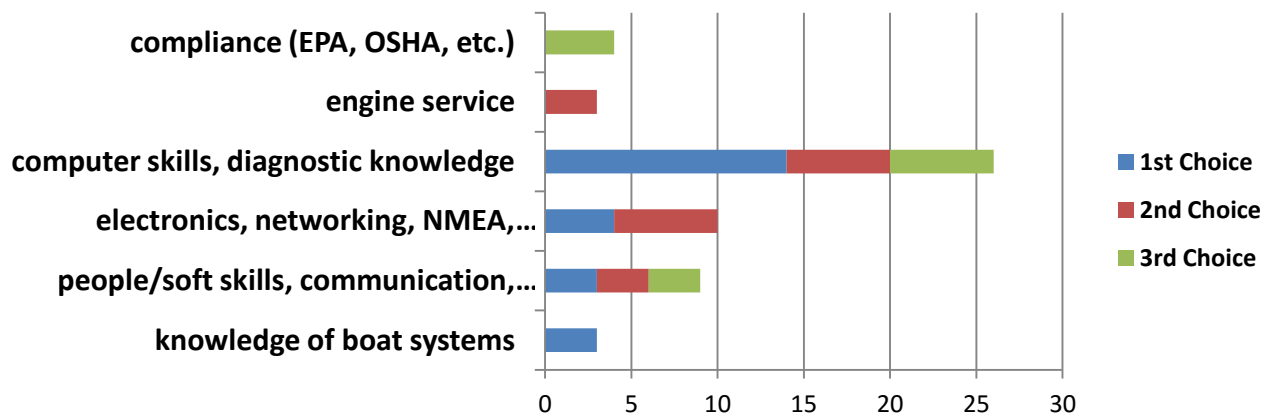
**In what ways do you see the industry changing?\***



- Actual responses have been categorized and summarized.
- Other responses mentioned:
  - More outboard, less sail
  - More knowledgeable/demanding customers
  - Younger/less knowledgeable customers
  - Lower VOC coatings

**Q27.**

**What new skills or training do you foresee requiring in the future (Pick THREE)\***



- Actual responses have been categorized and summarized.
- Other responses mentioned:
  - Outboard Technicians
  - Welding
  - Carpentry
  - Fiberglass
  - Pod drives
  - Quality Assurance/Control
  - Better work ethic
  - Canvas
  - Joystick
  - Sterndrive
  - Marine technology