



# Undergraduate Alumni Survey

## 2013-2014

Prepared by:  
Ryan Weatherbee  
School of Marine Sciences  
RiSE Center

School of Marine Sciences  
College of Natural Sciences, Forestry, and Agriculture



# Table of Contents

**Introduction**..... 3

**Summary**..... 4

**Alumni Survey Results**

**Figures**

Year of graduation.....5

Post-SMS degrees attained .....5

Employment by graduation year .....7

Employment by education attained .....7

Full-time vs. other employment by education attained .....8

Type of current employment .....8

Employment organization .....9

Employment position by graduation year.....12

Proportion of job positions related to marine science .....12

How well did SMS prepare alumni for their current careers? .....14

Overall career satisfaction.....16

Career satisfaction by graduation year .....16

Undergraduate activities.....17

Importance of undergraduate activities for career preparedness .....17

Importance of Semester-by-the-Sea for career preparedness .....18

Reasons for attending Semester-by-the-Sea .....18

Reasons for not attending Semester-by-the-Sea .....19

Would alumni encourage high school students to enroll in SMS? .....19

Career preparation by educational categories.....24

Sense of connection to UMaine.....30

Sense of connection to SMS.....30

Frequency of professional interactions among alumni .....31

Roles alumni might play in education of current students.....31

Roles alumni agreed to play in the education of current students .....32

**Tables**

Institutions alumni have attended for graduate education .....6

Alumni job titles and employer names .....9

Reasons given that SMS provided inadequate career preparation.....14

Reasons why alumni would/would not encourage a high school student to enroll in SMS .....20

What topics/skills do alumni advocate students receive while in SMS? .....24

What did alumni especially value about their undergraduate experience? .....32

**Appendix**

Alumni survey questions .....39

Two-page recruitment handout.....51



## Introduction

The University of Maine's School of Marine Sciences (SMS) has one of the best marine science programs in the country. Our undergraduate Marine Science major is highly successful and is still growing exponentially. Since its inception in 1996, our curriculum has been continually self- and externally-reviewed and improved to deliver top-tier marine science instruction. The SMS faculty takes great pride in the rigor, depth and breadth of our undergraduate curriculum. Our undergraduate marine policy offerings are heavily subscribed and unique nationally and internationally. The B.S. degree program in Marine Science was designed to train marine scientists while providing a liberal arts education in the broadest sense. Our approach is to teach scientific principles well and effectively using oceans as model environments in which students reinforce and apply their knowledge of the fundamental natural and social sciences and mathematics. Our students are prepared to enter the rapidly evolving workforces and graduate schools of today in a wide variety of scientific disciplines and applied fields.

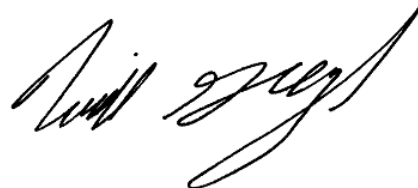
The data presented in this document represent the first extensive survey of our B.S. alumni. We asked them about their current careers, how their undergraduate education prepared them, and for reflections on other aspects of their educational and professional experiences. The views of alumni are important to us. They are the only stakeholders with direct experience with our program who are able to comment on its effectiveness from the perspective of workforce or graduate school needs. Our survey achieved a remarkable 42% response (103 students). 50% of our graduates have completed, or are enrolled in, graduate degree programs. Over 90% are employed, 73% in jobs related to their major. Perhaps the strongest endorsement of the educational quality for which we strive was that over 90% of alumni said they would encourage a current high school student to enroll in our program.

The feedback we received from alumni validates what we have long believed about the strengths and lasting value of the Marine Sciences undergraduate program at UMaine. These results renew our motivation to continue to evaluate and improve our curriculum and to continue to produce scientifically literate, impassioned and successful graduates.

Sincerely,



Dr. Fei Chai  
Director and  
Professor of Oceanography



Dr. William Ellis  
Assoc. Director and  
Assoc. Professor of Oceanography

## Summary

The purpose of the University of Maine, School of Marine Sciences (SMS) Alumni Survey is to determine alumni career fields and employment rates, to gauge career fulfillment and determine satisfaction over several dimensions of alumni's undergraduate experiences in SMS. Feedback from alumni can be used to measure program success, aide in student recruitment, and provide information to guide curricular change.

The survey was deployed between October 1, 2013 and January 20, 2014. The initial list of alumni contacts was provided by the UMaine Alumni Association, for students who graduated from SMS between 1996 and 2012. Hardcopies of the survey were mailed to 242 individuals, and e-mails with links to an electronic version of the survey were sent to 135 of these 242 individuals (these were the only e-mail contacts that the Alumni Association had in its database). By Nov 1, 2013, 60 alumni had responded to the survey (~25% of original contact list).

In an attempt to increase response rates, a complete list of all SMS graduates was compiled (273 were identified from 1996 to summer 2013) and individuals that had been students ~2005 and onward were contacted via Dr. Ellis' (Associate Director of SMS) Facebook account. The 2005 cutoff was used because only these alumni overlapped with Dr. Ellis' tenure in SMS. In addition, these recent alumni experienced the SMS curriculum in a more current state, and therefore their feedback was considered more relevant than alumni from earlier years. Dr. Ellis uses his Facebook account for alumni relations and has many alumni as 'Friends' (and more were added during this process). We sent requests to complete the electronic version of the survey to 50 alumni via Facebook. No attempt was made to filter alumni by their perceived experiences in SMS, but we acknowledge that people with positive experiences may have been more likely to respond to our request. In total, attempted contact (by mail, e-mail and/or Facebook) was made with 89% (243) of known alumni. By Jan 20, 2014 a total of 103 alumni had completed the survey, which represents 38% of known alumni and 42% of contacted alumni. No further effort was made to solicit responses after Jan 20, 2014.

The following report provides a copy of the survey questions (Appendix) and a summarization of responses for all 103 alumni who completed the survey. When possible, data are presented graphically (i.e. for multiple choice questions). For questions that asked for a written response, the unedited text is provided.

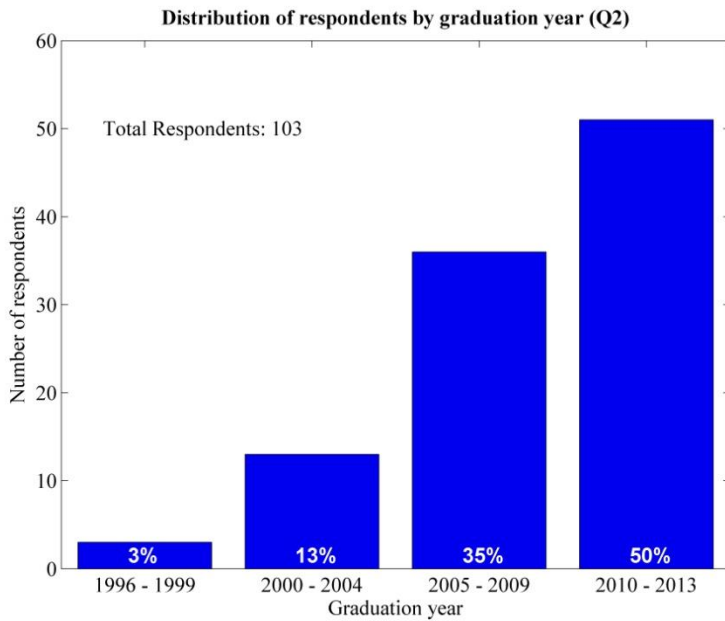


Ryan Weatherbee  
Research Associate, School of Marine Sciences  
Master of Science in Teaching Candidate, RiSE Center

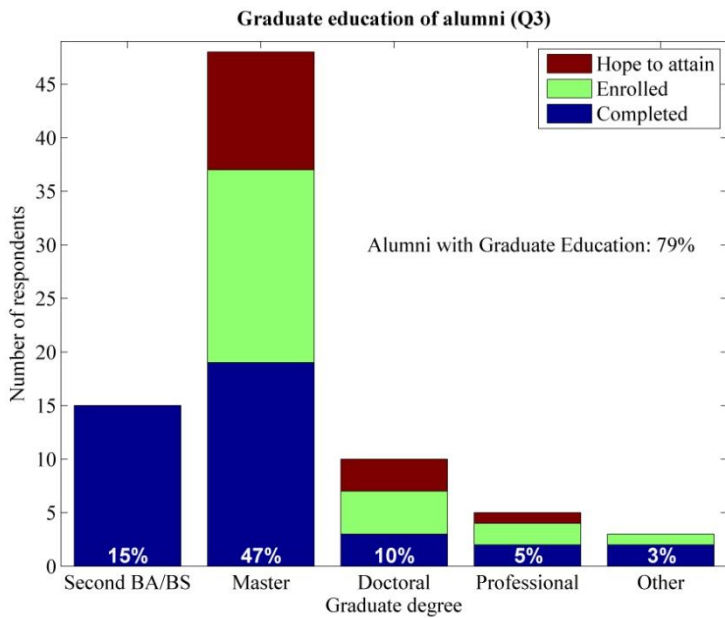
# Alumni Survey Results

See Appendix for full set of survey questions. Responses that included personally identifiable information are not shown.

**Q2: During what year range did you complete your undergraduate degree in the School of Marine Sciences?**



**Q3: What graduate/professional degrees have you already received or for which you are currently enrolled?**



**Q3. Continued**

The following is a tabulation of institutions that alumni identified themselves as having either completed a degree from or are currently enrolled in a degree from (beyond their SMS undergraduate degree). Numbers in parentheses indicate multiple responses for that institution. Text in brackets indicates subject area of degree, if known.

Second BA/BS degree:

University of Central Florida  
University of Maine (11)

Master's degree:

Creighton University  
North Carolina State University  
Northeastern University  
Adelphi  
University of Rhode Island  
UMass Dartmouth  
Western Washington University (2)  
UC Davis, CalPOLY [Prereqs. for Viticulture]  
University of Maine (10) [Zoology, Teaching]  
University of Alaska, Fairbanks  
Southern CT State University (2)  
University of Southern Maine  
Rutgers University  
UMass Boston [Education]  
Loyola University, Chicago [Biology]  
University of Maryland, College Park  
Virginia Institute of Marine Science [Education]  
University of New Hampshire  
Tuffs – New England School of Acupuncture  
University of Bridgeport  
University of Texas, Austin  
California State University, Northridge  
University of New England  
Michigan State University  
Coastal Carolina University

Doctoral degree:

Texas A&M at Galveston  
University of Rhode Island  
Georgia Institute of Technology  
University of North Carolina at Chapel Hill  
University of Delaware  
University of Georgia, Odum School of Ecology  
University of Miami

Professional degree:

Vermont Law School  
University of Georgia, D.V.M.  
Vermont College of Medicine [Medical Doctor]

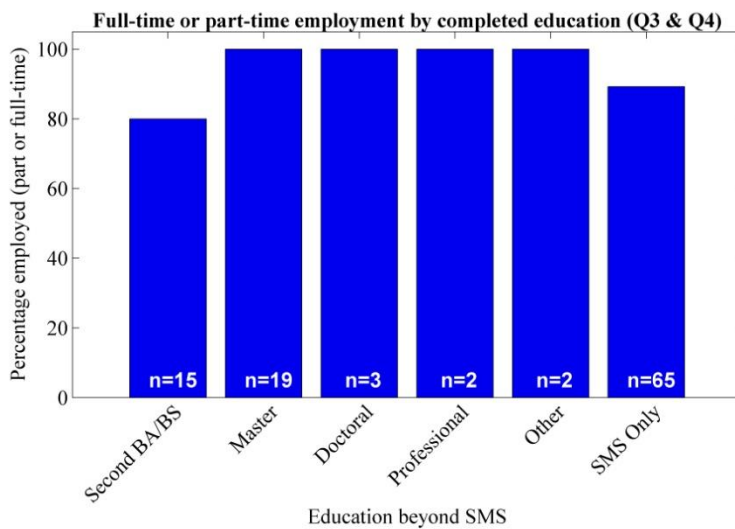
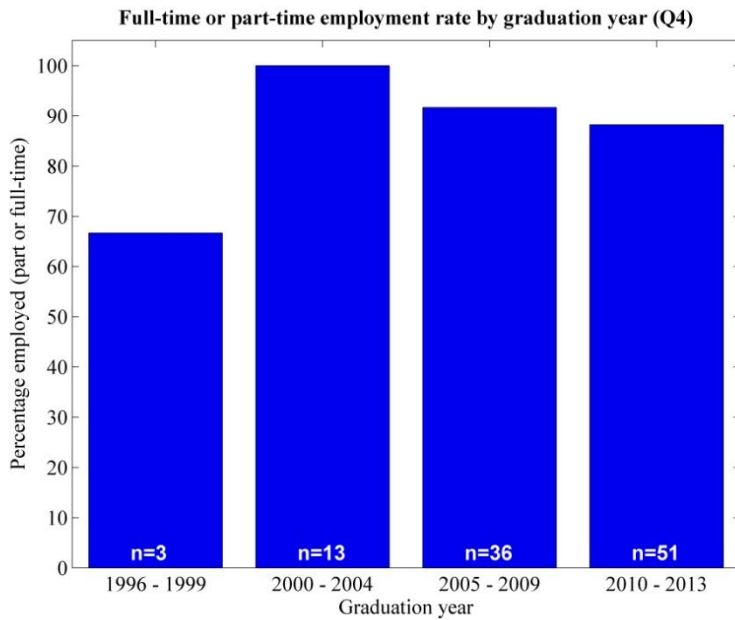
Other degrees:

Great Bay Community College [Veterinary  
Technology]  
Stony Brook University





**Q4: Are you currently employed (part or full-time)?**

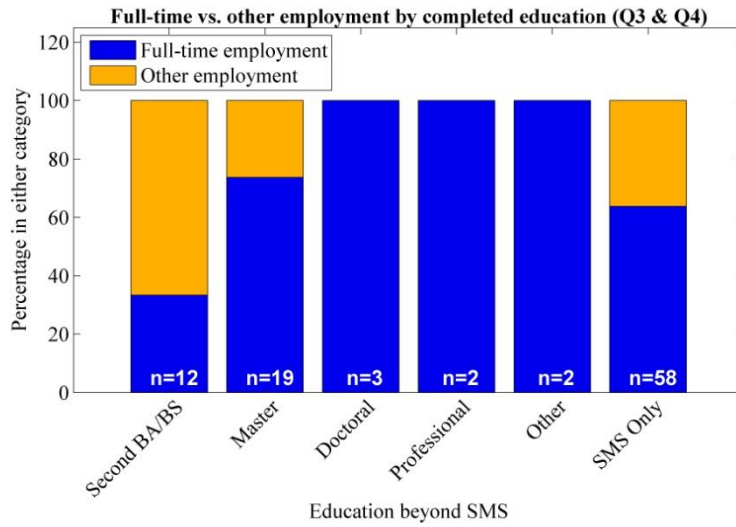


*“My experience as a marine science major while at UMaine was very positive and rewarding. The majority of marine science classes I took were meaningful and it was nice to see the professors really engaged and passionate about the subject matter they were teaching.”*

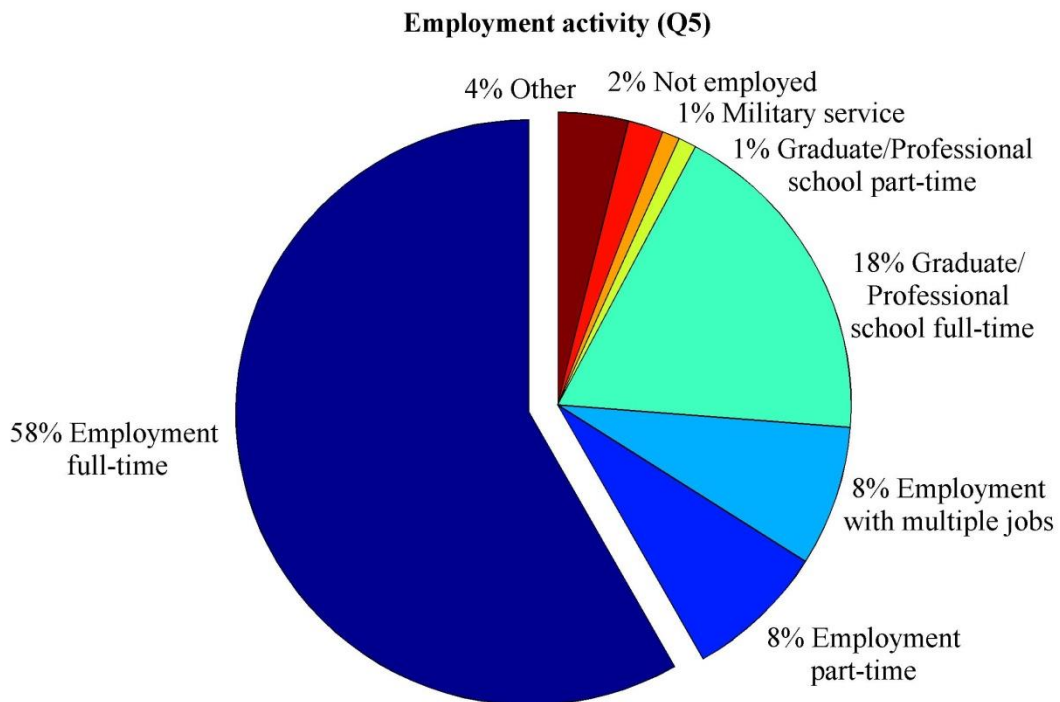
*-Graduated 2010*



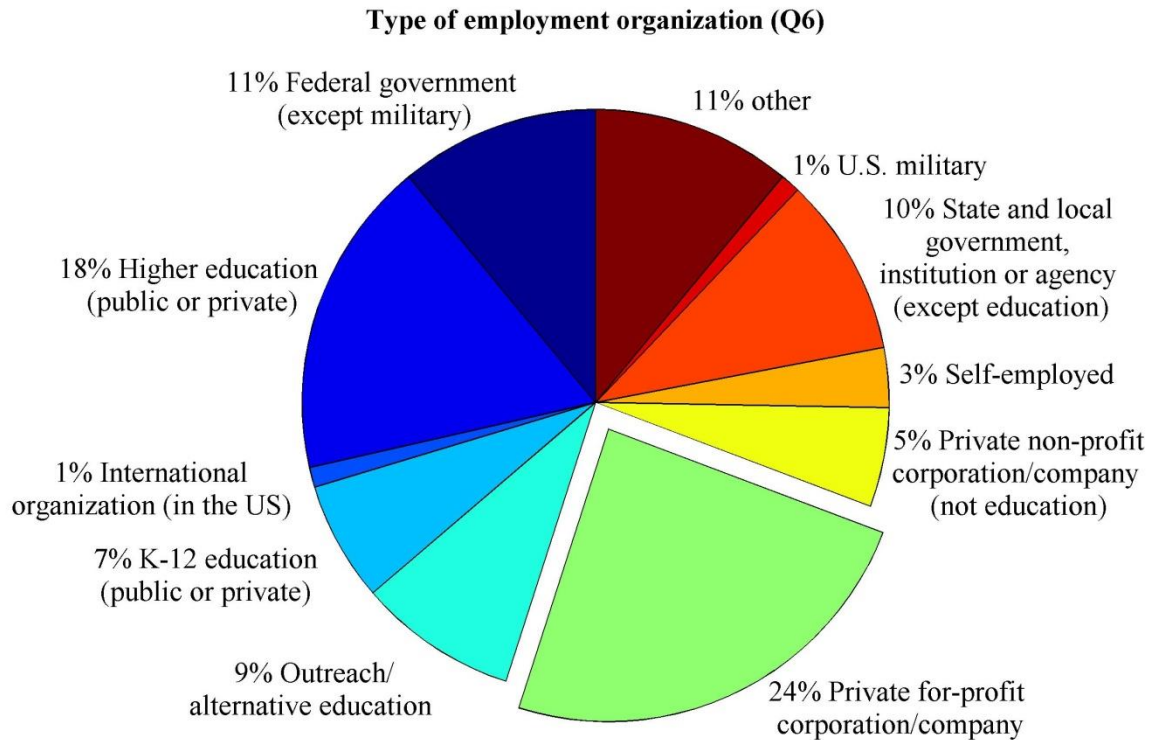
**Q4: Continued.**



**Q5: Which best describes your current employment activity?**



**Q6: If employed, what type of organization do you work for?**



**Q7. If employed, what is your job title?**

**Q8. If employed, please enter the name and location of your company.**

The following is a table of job titles and employer names for alumni who shared their current employment information. *Note: Company/Institution has been hidden to protect the privacy of alumni respondents.*

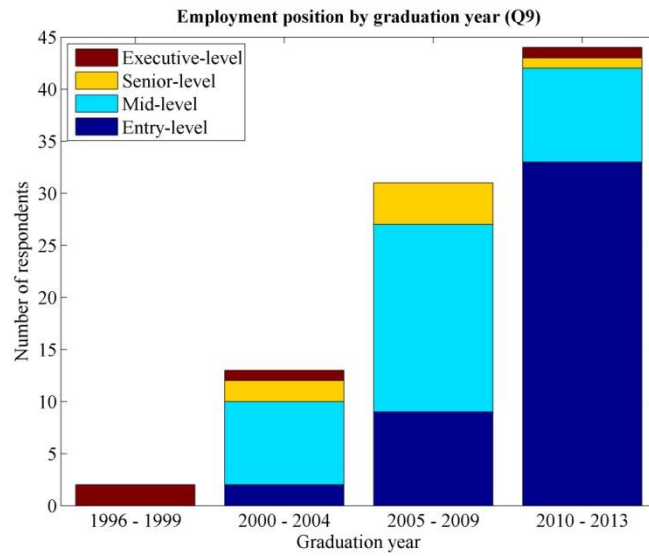
<b>Job Title</b>	<b>Company/Institution</b>
Program Manager	
Senior Animal Care Technician and Resource Coordinator	
Clinical Research Associate	
Real Estate Manager	
Education and Outreach Intern	
Special education Teacher	
Graduate Student	
Cytotechnologist	
Biologist	
Server	
Marine Science Technician	
Postdoctoral Investigator	
Lab Technician	
Technical Support	
Science Teacher	
Graduate Assistant	

<b>Job Title</b>	<b>Company/Institution</b>
Marine Tech and Education Outreach,	
Education Director	
H.S. Physical Science Teacher	
Veterinarian and Practice Owner	
Research Assistant	
Construction Worker	
Front End Manager / Assistant Store	
Manager	
Head Men's and Women's Cross	
Country Coach	
Instructor III	
Sales Coordinator	
Business Manager	
Region Biologist for the Department of	
Transportation	
Post Doctoral Researcher	
Research Assistant	
Administrative Specialist II	
Paralegal / Legal Assistant	
Research Assistant I	
Shellfish Aquaculturist, Business &	
Production Manager	
Manufacturing Associate II	
Fisheries Observer / Fisheries Monitor	
HVAC Technician	
Seasonal Biotoxin Technician -	
Contract Staff	
Marine Extension Associate	
Conservation Aide	
Physical Science Tech	
Marine Science Instructor	
Emergency Room Doctor	
Fisheries Biologist	
Marine Science Instructor	
Naturalist/Marine Biologist	
HS Biology Teacher	
Graduate Research Assistant	
Customer Support II	
Owner/President	
Groundfish Observer - Law	
Enforcement	
Environmental Scientist	
Graduate Research Assistant	
Education Director	
Water Quality Technician (Contract)	
Member Service Representative	
Teaching Intern	
Nanny/Childcare provider	
Senior Assistant Scientist	
Research Assistant	
At-Sea Monitor	
Legislative Intern	

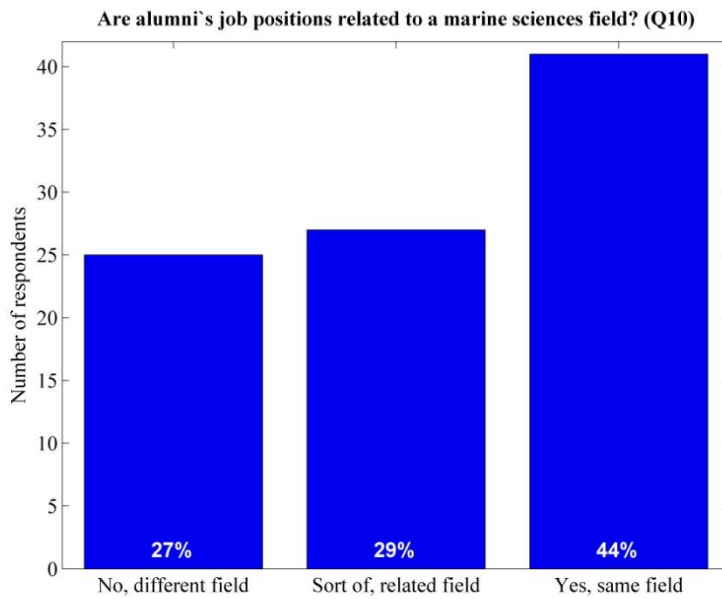
<b>Job Title</b>	<b>Company/Institution</b>
Marine Education Associate	
Research Technician	
Database and Research Assistant	
Groundfish Fisheries Observer	
Laboratory Technican B/Lab Manager	
Graduate Student	
Research Associate II	
Knauss Sea Grant Fellow/ Fisheries	
Policy Analyst	
Chemical Engineer	
Graduate Research Assistant	
1. Physical Therapy Aide/ 2. Host	
Seasonal Resource Assistant	
Field Representative/Legislative Assistant	
Driver	
Waitress	
Biology Lab Instructor	
Education Specialist	
Teaching/Research Assistant	
Waitress	
Graduate Research Assistant	
Guide	
Biologist	
Graduate Assistant	
Research Technician	
Research Technician	
Protected Marine Mammal Observer	
Boatswain mate	
Biological Science Aid	
Marine Fisheries Biologist	
Receptionist	



**Q9: Which best describes your employment position?**

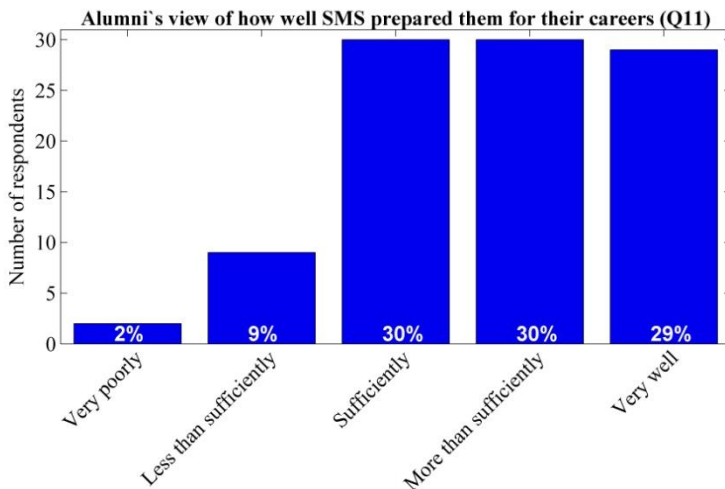


**Q10: Would you say that your current position is related to your Maine Sciences undergraduate degree?**





**Q11: How well did SMS prepare you for your current career?**



**Q12. If you answered “less than sufficiently” or “very poorly” in the previous question (Q11), please describe why there was a lack of preparedness.**

The following section contains the long-answer responses received for Q12. Each paragraph represents a different alumnus. Note that these responses were prompted from only those alumni who thought SMS prepared them poorly for their current careers. *Some details have been hidden to protect identities.*

*The coursework has prepared me well for graduate school however I felt the program failed to prepare us or guide us through what to do after graduation. I had to take a year off before I got accepted to graduate school and during that time I could not find a job related to the field (despite tons of experience and a high gpa). In the future students should be guided to resources where they can find a job after graduation or be led through the grad school application process.*

*Not in marine science field in my profession*

*I wait tables-no science background is required for being able to write an order down.*

*My current career path is in the wine industry. I am pursuing a graduate degree in Viticulture. It is far from Aquaculture but both industries deal with farming, production and lab analysis in similar in a ways. I've had to take organic chem, microbiology, and physics (to be a competitive applicant) because they were not required classes as an undergraduate in the SMS at UMO.*

*Could have used more training in statistics*

*different field*

*SMS should treat marine bio majors as a bio major and/or BMB major by requiring important courses like microbio, CHY-org chem, instead of BMB short course, the upper level physics 100 courses rather than conceptual physics option. Biochem, genetics. Get rid of 3h seminars that teach comp model programs from the 90s and replace w/ valuable courses that add and strengthen the students scientific background. Is BIO 200 still optional? Shouldn't be, either integrate w/ SMS version more completely or add SMS version on as short 1/wk lec. to supplement.*

*Wish I had taken more fisheries related classes.*



*I wish anadromous fish were covered more, especially population assessment. This is important because Atlantic Salmon is an endangered species that has many jobs in Maine associated with them. Also, Alewives, sturgeon, strippers, etc.*

*My basic science education was excellent, and served me well in medical school.*

*completely different field*

*In my experience, SMS routes its students to careers in research and little else. The content I learned was more than sufficient, but I needed to jump through hoops to get my SMS credits transferred to my education program.*

*I am not working currently in my career of choice. There needs to be classes or workshops that prepare students for life after college, where it be a career or graduate school. I was not provided guidance in my resume, writing cover letters, or applying to grad school. A SBS was supposed to focus on those things but never did, which is unfortunate because my junior year was a crucial time to apply to grad school and prepare you for a career after college.*

*Very well in that I am applying to graduate schools, not necessarily with my job working as a guide at [name removed]*

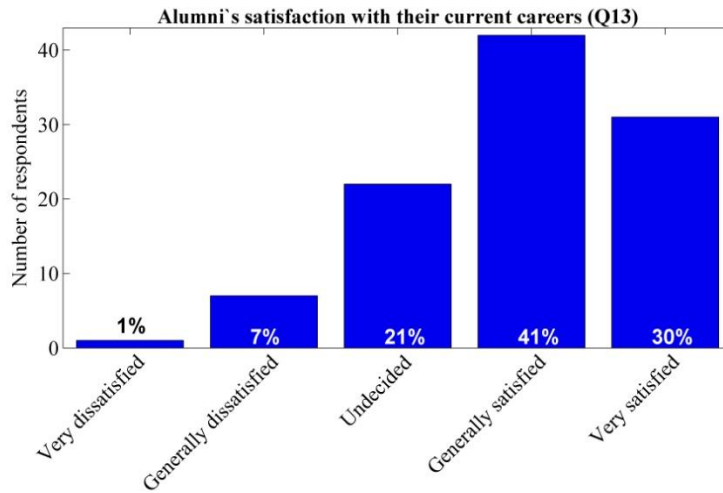
*Very well if I was searching for a career within the Marine Science field.*

*“I felt that SMS had great course offerings that exposed students to many facets of marine science which they could pursue post-graduation. I also really appreciated the enthusiasm of many of the faculty, who made their students excited about science.”*

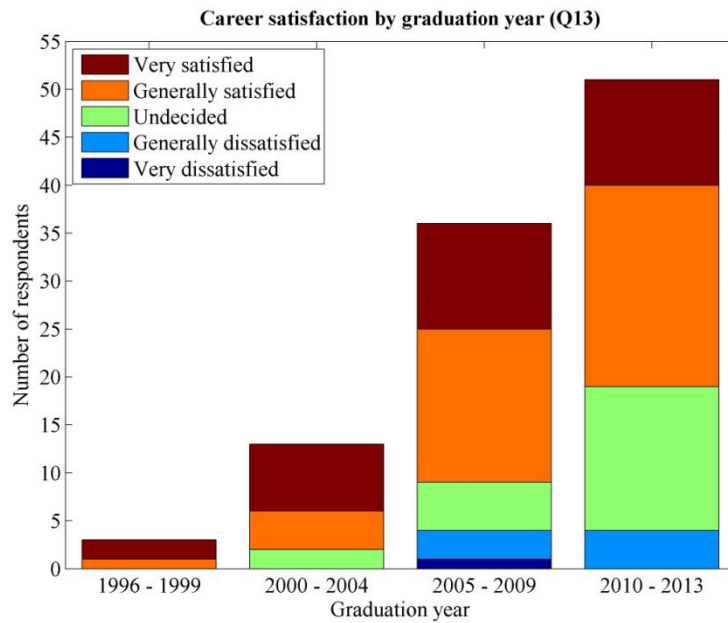
*-Graduated 2005*



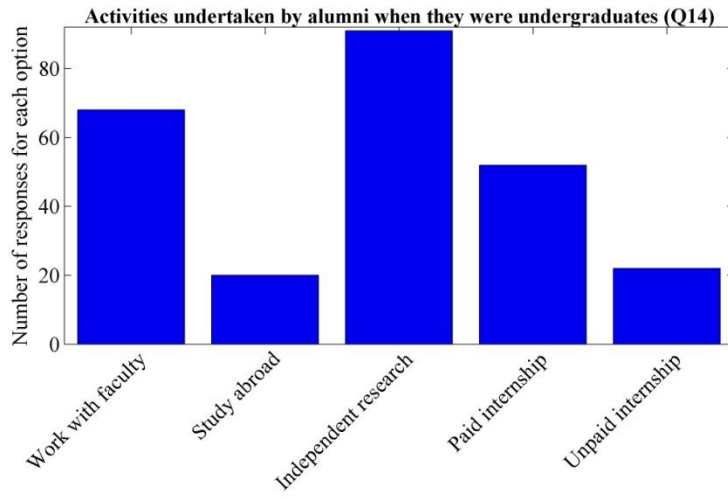
**Q13: How satisfied are you with the course of your career so far?**



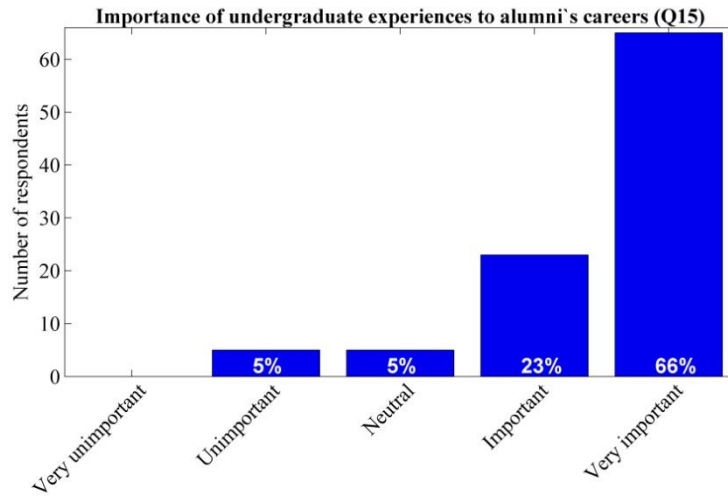
**Q13: Continued.**



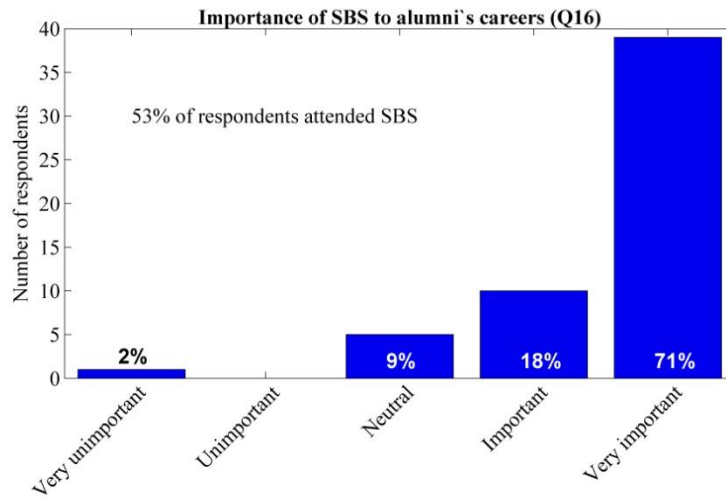
**Q14: While an undergraduate, did you do any of the following?**



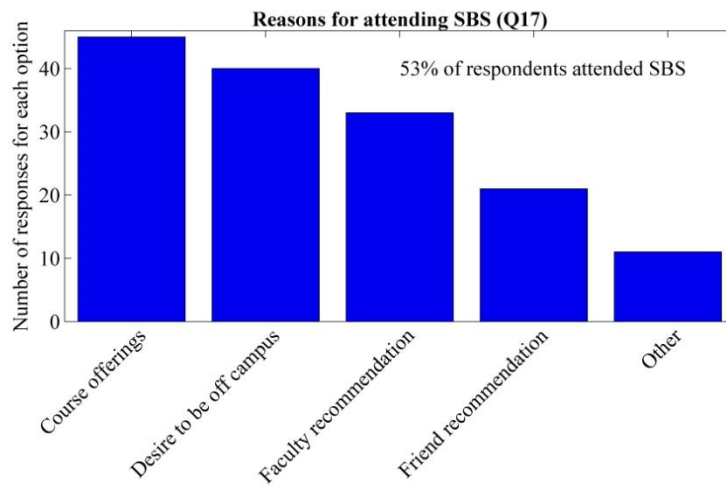
**Q15: If you marked anything in the previous question (Q14), how did you find that/those experience(s) to be in preparing you for your career?**



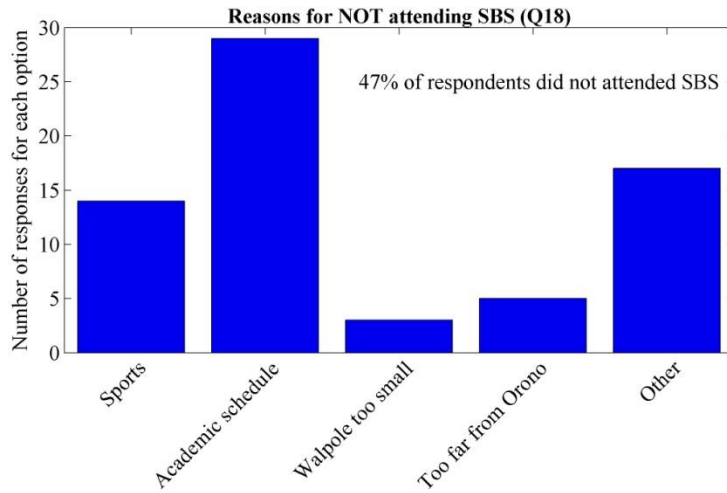
**Q16: While an undergraduate, if you participated in the Semester-by-the-Sea program at the Darling Marine Center, how did you find that experience to be in preparing you for your career?**



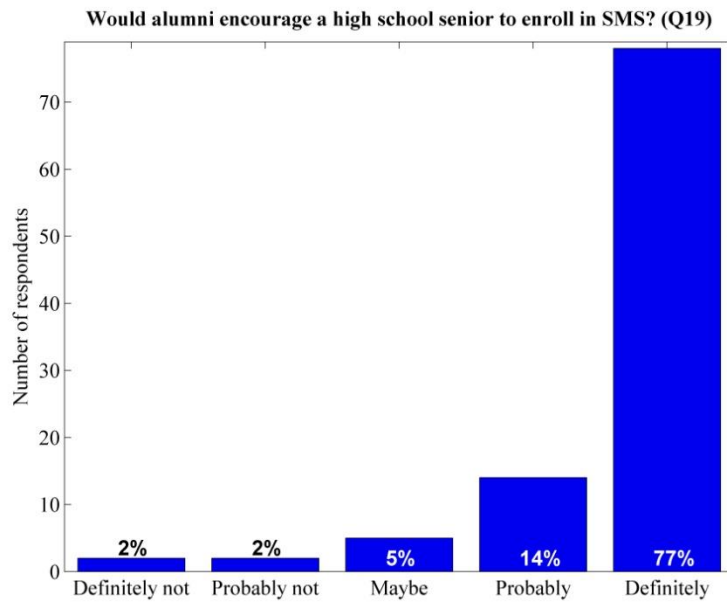
**Q17: If you participated in Semester-by-the-Sea, why did you attend?**



**Q18: If you did not participate in Semester-by-the-Sea, why didn't you?**



**Q19: Would you encourage a current high school senior to enroll at UMaine for a degree in Marine Sciences?**



*“I believe UMaine has one of the strongest Marine Science degree programs in New England. This program also has an exceptionally talented and diverse faculty.”*

*-Graduated 2013*



**Q20. If desired, provide commentary to explain your selected response in the previous question (Q19).**

The following section contains the long-answer responses received for Q20. Each paragraph represents a different alumnus. *Some details have been hidden to protect identities.*

**Positive feedback:**

*Speaking with other students in my graduate program, or others I've worked with, I have found that UMaine has a great program for Marine Science. The courses allow us to get us a solid foundation of oceanography and the semester by the sea program gives us experience with the more biological/ecological marine science topics. Taking my graduate level oceanography classes now, I am surprised how much of the information was taught in the courses as an undergraduate. Additionally, the faculty are welcoming to undergraduates working in the lab which provides necessary and beneficial experience for a career in marine science.*

*Great profs, SBS experience, interesting courses, welcoming and engaged SMS faculty/staff*

*My experience as a marine science major while at UMaine was very positive and rewarding. The majority of marine science classes I took were meaningful and it was nice to see the professors really engaged and passionate about the subject matter they were teaching.*

*UMaine provided me with an excellent basis to go on in Oceanography. It is fantastic to be able to work with inspiring world-class researchers, in both a classroom and laboratory setting at the DMC.*

*Our dwindling supply of seafood makes it very important to invest in technology and resources that will be sustainable.*

*The Marine and Aquatic Sciences degree at UMaine adequately prepares its students for jobs in a variety of subfields within the field of marine science ranging from biochemistry to oceanography to fisheries.*

*This was a great program and I have already recommended it several times.*

*I came to UMaine after completing one year of a B.Sc. in Zoology in [place name removed] & its was a pleasant change. The entire faculty consisted of senior researchers who are engaging & inspiring.*

*As a means to satisfy an increasingly growing global demand in seafood, marine technology and marine based energy production and uses, UMaine SMS has the tools and faculty to prepare anyone in a degree that caters to any marine discipline for a rewarding career in those.*

*If they were choosing to pursue a degree in marine science, Umaine is a great place to pursue that education. I would also encourage them to think about their long term desires and whether or not they have determined that a degree in that field can supply a livable income. If they have already determined that they want to pursue a degree and career n marine science, then Umaine is as good if not better than most schools offering a similar program.*

*I think Umaine has a lot to offer students if they are able to take advantage of the marine education resources.*

*Good program, but not enough jobs available, especially nearby in Maine.*

*The program is very welcoming. Its tough but the support by peers and faculty members got me through.*

*I felt SMS to be an excellent department and would recommend any interested students.*

*Great diversity of classes and an in depth experience in marine sciences.*

*Working on a whale watch I get many different kinds of people to talk to, including High School students. Some of them are very interested in the field and ask me many questions about my education and career. I tell my "story" and encourage them to enter the field. I also let them know about the SBS program at UMaine because of its proximity to Boothbay.*

*Great faculty and research facilities.*

*I thought UMaine's SMS program did a great job prepping me for graduate school and to be a research technician*

*This is a difficult field. We have had great success but like anything it was 90% drive and hard work to get to our current situation. Research, extension, education and possibly commercial industry participation are possible potential paths for a SMS student to utilize their degree and without my commercial fishing background and work ethic from my family I would not have succeeded in the commercial aquaculture field. I have seen many young marine science graduates at commercial facilities, Rutgers University, and The Virginia Institute of Marine Science I have hired or worked with fail because they are unwilling to do the "applied" portion of "applied science". It takes a certain person to succeed and it would temper my recommendation to enroll in Marine Science depending on who the person was and what career path they desired.*

*Top rated faculty, truly vested people, willingness to go above and beyond for students. If I had to choose again it would be SMS without a doubt.*

*I felt that SMS had great course offerings that exposed students to many facets of marine science which they could pursue post-graduation. I also really appreciated the enthusiasm of many of the faculty, who made their students excited about science.*

*I enjoyed UMaine very much and feel as though I was taught by excellent professors. I have already advised some younger students interested in marine science/oceanography to strongly look into UMaine and what they offer.*

*I loved the UMaine Marine Science program I came away feeling like I had learned a lot. Awesome faculty!*

*I thought that for the most part the Marine Sciences Program was well rounded in which you have to take many different science classes. The only reason i wouldn't recommend it is if they would rather have more marine biology classes, since there were minimal.*



*I found that the School of Marine Sciences provides an excellent background for a student wishing to enter the hard sciences. The faculty and staff are exceptional, and the program is much more personal than some of the larger majors like biology.*

*Semester by the Sea not only allowed me to gain valuable hands-on experience while at sea (conducting research, sail handling, etc) but it also taught me important life lessons. How to be patient, how to think on my feet, how to lead...all of these things I've carried with me and used countless times since.*

*Great program with both applicable lab and classroom experience.*

*I loved UMaine!*

*I found the program to be very well laid out with extremely knowledgeable and encouraging professors. I definitely enjoyed my time there. Unfortunately I haven't yet progressed in a marine science career so most of my survey answers probably won't provide much feedback.*

*WGE [William Ellis] is very helpful along with Jodie and Sue in the office. They are very flexible and accommodating for both course sign ups and schedule manipulation. They also went out of their way to help me get a job on campus at the ARC; even going so far as to fund half of my wage because I didn't qualify for work study. I keep in contact with them albeit irregularly but when I head out to sea for 3 months at a time it is hit or miss whether I have access to internet or not. The course work itself is right on par with what I was looking for and I got to jump right into the marine science courses where other schools would have made me take a lot of liberal arts junk before actually getting a taste of marine biology. The skills you learn in the labs and the writing classes that you have to endure were surprisingly super helpful when I hit the job market both for resume writing and for displaying skill sets for lab oriented jobs.*

*I love Marine Science. I love the Darling Marine Center. I love all the opportunity. GREAT.*

*UMaine prepared me as well as or better than any other graduate student in my current cohort.*

*I think the courses are very relevant, UM provides great groundwork to get into grad school, there are very well-respected profs that are very encouraging, supportive, and HELPFUL, and UM is a great community.*

*I believe UMaine has one of the strongest Marine Science degree programs in New England. This program also has an exceptionally talented and diverse faculty.*

*Great program, awesome school, incredible opportunities!*

*I loved my experience and it looks like the program continues to improve! I was disappointed I missed the initiatives that made science courses even more relevant to marine sciences (physics, writing, etc) instead of taking the generic classes. Overall, the staff was incredible and the coursework was rigorous. It definitely helped me land my first job working for an algae-oil biodiesel company and has given me the science background needed as an science educator. Thank you!*

*The SMS program does a very good job of preparing students for work in the marine science fields especially due to their emphasis on building communication, writing and technical laboratory skills.*

*The semester by the sea program was extremely helpful and gave me the hands on experience that I was looking for. At the Orono campus the majority of the professors really seemed to enjoy what they were doing and that helped the learning process. They seemed to care about our future and success.*

*Yes, because the professors are extremely dedicated to helping their students pursue their goals. The program is very challenging but teaches students a lot about the marine science field and expectations. However, I would probably only recommend it to a student that is really up to the challenge. Since the program is very time-consuming and very hard, I would not recommend it to someone that is not dedicated to their education.*



*I think that the University of Maine is a great SMS program, and the faculty and staff are leaders in their fields. My experience was challenging and exciting, and I believe that there are many opportunities to gain experience in a field of your choosing available to any student.*

*The Marine Science program at the University of Maine is a multifaceted and interdisciplinary course of study. It prepares students for not only careers in the marine science field, but gives students a broad background in many other natural sciences. Students graduating from this program are prepared to work in many science professions, or continue graduate studies in the sciences. UMaine is a great choice if you have an interest in Marine Science.*

*It was a great experience and all the professors were fantastic.*

*Rocky intertidal is a specific type of environment, so I would absolutely suggest it if they are looking to study and work in New England or rocky intertidal environment. If your into a different type of environment maybe look for a school in that area. But as far as general knowledge I think the program is great.*

**Negative or neutral feedback:**

*Job opportunities post graduation is minimal*

*Some of the professors were a bit too high and mighty. They thought that because they were very intelligent, every student should be on their level of thought processes and we're not considered 'good students' if trying their hardest wasn't adding up to good grades.*

*I would recommend that a degree in computer science, engineering or business would provide a more ?? job placement post grad.*

*Just not a lot of work available in the field unless willing to travel. No local work.*

*Depends on what career ambitions they have*

*Have to leave the area to find jobs.*

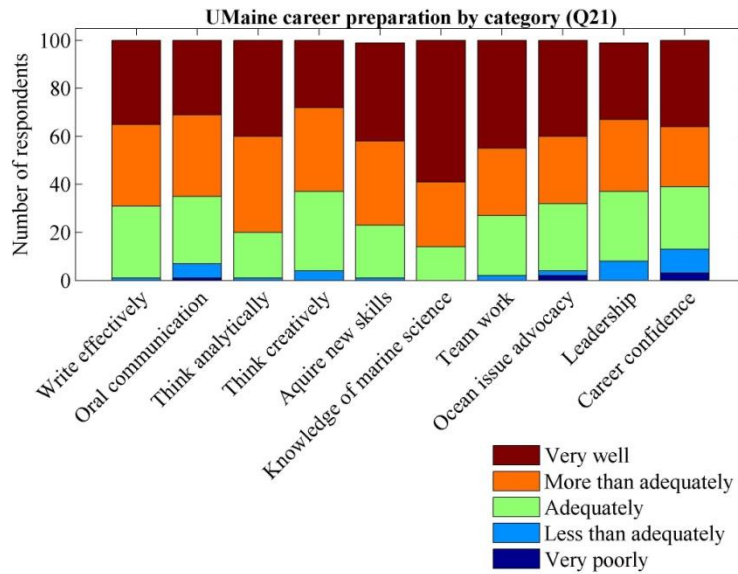
*Depending if they had career in particular in mind. If they were like me and interested in the field in general I would encourage them to be either bio or mole bio as the req. courses have more to offer. Employers seem to prefer these backgrounds and very few will take the extra 3 secs to look over my resume and see how my exp. fits almost as well as these other candidates.*

*Unless you are going to be a professor it is a dead end career. Most jobs are 10 dollars an hour part time no benefits. No chance of advancement without a masters and even then they do not pay you anything. I love science but if I could go back I should have been a nurse.*

*A lot of the students I talk to are interested in the animal husbandry or large animal aspects of SMS - and I don't think UMaine has the best SMS program for that.*



**Q21: Based on where you are in your career, how well do you think your education at UMaine prepared you to:**



**Q22. Based on where you are in your career, are there specific topics/skills that you advocate students receive while enrolled at UMaine in the Marine Sciences degree program?**

The following section contains the long-answer responses received for Q22. Each paragraph represents a different alumnus.

*Even though I was not interested in it at the time, I wish I had taken an Ichthyology course. Personally, I think it should have been required, given the number of entry level positions available to marine science students in fisheries, especially in fisheries observing.*

*Any animal behavior classes would help. Any vet tech oriented classes would make a difference as well.*

*Writing, Biology, & Chemistry.*

*Matlab or other programming (R). Experimental design (more inquiry based labs)*

*undergraduate research (capstone), SBS, lab experience, internships, taking a wide range of classes from marine plants, to mammals and inverts.*

*all of the above*

*More statistics with the option to enroll in advanced coursework geared towards marine science/fisheries GIS intro or component of a course More technical writing or a course geared toward intro. to writing for publications Survey sampling or survey design (could be a part of the stats curriculum) Ecosystem based management - seems to be the trend a lot of fisheries management is headed towards Policy intro. course (management track)*

*Writing.*

*I would definitely continue to encourage marine science students to attend semester by the sea and pursue internships over the summer as these experiences seemed to help me out the most once I graduated and was in pursuit of a career. Those types of field experiences definitely helped my resume stand out in my career search in the field with just a bachelor's degree. I would also recommend continuing to build in career-oriented classes into the major that focus on skills needed in the workforce. Throughout my career so far, my employers have consistently desired people that are skilled with Matlab and data analysis, are comfortable with electronic circuitry and sensors, and know how to use other tools like GIS, etc. In my last year at UMaine, I had the chance to take a "Intro to programming and circuitry" class with Dr. Boss which I found to be very helpful once in workforce. I think if more of these types of courses could be built into the major along with some of the more academic classes, it would help students become more marketable to prospective employers once they graduate.*

*More skills in communicating science, both in oral and written formats. Also a range of career types aside from the traditional PhD, post-doc, professor track.*

*Inter-disciplinary studies (important to know what other science dept are researching especially in Agriculture, Zoology etc), field trips (fish farmers-bioscience companies, packaging or marketing businesses, especially competitive businesses or Universities) internships should be required part of academic learning (hands on experience, leadership, communication and networking) for at least a semester.*

*MATLAB / computer programming / GIS*

*I think everyone should take the 'Statistical Methods of Research' course offered through the statistics department (400 level). From that course, I learned how to use the computer program R and complete many useful biologically-relevant statistical analyses. Only introductory statistics is required. I also think that all students should have to take organic chemistry, not just the students who wish to focus in marine and aquatic sciences. I think it would also be very useful if an undergraduate physical oceanography course was offered.*

*Public speaking!!*

*Field experience. Capstone Research. Science writing course (S. Lindsay).*

*A clear and concise understanding of future options, and steps to achieve them.*

*Statistics Broader foundations in ecology (encouragement to take ecology classes outside of the department)*

*None.*

*Take more classes on mammals unless you want ot work in Maine. Relate to professors from beginning.*

*Written and verbal communications.*

*Networking Leadership*



*Strong background in the basics, particularly math, computer programming (coding (Matlab/Python)) and signal processing*

*Internship for hands on experience very important. If Aquaculture- foreign language useful*

*Get as much assistance in making your "future education" decisions as early as possible. Don't leave it til the last two years.*

*Lab exp. and field exp. Capstone but make students present individually rather than as poster show. More presentations. Scientific writing & researching databases/journals. More focus on career track or grad school prep.*

*Aquaculture - all forms. Marine Technology - engineering. Fisheries management, managing ocean predators (seals) & protecting forage species for re-development of high value species (cod).*

*Leadership and training skills. The ability to recognize when to be assertive and when to be passive professionally.*

*Require the public speaking class.*

*It would be wise to educate students on job placement and the availability of related jobs. Obviously everyone needs to find their own way and figured things out on their own but it would be helpful to point recent grads in the right direction as to how to effectively find marine science jobs or literally share current job postings with them. It's important to know availability or the demand for these positions, which tends to be low.*

*Resume writing/Applying for jobs Cover letters - what to include The economics program includes a section of their capstone class where the students actually apply for a job(s) with assistance from a few professors. They get critiqued on their resume/cover letter and learn wording for the whole process. They also talk about interview skills, when to write thank yous, etc.*

*ability to cultivate awareness about real-world problems and needs, people and projects within the state that they could get involved in*



*Need field experience (Semester by the Sea).*

*Critical writing/reading Hands on classes / good capstone work*

*Presentation skills, experimental design skills, biostatistics, applying for grants*

*More business related curriculum More Tech related*

*Focus on a strong base of fundamental science courses such as chemistry, biology, zoology, microbiology with laboratory experience. I thought the exposure to other discipline in food science and engineering was also helpful while in Orono.*

*Invertebrate Zoology and the use of a dichotomous key for those looking to go into career with biology interests. Whether it is required for the next job or not, you never know when you will come across an organism which you have little previous knowledge.*

*A GIS course should be required. I also suggest learning a statistical programming language.*

*Learn how to start a career.*

*biostatistics w/ a science base vs. general stats biochemistry (was not mandatory when I was there)*

*Time management, organization, Environmental Education (Broad topic). Coastal management (Beaches and Coasts). Global warming. Sustainability in a marine environment.*

*writing about science for a public audience, presenting science to a public audience, poster design, cross-discipline application of knowledge*

*It isn't just about knowing everything out of a marine science book that will get you a job. To be able to communicate clearly and in an educated manner is VERY important.*

*technology writing research proposals*

*I personally found it important and useful to complete the pre-med requirements to keep my options open and end up on the path I'm on.*

*Programming Skills!!! Need to implement this into the curriculum. Its very important. Also, a marine science specific stats course would be helpful. I also felt that it would be helpful to go over the graduate school application process in on of the SMS courses because I was pretty clueless after I graduated and had to figure it out by myself.*

*Laboratory & field work experience, knowledge of climate change and fisheries*

*More oral communication (presentation of capstone?) -More courses related to resource management (cross-reference with other depts like Econ?) -More stats than the general stats class (a course specific to Marine Sciences would be valuable)*

*“Speaking with other students in my graduate program, or others I've worked with, I have found that UMaine has a great program for Marine Science. The courses allow us to get us a solid foundation of oceanography and the semester by the sea program gives us experience with the more biological/ ecological marine science topics. Taking my graduate level oceanography classes now, I am surprised how much of the information was taught in the courses as an undergraduate. Additionally, the faculty are welcoming to undergraduates working in the lab which provides necessary and beneficial experience for a career in marine science.”*

*-Graduated 2012*

*Communication, for sure. Not just written, but leaning how to speak effectively, and how to "know your audience" so to speak. So much of science is jargon this, acronym that and it alienates people sometimes. Learning how to effectively communicate in both social settings and online is something that students can use in any scenario, science or non-science related.*

*More lab and field experience. Also a specific science based stats class that maybe introduces Matlab or R*

*I think working on faculty research would have been really beneficial to me and I wish I had done more of that.*

*Definitely try and fit the SBS program into your four years if you can. If not take that fifth year for the first semester just to experience it. The Darling Marine Center has so much to offer both with networking and with hands on experience. I believe that doing the SBS program my junior year was more influential in my degree than the whole two years before. The staff down there are great and it really brings into perspective how much top researchers are like the everyday person. Bob Steneck, for instance, you can read about his work and see all his papers and you think wow hes a super hard working guy and he must be really smart and such. Yes hes that but so much more. He is enjoyable to strike up a conversation with about almost anything. Kevin Ecklberger, inverts, wicked smart like bob but even more down to earth. If you stayed for thanksgiving break he would invite you to his house for a big thanksgiving dinner and treat you just like family. M.J. Perry and her husband Pete Jumars, both very brilliant people in there respective fields. Fun to work with and even have a few dinners with to swap stories or just to listen to all of their experiences. There was so many work opportunities down at the DMC as well so you could get hands on exp outside of class working closely with a professor that was in the top of their field.*

*Independent research and writing*

*- BIO stats should be REQUIRED!!! - More oceanography (not just general - though great class!) - GIS - Physiology - Science diving (though I think that is offered now) - Not speech class offered through UM, one should be more focused on Marine Science pre*

*As I move forward with my career as a scientists one of the most important skills I think you can have is to be able to communicate science effectively. NOT just to the science community, but to everyone. And I don't think this skill was given enough focus while I was at UMAINE.*

*I would tell other students to attend at least one scientific conference during their undergraduate experience. This will give students the opportunity to "job shadow" and identify if research is a field they may want to pursue. There are many jobs one could have with a marine science diploma from UMaine. Being able to have an idea of what job is best for them is a key stepping stone after graduation that I feel is very hard to teach in a classroom.*

*Be an advocate for yourself.*

*GIS based classes for undergraduate or incorporating it more in the classroom*

*Advocacy and communications can be overlooked in a science based education, but I use these skills daily in my current position.*

*I think more hands on experience would be good for students. I am not currently working in a marine science field, though I did recently finish an internship at the New England Aquarium. I believe my recommendations helped me acquire this position but paid positions are more difficult to come by. With more hands on experience I think it would be easier to obtain such positions after graduation as most jobs require previous experience.*

*Mandatory experience with statistical programming such as SAS or JUMP Introduction to GIS (even if only one hour) More live animal handling experience outside of the DMC*

*Most jobs require grant work in marine science and the education fields. Grant writing, managing, and reporting are now essential job skills. An ability to plan outreach and education as a component of grant applications for research is also necessary. These skills would definitely give students a better chance of finding employment.*

*No matter which areas of marine science you may end up in, it is imperative to be able to communicate well orally and write effectively. Even in aquatic veterinary medicine, I am frequently thankful that my SMS courses forced me to give presentations and write scientific papers. As a result, I am significantly more confident in these areas which are important in my field.*

*I feel like we need more lab skills, because the majority of entry level job postings that I have seen are for lab techs and I don't believe I was properly prepared for that. More work with PCR and DNA, further and into more detail than the class that I took with Dr. Rawson in my final year at UMaine. Also, I never received resume building, cover letter writing, or applying to grad school advice which I really regret. I feel that those skills are EXTREMELY important. There was a class that was provided at SBS that was supposed to go over those topic but never did, we only made these webs with a program that one of the professors either made or used and it was a complete waste of time and money. The school needs to focus on helping their students be semi prepared for life after college because I found I was not prepared and was completely lost, and still am.*

*More hands on experience working in labs and helping Professors on their research*

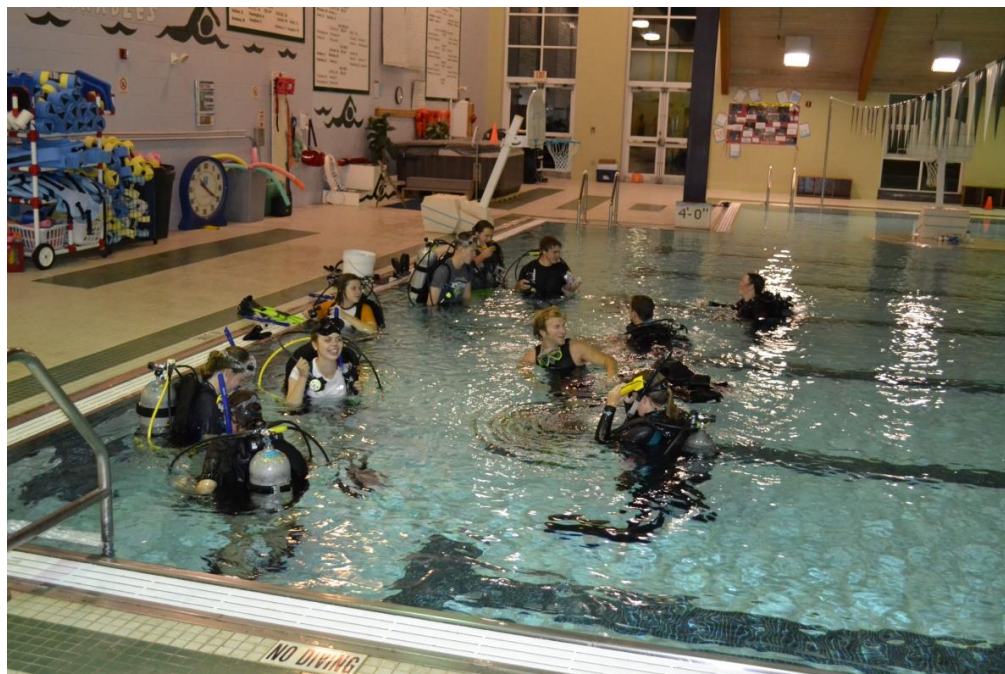
*One of the skills I wish I had learned more effectively was networking!*

*Networking; information on all marine science careers (such as opportunities at NOAA, EPA, State-government, contracting positions, as well as collegiate, teaching etc.); skills in the field, office and laboratory;*

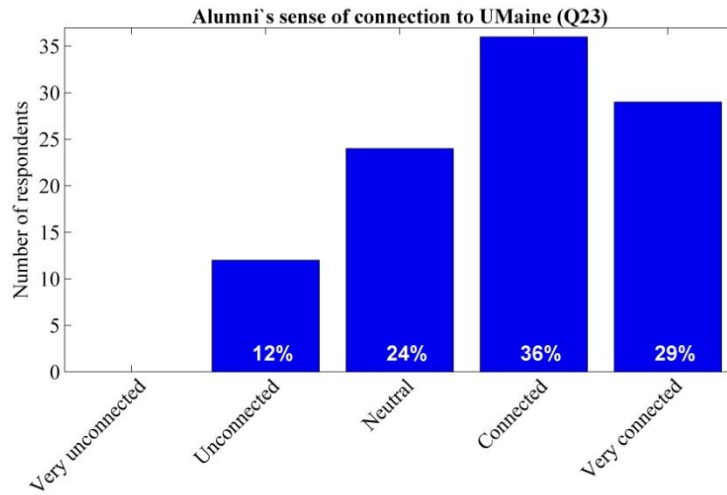
*Talk to faculty, collaborate, and gain relationships that may benefit your career. Start early.*

*The topics covered in the 4 part integrative marine sciences courses have been very valuable as a young scientist in a research career. I can honestly say I would not be where I am right now if I didn't have the knowledge and skills I learned from those courses (DNA extraction, PCR, Western Blot, etc.)*

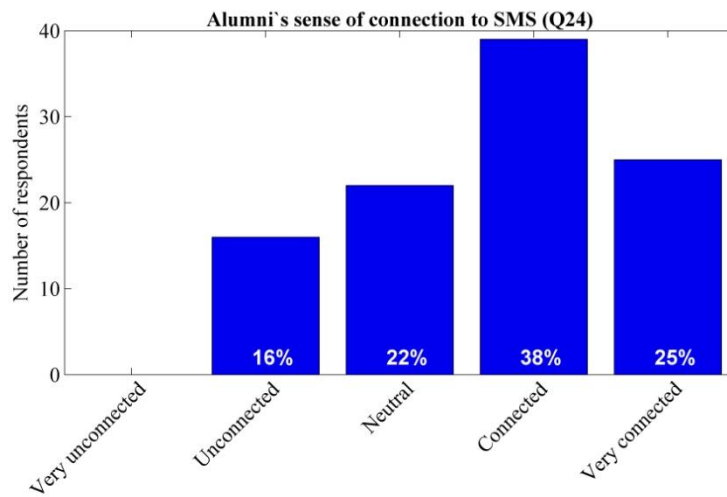
*maybe an assignment on writing a proposal for a grant, as part as the capstone class seminar.*



**Q23: How connected do you feel towards UMaine?**

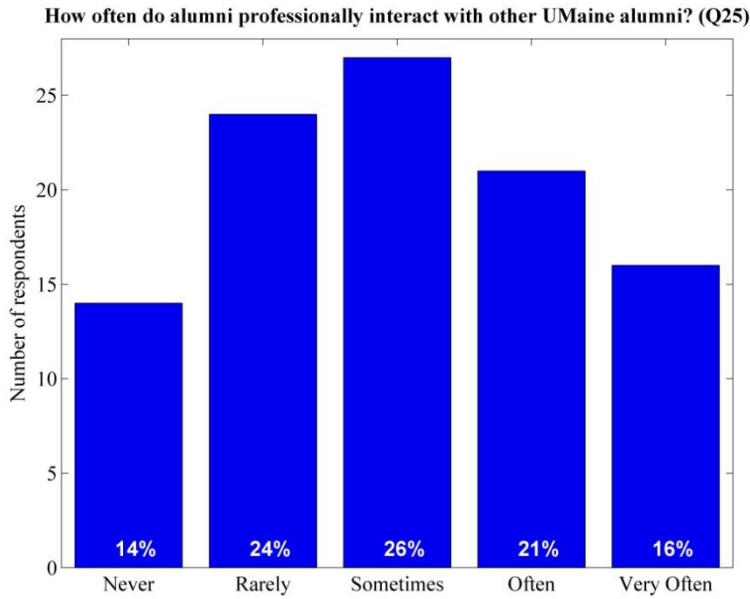


**Q24: How connected do you feel towards the School of Marine Sciences?**

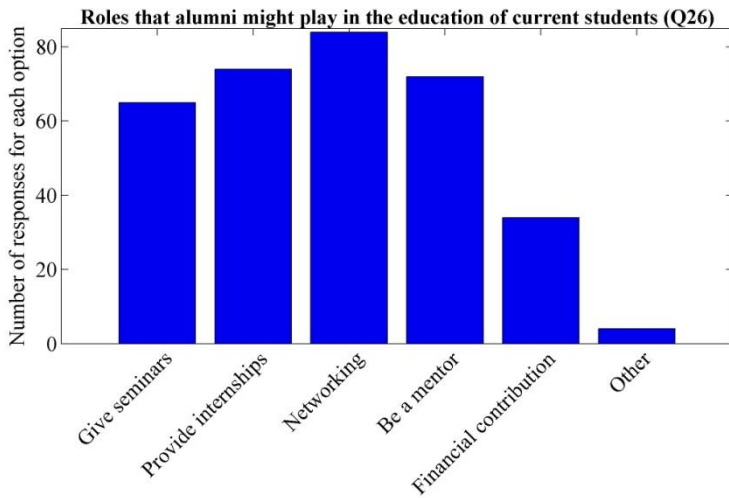




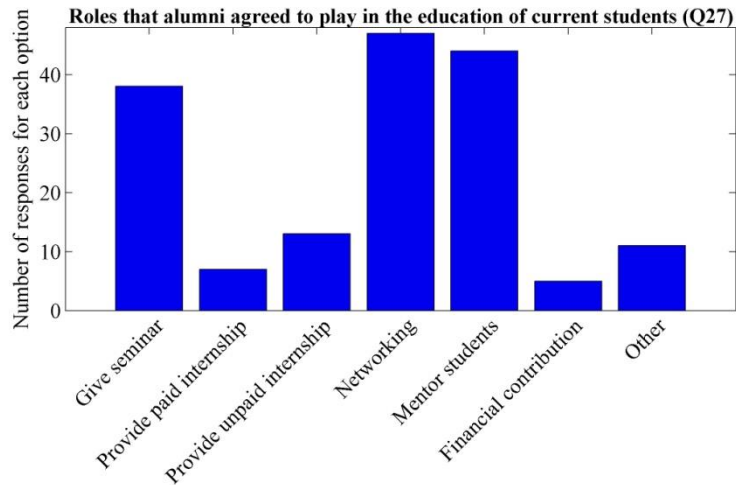
**Q25: How often in your professional life do you interact with UMaine or SMS alumni (in person, or by phone, e-mail or social networks)?**



**Q26: What role(s) do you think SMS alumni could play in shaping the education of current students?**



**Q27: What role(s) can YOU play in shaping the education of current and future students?**



**Q28: Since graduating from UMaine, what do you especially value about your undergraduate experience?**

The following section contains the long-answer responses received for Q28. Each paragraph represents a different alumnus.

*The research experience I was able to participate in as well as my thesis through the Honor's College. In retrospect, it was very helpful to have the experience of presenting and defending your thesis, even though it was very nerve-wracking at the time. The research experience I gained through SBS was also very helpful!*

*I made some important connections while at UMaine, which have continued to play a role in my career.*

*The people and the knowledge*

*The relationships I made with faculty and other students. Small class sizes and working in a lab allowed me to form relationships with faculty, and it was great to learn from them and have their support when I applied to graduate programs. My time at semester by the sea was an amazing educational and life experience and I could not recommend it enough for current students in SMS.*

*The close relationships I developed with my teachers, the undergrad research I gained and the undergrad research I obtain. I will never forget all the kind people that help me and gave me experiences and opportunities I would have never gotten anywhere else.*

*I got the knowledge I need to teach science. However, before becoming a teacher I was a dolphin trainer. My classes definitely helped prepare me in that career as well.*

*SBS*

*Everything*

*The SBS experience Small class sizes/interactions with professors and researchers Solid foundation in several disciplines of marine science Close knit community of students and faculty/staff*

*I can tell myself that I did it on my own. I made it through a difficult science program at a prestigious establishment without needing someone to hold my hand. I learned how to be a better writer, I am a little more comfortable around labs, and much more confident in talking to others who are above me in my career path because I am confident in what I speak about. Learning how to research a topic thoroughly also helps me gain confidence when speaking to others in an area I'm not familiar with as well.*

*I value the passion that I gained for marine science and oceanography while an undergrad at UMaine. I think overall the professors and faculty do a great job of getting students excited and involved in the subject matter.*

*Semester by the Sea is my fondest undergraduate memory. That experience grew my love for conducting marine science research.*

*Neil Greenberg and Linda Kling at SMS. Also the hands on work at the Aquaculture Lab.*

*The rigor of the program when coupled with intense research internships combined with caring faculty.*

*I value the breadth of knowledge I received. I chose to take courses in a variety of backgrounds (GIS, creative writing, journalism, upper level mathematics). Those courses combined with the breadth of information I learned in marine science left me a more well-rounded educated human being.*

*The network and the knowledge provided to me at UMaine were like nothing I expected and has certainly affected my career path.*

*I value my field experience and the opportunities I had to work with faculty. In many ways these faculty members provided inspiration and passion for sharing ocean science with my students.*

*The community.*

*The small community of SMS and the research and field experience I was able to get as an undergraduate.*

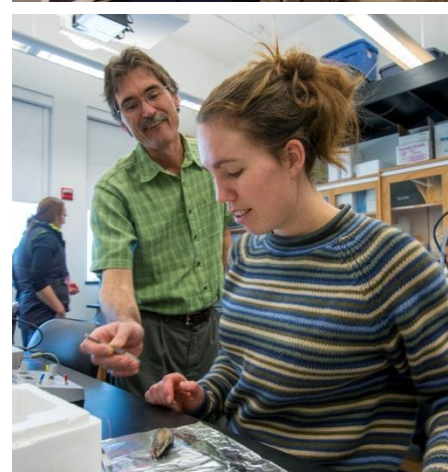
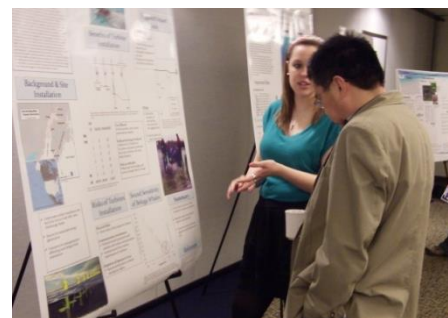
*I enjoyed the overall experience. Faculty members were confident in their knowledge. The atmosphere was fun to be in and I believe I gained skills to be a great asset to whatever company I may work for.*

*Valuable information about our world and how it works. Great skills learned at SBS program (especially in SCUBA). Lifelong friends and great memories. SMS was one of the greatest experiences of my life.*

*The Darling Marine Center*

*Good times, good people.*

*Great memories.*



*The SMS community was very welcoming. I will never forget the kindness and generosity of my mentors, Drs. Xue, Boss, and Kelley in encouraging me to continue my education and in allowing me to do research with them. They always took the time to talk with me about my education and career. The small class sizes were great for allowing more discussion and hands-on learning as well.*

*All of it. the place. the people. the quality of education & the hands on experiences.*

*All of it.*

*Hands on activities in Aquaculture program.*

*I had a couple of great professors that taught valuable life skills not just marine science.*

*I value more the experiences I've gained since receiving my degree. The jobs I've held have all been very rewarding and enriching. Though, it is the extra curricular's that I pursued outside of the classroom which enabled me to ultimately have these fulfilling experiences. Internships, volunteer work, and gaining experience in your field is paramount to being successful and setting yourself apart from the pack. I doubt that with a degree alone, that one could be successful in effectively pursuing a career in their field of choice.*

*SBS Program - It introduced a lot of topics and skills that I wouldn't have experienced in the regular program.*

*I'm glad to have received a degree from UMaine - I still think it represents a quality education.*

*Its great to have connections through the US and Canada to people with the same interest as me, that also went to UMaine.*

*The opportunities that were open to me. I was able to be a part of many trips/jobs to broaden my knowledge. I explored, made connections and thoroughly enjoyed my time at UMaine.*

*I enjoyed my time at Maine, and felt I was well prepared for my current career.*

*When I go to graduate school I will value the hands on work/critical writing, etc. For my current job I value the background info within the marine science classes, SBS and speaking before groups of students.*

*Making Connections / Networking*

*The community and the semester by the sea program*

*My Peers, My fraternity, and a select few Professors.*

*University of Maine is a great place to go to school. I obtained a solid basis of science and exposure to research on which I built a successful aquaculture company after a career in academia. I am grateful for that experience and the enjoyable setting in which it occurred!*

*The Darling Marine Center, use of hands on field work and Lab experience which encouraged curiosity and deeper thinking. It wasn't straight out of a textbook and that makes a real difference in learning and remembering the material.*

*SMS has opened doors for me. Without the knowledge that I have gained from all the faculty and staff I would not be as successful as I am today. Kudos to all for a truly grand experience. Please reach out and I will be more than willing to help out.*

*My SBS experience really opened my eyes to what I would need to do to pursue a career in marine science. It also really aided in preparing me for field-intensive research and scientific writing. I would also credit several SMS faculty for being my inspiration in pursuing a PhD, I would not have made it this far without their guidance and support.*

*The best thing that happened to me was the time spent at the DMC. The connections between students and teachers could not be better.*

*The variety of coursework, the hands-on experience of SBS, the flexibility of the program to allow elective courses from other departments, and the commitment of the professors to undergraduate research.*

*I value the connections I made with friends, in and out of the program, as well as staff and faculty. Although currently not employed in a marine science field, I have called upon UMaine associates for help since graduation.*

*I'm thankful for the faculty/staff in the SMS office. They were extraordinarily helpful with my transition into SMS and transferring my degree to UNH. I also value my opportunity to work at GMRI on my capstone with Andy Pershing.*

*I valued the SMS far more than UMaine itself. I really enjoyed the curriculum and faculty.*

*I especially value my time at the DMC and the unique research opportunities I was able to take advantage of while attending class there. My study abroad experience in Australia was an extremely valuable experience to me, expanding my cultural horizons and introducing me to new friends around the world.*

*All of the connections that I have made from the Marine Sciences Department.*

*The people! I made friendships that will last a lifetime and connected to my professors in a way I didn't think was realistic to expect at a state school. Thanks for your excellent work!*

*Marine science was made so accessible to me as an undergraduate. My professors were almost always willing to help out with questions and the support I received from SMS faculty was nothing short of amazing. I think the other thing that has been especially valuable is the lasting relationships I developed during my time at UMaine. I still chat with a few professors about the goings on in my life and they offer me honest feedback on any sort of "life questions" I might have. Having them as a resource has been so helpful as I navigate my windy career path!*

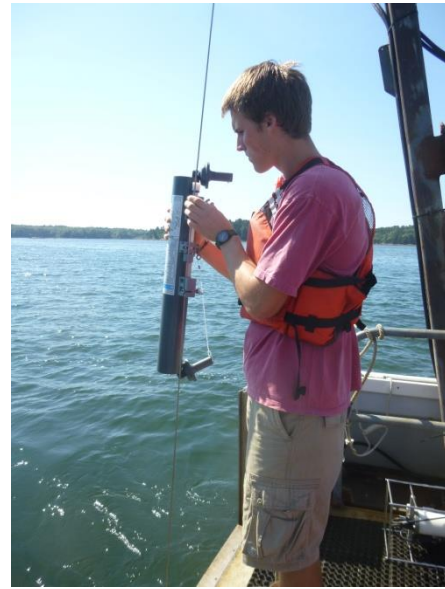
*The connection with professors!*

*Semester by the Sea program, studying abroad, and the great people I met.*

*The relationships I developed with my professors and other sms students.*

*Like I mentioned before, the hands on experience from the Darling Marine Center which influenced me to get a field job over any lab based job. I would go crazy if I was stuck inside dealing with a desk job day in and day out instead of being out at sea for 3 months at a time braving the weather and waves while having something new come up daily that I have to adapt to and deal with on a regular basis. I feel almost as if I am doing independent research constantly as most of the data that I collect helps regulate the [place name removed] Ground Fish Fishery.*

*Close knit faculty and students. One on one attention.*





*I was surprised by how much I missed the faculty and staff in the SMS department. For me, it was always the people that made me want to stay in marine science. Everyone is so supportive and encouraging. I really love the Darling Marine Center. I have such fond memories of the DMC and my time spent there.*

*Working with faculty members and independent research*

*The 'extra' things I learned (i.e., Kevin/WGE [William Ellis] job/grad school advice, working with Soren at the ARC, SBS) and the people I got to know (friends and professors that have helped me a GREAT deal, and still do to this day).*

*Mostly, I value the connections I made with the faculty and other students in the program. I also feel that the experiences I had as an undergraduate at UMAINE gave me a very solid marine sciences background so that my resume stood out in the job and graduate school environments.*

*I value the small class sizes that allowed me to develop strong working relationships with professors. I also value the support from Sue, Wge [William Ellis] and Jody, as well as capstone and academic mentors. Knowing more about other schools, I realize this guidance is unmatched elsewhere.*

*The connections I made with students and faculty.*

*Darling Marine Center Semester by the Sea Program*

*UMaine is small enough to offer a great community and comfortable setting but large enough to offer big world experiences. Great access to faculty and students are great. Built a lot of great memories here!*

*The relationships I was able to build with my fellow classmates as well as some faculty members.*

*I value everything about my undergraduate experience. There was nothing that I did at UMaine that was excessive or a waste of my time/resources. I felt perfectly prepared to move onto higher education after my experiences with the marine science department and only wish I had stayed closer to Maine so I could visit more regularly.*

*I value the high caliber, kind staff and the research-driven coursework. I remember Sue, the secretary, being especially helpful and nice. Wge [William Ellis] and David Townsend were encouraging and always challenged the way I viewed the world.*

*My skills in oral communication and writing.*

*I value my education and the opportunities I had through the semester by the sea program and work study experiences. But I do wish I could have gotten a little more to prepare me for the real world and for finding a job/career in my field.*

*Being inspired, learning, and feeling a sense of belonging.*

*I am very happy with it. I really feel that I learned a lot and proud of my success in the program.*

*A University of Maine student in the School of Marine Sciences is exposed to many topics in the field. A student is able to get as much, or more, out of the undergraduate experience as they put in.*

*My opportunities to study abroad and to work at UMaine's aquaculture research center.*

*GIS mapping*

*The research experience I received. Specifically the three years I spent working in Dr. Rawson's lab, as that experience allowed me to be a candidate for my current position.*

*Meeting and working with well known professors and gaining networking connections for the future.*

*Utilizing information learned and experience acquired in the workplace. Also, the friendships that have been kept since departing UMaine*

*The knowledge I took from classes obviously, but the hands on experience you gain from the IMS classes is second to none. I valued how open the professors who have labs are to taking on student workers. Lastly I think the capstone project is absolutely necessary.*





**APPENDIX**

**Alumni Survey Questions**



Dear alumnus/alumna of the School of Marine Sciences (SMS), University of Maine:

**Thank you** for taking the time to complete this survey. Your experiences within and viewpoints on the Marine Science and Aquaculture majors (1996-present) and details of your career activities are important to help document and assess the effectiveness of our program.

Please review the informed consent information below. If you consent to participate, please fill out the included SMS Alumni Survey and return it in the provided envelope. If you would rather do the survey online you can access it at the following link:

<http://www.surveymoz.com/s3/1372086/SMS-Alumni-Survey-Fall-2013>

### **Informed Consent Statement**

#### **Purpose and Description of this Study**

This is an alumni survey of all graduates of the School of Marine Sciences, University of Maine (1996-2013). The purpose of this study is to examine the strengths of our educational programs and identify areas (skills, techniques, experiences) where our programs can improve to advance the professional lives of alumni. Please evaluate your undergraduate experiences, including your involvement and satisfaction with components of the Marine Sciences academic program, their impact on your academic development, and your post-graduation educational and career activities. Ultimately, we hope some benefits of this study will be to improve our academic programs for current and future students and establish networks between our current students and alumni.

The survey should take approximately 12 minutes to complete. Participation in this survey is voluntary. If you prefer not to respond to a question, please leave it blank. We ask that you do provide your name. If you are uncomfortable doing so please leave that question blank and complete the remainder of the questions.

For questions or comments pertaining to this study or to request a report of the findings of this survey, please contact William Ellis (Wge), Associate Director of SMS, at [William\\_Ellis@umit.maine.edu](mailto:William_Ellis@umit.maine.edu) (Tel: 207-581-4360) or Ryan Weatherbee at [Ryan.Weatherbee@umit.maine.edu](mailto:Ryan.Weatherbee@umit.maine.edu) (Tel: 207-581-4299).

If you are interested in networking with other alumni, or keeping tabs on the latest SMS news, please consider liking our Facebook page: <https://www.facebook.com/UMaineSMS>

<b>2013 School of Marine Sciences Alumni Survey</b>
---

1. What is your name? \_\_\_\_\_

2. During what year range did you complete your undergraduate degree in the School of Marine Sciences?

- 1996 - 1999
- 2000 - 2004
- 2005 - 2009
- 2010 – 2013
- Other (please specify): \_\_\_\_\_

3. What graduate/professional degrees have you already received or for which you are currently enrolled. *Mark all that apply.*

	<b>Institution</b>	<b>Completed degree? (check if yes)</b>	<b>Enrolled currently? (check if yes)</b>	<b>Hope to attain? (check if yes)</b>
<b>Second BA/BS degree</b>				
<b>Master degree (MA, MSW, MBA, etc)</b>				
<b>Doctoral degree (Ph.D., Ed.D)</b>				
<b>Professional degree (JD, MD, DVM, etc.)</b>				
<b>Other (please specify here)</b>				

**4. Are you currently employed (part or full-time)?**

- yes
- no

**5. Which best describes your current employment activity? Mark the best answer.**

- Graduate/Professional school full-time
- Graduate/Professional school part-time
- Employment full-time
- Employment part-time
- Employment with multiple jobs
- Military service
- Not employed, but seeking employment or admission to graduate school
- Not employed by choice (homemaker, volunteer, etc.)
- Other (please specify) \_\_\_\_\_

**6. If employed, what type of organization do you work for? Mark the best answer.**

- Self-employed
- Private for-profit corporation/company
- Private non-profit corporation/company (not education)
- Higher education (public or private)
- K-12 education (public or private)
- Outreach/alternative education
- International organization (in the US)
- International organization (outside the US)
- U.S. military
- Federal government (except military)
- State and local government, institution or agency (except education)
- Other (please specify) \_\_\_\_\_

**7. If employed, what is your job title?**

**8. If employed, please enter the name and location of your company.** *We may send a separate survey to your company to gauge employer needs (hiring, skills, training, etc.).*

**9. Which best describes your position?**

- Entry level
- Mid-level
- Senior-level
- Executive-level

**10. Would you say that your current position is related to your Maine Sciences undergraduate degree?**

- Yes, same field
- Sort of, related field
- No, different field

**11. How well did SMS prepare you for your current career?**

- Very well
- More than sufficiently
- Sufficiently
- Less than sufficiently
- Very poorly

**12. If you answered “less than sufficiently” or “very poorly” in the previous question, please describe why there was a lack of preparedness.**

**13. How satisfied are you with the course of your career so far?**

- Very satisfied
- Generally satisfied
- Undecided
- Generally dissatisfied
- Very dissatisfied

**14. While an undergraduate, did you do any of the following? *Mark all that apply.***

- Work with a faculty member on his/her research
- Study abroad
- Engage in an independent study/research (including capstone project)
- Have a paid internship during at least one summer
- Have an unpaid internship during at least one summer

**15. If you marked anything in the previous question, how did you find that/those experience(s) to be in preparing you for your career?**

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant
- Not applicable

**16. While an undergraduate, if you participated in the Semester-by-the-Sea program at the Darling Marine Center, how did you find that experience to be in preparing you for your career?**

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant
- I did not attend Semester-by-the-Sea



**17. If you participated in Semester-by-the-Sea, why did you attend? *Mark all that apply.***

- I did not attend
- Course offerings
- Desire to get off campus / adventure
- Recommended by my faculty advisor
- Recommended by a friend who took it
- Other, please specify: \_\_\_\_\_

**18. If you did not participate in Semester-by-the-Sea, why didn't you? *Mark all that apply.***

- I did attend
- Involved in sports or other campus activities
- Could not fit it in my academic course load
- Walpole too small and dull
- Too far from friends on campus
- Other, please specify: \_\_\_\_\_

**19. Would you encourage a current high school senior to enroll at UMaine for a degree in Marine Sciences?**

- Definitely
- Probably
- Maybe
- Probably not
- Definitely not

**20. If desired, provide commentary to explain your selected response in the previous question.**

**21. Based on where you are in your career, how well do you think your education at UMaine prepared you to:** *Check appropriate boxes.*

	Very poorly	Less than adequately	Adequately	More than adequately	Very well
Write effectively					
Communicate well orally					
Think analytically and logically					
Think creatively					
Acquire new skills					
Gain knowledge of marine science					
Work effectively as a member of a team					
Be an advocate of ocean-related issues					
Be an effective leader					
Be confident in your career					

**22. Based on where you are in your career, are there specific topics/skills that you advocate students receive while enrolled at UMaine in the Marine Sciences degree program?**

*Please list as many topics/skills you believe would be important for students to receive.*

**23. How connected do you feel towards UMaine?**

- Very connected
- Connected
- Neutral
- Unconnected
- Very unconnected

**24. How connected do you feel towards the School of Marine Sciences?**

- Very connected
- Connected
- Neutral
- Unconnected
- Very unconnected

**25. How often in your professional life do you interact with UMaine or SMS alumni (in person, or by phone, e-mail or social networks)?**

- Never
- Rarely
- Sometimes
- Often
- Very often

**26. What role(s) do you think SMS alumni could play in shaping the education of current students? *Mark all that apply.***

- Seminars by alumni
- Provide internship opportunities (paid or unpaid) to students
- Provide networking opportunities to students
- Mentor students in career pathways (e.g. practice phone interviews, edit resumes)
- Contribute financially to a SMS scholarship to offset costs to students with unpaid internships
- Other (*please specify*): \_\_\_\_\_

**27. What role(s) can YOU play in shaping the education of current and future students?**

*Mark all that apply. Please e-mail William\_Ellis@umit.maine.edu if you would like to get involved.*

- Present a seminar to our students, faculty and staff on your work/research
- Provide a paid internship to a student
- Provide an unpaid internship to a student
- Provide networking opportunities to students
- Mentor students in career pathways (e.g. practice phone interviews, edit resumes)
- Contribute financially to a SMS scholarship to offset costs to students with unpaid internships
- Other (*please specify*): \_\_\_\_\_

**28. Since graduating from UMaine, what do you especially value about your undergraduate experience?**

---

**End of Survey**

Thank you for taking our survey. Your responses are very important to us.

For questions or comments pertaining to this study or to request a report of the findings of this survey, please contact William Ellis (Wge), Associate Director of SMS, at William\_Ellis@umit.maine.edu (Tel: 207-581-4360) or Ryan Weatherbee at Ryan.Weatherbee@umit.maine.edu (Tel: 207-581-4299).

**APPENDIX**

**Two-page Recruitment Handout**

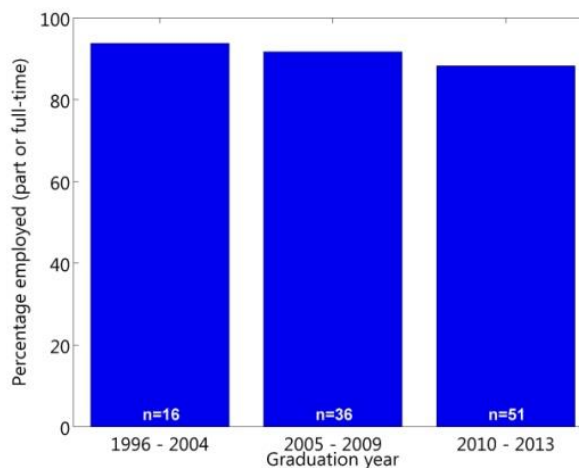




## Alumni Survey 2013-14

In fall/winter of 2013-14, the School of Marine Sciences (SMS) contacted alumni back to the inception of the program in 1996. They were asked to update us about their professional careers and to reflect on their experiences at UMaine. Feedback from alumni measures the efficacy of our program, aides in student recruitment and provides information that may guide curricular improvements. The success of our past graduates is a measure of how well we are educating and preparing our students for life and careers beyond their time at UMaine. A total of 103 alumni (42% of those contacted) completed the survey.

### Employment Status by Graduation Year



*"UMaine prepared me as well as or better than any other graduate student in my current cohort."*

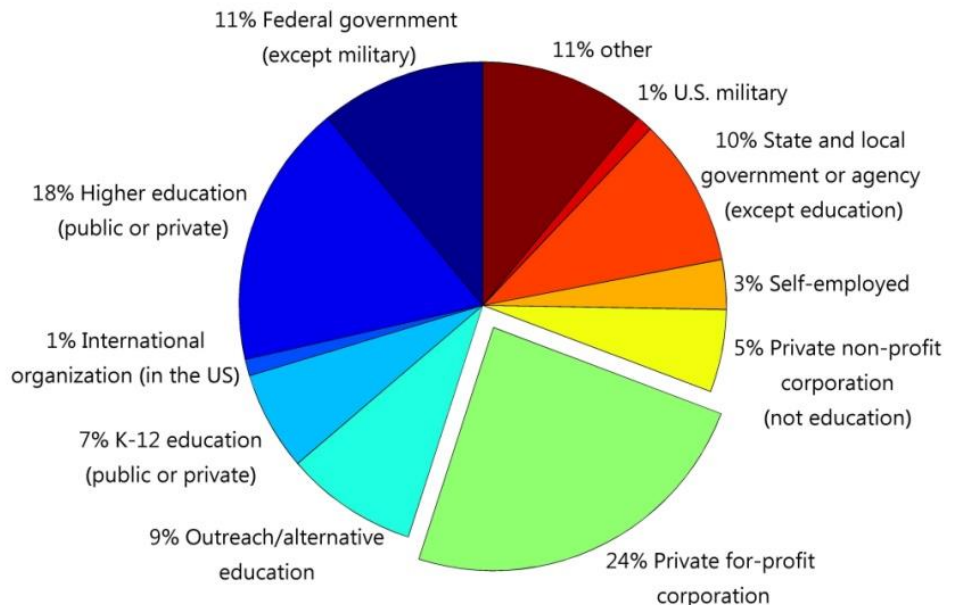
-Graduated 2013

*"My experience as a marine science major while at UMaine was very positive and rewarding. The majority of marine science classes I took were meaningful and it was nice to see the professors really engaged and passionate about the subject matter they were teaching."*

-Graduated 2010

The majority of SMS graduates are gainfully employed across various professional organizations.

### Type of Employment Organizations



[www.umaine.edu/marine](http://www.umaine.edu/marine)

University of Maine  
 5706 Aubert Hall, Rm. 360  
 Orono, ME 04469-706  
 207.581.4381

## Schools Alumni Attended for Advanced Degrees Include:

Northeastern University  
 University of Rhode Island  
 University of Massachusetts  
 Western Washington University  
 University of Alaska  
 Rutgers University  
 Loyola University  
 Creighton University  
 North Carolina State University  
 University of Maryland, College Park  
 Virginia Institute of Marine Science  
 TUFTS  
 University of New Hampshire  
 University of Texas  
 Texas A&M  
 University of Delaware  
 Stony Brook University  
 Vermont College of Medicine  
 Georgia Institute of Technology

*"Speaking with other students in my graduate program, or others I've worked with, I have found that UMaine has a great program for Marine Science. The courses allow us to get a solid foundation of oceanography and the Semester by the Sea program gives us experience with the more biological/ecological marine science topics. Taking my graduate level oceanography classes now, I am surprised how much of the information was taught in the courses as an undergraduate. Additionally, the faculty are welcoming to undergraduates working in the lab which provides necessary and beneficial experience for a career in marine science."*

-Graduated 2012

*"I felt that SMS had great course offerings that exposed students to many facets of marine science which they could pursue post-graduation. I also really appreciated the enthusiasm of many of the faculty, who made their students excited about science."*

-Graduated 2005

*"I believe UMaine has one of the strongest Marine Science degree programs in New England. This program also has an exceptionally talented and diverse faculty."*

-Graduated 2013

## Current Job Titles of Alumni:

Private Corporations: Program Manager  
 Clinical Research Associate  
 Lab Technician  
 Technical Support  
 Veterinarian  
 Research Assistant  
 Naturalist  
 Marine Mammal Observer

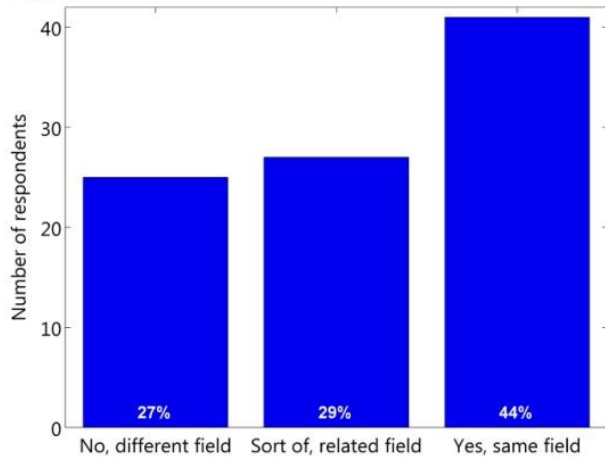
Education: Science Teacher  
 Education Director,  
 Antarctica Program  
 Marine Education Associate  
 Education Specialist

Government/ Higher Ed.: Senior Animal Care Technician  
 Fisheries Biologist  
 Research Technician  
 Fisheries Policy Analyst

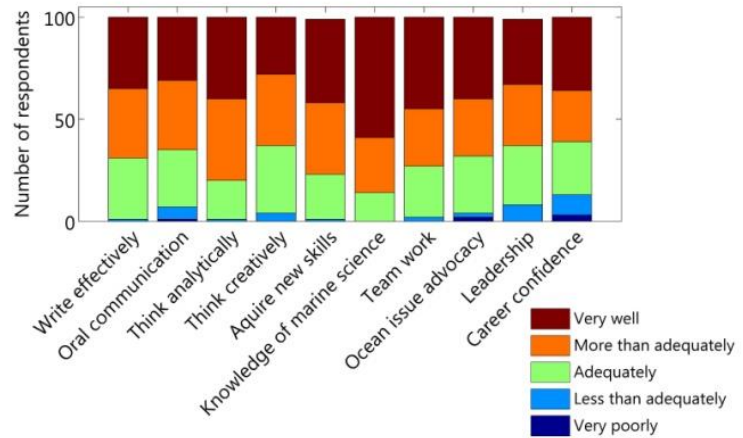
Most SMS graduates are employed in jobs related to the marine sciences and are satisfied with their careers.

Alumni feel that SMS provided various skills that prepared them for their careers. The majority of graduates would recommend SMS to current high school students.

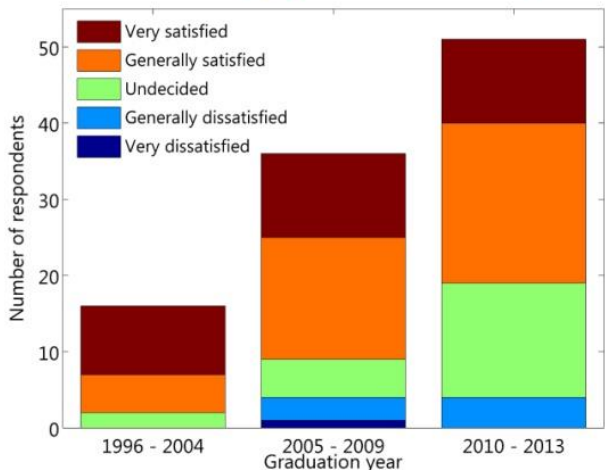
## Are Employment Positions Related to the Marine Sciences?



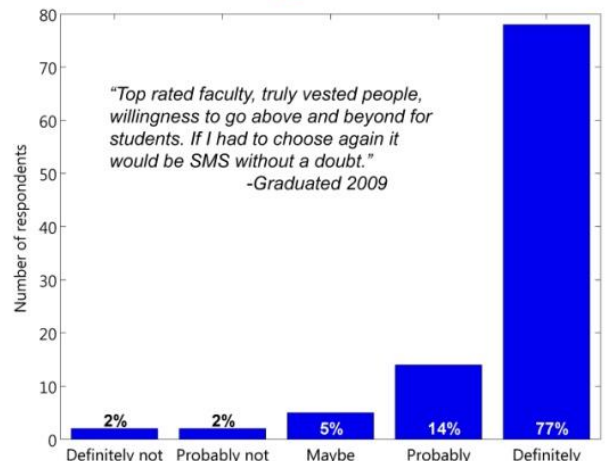
## How Well Did SMS Prepare Alumni for Their Careers?



## Career Satisfaction (by graduation date)



## Would Alumni Encourage Enrollment in SMS?



*"Top rated faculty, truly vested people, willingness to go above and beyond for students. If I had to choose again it would be SMS without a doubt."*

-Graduated 2009



The University of Maine does not discriminate on the grounds of race, color, religion, sex, sexual orientation, including transgender status and gender expression, national origin, citizenship status, age, disability, genetic information or veteran's status in employment, education, and all other programs and activities. The following person has been designated to handle inquires regarding nondiscrimination policies: Director, Office of Equal Opportunity, 101 North Stevens Hall, Orono, Maine 04469, 207.581.1226.



University of Maine  
School of Marine Sciences  
5706 Aubert Hall, Room 360  
Orono, ME, 04469-5706

[umaine.edu/marine](http://umaine.edu/marine)