



THE UNIVERSITY OF
MAINE

School of Forest Resources

Survey of Employment Status of UMaine School of Forest Resources Alumni From 2002 to 2011

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January 26, 2013



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Executive Summary

Alumni of the UMaine School of Forest Resources (SFR) work in a variety of fields in Maine and beyond. Knowledge of alumni career development is critical to assessing their success in the forest resources field and the strength of the SFR curriculum. Little data were available before 2012 with respect to the employment statistics of recent graduates. In the fall of 2012, the SFR conducted a survey of undergraduate and graduate alumni who had graduated from 2002 through 2011. The objectives of the survey were to assess 1) the employment success of graduates and 2) how well the SFR curricula prepared students for employment in the forest resources field. Information collected from this survey will be used in marketing the school to prospective students and improving the curriculum to meet changing needs in the job market.

Mail, internet, and phone were used to maximize survey responses from 394 alumni. There were 105 responses to the mailed and internet surveys (response rate = 27%). Survey questions asked alumni for their educational background at UMaine, first employment after graduation, current employment, education pursued after graduating from UMaine, and feedback related to how well the SFR curricula prepared them for forest resources employment.

Findings:

Employment Success

Among all alumni respondents, 82% reported having had a job in forest resources. Forty-five percent of respondents had accepted a job in forest resources before graduating. Within six months, 66% of respondents had found a job in forest resources, and 73% had found forest resources-related work within one year.

Eighty-eight percent of respondents reported working full-time, while only 5% were holding temporary positions and 3% in part-time positions. Few alumni were unemployed or self-employed. About 5% reported being students, with a few also holding full-time employment while going to school.

Although only 5% of alumni are currently enrolled in graduate school, 18% reported having pursued a higher degree program after graduating from UMaine. In addition to those who continued their education in graduate school, many others went on to receive additional professional certificates or licenses.

In some cases, alumni were still in the first job received after graduation. This is to be expected as alumni graduating from 2002-2011 have only been out of school for one to ten years. About three-quarters of the alumni had from one to three employers since graduating. In general, the greater number of years since an alumnus graduated, the more employers he or she had had. The median number of years a respondent worked for a single employer was two years.

Employment Location

More than 60% of alumni reported that their home state was Maine while they were students. Since graduating, more alumni have left the state than have stayed. Fewer alumni reported that their first job after graduation was in Maine than had reported that their home state was Maine, and fewer reported that they currently worked in Maine.

Program Quality

Most alumni agreed that the SFR curriculum had prepared them well for their careers. Respondents agreed that the SFR had provided them with the skills and knowledge for a career in forest resources, as well as provided them with transferrable skills for careers outside of forest resources.

The greatest strengths of the SFR that stood out for respondents were the faculty, the lessons in practical skills, and the diverse curriculum. The faculty was described as professional, accessible, knowledgeable, experienced, dedicated, passionate, and helpful. Field skills, technical skills, and critical thinking skills were identified by alumni as being an asset for other occupations as well.

Although the Geographic Information System (GIS) program was lauded as a strength by many alumni, some mentioned it as an area that needed improvement. Increased experience with GIS software, particularly with ESRI ArcGIS products, was suggested by respondents. Other areas for improvement were diverse.

Introduction

The long-term success of a university program relies heavily on the career success of its alumni. Trajectories taken by alumni in their careers reflect on the preparation and knowledge they gained in school. The University of Maine School of Forest Resources (SFR) prepares students to pursue careers in forest resources and the natural sciences. Feedback from alumni about their employment success is critical to assess the strength of a university curriculum and a required input for continuous self-improvement.

Toward that end, the SFR conducted a survey of alumni (undergraduate and graduate) who had graduated from 2002 through 2011 during the fall of 2012. The objectives of the survey were to assess 1) the employment success of graduates and 2) how well the SFR curricula prepared students for employment in the forest resources field. Information collected from this survey will be used in marketing the school to prospective students and improving the curriculum to meet changing needs in the job market.

Methods

Survey Approach

Multiple survey methods were used to maximize participation of the 394 alumni that graduated from the SFR during 2002 to 2011. Contact information for the alumni was obtained from the University of Maine Alumni Association and SFR records. Surveys were mailed to those that had mailing addresses. Emails also were sent to 87 alumni whose email addresses were on file, with a link to an online version of the survey. Phone calls were made to 79 alumni that did not respond by mail or email to encourage their participation.

Alumni graduating from all five undergraduate majors offered by SFR during 2002 to 2011 were surveyed. The five majors were Forestry (FTY); Forest Ecosystem Science (FES); Parks, Recreation, and Tourism (PRT); Forest Operations Science (FSC); and Wood Science (WSC). The SFR curriculum was updated in 2012, resulting in three revised majors: Forestry; Parks, Recreation, & Tourism; and Forest Operations, Bioproducts, & Bioenergy (FOBB), which combined elements of the former FSC and WSC majors. Survey results for undergraduate respondents were analyzed based on the five majors that were in effect when alumni graduated during the study period.

Three graduate degrees also were available from SFR during the study period: Doctorate (PhD) and Masters of Science (MS) degrees in Forest Resources, and a Masters of Forestry (MF) degree. All three graduate degrees were available during the study period and continue to be offered.

Survey questions asked alumni for their educational background at UMaine, employment after graduation, current employment, education pursued after graduating from UMaine, and feedback related to SFR programs.

Survey Design and Distribution

To develop the survey, a committee of several SFR faculty and staff were consulted to determine what data would be most useful to gauge current alumni employment status and obtain feedback on the quality of the curriculum for each major. A two-page survey was designed for mailing to fit onto the front and back of a single page (See Appendix A). The short survey was intended to improve participation and minimize survey fatigue. In addition to the paper form, an electronic survey of similar design was hosted by SurveyMonkey.com.

Two questions were designed to obtain feedback about how well the SFR curricula prepared students for employment in forest resources or other careers that the alumni may have pursued. The following statements were used: 1) *“The SFR provided me with the skills and knowledge to prepare me for a career in forest resources.”* 2) *“The SFR provided me with transferrable skills that prepared me for my career outside of forest resources.”* Questions were formed on a five-point Likert scale from “Strongly agree” to “Strongly disagree,” with an option to check “Not applicable.”

To receive detailed feedback about the strengths of the curricula and areas that need improvement, two questions were asked: 1) *“What strengths of the SFR program stood out for you?”* and 2) *“What aspects of the SFR program do you think need improvement?”* Text fields were used for these questions to receive detailed and open-ended feedback on each of these questions.

Response

There were 105 respondents to the survey from the 394 alumni (response rate = 27%) who graduated with an undergraduate or graduate degree from SFR during 2002 to 2011. Seventy-two undergraduate alumni responded, and 33 graduate alumni. Six alumni had received both undergraduate and graduate degrees from UMaine. Undergraduate alumni respondents were well distributed across the 2002 to 2011 graduation years (**Figure 1**). Graduate alumni response included all years in the study period except 2002.

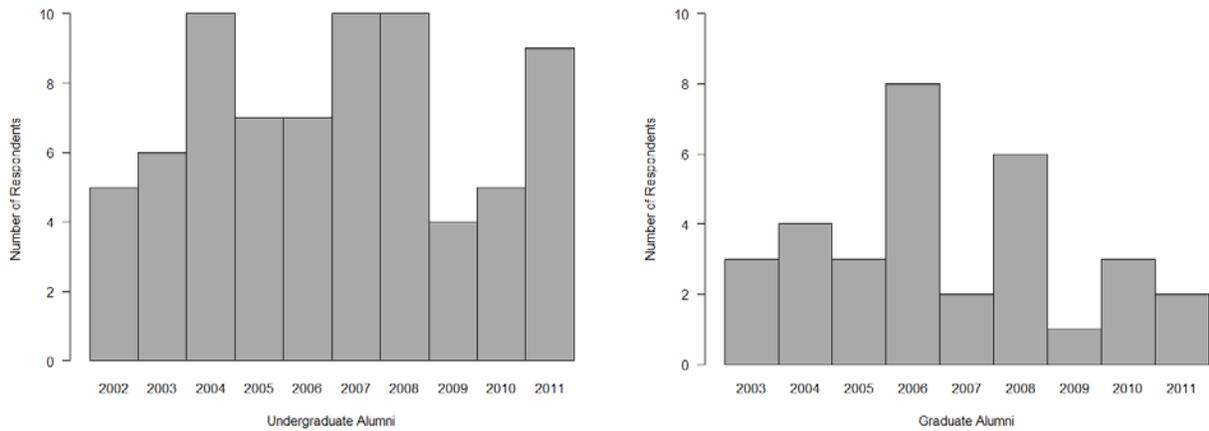


Figure 1: Number of SFR alumni respondents by graduation year for undergraduate and graduate programs.

Response based on undergraduate major was roughly similar in proportion to graduates in each major (**Figure 2**).

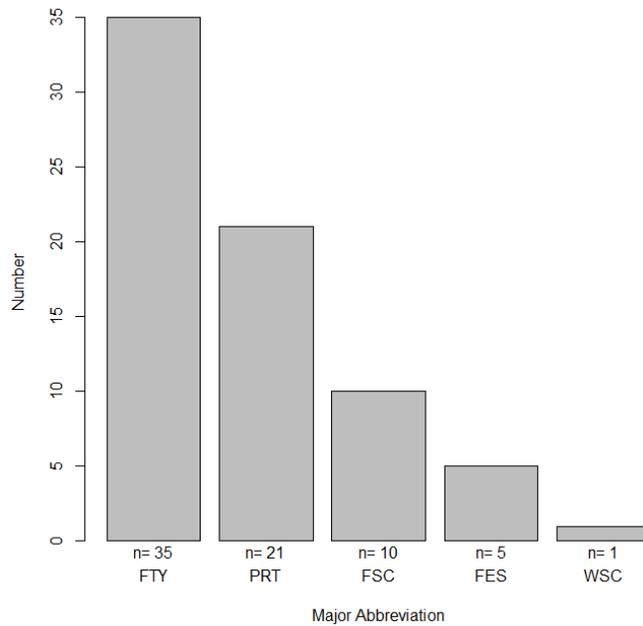


Figure 2: Distribution of undergraduate respondents by major.

Results

Respondent Background

Residency

About two thirds of students reported their home state as Maine, or 62% and 68% of undergraduates and graduates respectively (**Figure 3**).

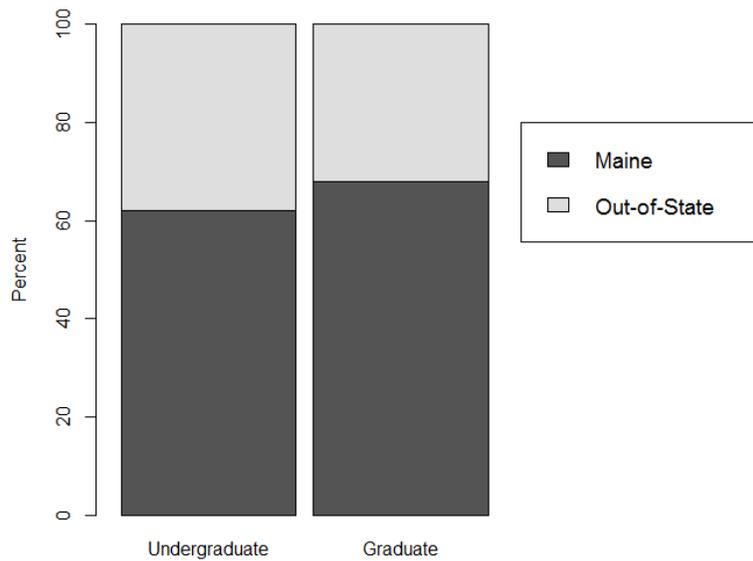


Figure 3: Residency of respondents at the time they were students.

University and Program Transfers

About one in five undergraduates had transferred to SFR from either another program or university (**Table 1**). Almost all transfers were undergraduates. Only three alumni (3% of respondents) reported both transferring to UMaine from another university and transferring to the SFR from another UMaine program.

Table 1: Number and percent of students who transferred to UMaine from another university and number and percent who transferred to the SFR from another UMaine program.

	Did not transfer		Did transfer	
	Number	Percent	Number	Percent
University Transfers				
All respondents	87	84%	17	16%
Undergraduates only	56	78%	16	22%
Graduates only	30	97%	1	3%
Program Transfers				
All respondents	89	85%	16	15%
Undergraduates only	57	79%	15	21%
Graduates only	31	97%	1	3%

Professional Background

Employment in Forest Resources

To determine how many alumni had worked in forest resources professions, they were asked, “*Have you held a job in the forest resources field?*” Eighty-two percent of all respondents reported having had a job in a forest resources related field.

Undergraduate alumni had slightly greater success in obtaining a forest resources related job (84%) than the graduate alumni (78%). The differences by major of the percentage of undergraduate alumni respondents who had a forest resources related job ranged from 77% for the PRT major to 100% for the WSC and FES majors (**Figure 4**).

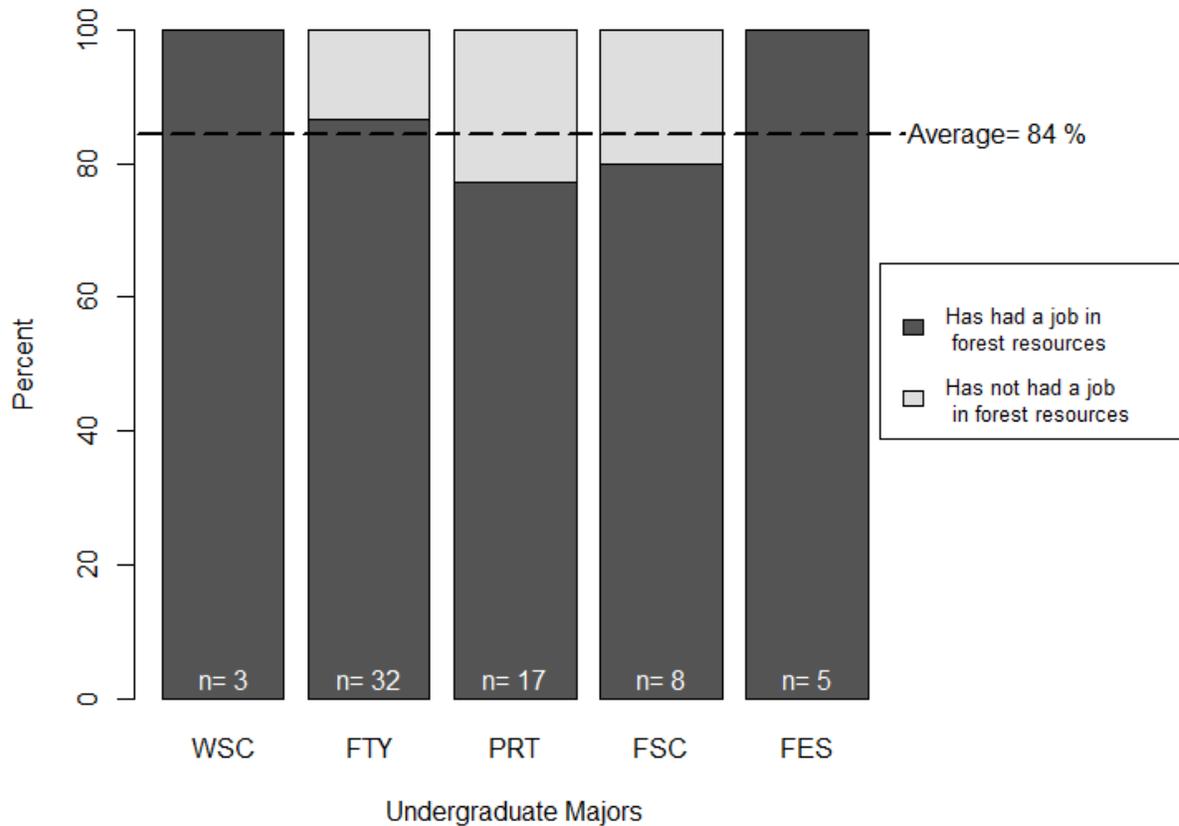


Figure 4: Percentage of undergraduate alumni who have had a job in forest resources categorized by major. WSC=Wood Science, FTY=Forestry, PRT=Parks, Recreation, and Tourism, FSC=Forest Operations Science, and FES=Forest Ecosystem Science.

Period of Time to Find Forest Resources Employment

Survey recipients were asked, "How long did it take you after graduation to find a position in the forest resources field?" A large proportion of alumni (45% of respondents) had lined up a job in forest resources before they graduated (Table 2). Within twelve months, 73% of respondents had found employment in a forest resources related position. Two percent of respondents who have held a job in forest resources did not indicate how long it took them after graduation to be employed in that position.

Table 2: Time distribution for alumni to find employment in forest resources related fields.

All Survey Respondents	Count	Percent of all respondents	Cumulative percent of all respondents to be employed
Unknown time after graduation to be employed in a forest resources field	2	2%	
Not in a forest resources field	16	15%	
Unknown employment	3	3%	
Period for alumni to find employment in a forest resources related field			
Before graduation	47	45%	45%
1	11	10%	55%
Number of months after graduation	3	5%	60%
6	6	6%	66%
12	8	8%	73%
>12	7	7%	80%*
Total	105	100%	

*Add 2% for those with a forest resources job who did not provide the length of time it took them to find employment to equal 82%.

Location of First Job After Graduation

About 60% of alumni found their first job after graduation in Maine (Figure 5).

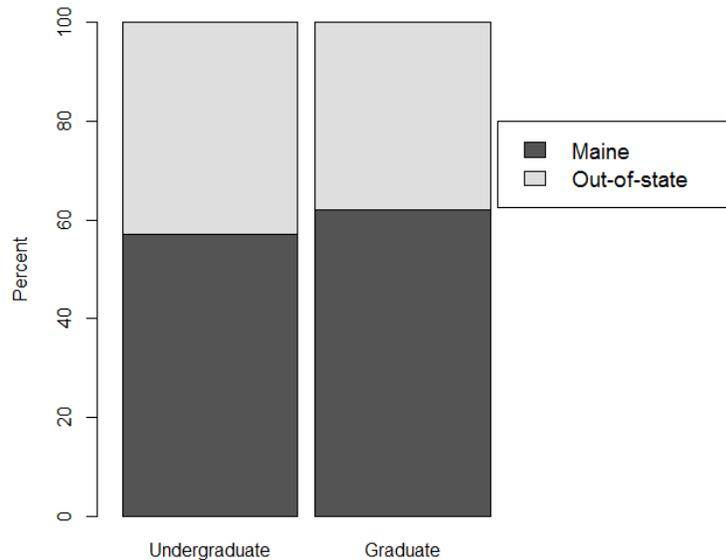


Figure 5: Location of first job for alumni after graduation.

Number of Different Employers

Approximately three quarters (76%) of respondents have had from one to three employers since graduating (Figure 6). The median number of years alumni worked for an employer was two, as calculated by dividing the number of years since graduating by the number of employers he or she has had (Figure 7).

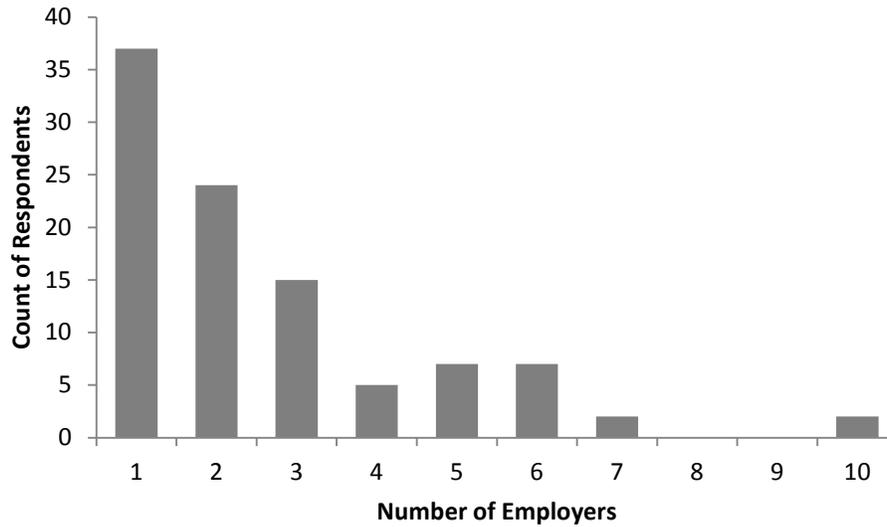


Figure 6: Distribution of respondents by number of employers since graduation.

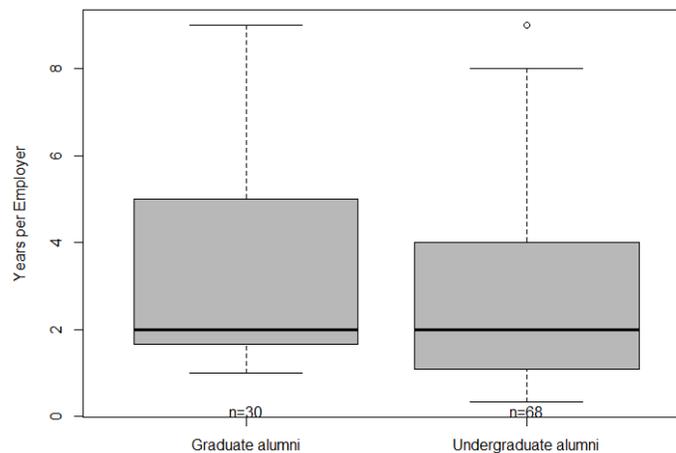


Figure 7: Distribution of average number of years alumni have worked per employer since graduating. “Years per Employer” was calculated by dividing the number of years since an alumnus’ graduation year by the number of employers he or she reported having since graduation.

Current Employment

Occupational Status

Eighty-eight of the respondents reported that they were working full-time and 91% indicated that they had permanent employment (Table 3). Only 5% indicated that they held temporary

positions, and only 3% reported working part-time. No respondents were disabled and unable to work, nor were any respondents retired. Five percent reported that they were students, while three percent reported being self-employed, and four percent were unemployed.

Table 3: Occupational status of alumni.

	Count of respondents*	Percent of respondents
Employed		
Full-time	92	88%
Part-time	3	3%
Permanent	96	91%
Temporary	5	5%
Self-employed	3	3%
Unemployed		
Looking for work	3	3%
Not looking for work	1	1%
Other		
Student	5	5%
Retired	0	0%
Disabled	0	0%

*Counts may exceed total number of survey respondents due to individuals who fit multiple categories.

Location of Current Employment

A slightly higher proportion of undergraduate alumni reported that they currently work out-of-state than graduate alumni (**Figure 8**).

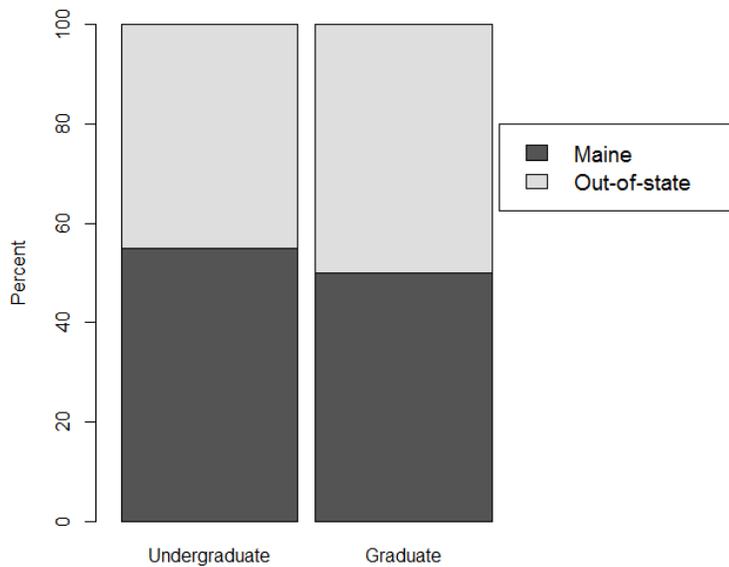


Figure 8: Location alumni are currently employed.

Education beyond the School of Forest Resources

Many SFR alumni pursued higher education beyond an undergraduate degree. Eighteen percent of undergraduate alumni reported having gone on to higher degree programs (**Figure 9**).

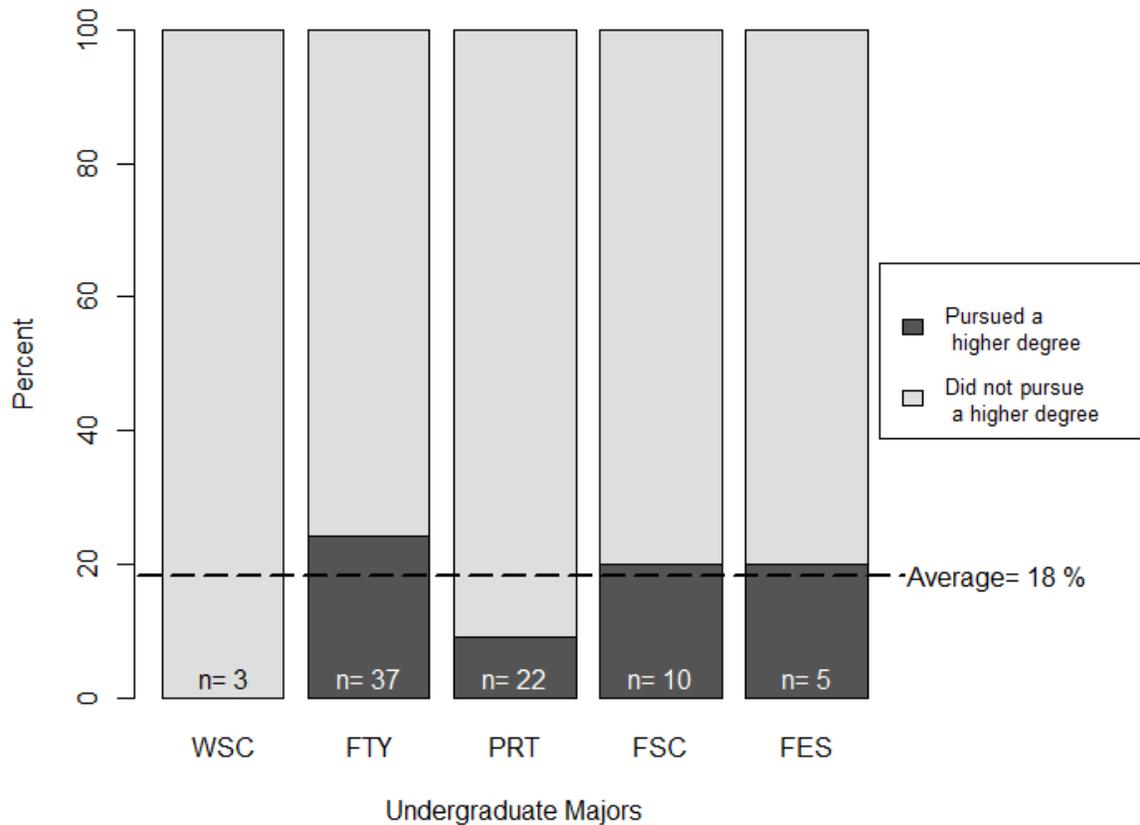


Figure 9: Percentage of undergraduate alumni by major who pursued a higher degree program. Eighteen percent of all undergraduate alumni pursued a higher degree. WSC=Wood Science, FTY=Forestry, PRT=Parks, Recreation, and Tourism, FSC=Forest Operations Science, and FES=Forest Ecosystem Science.

Program Feedback

Career Preparation

Graduate and undergraduate alumni, on average, responded in agreement to both statements (**Figure 10**). Graduate alumni agreed more strongly with both statements. The average level of agreement to the two statements by undergraduate alumni of different majors was more variable (**Figure 11**).

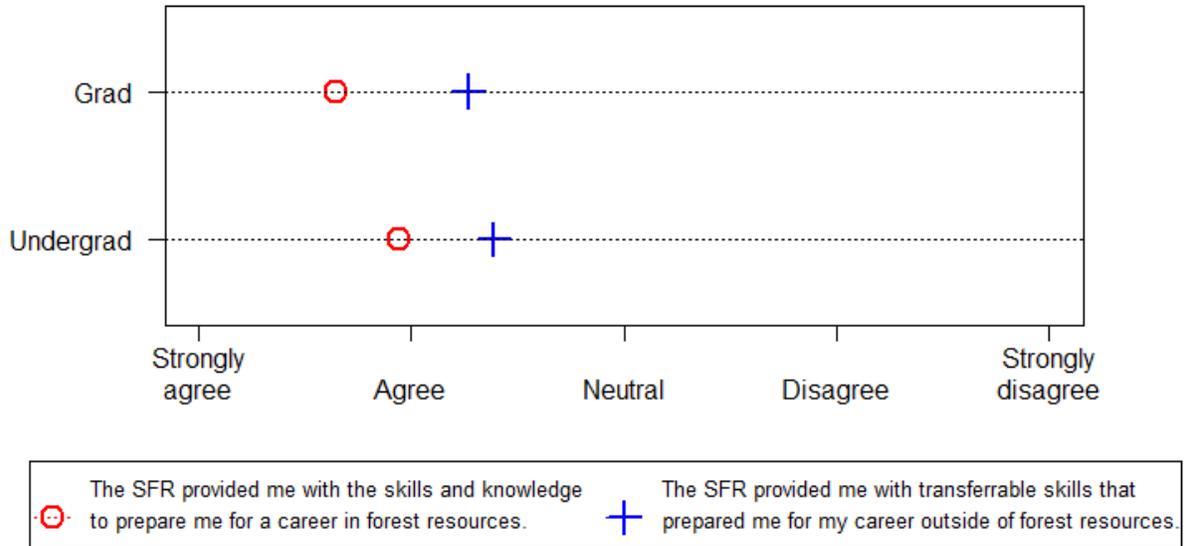


Figure 10: Agreement with career preparation statements by graduate and undergraduate alumni. Sample size: Graduates=32, Undergraduates=72.

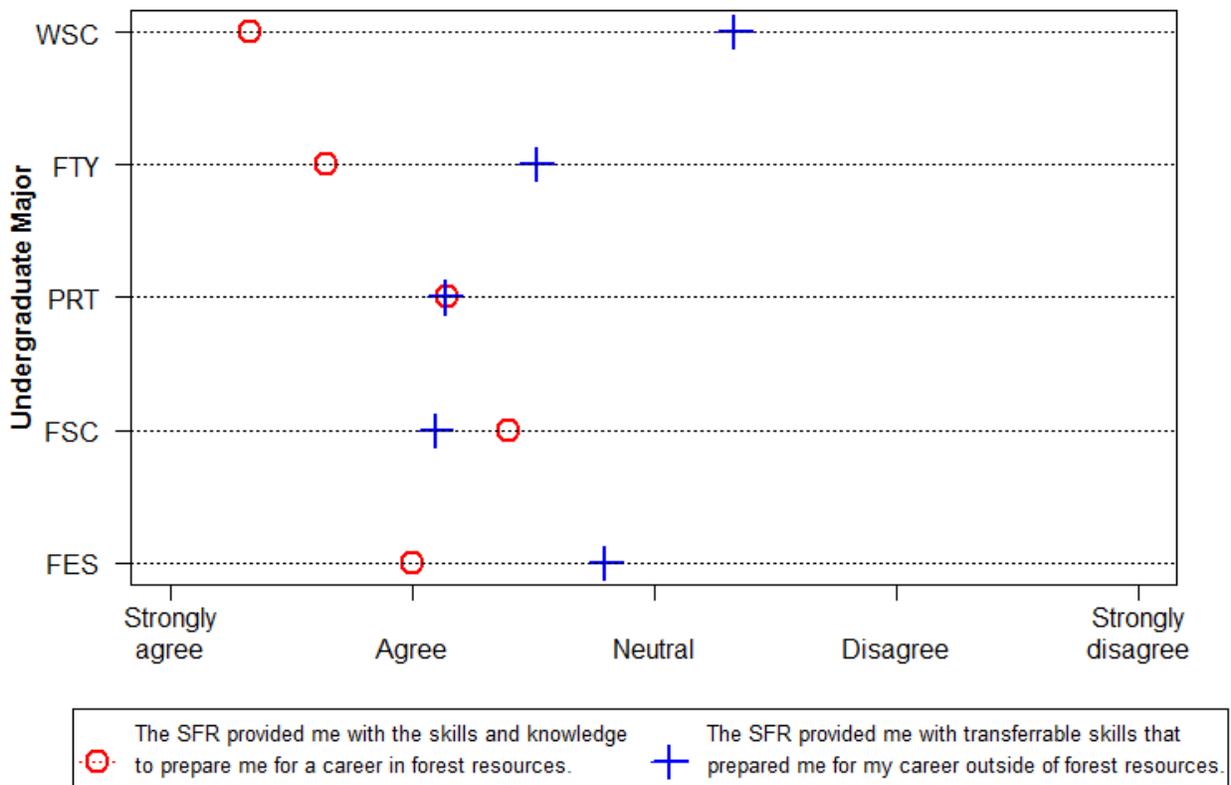


Figure 11: Agreement with career preparation statements by undergraduate major. Sample size: WSC=3, FTY=37, PRT=22, FSC=10, FES=5.

Written Responses

Alumni were asked for written comments at the conclusion of the survey. The two open-ended questions were, “*What strengths of the SFR stood out for you?*” and, “*What aspects of the SFR program do you think need improvement?*” See Appendix C for complete and unedited responses to both questions.

The three subjects most frequently mentioned regarding strengths of the SFR program were skills taught, quality of faculty, and diversity of the curriculum. There were many types of skills that alumni found highly useful, including practical and technical skills, field skills, theoretical and intellectual skills, and technology skills. The faculty was described as professional, accessible, knowledgeable, experienced, dedicated, passionate, and helpful. The diversity of the curriculum was identified as a strength in part due to the flexibility to take independent studies and the encouragement students received to take a wide variety of courses, including those in other departments.

Another frequently mentioned strength included the resources available to the SFR. The Advanced Structures and Composites Center (AEWC) and the University Forests were considered valuable resources. Alumni frequently cited access to the industrial or working forests, proximity to wood processors, and exposure to forest resources professionals as being significant strengths of the SFR program.

The most frequent suggestions for improvement concerned aspects of the curriculum. Two subjects stood out. First, many alumni wrote that the Geographic Information System (GIS) program ought to focus on developing familiarity with ESRI ArcGIS products rather than MapInfo because ESRI is more commonly used in industry and government. Second, some suggested that the Parks, Recreation, & Tourism major lacked outdoor classes and fieldwork that could be greatly improved if there were more courses required that involved fieldwork or that more forestry courses were required as part of the PRT major.

Discussion

Employment Status

Employment success of graduates is a very important factor for students and parents evaluating the education that SFR offers. The time it takes for a student to find work is one useful metric to gauge employment success. It was encouraging to find that at least 45% of respondents had found employment in forest resources before they had graduated. Within six months, 66% of respondents had found a job in forest resources, and 73% had a job in forest resources within one year. Unfortunately, data were not available regarding the time it took alumni to find employment in other fields.

Eighty-eight percent of SFR graduates reported working full-time, while only 5% were holding temporary positions and 3% part-time positions. Few alumni were unemployed or self-employed. About 5% reported being students, sometimes while also holding full-time employment.

Future surveys need to better differentiate between temporary and permanent employment. Respondents may not have understood the distinction between permanent and temporary work on the survey, in part due to the fact that people move from one job to another more frequently than they used to and rarely is a job considered “permanent.” Permanent employment is defined as employment at-will with no contractual or seasonal termination, as in temporary employment. Respondents who did not select temporary or unemployed options were considered to be permanently employed for purposes of this analysis.

Although only 5% of alumni are currently enrolled in graduate school, 18% reported that they entered a higher degree program after graduating from UMaine. In addition to those who continued their education in graduate school, many others went on to acquire professional certificates or licenses.

Forest Resource Related Employment

The SFR has generated many professionals working in forest resources related positions. Among all alumni respondents, 82% reported having had a job in forest resources, when asked, “*Have you held a job in the forest resources field?*”

Some alumni may not have recognized that their occupation was related to forest resources. The survey analyst qualitatively determined whether an alumnus had a job in forest resources using job title or organization data, independent of whether the alumnus had indicated having a job in forest resources. Based on the qualitative analysis, 91 out of 105 respondents (87%) had a job in forestry or forest resources related fields. For example, some including a surveyor, GIS technician, and rafting guide, did not indicate that they worked in forest resources, but were categorized as having worked in a forest resources related job due to the use of skills promoted at the SFR or working in an environment that relies on the forested landscape. Although these results suggest that closer to 87% of respondents, rather than 82%, may have had a job in forest resources, the data as provided by the respondents were used for analysis and interpretation.

Employment Location

Fewer alumni remained in Maine for their first job than came from Maine. Alumni were asked what their home state was when they were a student, where they first worked after graduation, and where they work at present. Fewer alumni currently work in Maine than worked in Maine for their first jobs, indicating that there is a small net migration from Maine after alumni received their first job in Maine. A higher reduction in graduate alumni in Maine occurred between their first job and current job than between their home state as a student and that of their first job. The

number of undergraduates in Maine had a larger reduction from the period they were students to when they received their first job.

In many cases, an alumnus had the same job currently as his or her first job after graduation. This is logical as alumni graduating from 2002-2011 have only been out of school for one to ten years. About three-quarters of alumni had one to three employers since graduating. In general, the greater number of years since an alumnus graduated, the greater the number of employers he or she has had. The median number of years a respondent worked for an employer after graduating was two years (**Figure 7**).

Forest Resources Education Feedback

Most alumni agreed that the SFR had prepared them well for their careers. Respondents agreed that the SFR had provided them with the skills and knowledge for a career in forest resources, as well as transferrable skills for careers outside of forest resources.

The greatest strengths of the SFR that stood out for respondents were the faculty, the lessons in practical skills, and the diversified curriculum. The faculty was described as professional, accessible, knowledgeable, experienced, dedicated, passionate, and helpful. Field skills, technical skills, and critical thinking skills were identified by alumni as being an asset in later occupations.

Although the Geographic Information System (GIS) program was lauded as a strength by many alumni, some mentioned it as an area for improvement. Increased experience with GIS software, with ESRI ArcGIS products in particular, was suggested by respondents. Other areas for improvement were diverse. Many suggestions were dependent on individual experiences while in school, and his or her employment success after graduation. Comments from those with positive or negative academic experiences or employment outcomes have valuable potential.

Study Limitations & Opportunities for Improvement in Future Alumni Surveys

There are many challenges to administering surveys of this type. One of the largest challenges to the alumni survey is that the alumni contact information was often outdated and incomplete.

There are three student information databases located on the UMaine campus—at the Development Office, Admissions Office, and Student Records Office—none of which are integrated. The UMaine Business School has a well-maintained alumni database that could be a model for moving forward with future alumni outreach.

Of the 394 SFR alumni, only 87 emails were available, half of which were the UMaine FirstClass system email addresses. When phone calls were made, 30% of calls reached a disconnected line. It is a labor-intensive process to track down an individual alumnus, which may be reduced by establishing alumni representatives to maintain connections within their graduating class. Although 394 letters were mailed, it was unknown how many were

undeliverable. In the future, using first class mail would be preferable over non-profit mail to ensure return of undeliverable surveys.

As is often the case with survey research, there are lessons learned along the way and questions that come up only after data analysis has begun. Although the survey asked alumni for the time period it took them to find work in forest resources, these data were not collected for alumni regardless of occupational field. Furthermore, rather than ask for a respondent's "home state" as a student, some clarification may have been made in terms of residency or whether they moved to Maine for school as may be the case for many graduate students.