

A Comparison of Stipends, Health Insurance, and Tuition Remission Policies at Fisheries and Wildlife Graduate Programs throughout the United States

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ABSTRACT: Many factors should be considered before selecting a graduate program to attend. Graduate education can be expensive, so financial and health care benefits offered by a department or college should be considered when selecting a graduate program. A majority of fisheries graduate students recently surveyed believed that financial aspects should be an important consideration in selecting a graduate program. Therefore, our objective was to estimate the range of stipends, tuition remission, and health care benefits provided to students in graduate programs that offer training in wildlife and fisheries disciplines across the United States. Thirty-one out of 70 schools (44%) from across the United States responded to our online survey. Doctoral and master's student stipends were highly variable among programs and appointments (research v. teaching assistants). Over half of the universities offered full tuition remission (67%), and of those that did not, most (97%) offered at least partial tuition remission. On-campus health care was the most common health care benefit offered to graduate students. Though traditional factors for selecting a graduate school (such as desirability of graduate research topic/question, program reputation, and suitability of the advisor) may override financial considerations, financial benefits may be a critical component when choosing a graduate program.

Okay, so you are a senior finishing your bachelor's degree in a natural resources-based field. This is an exciting time—you are taking classes that interest you, perhaps attending a couple of scientific meetings, and interning with a faculty member or a state or federal agency to gain work experience. You have been diligently studying and working to improve your grade point average. For the first time in your life it finally seems as if all those years of schooling are worth it. Then one day after class your professor calls you aside and asks, "Have you ever thought about going to graduate school?" For many students in natural resources, biology, or fisheries and wildlife sciences

Comparación de estipendios, seguros médicos y políticas de exención de colegiatura en las facultades de ciencias en los Estados Unidos de Norteamérica, relacionadas a las pesquerías y vida silvestre

RESUMEN: Varios factores debieran considerarse antes de seleccionar una facultad de ciencias a la que se quiere ingresar. La educación superior y de posgrado puede ser cara, de manera que los beneficios económicos y de salud que ofrece una facultad o colegio son factores que debieran sopesarse al momento de hacer una elección. La mayoría de los estudiantes de pesquerías, recientemente entrevistados, creen que los aspectos de orden financiero debieran ser un factor determinante para seleccionar una facultad o escuela de nivel superior. Por lo tanto el objetivo de la presente contribución fue estimar el rango de estipendios, exención de colegiaturas y seguros de gastos médicos que se otorgan en las escuelas de nivel superior que ofrecen estudios sobre vida silvestre y disciplinas pesqueras en los Estados Unidos de Norteamérica (EEUU). De las 70 escuelas encuestadas a lo largo de los EEUU, respondieron sólo 31 (44%). Los estipendios otorgados a los estudiantes de maestría y doctorado fueron altamente variables tanto entre facultades como entre nombramientos (investigador asistente versus docente). Más de la mitad de las facultades (67%) ofrecen exención total de colegiaturas, y de entre las que no ofrecen esta prestación, la mayoría (97%) ofrece al menos una exención parcial. Los seguros médicos, válidos dentro de las instalaciones de las facultades, constituyeron los planes de salud más comunes que se otorgan a los estudiantes. Si bien los factores más comunes que se toman en cuenta para elegir una carrera profesional (propensión hacia cierto tópico o pregunta de investigación, la reputación de la facultad y el perfil del tutor académico) pudieran rebasar las consideraciones de orden financiero, los beneficios económicos pueden ser un componente crítico en la elección de una facultad o escuela de educación superior.

programs, at one point or another this topic will certainly arise. The decision regarding whether or not (or when) to attend graduate school—and, perhaps more important, where—should not be taken lightly (Reed 1971). Although the above hypotheti-

cal situation applies to prospective graduate students who are currently attending school, similar considerations affect those who have temporarily been out of school and may be looking to pursue graduate studies to further their careers.

Throughout our tenure as graduate students we were fortunate to interact with many students from different programs in numerous geographic locations with varying viewpoints and reasons for attending graduate school. One resounding theme we encountered was that students are passionate about science and the organisms and ecosystems with which they work. However, the reasons that students chose to attend graduate school at their specific university were highly variable. A few common reasons included having an advisor or a research topic they really enjoyed, finding a geographic area that fit their personal interests, having amenities suitable for their families, and getting paid to attend school. Certainly these are important considerations. Fortunately, there are several good resources available for prospective graduate students to help them identify and evaluate potential schools and advisors (Allen 1993; Zale 2006; O'Connor 2012) and to get accepted into graduate school (Fischer and King 1998; Zale 2006). We recommend that prospective students consult these published resources, as well as ask questions and seek advice from academic advisors, employers, colleagues, and current or recent graduate students when evaluating potential programs and/or research

topics. Essentially we are advocating that students consider these multiple factors and develop a personal rating system to help them make this important decision. For example, based on our own experiences and discussions with faculty members and graduate students from various universities, we developed a hypothetical list of questions for prospective graduate students to consider prior to committing to a given graduate program (Table 1). We recognize that all students are individuals and that everyone has his or her own ideals as to which factors are most and least important. This is why no preassigned weights are made in Table 1. We recommend that students use a similar template to develop their own pro-con rating system based on personal importance.

One facet that is often overlooked relates to the financial aspects of graduate school. Though financial considerations should probably not be the primary reason one selects a graduate school, finances are still important. Therefore, our objectives were to (1) determine students' viewpoints related to financial aspects of graduate school and (2) to estimate the range of stipends, tuition remission, and health care benefits provided to graduate students in wildlife and fisheries programs or similarly based fields across the United States. Though these methods do not assess temporal trends or address the numerous and varied potential sources of funding in graduate stipends and benefits, we hope that our analyses provide useful information

TABLE 1. List of some potential questions used to develop a pro-con-based decision for whether or not a prospective student should attend a given graduate program. Though this list is not all-inclusive, it provides a framework of typical questions to be considered by prospective graduate students. We recommend that potential students evaluate the relative impact of each of these (and other) questions prior to committing to a graduate program.

Question	Importance weight
Do you like the research topic?	?
Do you like the advisor?	?
Do you like the university (e.g., setting, location, reputation)?	?
Is funding available for your graduate program (e.g., TA/RA assistantships)?	?
What are the teaching and/or research requirements associated with your funding?	?
Does the research topic involve field/lab work you desire? Don't desire?	?
Is the stipend adequate (e.g., does it cover the cost of living, etc.)?	?
Are you comfortable spending 2-5 years (or more) at the school's location?	?
Is health insurance offered?	?
What level of tuition remission is offered?	?
Are the required equipment and lab and office space available?	?
Have the advisor's previous students been successful in publishing?	?
Have the advisor's previous students been successful in obtaining employment?	?
Are the other graduate students and faculty members collegial?	?
Will you have financial support to attend workshops and scientific meetings?	?
Do previous students have positive things to say about the advisor/university?	?
Are you provided with beneficial networking opportunities for future employment?	?
Will you have input on the study design or implementation?	?
Does the university have affiliations with professional societies?	?
Are there alternative schools or employment options?	?
Are you familiar with the program's requirements (written and unwritten)?	?
Does the university offer desired courses?	?

to prospective graduate students currently considering suitable graduate programs, as well as provide baseline data for future assessments of this nature.

METHODS

To determine the opinions and beliefs of current and recent graduate students related to financial aspects of graduate school and to garner further information regarding why students chose a specific graduate program, we surveyed the student subsection of the American Fisheries Society (AFS). The survey was conducted using SurveyMonkey (SurveyMonkey.com), and an e-mail with the survey link was sent to all students currently listed as a member of the AFS student subunit. The first question asked students to list the top three reasons they selected their graduate school. Upon completion of the survey we separated these responses into 12 categories to reduce redundancy among responses. The last six questions focused on determining students' viewpoints related to financial aspects of graduate school (Table 2). Questions 2 through 4 used a Likert scale (1–5), question 5 was multiple choice, question 6 was multiple choice, and question 7 was a simple yes or no response.

Several iterations of the survey were tested and refined prior to distributing it to potential participants to assess patterns in graduate student incomes and benefits. The survey included three sections (Table 3). The first section aimed to quantify salaries for graduate research assistants (GRAs) and graduate teaching assistants (GTAs) at both the master's (M.S.) and doctoral (Ph.D.) levels. Because numerous programs did not have fixed graduate student stipend policies, we asked survey participants to provide the mean and overall range of stipends for all applicable categories (i.e., M.S. GRA, M.S. GTA, Ph.D. GRA, Ph.D. GTA). The second section addressed tuition remission policies. Specifically, we wanted to know whether departments or colleges offered full, partial, or no tuition remission. In the absence of full tuition remission, we were interested in what percentage of remaining tuition was paid by the student and whether the department or college offered in-state tuition rates. For this section we again asked survey participants to provide the mean and range of these values if they differed among appointments. The final section of our survey addressed the level of graduate student health care coverage provided by the college or department. Realizing that numerous options exist for health care plans, we focused on three very generalized types.

TABLE 2. List of questions and potential responses asked of current and recent graduate students to address motivating factors in selecting a graduate school and the influence of financial aspects in the decision. Total survey respondents = 363.

Question	Response type
1. Please list the three most important factors involved in your decision to attend your chosen graduate school.	Open response
<i>Multiple-choice questions (Please select one answer from the following list.)</i>	
2. Prior to selecting a graduate school, the graduate stipend offered to you was a _____ factor for your selection of a graduate program.	1 = Least important, 2 = Somewhat important, 3 = Neutral, 4 = Important, 5 = Very important
3. Prior to selecting a graduate school, the benefits (tuition remission, in-state tuition rates, health care) offered to you were _____ factors in your selection of a graduate program.	1 = Least important, 2 = Somewhat important, 3 = Neutral, 4 = Important, 5 = Very important
4. I would have chosen to attend this graduate program regardless of the graduate stipend.	1 = Not true at all, 2 = Somewhat untrue, 3 = Neutral, 4 = Somewhat true, 5 = Very true
5. I would have chosen to attend this graduate program regardless of the benefits.	1 = Not true at all, 2 = Somewhat untrue, 3 = Neutral, 4 = Somewhat true, 5 = Very true
6. Now that you are in graduate school, do you wish you had considered financial aspects and/or benefits more?	Yes, I would have considered these more. Yes, but I am happy with the benefits available. No, I am happy with the benefits available. No, these aspects are not important to me.
7. Do you believe that prospective graduate students should research the financial (stipends, health care, tuition remission) policies at graduate programs before selecting one?	Yes or no

TABLE 3. List of questions sent to 70 graduate programs that provide training in wildlife and/or fisheries across the United States to assess graduate student stipends, tuition remission policies, and health care coverage. Response rate for each question is included.

Question	Response rate %
Graduate stipends	
1. What was the mean 2009 (calendar) gross yearly stipend (and range) for graduate students (RA and TA) in your department?	44
Tuition remission	
1. Does your department offer in-state tuition to graduate students?	43
2. What is the tuition waiver policy (%) in your department for graduate students?	43
Health care	
1. What type of health coverage is offered to graduate students in your department?	43

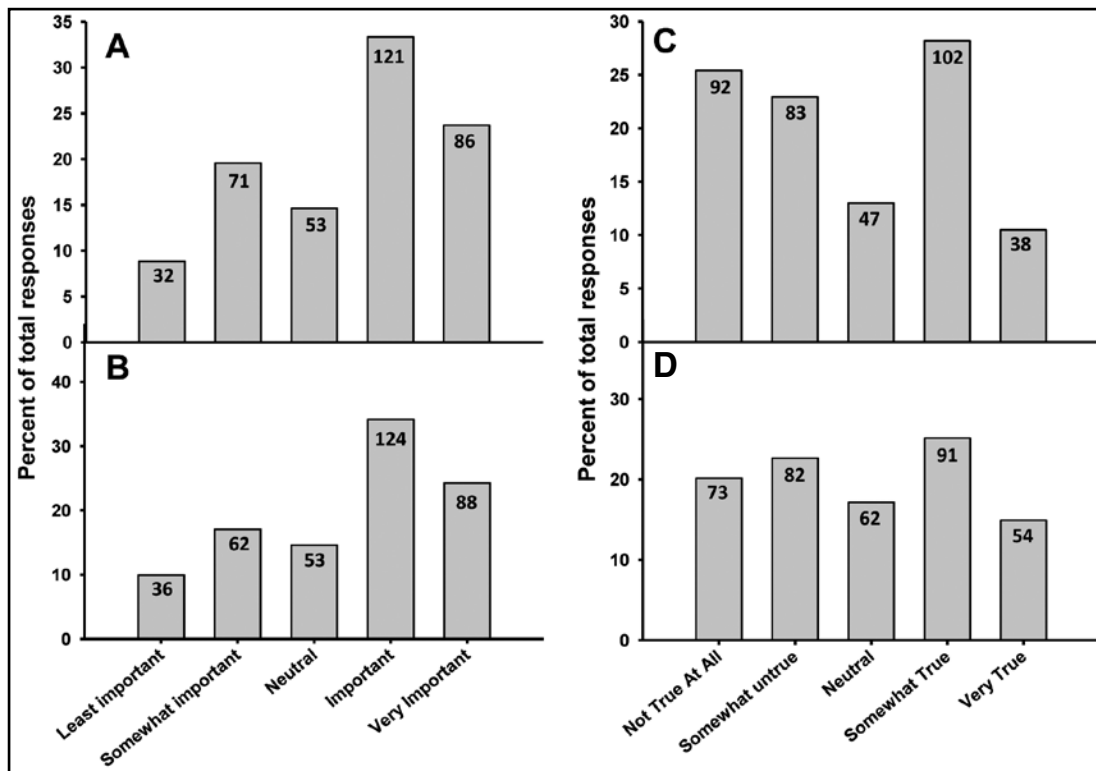


Figure 1. Percentage of total responses of fisheries graduate students for questions 2 through 5 on the student survey. Question 2 (A) "Prior to selecting a graduate school, the graduate stipend offered to you was a ___ factor for your selection of a graduate program"; question 3 (B) "Prior to selecting a graduate school, the benefits (tuition remission, in-state tuition rates, health care) were ___ factors considered in my selection"; question 4 (C) "I would have chosen to attend this graduate program regardless of the graduate stipend"; and question 5 (D) "I would have chosen to attend this graduate program regardless of the benefits." Number on each bar represents the number of responses.

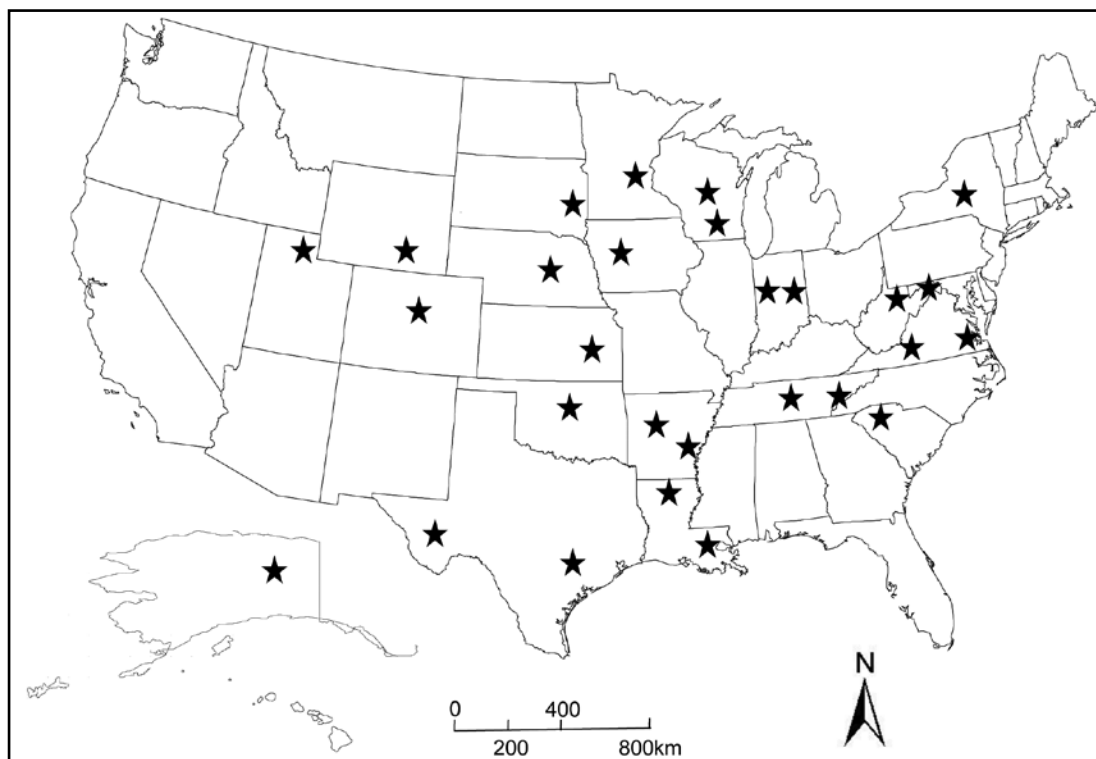


Figure 2. United States map with locations (black stars) of university survey participants. Of the 31 survey respondents, 3 did not provide a university affiliation.

We ranked these types in general terms from most to least amount of coverage available. First was a state employee health insurance system, where coverage is available to the student and premiums are deducted from student paychecks similar to a state or federal employee health plan. These types of insurance plans typically have lower copays for exams and prescriptions. The second type was major medical insurance, which consists of a health care plan with high deductibles and copays. These plans are typically only used in case of an emergency, a surgery, or other large out-of-pocket expenses. Finally, the third type was campus health care, where care is provided to students through the university. These plans are similar to major medical insurance, but instead of obtaining a policy through an insurance agent plans are provided by and partially subsidized through the university for students. Typically these plans provide health care for no or reduced upfront cost; however, students typically pay indirectly for these benefits through student fees that are required with their tuition. If a program had a health care plan that did not fit into any of these categories, we asked survey participants to briefly describe their plan.

The survey was sent via a Web link to the listed contact (usually department head, chair, or dean) for the 59 full and associate members of the National Association of University Fish and Wildlife Programs in the 2009–2010 directory. To increase sample size and gain a more diverse sampling of programs, we sent the survey to 11 additional graduate programs that provided contact information in the 2007 National Wildlife Federation Conservation Directory. The National Association of University Fish and Wildlife Programs and National Wildlife Federation directories listed contact information for graduate programs that provide training in wildlife and fisheries and include numerous degree programs (e.g., wildlife and fisheries, natural resources, biology). Following the initial contact attempt, a reminder e-mail was used to increase the response rates of those surveyed (Salant and Dillman 1994). The Web link was available for 90 days to allow survey participants time to complete the survey. For the purpose of anonymity, all reported results were not linked to any given university or location.

RESULTS

We received a total of 363 total responses to the student survey, although not every student answered all questions. The top five reasons students selected a graduate school (in order of importance) included the following: project (201), department (188), location (179), advisor (178), and assistantship offered (169). Other frequent responses included career advancement (62), cost of graduate school (32), and acceptance (20). No other responses were recorded more than 14 times (<1.5%). When asked whether stipends and benefits were a factor in selecting a graduate program, 56% and 58%, respectively, indicated that these were important or very important (Figure 1). When asked whether they would have chosen to attend the program regardless of the stipends or benefits, more students responded that they would not (not true at all or somewhat untrue) than those who said they would (somewhat true or very true; Figure 1). When students were asked whether, in hindsight, they wished they had considered benefits, 54% of respondents said “no,” and 46% said “yes.” However, only 6% of students responded, “No, these aspects are not important to me.” The majority of no responses were the first option, “No, I am happy with the benefits available at this program.” Finally, when asked whether current students thought that prospective graduate students should consider financial aspects when selecting a graduate school, 96% of respondents said “yes.”

We received a total of 31 responses to our online survey from natural resource departments across the United States (Table 3), although not every respondent answered all survey questions. Survey respondents represented a broad geographic and demographic (program size, degrees offered) sampling of graduate programs. Graduate stipends were variable across programs, between appointments (GTA v. GRA), and between M.S. and Ph.D. students. Median annual stipends were variable, ranging from \$7,000 to \$44,600, depending upon appointment and location (Table 4). In general, GRA positions tended to pay slightly higher than GTA positions, and Ph.D. stipends were higher than M.S. stipends (Table 4).

TABLE 4. Median annual stipends (US\$) for graduate student appointments at responding universities throughout the United States. N = number of survey respondents, GRA = graduate research assistant, GTA = graduate teaching assistant, M.S. = master's level, Ph.D. = doctoral level.

Appointment	N	Median stipend (\$)	Range of stipends (\$)
M.S. GRA	31	16,506	7,000 to 36,700
M.S. GTA	25	15,504	7,000 to 36,700
Ph.D. GRA	24	19,400	12,528 to 44,600
Ph.D. GTA	21	18,270	9,333 to 44,600

TABLE 5. Health care coverage provided to graduate students at 31 natural resources programs in the United States.

Health care option	% of respondents
State employee	26.67
Major medical	16.67
On-campus	40.00
None	10.00
Other	6.66

Tuition remission and health care benefits for graduate students also varied across graduate programs. Of the 31 survey participants, 30 provided information on tuition remission. Full tuition remission was provided to graduate students at 66.7% (20 of 30) of responding programs. Of the 10 respondents that did not offer full tuition remission, in-state tuition rates were offered to students at 90% of these locations (9 of 10). Of the programs that did not offer full tuition remission, some programs covered a fixed percentage (e.g., 67%) of tuition costs, others paid a fixed dollar amount per semester, and others still offered no tuition remission at all.

Of the 30 survey participants who provided information on graduate student health care coverage, the most common type provided was campus health care, with 63% of survey participants listing it as at least one option available to students and 40% of programs listing this as the primary coverage option (Table 5). The next most common primary health care coverage option was the state employee plan (the highest level of care), available at 27% of survey participants' programs. Major medical coverage was reported by 16.7%, and 10% of survey participants reported no health care coverage. Additionally, coverage provided at some programs was variable for each individual student, with no fixed policy. However, in general, both tuition remission and health care coverage were similar across M.S./Ph.D. students and GRAs/GTAs within a given department or college. For example, if a program offered full tuition remission for their Ph.D. students, they generally also offered full tuition remission for their M.S. students regardless of whether they were on a GRA or GTA appointment.

DISCUSSION

Based on our student opinion survey it is apparent that students select graduate schools based on several main factors, including the research project or topic, characteristics of the department or program, location, future advisor, and the assistantship offered. These results were supported by subsequent responses (questions 2 and 3) and current or past graduate students overwhelmingly believed that prospective graduate students should research the financial aspects of graduate school prior to selecting a program of study (question 7).

Results of the survey indicated that the stipend and benefit packages offered to graduate students were highly variable among departments and colleges that responded. Some of the variability in graduate stipends reflected in this study was possibly due to differences in cost of living in various locations. Similarly, graduate student health care plans were often different between schools and may have reflected socioeconomic factors between locations. For example, many programs classify graduate students as state employees, and as state employees they are subject to changes in their salary or benefits instituted by state government.

Because there is such variability—and based on the overwhelming responses of current and past graduate students—we recommend that prospective graduate students research and

consider financial factors before accepting a position as a new graduate student. First, it is important to realize that graduate school is a full-time job. As a graduate student, you likely will not have time—or may not even be allowed—to work a second job. After reviewing the financing options available for graduate school, you may need to consider applying for loans to cover school and living expenses, and your findings may help dictate the type and size of loan you may need. The combination of stipend, insurance, and tuition remission should also be considered in light of the cost of living at a particular location. Though some universities offer higher stipends, they may not cover as much tuition or have a complete insurance policy or vice versa. A few thousand dollars on a higher stipend may quickly be negated by tuition rates or the purchase of a health insurance policy. Emergency health care costs may result in further debt.

Although many programs offered some form of on-campus medical care or insurance, prospective students should assess these components with a keen eye. Many programs offer campus health care for free. Remember the old adage, “There’s no such thing as a free lunch.” Typically, universities offset free health care costs with student fees. In addition to campus health care, fees cover a variety of expenses such as athletic events, intramurals, library costs, and other university programs. As the student, if you have to pay any student fees, you are likely indirectly paying for your on-campus health care. Because our survey did not explicitly assess fee coverage for graduate students, we cannot offer specific findings but rather advise prospective students to be aware of these hidden expenses. Another aspect to consider regarding insurance is whether you are still covered under a parent’s health care policy. Many health insurance policies allow full-time students to be covered under their parents’ health insurance plan until the age of 25 or 26. If so, then perhaps this issue is not important for you. Although likely expensive, students may have to consider the option of purchasing health care coverage through independent providers.

Though our survey results and list of considerations provide students with information to help make an educated decision when selecting a graduate school, there are limitations to our study and items we that did not address. First, our student survey only encompassed graduate students who were members of the AFS and may not represent issues encountered by other graduate students. However, you are not required to be in a strictly “fisheries-related program” to be a member of AFS, so it is likely that students from natural resource and biology programs also responded. Second, responses to our nationwide survey of departments and universities did not come from every state or include every major wildlife and fisheries graduate program in the United States. Other universities not included in this study may have their own suite of benefits available to graduate students. However, we did provide a random sample from a broad geographic range of schools and program sizes. One other topic our survey did not address was the option for students to obtain fellowships or funding through grant writing. Some universities offer graduate fellowships, and some faculty members encourage students to help secure their own

funding. These are unique, beneficial opportunities for students (i.e., learning grantsmanship); however, these opportunities should be researched and discussed openly among prospective students and their potential advisors.


The choice of whether or not to attend graduate school and where to attend is a critical one. Although we strongly advocate that students consider non-financial aspects of a particular graduate program, the financial aspects will likely influence the decision made. By providing prospective students with knowledge regarding the financial aspects of graduate school—and the proper questions to consider asking—we hope that our findings may help more students select a graduate school that best fits their needs and lead them to a more productive graduate experience.

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