Notes from the Blackboard

Choosing the right graduate school and getting the job you've always wanted

By Gary D. Grossman

The recent sustained growth of the U.S. economy has directly affected the field of fisheries as more and more individuals have become interested in both revenue-producing and recreational activities involving fish. Concomitant with this growth is an apparent proliferation of education opportunities in our field. Although probably more jobs are available in fisheries today than ever before, a surfeit of well-qualified graduates has made competition for these jobs particularly intense. Consequently, it is not uncommon for highly trained fisheries graduates to have difficulty obtaining employment in the field. These circumstances necessitate that future graduates be highly prepared if they hope to find a job as a fisheries manager or researcher. In fact, most professional positions in fisheries now require at least a master's degree.

Given that graduate training is an essential credential for the prospective fisheries biologist, I want to share some pointers I have learned during the 16 years I have been training graduate students, although I suspect that these suggestions will benefit a wider audience than just students alone. Of necessity, I am writing in generalities, and I am well aware that not every strategy works every time or for every person. In addition, although I recognize that *Fisheries* has an international readership, my comments probably will be most relevant to U.S. residents. I begin with suggestions for how you can choose a major professor or graduate program and end with strategic hints for current graduate students interested in improving their potential employability.

First, your choice of graduate program and major professor probably will have a greater impact on future employment than any other education decision you will make. Consequently, before deciding to join a faculty member's research group, inquire about the placement rate of graduates from his or her lab. Like most activities that engage a variety of people, you will find that some faculty have high placement rates, whereas other professors have no idea of the number of former students currently working in the field. The same can be said for graduate programs: Some have very high placement rates of their students (this tends to be most true at the state biologist level), and others have poor records. Despite the importance of these factors, in my years of interviewing prospective graduate students, rarely have I been asked about the placement rates of either former students or our graduate program. My point is that students must recognize that both graduate programs and major professors vary in quality, and if a choice is made without evaluating the relative merits of a given major professor or program, then you may be substantially handicapped.

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Second, one of the best ways to evaluate professors or graduate programs is by talking to former students. Although discussions with current students can be helpful, of necessity these students may be less candid than former students are. As with most discussions of important personnel matters, it probably is just as important to register what is *not said* as to note what *is said*. Finally, try to match your strengths and weaknesses as a student to your major professor's style of supervision. If you function best independently, do not choose a major professor who thinks graduate students are incapable of washing their hands by themselves. Alternatively, if you require occasional prodding to complete tasks, then working with a more-interactive major professor may be best for you. Like all bosses or mentors, major professors come in a wide variety of flavors and sizes, and you need to choose one who will best complement your abilities and needs as a graduate student.

Third, ask for a copy of your potential major professor's résumé, then examine it carefully. Determine whether or not this professor is actively publishing and, if so, whether she or he is publishing in first-rank journals. Does the person have a good record of grant support? Does he or she regularly attend professional meetings and give invited papers and seminars? Has the person ever won teaching awards? Does she or he have strong contacts at other universities and/or federal and state agencies? Although few professors can meet all of these criteria, a strong major professor will meet most of them.

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Reprinted from *Fisheries* Volume 23 No. 9 September 1998

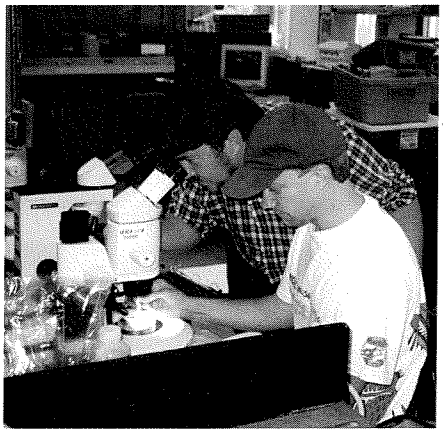
Fourth, if getting a job is your sole reason for going to graduate school, be sure to examine job postings and talk to perspective employers before choosing a research topic. You will find major discrepancies in the employment opportunities of graduates in the various fisheries subdisciplines. Make sure you choose a graduate program that provides training in a subdiscipline in which there is high job availability. For example, graduates in quantitative population dynamics seem to have great success gaining positions regardless of the market, whereas students who undertake basic natural history studies of species with little economic importance frequently have great difficulty finding jobs. (I am not commenting on the relative merits of these two research areas—just on the employability of students who pursue them.) In addition, if time permits, try to gain proficiency in a secondary discipline (geographic information systems training, population modeling, etc.). You have to be well qualified to obtain a position in fisheries, but having strengths in more than one area will greatly increase your chances of employment.

Fifth, if you are a Ph.D. student who wants an academic job, try to get some part-time teaching experience prior to graduation (small liberal arts schools frequently hire part-time faculty). I suggest teaching your own undergraduate lecture class—not being a teaching assistant—and making sure you have student evaluations for the class. Nothing impresses search committees more than someone who is strong in both research and teaching, and has the publications and teaching evaluations to prove it. Teaching experience, especially diverse teaching experience, is particularly important for positions at small, four-year institutions, where a biology department may consist of three to seven faculty who cover all aspects of the discipline.

Sixth, write your dissertation in chapters that can be submitted for publication independently. (Make sure your committee agrees to this beforehand.) Many students close to finishing their degrees are eliminated from searches due to a lack of publications. Publishing prior to graduation reduces this probability. In addition, publishing shows you are productive and can meet the standard expected of researchers. Finally, it greatly increases your chances of securing a position before you finish school if you can say, "Well, chapter one is out; chapter two is in press; and I'm almost finished with the final chapter."

Seventh, *network, network, network.* Go to meetings. Present papers and posters. Ask your major professor to introduce you to senior scientists and potential employers or go up and politely introduce yourself. *Polite* is the operative word here because pushiness definitely works against you. All these activities increase the probability that a potential employer will be able to recall a face when he or she looks at your application. This will yield a definite advantage over other applicants. In addition, you will increase your chances of hearing about positions before they are officially advertised (e.g., many positions are advertised by word of mouth long before the copy appears in *Science* or *Fisheries*).

In closing, my list—though hardly exhaustive—is meant to provide students with constructive advice on how to choose a graduate program or, if already enrolled, how to increase their chances of obtaining a job in the fisheries field. Clearly, students today face great uncertainly with respect to future employment. Nonetheless, the rewards of a career in fisheries can be tremendously satisfying both personally and professionally.



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Students should match their strengths and weaknesses to their major professors' style of supervision.

Acknowledgments

This contribution benefitted from the comments of Cecil Jennings and members of the Fish Ecology Internet Newsgroup. In addition, Patton (*Fisheries* 21[10]:41) has provided many other valuable suggestions on the topic of how graduate students can improve their qualifications.

Joseph E. Hightower

Today, more jobs are available in fisheries than ever before, and more qualified graduates are waiting to take those opportunities.