“Is graduate school for you?
A guide for both students and professionals”

Continuing Education Workshop
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Spearfish, South Dakota
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Is graduate school for you?
A guide for both students and professionals

Dakota Chapter of the American Fisheries Society
February 1, 2016
Spearfish, South Dakota

Course presenter introductions

* Dan James
  * US Fish and Wildlife Service
* Dave Lucchesi
  * SD Game, Fish, and Parks
* Casey Williams
  * Valley City State University
* Melissa Wuellner
  * South Dakota State University

Difference between undergrad and grad school

* Undergrad
  * focused on coursework
  * 8 months/year: classes, homework, and tests
  * relatively easy for acceptance to school
* Grad
  * focused on 'how to do research', much less coursework
  * year-round: full time, some class time, research, thesis
  * acceptance can be difficult for funded projects – competitive
    * easier for unfunded projects, but more difficult to complete a research project

Should I attend grad school?

* Purpose of a graduate degree
  * To further hone your knowledge and skills and build new ones (e.g., biology, ecology, study design, statistics, writing, presenting, etc.)
  * Lets you test your independence in planning and executing a project
  * Makes you more competitive compared to your peers

Should I attend grad school?

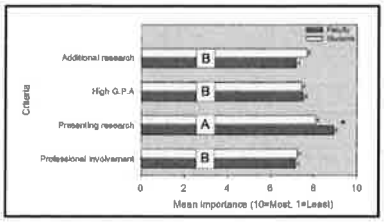
* Why do agencies tend to hire graduate students over those with undergraduate degrees?
  * Graduate school is proving ground. If you succeed, then the agency has greater confidence in your abilities to do the job for which you've been hired.

Is grad school necessary?

* Simple Truth – an advanced degree is essentially required for full-time, permanent, entry level jobs
* Acquiring a grad school position can be thought of as getting your first real job

What do employers look for?

* Education credentials vs. experience (Kaemingk et al. 2013)



What do employers look for?

* Does it depend on job level?
  * Temporary / permanent:
    * For permanent jobs with the state or feds, plan on grad school. Temp jobs with those agencies or permanent jobs with tribal agencies or private companies may be found with a B.S.
  * Technician, biologist, supervisory, administrative
    * Technicians: B.S. or M.S.
    * Biologist: M.S. or PhD
    * Supervisor or Administrator: M.S. + many years of experience or PhD and fewer years

Ideas from Potential Employers

* Some people who do a lot of hiring were asked:
  * What are you looking for in a job candidate?
  * What separates a successful from unsuccessful candidate? (Education? Experience? References? The Interview? Other?)

Greg Power

North Dakota Game and Fish Department, Fisheries Division Chief

Greg's Thoughts on Hiring

* Bachelor's degree required; Master's degree can be substituted for a portion of the work experience.
* Applied first-hand experience is critically important.
* Good references from a trusted, known supervisor are a considerable factor.

Greg's Thoughts on Hiring

* Department uses an interview matrix: components include substance of answers and professionalism in answering them.
* Appearance and preparedness for the interview are important.
* The legendary Don Duerre story.

Henry Drewes

Minnesota Dept. of Natural Resources, Northwest Regional Fisheries Manager

* MDNR hires about 20 entry level Natural Resource Specialists each year.

Hiring Stats

* Of those hired, 75% have a Master's degree.
* A Master's degree and field experience improves your odds of getting hired.
* For a permanent position, you should do the interview in person; Skype or a phone interview are a poor second choice.

The Interview Process

* Oral exam (3-5 person panel).
* Written exam (40 question multiple choice – fish management/population ecology of upper Midwest fishes).
* Writing exercise.
* Field practicum: hitch up a boat, back a trailer, do a safety inspection.

Henry's Recommendations

* Learn all you can about the position and geographic area.
* Utilize university career services to prepare for interviews (important for jobs and grad. positions).

Henry's Insights

* Grades are important, but not imperative (must get a C- for credit).
* They look for a balance (rigorous coursework, good grades, and a diversity of field experience (through work, school and/or volunteering).
* Good communication skills (written and oral), school activities, student organizations, community service and demonstrated leadership are all important!

Jessica Mistak

Michigan Dept. of Natural Resources, Habitat Management Unit Supervisor

* Oversees a statewide program that provides assistance with aquatic habitat related issues.
* Senior fellow in the Environmental Leadership program.
* Super active in AFS.

Jessica's Insights

* Most competitive candidates for biologist positions have a Master's or Ph.D.
* Undergraduate institutions providing hands-on research and field activities produce more well-rounded candidates.
* Whereas the playing field for graduate schools is more aligned: most come out with better writing and strategic thinking skills.

Jessica's Insights

* She places a lot of importance on references and knows many people in fisheries. "It's a really small world and reputations matter."
* She looks to add value to her team by hiring critical and strategic thinkers.
* How you react to interview questions you cannot answer is important! (e.g. does a candidate get flustered, do they explain what they do know or how they could find the answer).

Gunning like Jessica

* Check to see if employer has interviewing information on their website.
* Call people who already work there (Human Resources and at the office). Ask questions about the job, what to expect, if they have advice on the application process, how interviews are handled, and most importantly, what they are looking for in an employee.

Gunning like Jessica

* Cross all t's and dot all i's when submitting the application.
* Follow up to make sure your application package arrived and was complete.

Gunning like Jessica

The Interview:

* Practice, practice, practice!
* Have your elevator pitch down on why you should be hired.
* Have an arsenal of questions for the panel; sprinkle them throughout the interview because it helps turns it into a conversation and not an interrogation.

Gunning like Jessica

The Interview:

* Find a comfortable means for answering questions (some take notes to focus thoughts, some do not)
* Be confident, but don't be afraid to acknowledge shortcomings.
* Get names and contact information of the panel members and send a follow-up e-mail thanking them for the opportunity.

Thoughts from Dave

The Interview:

* Be yourself!
* Work on weaknesses (more concise if a rambler; more assertive if an introvert).
* Focus on the job for which you have applied.
* Be enthusiastic, be true, and ask only real questions.
* Dress/actions can make a difference (C.L. example).

Cliff Stone

South Dakota Game, Fish and Parks, Region II Supervisor

Cliff's Insights

Typical entry level positions

* B.S. degree; decent grades, a few "C's" ok, but many lower grades a red flag.
* Some work experience good (recently, many candidates choose to make bigger dollars and to work closer to home than get this experience).
* Have a friendly, outgoing personality.
* Be well-rounded (activities outside of your education important – i.e. sports, music, 4-H, outdoor activities).

Cliff's Insights

Upper level positions:

* Extra consideration to a graduate degree because graduate school fosters problem solving skills needed at this level.
* Better grades at the graduate level.
* Field project is valuable.
* Participation at meetings or conferences important.

Kim Bogenschutz

Iowa Dept of Natural Resources,
Aquatic Invasive Species Coordinator

Kim's Insights

* Send a resume and cover letter to the DNR contact.
* Contact the Department of Administrative Services if you get an e-mail stating you do not qualify.
  * DAS staff are not biologists; they are looking for key words found in the job description.
  * Calling and explaining qualifications often helps.

Kim's Insights

* The hiring team leader is often not from the Conservation and Recreation Division.
* They look at how applicants fit the DNR's core competencies and guiding principles.
* For a fisheries job, true fisheries experience gets ranked higher.
* Need a B.S. and 2-3 years experience or a M.S. to get an interview (most biologists have an M.S.).

Kim's Insights

* Be professional: no BrewDaug@gmail.com address or phone greeting saying, "Dude, leave me a message."
* Study the job description and research the agency and job location.
* At least half the questions relate to core competencies (i.e. What makes a successful team? Describe a time when an action you took negatively impacted a project?).

Kim's Insights

* Interviewees should be wearing a tie.
* In spite of nervousness, would like to see good eye contact, body language that exudes friendliness and openness, enthusiasm for the position and sincerity.

Should I attend grad school right away or work for awhile first?

* Grad school
  * Pros: fresh knowledge base from undergrad, attain your career job earlier in life
  * Con: if you aren't mentally prepared, may perform poorly
* Work:
  * Pro: make more money in short-term
  * Con: may get used to making money and never go back, lose your knowledge base over time

Yes, I want to attend grad school

* Preparation
  * What to do as an undergrad
    * Experience, experience, experience
      * summer work
      * go see the world
    * Grades
      * Cs get degrees
      * but not jobs or entrance into grad school
    * More than grades – knowledge **assimilation/synthesis/application**

Yes, I want to attend grad school

- Set yourself up / prepare for grad school
  * Undergraduate research
    * summer projects
    * work with other grad students
  - Contribute to reports and publications
    * class assignments are learning experience, not just assignment
  - Communication skills (oral and written)
    * read journals, books, magazines – **JUST READ!**
    * presentations
      * class
      * scientific meetings

How to choose a grad program?

* The AFS Guide to Fisheries Employment
  * Editors
    * David A. Hewitt
    * William E. Pine, III
    * Alexander V. Zale
  * Ch. 3 – Pursuing Graduate Studies in Fisheries
    * Alexander V. Zale

Where to go and what to do?

* Program title
  * "Fisheries" or other (biology, natural resources, etc.)
* Degree?
  * M.S. – better for management jobs
    * typically, need a M.S. first in our field
  * PhD – better for research, teaching

Finding a Position

* Internet, universities, peers
* What is your interest?
  * choose a position that matches
* Projects and Assistantships
  * Funding?
    * research funding, stipend, teaching
  * Benefits?
    * health, tuition, fees

How do faculty select their students?

* Sometimes a faculty will approach you!
  * be known
  * work in the field
  * go to meetings; talk with professionals
  * be involved with organizations (like this one!)
* If not
  * assistantship announcements
  * similar to applying for a job

Evaluating a Position

* Be selective
  * Funding?
  * Respected professor?
  * Location? – be flexible and willing to move
  * Project interest?
    * do not choose a project just because it's the only one around if it doesn't fit your interest

Contacting the Faculty Member

* Use email or regular mail to send an application packet
  * Include a concise, detailed letter describing your interests, career goals, and why you are best for the job
  * Research the faculty – reference in your letter
  * Proofread your letter!
  * Also include your CV, transcripts, GREs, and professional references

Telephoning the Faculty Member

* Wait a week or two
  * Use email to schedule a time
  * Address professor as "Dr." until told otherwise
* Be informed of the project – ask specific questions
  * Show you have genuine interest
  * Do not assume the professor read all of your information – stress your strong points
* Use your references to help you

Visiting Prospective Advisor

* Arrange a visit
  * Make sure you can get along with the advisor
  * Check out the school and its resources
  * Talk with advisor's current grad students!
  * Dress nicely

Your Decision

* If you get an offer
  * Give it careful consideration
  * Tell your advisor within a couple days
  * Complete paperwork, schedule a start date, make moving arrangements

Assistantship Resources

* American Fisheries Society
  * www.fisheries.org
* Texas A&M University
  * http://wfscjobs.tamu.edu/job-board/
* University web pages

Current Master's students

* Set yourself up for job now
  * Research: What is your ideal job? Where? What species? Will the research project you will be working on prepare you for that job?
  * Coursework: Where are your current strengths and where are you deficient? What tools do you need to complete your project? What expertise would you like to build that would make you an attractive hire?
  * Publications: It's harder to publish your thesis chapters after you're off working. Publish (if you can) before you graduate with your M.S.
  * Network, network, network. Be involved in AFS.
  * Talk with your advisor about your professional goals.

Near the end of grad school...

* Now what?
  * End of Master's
    * Should I go for a Ph.D.?
      * now or later?
    * End of PhD?
      * Should I go for a post-doc or get a job?

All grad students

* Should I leave school before my program is over to take a job?
  * Pros
    * Money!!
    * Take advantage of situation that may disappear
    * More experience
    * Get foot in the door for later

All grad students

* Should I leave school before my program is over to take a job?
  * Cons
    * Limited time for degree completion
      * Increased time to graduation
    * Decreased "importance" for grad project completion

All grad students

* My experience
  * Texas State University
    * ½ dissertation completed in spring 2009
    * estimated 4-6 months until completion – graduation December 2009
  * Post-doc position Utah State University – February 2008
    * completed degree in December 2011
    * gained additional experience
    * went on adventure
    * would not change a thing!!

All grad students

* What do employers think about hiring students that have not finished their program?
  * They want to see you finish and sometimes are concerned the job will interfere with that

You're a professional now...

* Why should I attend grad school when I'm already employed?
  * personal growth
    * learn more, increase specialized skills, increase personal pride
  * future job opportunities
    * some jobs require higher education
  * pay increase/promotion potential
    * depends on the job/agency

Yes, I will attend grad school as a professional

* Should I quit my job or keep working?
  * If you quit your job (may be required)
    * may never get it back
    * may need to sell your house/belongings, move away
    * will probably make less money, end retirement contributions, lose health insurance (temporary)
  * If you keep working
    * long work days – 40 hour work week + grad work
    * less free time/fun time
    * research may suffer
    * retain perks of working

Being a non-traditional student

* Pros
  * More focused and dedicated
  * Previous experience
  * More goal oriented
* Cons
  * Usually take a pay cut if full time student
  * Potential family issues
    * If done properly, grad school is demanding

Options for a professional / student (NRC 2008)

* Professional Science Master's (PSM)
  * Designed with the working professional in mind (online courses/hybrid programs)
  * Agencies may need employees who have advanced degrees or an advanced degree is needed in order to move up in the hierarchy
  * May be interdisciplinary in nature
  * Final product may be a manuscript or some other project rather than the traditional thesis

More options...

* Traditional degree
  * Online degree
  * On campus
    * Long distance vs. local university
  * Part-time vs. full time student

Resources

- Carlson, A. K., K. M. Dunmall, R. E. Boucek, N. W. Cole, J. A. Kerns, R. M. Krogman, M. C. Lloyd, V. M. Nguyen, T. R. Wendt, S. E. White, and K. L. Wilson. 2015. How to Navigate Fisheries Education and Employment. Fisheries 40:196-197. DOI: 10.1080/03632415.2015.1025952
- Hewitt, D. A., W. E. Pine, III, and A. V. Zale, editors. 2006. AFS Guide to Fisheries Employment, second edition. American Fisheries Society, 246 pp.
- James, D. A. 2011. The Academic Road Less Traveled. Fisheries 36:351-352. DOI: 10.1080/03632415.2011.589750
- Kaemingk, M. A., D. J. Dembkowski, H. A. Meyer, and L. M. Gigliotti. 2013. Insights for Undergraduates Seeking an Advanced Degree in Wildlife and Fisheries Sciences. Fisheries 38:483-490. DOI: 10.1080/03632415.2013.826200
- Maitland, B. M., S. J. Cooke, and M. Poesch. 2015. Finding the Path to a Successful Graduate and Research Career: Advice for Early Career Researchers. Fisheries 40:399-403. DOI: 10.1080/03632415.2015.1065253
- National Research Council (NRC). 2008. Science Professionals: Master's Education for a Competitive World. National Academy of Science, Washington, D.C.
- O'Connor, C. M. 2012. How to Find a Good Graduate Advisor and Make the Most of Graduate School. Fisheries 37:126-128. DOI: 10.1080/03632415.2012.659942
- Rombenso, A., K. Kissinger, M. Claramella, and J. Trushenski. 2015. Relevant Topics to Keep in Mind as a Graduate Student. Fisheries 40:537-561. DOI: 10.1080/03632415.2015.1093473
- Schultz, L. D., and J. A. VanDeHey. 2012. A Comparison of Stipends, Health Insurance, and Tuition Remission Policies at Fisheries and Wildlife Graduate Programs throughout the United States. Fisheries 37:257-263. DOI: 10.1080/03632415.2012.687259

Panel Discussion

* Question / answer time period

Social

* Current graduate students / undergraduate student discussion time