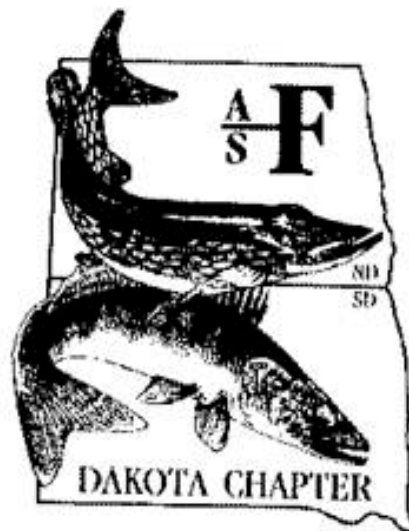


# **“Is graduate school for you? A guide for both students and professionals”**

***Continuing Education Workshop  
2016 Dakota Chapter AFS Annual Meeting  
Spearfish, South Dakota  
February 1, 2016, 2-4:30 pm***



***Instructors:***

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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

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## Course presenter introductions



VALLEY CITY  
STATE UNIVERSITY



- \* 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

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## 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

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### 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

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### 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.

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### 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

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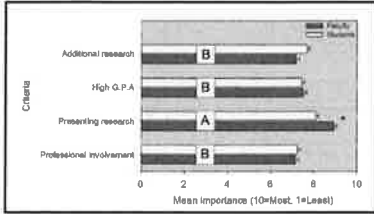
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## What do employers look for?

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




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## 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

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## 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?)

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## Greg Power



North Dakota Game and Fish Department,  
Fisheries Division Chief

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## 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.

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## 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.

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## Henry Drewes



Minnesota Dept. of Natural Resources,  
Northwest Regional Fisheries Manager

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

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## 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.

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## 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.

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## 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).

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## 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!

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## 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.

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### 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.

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### 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).

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### 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.

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### 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.

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### 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 turn it into a conversation and not an interrogation.

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### 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.

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### 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).

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### Cliff Stone



South Dakota Game, Fish and Parks,  
Region II Supervisor

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### 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).

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### 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.

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### Kim Bogenschutz



Iowa Dept of Natural Resources,  
Aquatic Invasive Species Coordinator

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### 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.

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### 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.).

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### Kim's Insights

- \* Be professional: no [BrewDaug@gmail.com](mailto: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?).

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### 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.

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### 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

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### 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**

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### 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

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## How to choose a grad program?

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

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## 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

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## 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

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### 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

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### 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

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### 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

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### 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

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### 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

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### 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

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### Assistantship Resources

- \* American Fisheries Society
  - \* [www.fisheries.org](http://www.fisheries.org)
- \* Texas A&M University
  - \* <http://wfscjobs.tamu.edu/job-board/>
- \* University web pages

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### 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.

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### 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?

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**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

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**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

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**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!!

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### 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

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### 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

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### 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

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## 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

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## 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

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## More options...

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

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## 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. H. Wendt, S. L. White, and K. L. Wilson. 2015. How to Navigate Fisheries Education and Employment. *Fisheries* 40:196-197. DOI: 10.1080/03632415.2015.1025952
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## Panel Discussion

\* Question / answer time period

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## Social

\* Current graduate students / undergraduate student discussion time

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