QCons Lab
Guidelines June 2022

Welcome to the Quantitative Conservation Lab (QCons), led by Sarah Converse at University of Washington. We are interested in the population ecology and conservation of vertebrates, with a focus on wildlife ecology, demographic estimation, population modeling, and the use of models in management decision-making. This document is intended to serve as a guide for lab members, to help set expectations we should have of each other, and to improve everyone's experience during their time here. You should read this when you join the lab and periodically refer to it as you go along. Some parts of it won't be highly relevant to you right away, but most of it will be relevant to you at some point in your program. If there are things you don't understand in the document, please ask. If you think there are parts of this document that can be improved, let me know. This is a working document and it will be improved by your input. The document has benefited from my review of the Essington, Punt, and Wood lab guidelines and input from past and present lab members. **At the end of this document, there is a place for you to sign indicating that you've read it and I'll ask you to share the signed copy with me.**

I am a faculty member with an academic appointment split between the School of Aquatic and Fishery Sciences and the School of Environmental and Forest Sciences, though I focus my effort on SAFS. I am also the Leader of the Washington Cooperative Fish and Wildlife Research Unit. You might be asking yourself... **What is the Washington Cooperative Fish and Wildlife Research Unit?**

By virtue of being a member of the QCons Lab, you are also a member of the Washington Cooperative Fish and Wildlife Research Unit (AKA the "Coop Unit" or the "WACFWRU"). You can read more about it here: https://depts.washington.edu/wacfwru/. You are part of a unique national program (USGS's Cooperative Research Units program, or CRU) committed to producing management-relevant science for the conservation of fish and wildlife. What this means for you practically is that (1) your supervisor (that's me) is a federal employee, and because of that there are some things that you will need to take care of as you go about your work here (mostly safety training and internal review of publications and abstracts); (2) you'll get to be a part of the WACFWRU annual student symposium where you'll get an opportunity to interact with agency scientists and managers; and (3) you'll have access to resources (e.g., field vehicles) that are not typically available to your colleagues. Being a part of the WACFWRU will add to your experience while you're here. And being a CRU alum will admit you to a professional community of which you'll be proud throughout your career. In addition to me and the members of my lab, other members of the WACFWRU include our Assistant Unit Leader – Fisheries, Mark Scheuerell, and his lab members; our Assistant Unit Leader – Wildlife, Alex McInturff, and his lab members; and our WACFWRU administrators, Verna Blackhurst and Sarah Romero. You are likely to interact with Mark and Alex on WACFWRU business such as the WACFWRU annual student symposium or regarding vehicles, boats, or field equipment. Verna and Sarah R will help you with any number of administrative tasks and will be a resource on various topics.

Quick Start Guide

A starting lab member in the QCons Lab needs to take a few steps beyond those taken by other new students or postdocs. Here are some things you and I will need to do within your first week or two:

- You'll have a desk space in the QCons grad suite or in the Coop Unit main office (or elsewhere if those spaces fill up). You'll need to obtain a key to the office as well as building access from the front desk at SAFS.
- You'll need to get a Digital Measures (DM) account. DM is the system that CRU uses to track nearly everything, including students and postdocs who are part of the program, what research projects are ongoing, what publications and presentations are in the works, and safety training requirements. I will help you get set up with a DM account.
- As soon as you're set up with a DM account, you'll need to complete "My Safety Worksheet." With this we will produce a Personal Hazard Analysis that will tell you what safety trainings you need to take given the work you'll do. We will go over the results at one of our first meetings, and I'll show you how to enter trainings in DM. You'll need to revisit this annually. You should also fill in the "Professional and Contact Information" section and add a photo for the WACFWRU federal webpage (see "My Photos" in DM).
- You'll need to get a DOI Talent account. This is where you will take at least some of your safety trainings. Again, I'll provide you information about how to do this. Be sure to follow these instructions very carefully - it seems like there are a lot of pitfalls in this system that can make it take longer for you to get your account.
- You'll need to fill out a federal volunteer form. This is the form that allows you to ride in, and with the proper safety training to operate, our trucks and boats. I will give you the form to complete.
- You'll need to be sure you're signed up for departmental listserves (safssocial and either safsgrads or safspostdocs, sefsgrads or sefspostdocs, or qermgrads, depending on your affiliation). This should happen automatically, but in some cases (perhaps especially for postdocs) it might not. These are important listserves for getting a variety of information, so you don't want to miss out. If you don't see emails coming over these listserves within a week or two of getting your UW email, be sure to inquire.
- You'll need to ask me to add you to the lab Google Drives (Converse Drive and Gardner/Converse Drive), the Converse lab GitHub site, the Converse lab calendar, the Converse Lab and WACFWRU Slack workspaces, the Gardner/Converse lab Twitter list (if you use Twitter), as well as the following listservs that serve the smaller communities of which you'll be a part: sefs_wildlifegroup, wacfwru-core, converselab, and conversegardnerlabmeeting.
- You'll need to get a photo/write a bio for yourself so we can upload it to the lab website. You can see other's bios at http://depts.washington.edu/qcons/current-lab-members/.
- You'll need to learn how to set up meetings with me (I will provide you with a link that you can use to put meetings on my calendar as needed).

What You Can Expect of Me

- Mentoring students and postdocs is the single most important thing I do. I will try hard to make sure that you are getting what you need to make your time here successful. I will

frequently check in with you at our meetings and ask you how things are going. That is your cue to tell me what you need or what you're concerned about.

- As your mentor, I have several roles. I am your academic advisor, tasked with getting you successfully through your degree program. I am your professional mentor, tasked with helping you to build your professional skills, network, and future opportunities. In most cases (i.e., if you are supported on an RA), I am your supervisor, tasked with seeing that you deliver high quality products to sponsors. Finally, I am your advocate: I am here to support you and ensure that you have an enriching experience, are treated fairly by others, are moving in the direction you want to move in professionally, and have a sense of personal well-being. You can expect me to work hard in each of these roles. The most important thing you can do to help me is to maintain constructive, frequent, and open lines of communication with me. You can expect me to care about your well-being in every sense (physical, mental, professional). I want you to have a great experience, so let's talk and work together to make that happen.
- Everyone's experience here will be a bit different. I will work to tailor this experience to your needs. The more I know about what you want to get out of this experience and what your long- term goals are, the better I can do that. You should be open for your long-term goals to evolve and change during your time here, and we should check in regularly so that I know the direction in which you want to be headed.
- You can expect me to maintain high standards for you, for myself, and for everyone else in the lab. I consider the opportunity to do the work we do to be a privilege. In the QCons Lab, we strive to do work that influences real conservation decisions. Remember that your work will have an actual, real impact in the world, and use that fact as motivation to do your absolute best.
- You can expect me to make sure that you are making progress, and to intervene and solve problems if needed. You can expect me to guide you through your research, to be a sounding board for ideas, to be constructively critical, and to assist with products. You can expect me to push you to be the best scientist you can be.
- You can expect me to treat you like an autonomous adult. I don't like to micromanage.
- You can expect me to be available to you. You will have the ability to schedule meetings with me as needed, and we are likely to meet at least once per month, if not more often. In addition, I will be at the office most days, unless I'm on travel, vacation, or it is one of the rare days that I work from home. If you need to see me for something quick (sign a form, make an appointment, etc.), feel free to stop by. If you need to speak about something at greater length outside of our regular meeting time, it will be best to schedule a meeting with me.
- You can expect me to provide timely feedback on chapter/report/manuscript drafts or other documents and to answer your questions promptly. There may be periods when I am slower than others. The more I know about when you'll need bigger blocks of my time, the better I can plan. In general, it will take me 2-3 weeks to provide comments on major documents (such as manuscript drafts) and 1-2 weeks on shorter documents. If you have sent me something and haven't heard back in 2 weeks, you should not hesitate to check in.
- You can expect me to help you build a professional network. When we are at professional meetings, or when I have colleagues visiting, I am happy to introduce you. The relationships you leave here with will be crucial to your future career, so take

advantage of opportunities to build those relationships. Related to this, you can expect me to write honest letters of recommendation for you.

- You can expect me to help you figure out what comes next, and to help you get where you want to go in your career. I will do my best to give you good advice about the job market, about applying and interviewing for positions, and about making decisions that are best for you. You can expect me never to say, "You should do_____." I can't know the best path for you, which depends on what you want out of your life. You can expect me to do all I can do to help you to make progress on that path once you identify it, and to engage in conversations with you to help you identify it.

My Expectations of You

- Relationships that you build now will have a meaningful impact on the rest of your career. This includes your relationships with your peers, your relationship with me, and your relationships with other committee members, other faculty members, agency collaborators, and university staff. I expect you to treat everyone professionally, kindly, and with respect.
- I expect you to be a good citizen of the lab, department, college, and university. I expect you to provide some service during your time here (more on this below). I also expect you to remember that you are representing me, the QCons Lab, and the WACFWRU in all your professional interactions.
- Other students and postdocs in the lab/department/College will be important sources of knowledge and support for you. I expect you to ask other lab members for help and to make yourself available to help others. You'll be surprised by how much you can learn while helping someone else work through a problem.
- I expect you to recognize that my time is limited and strive to make our meetings maximally productive. For all our meetings, you should come with an agenda and you should take thorough notes on what we discuss. If you want to discuss code or a technical problem you're having, it is helpful if you can get me notes/code a day or two before (GitHub is a great way to do this). The time we have together is important for both of us – let's make the most of it.
- I expect you to figure out what helps you be most productive and adopt that work style. If you have a reason to be away from work/email for an extended time, just let me know that you'll be away. I expect you to recognize that you won't have a truly successful experience if you treat your education like a 9-to-5 job - this work will require more flexibility than that.
- I expect you to adhere to the relevant rules and policies about taking time off.
- In order to manage my own work-life balance, sometimes I send emails during the evening and on weekends. I do not expect you to respond to my emails at these times. I would like you to respond to my emails within 24 hours or so during your regular workdays.
- I have students in my lab in up to 6 different degree programs (SAFS M.S., SAFS Ph.D., QERM M.S., QERM Ph.D., SEFS M.S., SEFS Ph.D.) so I expect you to take primary responsibility for knowing the requirements of your graduate program (see relevant documents for SAFS, SEFS, or QERM). I am here to help you do that, and this is something we will check in on at least annually.

- Annually you will have a review. I expect you to use it as a time to reflect on your progress and set goals for the year ahead. Those goals will include any milestones you want to hit in your graduate program. I expect you to come prepared, specifically by knowing your annual goals from the previous year so that you can provide a thoughtful evaluation of your progress. Outside of the annual review, I expect you to develop shorter-term goals each quarter; these goals should be designed to help you meet your overall annual goals. We will typically discuss quarter goals during lab meetings at the start or end of each quarter.
- I expect you to be active in professional expression. This means I expect you to present your research at professional meetings during your time here, and to publish your research during or soon after you finish. Science is the production of knowledge, and knowledge only counts if it is shared. To this end, if your papers have not been submitted for publication within 1 year of you finishing your degree and if I don't see any evidence that you are moving publications forward, I reserve the right to publish the work myself and make you a coauthor.
- In order to fully thrive, I expect you to take care of yourself. Get rest, exercise, spend time with friends and family, and make sure you're getting joy out of your time here. If you are struggling to feel that, I hope you will talk to me so that we can figure out how to make things better.
- I expect you to set high goals for yourself and strive to meet those goals.

Funding

I am committed to being on top of your funding situation and to knowing what resources you have and what resources you need. My expectation is that you will have funding throughout your program. This funding can come in several forms, including fellowships, research assistantships, teaching assistantships, or even agency employment. I will work hard to help you find funding. And I expect you to work at it at least as hard as I do. It is rare for a person to start a graduate program or even a postdoc with all their funding already in hand.

There are lots of resources to help you locate grants, including the Converse/Gardner lab Google Drive, graduate advisers, your peers, university resources, and professional listserves. This is something that we should check in about at least yearly at your annual review.

Being a teaching assistant is a great experience and can also help you to build a CV that will garner you more career opportunities down the road. I encourage everyone, especially every Ph.D. student, to do this for at least one quarter. I don't encourage people to do it quarter after quarter, however, unless this is a high priority for you given your career goals and if you can manage to balance this with your research. Generally, there won't be opportunities for you to be a TA often because there are just not enough TA positions around. Look at TAing as something you will hopefully get to do once or twice during your time here.

Allocating Your Time

One of the biggest challenges you will have in your work life is time allocation. To be both successful and thrive, you'll need to recognize that your time is a limited resource, and a

fundamental professional challenge is the allocation of that limited resource. This time allocation challenge starts as soon as you enter graduate school and it will continue for the rest of your career. You should check in with me if you are contemplating taking on side projects or other major responsibilities in your professional life outside of coursework, your service responsibilities, teaching, and your research. We should work together to decide whether those potential commitments are feasible and valuable.

Students will generally be funded (as RAs or TAs) to work on either a specific research project or a course. This funding is for 20 hours a week. You are expected to spend another 20 hours a week working on your studies (broadly defined, including courses and your thesis work). Your highest priorities are completing the tasks related to your funding and completing your studies towards your degree.

Courses are important, but you'll learn just as much if not more from doing your own research. Courses should provide you with key skills or expertise that you need to be successful in your immediate research and your long-term career. We will check in regularly on your coursework plans. I will not encourage you to take more courses than you need and may even discourage you from taking courses that you're contemplating if I think your time would be better spent elsewhere.

Service is important and valuable, but you should be quite targeted in the service you take on. Resist the urge to volunteer for every committee that interests you, and instead curate your service activities so that you are focused on what means the most to you. Recognize that some service will be required of you as a QCons Lab member, so take that into account when taking on service outside the lab/WACFWRU.

It is hard for me to write anything specific about how to allocate your time to the various tasks required to complete your research. This is an ongoing challenge and something you will learn and get better at as you go along. If you are struggling with time allocation, we should talk about it and I will try to provide some insights from my perspective. In general, the following tasks are, at a minimum, things you should be planning to spend research time on:

- Searching for and reading literature in relevant areas, and summarizing the literature in a way that will be useful to you when it is time to write
- Thinking about the overall steps you will need to take to complete your project (this thinking is often best accomplished through some combination of writing project plans and discussing plans with me or other collaborators)
- Collecting or otherwise obtaining data
- Cleaning and managing data
- Writing analysis code that follows best practices for reproducibility (see below)
- Meeting with collaborators
- Producing figures and tables
- Developing drafts of written products
- Developing drafts of presentations
- Integrating feedback on drafts of written products and presentations
- Completing administrative tasks relevant to your research project and your degree

Lab Meetings and Service

You will be expected to provide service to the lab. I will strive to make service equitable. If you are feeling particularly overwhelmed with other responsibilities at a given point in time, please let me know and I will try to ease your service responsibilities. Some types of service will be expected of everyone:

- Lab meetings are held weekly. We typically hold monthly joint meetings with the Gardner Lab. I expect you to be there and to be prepared to contribute. Periodically during your time here, you will be the lab meeting coordinator for a given quarter. It is important that you take this seriously, plan valuable lab meeting activities for your peers, and be on time with scheduling, reserving rooms, etc. There is a lab meeting coordinator guide on the Gardner/Converse Google Drive.
- I expect you to attend seminars (typically the SAFS or SEFS seminars, the Quantitative Science seminars, and the Fish and Wildlife Ecology seminars).
- Each summer we will hold a lab retreat. I expect you to attend and to help with planning. It is a time for us to enjoy being together outside of the office and to learn from each other.
- I expect you to take part in rotating responsibilities for cleaning the grad suite or Coop Unit office. This job should not fall to those who are willing to do it – everyone should chip in. Hopefully it goes without saying that I expect you to keep your own space clean while you are here. Before you leave, I expect you to remove anything that you brought into the office. I like to see the grad suite and the Coop Unit office kept clean and tidy for the benefit of all lab members and for our visitors.
- We often will participate as a lab in a community service project, such as the SAFS Open House. I expect everyone to commit to making these efforts a success.

There are other types of service that might be requested of you on occasion:

- I may ask you to help with organizing or day-of responsibilities at the WACFWRU annual meeting and student symposium.
- I may occasionally ask you to help with getting WACFWRU vehicles in for service. If you are using vehicles for your research, this will automatically be a part of your responsibilities.
- We generally have an annual “Unit Day” when we work together on things like vehicle servicing; equipment cleaning, servicing and organizing; and the like. You should plan to participate.
- You may be asked to serve outside the lab, e.g., on hiring committees, diversity committees, graduate student or postdoc organization committees, etc. These are often great learning experiences, and opportunities to build professional connections. But see my previous comments on time allocation and be thoughtful about what you take on. Let me know if you are contemplating taking on a big commitment so we can determine compatibility with your workload.

Administrative Responsibilities

There are a few general administrative responsibilities of which everyone needs to be aware:

- Here in the WACFWRU, we are all very fortunate because we have an administrator who helps us out (Verna/Sarah R). Please be very respectful of our Unit administrator's time. She has about a million things to do in any given week, so be thoughtful about how and how often you ask her for help. If you have doubts about whether a given question is appropriate, ask me for guidance.
- I will likely ask you to help with regular project reporting to sponsors for your various projects. It is important that you attend to these responsibilities in a timely manner.
- Any time you are presenting at a scientific meeting, you will need to enter the abstract in Digital Measures. You should check with me before you do this the first time so that we can make sure you know how. Once you enter an abstract, you just need to let me know so that I can check it over and send it up to USGS for review.
- Any time you are submitting a manuscript, you will need to enter the paper in Digital Measures. I will probably help you with this in most cases. We will need to obtain an internal review (generally I will request this of a USGS colleague) for any papers we submit, and you will need to address that review when you address the journal reviews. I will guide you through this process.
- Your safety training is important. Your safety is very important to me, is presumably very important to you, and is also something I'm required to attend to. I will expect you to stay on top of your safety training. After the first few orientation trainings, this will probably be a relatively minor thing that you need to think about every couple of years, possibly as much as annually for some trainings.
- We have multiple vehicles and boats available to you. If you plan to use a vehicle or boat, you will need to have federal driver safety training or the appropriate boat training. You will also need to have a signed volunteer form (this is required even to ride in a vehicle or boat). If you use a vehicle or boat, you'll be expected to return it in good shape, with fuel, and with the appropriate data entered about how far you traveled and the budget that is covering your use of the vehicle. You should also file a "float" plan - ask me or Mark about this if it comes up.
- We have a variety of field equipment. If there is something you need, please let me know and we will either see if we have it or try to obtain it. Please take care of field equipment and return it clean and in good shape.

Lab Group Community

QCons Lab members take pride in supporting each other's professional growth and personal fulfillment. The people you meet while you are here are likely to be an ongoing part of your professional life after you leave here. I encourage you to build relationships with people here and make it a fun experience for all. The QCons Lab is a welcoming and supportive environment for all. I am committed to valuing and promoting diversity, equity, and inclusivity in our common workplace. I expect that you will be as well. I hope you'll contribute to building the lab community. We do things like chat about topics of interest on the Slack workspace, hold lab social events, work on occasional service projects together, and have a fun annual lab retreat. I hope you'll be an enthusiastic part of all of these events. Periodically I will have professional colleagues visiting. This is a great opportunity for you to meet established scientists. Make an effort to meet with visitors, attend meals with visitors, and generally be helpful and make their stay as enjoyable as possible.

Email, Social Media, and Professional Communication

Be thoughtful about email. Respond promptly to professional emails. If you're going to be away for more than a couple days, set up an out-of-office response. Proofread professional emails before hitting 'send' and be sure to use a professional tone. In some cases, you may be involved in a project for which the university receives a Freedom of Information Act (FOIA) request. In the case that your emails are subject to a FOIA request, statements you made in an email can be entered into the public record. In other words, be prepared to read your emails in the Seattle Times. While unlikely to happen, this is a good cautionary rule of thumb. Note also that if you use your personal email for university business, that personal email is also subject to FOIA requests. This is a good reason to keep your UW email primarily for university-related communication and your personal email for personal communication. Read more here: https://itconnect.uw.edu/work/appropriate-use/public-records-act/.

Social media is an increasingly important part of professional communication. There are a variety of social media platforms that are used by scientists, the most common of which is Twitter. I use Twitter (moderately) and encourage you to give it a try if you're interested. At the same time, I caution you to be careful, because social media can be a time suck and it can hurt you professionally if you aren't careful. In my experience, Twitter doesn't often make me more impressed with someone, but it can definitely make me less impressed with someone. Frequent scolding tweets, complain-y tweets, annoying tweets, political tweets, tasteless tweets, and the like don't reflect well on you. Related to that, I suggest that if you use a social media account for professional purposes, use that account only for professional purposes. If you want to Tweet about your adoration of bronies or your hatred of Nancy Pelosi, open a separate account. As a UW employee, you should check out the social media guidelines here: https://passcouncil.uw.edu/social-media-guidelines/.

Professional Expression

If you are a graduate student, I will typically ask you to present at the WACFWRU annual student symposium. We should discuss other opportunities to attend and present at meetings. I will make sure you have funds to present a paper at a conference at least once during your time here. There are also several UW and professional society grants to which you should plan to apply. Typically, I will only pay for you to attend a conference if you are presenting a paper or a poster.

I will expect you to publish during/after your graduate program. Your publication record will be evaluated on three metrics: the number of publications, the caliber of journals that you publish in, and the impact of those publications as measured by citations. We will take these metrics into account when determining how to frame and where to submit your papers.

I tend to encourage an inclusive approach to authorship of papers, generally erring on the side of inviting people to be authors when it is reasonable to do so. Anyone invited to be an author will be expected to contribute substantially to at least two of: (1) conception and design of the project, (2) analysis and interpretation of data, and (3) drafting the manuscript. Ideally,

authorship is established as early as possible in a project. Individuals who contributed to a project but not to a level to warrant authorship should be mentioned in acknowledgements. We should always discuss authorship together first before you discuss with others.

Don't wait until you think your work is completed before you start writing. Instead, write as you go. You can write your methods as you do them and your results as you produce them. Also, while you are running analyses, be thinking "what is the story?" The framing of a paper is important to determining its audience and its reception. **I strongly, strongly, strongly encourage you to read "The Scientist's Guide to Writing" by Stephen Heard.**

Break down writing tasks. For example, start by outlining an introduction. The introduction of a paper will – in most cases – start with the introduction of a general problem and finish with you explaining how you are going to address some part of that general problem. An outline should be composed of the topic sentences of each paragraph. Every other sentence in a paragraph is there to support the topic sentence, and each paragraph should build on the one before. A paper is well-written if I can read just the topic sentence of each paragraph and come away with the gist of it.

If you are dealing with writer's block, work on your outline. Another trick is to just start typing at random the thoughts you have on a topic. I do this frequently. I don't worry about complete sentences, paragraphs, or spelling. I might write something like "Here I will write a really cool sentence about how we selected study sites." I'll write like this for 15-20 minutes without editing myself at all. Once I get a bunch of ideas on paper, then I will go back and edit. And remember, much more important than good writing is good rewriting. Don't expect to write something final on the first draft. You should edit again and again to make sure your ideas are clear, concisely explained, and complete. Strive for elegance in writing. If three words will do, don't use six.

Once you have a first draft, pass it by one of your colleagues in the lab. And be prepared that when you provide a draft to me, after tons of work to edit it and edit it to perfection, you are likely to get it back from me absolutely covered in red. This is normal. Don't be discouraged. You'll get the most out of the revision process if you take some time to think about why I've suggested a change rather than just accepting it. If you disagree with me, explain why (track changes and Word comments are great for this) and we can discuss. Writing is something you'll spend the rest of your career learning to do well. I'm still learning too.

Reproducibility

The lab standard is that everything you do should be reproducible by someone else who has your data, code, and thesis/papers. Also, if you suddenly decide to move to the middle of the Amazon, I should be able to pick up your work and know what is happening. Please read "Good enough practices in scientific computing" as an entrée into this topic: http://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1005510.

Important things to remember:

- Develop a workflow that you understand and that you will consistently follow over time.

- Be vigilant about keeping your files organized.
- Original data files should be permanent. Modify data in R and output modified data files. Keep the R code you used to modify data files so that you can recreate and describe what you did. Documenting activities like data cleaning is critical.
- Comment your code LIBERALLY and consider using RMarkdown if you find it helpful. You may think it will be impossible to forget a single detail of the code you spent hours developing, but 6 months later if you pick it up, I can guarantee that you will have forgotten things (possibly most things).
- You should have a GitHub account and use it. You should start repositories for all your ongoing projects in the lab and you should make me a collaborator on those repositories. I'll often want to take a look at your code to make sure it is doing what we expect. Don't be offended by this! Programmers often work in teams because it is so hard to avoid mistakes when working on your own. When you complete and publish a paper, the repository for that paper (including data in most cases) will be forked to the QCons Lab GitHub site where it will live in a permanent repository. We will make sure someone else in the lab reviews your repository before it is made public.
- I expect you to turn in a complete and organized directory of your work before you leave the lab. It should include read-me files for all subdirectories with descriptions of all files. Have a clear and consistent sub-directory structure across all directories.

Data Management

Some of you will be collecting data of your own, and some of you will be using data provided by others. If you are collecting data of your own, it must be (1) described via metadata, and (2) managed for data quality. These two steps must also happen if you are using someone else's data and in some cases you may need to work with them to be sure this happens. Furthermore, anyone using any dataset must make sure that the data are (3) backed up throughout a project, and (4) archived at the end of a project.

Metadata: A data file should be accompanied by metadata containing information about a dataset such that the dataset can be understood and used. Sometimes, if you are working with historic data, you may need to create this metadata file. If federal funds are used to support data collection, you will need to do a data release, and all of the components above will be part of that release. However, everyone, regardless of funding, should follow these practices. You can read more here about metadata: https://www.usgs.gov/products/data-and-tools/data-management/metadata-creation

Data Quality Standards: Everyone in the lab must take care that protocols and methods are employed to ensure that data are properly collected, handled, processed, used, and maintained, and that this process is documented in the metadata.

Data Backup: You must have a daily (or better) backup system in place for any project data. This system must: (1) be in two distinct locations, and (2) include a findable "key" that describes how someone other than yourself can access the data (i.e., me). Data in hard copy form (i.e., field notebooks, lab data sheets) must be scanned into digital form. Hard copies should remain in the lab.

Data Archiving: The goal for data archiving is to make your research easily understandable and reproducible in the future. It is therefore incumbent upon you that, by the end of a project, care and effort is given to providing a highly organized and traceable accounting of the research that is archived in perpetuity. At a minimum, this archive should include raw and processed data, complete metadata, and all computer code, plus copies of or citations to final products (e.g., publications). We will archive finished projects on the lab GitHub site (in addition to USGS data releases in many cases).

Dealing with Disputes

My hope is that you will not have any serious disputes arise during your time here. However, there are resources available to you if they do. I am always happy to help problem-solve as well.

- If you are having challenges interacting with another person at UW due to harassment, you will find useful information here: https://environment.uw.edu/about/diversity-equity-inclusion/non- discrimination-and-sexual-harassment-resources/.
- For dispute resolution on a variety of issues, contact the University Ombud: https://www.washington.edu/ombud/.
- For legal issues, Student Legal Services may be of help: https://depts.washington.edu/slsuw/
- Other valuable resources are the grad student coordinators in each department (currently Steven Roberts in SAFS, Patrick Tobin in SEFS, and Tim Essington in QERM) and the grad student advisers: Amy Fox, (SAFS), Sam Scherer (SEFS), and Erica Owens (QERM).
- Another valuable resource is the departmental diversity specialist (in SAFS, Michael Martinez, SEFS and QERM do not currently have someone in this position).
- SAFS and SEFS both also have anonymous reporting resources, here for SAFS and here for SEFS.
- I encourage you to seek help if you are not comfortable coming to me. The people listed above are a great place to start. You can also go to Mark Scheuerell or Alex McInturff. If you want, Mark or Alex will put you in touch with my supervisor, Kevin Whalen (who you'll likely meet at some point during your time). Finally, the SEFS or SAFS department chairs (currently Dan Brown and Andre Punt) are there to help you, although they will generally ask you to speak with the GPC first.

General Resources

- SAFS graduate programs: https://fish.uw.edu/students/graduate-program/
- SEFS graduate programs: https://sefs.uw.edu/students/graduate-degrees/
- QERM graduate programs: https://quantitative.uw.edu/graduate/degree-programs/
- UW postdoc union: https://hr.uw.edu/labor/academic-and-student-unions/uaw-postdocs
- UW student union: https://hr.uw.edu/labor/academic-and-student-unions/uaw-ase
- UW postdoc handbook: https://grad.uw.edu/wp-content/uploads/2019/06/postdoc-handbook.pdf
- UW grad requirements: https://grad.uw.edu/for-students-and-post-docs/degree-requirements/

- SAFS FINS: https://fish.uw.edu/students/graduate-program/fins-fisheries-interdisciplinary- network-of-students/
- SEFS Dead Elk Society: https://www.facebook.com/groups/deadelk

Some Final Thoughts

There is a lot of information in this document. Hopefully some of it will be useful immediately to help you get up and running. Some of it won't mean much the first time you read it but will become useful down the road. Some of it might worry you a little, like the information on dispute resolution. I want to cover the bases in case things don't go entirely to plan. But in fact, my expectation is that you're going to have a great experience here. The decision to admit someone to my lab is one of the most important professional decisions I make every year. You're not here by accident. You're here because I fully expect you to thrive, achieve great things, and make me very proud to be your advisor. It isn't going to be easy every day, because nothing really worth doing ever is. But overall, I expect it will be fun and rewarding. I'll push you hard to be the best scientist that you can be, and I know that I'll learn a lot from you along the way. I'm really glad that you're here, and I'm looking forward to getting started. Good luck!

Approval

I, the undersigned, have read this document and have discussed any concerns or questions with Sarah.

Date: _____

Printed Name (student or postdoc):_____

Signature: _____