Contents

Welcome

This is the lab book for Mark Scheuerell's Applied Ecology Lab in the School of Aquatic and Fishery Sciences (SAFS) at the University of Washington. This book lays out the policies and procedures that we follow, serving as reference material for on-boarding, expectations, communications, coding, data, publishing, and presentations.

Research in the Applied Ecology Lab focuses on the conservation and management of aquatic resources, particularly within Washington State and along the west coast of North America. Our research spans a diversity of ecosystems, and includes both at-risk and commercially important species. Importantly, we pursue our scientific endeavors in an open science environment where we create accessible and reproducible workflows. You can find out more about our projects on our lab website.

Land acknowledgment

We acknowledge the ancestral homelands of those who walked here before us and those who still walk here, keeping in mind the integrity of this territory where area Native peoples identify as the Duwamish, Suquamish, Snoqualmie, and Puyallup, as well as Muckleshoot, Tulalip, other Coast Salish peoples, and their descendants. We are grateful to respectfully live and work as guests on these lands with the Coast Salish and Native people who call this home.

Credits

Many people and sources inspired the content here. In particular, we would like to acknowledge Gavin Fay, Chelsea Wood, Steven Roberts, and Sarah Converse. The Applied Ecology Lab also thanks the following members for their contributions to this manual: Dara Farrell, Markus Min, Kelly Mistry, Karl Veggerby, Nicole Doran, and Andrea Hennings. Our lab logo was designed by the wonderfully talented Simone Des Roches.

If you have questions or suggestions for improvements, please contact Mark Scheuerell.

License

Part I

Background

Chapter 1

Lab culture & values

We are dedicated to providing a welcoming and supportive environment for all people, regardless of their background, identity, appearance, or disability. Our team works in an open science environment, relying on trust and respect to build effective partnerships. We continually strive to improve and expand upon our complementary skill sets through education and innovation, and we believe strongly in the sharing of knowledge through conversation and writing.

1.1 Our mission

Using our knowledge and skills to help solve real-world problems.

1.2 Our vision

Our vision is to better understand and manage aquatic ecosystems through the integration of data, analysis, and communication.

1.3 Our values

- We focus on what is best for all of us
- We embrace diversity
- We listen with intent to understand
- We consider the impact of our intent

- We learn from our mistakes
- We are open to change
- We show out
- We celebrate our successes
- We embrace life outside of academia

We focus on what is best for all of us

Our lab is meant to be a safe and welcoming place. We'll all have greater success in our endeavors, and feel better while doing it, when we focus on our collective good. We ask one another for help when needed and we graciously help each other when we're able to do so.

We embrace diversity

We all come from different places and different backgrounds, and we respect that not everyone has to look, feel, or act the same. We all have unique experiences and knowledge that we may, or may not, want to share with one another.

We listen with intent to understand

When we communicate with others, we listen with the intent to understand the perspectives of others and how their previous experiences shape their beliefs. We are active listeners and approach conversations with an open mind.

We consider the impact of our intent

Although we may set out with the best intentions, our words and actions may have unintended consequences. Thus, we try our best to consider the impact of our intent, with the understanding that we can also try to repair any damage we may have unwillingly caused to others.

We learn from our mistakes

We acknowledge our mistakes and try our best to learn from them. Rather than beat ourselves up about it, we take the time to understand what happened, think about how it could be rectified and avoided in the future, and move forward.

We are open to change

We acknowledge that we are always learning and looking for better ways of doing our work. As such, we accept *constructive* and *gracious* criticism from one another in the hope of improving ourselves.

We show out

We don't merely show up—we show out! We put our best selves forward and commit to working hard.

We celebrate our successes

Science has its ups and its downs. It's important that we acknowledge and celebrate our successes, whether they be small wins or major accomplishments.

We embrace life outside of academia

We believe that a healthy lifestyle outside of academia helps us be better scientists, as well as better colleagues and friends to one another. Our families, friends, pets, neighbors, and communities are important to us and they deserve some of our attention as well.

Chapter 2

Expectations

People in the Applied Ecology Lab are expected to be good citizens, neighbors, and office/lab mates. Please try your best to act in a manner consistent with our Code of Conduct as well as the SAFS Code of Conduct.

2.1 Mark's role

Mark serves as a mentor and source of information about academics, research, service, and life in general. He will do his best to help everyone get the most out of their experience at SAFS and UW. Mark will push you to be your best self, which may include some uncomfortable conversations on occasion. Maintaining open and clear lines of communication will be paramount to our successful mentor/mentee relationship. As such, Mark believes strongly that students, postdocs, and technicians should feel empowered to openly express their feelings.

Although Mark is committed to helping you find the resources and information you need, he's also cisgendered, straight, and white, which means some of you may want to seek advice from others inside or outside of SAFS. If you should choose to do so, you are under no obligation to tell Mark about it.

Some things to expect from Mark

- Mark will strive to be impartial in his dealings with all lab members and cultivate a welcoming and inclusive atmosphere to facilitate learning and excellence.
- Mark will endeavor to be clear in his advice and feedback to you.

- Mark will help you select a thesis topic and plan your research, which includes advice on possible supervisory committee members and courses that will help you now as well as in your future career.
- Mark will monitor your progress towards your academic and professional goals and provide feedback intended to help you achieve those goals.
- Mark will respond to any requests for help and meetings within 24 hours (except in exceptional circumstances).
- Mark will keep you informed regarding your current funding and will work with you to find future funding.
- Mark will provide career advice and help you expand your professional network.
- Mark will assist you in finding a position following the completion of your program, which includes writing honest letters of recommendation on your behalf.

2.2 Grad students

Graduate school should be a rewarding experience, but it can be incredibly challenging at times. The resources provided here are meant to help you transition to a new phase in your life and get the most out of your time at the UW School of Aquatic and Fishery Sciences. Staying organized with respect to your personal obligations, coursework, research, and outreach will help you through the process.

You are not alone in this endeavor!

As a new graduate student in our lab, you will be welcomed into a group of diverse individuals with varying interests. We support each other and celebrate our successes. You will have numerous opportunities to contribute to our research projects, develop lasting bonds within and outside the lab, and help us improve upon our ways and each other.

You can find a wealth of information, including forms, guidelines, handbooks, and milestones here.

Things Mark expects from you

- You will maintain a high level of professionalism, which includes acting ethically and behaving in a manner consistent with our lab's Code of Conduct and the UW Student Conduct Code.
- You will ask Mark for clarification on anything that is unclear or confusing.

- You will know the requirements of your degree program, including important milestones such as coursework, committee formation, and proposal submission.
- You will attend all relevant meetings and seminars, including lab meetings and one-on-one meetings with Mark.
- You will come prepared to any meetings we have, which includes a clear idea of the agenda or goals for the meeting.
- You will keep careful notes of your research and meetings with Mark and others, and ensure that you research data and software are backed up.
- You will keep Mark apprised of your academic progress.
- You will ensure that your supervisory committee is kept informed about your research, which includes meeting with them (at least) annually and in the quarter preceding *any* big milestone (e.g., qualifying exam, defense).
- You will carefully review Mark's comments on drafts of your work (not simply "accept all") and question him if a suggestion for a change is unclear or does not seem justified/appropriate.
- You will ask your lab mates and peer network for information and advice, to the extent possible.

Mentoring plans

All grad students will develop a mentoring plan with assistance from Mark. This will be a "living document" that evolves over time according to the goals and needs of the student.

Annual reviews

All grad students will undergo an annual review with Mark, which involves the following 3 steps:

1. Independent reports
    - Student completes a self assessment (Word doc here)
    - Mark completes a student assessment (Word doc here)
2. Student / Advisor meeting
    - Meet to discuss independent review reports
    - Define specific goals for the next academic year including any planned exams

- After meeting, the advisor will distribute both reports to Committee

3. Committee meeting

   - Meet to discuss independent reports or distribute them electronically
   - Revise and/or approve goals for next academic year
   - Committee discusses and completes the Annual Committee Meeting Report (Word doc here), and sends it to Student for a response
   - Advisor files completed Committee Report with SAFS

2.3 Postdocs

Post-docs in our lab conduct independent research and serve as *ad hoc* advisors to undergraduate and graduate students. They are a useful source of information and can help students navigate difficult situations.

Annual reviews

All postdocs will undergo an annual review with Mark, as required under the collective bargaining agreement. Prior to the meeting, Mark (and potentially other collaborators) will fill out this form. The postdoc will fill out this form. After the meeting, Mark will send the completed forms to the HR director and they will file them away.

2.4 Undergraduates

Undergraduate research experiences are an important part of setting people up for success in future scientific endeavors, especially if they are interested in attending graduate school. Our lab employs undergraduate technicians for lab and field work, and we also sponsor undergraduate students working on their senior capstone projects in SAFS and the Program on the Environment. If you're an undergraduate working with our lab group, it's important that you understand the background and rationale for your project. Could you explain it equally as effectively to both Mark and your parent(s)?

Here are some additional expectations:

- We expect people working with us to be on time, so let us know ASAP if something comes up and you cannot be somewhere at a pre-specified time.

- Tell us if you break or lose something, which tends to happen from time to time and is a normal part of research. Your first concern should be for your safety and for those around you. Once you're sure everyone is OK, assess the situation and get help as needed. **If there is any sort of emergency, call 911 immediately**.

- We expect people to work the hours they're being paid. You may not do homework, read material unrelated to the lab, eat lunch, etc while being paid by us. You are welcome to use the lab space as a place to sit while you work on other tasks, though.

- Please clean up after yourself. The lab is a shared space and we do not want to suffer a tragedy of the commons. If you don't know where something belongs, ask for help.

2.5 Work hours

Everyone is expected to finish their tasks on time, but there are no fixed hours when people are expected to be working in the office, lab, or remote location. That said, there will indeed be times when you are expected to be somewhere at a certain time, whether it be for a meeting, seminar, or lab/field work. Please be considerate of other people's time and do not make them wait for you or wonder where you are. If something should come up, please contact others to let them know your status.

In general, Mark tries to maintain core hours at SAFS from 10:00-4:00 each weekday, so that people can interact with him on an *ad hoc* basis. When Mark knows he will be away due to travel or other business, he will do his best to alert the lab prior to his absence. If you cannot find Mark in his office, please send him a message via Slack, email, or text message (if urgent or an emergency).

If you are funded as an RA or TA, you are expected to work on the research program funding you, or the class to which you have been assigned, for 20 hours per week. You are expected to spend another 20 hours per week working on your own research, coursework, outreach, etc. "Side projects" are encouraged, but they should be considered part of your own 20 hours of research/studies, and not your RA or TA responsibilities. Your highest priorities are completing the tasks related to your TA/RA work and making progress towards completing your degree.

2.6 Time off

Everyone in the lab is entitled to some time off from work. No one is expected to work on the following holidays:

- New Year's Day (January 1)
- Martin Luther King, Jr. Day (third Monday in January)
- Presidents' Day (third Monday in February)
- Memorial Day (last Monday in May)
- Juneteenth (June 19)
- Independence Day (July 4)
- Labor Day (first Monday in September)
- Veterans' Day (November 11)
- Thanksgiving Day (fourth Thursday in November)
- Native American Heritage Day (fourth Friday in November)
- Christmas Day (December 25)

Note, too, that people are allowed to take up to two unpaid holidays per calendar year for a reason of faith or conscience, or for an organized activity conducted under the auspices of a religious denomination, church or religious organization.

Grad students

Grad students with a 50% or greater FTE appointment for twelve months are allowed 4 weeks (20 business days) of paid time off per year, but they should clear any leave plans with Mark at least 2 weeks in advance. There will be no reduction in pay or benefits for this time off. Grad students with a 50% appointment for less than twelve months, or those who are appointed for less than 50% FTE, shall have vacation time off prorated on this basis.

Grad students who are employed as a 50% FTE for three or more quarters during the 12-month period starting September 16th shall be entitled to one personal holiday during that 12-month period (this applies to most students). Personal holidays must be requested in advance. Grad students are also eligible for paid sick leave, which accrues at one (1) hour for every 40 hours worked. Sick leave accrues at the end of the month and is available for use the following month.

More information about leave policies for grad students can be found here.

Postdocs

Postdocs receive 21 days of paid vacation time off at the beginning of the month following the start of each one-year appointment period. For appointment periods of less than one year, postdocs will receive the prorated number of paid vacation days. Unused vacation time off shall lapse 12 months from the date it was received and at the expiration of each appointment period. Unused vacation time off is not paid at separation, does not transfer between employment programs, and is not eligible for shared leave donation.

Postdocs receive one day of paid sick time off for every month of their appointment. Paid sick time off will be preloaded annually and available at the beginning of the month following the start of the appointment. Up to 12 days of unused sick time off will carry forward to the next appointment year. Note, however, that unused sick time off is not paid at separation, does not transfer between employment programs, and is not eligible for shared leave donation.

More information about leave policies for postdocs can be found here.

2.7 Absences

Everyone in the lab is responsible for letting Mark know if you will be away for an extended period of time, whether it be a personal vacation or for field work. If it's just a day off here or there, it's not a problem, but Mark and others would like to know ahead of time if you are likely to be difficult to get a hold of should we need to for any reason. We genuinely care about the well being of one another, so if you are absent for more than 2 days without notifying anyone, we will reach out to your emergency contact(s) to verify you are safe and well.

Chapter 3

Code of Conduct

We recognize that scientific endeavors are reflective of society at large. We all possess different forms of implicit bias that affect the ways in which we relate to others and communicate with them. These implicit biases are also woven within a larger fabric of structural discrimination and prejudice that restricts many people from fully accessing the many facets of science and the academy. If we are to truly integrate everyone into our society in a meaningful context, we must move towards a position of recognizing people for their strengths rather than focusing on their weaknesses. We believe that when we create an open, welcoming space that explicitly acknowledges the differences among us, we can better engage with one another and create positive outcomes for all.

As such, all members of the Scheuerell Lab are expected to abide by the following Code of Conduct. This includes collaborators and visitors to the lab as well. **Violations of this code are taken very seriously and will be addressed swiftly.** We do not tolerate discrimination or harassment based on characteristics that include, but are not limited to, gender identity and expression, sexual orientation, disability, physical appearance, body size, citizenship, nationality, ethnic or social origin, pregnancy, familial status, veteran status, religion or (non)belief, age, education, or socio-economic status.

Note: Lab members are also expected to abide by the SAFS Code of Conduct.

3.1 Things you *can* do

In order to foster a positive and professional learning environment, we encourage the following kinds of behaviors:

- show courtesy and decency toward others

- use welcoming and inclusive language
- listen with intent to understand
- be respectful of different viewpoints and experiences
- gracefully accept constructive criticism
- be open to change
- focus on what is best for all of us

3.2 Things you *cannot* do

Any form of language or behavior intended to exclude, intimidate, or cause discomfort is a violation of the Code of Conduct. This includes, but is not limited to

- written or verbal comments that exclude people on the basis of membership in any specific group
- sustained disruption of communications, talks or events
- insults or put downs
- sexist, racist, homophobic, transphobic, ableist, or exclusionary jokes
- excessive swearing
- publication of private communication without consent
- unwelcome sexual attention
- nonconsensual or unwelcome physical contact
- continuing to initiate interaction (including photography or recording) with someone after being asked to stop
- the display of sexual or violent images
- causing someone to fear for their safety, such as through stalking, following, or intimidation
- violent threats or language directed against another person
- incitement of others to violence, suicide, or self-harm

Members of our lab's community who violate these rules—no matter how much they have contributed to the Scheuerell lab, or how specialized their skill set—will be approached by Mark Scheuerell.

Anyone asked to stop any inappropriate behavior is expected to comply immediately.

If *any* inappropriate behavior persists after a discussion with Mark, the offender will be asked to discontinue their participation in Scheuerell lab projects, meetings, or other activities.

3.3 Reporting

If you believe someone has violated the Code of Conduct, please report it to Mark who will take appropriate action to address the situation. If the incident involves Mark, or for whatever reason you are uncomfortable reporting the incident to Mark, please contact any of the following individuals:

- Sarah Converse (Mark's supervisor)
- Michael Martínez (SAFS Diversity Specialist)
- Tim Essington (SAFS Director)
- Chelsea Wood (SAFS graduate program coordinator)
- Samantha Scherer (SAFS graduate student advisor)
- Beth Gardner (QERM graduate program coordinator)
- Erica Owens (QERM graduate student advisor)

NOTE: If you would like to report an incident, but remain anonymous, please use the SAFS online reporting form (requires a UW net-ID to access).

NOTE: There is a list of reporting and support resources Reporting and support.

3.4 Addressing conflict

Handle conflict professionally – Anywhere humans are, conflict will follow. We should expect to disagree – that's part of living in a community. You are expected to disagree like a professional. This means:

- Disagreements should be processed through in-person meetings – never by e-mail or text and only by Zoom/phone if an in-person meeting is impossible.

- Assume good intentions – Most disagreements originate or are exacerbated by our perceptions of the other person's motivations. You can take the heat out of a disagreement by assuming right off the bat that the other person has good intentions. Approach the other person with curiosity, not animosity, and you might find that your disagreement is much smaller than you thought.
- Take a beat – If you're feeling emotional, take some time to cool off before re-approaching a conflict. At least get a good night's sleep: you can take the edge off of anything with some solid rest. Come back to the issue once you've cooled down.
- Listen – Brené Brown says that we should "Listen with the same passion with which we want to be heard." Keep lines of communication open so that small problems don't snowball into big ones.
- Own up – If you mess up, own it and apologize. Knowing how to apologize well is a powerful tool that will benefit you in life and work. Learn how to do it here.

Find more tips for handling conflict here.

Credits

Much of this content is based upon Codes of Conduct developed by the Data Carpentries.

Part II

Getting started

Chapter 4

Relocating to Seattle

The information in this section will help new students and staff get acquainted with the resources available to them.

4.1 Geography

Seattle's neighborhoods each have their own unique character and attractions, and many have their own little core with shops and restaurants. For example, Fremont is quirky and comes with a troll under a bridge, Capitol Hill is vivacious, Greenlake is home to an expansive park that is very popular in the summer, and Ballard has a Nordic influence.

Any apartment hunt must begin with a geographic overview. These links will help start you off:

- Wikitravel
- findwell
- Seattle moving guide
- Zillow

4.2 Budgeting

You're likely on fixed budget, which may be the deciding factor on where to live. Rent will depend on the neighborhood, number of bedrooms, amenities, and whether it is a shared or non-shared housing situation. Padmapper is helpful

for a bird's eye view of the range of rental options for a given budget. You can also use Craigslist's map view.

The U.S. Department of Housing and Urban Development's Office of Policy Development and Research released a 2019 report that analyzed the Seattle-Bellevue-Everett housing market. They found that the average rents for a studio, one-bedroom, two-bedroom, and three-bedroom apartment were $1515, $1675, $1899, and $2051, respectively (based on data from 2017). There are sometimes rare gems under the $1500 mark that are rented very quickly; typically these options are found through networking with friends or colleagues, but sometimes they can be seen on Craigslist (be ready to pounce, but be very wary of scam listings and be cautious with your personal information). Housing options near the $1000 mark are typically more attainable if you only need a room in a house and don't mind multiple roommates and shared bathrooms. Be sure to ask which utilities are included with the rent.

If you work or study in Seattle and your circumstances allow you to sustain a longer commute (by car, bus or light rail), living outside of the core of the city in areas such as Mountlake Terrace, Shoreline, Beacon Hill, Columbia City or Tukwila may offer you more choice within your budget. Be sure to research your commute options well; some buses do not run year round.

4.3 Resources, Other Advice & Links

Seattle has numerous property management companies and depending on your budget, time or flexibility it might be worthwhile to survey the listings offered on various property management companies' websites. You may also find it worthwhile to check for reviews of any companies that interest you to get a sense of whether or not they are reputable. Craigslist and Zillow remain viable ways to find an apartment, sublease or room, but be aware that the most affordable options are likely to be quite competitive. Landlords often ask for first and last month's rent as well as a security deposit (non-refundable in some cases) plus an application fee. The best apartments go very quickly; be prepared to show up at open houses ready to fill out application forms, have documents that show your source of income, and have references handy plus a check for any application fees.

As a new postdoc or graduate student, your first stop should be SAFS's student/postdoc mailing list and Slack workspaces, even before Craigslist or Zillow. There you'll find people looking for roommates, selling or gifting their furnishings, and sharing invites to social activities. If you move and find yourself missing some essentials, keep in mind that community initiatives, such as Freecycle and Facebook Markeplace, are a great way to meet your new neighbors while preventing the flow of unwanted items to landfills.

Chapter 5

UW & SAFS

The information in this section will help new students and staff get acquainted with the resources available to them.

5.1 UW NetID

Your UW NetID is your personal identification for using secure UW online resources. A UW NetID is required of everyone associated with the University of Washington who plans to use online central administrative and computing services. These include Web pages to:

- Register for classes and thesis/dissertation credits.
- Check your personal information (student grades and schedules, employee payroll records and benefits files).
- Set up UW email accounts with forwarding options, along with other computer services.

To create your UW NetID, please click here. Please keep in mind that your NetID will also be your UW email address, so choose an ID carefully (you will be limited to 8 characters).

5.2 Husky Card

You will need to get a Husky Card, which acts as your university ID, as well as your library card, U-PASS, and after-hours building access key. Your Husky

Card also admits you into the Intramural Activities Building (IMA) and grants you free admission to the Henry Art Gallery and the Burke Museum. You can get your Husky Card from the Husky Card Account & ID Center, located in the ground floor of Odegaard Undergraduate Library. Note that you will need to have your UW student ID number and a U.S. state- or federally-issued photo identification with you (eg, a driver's license or passport).

5.3 MyUW

MyUW is your personal portal to University of Washington information. It is an easy-to-use tool for finding student and employee resources. You can personalize MyUW to fit your needs by including or excluding the services you see listed. Your UW NetID and password are required to log in.

5.4 IT

The UW IT Connect group can help with a lot of general IT questions about email, calendars, and software. Yo can find a list of their services here.

SAFS used to have its own IT support as well, but those service have since been consolidated at the College level into the Environment Shared Information Technology Services (eSITS). To get help with a local IT problem, you can file a ticket request here.

5.5 Email

If you prefer to use a non-UW email account primarily (e.g., Gmail), you can forward all of your UW email by updating your preferences on MyUW. However, you should ensure that your forwarded UW email is not filtered into your junk-mail/SPAM folder (e.g., add your UW email address to your contact list on your non-UW account).

5.6 Lab mailing list

Mark will subscribe you to the `scheuerell-lab@uw.edu`, which you can use to send things to the entire lab group. Note, though, that we generally prefer folks use Slack for messaging.

5.6.1 SAFS email lists

You should be automatically subscribed to the `safsgrads@uw.edu` mailing list, which is where general announcements are typically sent. You may also choose to self-subscribe to the SAFS "social" list `safssocial@uw.edu` here. You will not only hear about housing opportunities on this list but also events on campus, things for sale, and social events.

Additionally, you can manage your preferences for all lists to which you subscribe here by typing the name of the list in the search box under "Find a List's Information Page". If you prefer to receive all email from a list in a daily digest (i.e., a summary) instead of individually, you can select the digest option by going to the list's information page.

5.7 Regular mail

You will have a mailbox in the Fishery Sciences Building on campus, but it should only be used for correspondence and packages related to your academic program. The mailing address for regular postal delivery is

[Your name]
School of Aquatic and Fishery Sciences
Box 355020
Seattle, WA 98195-5020

The street address for courier deliveries (eg, UPS, FedEx) is

[Your name]
School of Aquatic and Fishery Sciences
1122 NE Boat Street
Seattle, WA 98105

Please make arrangements to receive all personal mail at your new local address.

5.8 Getting paid

If you have a Research Assistantship (RA), Teaching Assistantship (TA), or a SAFS fellowship, please bring either a U.S. Passport or some form of photo ID (driver's license, state ID card) and proof of eligibility to work in the U.S. (passport, birth certificate, social security card, or I-20 with statement indicating eligibility to work on campus) to Manish Kala in the SAFS Admin Office (FSH 116) and complete your employment paperwork before the first day of the pay period (September 16). Please email Manish for an appointment or to ask questions. **Note: You cannot be placed on payroll without this documentation**.

5.9 Union representation

As an RA or TA at UW, you are classified as an Academic Student Employee (ASE) and may choose to become a member of the GSEAC/UAW union. Union members pay dues; non-members are required to pay a service fee to the union. Dues or service fees are automatically deducted from each paycheck. The union contract is available for review here. We strongly encourage you to become familiar with the contract, as both the UW and ASEs are bound by it, whether or not you are a union member.

5.10 Immunization

First-time students must meet the UW Immunization Requirement, which protects the UW community from outbreaks of diseases like measles and mumps. When the majority of UW students are vaccinated against measles and mumps, they shield other students who are unable to be vaccinated due to pregnancy, allergies or compromised immune systems. The university asks that you upload proof of immunity *by the first day of your first quarter at UW*. The sooner the upload, the more quickly they will process your documents.

Regardless of your immunization requirement status, you will be able to register for classes for your first quarter, but registration for your second quarter at UW may be affected if you have not met the requirement by that time. You can find out more about the immunization requirement here.

5.11 Orientation

Students funded by SAFS as an RA, TA, or fellow should be on campus by September 16, unless alternate arrangements have been made with Mark. Orientation takes place over a series of days between September 21–29 and normally includes a half-day SAFS orientation for all new graduate students, a lab-safety workshop, TA and RA training, and a CPR/First Aid class. Orientation is designed to help you become familiar with SAFS, its resources, and policies.

If you are funded by your employer or another non-SAFS source, many of the events may not be applicable to you (e.g., TA or RA training). If an event is not applicable, then you do not need to participate in it. However, **all new students are required to attend the half-day SAFS Orientation**.

5.12 Helpful people

These people are very helpful and may be able to assist you.

- Sarah Romero (WACFWRU administrator)
- Michael Martínez (DEI Specialist)
- Samantha “Sam” Scherer (SAFS graduate student advisor)
- Chelsea Wood (SAFS graduate program coordinator)
- Jon Wittouck (Facilities, Shop, Lab Safety)
- Jonas Louie (SAFS Administrator)
- Niamh Owen-McLaughlin (Communications, Website)

5.13 Additional resources

Here are several additional resources to help you get acquainted with life on campus.

- UW Student Guide
- UW Events Calendar
- UW Student Organizations Office
- Registrar’s Office
- UW Bookstore
- Residency Classification Office

5.13.1 Getting around

- Campus maps
- Bike map
- Bus info
- UW Commuter and Parking Services, including UPASS

5.13.2 Women & minorities

- Dream Project
- Race & Equity
- The Q Center
- Disability resources
- Graduate Opportunities & Minority Achievement Program (GO-MAP)
- UW Minority Affairs & Diversity Office
- UW Women's Center

5.13.3 Funding & fiscal services

- Student Fiscal Services (paying your bill)
- Financial Aid Office
- Funding Opportunities
- Federal funding

Chapter 6

Scheuerell Lab

Here is some information about getting set up in the Scheuerell Lab, specifically with respect to office space, access, and communication.

6.1 Office suite

Our lab's office spaces are all located within a suite (Rm 134). Each student will be assigned office space inside the lab suite, which could be in any one of the three interior offices. Specific desks are assigned based on seniority, such that you will have the opportunity to switch desks after students graduate and move on. Each sit/stand desk has an external monitor, keyboard, and mouse to which you may connect your laptop.

6.2 Keys

Mark will assign you a key to the office suite, which will grant you access to the anteroom and your specific office space inside the suite (134B, 134C, or 134D). Students and post-docs share keys to the Coop Admin suite (Rm 250) and the lab (Rm 132); Mark will show you where they are kept. These keys should be returned immediately after you are done with them, so that others may use them when necessary.

6.3 Slack account

We use Slack as our primary mode of communication in the lab, as it helps to keep our email more manageable while providing a simple means for catego-

rizing, archiving, and searching prior content. If you do not already have an account in Slack, please sign up for a free one here. After you do so, Mark can invite you to the lab's workspace.

6.4 GitHub account

Our lab maintains a so-called "organization" on GitHub here where we host information and data related to the lab website, this lab manual, lab meetings, and specific projects. If you do not already have a free GitHub account, please do so here. After you have established an account, please send your username to Mark so he can add you to the lab organization.

Chapter 7

Coop Unit

Mark's faculty appointment in SAFS is tied to his position as the Assistant Unit Leader for Fisheries in the U.S. Geological Survey Washington Cooperative Fish and Wildlife Research Unit (WACFWRU or "Coop Unit"). Therefore, as a member of the Applied Ecology Lab you are also a member of the Coop Unit. Other members of the WACFWRU include:

- Dr. Sarah Converse (Unit Leader) and her lab members
- Dr. Alex McInturff (Assistant Unit Leader - Wildlife) and his lab members
- Sarah Romero (WACFWRU administrator)

Because the Coop Unit is a federal program and Mark is a federal employee, there are a few things that apply to you, but not other SAFS students or employees. Most of these are benefits, but there are some additional policies and procedures that must be followed. Sarah Romero can help you with many of the administrative tasks and will be a resource on a wide variety of topics.

7.0.1 Volunteer forms

Everyone in the unit who is not a federal employee (i.e., students, postdocs, technicians) will need to complete a volunteer agreement as part of the onboarding process, which can be found here. Please fill in the following information

- Sec 1: Personal information
- Sec 2: Emergency contact
- Sec 3a: Beginning & end dates (ask Mark for these)
- Sec 3f: Sign and date the document (digitally is OK)

When you are finished, email the form to Mark. He will then sign it and file it with our records.

7.0.2 Digital Measures

Digital Measures (DM) is the online system that the national Cooperative Units Program uses to track nearly everything, including students/post-docs who are part of the program, what research projects are ongoing, what publications/presentations are in the works, and safety training requirements. Sarah Romero will be able to help you get set up with a DM account. As soon as you're set up with a DM account, you'll need to do your own Personal Hazard Analysis, which will create a list of safety training that you'll need to take. Mark will go over this with you at one of our first meetings, and he'll show you how to enter training information into DM.

7.0.3 DOI Talent

DOI Talent is the platform for administering online training to Department of the Interior Employees. Even though you're not an actual federal employee, you'll still need to get set up with an account on DOI Talent. Again, Sarah Romero will be able to help you with this.

Among the various training modules you'll have to complete, these are required by everyone in the lab and do not expire (i.e., they only have to be completed once).

Title in DOI Talent	Title in Digital Measures
SAFETY: DOI Safety and Occupational Health Overview	DOI Safety and Occupational Health Overview (86389)
SAFETY: 1315 USGS Safety and Occupational Health Program Overview	USGS Safety and Occupational Health Program Overview (90112)
SAFETY: 1300 USGS Safety Program Requirements	USGS Safety Program Requirements (90113)
SAFETY: 1338 USGS Authorities, Roles, and Responsibilities	Authorities, Roles, and Responsibilities (86396)
SAFETY: 1304 USGS Industrial Hygiene Program Requirements	USGS Industrial Hygiene Program (104246)

Your other training requirements will be determined by the types of lab and field activities you will undertake. To identify them, you will have to complete a *Personal Hazard Analysis* (PHA) in DM, which you can access under **Safe at Work → My Safety Worksheet**. After you complete your PHA, you and Mark will review it together and discuss any additional training you will be

required to complete. This training will have to be repeated at regular intervals of 1-5 years (see table below).

Type of training	Expires every
Fire extinguisher	1 year
Bloodborne pathogens	1 year
CPR	2 years
(Wilderness) First Aid	2 years
Defensive driving	3 years
Over-the-Water	3 years
Motorboat operator	5 years

After you have completed a training module, you should (in theory) be able to download or print a pdf of the training certification. In cases where you do not get a certificate, save a screen-grab of the training details that show your completion status. You will then have to go into Digital Measures (DM), create a new training record under **Safe at Work → Safety Training Records**, enter the relevant information, and then upload the training certification from DOI Talent.

7.0.4 Student symposium

As a student in the Coop Unit you'll have the opportunity to participate in the annual Student Symposium, which is held during the fall quarter. You'll also get the chance to interact with agency scientists and managers from state and federal agencies.

7.0.5 Vehicles and boats

The Coop Unit has its own group of vehicles and boats that are available only to us. Before you can use or even ride in them, you'll need to fill out a federal volunteer form. Sarah Romero can help you with this. Before you can drive any of the boats, you need to complete both the Washington State Boater Education course and the USGS Motorboat Operator Certification Course (MOCC). For specific information, check out the Boats Section.

Part III

Policies & procedures

Chapter 8

Communication

Communication is a critical component of science, whether it be through formal and informal publications, seminars, conference presentations, or a quick chat in the hall. Sharing our information with others and learning from one another are necessary for us to advance our collective knowledge.

8.1 Conversation Norms

It is important to all of us that people feel empowered and safe to share their feelings in one-on-one or group meetings. As such, we have adopted the following norms with respect to our conversations.

- We will listen with the intention of understanding.
- We will elevate impact above intent, and we will apologize when necessary.
- We will acknowledge that it's not equally easy for everyone to share, but all perspectives are valuable.
- We will monitor our own air time (aim to share the space and time so others may participate as well).
- We will respect those who do not wish to speak.
- We will support one another to the best of our ability.
- We will use "I" statements as opposed to generalizations.
- We will not ask anyone to speak on behalf of any group to which we perceive them to identify, or to which they self-identify.
- We will be open to new or different perspectives

- We will accept non-closure. We acknowledge that some conversations may not be resolved in a single meeting, and that they may be tabled and revisited later.
- We will take lessons learned, but not others' stories, out of this space.

8.2 Forms of communication

Our lab relies on several forms of communication, each with its own pros and cons. First and foremost, Mark maintains an "open door" policy when he's in his office. If the door is wide open, please come on in. If the door is open just a crack, please knock, as Mark may be on the phone or meeting with someone else. If the door is closed, please assume that either Mark does not want to be disturbed or that he's out of the office. Note, too, that if Mark will be out of his office for just a bit during the day, he often leaves a message on his door with his whereabouts and estimated time of return.

Note: Anyone has the right to request that a conversation change venue if they are having trouble with the communication medium. For example, something might start as a Slack thread and then move to an in-person meeting, or someone might like to include more people in the conversation.

8.2.1 Slack

We use Slack as our primary mode of communication in the lab, as it helps to keep our email more manageable while providing a simple means for categorizing, archiving, and searching prior content. We also encourage you to sign up for the SAFS workspace and the WACFWRU workspace as well.

8.2.2 GitHub

We use GitHub as a collaboration platform for our research projects. If you do not already have a GitHub account, please sign up for one (it's free). We tend to use the "Issues" feature in GitHub when communicating inside and outside of the lab with our project collaborators. We also use GitHub for creating and editing our agendas for lab meetings.

8.2.3 Email

Email is a tried and true means for communicating inside and outside of the lab, in particular if the conversation involves people outside of the lab or you need to send attachments (e.g., draft manuscript, forms for signatures). Please

try your best to respond to all email messages within 24 hours of their receipt. If you are going to be away from your email from an extended period of time (e.g., vacation, field work), please turn on a vacation auto-response. If you need some help setting one up, please ask Mark or someone else in the lab.

8.2.4 Text message

In the event of an emergency or safety concern, please send Mark a text message or call him on his mobile phone. All members of the lab will be provided with Mark's number.

Chapter 9

Reporting and support

9.1 All lab members

9.1.1 SAFS Anonymous Reporting Tool

If you would like to report an incident to SAFS leadership, but remain anonymous, please use the SAFS online reporting form (requires a UW net-ID to access).

9.1.2 College of the Environment Resource List

This list of resources, compiled by the College of the Environment, includes information on reporting and getting support for bias incidents, discrimination, and harassment.

9.1.3 UW Bias Reporting Tool

If you encounter or suspect incidents of bias, you are encouraged to use this tool to file a report, which will be reviewed by the UW's Bias Incident Advisory Committee. Whenever possible, bias reports will be reviewed within two to four business days. Possible outcomes to reports are listed on the reporting tool webpage.

9.1.4 Employee Assistance Program (UW employees only)

The Washington State Employee Assistance Program (WA EAP) supports PEBB-eligible University of Washington employees and their household

members to help identify and resolve personal concerns to promote individual and workplace wellbeing. WA EAP can connect individuals with free and confidential mental health counseling, legal services, financial counseling, and more.

9.1.5 SafeCampus

SafeCampus is the University of Washington's violence-prevention and response program. SafeCampus supports students, staff, faculty, and community members in preventing violence. Call SafeCampus anytime—no matter where you work or study—to anonymously discuss safety and well-being concerns for yourself or others.

9.1.6 Office of the Ombud

The Office of the Ombud serves the UW community by providing high quality, client-focused services for preventing, managing, navigating and resolving conflict at the UW. Through active participation in the problem-solving process, clients develop the ability to prevent, manage, and resolve future conflicts. Read more about what to expect here.

9.1.7 Civil Rights Investigation Office

The Civil Rights Investigation Office investigates complaints made about University employees and students that raise concerns relating to civil rights such as protection from discrimination, harassment, retaliation, and sexual misconduct. The site provides information on campus resources and UW policies and procedures. Individuals can read an overview of the reporting process and/or speak with a confidential advocate to discuss their options. (**Note**: The University Complaint Investigation and Resolution Office [UCIRO] and the Title IX Investigation Office (TIXIO) are now collectively the Civil Rights Investigation Office.)

9.1.8 Your Union

UAW 4121 supports Academic Student Employees, Postdocs, and, most recently, Research Scientists and Engineers. UAW 4121 encourages members to contact them immediately whenever they have a concern, problem, or question about any aspect of their work.

9.1.9 Environmental Health and Safety

This reporting tool is for non-emergency incidents that occur on University of Washington owned or leased property that involve a University student; staff, faculty, or other personnel; or a visitor.

9.2 Students only

9.2.1 Husky HelpLine (UW students only)

The HuskyHelpLine exists to give students access to same-day, confidential mental health and crisis intervention support. It is available 24-hours a day and in multiple languages. Students can connect with the HuskyHelpLine via phone (US & Canada: 206-616-7777 | abroad: 001-416-380-6578), online chat, or the Telus app. (Husky HelpLine is supported through Telus and was formally called MySSP.)

9.2.2 College of the Environment Academic Grievance Procedures (CoENV students only)

In the College of the Environment, faculty, mentors, and departmental leaders welcome student feedback, including criticisms and grievances. All grievances are respected and treated seriously. The College of the Environment Student Academic Grievance Procedures provide mechanisms for graduate and undergraduate students to address academic problems or grievances in an equitable, respectful, and timely manner. Academic grievances are those involving conflicts between students and faculty instructor(s) or mentor(s) with respect to differences arising within credit-bearing coursework, research, and/or mentoring while the students are registered at UW.

9.2.3 Graduate Student Academic Grievance Procedures (UW graduate students only)

This is an overview of the grievance procedures available to UW graduate students. Grad students who believe they have been subjected to unfair treatment in the administration of academic policies may, except as noted, seek resolution of their complaints under this Academic Grievance Procedure. This applies, but is not limited, to the application of departmental, college, or Graduate School policies; deviations from stated grading practices (but not individual grade challenges); unfair treatment; and related issues.

9.2.4 Student Legal Services (UW students only)

Student Legal Services (SLS) is an on-campus law office that provides a safe and confidential space for all UW-Seattle and Bothell students who have legal questions or concerns. They offer free 40-minute consultations on a broad range of issues. Students can also hire ongoing representation for a low hourly rate. SLS is located in Husky Union Building (HUB) 306.

Chapter 10

Participation

10.1 Mentoring meetings

Every student is expected to set up regular mentoring meetings with Mark, which occur either every week or every other week, depending on the needs of the student. These meetings are usually scheduled for one hour, but the day and time may change to reflect changes in student coursework, committee meetings, etc. Students should come prepared to discuss goals and/or problems they're having with field/lab work, analyses, personnel, etc.

10.2 Lab meetings

Attendance and participation at lab meetings is mandatory. If you are unable to attend, please notify Mark in advance. We currently meet every week, with the day and time varying by quarter to accommodate everyone's schedules.

10.3 SAFS seminar

Attendance at the weekly SAFS seminar on Thursday afternoons is mandatory. During Fall and Spring quarters, seminars run from 4:00-5:00. You can find the schedule for Fall and Spring here. During Winter quarter, SAFS host the Bevan Seminar Series, which runs from 4:30-5:30 to align with normal course begin/end times. You can find the schedule here.

10.4 SAFS quantitative seminar

Attendance at the SAFS weekly quantitative seminar is optional, but strongly encouraged. Seminars run from 12:30-1:30 on Fridays in FSH 203. You can find the schedule here.

10.5 Fish & Wildlife Ecology seminar

Attendance at the weekly Fish & Wildlife Ecology seminar is optional, but strongly encouraged. Seminars are organized by Alex McInturff and there is a mailing list you can sign up for here. Day and times of these seminars vary by quarter and year. To subscribe to the mailing list,

1) Sign in to Google Groups.
2) Click **All groups** and find the group that you want to join.
3) Click **Join group**.
4) If you want to link or unlink your Google profile, choose an option:

- If you don't want people to view your Google profile, uncheck the **Link to my Google account profile** box. You can also enter a different display name for people to see.
- If you want people to view your Google profile, check the **Link to my Google account profile** box.

5) In the **Subscription section**, choose how often you want email updates from the group:

- Every new message
- Send daily summaries
- Combined updates
- Don't send email updates

6) Click **Join group**.

Chapter 11

Academics

This section includes the most important resources for navigating the various SAFS milestones/protocols/procedures, including coursework requirements, the master's bypass process, and various exams. Most of the resources here have been summarized from the SAFS grad guide or the SAFS Forms, Guidelines, & Handbooks Page. A more detailed description of most of these processes/protocols/requirements can be found there.

11.1 Required coursework

There are only a few courses that SAFS requires every student to take, as our goal is to have students work with their supervisory committee to chart a plan of study that is best suited to the student's needs. **Note**: If you feel that prior courses that you have taken would satisfy any core requirements (or any other courses), you can waive these courses (with Mark's and your committee's permission).

Core coursework for all M.S. and Ph.D. students

- FISH 522 "Hot Topics in Aquatic and Fishery Sciences" (2 credits; offered Fall)
- QSCI 482 "Statistical Inference" (5 credits; offered Fall/Winter)
- FISH 521 "Professional Development" (4 credits; offered Winter)
- FISH 510-514 "5-teen (miscellaneous topics)" (2X; 2-5 credits each; offered Fall/Winter/Spring)

Mark's requirements

There is a *very* good chance Mark will also require you to take the following courses (or their equivalent), if you haven't done so already.

- FISH 549 "Best Practices in Environmental Data Science" (3 credits; offered Winter of odd years)
- QERM 514 "Analysis of Ecological and Environmental Data" (4 credits; offered Spring)

M.S.

- Minimum of 45 credits total at the 400-level or higher
- At least 18 credits must be in courses numbered 500 and above
- 18 credits must be numerically graded in department approved 400-level courses accepted as part of the major and in 500-level courses
- Minimum of 27 non thesis credits

Ph.D.

- Minimum of 90 credits total at the 400-level or higher
- At least 18 credits of course work at the 500 level and above
- Numerical grades must be received in at least 18 quarter credits of course work
- The Candidate must register for a minimum of 27 credits of dissertation over a period of at least three quarters

11.2 Registering for courses

Full-Time Enrollment

Full-time quarterly enrollment for graduate students is 10 credits during the academic year (autumn, winter and spring quarters) and 2 credits during the summer quarter. To hold an ASE appointment (RA, TA, or SA), graduate students must be enrolled full-time during the quarter of funding.

Final Quarter Registration

A student must maintain registration as a full- or part-time graduate student at the University for the quarter the master's degree, the candidate certificate, or doctoral degree is conferred. A student who does not complete all degree

requirements by the last day of the quarter must be registered for the following quarter.

Continuous Enrollment

During the academic year (autumn, winter, and spring quarters), students must maintain continuous enrollment by being registered full or part-time, registered in absentia, or have petitioned for on-leave status. Students are not required to go on leave or register during summer quarter (unless it is required for your RA or fellowship status). Failure to maintain continuous enrollment will result in being dropped from the University and reapplication will be required to resume studies. Students holding a teaching or research assistantship must be registered for the minimum credits required during their appointment period (a minimum of 10 credits during autumn, winter, and spring quarters, and 2 credits during summer quarter). For this purpose, courses being audited do not count toward the minimum enrollment requirement.

NOTE: If you are employed as a student hourly position during the summer, **DO NOT** register for any courses/credits.

11.3 Forming a committee

This is typically the first milestone for both M.S. and Ph.D. students. The SAFS grad guide states that this is generally done in the 1st to 5th quarter of a degree; most students do this in their 4th (summer) or 5th (fall) quarter. Your first committee meeting typically occurs shortly after committee formation and is where you go over your plan of study (see below).

M.S. Committee

When you are ready to officially form your committee, use this SAFS M.S. Committee Formation Form. Note the following:

- M.S. committee is 3 members minimum: PI (Mark) + two other people
- minimum of two members must be SAFS core faculty; this means that of the two people who aren't your PI, one can be non-SAFS core faculty.

Ph.D. Committee

When you are ready to officially form your committee, use this SAFS Ph.D. Committee Formation Form. Note the following:

- Ph.D. committee comprises a minimum of 4 members:
  - Mark
  - GSR (Graduate School Representative) - this is a faculty member from UW but outside of SAFS (or QERM) whose role is to ensure that the policies of the grad school are followed and that the student is treated equitably
  - Two other people
- A minimum of two members must be SAFS (or QERM) core faculty

11.4 Plan of Study

The plan of study is an agreement made between the student and the supervisory committee about what coursework will be required to complete the doctoral degree. It includes the core required courses as well as any other courses the committee feels are necessary to give the student the required background in their area of interest.

- SAFS Plan of Study Toward the M.S. Degree
- SAFS Plan of Study Toward the Ph.D. Degree

11.5 Student & Advisor Annual Review

Every student is expected to undergo an annual review with their advisor and their committee. These annual check-ins should consist of three steps:

1) Independent reports
   - Student completes a self-evaluation using this form
   - Advisor completes a student evaluation using this form
2) Student / Advisor meeting
   - Meet to discuss independent reports
   - Define specific goals for the next academic year including any planned exams
   - After meeting, the advisor will distribute both reports to Committee
3) Committee meeting
   - Meet to discuss independent reports or distribute them electronically
   - Revise and/or approve goals for next academic year
   - Committee discusses and completes the Annual Committee Meeting Report, and sends it to Student for a response
   - Advisor files completed Committee Report with SAFS

11.6 M.S. Thesis Proposal

After forming your committee (and submitting your plan of study), this is the next major milestone for both M.S. and Ph.D. students. The SAFS grad guide states that this is generally done in the 1st to 6th quarter of a degree; however, most students complete this in their second year. **NOTE**: Even if you plan on doing the bypass, you still must complete an M.S. thesis proposal (see below).

M.S. Thesis Proposal Submission Form

11.7 M.S. Final Exam

The M.S. final exam consists of a public seminar describing your thesis research followed by a private oral examination by the supervisory committee (final exam).

Requirements

Two quarters before you plan to take your final examination, please schedule a 30 minute appointment with the SAFS GPA (Sam Scherer). At this meeting, the GPA will review your transcript, check your Plan of Study and confirm that all of your milestones have been completed. If you fail to attend this meeting, your Request for M.S. Final Examination may not be granted, resulting in postponing your graduation quarter.

Request for M.S. Final Examination

The student must submit a complete, near-to-final draft of the thesis, which has been reviewed and approved by the committee chair, to all members of his or her committee at least four weeks prior to the Final Examination. After reading the draft and the supervisory committee agrees that you are ready for the Final Examination, please request the final exam via the MS Request for a Final Exam Form. Completion of this form verifies that your committee has read an entire near-to-final draft of your thesis and concurs that you are ready to sit for your final examination. The final version of the thesis is completed after the final examination, incorporating changes requested by the committee.

11.8 Master's bypass

The M.S. bypass procedure is one of the most frequently asked about processes at SAFS and can be confusing. Below are the requirements from the SAFS

grad guide. After you have met all of the requirements and assembled the necessary documents, you will need to submit the information via the M.S. Bypass Application Form.

Bypass requirements:

1) All M.S. coursework must be completed
2) A statement from the student that describes their current M.S. research and illustrates the scientific direction and rationale they will take in expanding it to merit Doctoral status. The statement should also include a plan for coursework that supports their Doctoral degree and satisfies program requirements, as well as a funding plan.
3) A letter from Mark confirming:

    - that the student's research has progressed to the point of demonstrating competence at the Master's level
    - the completed M.S. research is a considerable and meaningful base of work for the proposed Ph.D. research, and, the proposed Ph.D. research is a substantive and logical advance from the M.S. research; evidence for this should be outlined in the draft Doctoral dissertation proposal
    - guaranteeing space and financial support for the student for at least the first academic year of Doctoral study; and
    - Mark's approval of the draft Doctoral proposal.

4) Current CV or resume;
5) UW transcript (unofficial);
6) A letter or email (to safs@uw.edu) from each member of the student's MS Supervisory Committee indicating that they have read the draft Doctoral proposal, confirm that it constitutes a sufficient basis for a PhD dissertation, as well as their approval to bypass the MS Degree;
7) A copy of the M.S. thesis proposal;
8) A draft doctoral dissertation research proposal that outlines each chapter of the Ph.D. dissertation, including methods, likely outcomes and significance. Importantly, this must demonstrate that the proposed body of proposed work would satisfy the requirements for a Ph.D. degree. (Note: This will not be the final dissertation proposal that will later be defended for the General Examination–you will still be expected to submit a formal dissertation proposal after your bypass application has been accepted.)
9) A copy of a paper accepted for publication in a peer-reviewed scientific journal; a manuscript that has been submitted (or deemed submittable) to a journal may also be acceptable, in which case letters from at least two MS committee members indicating that the manuscript is scientifically rigorous and publishable are required.

Milestones for students bypassing into PhD

1. Form M.S. committee
2. Submit plan of study for master's and have first M.S. committee meeting
3. Submit M.S. thesis proposal
4. Get bypass application approved
5. Form Ph.D. committee
6. Submit plan of study for Ph.D.
7. Submit dissertation proposal
8. Qualifying exam
9. General exam
10. Final exam

11.9 Dissertation Proposal

For students entering SAFS (or QERM) as Ph.D. students, this is the only proposal you need to write. For those who entered as M.S. students and wish to bypass, this happens once you have completed the bypass (and therefore means you first must have finished your M.S. thesis proposal).

11.10 Ph.D. Qualifying Exam

- Should be completed within 18 months of residency in the doctoral program
- Written exam administered over a five-day period
  - Each committee member prepares a set of questions to be answered in one day (i.e., typically 8 hours)
  - In the event that there are only 4 examiners on the committee, Mark will write 2 sets of questions
- Prior to the Qualifying Exam (i.e., at least 3 months), the student obtains guidance from each Committee member on the subject matter to be covered and the expected question and answer formats

11.11 Ph.D. General Exam

The general exam consists of the student presenting their proposal in oral form to their committee and the committee asking questions about theory/background, methods, and possible outcomes. You can think of it as a defense of your research questions and your approaches for answering them. The general exam is typically completed in the quarter following your qualifying exam.

- Passing your general exam means that you are admitted as a Ph.D. candidate (and you get a pay raise!)
- A General Examination may be scheduled if:
  - You've completed 60 credits (some of these credits may be taken the same quarter of the exam)
  - All required program examinations that do not need Graduate School approval have been completed (i.e., for PhD students, this is a written qualifying exam)
  - All members of the supervisory committee agree that the student's background of study and preparation is sufficient and have approved the student to schedule a General Examination

11.12 Ph.D. Final Exam

Two quarters before you plan to take your final examination, please schedule a 30 minute appointment with the SAFS GPA. At this meeting, the GPA will review your transcript, check your Plan of Study and confirm that all of your milestones have been completed. If you fail to attend this meeting, your Request for PhD Final Examination may not be granted, resulting in postponing your graduation quarter.

A Final Examination may be scheduled if:
- A student passed a General Examination in a previous quarter
- A reading committee is officially established with the Graduate School (i.e., not all committee members need to provide a detailed evaluation of the written dissertation)
- The reading committee has read an entire draft of the dissertation
- The entire supervisory committee has agreed that the student is prepared and has approved the student to schedule a Final Examination.

Chapter 12

Collaborations

Collaborative science is a hallmark of the Applied Ecology Lab and as such, it's important to establish some ground rules when working with others. In so doing, there are generally three types of objectives:

1) Your needs as an individual (eg, professional advancement, mental health);

2) Project objectives (eg, preserving project timeline, producing all project deliverables);

3) Team cohesion (eg, preserve team harmony, preserve relationships with specific members that you will likely work with again).

Each of these may be top priority at different times or in different types of conflict, but be aware of which one you (and other team members) are prioritizing and which, if any, are being deprioritized.

Click here to view a collection of slides that Kelly Mistry put together to help navigate this process.

12.1 Working with Mark

Because Mark is an employee of the U.S. government, he must follow a set of policies and procedures for ensuring the quality and integrity of his science, which includes scientific presentations and publications, known as the Fundamental Science Practices (FSP). To comply with FSP, there are several steps we must take before a manuscript may be published. Failure to do so causes a number of problems, and could potentially result in disciplinary action against Mark.

12.2 Steps to follow

Please follow these guidelines and steps when preparing a manuscript for publication.

12.2.1 Mark's affiliation

It is **very important** that Mark's affiliation on the title page be listed as:

> U.S. Geological Survey Washington Cooperative Fish and Wildlife Research Unit
> School of Aquatic and Fishery Sciences
> University of Washington
> Seattle, WA

Although there may be some subtle differences depending on the journal/outlet, such as the inclusion of a street address or zip code, the first line must always be written verbatim as above. Note, too, that you may not abbreviate the first line in any manner (eg, "USGS WACFWRU").

12.2.2 Pre-publication disclaimer

As part of the USGS Fundamental Science Practices, publications with Mark s a co-author **must** include the following statement on the cover page or somewhere else near the beginning when formatting a paper for submission to a journal:

> This draft manuscript is distributed solely for purposes of scientific peer review. Its content is deliberative and predecisional, so it must not be disclosed or released by reviewers. Because the manuscript has not yet been approved for publication by the U.S. Geological Survey (USGS), it does not represent any official USGS finding or policy.

The disclaimer will be removed after the publication has been cleared by the bureau approving officer.

12.2.3 Product disclaimer

If we refer to specific trade, firm, or product names within a publication (e.g., "R programming language", "YSI multisonde"), we **must** include the following statement in the acknowledgments:

> Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

12.2.4 Peer review process

The process of getting a peer-reviewed publication approved involves the following steps:

1) An outside expert is identified and asked to provide a "friendly" review of the manuscript. This person can be from a university, government agency, or NGO.

2) Mark gets approval from his regional supervisor for the expert identified in (1) to proceed with the review.

3) The manuscript is prepared in accordance with the journal guidelines and those listed above (i.e., affiliation, disclaimers).

4) The manuscript is sent to the person identified in (1) and approved in (2).

5) The manuscript can be concurrently sent to the journal for peer review.

6) All reviews from steps (4) and (5) are addressed point-by-point and the manuscript revised accordingly.

7) Mark provides the original manuscript, reviews, responses, and revised manuscript to his bureau approving officer (BAO).

8) The BAO (hopefully) approves the manuscript and the review process then proceeds accordingly. Note: this process generally takes 1-2 weeks.

9) Any copyright agreement needs to be sent to USGS HQ for review and possible revision.

12.2.5 Preprints

Some authors like to post preprints to servers like bioRxiv. If you would like to do so, note that Mark will need to find TWO reviewers in step (1) above and they will need to complete their reviews before it's posted.

Also note that under NO circumstance can the journal publish *any* version of the paper online before Mark gets the approval (ie, no online early, preprints, etc). If the journal does so, Mark gets in trouble, and the approving officer will sometimes search online for the paper title, authors, etc to make sure it hasn't been published online.

Chapter 13

Reproducible research

We are strong advocates and practitioners of "open and reproducible research". Open research means we use public online platforms for hosting our code and workflows. Reproducible research means that an analysis can be reproduced exactly as originally intended, even if it's years later. Conducting reproducible research is more difficult than it sounds, because it requires you to be organized and document each step of your research process. There are three main things you can do to improve the reproducibility of your research:

1) write extensive documentation

2) create programming workflows, and
3) use formal version control.

Documentation can be in the form of liberal comments in coding scripts, such that others can easily decipher what the code is doing, as well as documents that combine text, equations, code, and results (see the Markdown section below). Programming workflows help with reproducibility because they take some of the human element out, and in an ideal scenario, you are left with a script or series of scripts that takes data from raw form to final product. Programming alone is not enough, though, because people can easily forget which script changes they made and when. Therefore, all projects that involve programming of any kind (so basically, all projects) must use some form of version control. Our lab uses Git (a version control software) in combination with GitHub (an online collaboration platform). This is a hard requirement because

- it allows us to definitively track the evolution of files over time,

- it allows for easier detection of bugs, and

- it facilitates code sharing.

13.1 References

Mark encourages people to take a look at these references on scientific computing and project workflows:

- Bryan (2018) Excuse me, do you have a moment to talk about version control?
- Cooper & Hsing (2017) A guide to reproducible code in ecology and evolution
- Marwick et al. (2018) Packaging data analytical work reproducibly using R (and friends)
- Wilson et al. (2017) Good enough practices in scientific computing

13.2 GitHub

GitHub is a code hosting platform for version control and collaboration. It lets you and others work together on projects from anywhere. GitHub itself is not a development tool, but rather a file hosting and collaboration site. In many ways, a social network like Facebook. You can build a profile, create projects to share with others, and follow the accounts of other users. GitHub is not linked to any one programming language like R, as you can find all kinds of projects based upon different languages there. GitHub also runs Git in the background. Git is a version control software, which means it records changes to a file or set of files over time so that you can recall specific versions later.

Our lab maintains a so-called "organization" on GitHub here. Each project gets its own "repository" (or "repo"), which you can think of as the root directory for various folders and files. Each repository also contains a `README` file with information about its contents and a `LICENSE` file that lays out permissions and conditions for others who are interested in our work. There is a special repo in the lab organization that you can use as a template for your research project, which you can find here. You can learn more about GitHub and how to set up a repo here.

13.3 Markdown

Markdown is a simple markup language for creating formatted text using a plain-text editor. It makes use of some special characters for formatting headers and text. GitHub automatically recognizes Markdown files with a `.md` extension and renders them as formatted information.

R Markdown is a specific flavor of Markdown that allows you great flexibility to include equations and other special formats. It also allows to create documents in various forms such as HTML (`.html`), PDF (`.pdf`), and even MS Word (`.doc`). You can learn more about using Markdown here.

Chapter 14

Data management

Data management is one of the most important aspects of our research program. In particular, when we are collecting our own data we must ensure that we

1) use conventional formats for entering data into spreadsheets;

2) include the necessary metadata to describe the individual fields in a data file;

3) create backups of the data and metadata files; and

Data chain of custody

Data chain of custody refers to part of a process whereby everyone must insure their analysis is fully reproducible (see Section 13). This includes:

- keeping a copy of the raw data
- recording all of the operations used to generate the clean data
- documenting the contents of the clean data

14.1 Data files & formats

We ascribe to the "tidy" format for data, wherein each row of a data table or flat file is a unique record and each column is a unique field. Broman and Woo (2018) provide an excellent overview of data entry and organization in spreadsheets. Here are their take-home messages:

- **Be consistent**. This includes names of locations, species, sex, as well as dates and file names.
- **Choose good names**. Choose short, but descriptive names for files and avoid spaces in them. For example, `L_WA_limno_sampling.csv` rather than `Lake Washington limnology sampling.csv`.
- **Write dates as `YYYY-MM-DD`**. This may sound trivial, but it turns out to be really important when working with the file as part of an analysis.
- **Don't leave empty cells**. Although it can be tempting to do so when some aspect of a field or record is to be repeated many times, it can wreak havoc on the resulting object when imported into a software like **R**. In particular, if a cell should be consider empty or null, please enter `NA`.
- **Only include one piece of info in a cell**. For example, you might consider a column/field named `plot_sample` with a possible value like `10A`, which would be better separated into 2 columns labeled `plot` and `sample` with respective values `10` and `A`.
- **Do not use color, highlighting, or comments as data**. If the data in a particular cell is otherwise noteworthy for some reason (eg, value is 10X greater than anything else), it's probably best to add an additional `notes` column/field to the file and include any comments there.
- **No calculations in cells**. Although tempting, resist the urge to add cells with calculations that are based on other cells (eg, `=SUM(A1:A3)`). Similarly, do not include graphs or pivot tables in your data files either.
- **Use data validation**. If you are using Excel for data entry, you can take advantage of its "data validation" feature, which will help insure that the correct type (eg, text) and value (eg, min/max) are entered into a cell.
- **Create a data dictionary**. This should be a separate (and tidy) file with some metadata about the columns/fields, which might include the following:
  - The exact variable name as in the data file
  - A version of the variable name that might be used in data visualizations
  - A longer explanation of what the variable means
  - The measurement units
  - Expected minimum and maximum values

- **Save the data as plain text**. If using a spreadsheet like Excel to enter your data, export a copy in a plain text format. Although some people like tab delimited files (`.txt`), we prefer to save our files as comma separated values (`.csv`). CSV files are nice because you can easily open the file in Excel or another spreadsheet program, but perhaps more importantly, this file format does not require any sort of special software to open it.

14.2 Metadata

Metadata are simply data that provide information about other data, or in other words, a shorthand representation of the data to which they refer. Metadata benefit science in many ways, including

- **Increased data longevity**. Over the course of a scientist's career she may initiate many different studies, some of which outlast the investigators/students. In addition, many scientists will often contribute information from many areas/fields, each of which may have its own norms, lingo, etc.
- **Increased data reuse & sharing**. Metadata can help other scientists understand whether or not a dataset could be of use to them in their own studies. It also greatly facilitates meta-analyses.
- **Expanded scales/scopes of analyses**. In some cases, short-term studies evolve into long-term programs, and the metadata can help people understand when and how new data can be incorporated into the program. It also facilitates creativity among researchers.

One of the most common questions about metadata is, "How much metadata is enough?" The answer is based on two factors:

1) the effort involved in creating the metadata
2) the value derived from it

In general, it's best to assume that "more is better".

14.2.1 Ecological Metadata Language (EML)

EML reduces ambiguity and uncertainty by formalizing metadata concepts via a comprehensive and standardized set of terms that are intended specifically for ecological data. EML contains various categories of information of the dataset.

General dataset

- identify and name the dataset
- describe the purpose of the data collection
- describe the questions the data were intended to address

Geographic

- where the research project took place
- where the samples were collected
- spatial or geographic references (UTM, lat/lon)

Temporal

- range of dates (eg, monthly between June 2019 and Dec 2020)
- specific time periods (eg, 01 May 2019, 08:00–12:00)
- gaps in time (eg, no data from July 2020 because of power loss)

Taxonomic

- taxonomic authority (book or system used to identify species)
- taxonomic rank (family, genus, species)

Methods

- instruments or devices used to collect data
- protocols
- units of the samples

Data table

- *name* is a unique name for the field/column (`date`)

- *label* describes the field/column ("date of sample collection)
- *definition* indicates what the values represent (length of a fish)
- *units* (grams, meters)
- *type* (`numeric`, `character`)
- *precision* (mm)
- *attribute domain description* defines codes & domain of values
  - `BVA = Bear Valley Creek`
  - `Length` is a positive, real value

14.3 Data storage

Where and how to store your data is an important consideration. In general, you are responsible for backing up your data to the cloud, which may involve one or more options.

14.3.1 GitHub

Each research project (or chapter of a thesis/dissertation) should have a corresponding repository in GitHub. At the outset, students and postdocs may choose to create these repos under their own GitHub username, with the expectation that they also invite Mark as a formal collaborator. As people finish projects, the corresponding repo should be transferred over to the lab's GitHub organization.

Data for your project should be pushed/pulled from GitHub as part of your regular workflow. Each project repo should be set up as a "research compendium" following one of the templates here. Each compendium should be structured with a `/data` folder that contains sub-folders for raw and derived ("cleaned") datasets. It is important that you **do not** revise the raw data files outside of your workflow, and instead keep unchanged versions of them in the `/data/raw` folder.

14.3.2 Others

In some cases you may need to rely on another cloud option for data storage or access. For example, a colleague or project collaborator my have information

stored on iCloud, Dropbox, or Google Drive. You might also elect to use one of these options as another form of backup for your own data, but if you should choose to do so, be aware that formal version software like Git and the auto-sync features of other platforms may not play nicely together.

14.4 Data archival

Upon completion of a project, all data will be archived in a formal repository and given a unique digital object identifier. In many cases this is a strict requirement of granting agencies and peer-reviewed journals. There are many data archival services available now, some of which charge for the service.

14.4.1 Zenodo

Zenodo is one of the more popular archival services because it's free and easy to use. It also integrates nicely with GitHub.

14.4.2 USGS

USGS also offers a data archival service, which some of our projects use.

Chapter 15

Publications

Writing is a large part of our scientific endeavors, and as a member of our lab you should expect to be integrally involved in communicating the results of your research. Writing can be hard and it may take a lot of practice before one feels confident in their ability to communicate clearly and effectively. Mark is willing to help you with the writing process, but he will not write things for you.

15.1 Authorship

Our research typically involves a wide variety of collaborators. When deciding who should be included as an author on any publication, we will follow APA guidelines, which state:

> Authorship credit should reflect the individual's contribution to the study. An author is considered anyone involved with initial research design, data collection and analysis, manuscript drafting, and final approval. However, the following do not necessarily qualify for authorship: providing funding or resources, mentorship, or contributing research but not helping with the publication itself. The primary author assumes responsibility for the publication, making sure that the data are accurate, that all deserving authors have been credited, that all authors have given their approval to the final draft; and handles responses to inquiries after the manuscript is published.

Authorship will be discussed prior to the beginning of a new project, so that expectations are clearly defined. However, changes to authorship may occur over the course of a project if a new person becomes involved or if someone is not fulfilling their planned role. In general, Mark expects that graduate students

and postdocs will be first authors on publications on which they are the primary lead, and Mark will be a co-author. Some labs use a tradition where the PI is the last author, but Mark prefers to list authors in order of contribution, which means that sometimes he will be last and other times he may be second, third, etc.

15.2 USGS Fundamental Science Practices

Because Mark is an employee of the U.S. government, he and his lab members must follow a set of policies and procedures for ensuring the quality and integrity of our science, which includes our scientific communications, known as the Fundamental Science Practices (FSP). To comply with FSP, there are several steps we must take before a manuscript may be published. Failure to do so causes a number of problems, and could potentially result in disciplinary action against Mark.

15.2.1 Affiliation

Students and postdocs should list their affiliation as

> School of Aquatic and Fishery Sciences
> University of Washington
> Seattle, WA

although QERM students may elect to use

> Quantitative Ecology and Resources Management
> University of Washington
> Seattle, WA

It is **very important** that Mark's affiliation be listed as:

> U.S. Geological Survey Washington Cooperative Fish and Wildlife Research Unit
> School of Aquatic and Fishery Sciences
> University of Washington
> Seattle, WA

Although there may be some subtle differences depending on the journal/outlet, such as the inclusion of a street address or zip code, the first line must always be written verbatim as above. Note, too, that you may not abbreviate the first line in any manner (eg, "USGS WACFWRU").

15.3 Peer-reviewed

Most of what we write is destined for publication in peer-reviewed journals.

15.3.1 Pre-publication disclaimer

As part of the USGS Fundamental Science Practices, publications with Mark s a co-author **must** include the following statement on the cover page or somewhere else near the beginning when formatting a paper for submission to a journal:

> This draft manuscript is distributed solely for purposes of scientific peer review. Its content is deliberative and predecisional, so it must not be disclosed or released by reviewers. Because the manuscript has not yet been approved for publication by the U.S. Geological Survey (USGS), it does not represent any official USGS finding or policy.

15.3.2 Product disclaimer

If we refer to specific trade, firm, or product names within a publication (e.g., "R programming language", "YSI multisonde"), we **must** include the following statement in the acknowledgments:

> Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

15.4 Old projects

For projects that required significant lab resources (e.g., time, money, labor), project "ownership" expires 3 years after data collection has ended (or whenever the original primary lead relinquishes their rights to the study, whichever comes first). At that point, Mark reserves the right to re-assign the project as needed to expedite publication. This policy is intended to avoid situations in which a dataset languishes for a long period of time, while still giving publication priority to the original primary lead.

15.5 Informal

To the extent that your time and interest allows, I support people writing informal posts/threads on social media, blogging, etc. Effective and engaging science

communication is a skill that takes time to develop, and your experiences at SAFS, UW, and beyond will provide ample opportunities for practice. Mark's only requirement is that anything you share adhere to our Code of Conduct and abide by the Conversation Norms agreed to with others.

Chapter 16

Presentations

You will have many opportunities to present your research in both informal and formal settings. In most cases, this will involve some form of oral presentation, but sometimes you may elect to, or be asked to, create a poster presentation. If you are new to these experiences, Mark will work with you on both the content and format of your talk or poster. And if you are more experienced, Mark may likely offer some advice as well.

16.1 Informal

16.1.1 Lab meetings

Lab meetings are a great place to present your research because you know everyone and you can trust them to be both honest and polite in their critiques. If you are planning to give a presentation at an upcoming workshop, conference, or seminar series, Mark will very likely ask you to give a practice presentation to the lab.

16.2 Public outreach

16.2.1 Community engagement

We often have opportunities to present our research to the public as part of organized activities (eg, "Science on Tap" events at a local brewery) or casual conversations in the field (eg, people *love* to ask questions at boat ramps). Engaging with the public is important because they are genuinely curious and eager to learn, and as taxpayers they support us indirectly.

16.2.2 SEAS

Students Explore Aquatic Sciences (SEAS) is a volunteer-run outreach program operated by undergraduates, graduate students, and staff in SAFS. Their goal is to help increase access to science for underserved students in the Seattle area by helping people/labs in SAFS (and elsewhere) to develop outreach materials for use in K-12 classrooms. Mark encourages people in the lab to learn more about SEAS, and consider volunteering with them.

16.3 Formal

16.3.1 Seminars & guest lectures

You may be invited to give a presentation in a regular seminar series or in a course at UW (eg, SAFS Quantitative, Fish & Wildlife Ecology), or beyond. If so, please ask Mark about whether it's appropriate given your other commitments, or if you would like some cover to pass on the invite. That said, Mark is a big supporter of these activities, so he will almost certainly agree.

16.3.2 Conferences & symposia

In general, Mark will cover the registration and travel costs for students to travel to one scientific conference per year, with the assumption that they will be presenting their research. These are great opportunities to learn about the latest advances in our field, see old friends, and build our professional networks. Most conferences have abstract submission deadlines early in Jan-Mar, so the lab will typically discuss possible venues in late fall. If there is a particular conference that you are interested in, please let Mark know as soon as possible so we can start our planning.

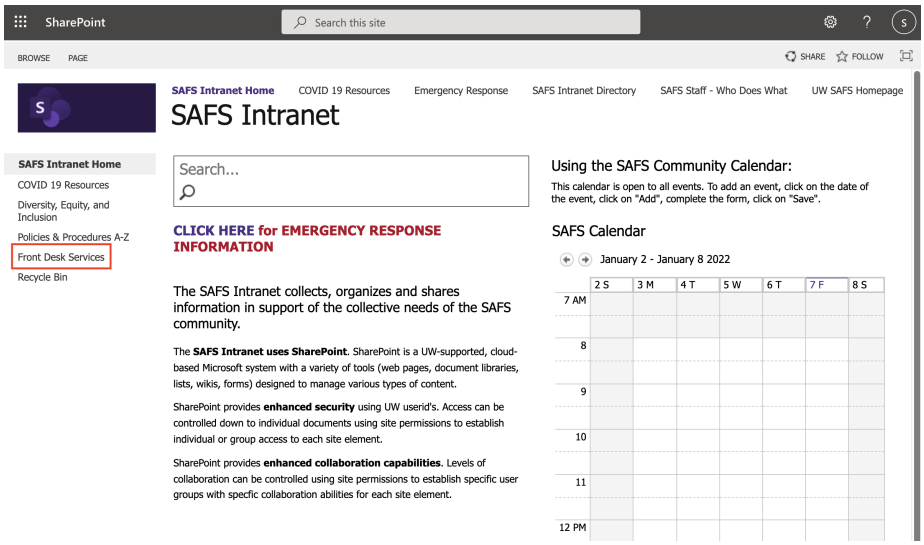
Chapter 17

Rooms & projectors

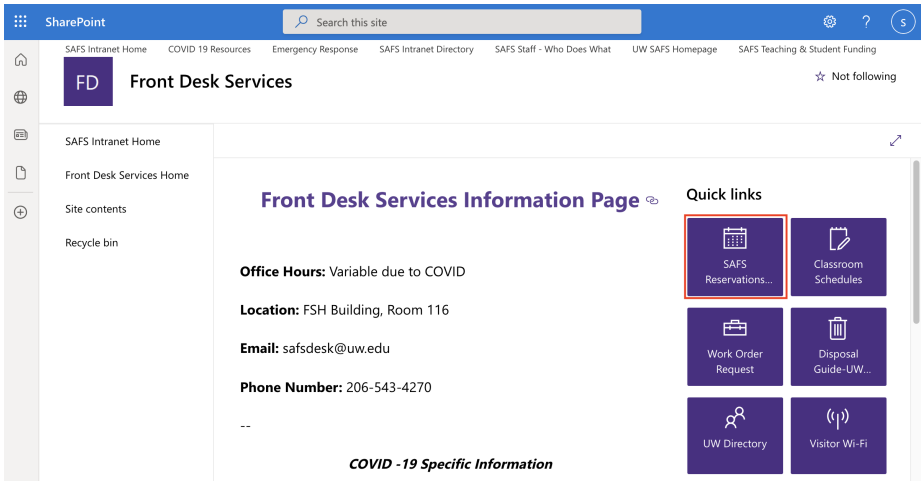
There are several conference rooms in the Fisheries Science Building that can be reserved for small meetings, as well as a portable LCD projector. Here are the steps to do so.

- Navigate to the SAFS homepage and click on the "Intranet" link in the upper right

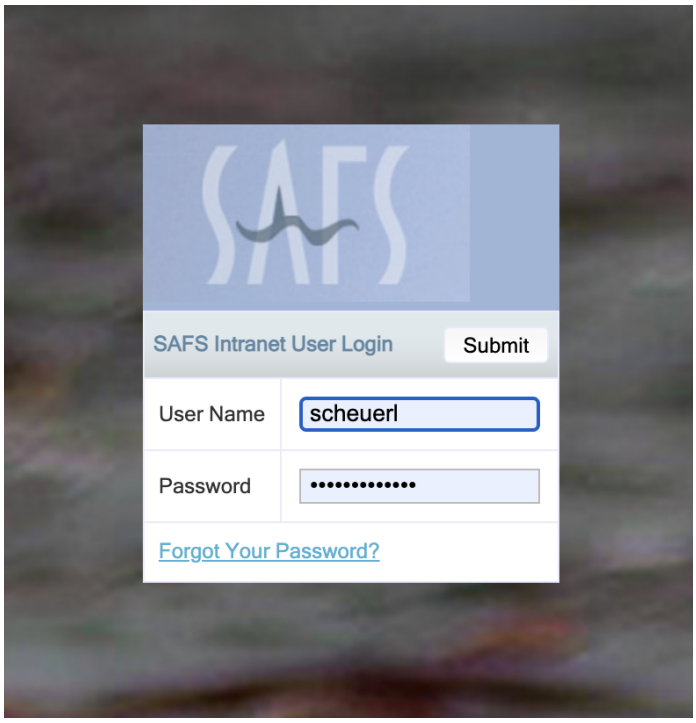
- Click on the link on the far left that says "Front Desk Services"



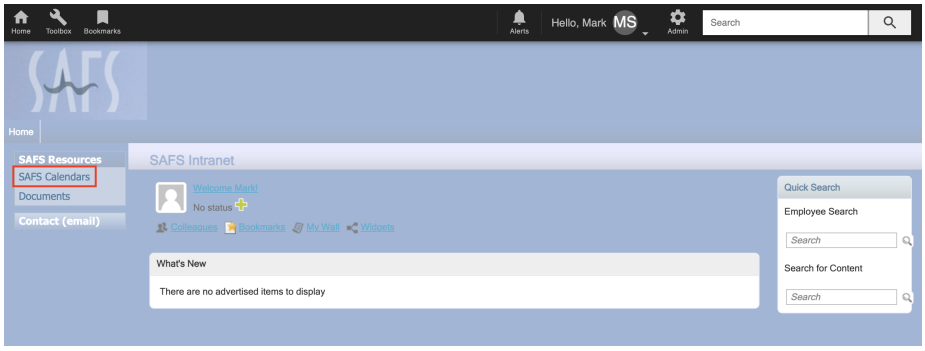
- Click on the purple square on the right that says “SAFS Reservations. . . ”



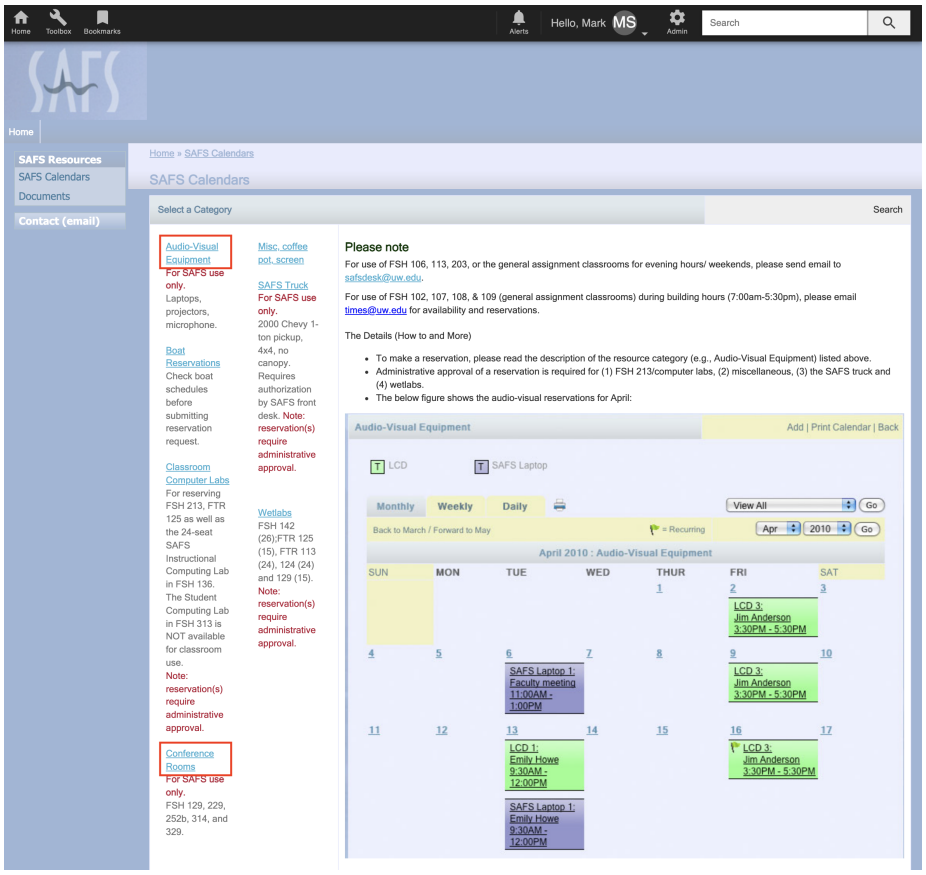
- Enter your UW netID and password in the dialogue box



- Click on the "SAFS Calendars" link on the far left



- You will then see several light blue titles/links for equipment, boats, rooms, etc; click on the one you want


Home
Toolbox
Bookmarks
Alerts
Hello, Mark MS
Admin
Search
Home
SAFS Resources
SAFS Calendars
Documents
Contact (email)
Home » SAFS Calendars
SAFS Calendars
Select a Category
Search
Audio-Visual Equipment
For SAFS use only.
Laptops, projectors, microphone.
Boat Reservations
Check boat schedules before submitting reservation request.
Classroom Computer Labs
For reserving FSH 213, FTR 125 as well as the 24-seat SAFS Instructional Computing Lab in FSH 136. The Student Computing Lab in FSH 313 is NOT available for classroom use.
Note: reservation(s) require administrative approval.
Conference Rooms
For SAFS use only.
FSH 129, 229, 252b, 314, and 329.
Misc. coffee pot, screen
SAFS Truck
For SAFS use only.
2000 Chevy 1-ton pickup, 4x4, no canopy. Requires authorization by SAFS front desk. Note: reservation(s) require administrative approval.
Wetlabs
FSH 142 (26);FTR 125 (15), FTR 113 (24), 124 (24) and 129 (15).
Note: reservation(s) require administrative approval.
Please note
For use of FSH 106, 113, 203, or the general assignment classrooms for evening hours/ weekends, please send email to safsdesk@uw.edu.
For use of FSH 102, 107, 108, & 109 (general assignment classrooms) during building hours (7:00am-5:30pm), please email times@uw.edu for availability and reservations.
The Details (How to and More)
To make a reservation, please read the description of the resource category (e.g., Audio-Visual Equipment) listed above.
Administrative approval of a reservation is required for (1) FSH 213/computer labs, (2) miscellaneous, (3) the SAFS truck and (4) wetlabs.
The below figure shows the audio-visual reservations for April:
Audio-Visual Equipment
Add | Print Calendar | Back
LCD
SAFS Laptop
Monthly
Weekly
Daily
View All
Go
Back to March / Forward to May
= Recurring
Apr
2010
Go
April 2010 : Audio-Visual Equipment
SUN
MON
TUE
WED
THUR
FRI
SAT
1
2
LCD 3: Jim Anderson 3:30PM - 5:30PM
3
4
5
6
SAFS Laptop 1: Faculty meeting 11:00AM - 1:00PM
7
8
9
LCD 3: Jim Anderson 3:30PM - 5:30PM
10
11
12
13
LCD 1: Emily Howe 9:30AM - 12:00PM
SAFS Laptop 1: Emily Howe 9:30AM - 12:00PM
14
15
16
LCD 3: Jim Anderson 3:30PM - 5:30PM
17

Part IV

Online presence

Chapter 18

Personal website

Maintaining an online presence feels increasingly important in science, as it's often the quickest and most convenient way to communicate about what's being done, who's doing it, and where it's happening. If someone wants to find out about you, they're going to search for you online.

Mark encourages everyone to create a personal website, as they are a great way to show the projects you work on, the people you collaborate with, your CV, etc. There are many different platforms that allow you to create a free website. Mark uses Hugo and reveal.js to create the lab website on GitHub and would be happy to help you get set up that way. Alternatively, you could use the built-in functionality of options from Google, Wix, Wordpress, etc.

18.1 What to include?

Here is a non-exhaustive list of things you might want to include on a website. In addition, some people will include photos, blog posts, helpful links, etc.

- Brief biography
- Educational background
  - Degree
  - Year
  - Major/minor
  - Institution

- Research interests
- Project(s) & collaborators/funders
- *Curriculum vitae* (see below)
- Contact info

Chapter 19

Curriculum vitae (CV)

Everyone should have a CV that lists information about your professional activities. Do not list any personal information like your social security number. Mark recommends you keep your CV as up-to-date as possible, and you place a link to it on your website.

19.1 What to include?

Here are some of the things people include on a CV when they are an early career researcher:

- Name & contact info
- Research interests
- Educational background
  - Degree
  - Year
  - Major/minor
  - Institution
- Relevant work or volunteer experience
- Awards or accolades (if any)
- Publications (if any)

- Presentations (if any)
- Project(s) & collaborators/funders

- Service (eg, committee service, reviewing papers or grants)

Chapter 20

Social Media

Social media is a great way to share your own experiences, discover interesting publications, find tutorials, learn about JEDI issues, get information about staying healthy, as well as wonderful personal stories, photographs, and humorous cartoons and memes. Your level of engagement on social media is a personal matter, but be cautious about being swept up in it. Social media is also a home for trolls and bots just looking for a fight.

20.1 Twitter

Many people in the lab have a Twitter account (you can find Mark's here). Twitter's requirement for brevity forces people to distill their messages into terms that (hopefully) many people can understand. One of the themes (hashtags) that Mark really enjoys is `#rstats`, which includes all kinds of helpful information about the R software and associated branches.

20.2 Instagram

Instagram is a wonderful place to see photos of people, places, and interesting things. At present the lab does not maintain an Instagram account, but that may change in the future.

20.3 Facebook

Facebook is perhaps the most widely used social media platform. It allows you to reach many kinds of people all over the world. Unfortunately, it's also

home to some disinformation and people of ill will. At present the lab does not maintain an Facebook account, but that may change in the future.

20.4 LinkedIn

LinkedIn is sort of like Facebook for business. People maintain public profiles with information about their careers, publications, professional connections, as well as job postings.

Part V

Health & safety

Chapter 21

Health & well-being

If you are experiencing an emergency, dial 911 immediately!

Your health and well-being are of paramount importance. For a broad range of resources and assistance at UW, please see the Husky Health & Well-Being website.

21.1 Health insurance

21.1.1 Students

Academic student employees (ASEs) receive health insurance through the Graduate Appointee Insurance Program (GAIP). GAIP covers medical, vision, and dental care for teaching assistants, research assistants, tutors, predoctoral researchers, and other ASEs working across the University.

GAIP benefits are negotiated between the UW and United Auto Workers (representing students at UW) on a three-year basis. The benefits are administered by LifeWise, a health insurance company based in the Pacific Northwest.

21.1.1.1 Eligibility

The UW pays for your GAIP coverage if you hold an eligible job appointment and meet all these requirements:

- You enroll for at least 10 credits during the quarter
- You're position is at least 50% full-time equivalent

- You're paid on at least five of the six pay days of the coverage period
- You register for classes by the 10th day of each quarter

This eligibility criteria applies to the fall, winter, and spring quarters. If you remain eligible throughout these three quarters, you'll automatically receive summer quarter coverage.

21.1.1.2 Enrollment

You don't need to enroll yourself in GAIP. Instead, your eligibility is established when your department enters your employment information into Workday. However, to avoid any coverage delays, you should contact your department and verify your employment information was entered into Workday if you haven't received enrollment confirmation.

Once enrolled, you'll receive an enrollment confirmation email from LifeWise, the plan administrator. Please make sure to read all the GAIP information you receive as it contains important information about the GAIP plan.

21.1.2 Post-docs & technicians

Post-docs and technicians should investigate the options available from the insurance provider you select when you sign up for UW Benefits. For example, through Regence you have access to a free service called Quartet, which helps you find a therapist based on your particular concern, and will also help you change therapists until you find the right fit.

21.2 Mental health

Every one of us can be negatively affected by a wide range of factors, whether or not they be related to academics. If you should feel like you need some help, please consider the following resources.

Crisis Clinic
Phone: 206-461-3222 or toll-free at 1-866-427-4747

UW Counseling Center
Phone: 206-543-1240
Immediate assistance

Let's Talk

Hall Health Mental Health

21.3 Sick leave

If you are not feeling well, please be considerate of others in the lab and the SAFS community and stay home. If you have a meeting, deadline, exam, or other activity that would otherwise require you to be here, please do your best to reschedule it for another time when you're feeling better. Grad students accrue sick leave at the rate of one (1) hour for every 40 hours worked. Sick leave accrues at the end of the month and is available for use the following month. Postdocs receive one day of paid sick time off for every month of their appointment. Paid sick time off will be preloaded annually and available at the beginning of the month following the start of the appointment. Please note, though, that Mark will provide you with an excused absence if you are sick, but out of leave time.

21.4 Food Pantry

No student should ever have to choose between buying food or textbooks. The UW Food Pantry helps mitigate the social and academic effects of campus food insecurity. They aim to lessen the financial burden of purchasing food by providing students access to shelf-stable groceries, seasonal fresh produce, and hygiene products at **no cost**. Students can expect to receive 4 to 5 days' worth of supplemental food support when they visit the Pantry, located on the north side of Poplar Hall at the corner of NE 41st St and Brooklyn Ave NE. Visit the Any Hungry Husky website for additional information, including operating hours and additional food support resources.

Chapter 22

Safety

If you are experiencing an emergency, dial 911 immediately!

22.1 SafeCampus

If you feel unsafe or at-risk in any way while on campus, contact SafeCampus (206-685-7233) anytime—-no matter where you work or study—-to anonymously discuss safety and well-being concerns for yourself or others. SafeCampus can provide individualized support, discuss short- and long-term solutions, and connect you with additional resources when requested.

22.2 Emergency contacts

Our lab keeps a confidential list of emergency contacts for every member of the lab. If you have not yet done so, please fill out this form with the name and contact information of at least one person you would to be contacted in the event of an emergency.

22.3 Lab

[more info coming soon]

22.4 Field

NOTE: Click here to access our full field safety document.

22.4.1 General considerations

- When going into the field, someone else should always be told where you're going, and when you anticipate being back. For on-the-water activities, the trip leader should file a detailed float plan.
- When heading into remote areas, have detailed physical maps with you and a compass. Relying on technology or cell service without any physical map backups is a bad idea.
- If you carry an epipen or similar device, make sure someone else in the group knows where it is and how to use it, in case you are unable to administer it yourself in an emergency.

And always remember: **People's safety is more important than any sample!**

22.5 UW safety resources

- UW Environmental Health & Safety (EH&S)
- UW Lab Safety Manual
- UW Online Accident Reporting System (OARS)
- Chemical Inventory & Safety Data Sheets (MyChem)

Part VI

Lab & Field

Chapter 23

In the lab

[more info coming soon]

23.1 General etiquette and advice

- With the exception of standard household cleaning supplies (windex, all purpose cleaner, soap etc) all chemicals should be stored in the fume hood, or in the chemical storage under the fume hood.
- In order to help keep the fume hood relatively unobstructed: only chemicals that are being used should be in the actual fume hood, with storage of extra supplies under the hood in the cabinets.
- Wash all equipment that has been used and leave out to dry.
- Keep lab counter spaces clear of clutter.
- Follow this general guideline: "leave it as clean or cleaner than you found it"
- Unless otherwise marked, all supplies and equipment in the lab are communal
- Never store samples or chemicals outside of the lab.
- All samples placed in the freezer should be labeled with a date, sample contents, and name of project or person responsible.

Chapter 24

In the field

NOTE: Click here to access our full field safety document.

24.1 General etiquette and advice

- When taking new volunteers out to help on your project, it's helpful to give them a list of things they should bring and/or a packing guide. Oftentimes new volunteers are stepping out of their comfort zone, and may or may not know what to bring or how to dress. For example: If you're expecting rain and it's going to be very cold, make sure to highlight the warm clothes etc they should bring. Don't assume they will know what to bring.

- Keep an eye on each other and make sure everyone is doing ok, feeling ok, and is being safe. If you're in charge of undergrads or other volunteers, make sure to take group breaks where people are drinking water, keeping their blood sugar up, and not overexerting themselves.

- Fieldwork can be intense, and the group dynamic is important in making sure things go smoothly. Try to make sure everyone feels included and comfortable around each other. This can go a long way to making the trip a success.

- Find time to have fun and unwind.

24.2 Site information

24.2.1 Lake Sammamish

Field work on Lake Sammamish is typically based out of the boat ramp at Lake Sammamish State Park (2000 NW Sammamish Rd, Issaquah, WA 98027).

24.2.2 Lake Washington

Field work on Lake Washington is typically based out of the boat ramp at Magnuson Park (7400 Sand Point Way NE, Seattle, WA 98115).

24.2.3 Puget Sound

Field work on Puget Sound is based out of several locations, depending on the specific project and whether it is boat- or shore-based. For boat operations, we typically use the following access points

- Eddie Vine Ramp at Seattle's Golden Gardens Park (8001 Seaview Ave NW, Seattle, WA 98117)
- Mukilteo's Lighthouse Park Public Boat Launch (609 Front St, Mukilteo, WA 98275)
- Anacortes' Washington Park (6300 Sunset Avenue, Anacortes, WA 98221)

The specific launch site, destination(s), and expected departure and arrival times will be detailed on the day's float plan.

24.3 Fieldwork safety policies

24.3.1 "No-go" criteria

Final authority for deciding whether field work will proceed rests with the crew leader. In many cases this will be Mark Scheuerell (PI). The crew leader will consult the National Weather Service Marine Zone Forecast for information on forecasted temperature, wind, and precipitation both the evening prior to and the morning of the planned work. Although they are not the exclusive criteria, any of the following conditions constitute a "no-go":

- Temperatures are forecasted to be below 45F or greater than 90F

- Wind waves are forecasted to be greater than 4 feet
- Thunderstorms are likely
- Poor air quality from wildfire smoke or other causes (check AirNow)
- Water quality concerns (e.g., cyanobacteria blooms, high levels of fecal coliform)

All participants will continue to monitor weather conditions throughout the day via weather apps on mobile devices and the WX channel on the VHF radio. If anything should change, the crew leader will call off sampling and the vessel will return to the vessel launch location or home port. If conditions are such that returning to the vessel launch location or home port would constitute an additional hazard (e.g., lightning spotted or thunder heard), the vessel operator should proceed to the closest location that offers shelter from the elements.

24.3.2 Personal conduct

All individuals are expected to abide by our lab's Code of Conduct and the SAFS Code of Conduct. Anyone who violates these rules—no matter how much they have contributed to the lab, or how specialized their skill set—will be asked to stop any inappropriate behavior and they are expected to comply immediately. Drug and alcohol use is strictly forbidden while transiting to a location or doing field work.

24.3.3 Hazards

Working in nearshore environments (e.g., mudflats, rocky intertidal areas) and on research vessels is inherently risky. The ground, decks, gunwales are typically wet and slippery, so crew should exercise caution when moving about, especially in windy conditions. Appropriate footwear (eg, Xtratuffs) will help reduce risk of slipping. Cool water and wind can reduce manual dexterity in hands and arms, so crew members should be aware of possible mobility limitations. Neoprene or other non-cotton gloves will reduce heat loss.

Crew members should be especially mindful of ropes and cables in the boat, as they present both a tripping and entanglement hazard. Some equipment (eg, Van Dorn bottle) relies on spring-loaded mechanisms, which can potentially pinch the skin if not armed and activated properly. Careful attention to detail will help mitigate any risk of doing so.

Knives, scalpels, and other sharp implements pose a risk of suffering a cut or puncture wound. In particular, care should be exercised when using these items, especially under adverse weather conditions such as high winds and cold temperatures.

24.4 Personal protective equipment

All participants are expected to always wear a personal flotation device (PFD) when working "over the water"; these will be provided. Crew members will also be provided with well-fitting rain gear (jacket and bibs) and closed-toed shoes or boots (eg, Xtratuffs). No sandals, flip-flops, or other open-toed shoes are allowed on the research vessel. In addition, properly fitting waders and wading boots may be necessary when working in nearshore or lentic environments. If so, they will be provided.

Temperatures out on the water are often much colder than those in Seattle, so crew members are encouraged to bring a warm hat, gloves, and additional layers. We have waterproof bags that people can use to keep their extra clothes dry. Crew members are also encouraged to wear sunscreen, sunglasses (polarized, if possible), and a hat, even when conditions are not particularly sunny. The crew leader will provide sunscreen for everyone.

We will stop for occasional bathroom breaks, which may include using porta potties or pit toilets at boat launches or parks. In the even that no facility is available, field crews will also have a toilet kit containing a hand trowel, toilet paper, feminine hygiene products, waste bags, and hand sanitizer. On the boat, this kit is kept inside the main console under the helm of the vessel.

24.5 In case of accident or injury

In case of accident or injury, all crew members should cease their activities and attend to the affected person(s). There is a first aid kit in an orange Pelican case located in a locker behind the helm of the vessel. The kit contains numerous items for treating cuts, burns, and other maladies. Shore-based operations will also have a well-supplied first aid kit available for use.

If an accident involves another vessel, crew members should first attend to any injuries to passengers in all vessels. If necessary, there is a signal kit in an orange Pelican case located in a locker behind the helm of the vessel. The signal kit includes hand-held and aerial flares, and a signal flag. The Coast Guard can also be reached via channel 16 on the vessel's VHF radio.

In the event of a serious injury requiring immediate medical assistance, the crew leader will designate one of the other members to contact medical professionals. If the crew leader is themself injured, the second-in-command will designate a communications person.

After an injury has been addressed and the immediate threat has passed, the injured person or someone else from the field crew will alert Mark Scheuerell (PI). At a minimum, their report should detail the following information:

- Name(s) of persons injured
- Location, date, and time of the injury
- Nature of the injury (eg, “laceration to right index finger”, “sprained left ankle”)
- Whether or not professional medical assistance was rendered

24.6 Cleaning and sanitzing procedures

All work surfaces in the lab and on the vessel will be cleaned with 95% ethanol prior to use. This also includes knives, forceps, and other small handheld tools and instruments. Field gear such as nets, sondes, etc should be rinsed well in the field using the onboard wash pump, and then rinsed again upon returning to the lab. Nets and ropes should be hung in the lab to dry. Waders and wading boots should be placed in the freezer for at least 24 hours to kill potential invasive species.

24.7 Food and meals

Everyone is responsible for bringing their own food and drinking water or other beverages for day trips. We often work long days, sometimes in hot and windy conditions, so people are encouraged to bring more food and beverages than they might typically consume. There may be opportunities to purchase additional food and beverages along the way, but people should not rely on that as an option.

Chapter 25

Vehicles

The Coop Unit has its own fleet of vehicles that are available only to us.

Make & model	License plate	Passengers	Capable of towing?
Chevy HHR	I433302	3	No
Chevy Suburban 4x4	I434802	6	Yes
Chevy Silverado 4x4	I433148	1	Yes
Ford F-350 4x4	I434891	3	Yes

Please do your best to select a vehicle most appropriate for your purpose. For example, if you and a colleague are going to a meeting in Olympia, the Chevy HHR would be a better choice than the Chevy Suburban.

NOTE: Before you can use (or even ride in) any of the Coop Unit vehicles, you'll need to fill out a federal volunteer form. Sarah Romero can help you with this.

25.1 Training

Before operating one of the Coop Unit's vehicles, you will need to take a defensive driving course, which is good for three years. The course is offered online and takes about 3 hours to complete. Mark will provide you with the URL and password to access the course.

25.2 Operation

25.2.1 Reservations

We use an informal Google sheet for making vehicle reservations, which you can access here. Please reserve a vehicle in advance of any trip and make sure no one else has a reservation that would conflict with yours (e.g., you're planning to have a vehicle for several days and return on a Thursday, but someone else has planned to use the vehicle on Wednesday).

25.2.2 Keys

All of the vehicle keys are kept inside the Coop Unit suite (Rm 242D). Each vehicle has its own clipboard containing keys and a gas purchase log. Make sure to take the proper clipboard with you.

25.2.3 Parking

The vehicles are typically parked on campus in lot W35, which is immediately to the east of SAFS. On some occasions, there may be special events, construction, or other activity that will preclude you from parking in W35 when you return from your trip. If so, please park the vehicle in one of the nearby lots (see the map at the bottom of the vehicle mileage form). **Note**: You should be able to park in any state-owned parking lot without issue, but please pay particular attention to any signage indicating possible restrictions.

25.2.4 Mileage & budget

When using a Coop Unit vehicle, please make note of the beginning and ending mileage, as you will need to record these at the conclusion of your trip. Mark suggests using your phone to take a picture of the odometer before heading out to facilitate this process, but you can edit the mileage form after the fact.

To access the mileage form, use the camera on your phone to scan the QR code on the cover of the clipboard, which will open a web browser and take you to the form. There are several fixed fields with dropdown menus from which to select your options:

- Driver's name
- Budget number & name
- Vehicle name

You will have to manually enter the following:

- Date
- Beginning mileage
- Ending mileage

Lastly, use the radio buttons to select the lot where the vehicle was parked.

Chapter 26

Boats

The Coop Unit has a few boats that are available only to unit employees, students, and post-docs. **Note**: before you can use or even ride in them, you'll need to fill out a federal volunteer form. Sarah Romero can help you with this.

26.1 Training

Before you can drive any of the boats, you need to complete both the Washington State Boater Education course and the USGS Motorboat Operator Certification Course (MOCC).

Appendix A

Resources on JEDI in STEM

Here are some resources to help educate ourselves about racism and colonialism in STEM and society as a whole, and things we can do to help change the status quo.

A.1 Collection of resources from UW

- Race & Equity Initiative

A.2 Websites

A.2.1 General

- BlackPast
- Coalition of Anti Racist Whites
- Guide to Allyship

A.2.2 Stem

- #ShutDownSTEM
- VanguardSTEM
- 500 Women Scientists

A.3 Online articles & blogs

- Jasmine Robert's piece on white supremacy in academia
- Rian Roberson's piece on white allies
- Rian Roberson's piece on Black History 2020: Living Legends
- An open letter to the EEB community

A.4 Books

- *How to Be Anti-Racist* by Ibram X. Kendi
- *White Fragility* by Robin Diangelo
- *So You Want to Talk About Race* by Ijeoma Oluo
- *Me and White Supremacy* by Layla F. Saad
- *The New Jim Crow* by Michelle Alexander
- *Eloquent Rage: A Black Feminist Discovers Her Superpower* by Brittany Cooper
- *Reproductive Injustice: Racism, Pregnancy, and Premature Birth* by Dána-Ain Davis
- *Beyond Inclusion, Beyond Empowerment* by Leticia Nieto
- *My Grandmother's Hands* by Resmaa Menaken
- *Post Traumatic Slave Syndrome* by Joy DeGruy

A.5 Journal articles

Asai, D. J. (2020). Race Matters. Cell, 181(4), 754–757. https://doi.org/10.1016/j.cell.2020.03.044

Beltran, R. S., Marnocha, E., Race, A., Croll, D. A., Dayton, G. H., & Zavaleta, E. S. (n.d.). Field courses narrow demographic achievement gaps in ecology and evolutionary biology. Ecology and Evolution. https://doi.org/10.1002/ece3.6300

Blosser, E. (2020). An examination of Black women's experiences in undergraduate engineering on a primarily white campus: Considering institutional strategies for change. Journal of Engineering Education, 109(1), 52–71. https://doi.org/10.1002/jee.20304

Dutt, K. (2020). Race and racism in the geosciences. Nature Geoscience, 13(1), 2–3. https://doi.org/10.1038/s41561-019-0519-z

Fovet, F. (2020). Beyond Novelty: "Innovative" Accessible Teaching as a Return to Fundamental Questions Around Social Justice and Reflective Pedagogy. https://www.igi-global.com/chapter/beyond-novelty/252132

Gautreaux, M. (2018). Towards shared understandings: An exploration of the literature on inclusive teaching and its implication for building Inclusive Excellence at UBC.

Kang, S. P., Chen, Y., Svihla, V., Gallup, A., Ferris, K., & Datye, A. K. (n.d.). Guiding change in higher education: an emergent, iterative application of Kotter's change model. Studies in Higher Education, 20. https://doi.org/10.1080/03075079.2020.1741540

Kim, S. S., & Gelfand, M. J. (2003). The influence of ethnic identity on perceptions of organizational recruitment. Journal of Vocational Behavior, 63(3), 396–416. https://doi.org/10.1016/s0001-8791(02)00043-x

Knaub, A. V, Maier, S. J., & Ding, L. (2020). Changing Culture and Climate to Prevent Sexual Harassment in the Physics Educational Setting. Physics Teacher, 58(5), 352–355. https://doi.org/10.1119/1.5145535

O'Brien, L. T., Bart, H. L., & Garcia, D. M. (2020). Why are there so few ethnic minorities in ecology and evolutionary biology? Challenges to inclusion and the role of sense of belonging. Social Psychology of Education, 23(2), 449–477. https://doi.org/10.1007/s11218-019-09538-x

Quan, G. M., Corbo, J. C., Finkelstein, N. D., Pawlak, A., Falkenberg, K., Geanious, C., Ngai, C., Smith, C., Wise, S., Pilgrim, M. E., & Reinholz, D. L. (2019). Designing for institutional transformation: Six principles for department-level interventions. Physical Review Physics Education Research, 15(1), 22. https://doi.org/10.1103/PhysRevPhysEducRes.15.010141

Reinholz, D. L., Matz, R. L., Cole, R., & Apkarian, N. (2019). STEM Is Not a Monolith: A Preliminary Analysis of Variations in STEM Disciplinary Cultures and Implications for Change. Cbe-Life Sciences Education, 18(4). https://doi.org/10.1187/cbe.19-02-0038

Riegle-Crumb, C., King, B., & Irizarry, Y. (2019). Does STEM Stand Out? Examining Racial/Ethnic Gaps in Persistence Across Postsecondary Fields. Educational Researcher, 48(3), 133–144. https://doi.org/10.3102/0013189x19831006

Rosa, K., & Mensah, F. M. (2016). Educational pathways of Black women physicists: Stories of experiencing and overcoming obstacles in life. Physical Review Physics Education Research, 12(2). https://doi.org/10.1103/PhysRevPhysEducRes.12.020113

Smith, N. S., Côté, I. M., Martinez-Estevez, L., Hind-Ozan, E. J., Quiros, A. L., Johnson, N., Green, S. J., Cornick, L., Shiffman, D., Malpica-Cruz, L., Besch,

A. G., & Shiel-Rolle, N. (2017). Diversity and inclusion in conservation: A proposal for a Marine Diversity Network. Frontiers in Marine Science, 4(AUG). https://doi.org/10.3389/fmars.2017.00234

A.6 Videos

- TED and TEDx talks about racism and actions to eliminate it
- TED and TEDx talks to help you understand racism in America
- FISH 513 Cultivating Inclusive Conservation Practices (hosted by Dr. Staci Amburgey) a very informative seminar series that delves into DEI issues in conservation.

A.7 Podcasts

- Code Switch
- Still Processing
- The Daily
- 1619
- Pod Save the People

A.8 Twitter

- #IndigenousSTEM #NativeandSTEM #NativeScience
- #WomenInSTEM
- #lgbtSTEM
- #blackandSTEM #BlackInTheIvory #BlackAFinSTEM

A.9 Black-owned businesses

- List of Black-owned businesses in WA from Support Black Owned

Appendix B

Inclusive SciComm

Dr. Sunshine Menezes, executive director of the Metcalf Institute at the Univeristy of Rhode Island, has put together a list of resources related to inclusive science communication, which you can find here.

The Metcalf Institute also sponsors a biennial symposium on Inclusive SciComm that may be of interest to members of the lab.