

# THE MERKLE RESEARCH GROUP

Vision, philosophy, policies and expectations

## Vision

The Merkle Research Group is motivated by 1) a profound curiosity for the natural world, and 2) a realization that innovative policy and management actions are necessary to conserve the biodiversity, ecological processes, and the remaining wide-open spaces we see in the world today.

Specifically, we strive to make a lasting impact on the field of wildlife ecology and management. To do this, we:

- Ask scientific questions and develop study designs that uncover novel and exciting aspects of wildlife ecology
- Co-produce research with our partners that creates reliable knowledge for managing and conserving wildlife and their habitat
- Provide analytical, scientific, and data support and guidance to our partners
- Communicate our findings to researchers, managers, policy makers, and the public

## Our Philosophy of Science

Uncovering exciting aspects of wildlife ecology and providing reliable information implies digging deep into every research question we ask. Research conducted in our Group involves: 1) testing every prediction of a hypothesis possible, 2) examining the same question from several different angles, and 3) implementing numerous statistical and modeling techniques to verify our results are robust. In other words, we push the limits of our research, we take risks that might lead to novel and useful discoveries, and we question and think critically at every step of the research process.

We conduct data analyses and science with integrity (see Nature's scientific integrity statement: <https://www.nature.com/authors/policies/index.html>). Failures and mistakes are common in science, but we do not tolerate negative attitudes – especially if they affect the morale or reputation of our Group.

Finally, we realize our work is a service to the animals and habitats we study. Thus, we are passionate about our work – we take our work seriously, work hard, and act in a professional manner.

## Lab Culture

We treat each other as colleagues. No matter the rank (e.g., undergraduate, graduate student, research scientist, postdoc), each of us has research and/or life skills and experiences that others do not. We are all expected to realize this, and respect each other accordingly. Likewise, we do not tolerate harassment or misconduct (as outlined in [University of Wyoming's student code of conduct](#)) of any kind. University of Wyoming resources for reporting such behavior can be found here: <https://www.uwyo.edu/reportit/>.

We are committed to fostering a team environment. Although each of us is expected to work independently, none of us ever work alone. Thus, we frequently talk to each other about science, ask

each other for advice, and help each other out – but never ‘tell’ each other what to do. Further, we support each other’s individual growth (professionally and personally).

Note that this document is a living document, and that Group Members are welcome to provide feedback and suggestions to Jerod Merkle at any time. Openly communicating about our collective vision, philosophy, policies and expectations will create and foster a supportive environment that is a better space for all.

Finally, we are committed to enhancing Diversity, Equity, Inclusion, and Justice within our Group, the Zoology and Physiology department, University of Wyoming, and our broader field. There are myriad ways in which we can individually and collectively contribute to shifting academia and science towards more just paradigms. We do not prescribe how to do this, but each Group Member is expected to commit to DEI work and advance these values in our field. We do so by setting and evaluating service and activism goals each semester. More information about our department’s climate and things we can do can be found in this article (from 2022): <https://doi.org/10.1371/journal.pone.0290065>.

### **Policies and expectations**

Collaboration. To be successful, we must collaborate with a multitude of partners including regional and federal land and wildlife management agencies and non-governmental organizations. Because we produce reliable knowledge, tools, and data that practitioners can use to manage and conserve wildlife, these relationships are very important and must be prioritized. Each member of our Group has their own specific collaborators with respect to their project, and thus each collaboration is an essential component of a larger network of collaborations within our Group.

Communication (with collaborators). A key aspect to effective collaboration is communication. Members of the Group are expected to keep their collaborators (which includes Jerod Merkle) in the know with their research progress. The “got it, thanks” mantra is the first step to communicating with colleagues properly. If a collaborator sends suggestions for how to conduct field work, comments on a manuscript, or anything, the first thing we are expected to do is respond with “got it, thanks” in addition to providing next steps and when to expect follow-up communication. Without adhering to this simple mantra, collaborators that do not receive a response will likely think the worst. They may think they have been ignored or their input is not appreciated. Without responding with a quick phrase telling a collaborator that their message was received, there is a risk of losing trust and respect, which are the building blocks of effective collaboration. When in doubt, we will CC Jerod Merkle on all correspondence with project collaborators. Before sharing research results with the press/media, we also communicate our intent to do so with collaborators (including Jerod Merkle) beforehand.

Communication (within our Research Group). Open and honest communication is central to the success of any team. Each member of the Group is expected to be aware of, and communicate to Jerod Merkle, what is needed to be happy and feel fulfilled. For example, it is up to members of the Group to notify Jerod Merkle if there are lab components (e.g., computers, chairs, desks, etc.) that are needed. Other important communication includes being open about one’s level of stress and work load. The Merkle Research Group does not tolerate a culture of silence, and will facilitate open and accessible conversations about mental health and other personal matters of concern. UW resources in regards to mental health can be found at <https://www.uwyo.edu/rec/wellness-center/areas-of-focus/mental-health/> and <https://docs.google.com/document/d/1XcMcdFvubjxs7hQp7idTw7871oR0NU2r/edit>.

Time in the lab. We respect that everyone has a different work ethic and life circumstances. There are no set rules for when to be in the lab; however, working together in a shared space fosters a team environment. Common sense should serve to define reasonable minimum standards for time in the lab. Being in the lab while you work during normal business hours is the expectation. Special circumstances (e.g., working from home) are potentially acceptable, but must be discussed with Jerod Merkle. Furthermore, when applicable, Group Members are expected to participate in structured MRG office hours, which are scheduled at the beginning of each semester.

Vacation. Although being productive requires hard work, dedication, and thoughtful planning and design, everyone needs breaks. Staying healthy with regards to physical and mental well-being and family is important, and taking time off is supported. There are no set rules for how much vacation one can or cannot take. Prior to taking time off, it is expected that we'll ask ourselves if time off will interfere with our progress, productivity, research goals, and timeline. If time off will be taken, Group members must notify Jerod Merkle when the time off will occur.

Weekly meetings. As noted before, effective collaboration stems from communication of progress. It is expected that each member of the Group meet with (or update via email) Jerod Merkle on a weekly basis. Even if a Group Member is in the field, weekly updates are expected. In addition to updates on progress, these weekly meetings provide an opportunity to ask questions and obtain consistent feedback. These meetings also provide an opportunity for alternative research avenues to be discussed – particularly if current ones do not appear to be fruitful or result in exciting ecological discoveries or reliable knowledge for practitioners.

Data. Data collected as a part of the Merkle Research Group will always be backed up on a cloud-type system (e.g., google drive). Data that we use in collaboration with other entities will: 1) only be used for the work agreed upon by the collaborator, and 2) never be shared with a third party unless there is written consent from the data owner.

Mentoring plans. Each graduate student in The Merkle Research Group will be expected to work with Jerod Merkle to develop a mentoring plan within the first month or so of starting graduate school. This exercise is essential to agreeing on expectations of each other, setting goals, learning how the graduate program and work will unfold, getting feedback on timelines, and generally how to navigate graduate school. This document serves as a means to assess progress, productivity and success. This document should be revisited, and in some cases updated, every 6 months. Students are expected to take the lead in developing the plan and keeping it updated, and scheduling a meeting every 6 months with Jerod to discuss it. Mentoring plans include: 1) what you can expect from Jerod; 2) your goals (short-term, long-term, research and career); 3) milestones (i.e., when to expect parts of your research to be completed); 4) a plan of attack; 5) publication plans; 6) funding; 7) conference and outreach plans; and 8) courses.

Publishing. Publication is the standard for science and scientific careers, and the main deliverable of funders. Members of the Merkle Research Group are expected to publish their research in top-tiered ecology and applied ecology journals, unless discussed and collectively agreed upon with Jerod Merkle. Graduation paperwork will not be signed until  $\geq 50\%$  of the chapters are published or submitted in the peer-review literature. For example, if a student has 2 chapters, 1 of them must be submitted or published prior to graduation. If a student has 3 chapters, 2 of them published or submitted before graduation. Under certain circumstances this expectation can be changed, but the student must work with Jerod Merkle to agree on alternate expectations at least 6 months before the student's graduation

date. Unsubmitted chapters are expected to be submitted within 1 year after a student's graduation date. If a student does not submit the chapter(s) during this time, it is expected that the student will provide Jerod with the data, code, and manuscript and alternative means will be put in place to publish the research. In such cases, the original lead author will usually remain a co-author, but the lead author will be determined by the final work necessary to publish the paper. These policies recognize that we have publishing obligations to our funders and collaborators, which ultimately affects the reputation of the student, Jerod Merkle, the Group, our Department, and our University.

Presentations. In addition to communicating through publication, communicating research through oral presentations is essential. All Group Members are expected to present their work at professional conferences and, in some cases, at other venues such as local conservation groups, and informal funder or collaborator meetings. The Group is committed to helping each other develop excellent presentation skills. Thus, when possible, presentations should be practiced in front of the Group to obtain valuable feedback from different perspectives. And presentations must be practiced in front of Jerod Merkle prior to presenting to any venue. When a project has co-authors, a complete abstract and PDF of the slides must be emailed to collaborators >1 week before the abstract due date or presentation date, respectively.

Lab meeting. It is expected that members of The Merkle Research Group organize a lab meeting each week. There are many benefits to having a lab meeting, which include: 1) developing your scientific mind; 2) thinking more broadly than your own research topic/question and ecosystem; 3) learning how to engage in productive conversations about science; 4) helping each other think through each other's (and others outside our group's) research; and 5) making sure we are all moving forward with our projects. The bottom line here is that we are a research team. Each member's input, expertise, and past experience are valuable contributions to our individual and collective efforts. These meetings bring us together physically and provide space for us to help each other out.

Balancing coursework and TAs. To meet the requirements of a University of Wyoming degree, students must take and pass structured courses. Also, some graduate students in the Group must be a Teaching Assistant to defray costs of their program. If not careful, these classes and TA duties can take up significant time. Unless the course has outcomes that specifically provide essential skills or knowledge for a student's future, research should always be prioritized over coursework. Further, be thoughtful of how much time is put into TA duties, as being a perfect teaching assistant (e.g., providing the perfect comments when grading a test) is typically not necessary.

Department and other Seminars. Each of us is expected to attend all seminars put on by the Zoology and Physiology Department (including Brown Bag) and Program in Ecology and Evolution. There will never be a better opportunity to learn about cutting edge research than now. If the subject is not of interest, then watch the seminar with an eye towards effective and ineffective methods to communicate research. Furthermore, the Group works together to identify and invite seminar speakers. Visits from invited speakers are an opportunity to network and foster collaborations, and Jerod Merkle will help facilitate these connections.