

MSU
FISHERIES AND WILDLIFE
2026



Spotlight

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FALL 2025 PHOTO CONTEST

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SPECIAL THANKS TO

DR. DANA INFANTE



EMILY TRYC. *SEA LAMPREY ATTACHED ON PALM*. SECOND PRIZE, COMMUNITY ENGAGEMENT. FALL 2025 PHOTO CONTEST

LAND ACKNOWLEDGEMENT

Michigan State University occupies the ancestral, traditional, and contemporary lands of the Anishinaabeg – Three Fires Confederacy of Ojibwe, Odawa, and Potawatomi peoples. In particular, the university resides on land ceded in the 1819 Treaty of Saginaw. We recognize Michigan's 12 federally recognized Native Nations, historic Indigenous communities in Michigan, Indigenous individuals and communities who live here now, and those who were forcibly removed from their homelands. In offering this land acknowledgement, we affirm Indigenous sovereignty, history and experiences.

Spotlight recognizes that this land acknowledgment does not absolve the actions of settler-colonialists who founded this institution. It does not absolve the continued occupation of Native lands, nor the continued utilization of Native lands for our department's research endeavors. We urge our department to develop an action plan of things to do that support living Indigenous peoples' sovereignty to accompany land acknowledgements. In the meantime, readers can donate to MSU's American Indian and Indigenous Studies at <https://aiis.msu.edu/donate/>.

LETTER FROM THE CHAIR



***DR. DANA INFANTE
DEPARTMENT CHAIR
AND PROFESSOR***

Welcome to the Spring 2026 edition of Spotlight magazine! In looking back on the last year, I'm reminded in so many ways of the resilience, strength, and vitality of the FW community!

We began the year by celebrating the 75th Anniversary of the department. This included a networking and poster session showcasing work from across FW, thoughtful messages from distinguished speakers on challenges in conservation and strategies for overcoming them, and a celebration at the Bengal Wildlife Center attended by more than 300 FW members, family, and friends.

An additional point of pride has been the growth of the FW undergraduate program, resulting in part from establishment of four new majors: Applied Conservation Biology, Aquatic Ecology and Management, Fish Ecology and Management, and Wildlife Ecology and Management. In all of these majors, we pride ourselves on educating our students on the relevance of our work for conservation and the importance of working collaboratively with partners to promote sustainability. For the second year in a row, our undergraduate program has been ranked among the top in the nation, a testament to the effectiveness of our program.

In spring, the Graduate Student Organization hosted their annual research symposium attended by students, staff, faculty and stakeholders. Twenty graduate students presented their research efforts, showing the cutting edge science and critical outreach that the students are leading. A new addition to the symposium this year was a poster session for undergraduate research. Many of the students who presented were supported by awards from the Glassen Undergraduate Experience to aid them in gaining early research skills, and the novelty of the work and professionalism of their presentations clearly shows the impacts of that support.

In spite of some of the challenges we've faced this year, particularly related to changes in federal research funding, FW has had other points of pride including receiving a Platinum Badge from the College of Agriculture and Natural Resources for our efforts to promote culture, access, and belonging. In our application for this award, we shared a word cloud generated from the 75th Anniversary Celebration. As part of the registration process, attendees were asked to share their thoughts on what FW means to them, and the word cloud below is what resulted. I don't think any one person could have come up with a better description of FW, and we've hung a poster of this in our hallway as a constant reminder of our exceptional department! I hope you enjoy this issue of Spotlight! Go Green!

Dana M. Infante



SPOTLIGHT ON FELLOWSHIPS

The Robert C. Ball and Betty A. Ball Fisheries and Wildlife Fellowship provides graduate students with the opportunity to study fisheries, limnology, or water research.



KENDALL ASH

Program: MS Fisheries and Wildlife

Kendall is currently a second-year master's student in the Bridge Lab at MSU. She is pursuing a joint M.S. degree in Fisheries and Wildlife and EEB and is co-advised by Drs. Kendra Cheruvilil and Patrick Hanly. Kendall's research revolves around harmful algal blooms in lakes, with a focus on the algal toxin microcystin. Her thesis uses several national-scale datasets and machine learning techniques to both understand the present-day drivers of microcystin and predict differences in its spatial distribution under climate change. She is motivated by a passion for aquatic ecology, limnology, and clean water for both people and wildlife, all of which led her to apply for this award. With the help of this fellowship, Kendall was able to travel to Punta Arenas, Chile in October for the International Conference on Harmful Algae, where she gave an oral presentation about her research. While she was there, she had the once-in-a-lifetime opportunity to backpack through Torres del Paine National Park and meet not one, but two species of penguin in the wild. She will remember this experience for the rest of her life.

Joel Betts is a PhD student in the Fisheries and Wildlife Department advised by Dr. Dana Infante. The goal of his research is to better understand the effects of agriculture on fish communities, to aid in whole ecosystem conservation and restoration planning for rivers. So far, his research has used fish community and landscape data to build novel analyses to understand how different landscape influences affect stream fish, such as tile drainage in Michigan and land use in Puerto Rico. In the next two years, he hopes to study mechanisms of agricultural impact on fish more directly with a site-specific investigation. With the support of this fellowship, he plans to conduct a field study to learn how fish communities utilize degraded habitats in agricultural streams, especially those significantly altered by drainage practices.



JOEL BETTS

Program: PhD Fisheries and Wildlife



OLIVIA COSKIE

Program: MS Fisheries and Wildlife

Liv Coskie is a master's student studying aquatic plant community composition in Michigan's inland lakes. Her advisors are Dr. Dan Hayes and Dr. Jeremy Hartsock. In addition to this fellowship, she is also the recipient of the Janice Lee Fenske Excellence in Fisheries Fellowship. These opportunities have allowed her to partner with the Michigan DNR, EGLE, and MSU Extension to create a digital outreach product to aid in conservation focused aquatic plant management decision making for lake residents. The experience has helped her to be exposed to the policy and regulatory side of natural resources management.

The Hal and Jean Glassen Conservation Medicine Fellowship recognizes students committed to the study of Fish and Wildlife Disease Ecology and Conservation Medicine.



MIKE SHAW

Program: PhD Fisheries and Wildlife

My research is focused on Epizootic Hemorrhagic Disease (EHD) and the impacts it has on white-tailed deer populations. My research utilizes camera traps to get an estimate of white-tailed deer populations. I compare population demographic estimates of areas affected by EHD over multiple years to unaffected areas. I am also looking at spatially modelling where EHD is likely to occur based upon climate variables. I have been taking data recorded by the Indiana Department of Natural Resources for multiple years and looking to model climate associations leading up to outbreaks of EHD. The Fisheries and Wildlife program here at MSU was great at connecting me with opportunities to apply for fellowships that aligned with my research. This helps me in my research, especially as a graduate student working out of state whose work covers a large area. The funding supports travel to field sites across the state as needed, especially using my personal vehicle. It allows more flexibility in my educational training, like taking workshops and attending conferences to meet with collaborators. I would like to sincerely thank both the Michigan State University Department of Fisheries and Wildlife and the Hal and Jean Glassen Memorial Foundation for making these opportunities possible and supporting my research.

My thesis research aims to identify environmental reservoirs of *Flavobacterium psychrophilum*, one of the most damaging fish pathogens in Michigan, at Wolf Lake State Fish Hatchery. Through my efforts, I hope to provide hatchery personnel with actionable information they can use to more effectively manage this pathogen at Wolf Lake. Ideally, this will reduce the number of fish lost to disease, helping the hatchery more easily meet stocking quotas. I applied for this fellowship to financially support my research efforts and provide additional funding for travel to conferences. I also wanted to gain experience competing for research funding, which I feel will serve me well moving forward in my career. This fellowship has helped me financially by providing funding for travel, and professionally through gained experience assembling a competitive application for research funding. *Brady is advised by Dr. Thomas Loch.*



BRADY YOKOM

Program: MS Fisheries and Wildlife



SARAH SCHEITZ

Program: MS Fisheries and Wildlife

Sarah Scheitz is a 3rd-year master's student advised by Dr. Rique Campa and Dr. Jean Tsao in the Department of Fisheries and Wildlife. Her research focuses on evaluating habitat conditions of white-tailed deer and blacklegged ticks to mitigate Lyme disease risk in southern Michigan. I was motivated to apply for this fellowship to help cover the cost of professional development opportunities. The generosity of the Hal and Jean Glassen Memorial Foundation allowed me to attend and present my research at the Michigan TWS conference. I also used these funds to create and facilitate a workshop for the local community to learn about coexisting with deer in suburban landscapes.

Dr. Howard A. Tanner Fisheries Excellence Fellowship recognizes graduate students seeking to work in aquatic biology related to fisheries and wetland resources and who are interested in protection and management of aquatic habitats.

I am a second-year master's student in the Fisheries and Wildlife Department, advised by Dr. Tyler Buchinger. My research seeks to identify potential odor cues cisco (*Coregonus artedii*) use to locate spawning grounds and aggregations. I applied for an FW Fellowship to help pay for travel to professional conferences. I will be using this fellowship to attend the International Congress on the Biology of Fish (ICBF) in Vancouver, BC. This fellowship will provide me with the opportunity to present my master's research in an invited talk at ICBF. I am also looking forward to networking with experts in my field of study at this conference- I have cited many of their papers in my own research! I am incredibly grateful to be the recipient of the Dr. Howard A. Tanner Fisheries Excellence Fellowship.



HANNAH BROWN

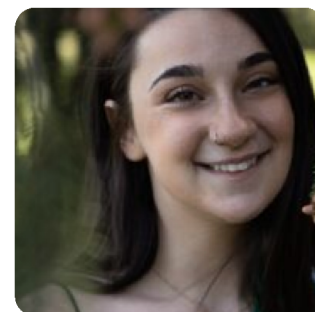
Program: MS Fisheries and Wildlife

The Joseph Laurence Maison Fellowship for Wildlife Conservation recognizes students committed to pursuing a career in wildlife conservation.



***Madeline Carr**, advised by Dan Kramer, was awarded the Joseph Laurence Maison Fellowship.*

***Rachel Correia**, MS, advised by Sonja Christensen, was also awarded the Joseph Laurence Maison Fellowship.*



MADELINE CARR

Program: PhD Fisheries and Wildlife

RACHEL CORREIA

Program: MS Fisheries and Wildlife

The Vera M. Wallach Graduate Fellowship recognizes graduate students studying wildlife management, wildlife ecology, natural resource management, or those conducting Arctic and Antarctic research.

***Michele Remer** (Program: PhD Fisheries and Wildlife), advised by Jack Liu, was awarded the Vera M. Wallach Fellowship. She was also the recipient of the Pattulo Fellowship (pg. 8)*

The John Peters and Marietta Peters Endowed Fellowship recognizes graduate students seeking to work in aquatic biology related to fisheries and wetland resources and who are interested in the protection and management of aquatic habitats.



HANNAH BEY

Program: MS Fisheries and Wildlife

Hannah Bey is a second-year master's student in the Department of Fisheries and Wildlife advised by Dr. Angela Burrow. Hannah studies the effects of shifting plant communities on the diversity and abundance of invertebrate communities in wet meadows, as well as the impacts of these changes on the diets of native anurans. She was a recipient of the John Peters and Marietta Peters Fisheries and Wildlife Fellowship in 2025. This fellowship seeks to support students interested in the protection and conservation of aquatic habitats and wetland resources. With support from this fellowship, Hannah was able to conduct field research in wet meadows across mid-Michigan. She was also able to attend regional conferences like Michigan TWS, and she intends to use some remaining funds to present her research at the Ecological Society of America (ESA) Annual Meeting in July 2026. Hannah is truly grateful for the support provided by this fellowship, which has allowed her to grow as a student and a young professional during her time at MSU.

Marinna Guzy is a third year PhD student in the Department of Fisheries and Wildlife, with a dual major in Environmental Science and Policy, advised by Dr. Mark Axelrod. Her research surrounds the relationship between knowledge and knowledge production and developing equitable, community engaged fisheries governance strategies, policies, and management strategies. Additionally, drawing upon her background in sound design, Marinna seeks to explore the application of community-engaged, arts-based methods in her research. The John Peters and Marietta Peters Endowed Fellowship has helped her to pursue relationship building with the Bay Mills Indian Community to help build the foundation for a just research partnership to address the community's fisheries concerns in the face of social and environmental change.



MARINNA GUZY

Program: PhD Fisheries and Wildlife

The Annual Ambrose Pattulo Fund for Environmental Issues Graduate Fellowship for Literary Work recognizes students interested in writing about current environmental issues for a literary outlet.



MICHELE REMER

Program: PhD Fisheries and Wildlife

Michele Remer is a PhD candidate in the Fisheries and Wildlife department. She is advised by Dr. Jack Liu and is researching the potential risk for species introductions across Alaska to prevent new invasive species. She was motivated to apply to the fellowship to fund research travel to Alaska, as well as covering the cost of research supplies. The fellowship has been very beneficial not only for research logistics, but also for better understanding the system that she is studying. The fellowship also provided Michele with an opportunity to attend a professional development workshop in Homer, AK to learn how to identify marine invasive species and to meet other professionals doing similar work. Another benefit is the first publication from Michele's fieldwork in Alaska, which was also supported by a past FW fellowship award. These fellowships are a fantastic resource for boosting professional development and other opportunities that are not always feasible for graduate students to attend on their own.



CLAY WILTON

Program: PhD Fisheries and Wildlife

Clay Wilton is a PhD student in the Department of Fisheries and Wildlife where he works with Dr. Brett DeGregorio in the Michigan Cooperative Fish and Wildlife Research Unit. Clay's research investigates plant and animal community responses to prescribed fire and mechanical treatments in upland oak ecosystems in southern Michigan state game areas and state parks. He was motivated to apply for this fellowship by the opportunity to articulate his research through creative writing that targets both scientific and non-scientific audiences. Receiving the Ambrose Pattullo Fund for Environmental Issues Graduate Fellowship for Literary Work has helped broaden his scientific communication skills and provided financial support for pursuing this work.

Read Michele and Clay's Patullo pieces in the 2025 Spotlight!

The Theodore Roosevelt Conservation and Environmental Leadership Fellowship enables graduate students from a variety of disciplines to build leadership capacity early in their career.

Nick Manning is a PhD candidate working with Dr. Jianguo "Jack" Liu in the Center for Systems Integration and Sustainability. His current research evaluates the biodiversity and land change impacts associated with international commodity trade. More broadly, he is interested in using geospatial analysis to discover connections between coupled human and natural systems across scales. Prior to MSU, he held a variety of roles across research topics. These included testing the geochemistry of local acid-mine contaminated streambeds, mapping landscape changes and animal movement patterns, and studying the spectral signatures of harmful algal blooms in Lake Erie. When not in the lab, Nick enjoys playing volleyball and basketball, going to the movies, reading short story collections, and spoiling his cats.



NICK MANNING

Program: PhD Fisheries and Wildlife

Justin Miller (PhD program), advised by Dana Infante, and Sydney Waloven (PhD program), advised by Jack Liu were also awarded the Theodore Roosevelt Fellowship.



JEREMY HARTSOCK, *LITTLE AUSABLE LAKE MACROPHYTE SAMPLING.*
FIRST PRIZE: FIELD WORK. FALL 2025 PHOTO CONTEST

THE WONDERFUL WISDOM OF WETLANDS



BY HANNAH BEY
MS STUDENT
DEPARTMENT OF FISHERIES AND WILDLIFE

PHOTOGRAPHY BY HANNAH BEY AND A. PROUDFOOT

**WETLANDS ARE FANTASTIC
TEACHERS. THEY HOLD GREAT
BREADTHS OF KNOWLEDGE,
WHICH THEY ARE ALWAYS
READY TO SHARE WITH A
RECEPTIVE STUDENT.**

In my experience, wetlands are fantastic teachers. They hold great breadths of knowledge, which they are always ready to share with a receptive student. Like teachers, I have found that most wetlands tend to lean into a specific curriculum. Unlike teachers, whose classroom walls might be covered in posters related to their favorite math- or science-related puns, the subject a wetland wishes to teach is sometimes harder to discern. Respect and trust are the two virtues a wetland takes most seriously; a new learner will not go far until these skills are mastered and an air of reciprocity is established. Only then will the ancient educator begin to reveal its secrets. Other times, though, a wetland will be blunt.

The idea it hopes to share comes at face value—clear and unfiltered. I worked with wetlands of both natures this past summer.

My project spanned eight wet meadows in mid-Michigan. Throughout the summer, I visited each wetland numerous times to collect information about the plant, invertebrate, and anuran communities. The repeated visits allowed me to explore the personality of each site and the message it had for me. Some wetlands were gentle, like the one that taught me that ***beauty is worth the wait***. I monitored the shining asters of that site from their green-up in May until their stunning bloom in September. Others were quick and to the point, like the one that taught me to ***never trust open mud***. It only took one wrong step to find myself thigh-deep in the muck, and that is not a mistake I made twice.

There was one teacher this summer that repeatedly had the same message for me. The site was a sedge-dominated meadow, which maintained a bit of standing water in one corner throughout the summer. It was a small oasis surrounded by forested land in a greater agricultural matrix, and it never failed to provide learning experiences for me and my technician, A. Proudfoot. Here, I will share three of our most memorable experiences at this wetland, all of which shared the same message: ***always expect the unexpected***.



Froggy fieldwork!

1

Part of my research involved collecting ground-dwelling invertebrates in pitfall traps. Early in the season, A. and I dug holes and placed plastic containers in them to help the traps get acclimated to the site. Since we weren't actively collecting, the containers were closed with no liquid. A few days later, we went back to the site to do a plant survey. We were surprised to find all the traps pulled from their holes and flung within a few meters. My first thought went to humans—this site butted up to an agricultural zone with several “no trespassing” signs; perhaps we got a little too close for comfort. Why else would the small, unassuming traps be disturbed? I was mulling over this possibility, resetting trap-after-trap, when a new hint stopped me in my tracks. A trap had been pulled from its hole, and in its place, a bandit had left behind a present—a fresh pile of poop. Salt to the wound! Playful racoons became the decided culprit of the day. Humans are not the only creatures to roam this Earth fueled by curiosity and mischief.

It was late in the summer by the time we started night work. I had traveled to and from each site several times, and my reliance on my GPS had waned. The trail into this site went through an overgrown field and a shrubby forest before opening up to a ridge, which led down to the wetland. On the first trial of frog sampling, I forgot the GPS in the car. A. and I made our way through the narrow deer trails with ease and started to set up our materials at the wetland edge. About halfway through the survey, a storm started rolling in. Ominous clouds began to cover the stars and moon. We had been struggling to get stomach samples, and I wanted to extend our chance at success for as long as possible, but a thunder crack that sounded like a tree splitting down its center finally sent us packing. We lugged our equipment, and three frogs from the survey, up the hill. At this point, rain fell in buckets around us, dragging down my hood over my headlamp and distorting the forest. It was at that moment, when we climbed the ridge to find an impassible line of shrubs and brambles, that I realized we were utterly lost. A. and I started frantically perusing the ridge, but to no avail. I can't tell you how long we searched, but rain had soaked through my jacket and waders when, by some miracle or mercy, we found a thin deer trail. Ten minutes later, we emerged at the road like a pair of cryptids—drenched and towing equipment and amphibians, cheering into the night. From that day forward, my GPS never left my side.

2



Our second frog survey had a bit more success. In fact, A. and I were having the best night of collecting samples yet! We caught several frogs with stomachs full of their usual favorite meals: worms, beetles, slugs, etc. We had fallen into a comfortable rhythm of collecting samples, my mind fully engrossed in flushing stomachs, when I felt something small bump my leg. Looking down, I thought it was a frog that escaped my bucket, but I was quickly stilled by the creature before me. I felt frozen in time, a green frog still wriggling in my hand, as I stared at the eyeless bullfrog with its head tilted up towards mine. It had empty sockets and an aura of understanding. It sat for a minute, sensing my gaze as I stared, and then moved along in silence. I couldn't shake the feeling that the blind bullfrog had something to tell me, and I was still distracted by what that message may have been when I flushed a frog's stomach and saw something enormous drop into the bin. I paused and glanced at A., who stared wide-eyed back at me. We slowly peaked our heads down towards the sample and found something we had never seen before—a partially digested frog. It was so unexpected that we both burst out laughing. "I'm naming you Hannibal," I told the displeased-looking green frog in my hand. "It's a frog-eat-frog world," his knowing gaze replied.

I learned a lot from that wetland. It helped me prepare for future fieldwork—to stake down pitfall traps, to always carry my GPS, and to be on the lookout for mysterious prophets in the form of blind bullfrogs. Next time you walk through a wetland, take a moment to consider the knowledge that it desires to share with you. If you're patient, you'll never be denied a lesson from an honorable teacher.



SARAH SCHEITZ, *OVERLOOKING ESCH BEACH AT SLEEPING BEAR DUNES NATIONAL LAKESHORE*. SECOND PRIZE: LANDSCAPE. FALL 2025 PHOTO CONTEST



JACOB GLOVER, *LONGING*. SECOND PRIZE: FAUNA. FALL 2025 PHOTO CONTEST

INTERAGENCY COLLABORATION TO PRODUCE LAKE RESIDENT FOCUSED OUTREACH

BY LIV COSKIE
MS STUDENT
DEPARTMENT OF FISHERIES AND WILDLIFE

PHOTOGRAPHY BY LIV COSKIE



My name is Liv Coskie and I am a lake ecologist focused on aquatic plants. I've been working on aquatic plant community composition in Michigan inland lakes since 2023, but my interest in aquatic plant management and conservation has only grown as my research has gone on. Aquatic plant management in Michigan is a tumultuous conversation due to the different perspectives lake residents have on aquatic plants and the legal intricacies of aquatic plant treatment permitting. Aquatic plants are ecologically important for inland lakes globally but are prominent in the Great Lakes region due to the density of fresh water lakes. They contribute to improved water quality and provide habitat for the entire food chain. Inland lakes are also an important resource for outdoor recreation in Michigan. The influence of invasive species and increased nutrient loads contributing to excessive growth of aquatic plants has made plant management desirable in some cases. Over time, like most ecosystems, the growing interest of human development has put lake ecosystem integrity at risk. Promoting conservation-focused management action over excessive treatment against 'nuisance' growth for recreation purposes is crucial for the long-term sustainability of inland lakes.

As a part of the Janice Lee Fenske Excellence in Fisheries Fellowship, which I was awarded in October of 2025, I specified an interest in working collaboratively with state agencies to fill a gap in outreach programming on aquatic plant management. Back in the fall of 2025, representatives from Michigan DNR, EGLE, and MSU Extension that work with aquatic plants met to discuss priority outreach materials to produce for the state. All parties identified the creation of a high-level management document for lake residents as being the highest priority. The document would contain all the relevant information about best management practices for different treatment options, such as cost, risk, and efficacy to reframe treatment expectations for aquatic plants. My goal is to create a digital management guide focused on having the most important information available in a user-friendly tool to inform conservation-based decision making. Thanks to the timing of my fellowship and the excitement of the individuals with state agencies that are a part of this collaborative effort, the creation of this outreach product is underway!

THE BENEFIT OF THIS FRAMEWORK IS THAT USERS CAN BE MORE INTENTIONAL ABOUT THE INFORMATION THEY SEEK OUT.

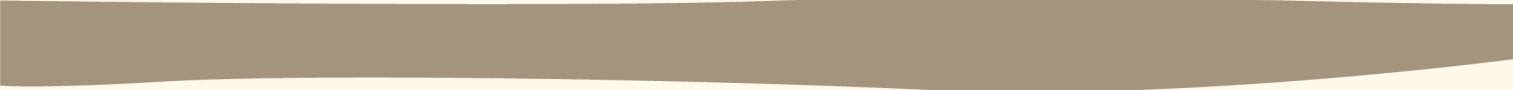
While we are still in the very early stages of creation, the concept for the product is functionally a flowchart, which limits the amount of information a user can see at a time. It is along the lines of a 'choose-your-own adventure' for aquatic plant management decisions. The benefit of this framework is that users can be more intentional about the information they seek out and hopefully experience lower potential information overload than with a traditional, much longer informational document. We plan to include the most common concerns and interests lake residents are researching when making decisions about plant management on their lake. Having the capacity to collect demographic information and feedback on the tool to improve it over time is also something we plan to build into the product. Overall, if this product can help to change the approach lake residents take to making management decisions, reframing their expectations and promoting best management practices, that is a win to me! We hope to have a draft of the product out this fall and are excited to share this with the public for feedback.



SURVEYING TOURISTS IN ALASKA: THE GOOD, THE BAD, AND THE AWESOME WILDLIFE

BY MICHELE REMER
PHD STUDENT
DEPARTMENT OF FISHERIES AND WILDLIFE

PHOTOGRAPHY BY MICHELE REMER



The following essay will detail some tips for your own survey research using my own anecdotal experience. If you think that you wouldn't do survey research even if someone paid you a million dollars, you can skip to the pretty wildlife pictures at the end.

If you ever want to test your tolerance for rejections and improve your threshold for hearing the word “no,” a good way to do so would be to become a salesperson, maybe of solar panels once the federal tax credit has expired. A second way to do so would be to conduct in-person survey research. And if you want to ensure this brush off is brusque, it could also occur when folks answering your survey are experiencing the vacation of a lifetime while on an Alaskan cruise. Since I am a sadist, I chose the second option for my fieldwork.

While I joke about the number of rejections I received, we still ended up with a 49% response rate and there were quite a few people interested in discussing conservation with me. This included not only cruise ship passengers who were answering the survey, but curious locals who had all kinds of opinions on tourism.

**WHEN IT COMES TO THE RESEARCH ITSELF,
BEING PREPARED FOR ANY OUTCOME IS
IMPORTANT.**



Severe thunderstorm soaks Juneau loosens cruise ship mooring

June 17, 2025 by Clarise Larson, KTOO



Downtown Juneau at 3:10 p.m. on Monday, June 16, 2025. (Photo courtesy of SnowCloud Services)



Photos, counter-clockwise from top: Author's tent set-up; Newspaper detailing storm; The demise of the tent set-up (*Tip 1*)

Tip 1

If you are looking to learn more about a system, sometimes the best way is to simply plant yourself in a few different locations for the summer and talk to whomever passes your little tent. Hopefully you don't also experience 60 mph hour wind gusts that your little borrowed tent cannot handle.

Luckily, after we had secured all our belongings and prevented them from blowing away, except for a few stickers, we were able to help someone find the bathroom.



No fancy camera necessary for this muskox sighting

While I was on a trip to Nome to survey tourists, I befriended a local who also was very interested in photographing Alaska wildlife. He had a much nicer camera than me and was able to get some really cool shots of an owl, but luckily my smaller camera was able to capture a muskox. I was delighted to have found the muskox, as this was my final trip to Nome, and I had not been able to capture any previously.

Tip #7: Find time to explore and remember your bear spray. My favorite evening hike was one that I did in Juneau.



Juneau evening hike

This was one of the many rainy days we had there, as Juneau is located in a temperate rainforest. Unfortunately, my phone camera had to suffice due to concerns about water damage to my fancy camera, but I don't think any camera can capture the magic of watching rainforest moss come alive during the rain. I encourage any of you doing fieldwork in a similar habitat to take some time to stop and experience this for yourself.

Sadly, no wildlife was spotted on this hike, but here's a black bear that was captured while I was biking on Anchorage's extensive trail network. Luckily, I survived this encounter even though I forgot my bear spray at home.



Black bear spotted on bike ride

Hopefully, I have given you enough tips to be able to conduct your own survey research, and if not, provided enough nature photos to give you more entertainment. If you are interested in the results of this research, you can follow along at arcticlecoupling.org or email me (remermic@msu.edu) for more information. One article from this work has been published in *Biological Invasions*, with more to come.



DAVID CREAMER. *MACKINAW BRIDGE ON 4TH OF JULY*. FIRST PRIZE: LANDSCAPE.
FALL 2025 PHOTO CONTEST



GIA HADDOCK. *TUNDRA FAIRYLAND IN ROCK MOUNTAIN NATIONAL PARK*.
SECOND PRIZE: FLORA/FUNGA. FALL 2025 PHOTO CONTEST

THE AMBROSE PATTULLO FUND FOR ENVIRONMENTAL ISSUES GRADUATE FELLOWSHIP FOR LITERARY WORK

The Pattullo Fellowship recognizes students interested in current environmental issues who have written about these issues as a literary piece, either fiction or non-fiction.

THE WAY THROUGH

BY TYLER SWANSON
PHD STUDENT

DEPARTMENT OF COMMUNITY SUSTAINABILITY

The silver Chevy Bolt hums as Veronica cruises down the narrow country road. The sun shines boldly in the clear blue sky. Stalks of corn at least a foot taller than her sway gently in the breeze as she drives by. “Here comes the sun...” Veronica sings along with the Beatles as she drives. “And I say, ‘it’s alright.’”

The tune and scenery put Veronica in a good mood, but this isn’t a joy ride. Veronica is in the business of developing solar energy projects, large ones featuring rows upon rows of solar panels converting the sun’s energy into electricity that will power the world. The rural community she’s driving through is a perfect candidate for her company’s next project. The cornfields she drives by are flat, perfect for supporting the steel frames that will keep the solar panels secure. Ditches line the fields, signaling that they will drain well when a storm arrives and not flood the project. Power lines run between the fields and the road, perfect for carrying the electricity generated by the project wherever it is needed. Not to mention, the land in rural communities was much more affordable than that available in cities, allowing the company to keep the price of its electricity low for customers.

Veronica enjoys the work she does and feels like she’s making a positive difference in the world, even if she never saw herself doing this kind of work when she was younger. Veronica always preferred the fine arts: playing the violin, singing in choir, and acting in plays, and she thought she would make a career out of it. That was until she noticed the increasing frequency of news stories about deadly heatwaves, super storms, and floods, and her peers at Michigan State University started skipping classes on Fridays to march on the state capitol and demand government action on climate change. After hard conversations with her mentor and an extra semester to catch up on classes, Veronica graduated with a bachelor’s degree in Community Sustainability and a burning desire to fight the climate crisis, far from the music studies degree she had set out for.

A few months after graduating, Veronica became the newest member of the project development team for Skyward Solar. Quickly, she realized that not everyone was as excited about solar energy as she was. More than one landowner had slammed a door in her face when she visited to ask about their willingness to lease land for a solar project, and local meetings to present projects to communities quickly became protests against solar led by angry residents. Still, Veronica pushes forward, bucolic country drives and Beatles tunes like this keeping her spirits up. The dinging of the navigation software on her car shakes Veronica out of her reverie as she slows the car to turn onto a long gravel driveway leading up to the Smith Family farm. On one side of the driveway stands a two-story white farmhouse, on the other sits a red barn with an old Ford pickup parked in front. The sight would be straight out of a Norman Rockwell painting if it wasn't for the various signs of disrepair that were evident at a glance; chipping paint on the farmhouse, broken windows on the barn, and a truck bed that looked one bad winter away from rusting out.

"It's alright. It's alright," Veronica murmurs to herself as the song ends. She takes a deep breath, grabs her satchel, and puts on her friendliest smile as she opens the door and steps out of the car.



John Smith sits at his kitchen table in the aging white farmhouse. Coffee mug in hand, he stares at his laptop screen, willing the calculations of his spreadsheet to display a different number. One that didn't show up in red or at least wasn't so large. Even if he sells the corn growing on his 100 acres at the best possible price, it'll be another year of no profit for the farm. For a couple of years, this was fine. John's wife, Abigail, took on an office job in the next town over to support their family of two children, but they both know it isn't sustainable. Abigail is a born and raised farmer like him, and she hates being away from the farm during the week.

John sighs and massages his temples as he looks at the photos hanging on the wall above the table. A grainy picture depicts his grandfather on the seat of the old John Deere tractor that still sits in the barn, waving to the camera as he prepared the fields for planting back in 1975. Next to that hangs a similar photo of John's father in the cab of a massive combine tractor he used to lease during harvest season. John hasn't added a photo of himself to the wall yet, and now he wonders if he'll even be able to keep the farm long enough to warrant doing it.

Then, there's a knock at the door.



For all her dedication to fighting climate change and experience talking with farmers from the past year, Veronica always gets nervous when she makes that first knock on someone's door. Once more, she steels her nerves and raps her knuckles against the hard wood. "You're here to help them." Veronica says to herself. "You're here to help the planet too. Just be friendly and direct."

Muffled thuds from inside indicate that someone's coming to the door, and then it is swung open by an older man. Sunburnt skin, a plaid flannel shirt tucked into blue jeans, and a pair of muddy boots betray the man's profession. His characteristically rural aesthetic makes Veronica feel self-conscious in her Patagonia vest and khaki pants. "Hello," she says, "my name is Veronica, and I am a project manager with Skyward Solar. I'm here to see if you would be interested in becoming a leaseholder for an upcoming project?"

John considers Veronica for a moment. He has heard about solar developers coming to farms in the area and has seen how the landowners that strike deals with them are vilified by the community as traitors to the agricultural community. For many people in his community, the only proper use of land is for producing crops, not electricity. Solar panels are seen as an aberration of the rural landscape, not a sign of the future. John's first reaction is to follow the beliefs of his community and tell her to leave, but then he thinks about that big red number waiting for him back at the kitchen table. It's much easier to call a farmer a traitor when you can't see his pocketbook. "Come on in," he says, "can I get you a cup of coffee?"



Two hours later, John is once again sitting at his kitchen table, coffee mug in hand. But now, he's staring at a piece of paper with a much more appealing number listed in black, not red. Taking a swig of coffee, John lifts his eyes and looks at Veronica. "You're willing to pay me this much per year for 50 acres?"

"Yes," Veronica responds with a smile, "but first, we need to talk to some of your neighbors and see if we can secure some more land. The project needs to be larger than just your 50 acres to make it viable, and we want to leave you land to farm." John is at a loss for words. The past two hours have challenged everything he had learned about solar from his neighbors who were so opposed to the technology. The company wouldn't install any permanent structures on his land, and they would remove everything at the end of the lease. They also wouldn't remove the topsoil, meaning his kids could farm those 50 acres again in the future if they chose to. Solar wasn't a monstrosity; it was an opportunity. John calls Abigail to explain the offer and make sure she asked Veronica any questions she had. John could hear the joy in Abigail's voice when Veronica explained the payment structure, and John pointed out that the payments would be enough to allow her to work on the farm again instead of in an office.

John's eyes shift from Veronica back to the photos of his father and grandfather on the wall. Both men taught him that farming is not an easy business. John's grandfather almost lost the farm during the crisis of the 1980's but survived by adopting new techniques for intensifying crop production and embracing the market. John's father nearly lost the land again during the great recession but was saved by switching to growing biofuels. "You both found your way through the hard times," John says to the pictures on the wall. "I just found mine." Taking one last, deep drink of his coffee, John sets down the mug, turns to face Veronica, and reaches out his hand. "You have yourself a deal."

SEASONALITY WITHOUT BORDERS: HOW SPRING REACHES THE MICHIGAN TABLE

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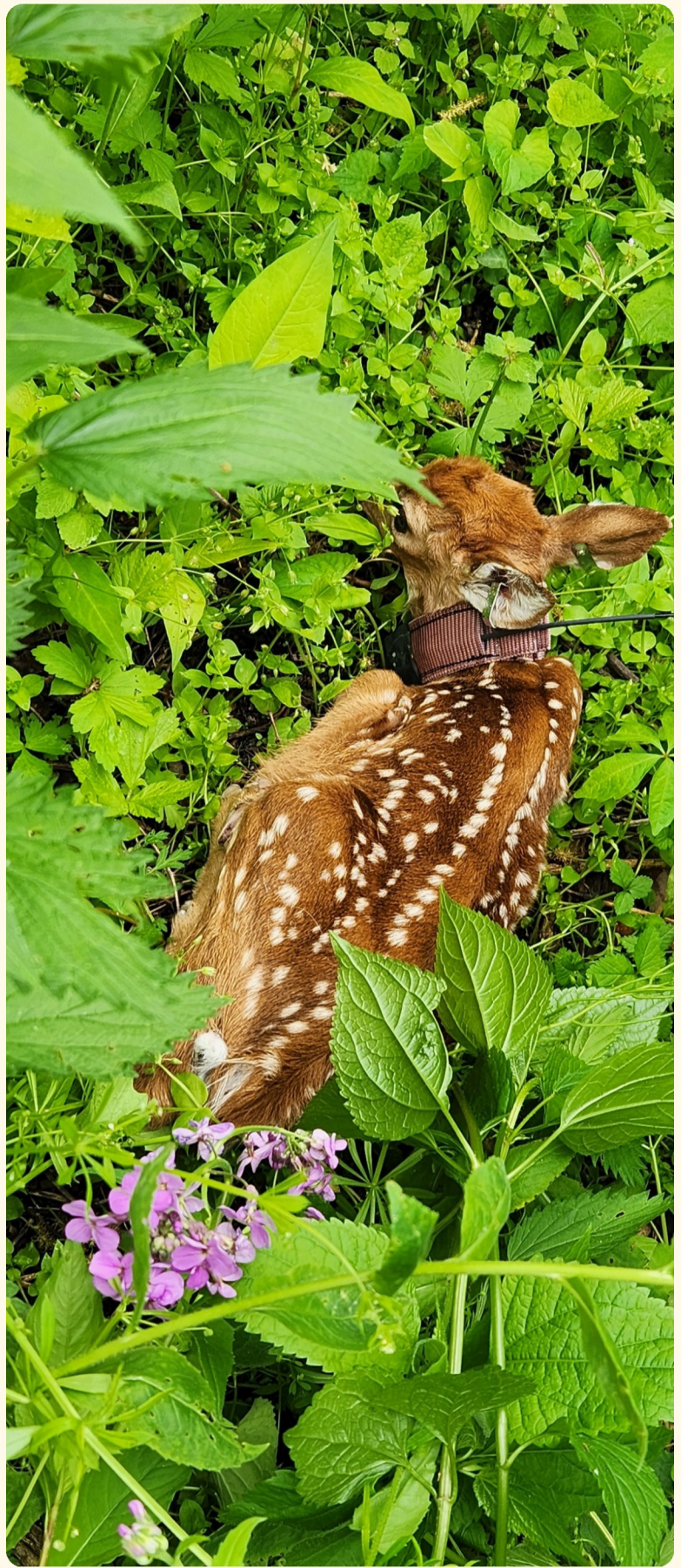


MICHELE REMER, *BLEEDING HEART FLOWERS*. FIRST PRIZE: FLORA/FUNGA. FALL 2025 PHOTO CONTEST

Springtime in Michigan signals the end of cold, cloudy days and the promise of long summer nights to come. The change in weather also marks the beginning of Michigan's gardening season and the return of local produce across the state. While local farmers' markets, plant sales, and farm tours begin to spring up for the season, food from across the country—and the world—continues to quietly fill our grocery carts and kitchens.

SPRING PROVIDES AN INVITATION TO THINK MINDFULLY ABOUT THE FOOD ON OUR TABLES

In contrast to the seasonality that defines local farmers' markets, grocery stores maintain a stoic consistency, ensuring that consumers can enjoy their favorite items year-round. This steady abundance is made possible through a complex global network of food flows, which adapts the philosophical concept of "it's five o'clock somewhere" to "it's always tomato season somewhere." Deep in the dark winter months of Michigan, the bright sunny skies of the southern hemisphere ensure that berries are plentiful. Meanwhile, small-scale coffee and tea producers grow and process the caffeine-rich beverages awakening the world every morning. Artisans across the globe transform soybeans, cabbage, fish, and dairy through fermentation, gifting global accessibility to tastes and flavors deeply rooted in tradition and place. Our meals often bring together ingredients grown just down the road with others cultivated half a world away. No matter the origin, each ingredient carries with it the flavors, traditions, and pride of the land, the ecosystems, and the people who produced it. These shared flows of food, culture, and traditions form metacoupled foodways, which link everyday meals to farms, people, and traditions around the world.



SARAH SCHEITZ. A FAWN SHOWS OFF ITS NEW RADIO COLLAR IN
MERIDIAN TOWNSHIP, MI. SECOND PLACE: FIELD WORK. FALL
2025 PHOTO CONTEST



Through these interconnections, we can enjoy raspberries year-round, we are invited to taste the flavors of our ancestors, carry on the culinary traditions of our loved ones, and explore the world without leaving our kitchen.

Spring provides an invitation to think mindfully about the food on our tables and the ways metacoupled foodways can expand the flavors of each meal while deepening our connection with the places our food comes from at home and across the world. Celebrate the start of a new growing season by combining local ingredients with global flavors and sharing the long warm evenings with friends gathered around the table.



Counter-clockwise from top: Grilled peach and feta salad; Michigan pasta primavera; Rhubarb compote

GRILLED PEACH AND FETA SALAD:

Michigan peaches don't arrive until mid to late summer, but as soon as the weather warms enough for outdoor meals, I find myself craving their sweet, tart, floral flavor. Fortunately, peach season begins earlier in nearby southern states like Tennessee, South Carolina, and Georgia, making it possible to enjoy fresh peaches in the spring. In this salad, the peaches are lightly grilled to deepen their sweetness, then paired with crisp local lettuces and the rich, briny bite of feta. Together, they come together in a salad that feels perfectly at home in Michigan while drawing inspiration from flavors both near and far.

Servings : 4-6

Prep Time: 30 min

INGREDIENTS:

- 4 peaches halved and pitted (slightly firm peaches work perfectly for this recipe)
- ¼ cup extra virgin olive oil
- ½ cup crumbled feta cheese
- ½ tsp. each of kosher salt and pepper
- 1 head local lettuce (romaine, butter, oak, any kind will work)
- ¼ cup mint, torn or roughly chopped
- ½ cup toasted pecans, roughly chopped (Optional)
- One large pinch flaked sea salt

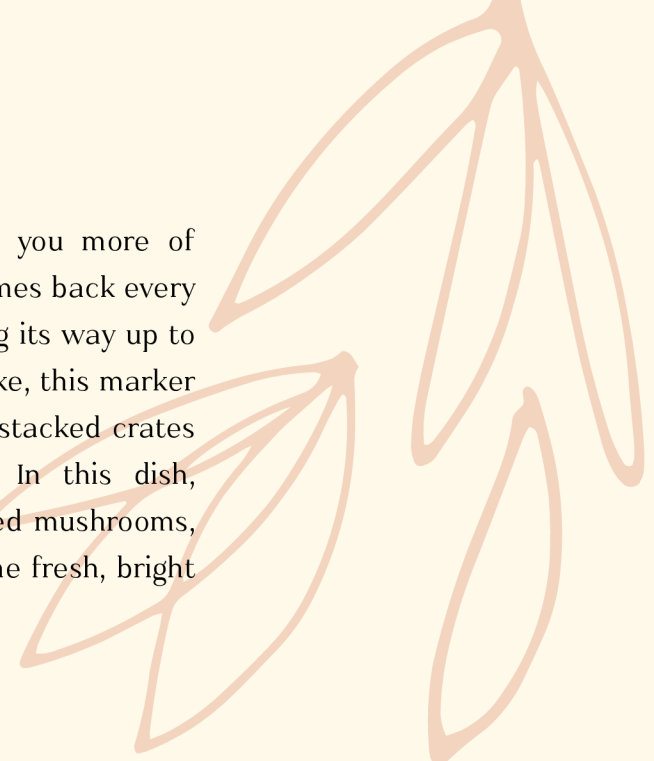
INSTRUCTIONS:

1. Separate lettuce leaves from the head, wash, dry, and set aside.
2. Grill the peaches, flesh side down, for 3-5 minutes or until they soften slightly.
3. Cut grilled peaches into ½ inch pieces and add to a large mixing bowl.
4. Into the large mixing bowl, add feta, olive oil, salt, and pepper, and mix well.
5. Add lettuce and mint leaves and toss so that lettuce is coated with the peach feta mixture.*
6. Add chopped pecans and a large pinch of flaked sea salt.
7. Serve immediately.

* You can prep the peach/feta mixture ahead of time and mix with the lettuce right before serving.

MICHIGAN PASTA PRIMAVERA:

If you grew up in Michigan, there is no crop that reminds you more of springtime than asparagus! Asparagus is a perennial crop (it comes back every year without replanting) that emerges from the ground, winding its way up to the fresh spring sun. In farmers' markets and grocery stores alike, this marker of the seasonality of spring is impossible to miss, displayed in stacked crates and endless abundance for a month before disappearing. In this dish, asparagus is paired with spring sugar snap peas, locally foraged mushrooms, white wine, Parmigiano Reggiano, and white miso, mimicking the fresh, bright afternoons and earthy rainy mornings of springtime.



Servings: 4

Prep Time: 40 min

INGREDIENTS:

- 1 pound dried pasta (any pasta will work)
- 3 cloves garlic, thinly sliced
- 1 bunch asparagus ends removed and sliced into ½ inch pieces
- 1 cup fresh snap peas, shells removed (1/4 shelled peas)
- 12 oz mushrooms cleaned and cut or torn into bite-sized pieces (Morels, Chanterelles, or Oyster are best, but any mushrooms will do)
- ½ cup dry white wine
- 2 tbsp white miso paste
- ¼ cup milk
- ½ tsp salt
- ½ tsp pepper
- ¼ tsp red pepper flakes
- 1 tsp Italian herbs
- ½ cup shredded Parmigiano Reggiano

INSTRUCTIONS:

1. Bring a large pot of salted water to a boil, then cook the pasta according to the package instructions. Save ½ cup of pasta water.
2. Meanwhile, heat up 1 tbsp of oil in a pan on medium heat.
3. Add garlic and sauté until fragrant ~1 min.
4. Add the mushrooms and cook for 8-10 min until lightly browned.
5. Add asparagus and cook for an additional 4-5 min.
6. Add peas and cook for 1-2 min.
7. Deglaze the pan with white wine and cook until pan is dry.
8. Add the miso paste and milk and stir until miso paste is incorporated.
9. Season with salt, pepper, red pepper flakes, and Italian herbs.*
10. Reduce the heat to low and add cooked and drained pasta, and stir to combine.
11. Add the Parmigiano Reggiano, plus enough pasta water to get the desired amount of sauce for the pasta.
12. Season with salt and pepper and more Parmigiano Reggiano to taste.

* Sauce can be prepared ahead of time and then reheated in a pan before adding the pasta.

RHUBARB COMPOTE:

While patiently waiting for the fruit of summer to arrive, spring offers us rhubarb. This plant pokes large ruffled leaves out of the ground, slowly extended upward by bright red stems. The poisonous leaves are discarded, and the shockingly sour stem delivers a deceitful contrast to their bright berry-red color. Many people love the raw sour flavor of rhubarb, but paired with sugar, heat, and time, this spring enigma of a plant turns into the perfect jam-like spread. Use it to start the day, paired with granola and yogurt, or to finish a joyful evening over a bowl of ice cream. You can make this recipe in large batches and store it in the fridge for 2-3 weeks or freeze it to enjoy in the winter.

Servings : 10-12

Prep Time: 80 min

INGREDIENTS:

- 2 pounds/907 grams rhubarb, trimmed and diced into 1-inch pieces (7 cups)
- 1cup/210 grams packed light brown sugar
- 2 tablespoons unsalted butter, melted
- 2 tsp vanilla
- ¼ teaspoon kosher salt

INSTRUCTIONS:

- 1.Preheat oven to 425 F.
- 2.In a large bowl, toss together rhubarb, light brown sugar, melted butter, vanilla, and salt.
- 3.Spread onto a large parchment-lined rimmed baking sheet and bake 40 minutes, stirring every 10-15 minutes (Rhubarb should be thick with some spots caramelizing on the edges).
- 4.Let cool for 10 minutes.
- 5.Serve right away over ice cream or yogurt or store in the fridge or freezer.

LAST FIRST DAY

BY SYDNEY WALOVEN

PHD STUDENT

DEPARTMENT OF FISHERIES AND WILDLIFE

New state, old car,
New faces, same nerves,
Here come the introductions
Master's or PhD? Where are you from?
What lab? Which advisor?
Football game this Saturday, let's go
You found your people,
Now what is your purpose?

What makes a dissertation?
Is it significant? Is it feasible?
Year one, that's okay they say,
You'll figure it out
Write and rewrite, research and re-read,
"That's normal," they say,

Year two, you have a plan,
An email comes one night,
"Run, hide, fight," they say,
You're okay, you're okay, you're okay

The next week is yoga class,
A safe space to let it out
Heavy heart, eyes closed
You hear the tears

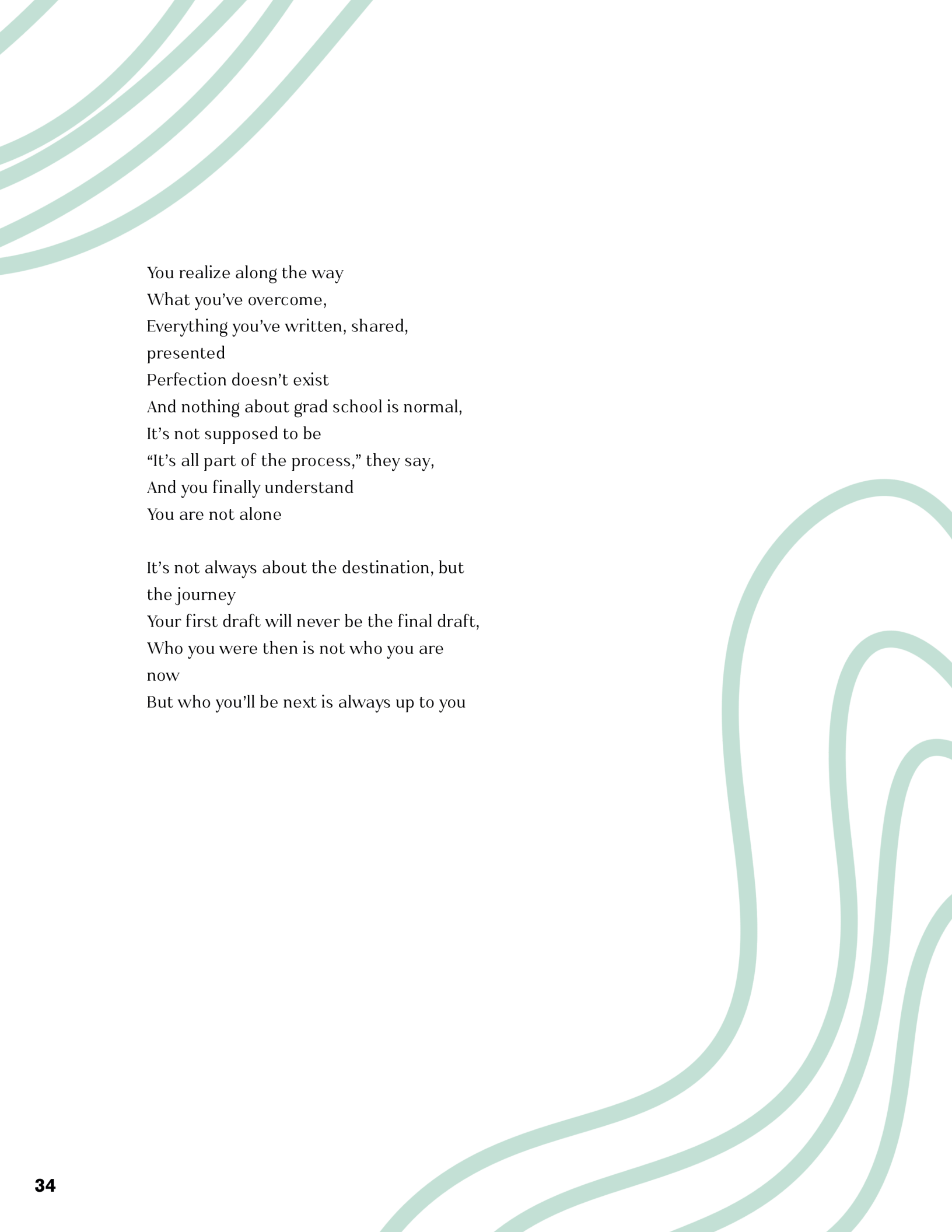
From the young girl with her friend two
mats over,
Healing begins

Year three, you have a new plan,
New projects, new connections,
It's how you envisioned
But things go sideways
"These things happen," they say,
It doesn't feel like it,
But you're still okay
You're a candidate now

Year four, you're sure this is the final plan,
But finishing still feels so far away,
An hour here, an hour there
You should be doing more,
Where does the time go?

I don't belong here anymore you think,
Did I ever?
You're almost there they say,
Comparison is the thief of joy,
You're burnt
Year five, is it over yet?

Not all at once, but slowly



You realize along the way
What you've overcome,
Everything you've written, shared,
presented
Perfection doesn't exist
And nothing about grad school is normal,
It's not supposed to be
"It's all part of the process," they say,
And you finally understand
You are not alone

It's not always about the destination, but
the journey
Your first draft will never be the final draft,
Who you were then is not who you are
now
But who you'll be next is always up to you

Interested in helping with the next Spotlight?



Reach out to fwsspot@msu.edu for more
information!

