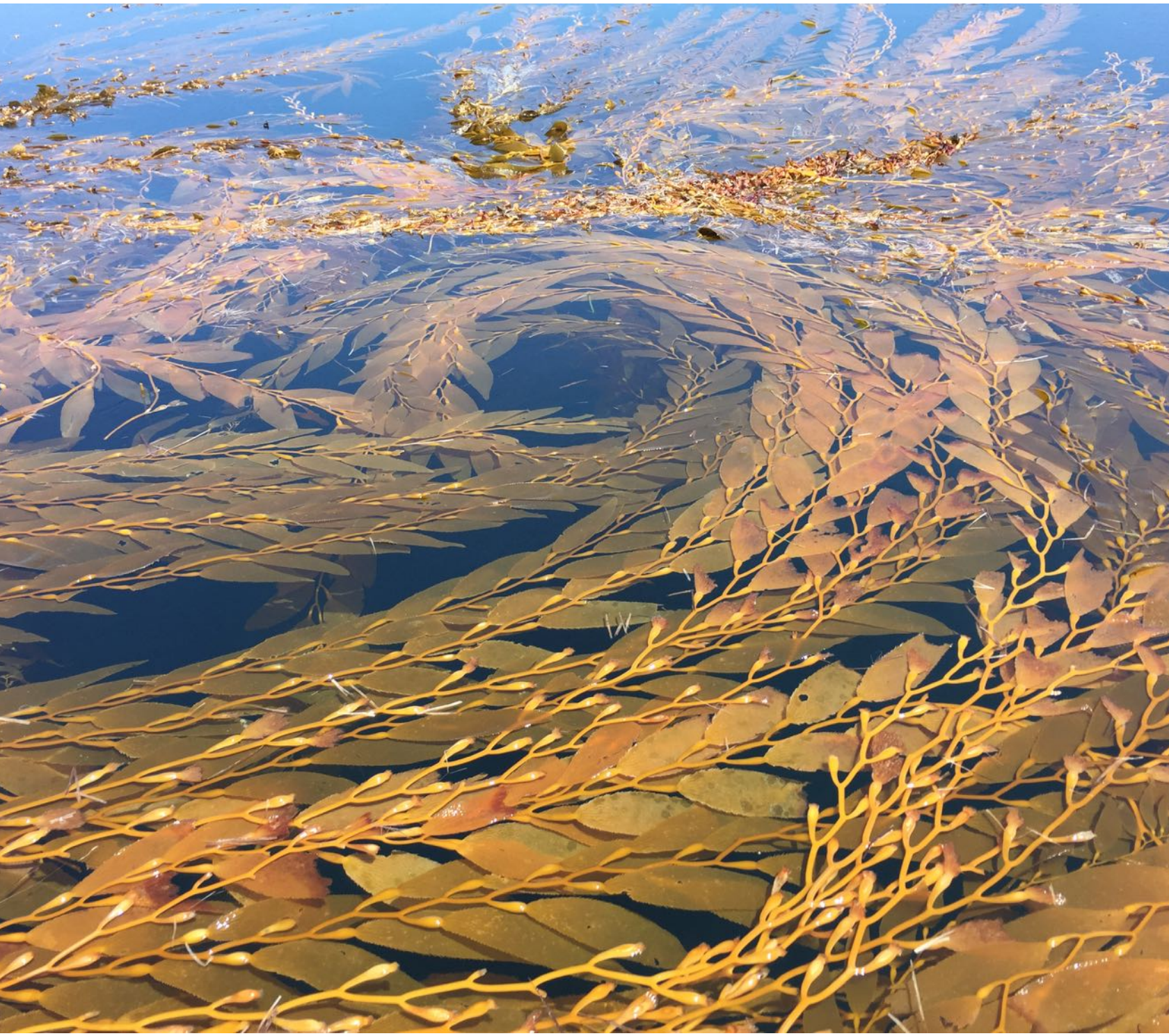
The Aggie Brickyard

assembling the blocks of ecology at UC Davis



SPRING 2020 VOL. X

FACULTY Q&A
COMMUNITY
ECOLOGY

FEATURES
RESEARCH
SPOTLIGHTS

COMMUNITY
UPDATES

STUDENT PERSPECTIVES

COMMUNITY

"Shelter in place" - Hannah Fertel

- COVER: *In Punta Baja, a giant kelp swirls around the bubbles made by divers below. Taken during a collaborative research project on giant black sea bass, conducted by UC researchers and Mexican fishing cooperatives. - Tallulah Winquist*

LETTER FROM THE EDITORS

"... This new era has some familiar features, both bad and good. We honor the GGE for being a source of good during these dark times."

For the Spring 2020 issue of *The Brickyard*, we have gathered stories of our GGE, reminding ourselves again and again what a unique and supportive community we have. We are inspired by the examples of GGE students, staff, and faculty coming together (virtually) during the current pandemic. As we go to press, we reflect that even as we respond to the novel coronavirus, an older and more vile disease is taking lives in our community as well. The murders of George Floyd, Breonna Taylor, and Ahmaud Arbery are the most recent in a long and bloody roll of anti-Black violence. Along with the recently introduced Secure Campus Act, designed to exclude Chinese students from American universities, these events paint a grim picture of racism in our country. With their permission, we have printed the GGE Diversity Committee's letter responding to these events. We stand with them in condemning hate, and we encourage you to use the resources they provide to help eradicate racism in science and in society at large.

In this issue, we celebrate community. That theme was on our minds when we met back in March, in the early stages of the COVID-19 pandemic. "Community transmission" took on a double meaning: on one hand, the virus must be passed on through human contact; but as we practiced social distancing to prevent its spread, we also wondered—how can we continue to *foster* community as we flee from the shared spaces we used to frequent? As shelter-in-place orders persisted, we found communities that were, in spite of everything, still active, still connecting, still supporting their members.

Lab communities have found new ways to connect students with their peers and mentors ("Student Q&A: Lab communities," p. 26). Students relish the memories of earlier this year, back when we could still gather in person ("EcoGeo Canyon Trip," p. 20), but we've also used online platforms to maintain and reinforce the bonds built in the not-so-socially-distant past ("EGSA Spring Update," p. 12; "Social Committee Update," p. 18). Activists continue to work for their communities, be they UC Davis commuters ("Transit Debate Update," p. 19), or students fighting for equity in STEM ("Diversity Committee", p. 14). Intrepid researchers have shown us that studying communities (of humans or marsh grasses) requires some flexibility ("Research Spotlight," p. 10).

We have all lost something in the COVID-19 crisis—we are not living in the world we thought we would be. But this new era has some familiar features, both bad and good. We honor the GGE for being a source of good during these dark times. Whatever else we can say about the idea of "community," in the GGE, it has always meant love.

Sincerely,
Your Aggie Brickyard Editors

We would like to thank the EGSA, especially Co-Chair Andrea Broad and Treasurer Bryan Currinder, for funding the printing of this issue. Thanks to their generous support, you may enjoy the Brickyard while not looking at a screen (something that has become a rare luxury these days).

Statement on Anti-Black Violence from Diversity Committee Leadership

Deniss Martinez, Maria Ospina, Frederick Nelson, Ellie Bolas, Kristin Dobbin, & Sidney Woodruff

The Diversity Committee of the UC Davis Graduate Group in Ecology (GGE) echoes the calls for justice expressed by members of the Black community after the deaths of George Floyd, Breonna Taylor, Ahmaud Arbery and countless others. Such blatant disregard for Black life is proof that we as a community need to continually be intentional about uplifting Black lives and Black people through everything that we do. #BlackLivesMatter always. The grief and pain felt around these events are compounded by the impact of COVID-19, which has disproportionately affected communities of color. Now more than ever, we as ecologists need to understand that access to a safe environment (safe from police violence and profiling, pollution, climate change etc.) is not available to everyone. That lack of access affects every aspect of Black and Brown peoples' lives and it doesn't stop when they step into classrooms, fieldwork, or conferences.

As educators, we also need to recognize the effect a week like this can have on our students and colleagues. Our Black students and colleagues are invaluable to our community and are undoubtedly more closely impacted by the events of this week. It is moments like this that remind us that diversity and inclusion must always be anti-racist. Educational movements for diversity and inclusion must unequivocally condemn violence against Black people and communities outside and within the academy. We are in solidarity with every Black graduate student, faculty member, undergraduate, and staff member in our GGE community. We see you, we love you, and we are angry and heartbroken with you.

We know a week like this can expose all of our insecurities and inadequacies when it comes to having difficult conversations around race and racism. Certainly, it is always better to be imperfect and humble than to not try at all. We hope the resources below help you on your way to creating an anti-racist life and practice.

An online version of this statement can be accessed here: https://docs.google.com/document/d/1UWTLopZ7R9dupZEcOwgAtjeh3LFrLKU_ECYZsy8Ycxg/

Mental health resources:
General Counseling services: https://shcs.ucdavis.edu/counseling-services; UC Davis Community Advising Network: https://shcs.ucdavis.edu/services/can; LiveHealthOnline Teletherapy: https://livehealthonline.com/

Organizations to donate to:
Reclaim the Block: https://www.reclaimtheblock.org/home; Black Visions Collective: https://secure.everyaction.com/4omQDAR0oUiUagTu0EG-Ig2; Family of Breonna Taylor: https://justiceforbreonna.org/; Minnesota Freedom Fund: https://minnesotafreedomfund.org/ (*This organization is receiving many donations and asks for supporters to donate to Reclaim the Block, Black Visions Collective and Northstar Health Collective as these on the ground orgs need supplies*)

Local Organizing and Efforts:
The Liberation Collective for Black Sacramento: https://twitter.com/BlackSacramento; NorCalResist: https://www.norcalresist.org/; Showing Up for Racial Justice, Sacramento Chapter: https://www.facebook.com/surjsacramento/; Anti-Police Terror Project: http://www.antipoliceterrorproject.org/sacramento

Educational Resources:
Teaching and higher education: Haynes, C., & Bazner, K. J. (2019). A message for faculty from the present-day movement for black lives. International Journal of Qualitative Studies in Education, 32(9), 1146-1161; Aggie Brickyard Vol VIII (Spring 2019)"What's On Your Mind?": Everyday Actions to Up Your Inclusivity Game, by the GGE Diversity Committee: https://aggiebrickyard.github.io/posts/SpringVol-VIII/; https://cft.vanderbilt.edu/guides-sub-pages/crisis/
Ways white people can take action for racial justice: https://medium.com/@surj_action/5-ways-white-people-can-take-action-in-response-to-white-and-state-sanctioned-violence-2bb907ba5277; https://medium.com/equality-includes-you/what-white-people-can-do-for-racial-justice-f2d18b0e0234; https://guidetoallyship.com/
Anti-racism resources for white people: https://docs.google.com/document/d/1BRlF2_zhNe86SGgHa6-VlBO-QgirITwCTugSfKie5Fs/mobilebasic
People of Color Solidarity: https://www.blackwomenradicals.com/blog-feed/black-and-asian-feminist-solidarities-a-reading-list; https://medium.com/awaken-blog/20-allyship-actions-for-asians-to-show-up-for-the-black-community-right-now-464e5689cf3e ; Alan Pelaez Lopez: Black and Indigenous writer whose writing can be found at www.alanpelaez.com/writing-2/. They write extensively about Black and Latinx experiences as well as the experiences of Black and undocumented people.

CHAIR-ISHED REFLECTIONS

Trumania (*Truman Young*) ◆ April 14, 2020

Truman on Odyssey - Maria Ospina

"At my age, you begin to realize that all times are unprecedented, but this spring has ratcheted that up several notches."
- T. Young, GGE Chair

[Author's note, June 11th: This editorial was written before the murder of George Floyd and the ensuing extraordinary local, national, and global response.]

Join the choir: "We live in unprecedented times." At my age, you begin to realize that all times are unprecedented, but this spring has ratcheted that up several notches. Things are changing so fast that between the time I write this (early April) and the time you read it, things will be radically different, likely in a positive way. This COVID crisis raises all sorts of questions. Scientific questions about the outbreak itself are fascinating. But also: How do we deliver teaching and advising remotely? What kinds of research will be affected, and in what ways? Perhaps most fundamentally, how do we deal with a less in-person world, at the time and in retrospect?

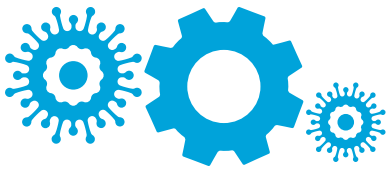
Ecology is a field where social isolation is not uncommon: time spent in the field (even locally) and working from home or a cubicle. The peer review process is inherently remote. And some of us less socially adept were attracted to this life in part because it relies less on "people skills." But the recent weeks have reaffirmed what even introverts have learned: our connections to others are fundamental.

For tens of millions of years, we have been a (long series of) social species. Does this mean we need social contact? I am not sure, but we certainly are deeply accustomed to it, and equipped with many inherent and learned skills to deal with positive and negative aspects of social contact and its absence.

How will we look back on this time: as a chance for introspection? To learn how to center outside of our social-circle? To appreciate more our friends and family? Maybe even to become better people, and dare I say, therefore better scientists?

If you are like me, the down time was a chance to catch up on writing papers, proposals, and lectures, but I was also vaguely distracted, and not as productive as I might have been. I was also lucky (as some of you were) that I was able keep my job (my paycheck) through the crisis. This made me think more deliberately about how to help those not so fortunate. Will it also be a chance for society as a whole to reconsider about how a democracy deals with health care, financial insecurity, and more generally our sense of responsibility to each other? Will the public come through this more committed to science, or more lured by the comfort of anti-science conspiracy narratives? What can we do (as individuals and as a field) to contribute to the broader conversation?

I have no answers but put this out there to perhaps plant a few seeds (or nurture those already germinated).



FACULTY Q & A

Dr. Andrea Schreier is an alumna of the GGE (Ph.D., awarded in 2012). She is currently an Adjunct Assistant Professor in the Department of Animal Science and the College of Agricultural and Environmental Sciences, as well as the Director of the Genomic Variation Lab. Her research answers ecological and evolutionary questions using genetic and genomic techniques, with the goal to improve the management and conservation of fish and wildlife populations and to increase the sustainability of aquaculture. Sarah Stinson interviewed her to discuss community, of both the ecological and academic sort.

As an ecologist, how would you define "community" for a broader audience?

I would define a community to a general audience as a group of species inhabiting the same ecosystem. One could idealistically say that species in a community have adapted to co-exist but so many of our ecosystems contain "novel" assemblages due to invasion that this often isn't the case.

How would you characterize the GGE community, and how has it changed over the course of your career?

What I like the most about the GGE community is the support it provides its students. Our grad student association is active and we value student input. Not every grad group on campus includes grad students in admissions reviews, for example. Has the GGE community changed over time? Hard to say. My perspective certainly changed as I transitioned from a GGE student to a postdoc to a faculty member, but not sure the group has changed that much.

A. Schreier - UC Davis

What other communities do you consider yourself a part of?

My lab is rather large (currently 21 students and staff) and we share lab space with Josh Hull's students, so our two groups together form the Genomic Variation Lab community. I've also been very active in the North American Sturgeon and Paddlefish Society for a number of years, and our membership is small enough (~150 people) that I consider us to be a "sturgeon community."

How have your research communities shaped your scientific career?

I did my Ph.D. in the GGE and the Genomic Variation Laboratory (under Bernie May) and both of those communities played a major role in getting me where I am today. I still have strong relationships with GGE alumni and I collaborate frequently with Genomic Variation Lab alumni. Interactions in our tight knit sturgeon community have also provided numerous opportunities for funding and collaboration.

(How) has your community changed since the start of the COVID-19 pandemic? Has your community experienced anything like this before?

My lab group is pretty close knit and pre-COVID I typically interacted with at least a few students or staff each day I was on campus. I've really been missing those in-person interactions. Weekly lab meetings were always something I looked forward to, as a time where all of us could be in the same room. I'm very grateful we can continue lab meetings over Zoom, but it's not the same as our in-person interactions. The North American Sturgeon and Paddlefish Society is also having to cancel our annual meeting, which was supposed to be in Folsom this October. This will be the first year since 2008 that our Society hasn't hosted an annual meeting or symposium at a larger meeting, and I'll miss seeing my sturgeon friends from around North America.

RECENT STUDENT PUBLICATIONS

Andrews J.B., T. Caro, S. Juma Ali, **A.C. Collins**, B.B. Hamadi, H.S. Khamis, A. Mzee, A.S. Ngwal, and M. Mulder. 2020. Does REDD+ have a chance? Implications from Pemba, Tanzania. *Oryx*. 1-7.

Collins, A.C., M. Böhm, and B. Collen. 2020. Choice of baseline affects historical population trends in hunted mammals of North America. *Biological Conservation*. **242**: 108421.

Dobbin, K. B., and M. Lubell. 2019. Collaborative Governance and Environmental Justice: Disadvantaged Community Representation in California Sustainable Groundwater Management. *Policy Studies Journal. https://doi.org/10.1111/psj.12375*

Fogarty F.A., D.R. Cayan, L.L. DeHaan, and E. Fleishman. 2020. Associations of breeding-bird abundance with climate vary among species and trait-based groups in southern California. *PLOS One* **15**. https://doi.org/10.1371/journal.pone.0230614

A fur trader at an Alberta trading post in the 1890s. - Wikimedia Commons

Cannibal (top) & non-cannibal (bottom) burbot of the same cohort. - Neil Ashton

Frazier, A. J., N.R. Jensen, S.P. Young, and A.E. Todgham. 2020. Does a cannibal feeding strategy impart differential metabolic performance in young burbot (*Lota lota maculosa*)? *Conservation Physiology* **8**. https://doi.org/10.1093/conphys/coaa034.

Kelso, M.A., R.D. Wigginton, and E.D. Grosholz. 2020. Nutrients mitigate the impacts of extreme drought on plant invasions. *Ecology*. **101**: 1-10.

Photographers, researchers and fishermen ready themselves before a dive survey to count endangered giant black sea bass off the coast of Baja California. - Tallulah Winquist

Octopus paralarva *collected offshore near Bodega Marine Lab. - Eduardo Hernandez*

Kross, S.M., **B.M. Martinico, R.P. Bourbour**, J.M. Townsend, C. McColl, and T.R. Kelsey. 2020. Effects of Field and Landscape Scale Habitat on Insect and Bird Damage to Sunflowers. *Frontiers in Sustainable Food Systems* **4**: 1-11.

Myers-Smith, I.H., J.T. Kerby, G.K. Phoenix, J.W. Bjerke, H.E. Epstein, J.A. Assmann, **C. John**, et al. 2020. Complexity revealed in the greening of the Arctic. *Nature Climate Change* **10**: 106-117.

Shier, D. M., **A. K. Bird**, and T. B. Wang. 2020. Effects of artificial light at night on foraging behavior and vigilance in a nocturnal rodent. *Environmental Pollution* **724**:114566.

Stompe, D., J. Roberts, C. Estrada, D. Keller, N. Balfour, and A. Banet. 2020. Sacramento River Predator Diet Analysis: A Comparative Study. *San Francisco Estuary and Watershed Science* **18**. https://doi.org/10.15447/sfews.2016v18iss1art4

Stompe, D., P. Moyle, A. Kruger, and J. Durand. In Press. Comparing and Integrating Fish Surveys in the San Francisco Estuary: Why Diverse Long-term Surveys are Important. *San Francisco Estuary and Watershed* Science **19**.

Wigginton, R.D., M.A. Kelso, and E.D. Grosholz. In Press. Time-lagged impacts of extreme, multi-year drought on tidal salt marsh plant invasion. *Ecosphere*.

Calochortus kennedyi *in the Mojave Desert. - Abbey*

Research Spotlight: Striped Bass in the Pacific Ocean

Dylan K. Stompe

Point San Pedro, California, as seen from Etrac Inc.'s vessel "505." - Dylan Stompe

Striped bass are an iconic and recreationally important fish species throughout the United States, including within their native range on the Atlantic Coast. Based on their value as a sport fish and as table fare, striped bass were one of the early introductions to the San Francisco Estuary (SFE). Their life-history and abundance within the SFE has been studied as much or more than any other fish present in the system, with only Chinook salmon, and more recently Delta smelt, approaching the same level of interest. Given the historical resources dedicated to monitoring and studying striped bass in the SFE, the question must be asked; why don't we know more about what they're doing in the Pacific Ocean?

The magnitude of striped bass migrations in the Atlantic Ocean is well-known. Believed to be cued by increased ocean temperatures during summer months, a large proportion of Atlantic Coast striped bass migrate north every summer in search of productive feeding grounds. In California, coastal migrations are far less regular and their dynamics less predictable. Despite this, multiple permanent and transient populations have established via coastal migrations in estuaries up and down the Pacific Coast. One such population, in Coos Bay, Oregon, became large enough to support a commercial fishery for several decades before it collapsed, apparently due to inbreeding (Waldman et al. 1998).

Limited research has gone into understanding what conditions are responsible for striped bass venturing into the Pacific Ocean. Past studies have relied mainly on catch data from commercial party fishing boats that fish within the SFE and just outside of the Golden Gate. These data show that catch of striped bass in the Pacific Ocean increases during periods of unusually warm sea surface temperatures (Radovich 1963, Bennett & Howard 1997). Unusually warm, however, has shifted in meaning as climate change progresses. For example, extreme El Niño events that bring warm water to the Pacific Coast are forecasted to increase in frequency as the global climate warms (Wang et al. 2017).

Increased catch of striped bass in the Pacific Ocean during El Niño events, the establishment of Oregon populations, and the annual Atlantic Coast migrations indicate that Pacific Coast migrations have occurred and will continue to occur. However, the specific dynamics and repercussions of this behavior for the SFE population are largely unknown. Along the Atlantic Coast, it is well-established that large female striped bass migrate. These same individuals also produce the highest number and quality of eggs. Thus, if female mortality is high in the Pacific Ocean, or if individuals permanently emigrate to other estuaries, a loss of juvenile production may occur. Bennett and Howard (1997) speculated that these dynamics may at least partially explain the long-term decline of striped bass populations within the SFE.

While the results from party boat data are compelling, these data are hard to interpret given changing effort and fishing gear over time. In addition, these results do not provide much information outside of the heavily fished areas near the Golden Gate and only a single data point for any given individual. My colleagues and I started the UC Davis Ocean Striped Bass Project with the goal of addressing some of these shortcomings. Part of this project involves tracking movements of individuals using a combination of acoustic telemetry and otolith microchemistry.

GGE student Brian Williamson and Junior Research Specialist Caroline Newell rigging acoustic receivers for deployment at Point Reyes, California. - Dylan Stompe

Acoustic telemetry is a technical term for what is essentially tracking animals using tags that emit coded high-pitched sounds. When a tagged fish swims by an acoustic receiver (hydrophone), of which there are many deployed throughout the SFE and the rivers that flow into it, its tag code is recorded along with the time and date. Using this technology, we can track tagged fish for up to seven years throughout the SFE and upstream rivers.

But what about coastal migrations? As a part of the Ocean Striped Bass Project, a total of 22 acoustic receivers have been deployed from zero to three nautical miles offshore at Point Reyes and Point San Pedro (Fig. 3). These receivers act as "gates" to migratory individuals, listening for tagged fish as they pass on their way north or south. If an individual is recorded only once at either of these gates, we know it either died or emigrated to another estuary and can be counted as "lost" to the SFE population.

Striped bass captured in the San Joaquin River near Tracy, California by the U.S. Fish and Wildlife Service. - Steve Martarano

The other component of the study, otolith ("ear stone") microchemistry, relies on the unique chemical signals incorporated into otoliths as a fish grows. Otoliths are small calcified structures located in the inner ear of fishes. They serve as an excellent structure for scientific analysis because they continually grow and are not resorbed during periods of stress. By comparing the chemical signatures trapped within different layers of the otolith to the unique chemical signatures of different water bodies, we can effectively retrace the migratory history or even source of an individual.

Why do we care what happens to striped bass in the Pacific Ocean? Striped bass are an extremely important recreational species within the SFE and upstream rivers; they are a cultural, consumptive, and economic resource for thousands of people. They are also an important indicator species because they require many of the same environmental conditions as vulnerable native species, such as longfin smelt and delta smelt, that now exist at population levels too low to effectively track. By not knowing the coastal migration dynamics of large female striped bass, we limit our ability to identify drivers of population declines more broadly. Finally, while the effects of predation by striped bass in the SFE and upstream rivers is hotly debated, they may be a more tangible threat to native species in the small estuaries up the California and Oregon coasts. Striped bass are truly novel to these estuaries, and if climate change increases their colonization potential, native species declines may occur. ◆

Research Spotlight: Stress in the Salt Marsh

Eliza Oldach

What do you do when a massive disruption steamrolls your plans for a tidy field season? For GGE's Megan Kelso and Rachel Wigginton (along with their advisor, Ted Grosholz), the answer is clear: you roll right with it.

When they began the fieldwork for a pair of studies recently published in Ecology and Ecosphere, Kelso, Wigginton, and Grosholz intended to examine the impacts of nutrient addition on species invasions across San Francisco Estuary. But their fieldwork coincided with California's 2012-2016 all-records-breaking drought. With drought impacting every plot in their experiment, it was impossible to exclude it from the research.

"We had a bit of a joke in my cohort that everyone had a drought chapter," says Wigginton.

Under drought, their research turned from a study of two stresses on marsh ecosystems—nutrient pollution and invasion—to a study on three.

Serendipity allowed them to combine nutrient pollution and invasions with drought. These studies are the first known to examine this particular trifecta of stresses.

Their research focused on competition between native marsh grasses and an invasive species, peppergrass (*Lepidium virginicum*). For years, peppergrass has been making inroads into San Francisco's tidal marshes, in some places entirely

Rain exclusion structures in the tidal salt marsh at Palo Alto Baylands. - Rachel Wigginton

replacing native marsh grasses. To examine the dynamics of invasion under stress, the scientists manipulated nutrient levels in plots with and without peppergrass, during and after the drought.

Overall, they found that drought was challenging for all of the grasses. Drier seasons mean saltier environments for grasses, which experienced dieback as the drought stress persisted. Adding nutrients helped grasses recover. When the environment gets salty, a nutrient bump helps grasses create more salt-protective compounds and increase salt exclusion processes. This pattern holds for native and invasive plants alike.

But the team noticed something unexpected: in plots with mixed grasses, the gaps left by die-back recolonized with natives. Under triple-stress, the balance of competition had shifted. Where the peppergrass had once been edging out the native grasses, native grasses were edging out peppergrass. Drought stress, it seemed, gave the native grasses a new foothold against peppergrass invasion.

Wigginton, Kelso, and Grosholz don't believe invasives are on their way out, however. In this study, they found that the pattern of native grasses outcompeting invaders was stronger in sites with relatively fresher water. In the saltier sites, closer to the mouth of the bay, native grasses didn't gain as much of a competitive advantage over peppergrass. That raises a concern in light of another looming stress facing San Francisco marshes: sea level rise. In the future, salty conditions exacerbated by rising seas could shift the balance back towards invasives.

But for now, Kelso, Wigginton, and Grosholz's work presents a remarkably hopeful story for salt marshes. When conditions are right, a gigantic stress can have surprisingly positive impacts. If you squint, there's a lesson here for human communities, too. While COVID-19 has unarguably caused stress in our lives, just maybe it will lead to surprising new strengths, as well.

GGE alums Megan Kelso and Rachel Wigginton in the field. - Rachel Wigginton

Ecology Graduate Student Association: Spring Update

EGSA Co-chairs: Andrea Broad, Angie Korabik, and Paige Kouba

This quarter was a weird one for sure, most notably in that we, the Co-Chairs, were unable to feed you all at our Spring Quarter meeting. For the record, we were going to make hand-tossed pizzas with the finest ingredients sourced directly from Italy topped with edible gold and sustainably sourced caviar… alas! In all honesty, we have all experienced changes in our lives that have made the past few months seem both longer and shorter than normal—being forced to work from home, worrying about the health of ourselves and those important to us, making plans B and C and D for our research and field work… the list could go on. In addition, there have been a number of changes within the GGE, from the shortened Jastro application to the reintroduction of Silvia Castillo Hillyer as the interim GGE Grad Coordinator (thanks so much for stepping in, Silvia!).

While the past two months have been riddled with anxiety and uncertainty, the need for social distancing has also reaffirmed bonds and sparked ingenuity. Virtual happy hours, journal clubs, and trivia nights allowed us to connect with GGE friends in Davis and beyond. The shift to online teaching led to a trade in strategies for keeping students engaged. Meetings and classes over video chat introduced us to each other's pets, family members, and roommates; and the responsibility of staying home gave us the excuse to binge emerging cultural phenomena and revisit old favorites.

Despite the strange ending to the year, it's been an absolute joy for us to serve as Co-Chairs for the EGSA this year. We've loved meeting more of you and getting to understand the inner workings of the group, and we hope we've done all that we could to make the year as great as possible for you, our fellow students. It's a bit sad that our time is coming to an end, but we have full faith that Victoria Dearborn, Ashley Grupenhoff, and Katie Lauck will do a fantastic job as next year's EGSA Co-Chairs.

GGE students celebrate the announcement of next year's EGSA co-chairs: Victoria Dearborn, Ashley Grupenhoff, and Katie Lauck. - Andrea Broad

Executive Committee News

Aviv Karasov-Olsen & Helen Killeen

What a year! The 2019-2020 academic year has proven to be an interesting year for many in our GGE community. As we all experience and grapple with the challenges of the pandemic, starting a new graduate program or wrapping up a dissertation, the Executive Committee (EC) has been hard at work to improve the GGE for current and future students. Here are some of the highlights from this year.

Curriculum

This year, the EC has focused on improving the quantitative training available to GGE students. Following a survey conducted in the 2018-2019 academic year, the EC has formed the Quantitative Training Working Group to develop several recommended course progressions for GGE students based on existing and anticipated new courses. This effort will not introduce new requirements but aims to simplify the process of choosing quantitative courses. In order to facilitate a more seamless course progression, we have recommended that R-Davis be moved to the fall quarter to provide more immediate preparation for students prior to any quantitative courses. Additionally, this Working Group is creating a forum for course instructors to discuss curricula, reduce topical overlap, and align learning objectives. Course progressions will be distributed to students and made available on the GGE curriculum in late Spring, 2020.

Next steps:

-Finalize & distribute recommended quantitative course progression for Fall Quarter 2020.

-Implement a formal EVE 100 test-out option. Students interested in testing out now should contact Silvia Hillyer (schillyer@ucdavis.edu)

Admissions

During the spring of 2019, the EC voted to remove the GRE as an admissions requirement. The GRE can be a poor predictor of graduate and post-graduate success, and is biased against women, people of color, and economically disadvantaged students. This year, the Graduate Council approved this change in GGE's admissions requirements. The GRE will no longer be required starting with the 2020 application cycle.

GGE alum Dr. Jordan Hollarsmith deploying her Blue Robotics ROV In La Paz Bay off of Baja California Sur, Mexico. Hollarsmith and a team of UCD graduate students conducted deep water biodiversity surveys in Mexican National Parks in 2018. - Tallulah Winquist

The GGE continues to fund one GSR position on the Admissions Committee to acknowledge the enormous contribution of students to the admissions process and to conduct analyses to improve the process. If you are interested in learning more about this position please contact the Diversity Committee (Admissions & Awards Subcommittee).

New Leadership

This year, Helen Killeen will be stepping down as a student representative on the EC. This spring, Andrea Broad (ambroad@ucdavis.edu) was unanimously confirmed by the GGE student body to replace her. Andrea will begin her first of two years on the EC this fall. We welcome any questions or comments about this year's efforts by the Executive Committee!

You can reach us at hjkilleen@ucdavis.edu (Helen Killeen) and karasovolson@ucdavis.edu (Aviv Karasov Olson).

Diversity Committee

Maria Ospina

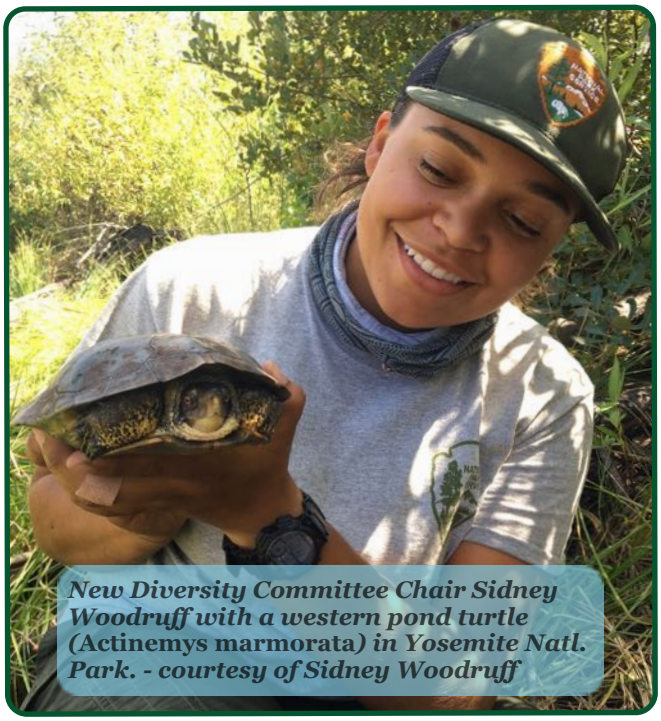
GGE's Diversity Committee serves a key role in ensuring our community actively recruits and supports students from a variety of backgrounds. We are excited to have Sidney Woodruff taking over the role of Chair of the Diversity Committee. Fellow DC member Maria Ospina spoke with Sidney about her background and her vision for the future. Their conversation, below, has been edited for brevity and clarity.

Welcome Sidney! How about we start by sharing a bit about yourself and your interests?

I am a first year GGE student researching reptile and amphibian conservation. I did my undergrad at the University of Georgia, obtaining two bachelor's degrees, one in Forestry and another in Wildlife Sciences. As a senior, I completed an internship with Mosaics in Science as a herpetological conservation intern. The purpose of this internship is to introduce undergraduate students, primarily underrepresented groups, to the National Park Service as a career choice. Before this experience, I had only been to one national park myself and had never really given much thought to the importance of public lands. During that internship, I found my love of the national parks because they are a space intended for everyone and I believe our public lands will soon be the only places we find some endangered species. After moving to California and working at Yosemite, everything just started to snowball and suddenly I was in graduate school at UC Davis! Outside of school, I enjoy road trips, skiing, backpacking, rock climbing, and long walks on the beach.

You moved to Davis recently, what has your experience been like thus far?

I love the small-ish town feel that Davis provides while having access to nearby places like San Francisco and Tahoe. I feel that similarly with the University. You get the small school feel with our Graduate Group in Ecology, while maintaining the larger connection to UC Davis as a whole. So far, my experience has been mostly positive. Graduate school forces you to realize the things you want to put your time and energy towards, and that mental process can mature you quickly. I'm realizing the qualities I truly value in friendships, mentorships, and



New Diversity Committee Chair Sidney Woodruff with a western pond turtle (Actinemys marmorata) in Yosemite Natl. Park. - courtesy of Sidney Woodruff

community. Graduate school is very performative, and I'm realizing how much I value humility and the ability for ego to not get in the way. That trait can translate to friendships and relationships with mentors, and when you do not have humility, it can hinder your creative and research process.

I want to switch gears to your experience as a student and a leader. What does leadership mean to you?

Leadership means having a rational voice that can be there to advocate for the group as a whole. You want someone there who you know will have the best intentions for you and be supportive towards your endeavors. Additionally, leadership means making sure we stay on track and are moving towards our shared vision. It requires personal and group development, so we don't become stagnant.

Is there a past experience you want to share of, when you were a leader?

In my undergrad, I served as the chair of our student ambassador program. I was able to bring new perspectives to the program which the program was not paying attention to. I expanded the program by advocating for underrepresented groups because our perspectives were often not given the same weight as our student peers. I believe I made a lasting impression with that program from my position as chair.

I have noticed your leadership since you joined our community at Davis. Can you tell us about your involvement?

In regard to Diversity Committee, I remember being at the GGE Symposium during my Interview Weekend and participating in the breakout sessions with Deniss Martinez and Frederick Nelson. Although I was already set on coming to UC Davis, I saw how engaged they were and I remember getting so excited about getting involved with the group. Since joining the GGE, I have also been involved with the Admissions and Awards Subcommittee and am now on the Board of Directors for a national mentorship program called M.U.S.E. (Mentorship for Underrepresented STEM Enthusiasts).

Now I want to move on to talk about the Diversity Committee and the near future as Chair. What are you most excited about regarding the position as chair?

I'm looking forward to sitting in on the GGE Executive Committee meetings to see the inner workings of what goes on to make this program successful. Most importantly, I'm looking forward to advocating for students who have not been invited to the decision-making table. I already have lots of ideas for future initiatives and events for our committee, and I want to make sure that we are also taking care of current graduate students by improving their overall sense of well-being and belonging.

What are you hoping to learn or gain from this experience?

I want to learn more about myself! I want to understand what I want and need as a graduate student and how I can translate that into programs, trainings, events, and admissions process for future students. Also, to figure out how to be a better leader to people and a voice for those people!

Why do you think it's important to have a Diversity Committee?

The importance of having a Diversity Committee can't be summed up into one paragraph; I could write a whole dissertation about it! But to answer the question shortly, it pushes the needle on being the voice for change in the program. We want to provide a space for students to feel welcome in multiple aspects of graduate school. The retention and recruitment ideals of the Diversity Committee make this possible! We want to make sure we recruit bright and excited diverse faces, that they feel they belong and have the means and resources to succeed, and that they then go on to graduate and recommend our program to future students. We want that cycle to continue and also perpetually improve itself. ◆

Sidney Woodruff collecting data on a Western pond turtle* (Actinemys marmorata*) hatchling in Yosemite National Park. - Kyle Strand

Society for Conservation Biology

Ann Holmes

The Davis Chapter of the Society for Conservation Biology (SCB-D) is a student-run organization where undergraduate, graduate, and early career conservationists can develop professional skills in conservation biology. SCB-D recently celebrated its 20th anniversary, and continues to be one of the most active conservation groups in Davis.

Recent Events

Our winter meeting featured three films co-presented with the Graduate Group in Ecology Diversity Committee. *This Land* discusses navigating outdoor spaces as people of color and women in wilderness narratives. *Traditional Ecological Knowledge and Place-Based Learning Communities* from Humboldt State University's Place-Based Learning features tribal leaders, biologists, and academics. Finally, in *Fighting Fire With Fire: Using Cultural Burning Practices* tribal chairman Ron Goode leads students of Dr. Beth Rose Middleton Manning through a cultural burn, highlighting how burning practices empower tribal communities. Graduate student Chris Adlam, who was involved in the project, led a great Q&A after the film. Thank you to Chris and also to Fred Nelson for facilitating collaboration with the Diversity Committee.

This year's Spring meeting took place online on Tuesday, May 26. The meeting featured Dr. Rodrigo Medellín (Universidad Nacional Autónoma de México), a world renowned ecologist known for his work in bat conservation and a former president of the global Society for Conservation Biology.

Upcoming Events and Current Projects

The Sustainability Committee, led by chairs Amy Tims and Brianna Pinto, is currently wrapping up the Davis Sustainability Manual to publish as a PDF on our website (https://davisscb.wixsite.com/

The SCB-D 20th Anniversary Celebration, February 18, 2020. - Emilie Graves

Rufous-crowned sparrow (Aimophila ruficeps) from the Davis Nestbox Network. - Alison Ke

scbdavis). The manual provides tips and information for becoming more sustainable in everyday life.

Policy Committee chairs Emilie Graves and Autumn Iverson submitted an official public comment in opposition to proposed changes that weaken the federal Migratory Bird Treaty Act. The comment was formally reviewed and approved by SCB North America. Government agencies are required to consider these public comments for proposed changes to environmental rules and we invite you to participate in this process.

We have two ongoing projects in the Stewardship Committee with Alison Ke, Jessica Greer, Breanna Martinico, and Kees Hood. First, students help document seasonal bird behaviors at Bobcat Ranch near Lake Berryessa as part of a national phenology project with the Audubon Society. SCB members can sharpen their skills with experienced birders and hike in a beautiful area not open to the public. Everyone who has been out on the surveys has good things to say about it! Surveys are on hold due to COVID-19 while we work out new protocols to keep participants safe. Second, we monitor 20 nest boxes on the Covell Greenbelt with the Museum of Wildlife and Fish Biology. 75% of the nest boxes are occupied by western bluebirds, tree swallows, and house wrens. 27 nestlings have already hatched and 37 eggs will hatch soon! It has been very interesting to see that banded birds are using the boxes and we can check where they came from. The Davis Nestbox Network does not have undergraduate interns this season due to COVID-19.

The Education & Outreach Committee chaired by Lea Pollack and Eric Tymstra is working on "Diverse Voices for Biodiversity," a video media initiative showcasing UC Davis researchers. The committee seeks new members to help complete videos from existing footage.

Schedule Changes due to COVID-19

Events with the Social Committee chaired by Ken Zillig are currently on hold. Our Non-Academic Conservation Career Panel, originally scheduled for April, has been postponed to the fall (date TBA).

Contact Info:

Please see our website (https://davisscb.wixsite.com/scbdavis), Twitter @SCB_Davis, or Facebook @davis.scb for remote events or to join the listserv. We can be reached at SCBDavis@gmail.com. ◆

White-breasted nuthatch (Sitta carolinensis) from the Davis Nestbox Network. - Alison Ke

Social Committee Update

Angie Korabik

In the current era of social distancing, we are all rethinking what it means to be "social." Unfortunately, many of the ideas the Social Committee had for this past quarter were not possible under current regulations, but I do not believe this has prevented the GGE as a body from continuing to be a social organization. Instead, we are all learning different ways to interact with others as well as how to best interact with ourselves. Over the past few months, I've heard numerous stories of community-building—stories about those organizing food drives and volunteer programs to help service others, stories of those organizing virtual happy hours among friends, labmates, and family; stories of those trying to make the world better in these uncertain times. From those who are bringing people together, to those who are helping out the community, to those who are still fighting for our rights from the distance of their homes, thank you all for placing community first.

Despite our inability to put on any events over the last quarter, this past year was a blast for the Social Committee. From pumpkin carving to potlucks to trivia with the recruits to eating pupusas, every event we were able to put on was a great chance to get to know everyone in the GGE and have a great time. Thank you so much to this year's Social Committee—Fred Nelson, Mollie Ogaz, Ric DeSantiago, and Tali Caspi—without whose brainstorming and initiative, these events would never have been possible. Thank you so much to Matt Malepeai, who was so supportive of all our plans and helped out in any way he could to make them happen. Most importantly, thank you, GGE Community, for making all of our events a success and just being marvelous people in general. I hope you all stay safe and connected during quarantine, and I look forward to the day we can all gather in person at Sophia's again.

GGE students on the Colorado River. - Ryan Peek

Transit Debate Update

Hyun Kim, Lisa Rosenthal, and Tara Ursell

In the Fall 2019 issue, we shared our perspective on the plans for the replacement of the UC Davis Intercampus Shuttle with the new Causeway Connection service. To summarize, we were disappointed with the university for canceling a widely-used campus-to-campus shuttle service, opting instead for a bus service lacking the key features held by the intercampus shuttle, such as express routes, bike storage capacity, seatbelts, etc. —a decision driven neither by accurate data nor by feedback from the ridership. However, our activism on this issue ultimately did make a difference:

- Sacramento Regional Transit (SacRT) worked extensively with representatives from the ridership to ensure that the new route and schedule met our needs.
- UCD lowered the fares so that the new rates are comparable to or cheaper than the prior intercampus shuttle rate.
- Members of the UCD administration met with shuttle riders and confirmed commitment to providing transit in the long term (addressing our concern about service being contingent on funding status of the transit agencies, especially given that the electric buses were grant-funded).

While we were very pleased that UCD and the transit agencies worked with us on these issues, unfortunately they were unable to commit to providing seatbelts and comparable on-bus bicycle storage. A number of shuttle riders have been inspired to continue advocating for intracity seatbelt availability—stay tuned.

Building community through activism

One of the unexpected benefits of working to retain—and later improve—the shuttle service was getting to know other riders. As a commuter shuttle, the bus rides can sometimes be quiet and not always conducive to meeting each other.

Once we all had a common purpose and working group, we started meeting on campus and at each other's houses, working on shared documents after work, and seeing each other at UCD workshops and SacRT board meetings. This even helped to break the grad student bubble: we worked together with professors and grad students from many different departments as well as staff from throughout the UCD system. Pre-pandemic, we even managed to get together on a few occasions just to socialize. Living in Sacramento can be a bit isolating in terms of being apart from the typical grad student lifestyle, so it has been great to strengthen ties close to home.

More information about the new shuttle and all updates to the route/schedule (including temporary service changes due to COVID-19) is available at http://causewayconnection.com/. An archive from our shuttle response working group is at https://acrossthecauseway.netlify.app/.

UC Davis courtesy photo

EcoGeo Canyon Trip

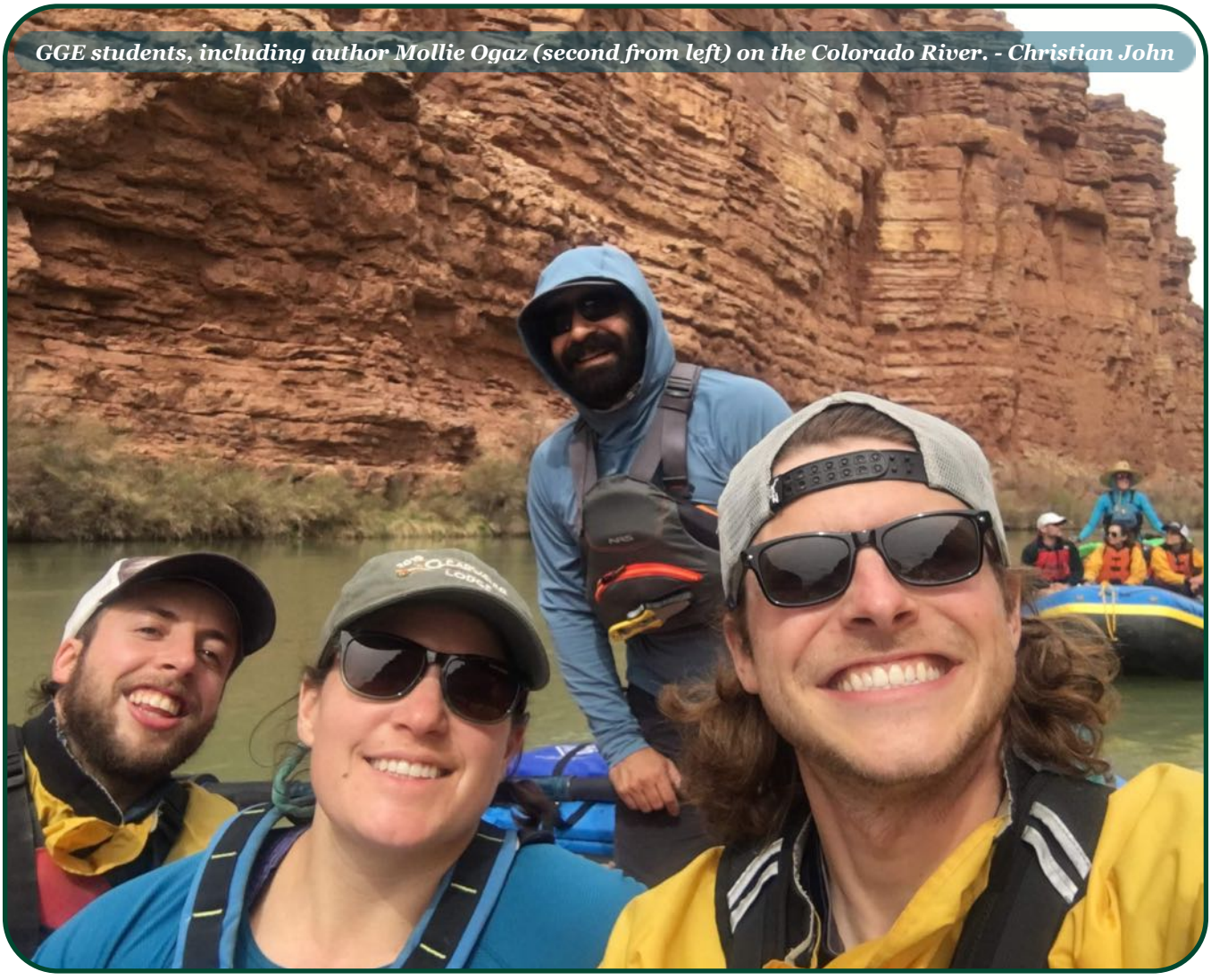
Mollie Ogaz

At this point, it feels strange to think of sitting side by side with people who aren't a part of your household. Perching thigh to thigh on the front of a raft as it barrels though splashy rapids. Sharing high fives and hugs when you've made it safely through a big one. This kind of human interaction, formerly innocuous, has become taboo and hard to fathom in this new reality in which we find ourselves during this global pandemic.

But for a few weeks on the Colorado River, a group of 32 of us hugged and high-fived and sat close together, even as a pandemic unfurled in the world above.

We were participants—guides, students, professors—in the Ecogeomorphology of the Grand Canyon class, or EcoGeo for short. EcoGeo offers graduate students the opportunity to experience rivers in a way many people never will. For 18 years, EcoGeo classes have rafted down remote rivers, providing an immersive learning experience of interdisciplinary science (even the name is interdisciplinary!). Students conduct and share research from their various fields, teaching and learning from each other in a way that is relatively unique in the university setting.

On this kind of expedition, you have to rely on your fellow trip-members. A mile deep into the earth, you may see another group here and there, but the people you have embarked on this journey with are your community. The guides, students, and



GGE students, including author Mollie Ogaz (second from left) on the Colorado River. - Christian John

professors all come together to form a makeshift family as you travel though that amazingly isolated place, creating memories that will last a lifetime. You crowd together on the rafts, share every meal, listen to nightly science talks in a tight circle, stand in line for the groover (...nature calls), hike through slot canyons, share snacks, play games, and sing. All together. Every day. There can be no social distancing on a river trip, where the rafts are 18 feet long and must hold four people.

As an EcoGeo alum and rafter, I love time on the river. The community aspect of the group and almost total disconnect from the outside world is addictive; not to mention how fun the rapids are! There is a presence and sense of oneness in the group that comes from working together each day to achieve a common goal that I rarely find during "regular" life.

This year, however, was different. We booked it to Arizona and began our 16-day river trip just as the communities we had left behind started to reckon with the local impacts of COVID-19. We received spotty updates by satellite phone—announcements of school closures one day, total shelter-in-place orders the next. We wondered what life felt like up there, worried about the friends and family we weren't able to contact. I have never before participated in a river trip where my mind was still half at home, not able to fully commit to the river.

While this pandemic prevented total disconnect, it made me appreciate our river community even more, especially in hindsight. We launched on March 12th; California was put on a mandatory shelter-in-place order on March 19th; we left the river and returned to Davis on March 27th. If you do the math, that makes eight extra days without social distancing, where I got to hug my friends, play can Frisbee, or share a beer with any combination of 31 other people. Back home, the difference is stark. The river family has always been a highlight to me on trips like this, but never more so than this year. ◆

"Look at all that land." - Christian John

"I am not a robot" — this picture from downtown Sacramento reminds me of those captcha challenges where you have to designate what is a crosswalk or a bicycle. Here I'm thinking the challenge is to designate what is real and what is a reflection, or what is a screen and what is just behind glass. - Andrew Latimer

Planet of the Humans Review

Cale Miller

Gearing up for the release of Michael Moore's film *Sicko* in 2007, the director of the Pacific Research Institute Sally Pipes stated: "It definitely has to be rebutted, I think all of us want to let Americans know that this isn't the solution to the health care crisis in the U.S." [1] Now in 2020, Moore's new film *Planet of the Humans*, directed by Jeff Gibbs, has met the familiar scrutiny from the allies of the renewable energy industry, the target of the new film. Moore made a grave mistake here by punching to the left with his new film, rather than punching right from the left, as his previous films had done. Liberal elites including reputable climate scientists, climate policy researchers, and the director of *GasLand* Josh Fox quickly put out the call to have the film pulled by the distributor [2], Films For Action. The colloquial "let me speak to your manager" approach when your position of privilege and expertise is challenged by those whom you feel are below your omniscient level of education. All the while waiting on the sideline to back you up is the power structure that responds benevolently to the highly-educated expert who plays by the rules.

Planet of the Humans takes aim at renewable energies by exposing the fossil fuel emissions embedded in producing green technology such as solar panels, wind turbines, and biomass plants, citing that their carbon footprint is greater than perceived. The film draws criticism from scientists pointing to the fact that Gibbs uses old price tags for solar panels, outdated efficiency numbers [3], and doesn't accurately compare the carbon footprint of renewables to fossil fuels [4], which is considerably less. What is lacking from these criticisms, however, is the emission cost of batteries [5], and land use [6], which the dissenting community leaves out of their criticisms. However, the crux of the pushback is that the fossil fuel industry and climate deniers will wield

this film in an attempt to reject any steps toward "greening" our energy infrastructure. The rebuttal to Moore's film is predictable and echoes the normative approaches of past critiques: silence dissenting voices in order to manufacture consent around an expert narrative. Those experts are the people who have built careers around climate change solutions. If left unchecked, the message of a film like *Planet of the Humans* becomes a direct threat to their professional identity and the power structure that supports their class position.

The power play by scientific experts to remove the film is only relative when you ignore the thesis of the film: overconsumption and takeover by big money elites that profit off the backs of countries that supply the industrial economic 'green' machine [7]. Credible climate scientists and policy experts came out in force to berate the film, inflating their expertise to span over what is clearly more of a social and cultural issue. The hubris of class professionalism among the dissenting crowd is rampant as one person sardonically tweeted [8] about the film having no real scientists, when in fact Gibbs interviewed several professors of anthropology that spoke specifically to the problem of overconsumption of resources. I guess it just wasn't the right kind of scientist. Even renowned climate scientist Michael Mann set out to completely discredit the film by saying it was "gaslighting" and it has "been debunked," [9] as if the film is some sort of conspiracy theory. Their criticisms completely ignore what the film gets right: credible evidence that environmental groups invest in fossil fuels [10], and renewable energy companies are reliant upon human exploitation [11]. It is typical for climate scientists to get bogged down by the details while fully missing the thesis of the film, but when the topic directly or tangentially relates to their professions, the need to display their merits and mantra—I study climate so I know best—as an outlet to flex their class achievements and moral superiority. I was personally the recipient of Professor Mann's contempt for people challenging expertise, which resulted in being blocked on Twitter. I challenged his support for Obama's climate policy by reminding him that the former president lifted the 40-year fossil fuel ban [12] permitting export overseas and financially

California poppies (*Eschscholzia californica*) and yarrow (*Achillea millefolium*) in a recently burned grassland on the Putah Creek Riparian Reserve. - Abbey Hart

backing dirty fossil fuel projects [13] throughout the developing world, which perpetuated environmental injustice.

The unfortunate reality is that the condemnation of this film by the liberal class expert will likely succeed with some form of #canceled. Not because the film mischaracterized solar panel efficiency numbers, or omitted the comparison of renewable energies to fossil fuels, but because the film challenged the morally superior, self-righteous, elite class. These actions of discrediting the film actually do more harm by fueling distrust among deniers, when the proper approach should be to openly challenge the technical fallacies of the film while acknowledging the reasonable shortcomings of green technology. With this in mind, what is the point in trying to get the film removed? Doing so ignores that our prosperity as a post-industrialized western country is fully dependent on the exploitation of working poor [14] throughout the world. Are we just going to ignore this, so we can keep consuming under a green umbrella? Will we internalize the profitable green energy way of life and externalize the costs while throwing out platitudes of climate justice to the working poor who will continue to suffer, because that is how modern-day colonialism works? [15]

"Fallen Comrade" - Hannah Fertel

No, *Planet of the Humans* is not fodder for the fossil fuel industry, because energy policy isn't a battle of ideas, it's about money and power. This is why fossil fuel companies are investing in renewable energy [16]—it's profitable [17]. The only way it stays profitable, however, is by exploitative capital markets. This film is a subversion of technocracy and innovation ideology. Renewable energy is absolutely the path to go down, but to ignore the human lives that will support that system while running headfirst into green solutions that are woven into the frame of a capitalist order aren't really solutions when viewed from an equity, justice, and humanity perspective. And this is the exact perspective *Planet of the Humans* holds under our nose and asks us to inhale.

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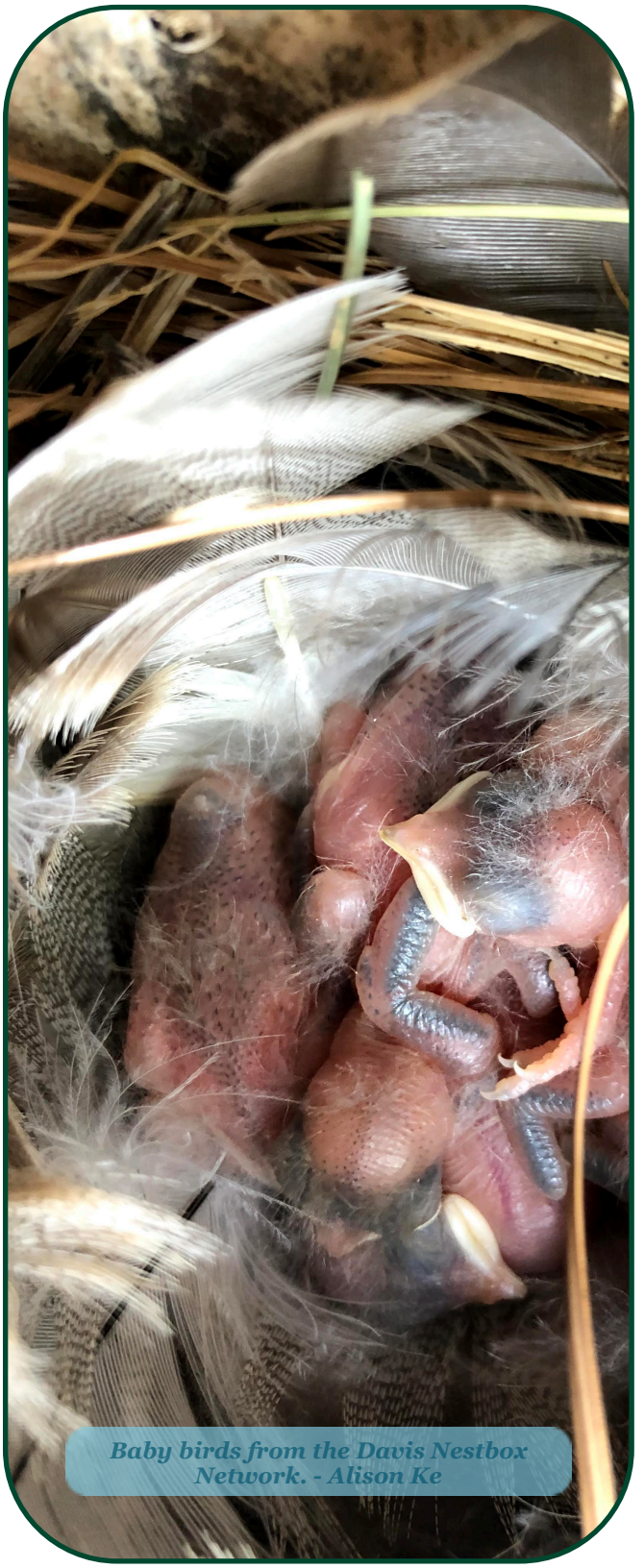
ART AND SCIENCE



Baby birds from the Davis Nestbox Network. - Alison Ke

The Robin, Expecting

Hannah Fertel

I've watched him

Several days collecting

His burnt red chest puffed proud

To be a father?

From my window

His darts and dashes an echo

Of my own strained

Eyes that dance across an artificial

Glaring page. An echo—

A picture,

A replica of learning from

A row of small tight boxes and

Images of faces, smiles, laughs delayed

but!

There, he flashes into sight and mind again

Just outside that other kind of screen

He tilts his head and bows

To touch the world without fear

To take from it and build

He—constructing a cradle, and a passage to this world

Reminds me

To look outside and breathe

STUDENT Q & A

Student Q & A Feature: Lab Communities

In graduate school at UC Davis, one can become a member of many communities: an email list, a statistics support group, an IM sports team, even a student-run magazine. But the first and foremost community we join when we arrive in the GGE is the lab or research group. We wanted to know how GGE students experience and create their lab cultures, and how those systems have supported them, throughout graduate school and during the current COVID-19 crisis. Our staffers caught up with five members of the GGE to learn more.

Our labs help us overcome challenges in research and in life.

"I had just done this move that had taken me eight days to get from [Boston to Bodega]. ... My lab is really good for validating that it is okay that that was hard, even if I hadn't considered that was going to be hard right as I was about to do it. **- Walkes**"

"My community ... has given me a lot of moral and emotional support. When my field work was not going as planned in Ecuador, my lab mates helped me brainstorm ideas to overcome the problems. **- Ke**"

Name: Sam Walkes
Year in GGE: 1st
Lab(s): Sanford Lab (Bodega Marine Lab)
From: Boston, MA

Name: Jessica Greer
Year in GGE: 1st
Lab(s): Karp Lab
From: Grand Forks, ND

Like any good ecosystem, a lab group comprises individuals with different strengths.

"I frequently share things with the community that are bothering me, so perhaps one of my roles would be 'The One Who Over-Stresses and Over-Shares About Over-Stressing." **- Greer**"

"My role is kind of like a sponge... just to soak up all the information that I can. **- Walkes**"

"Some of my roles are eating snacks and giving advice about classes. Some of Jessica's roles are finding [tree] cavities and having a kitty. **- Ke**"

Interviews contributed by Paige Kouba, Katie Lauck, Ellie Oldach, and Sarah Stinson

STUDENT Q & A

In our labs, we get the chance to build our own communities and decide what sort of values they will have.

"Labs are built by people … Maybe labs are like church? There certainly is a collective aspect of the lab communities I'm involved with, but it relates to community norms and processes rather than outputs, which feels very healthy in a professional setting (and really just a whole society) so focused on production. **- Dobbin**"

"The TEK Lab was created largely through word of mouth. I knew a core set of folks that did research with Indigenous people. Those folks invited friends and their professors did as well. Turns out people were craving the same community that I was. **- Martinez**"

Name: Alison Ke
Year in GGE: 3rd
Lab(s): Karp Lab
From: Maple Glen, PA

Name: Kristin Dobbin
Year in GGE: 3rd
Lab(s): Center for Environmental Policy and Behavior; Davis Political Ecology Lab
From: Pinecrest, UT

Lab groups are united by common interests and experiences.

"Our lab community was forged in Ecuador through boot-sucking mud, new diet adjustments, dramatic shifts in standards as to what constitutes as "too smelly to wear," and through the shared experience of being in an amazing new place with other wildlife ecologists. **- Greer**"

"We not only worked together, but also lived together the entire time. That was an intense test of compatibility, and I feel so lucky that we became good friends! **- Ke**"

"It's been amazing to get to meet other students all throughout campus that are excited about similar interdisciplinary questions and that care about research that is feminist, decolonial, and anti-racist. I did a lot of kind of work in undergrad and I really missed it until I found a community of people that were engaged in these conversations. **- Martinez**"

STUDENT Q & A

Cultivating a strong lab community begins with finding your lab. But that can be challenging— oftentimes, researchers working on similar issues are scattered across the vast campus of UC Davis. GGE 3rd-year student Deniss Martinez started the Traditional Ecological Knowledge (TEK) lab as a way to navigate that challenge, bringing scholars together and building community to boot. Brickyard staffer (and fellow TEK member) Abbey Hart spoke to Martinez about the motivations and lessons in the lab-building effort.

Name: Deniss Martinez

Year in GGE: 3rd

Lab(s): Traditional Ecological Knowledge Lab; Davis Political Ecology Lab

From: Etna, CA

[Interview transcript has been edited for clarity.]

Why did you decide to start a lab?

I decided to start TEK lab after realizing that there were so many people across campus working on Traditional Ecological Knowledge in some way. I worked with some of them but met others in classes or seminars. I knew I needed a community of people that would understand and have perspective on the particular challenges I was running into with my research so I decided to create the group. Since then we've had a small but mighty group of people coming from Native American Studies, Geography, and Ecology.

... It's been amazing to get to meet other students all throughout campus that are excited about similar interdisciplinary questions and that care about research that is feminist, decolonial, and anti-racist. I did a lot of that kind of work in undergrad and I really missed it until I found a community of people that were engaged in these conversations.

How did you create that community, and how do you maintain it?

It was created largely through word of mouth. I knew a core set of folks that did research with Indigenous people. Those folks invited friends and their professors did as well. Turns out people were craving the same community that I was.

What kinds of obstacles has your community helped you to overcome?

I felt pretty alone my first year even though I really wasn't. Having TEK lab has helped me feel like there are people all over campus who I could reach out to and ask for help. It's also been nice to give and receive advice about unique challenges that arise. Giving advice in particular reminds me that even though I feel clueless sometimes, I actually have learned a lot the past few years.

What have you learned from this experience, and from other labs?

When I started having meetings I was all of a sudden tasked with organizing lab meetings, which I had never even been to before. I decided to do some research and actually got a lot of feedback from other GGE folks about what they liked or disliked about their lab group activities. So even though I have never been a part of all of these communities I feel like I got to learn from them a lot.

And finally, the questions on everyone's mind these days—how has COVID-19 impacted your community, and your role in that community?

We've turned lab meetings into goal setting sessions. We talk through what we want to get done before the next lab meeting and check in. It's been helpful to have that sense of gentle accountability during such a hectic time. It's very non-judgmental and really we are just trying to encourage each other and celebrate those productivity wins. Because our lab is not mandatory, folks have been understandably less involved—but I'm glad I still have the space to check in. Thanks to Abbey Hart for leading that this quarter!

STUDENT Q&A

Students from Native American Studies 198 course "Keepers of the Flame" assisted with a cultural burn at Cache Creek Conservancy Tending and Gathering Garden. - Abbey Hart

Labs help us accept the difficulty, and the necessity, of change.

"The thing I'm learning about labs is that they are always changing. Grad school is a highly transient community after all. For someone like me who doesn't like change this can be super hard, but with all the changes also come ongoing opportunities to adjust and adapt to meet people's needs. I try to remind myself that change means we always have the opportunity to shape our labs in new ways. **- Dobbin**

"When I first arrived in Bodega [from my home in Boston], we were like, "All right, let's go get seafood." So we got New England clam chowder. And it was terrible. Then we went to the restaurant next door and we got New England clam chowder from there. I had heard one of these restaurants had a good clam chowder. And it was also terrible. **- Walkes**

STUDENT Q&A

Sam Walkes (top left) has enjoyed participating in the Sanford Lab's book club during shelter-in-place. - Sam Walkes

Our labs are a source of structure and solidarity during the COVID-19 epidemic.

"It's brought our group closer! We often do daily group work sessions over Zoom. We discuss well-being more. My role has not changed, except to more frequently remind my labmates to live their best life during this time. That goes for everyone else reading this too. Take care and treat yo self to your best life—your well-being is the top priority. **- Greer**"

"We've turned lab meetings into goal setting sessions. We talk through what we want to get done before the next lab meeting and check in. It's been helpful to have that sense of gentle accountability during such a hectic time. **- Martinez**"

"Since COVID, I have structured time to interact with my lab [at Bodega]. ... It's kind of weird that it took everyone's community being disrupted for that to happen, but I feel like recently I've been more connected with people who are far away. Like yeah, everything sucks right now—but that's a small glimmer of hope. **- Walkes**"

The Aggie Brickyard

Riding the rapids during Ecogeomorphology of the Grand Canyon. - Annelise del Rio

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