



# Humboldt Geographic

Permaculture in Humboldt

China-Tibet Field Study

Geography of Sex Work

Tracking Gentrification in Oakland



2020



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# WELCOME FROM THE CHAIR

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Dear students, faculty, and friends,

Your eyes are witness to the inaugural issue of *Humboldt Geographic*, the journal of Humboldt State University's Department of Geography, Environment, and Spatial Analysis (GESA). The pages that follow reflect and embody the dynamism of our program. The impressive achievements and diversity of careers of our alumni. The broad array of research, teaching, and creative activities pursued by our faculty. But, most importantly, the great work—including geovisuals, feature writing, and original research—by our students. It is difficult to express the amount of pride I have in our program, our faculty and staff, our students, and our friends. I think that, upon perusal of this issue of *Humboldt Geographic*, we have assembled a impressive brain-talent trust that has churned out a wonderful publication. Please join me in applauding their labor, their passion for geographic excellence.

Sincerely,  
Dr. Matthew Derrick

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Provost Alex Enyedi and College of Arts, Humanities, and Social Sciences Dean Lisa Bond-Maupin cut a ribbon to mark the official renaming of the Department of Geography, Environment, and Spatial Analysis (photo by Ryan Sendejas).

## Department Celebrates New Name

Following a year of careful planning and negotiation, our department officially changed its name from Geography alone to Geography, Environment, and Spatial Analysis (GESA). The move was undertaken to better communicate—to potential students and our majors' future employers—the breadth and dynamism of our field. Far more than maps and place-name memorization, Geography is an integrative, critical way of approaching the world, one that transcends traditional disciplinary boundaries that separate the study human systems from study the physical environment. We develop and apply the latest technologies in mapping and geospatial analysis—highly prized on the job market—to help find potential solutions to some of the world's most pressing challenges, such as climate change and urban displacement. Ours is a forward-looking, twenty-first-century discipline, which is now more clearly reflected in the new moniker: Department of Geography, Environment, and Spatial Analysis.

To celebrate its rebranding, the department organized an official renaming ceremony on November 8, 2019. A crowd of friends from the campus and

*“What I am recognizing about this department is it’s about transcending boundaries.”*

cahss dean lisa bond-maupin

community joined our faculty, staff, and students for the celebration. GESA faculty and students engaged the guests with a short-but-packed program highlighting some of the excitement and curricular innovation accompanying the renaming, including the founding of *Humboldt Geographic*, faculty-student research collaborations, and service learning through community partnerships such as the Eureka Survey, a new collaboration with the Eureka City Council.

Special words of praise were delivered from Provost Alex Enyedi and Dean of the College of Arts, Humanities, and Social Sciences Lisa Bond-Maupin. The two administrators together ceremoniously cut a ribbon signaling the department's rechristening. “I am struck by the idea of boundaries,” Bond-Maupin said, as quoted in the *Lumberjack*. “What I am recognizing about this department is it’s about transcending boundaries. I’m struck by that.”



# Finding a Home in Geography at HSU

jenna ver meer

Two words come to mind when I think of Humboldt State University: beautiful and, well, affordable. HSU is the California State University campus with the most inexpensive tuition, and, coupled with the diverse and breathtaking environment, it is no secret why these two factors help guide people to Humboldt. In fact, in a short survey sent out to current Geography majors, responses regarding choosing HSU primarily revolved around the environment or affordability of the university. What's more, many Southern California natives (myself included) choose HSU because it's the farthest you can get while maintaining in-state tuition and is radically different from the culture of SoCal.

But why Geography?

I discovered my own passion for Geography by taking a Human Geography course in high school. It showed me that Geography encompasses far more than simply memorizing names of countries (though that is still important). To study Geography is to study whatever you want, really. Geographers care about climate change and considering the ways in which sea level rise can cause irrevocable change in coastal communities. Geographers care about ethics and culture, and, for example, how something such as colonialism has a lasting effect on the physical and cultural landscape. In fact, next time you're taking a walk through Founders Hall, be sure to check out all

the beautiful posters adorning its walls. They constitute a body of work belonging to GIS analysts, cartographers, and human and physical geographers (who all reside in the department).



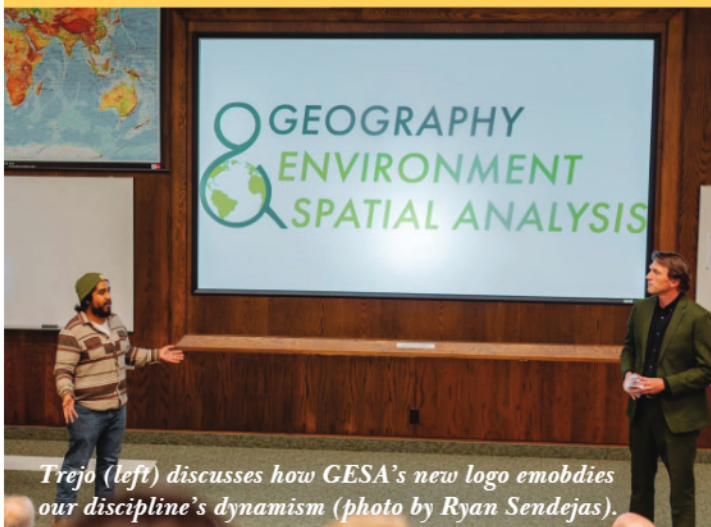
Ultimately, geographers care about the planet. We care about how it works and how it is affected by us humans. While the broadness of Geography may seem a bit intimidating, the only real limits are the ones you give yourself.

HSU's Department of Geography, recently renamed the Department of Geography, Environment, and Spatial Analysis (GESA), is here to help you in finding the path you'd like to go. We're a small department, meaning it is far easier to develop lasting connections with professors and peers, which can be helpful in the nebulous, post-undergrad dimension. When I decided to move twelve hours away from home to a small town I had never lived in and with people I did not know, I was understandably nervous. But since moving here, I have experienced a welcoming sense of community that is wholly Humboldt. It is my hope that more people experience this, as it has only served to deepen my love of the landscape.

It may sound romantic, but when I took my first geography class here at HSU, I felt at home.

## Trejo Designs Sleek New Logo

The department has a sleek new logo. The creative talent behind the distinctive new look is Gil Trejo, who has won accolades nationally and regionally for his cartographic design (see his map Southern California on Page 32). Workshopping with GESA faculty, Gil crafted the clean, sharp design to embody our discipline's forward-looking dynamism. The prominent ampersand (&) is key in communicating that Geography can be whatever you want to be, eclectically cross-disciplinary, but held together by a concern for the Earth and spatial patterns on its surface.



*Trejo (left) discusses how GESA's new logo embodies our discipline's dynamism (photo by Ryan Sendejas).*

# CALIFORNIA GEOGRAPHIC SOCIETY FIELD EXPERIENCE

dr. nicholas perdue

As I walked across the parking lot of the In-and-Out in Santa Nella, I silently congratulated myself on the incredible time I was making out on the road. We were well ahead of the second van on our route to Big Bear Lake, a 14-hour drive from HSU campus to the Southern Sierra mountain town. Moments later I stood looking in disbelief at a pile of shattered glass, trying to take inventory of what had been stolen from the van during our quick lunch stop.

In April 2019, Dr. Matthew Derrick and I took 22 students to the California Geographic Society (CGS) conference, our annual trip to a professional geography conference as part of the Geographic Field Experience course. The CGS, established in 1947, hosts an annual conference featuring scholarship from students, professors,

and geographic professionals in a supportive environment. Since the inaugural conference, CGS has hosted meetings across California, in both urban and rural settings, reflecting the varied landscapes of California, and has approximately 350 attendees every year.

The CGS conference is an opportunity for students to present original research, participate in a research poster session, and compete in both print and digital map design competitions. HSU students have historically performed exceptionally well. And no more so than this year: HSU students landed seven of the thirteen total undergraduate awards for excellence in geographic research and cartography (see side bar on next page).

The importance of student participation in the conference extends beyond competition and



*The gaggle of HSU geographers take time from the celebrating at the post-meeting awards banquet in Big Bear to pose for a group photo in remembrance of a their CGS conference experience (photo by Ryan Sendejas).*



# 2019 CGS AWARD WINNERS

## ORIGINAL RESEARCH PAPER PRESENTATION

### First Place

Danielle Kirkland-Shatraw

"Cartography and Resistance:  
Counter-mapping in Palestine"

## TOM MCKNIGHT PHYSICAL SCIENCE AWARD

### First Place

Kevin Greer

"Determining the Factors  
that Contributed to the Carr Fire"

## PAPER MAP PRESENTATION

### First Place

Gilbert Trejo

"The Southern California Coast"

### Second Place

Riley Bouen

"San Gabriel Mountains"

## DIGITAL MAP COMPETITION

### First Place

Leo DiPerro

"Historical Physical and Architectural  
Features of Eureka, California"

### Second Place

Brian Murphy

"An Overview of Watersheds  
in California"

### Third Place

Summer Owen

"The Impact of the Thomas Fire"

recognition, however, as CGS provides critical professional development for students and opportunities to connect with students and professors from other institutions. CGS brings together graduate, undergraduate, and community college students from across the state and provides a vital space for HSU Geography students to demonstrate the strength and critical engagement of their work to a broader audience.

CGS also affords the opportunity for students to build community within the geography program. When I walked out to the van to see the window broken, I feared the student morale and the trip as a whole had been ruined before we had really even begun. I immediately feared the worst and expected the students to become dejected and disillusioned with the whole experience. Instead, the students found strength from this incident of vandalism, joking around as we taped a cardboard box over the broken window and extending an incredible amount of support to those students who had property stolen and had to redo their presentations at the last minute. Throughout this disruptive and unsettling part of the trip, the students demonstrated incredible resiliency and clearly showed how important community, collaboration, and support is to academic achievement and success.

As I sat at the awards banquet watching HSU students win competitive awards for their geographic research and cartography, I was proud of what they had achieved and impressed in the character they demonstrated during the whole process. Knowing what our students are capable of makes me all the more excited for CGS 2021 in Oakland.



*Humboldt in the house! HSU geographers get started with the post-conference banquet. Summer Owen (far right) probably doesn't suspect she is about to win an award for her digital cartography.*

## faculty & staff updates

**LEENA DALLASHEH** is an associate professor and faculty member of GESA, History, and Politics. She is also affiliated with the Environment and Community master's program. Her research focuses on modern Palestinian and Israeli history, and her teaching covers



the broad social and political history of the modern Middle East, as well as histories of colonialism, settler-colonialism, and decolonization. She teaches classes on these subjects for all three departments. She is working on developing a graduate course on colonialism

and decolonization and an undergraduate course on revolutions and social change in the Middle East. She has published in peer-reviewed academic journals and books, as well as in newspapers and academic blogs (in Arabic, Hebrew, and English), along with interviews to films and podcasts on her areas of expertise. She also continues to be committed to advancing a better understanding of Palestine/Israel and the Middle East. She regularly organizes and participates in events, on and off campus, on this topic. Most significantly offering the film series Let's Talk about



the Middle East, which has run for four years now.

**MATTHEW DERRICK** serves as GESA department chair. In addition to his administrative duties, he teaches Human Geography (GEOG 105) and Political Geography (GEOG 363). He serves, with Nick

Perdue, as faculty advisor for *Humboldt Geographic* and the Humboldt Geographic Society, the department's student club. Matthew is the faculty leader for Global

Humboldt, a first-year learning community for the College of Arts, Humanities, and Social Sciences. He continues to serve as affiliated faculty with the International Studies and Environmental Studies programs. This year he was elected to represent HSU on the Academic Council on International Programs (ACIP), a body consisting of one representative from each CSU campus that advises the Chancellor and assists in the development of international programs that serve the CSU system. Matthew was part of an HSU delegation that traveled to Oaxaca, Mexico, in summer 2019 to explore collaboration opportunities with the region's largest university; he is planning a summer study abroad program for GESA majors and other HSU undergraduates. Matthew maintains an active role in the California Geographical Society (CGS), elected in 2019 as its president. In the summer of 2019, along with GESA colleague Rosemary Sherriff, Matthew completed his third year as co-editor of the *California Geographer*, the flagship peer-reviewed journal of CGS; he now serves as the journal's sole editor. Matthew has begun publishing research from his sabbatical year in Kyrgyzstan. The first article to emerge from his sabbatical research, co-authored with Stanford graduate student Jake Zawlacki, investigates nomadic traditions that persist among contemporary urban Kyrgyz in Bishkek, the capital city of Kyrgyzstan;



it appeared in the January 2020 issue of *International Journal of Russian Studies*.

**AHMED FOGGIE** is an east coast native who moved to Humboldt County upon completion of his master's degree from the University of Texas at Arlington (UTA) in 2017.

He received a degree in history, where he focuses primarily on the French Atlantic, especially in regards to the transatlantic slave trade as well as the Haitian Revolution. Though grounded in history, Ahmed uses a geographic lens in his academic approach. While in graduate school, he contributed to the Texas



## faculty & staff updates

Herstory project, an interdisciplinary project that digitally mapped contributions made by women in Texas history. The project began his relationship with the digital humanities. Furthermore, he continued his exploration of the digital humanities as ArcGIS editor on the digital book *Lost in the City: An Exploration of Edward P. Jones's Short Fiction*, which explores the work of author Edward P. Jones as it relates to Washington, DC. One of the book's goals was to act as proof that language representing geographical locations can be brought to life using digital technologies. In both of his digital projects, Ahmed worked with

academics of various fields to further an environment of interdisciplinary thought.

**LAURA JOHNSON**, in her fourth year as a lecturer, is getting into the swing of regularly teaching Global Awareness (GEOG 300), International Environmental Inequality and Globalization (GEOG 301), and Nature, Culture, and Food (AHSS 108), a new Area E course

that she developed. AHSS 108 is also a part of Global Humboldt, a CAHSS first-year learning community under Dr. Derrick's leadership. Laura has been writing for literary journals and non-academic publications including the *Journal of Wild Culture*, *Taproot Magazine*, *Empty Mirror*, *LionsRoar.com*, *Resilience.org*, and *Permaculture Women Magazine*. Last spring she attended an Orion Environmental Writers' Workshop, co-sponsored by the Omega Institute, in Cave Creek Canyon, Arizona. More personally, Laura and Nick recently welcomed to the world their first baby, a little

girl named Cordelia. Laura has been on parental leave in this spring and will return to the department in fall 2020.

**NICOLAS MALLOY** teaches courses in the Geospatial Analysis curriculum for GESA as well the Department of Environmental Science and

Management. His courses include Geospatial Concepts (GSP 101), Geographic Information Science (GSP 270), and Intermediate Geographic Information Science (GSP 370). Nicolas earned a bachelor of arts degree from CSU San Bernardino, certificate of study in Geographic Information Systems and Remote Sensing from HSU, and a master of science degree from HSU. When not teaching, Nicolas also works as a consultant and subject matter expert on projects related to geospatial science and the development of geospatial educational materials. In 2015, Nicolas founded the Geospatial Institute, a company that promotes professional standards within the geospatial industry. He contributes open educational materials (OER) for publication on the Geospatial Institute website and YouTube Channel. His most recent publication, co-authored by Amy Rock, is *Geospatial Concepts: The Fundamentals of Geospatial Science*. Nicolas is an active member of several geospatial organizations, including the American Society of Photogrammetry and Remote Sensing, the Urban and Regional Information Systems Association, the California Geographic Information Association, and the North American Cartographic Information Society. Nicolas serves on several committees at HSU, including the Geospatial Steering Committee, the Geospatial Content Committee, and the Geospatial IT Committee. Nicolas also serves on the Board of Directors for the HSU Institute for Spatial Analysis, Modeling, and Monitoring.

**LUKE "TY" MCCARTHY** graduated from HSU in 2018 with a bachelor's degree in Environmental Studies and a minor in Geospatial Analysis. He joined the GESA

team in the Fall 2019 semester, teaching Geospatial Concepts labs (GSP 101L); this spring he added labs for Geographic Information Systems (GSP 270) to his teaching repertoire. Before committing himself to full-time teaching this spring, Ty worked in the



## faculty & staff updates

private sector as a Remote Spatial Analyst for a natural resources firm based out of Indonesia. His work primarily involved assessing risk in palm oil supply chains in Southeast Asia, specifically Indonesia and Malaysia. Ty's professional projects have ranged from developing an automated Risk Assessment on a database of palm oil mills using advanced geospatial information science programming all the way to writing and creating maps for reports regarding jurisdictional/regional approaches to managing tropical deforestation. Ty is preparing to pursue a master's degree in GIS Administration. The biggest

news in Ty's life is that he just became a father to a little boy named Orroyo!

**SARA OBENAUER** has been a lecturer at HSU since 2014. Originally from San Diego, Sara obtained her master's degree in 2013 from Humboldt State University in English with an emphasis on literature.



Sara has taught Native American studies and women's studies courses in the Critical Race, Gender and Sexuality program, weaving her interdisciplinary interests and her Pilipinx background into her pedagogical practices. In 2017, Sara's poem "Making Ube in Humboldt, CA: Summer 2016" was published in *El Mono Chapbook*. In this poem, the speaker makes ube halaya for the first time in Humboldt, far away from her family and ancestral homelands. In 2018, Sara and Gina Belton co-wrote and presented a paper titled "Neuvas Teorias: Seeking Liberation in the Borderlands between Story and Stillness" at Naropa University in Boulder, Colorado for the Society for Humanistic Psychology; in this paper the authors weave their narratives of intergenerational trauma, double consciousness, and unfolding liberation, posing avenues for healing by using collective wisdom and meditation practice. They also shared their lived experiences as Indigenous womxn navigating ancestral

and new territories simultaneously in academia and dharma communities. In 2019, Sara and Joseph Dieme, chair of World, Languages, and Cultures, designed a course called Reclaiming Indigenous Voices across the Globe. This course focused on international Indigenous scholars from West Africa, the Philippines, and the French Caribbean and covers themes of pre-contact, colonial history and its ramifications. Sara joined GESA in 2020. She is happy to be part of a department that makes her feel included and at home. She is teaching Nature, Food and Culture (AHSS 108). Sara has been weaving geography into her teaching and writing.

**NICK PERDUE** is an assistant professor in the Department of Geography, Environment, and Spatial Analysis and is a faculty member with the Environment and Community graduate program and the Geospatial Program. Over the past year Nick has co-edited a special issue of the *Humboldt Journal of Social Relations* on the theme of geospatial technologies in the social sciences, presented research on the geographies of permaculture at the HSU Zero Waste Conference, Cooperation Humboldt Post-Capitalist Conference, California Geographic Society, and as an invited speaker at Northern Arizona University. He also took eight students and presented at the North American Cartographic Information Society (NACIS) annual meeting in Norfolk, Virginia. Over the past year, Nick and Laura have continued to transform their home by converting their lawn into a native plant garden, planting fruit trees and perennial herbs, and installing a greywater system. The biggest transformation of their home, however, is the addition of baby Cordelia.



**TONY ROSSI**, capping a program he began in 2000, led the fourteenth and final Tibet field trip last summer. The class consisted of ten

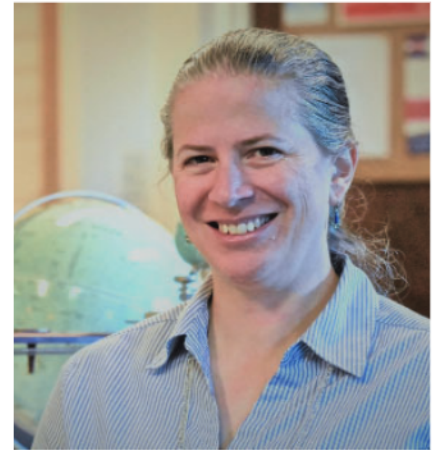




## faculty & staff updates

HSU undergraduates, two recent graduates and one community member. An HSU Geography alumnus, Tony began exploring China in 1977 as part of a Chinese History field trip from Monash University in Australia. Invited back to China in 1980 to teach, Tony and his wife Gail were mentioned in a 1988 *Life Magazine* issue as initially moving to Beijing to seek adventure and teach English. The following decade proved to be that and much more as Tony and his family found the experience a tremendous learning experience as they explored and documented China's vast and complex landscape. Returning to the US days before the crackdown in Beijing's Tiananmen Square in 1989, Tony became a lecturer at HSU in the early 1990s. Applying much of what he had learned in the field, he developed a regional geography course on China. Responding to student interest, Tony proposed a summer field trip to China and Tibet, approved in the spring of 2000. That trip set a precedent for what became a signature learning experience for many HSU undergraduates. Student projects have ranged from wildlife surveys, botanical distributions, land use practices, urban development, and agricultural systems, to documenting traditional Tibetan music, Buddhist rituals, and archaeological sites and examples of vernacular architecture. A range of development-related topics helped document and appreciate the historic changes that are sweeping the Tibetan Plateau. Every year, coping with an increasingly intrusive surveillance system added a critical dimension to the risk of conducting fieldwork in sometimes extreme natural conditions. Tony is proud of what his students have accomplished in spite of the challenges they encountered. Retracing earlier routes, 2019 participants had an opportunity to make comparisons with earlier project sites in the upper reaches of the Yellow River, the Yangtze and the Tsangpo/Brahmaputra river basins. Throughout the journey, once precarious dirt roads have been widened and paved while massive tunneling projects expand China's road and rail networks across the plateau and on to South Asia. Preparing for retirement, helping edit the 2019 *Field Journal* remains a final task, as well as archiving the entire Tibet program.

**AMY ROCK** is a community geographer who has worked with cities large and small. An avid proponent of community leadership, she encourages her students to become engaged in their communities and think critically about spatial politics, community development, and the role of nonprofit organizations in our society. A firm believer in using her powers for good, Amy's research interests include utilizing GIS to examine economic relationships, community needs, and improving effectiveness of philanthropic and nonprofit programs. Research and professional projects have included examining economic accessibility in Appalachia, public participation in the federal block grant process, evaluation of high-speed rail routing, process improvement for environmental reviews, and identification of high-risk areas of homelessness within a community. Her current research examines the relationship between company towns and economic dependence. She has been teaching geography and geospatial courses at HSU since 2014, and is also the director for the Online Geospatial Certificate Program. In the past year, she co-authored *Geospatial Concepts: The Fundamentals of Geospatial Science*, with Nicolas Malloy, and published some of her work on public participation and public funding. She was also selected to the editorial board of *Cartographic Perspectives*, and was appointed to the Committee on the Status of Women in Geography, a standing committee of the American Association of Geographers. Amy has worked on commercial GIS and cartography projects for state, county, and local governments, and has also provided geospatial expertise for private and nonprofit organizations. A past director of the Appalachian Leadership Academy, she has experienced firsthand how collaboration is fostered by an understanding of the ways in which geography connects us all.



## faculty & staff updates

**ROSEMARY SHERRIFF** has been at HSU since 2009. Her research has focused on western forests ranging from Alaska, the Rockies, to northern



California. Recent research themes in her Dendroecology Lab include stand dynamics and tree-growth response to climate, disturbance and forest management practices in redwood, oak and mixed conifer forests of northwest California; climate and spruce beetle effects across white

spruce ecosystems near the North American boreal-tundra margin in southwest Alaska; and mixed-severity fire regimes in montane forests of the Colorado wildland-urban interface and the broader western United States. Rosemary and Lucy Kerhoulas recently teamed up at HSU to combine their shared interest in forest ecology and biogeography in an investigation of how diverse conifers are responding to drought in the Klamath Ecoregion. The three-year study, funded by the National Science Foundation, uses a dual analysis of growth and stable isotope ratios in tree-rings; it provides hands-on field- and lab-based research experiences and employment for multiple graduate and undergraduate students each year. The research team was recently awarded additional funding to further this project with a regional analysis of

forest mortality and regeneration.

**CHELSEA TEALE**, lecturer at HSU since 2013, continues to balance full-time teaching with an active research agenda in environmental history and historical ecology. Last fall she taught her tenth



lecture course at Humboldt! She published two articles last year, one on the paleobotany of a marsh on the central California coast and another on nineteenth-century wetland devaluation in the northeast. She is also awaiting the publication of a co-authored article, to which she contributed a section on plant fossils in a newly discovered pre-last glacial maximum site in New York. Last summer, Chelsea spent two months at the New York State Library's New Netherland Research Center where she used primary sources to research how Dutch colonists responded to the Little Ice Age climate of the seventeenth century. This research foray was funded by a grant from the New Netherland Institute, which also hosted her at an October conference as an invited speaker. She attended the Northeast and Atlantic Region Environmental History Forum in July 2019. She is currently working with Cornell University Press on a contract to publish a book on the environmental history of Dutch New York. Another ongoing project stems from a summer 2018 workshop on R at the Missouri Botanical Garden; Chelsea and a colleague have been working to use the software to identify a new chronostratigraphic marker in sediment cores.

**ALMA ZECHMAN**, head of the department office, returned to her home, the Department Geography, Environment, and Spatial Analysis and the Environmental Studies program after several years of being in other departments at HSU. She is happy to be part of a department that feels like family. Over the past year, her daughter graduated from high school and she moved to Chico and then San Diego. They adopted a puppy to assist them with the empty nest transition. Alma spent all of last year recovering from plantar fasciitis injury, which prevented her from her passion of long-distance running, but she has finally recovered and returned to running. She is currently training for a trail half marathon, small steps before increasing back to ultras.





# ANNUAL DEPARTMENT POTLUCK CELEBRATES END OF 2018-19, STUDENT SUCCESS



## 2018-19 GESA STUDENT SCHOLARSHIPS

DR. JOHN L. HARPER  
MEMORIAL SCHOLARSHIP  
Noah Schwerdtfeger

HERRING GEOGRAPHY  
SCHOLARSHIP  
Gilbert Trejo

DR. JOSEPH S.  
LEEPER GEOGRAPHY  
SCHOLARSHIP  
Leo DiPierro

SUZANNE WETZEL  
SEEMANN GEOGRAPHY  
SCHOLARSHIP  
Samuel King

WEBB BAUER AWARD  
Danielle Kirkland-Shatraw

NATIONAL COUNCIL  
FOR GEOGRAPHY  
EDUCATION AWARD  
Casey Thompson

KOSMOS AWARD  
Brian Murphy

GAMMA THETA UPSILON  
INTERNATIONAL  
GEOGRAPHICAL HONOR  
SOCIETY INDUCTEES

Kevin Greer  
Ivy Huwald  
Miyako Namba  
Ryan Reger  
Casey Thompson  
Gilbert Trejo  
Jenna Ver Meer

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# Humboldt State in the *California Geographer*

HSU SCHOLARS,  
FACULTY AND  
STUDENT ALIKE, HAVE  
PUBLISHED RESEARCH  
IN THE PEER-REVIEWED  
JOURNAL 14 TIMES

amanda kamlet

My senior capstone research, a collaboration with GESA Chair Matthew Derrick, examines how the study of California Geography has changed over the past 60 years as seen in the pages of the *California Geographer*, the flagship peer-reviewed journal of the California Geographical Society. Derrick and GESA colleague Rosemary Sherriff served as co-editors of the journal for 2016-19. Derrick is the sole current editor. Judy Walton, HSU Geography faculty in the late 1990s and early 2000s, worked as the journal's editor for two issues (2002-03).

A total of 14 articles from HSU scholars have published in the *California Geographer*. First was a 1983 publication by William Daniel and Joseph Leeper titled "The Social and Political Impact of Applied Technology: The Case of Remote Sensing." Daniel was a professor of Political Science and Leeper was the chair of Geography. The next HSU publication appeared in 1990, a piece by Leeper titled "Humboldt County: Its Role in the Emerald Triangle." In 2002, Paul Blank, HSU Geography professor, published "The 'Big Map': A Hands-on, Shoes-off Tool for Geographic Education."

Over the past decade, HSU Geography undergraduates



*GESA faculty Derrick and Sherriff served as co-editors of the California Geographer three years (2016-19).*

started publishing in the *California Geographer*, in line with the department's ramped-up emphasis on original student research and collaboration with faculty. In 2012, two publications from HSU Geography undergraduate students appeared in the *California Geographer*: "How Space and Place Influence Transportation Trends at Humboldt State University" by Sara Matthews and "Cultural Clash in the Netherlands? Exploring Dutch College Students' Attitudes toward Muslim Immigrants" by Kirsten Ray. In 2015, two more publications by HSU students: Nicholas Burdine's "Power and Perception: Homelessness and Soft Policies of Enforcement in the Arcata Community Forest" and Antonio Valdes' "The Sutter Buttes: Attachments to the Land."

The 2017 issue of the *California Geographer* featured two more publications from Humboldt State: "Hidden in Plain Sight: Cannabis Cultivation in the Emerald

Triangle" and "Mapping Marijuana Cultivation Sites and Water Storage in the Redwood Creek Watershed, Southern Humboldt County," a piece of scholarship conducted by Cristina Bauss in GEOG 411: Senior Field Research.

The year 2018 was a high-water mark for HSU in the *California Geographer*. Five publications from HSU students and faculty graced the journal's pages. Among them were two Geography student-faculty collaborations, including a piece by Nathaniel Douglass and Nicholas Perdue ("Mapping Arcata Neighborhoods and Perceptions") and another by Eric Fowler and Derrick ("Yipster Gentrification in Weird, White Portlandia"). The issue also included solo articles by Perdue ("Direct Experience in the American West") and Derrick ("Field Notes from Kyrgyzstan: Bishkek's New Religious Landscapes"), along with a book review by HSU English faculty Janelle Adsit.



Photo Essay  
Great Rift Valley, Tanzania



Few places in Tanzania can claim a connection to the Great Rift Valley like the north central region of Manyara. Its dramatic landscape consists of ancient volcanoes, boulders the size of houses, expansive valleys, and seemingly bottomless lakes formed from calderas. Though this region is one of the least populated in Tanzania, some tribes, like the Iraqw, have found ways to support themselves by working with the natural landscape. Each day, women and children, along with their livestock, make the journey down into the crater to visit Lake Bassotughang, one of many small freshwater lakes in this place. There they wash clothes, bathe, and gather water for drinking. Without these life-sustaining lakes, many of the people and wildlife would be unable to sustain themselves during the lengthy dry season.

jocelyn keranen

HSU Geography alumni (2013)

Returned Peace Corps Volunteer, Tanzania (2014-17)





# GESA STUDENT LIFE

kourtney boone

**W**hen I stepped on to the Humboldt State University campus in 2018, I was fresh off the plane from Colorado, where I had previously been living. Like many other Geography, Environment, and Spatial Analysis (GESA) majors, I am a transfer student who was filled with pride and excitement to finally finish my bachelor's degree. However, by the time I hiked the stairs to Founders Hall and entered the beautiful arched doorway, I had succumbed to the fear that I would not be able to hack it at a brand new school, let alone at a campus of the California State University system. After all, if there is a time to do well and be involved with the community on and off campus, this is it.

These nerves subsided almost as quickly as they came when I was greeted by the lively department chair and subsequently a long list of equally friendly GESA students and faculty. I was in awe that a department could have so much fun and act as a unit while being so motivated and academically proficient. This awe is the same for many students who are fortunate enough to stumble upon the Geography major. Within this department, there are many opportunities to get involved on and off campus, all the while adding impressive bullet points to your resume. During my time in this program, I have encountered great opportunities to explore my ever-changing interests in the numerous subfields of Geography, all while making impactful connections. These are just a few of the awesome people I have encountered along the way that are

working at expanding their social and career circles through the opportunities provided in GESA.

Although involved in many activities outside of the classroom, **KATIE PIPER** was able to spare some time to tell me about her internship over last summer. Mendocino National Forest provided the perfect opportunity to



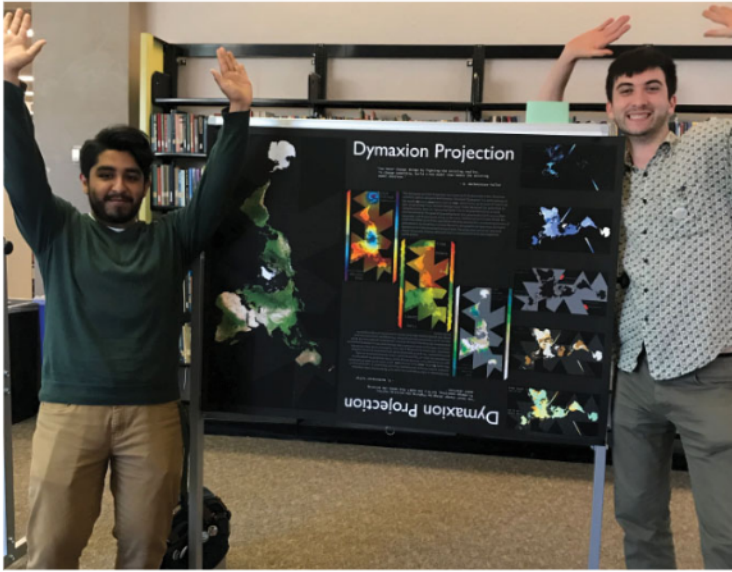
Left to right: Geography majors Monica Wingett, author Kourtney Boone, and Miyako Namba share a bus ride to campus.

get hands-on experience with hydrology. Katie says the internship provided her and her coworkers with training that allowed them to work on their own. "This not only boosted our confidence but allowed us to use our practical knowledge to deal with things that were unplanned," Piper said. "I learned how to use a number of tools (clinometer, GPS, range finder) that will help me in the future." Fortunately, an HSU alumni was available to be their mentor and host, and helped them feel more at home. Piper's interests lie mainly in physical geography, "so this internship allowed me to get a bigger picture of how drainage systems work within mountainous terrain." She gives a strong recommendation that each student in GESA gets an internship while they are pursuing their degree.



Katie Piper





*Gilbert Trejo (left) and Brian Murphy present at HSU's IdeaFest.*

Between designing visually fascinating maps and the new GESA logo, **GILBERT TREJO** took the time to talk about his experience helping some faculty transform their front lawn into a viable garden. "As goes with permaculture and sustainability, the best classroom is outside," he said. By joining Cooperation Humboldt, Trejo was able to grasp "a unique opportunity to practice techniques and principles that I have previously only read about and end with a tangible and useful result." Working through Cooperation Humboldt provided him with connection to people that share his interest in food studies, and is an organization that he looks forward to working with in the future. While the American view of lawns is one of status and conformity, Trejo sees that "in any empty lawn, there is an opportunity to connect with the land in a way that benefits people and the environment." His hands-on work in the field allowed for use of reusable material that will be ready for a fruitful garden by next spring.



*Grace Hall*

**GRACE HALL**, the Cartography Club president, states that her "participation in Cartography Club has proven to be more than just an addition to my resume due to its fun, inspiring, and informative activities." One of the main focal points of the Cartography

Club is the ability to attend the North American Cartographic Information (NACIS) annual conference. The opportunity to attend this conference provided Hall with the chance to present a map she had put many hours of work into in Advanced Cartography (GSP 416). "I learned new techniques and skills through presentations, and networked with experienced cartographers," Hall informed. GESA faculty Amy Rock is a prominent figure at the NACIS conference and offers students the chance to share in the vast network of fellow cartographers of all levels that attend this conference. "It was a great opportunity to gain inspiration from established professionals in the field, as well as get to know graduate students from other universities," Hall stated.

One of my most physically active fellow GESA students is **SAMUEL KING**. He spends most of his free time surfing and rock climbing. Sam is interested in the part of Geography that examines "how human societies and natural environments interact, the spatial



*Samuel King, as part of his work as Park Aide at Patrick's Point State Park, gives a tour to first-year HSU students.*

relations between the two." Outside of his involvement in HSU's rock climbing club and the area's surfing community, King is a Park Aide at Patrick's Point State Park. His work at Patrick's Point offers "insights on why people choose ecotourism/nature as a form of leisure and enjoyment." While he may enjoy getting pitted on the daily, King is able to use both of his current pursuits in alignment with his geographic goals to "greater understand how humans are connected to this big beautiful world."



In between work and school taking up most of her schedule, **SUMMER OWEN** serves as president of the Humboldt Geographical Society. When asked how she manages to make it all happen, Owen stated that she “likes being on the go. I enjoy being open-minded and learning about different cultures alongside their landscapes, values, and habits.” As a physical and cultural geographer, she delights in sharing her love of the discipline with others. As with the Geography major, the possibilities are fascinating and limitless, she claimed. Whether the spatial patterns be cultural, physical, or a combination of both, Owen finds that the meaningful personal interactions with the GESA community is what helps her relate so much to Geography.

When it comes to resumes, one GESA student in particular stands out. **MIYAKO NAMBA**’s involvement in the university is impressive. She has had a lot of fun working orientation and guiding tours, which



*Summer Owen*

“gave me a great understanding of HSU’s campus geography, which was really helpful as a new student.” She works for the Office of Graduate Studies in Academic Programs, which helps her prepare for life after graduation, and she is in her third semester as Geography Professor Rosemary Sheriff’s instructional student assistant. Now in her final semester as an HSU undergraduate, Miyako is working with Tony Rossi on an Atlas of Tibet, a culmination of the China-Tibet Field Studies program. Miyako is a Geology minor, which aids in her understanding of physical geography. Miyako says she “fell in love with learning about the physical world and the empowering feeling it gave me to understand the processes that affect us each and every day. I think it is so dang cool to be able to walk outside and understand what the weather is doing or why it’s doing it. Geology helps add another layer in understanding the planet and it’s still something I get psyched about.” To balance working

hard, Miyako plays hard. She has been involved in intramural soccer for about a year. She thinks “school is really important, but being able to find a balance of having fun, living your life and going to school is even more important.” Taking advantage of programs within her fields has allowed her to travel abroad to places like Ecuador and China-Tibet, which also strengthened her relationship with HSU alumni. Ultimately, Miyako attributes late nights and long hours in the Kosmos Lab to her success at the university. By taking advantage of the school facilities, she has created bonds over mutual frustration and sleep deprivation that “make the work feel less like work, they make the ArcMap crashes a little less painful.”



*Miyako Namba (foreground) collaborates with Katie Piper and Mikey Flynn collaborating in the Kosmos lab.*



# FINDING PERMACULTURE IN HUMBOLDT

gilbert trejo & sigrid arenas



**O**n a warm July day in Eureka, a dozen people toss cardboard, manure, and straw. It's a popular permaculture technique called sheet mulching: a no-dig method of building a new layer of soil that mimics soil-building processes in forests. The act is an investment in the future and when the new layer of soil settles, the front lawn of GESA's own Nick Perdue and Laura Johnson's quiet home will be fertile ground for an array of food production. Volunteers from Cooperation Humboldt haul straw bales and woodchips as a part of the Food Not Lawns initiative. It was our first time applying knowledge gained from popular permaculture texts. Being a part of the permaculture community in Humboldt made it feel so much more real, so much more attainable. We were dying to learn more.

**P**ermaculture is a specific approach to food production and community building that incorporates sustainable agriculture, environmental philosophy, and sustainable design. It requires the gardener to respect and honor the natural systems that already shape our forests and focus them in our backyards. We are feeding the land as well as ourselves. An excellent practical example is the idea of companion planting. Under an apple tree, you can plant garlic chives to repel some wildlife and fungus, and some dill to attract pollinators. Additional comfrey will assist in improving the soil and acts as a low maintenance mulch. Chemical fertilizers and pesticides will not only become costly in the long run but will

also create more problems as you tire the soil and poison the watershed. Instead, permaculture offers efficient and sustainable methods for the lazy gardener.

While permaculture can easily be an idyllic picture it can also be extremely difficult to learn and practice alone, especially those of us who do not own property. The systems are complex, the blog posts are full of jargon, and the space to do anything with may be unattainable. Reaching out to your local community becomes more practical and beneficial. Where, then, do you find permaculture in Humboldt County? We sat down with Marlon Gil, owner of Rainshine Permaculture, to understand better the permaculture scene in Humboldt.



## “People talk about self-sufficiency but permaculture is more about community efficiency.”

Marlon is a featured guest in Dr. Laura Johnson's Global Awareness (GEOG 300) class. He comes to share his permaculture knowledge and offers tours of his homestead to anyone interested in learning more about the local practice, theory, and community. He is happy to talk after lectures and will likely try to recruit more hands to help him at Rainshine Permaculture in Freshwater just a few miles south of campus. We asked Marlon a few questions about how he started and his experience in Humboldt County.



*Permaculture aficionado Marlon Gil takes a moment in front of his greenhouse.*

### WHEN WERE YOU INTRODUCED TO PERMACULTURE?

The first time I heard of permaculture was in the summer of 2008 while living with my wife in Seattle. It was there that I started to hear rumors about a permaculture homestead that was on another Island

that offered classes. Until then, I hadn't heard of it and it's not a surprise because it's a relatively new term (only 40 years old). A couple of years later we were able to move to Arcata, and this [Rainshine Permaculture] was my first property that I was able to experience living on land that I could actually grow food. That was nine years ago.

For me, it's always been this innate desire to want to use the land and make it productive, even though I didn't grow up growing food or homesteading. I grew up in Los Angeles in an urban lifestyle with my parents who immigrated from Mexico. They had very little education and I wasn't really exposed to any homesteading or anything like that. My parents would talk about life on the ranch, where they would process their own foods and had livestock but that's long in the past.

### HOW HAS YOUR EXPERIENCE BEEN IN PRACTICE?

It's been this incredible experience having this property as an experimental playground where I can begin to cultivate all these different plants and design the property to make it really productive, fun to live in, and beautiful at the same time while supporting all kinds of ecological diversity. Permaculture is often referred to as ecological design because we are trying to understand the innate relationships and expression of the earth and its natural cycles to the best degree that we can.

People talk about self-sufficiency but permaculture is more about community efficiency. There are people who are good at growing certain crops and so on, and where we can't produce things in our homestead we have farmers or neighbors who can and that's where we can get those goods, we are still purchasing but doing so from a direct source and keeping the money here. It's all about not getting in over your head, people have desires to be back to the landers and they buy property and livestock to do all of these farm tasks like it's some fun thing. People think that they are going to get all of these things while also trying to grow their families and get overwhelmed.



## WHAT LOCAL RESOURCES CAN YOU RECOMMEND?

The permaculture guild is really cool because we just geek out on all of these things. The guild has been here for more than 20 years. My friend started it as a grad project through HSU and kept it going for a few years but stepped back and that's when more and more people kept it going. When I first

moved here I learned that they had a retreat at Sandy Bar Ranch, one of the oldest permaculture homesteads in the West coast. The annual seed and plant exchange is our biggest event, attracting more than 1,500 people. It's this monumental life support of abundance. The event is completely free and open to anyone on the last Saturday of March at the Arcata community center.

## OTHER RESOURCES AND ORGANIZATIONS

### Humboldt Permaculture Guild

*a group of food producers, business owners, builders, educators, and permaculture designers.*

[humboldtpermaculture.com](http://humboldtpermaculture.com)

### North Coast Growers' Association

*regional nonprofit aimed to promote and improve access to a local food network.*

[northcoastgrowersassociation.org](http://northcoastgrowersassociation.org)

### Cooperation Humboldt

*building a solidarity economy on California's North Coast.*

[cooperationhumboldt.com](http://cooperationhumboldt.com)

### Campus Center for Appropriate Technology (CCAT)

*HSU's student-managed, student-funded live-in demonstration home for appropriate technology.*

[ccat.humboldt.edu](http://ccat.humboldt.edu)





# Campus Resource Spaces Serve Latinx Students

jackeline pedroza

**H**umboldt State University became a Hispanic Serving Institute (HSI) in 2013, joining nearly 500 other higher education institutions that have enrollments consisting of at least 25 percent Latinx students. Today HSU has a student body that is about 30 percent Latinx. This figure represents fast growth in Latinx enrollments. According to Fernando Paz, coordinator of HSU's **LATINX CENTER FOR ACADEMIC EXCELLENCE** (LCAE), the figure was around 10 percent a decade ago when he was an undergraduate student here. Such growth comes with challenges and opportunities. A number of spaces on campus have been created with the goal of serving HSU's growing Latinx community.

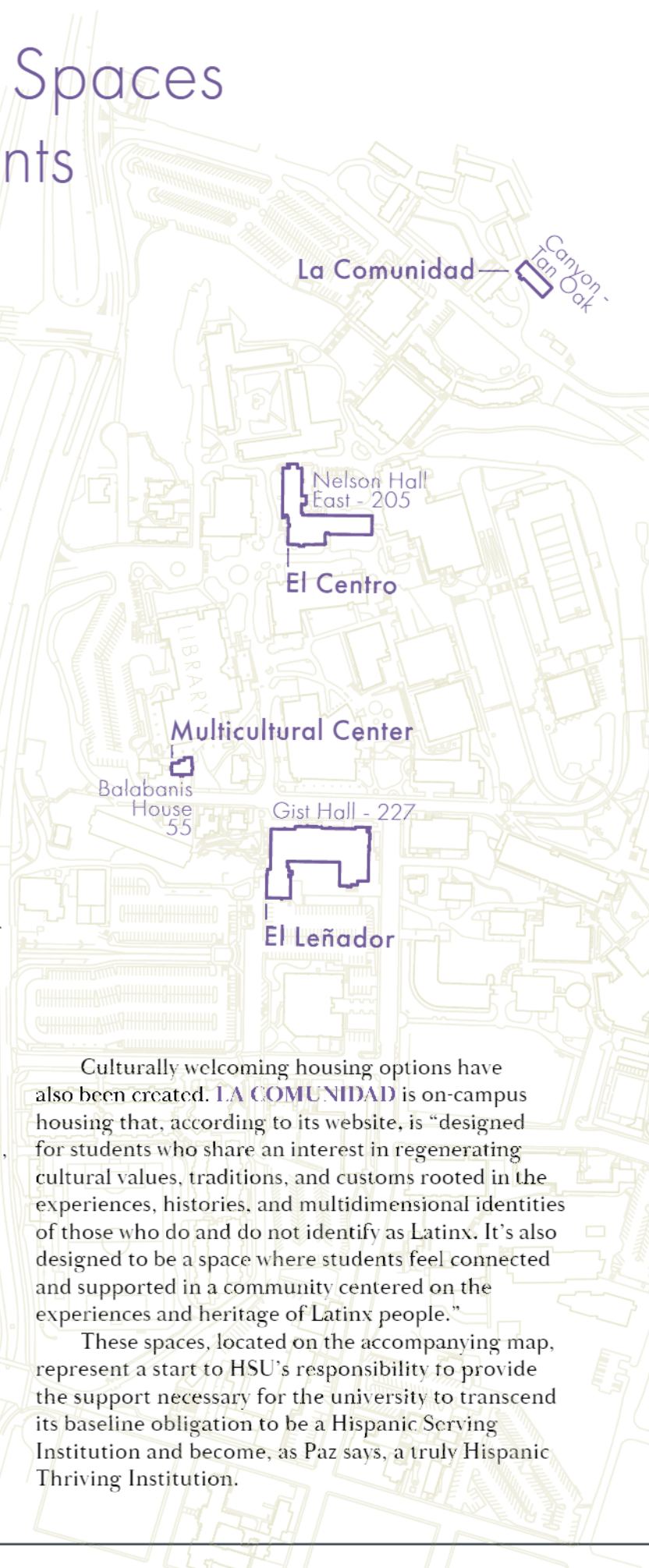
Perhaps the most notable Latinx campus space is LCAE. Also known as **EL CENTRO**, LCAE was founded in the early fall semester of 2015, following several years of advocacy by students such as Paz. El Centro's mission, according to Paz, is to lift up the Latinx campus community at HSU by creating a space for students to prosper in both academic and social settings. Events occur year-round, but some of the most notable include La Concina, where students can discuss food, nutrition, and cultural customs; Q-POC talks, which is an open discussion for queer people of color (POC); and Cafe con Chisme, an event where students enjoy a hot drink along with pan dulce and discuss community events, campus issues, and share stories.

The **MULTICULTURAL CENTER** (MCC) also serves the Latinx campus community, along with other cultural groups. The center features a womxn's resource center, a prayer room, a library, and a computer room that offers free printing to all students.

An early step in serving HSU's Latinx population was the founding in 2013 of **EL LEÑADOR**, a bilingual (Spanish and English) campus newspaper. However, according to the newspaper's mission statement, it aims to serve well beyond campus boundaries: "Our core value drives us to be the voice of the Latinx community in Humboldt County." One important service El Leñador provides for Latinx people of Humboldt is a list of community services in its back pages.

Culturally welcoming housing options have also been created. **LA COMUNIDAD** is on-campus housing that, according to its website, is "designed for students who share an interest in regenerating cultural values, traditions, and customs rooted in the experiences, histories, and multidimensional identities of those who do and do not identify as Latinx. It's also designed to be a space where students feel connected and supported in a community centered on the experiences and heritage of Latinx people."

These spaces, located on the accompanying map, represent a start to HSU's responsibility to provide the support necessary for the university to transcend its baseline obligation to be a Hispanic Serving Institution and become, as Paz says, a truly Hispanic Thriving Institution.

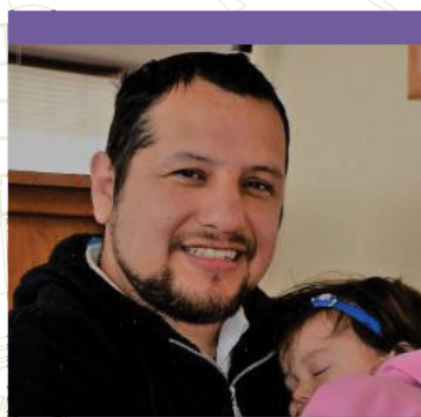




# Espacios del Campus Que Sirven Estudiantes Latinx

jackeline pedroza

La Universidad Estatal de Humboldt (HSU) se convirtió un Instituto Sirviendo Hispanos (ISH) en 2013, uniéndose a casi 500 otras instituciones de educación superior que tienen inscripciones que consisten en al menos 25 por ciento estudiantes Latinx. Hoy HSU tiene un cuerpo estudiantil que es aproximadamente 30 por ciento Latinx. Esta cifra representa crecimiento rápido en inscripciones Latinx. Según Fernando Paz, coordinador de El Centro Académico Cultural de HSU, la cifra fue alrededor del 10 por ciento hace una década cuando él era un estudiante de pregrado aquí. Tal crecimiento viene con retos y oportunidades. Se han creado varios espacios en el campus con el objetivo de servir el creciente de la comunidad latinx de HSU.



**F**ERNANDO PAZ, through his service as coordinator of the Latinx Center for Academic Excellence (LCAE) of HSU, aims to help provide the support necessary for the university to transcend its baseline obligation to be a Hispanic Serving Institution and become a truly Hispanic Thriving Institution.

For more information on EL CENTRO, visit <https://lcae.humboldt.edu/>



**LCAE**  
Latinx Center for  
Academic Excellence

Quizás el espacio Lantix más notable del campus es **EL CENTRO ACADÉMICO CULTURAL**. El Centro se fundó a principios del semestre de otoño de 2015, después de varios años de defensa por parte de estudiantes como Paz. La misión de El Centro, según Paz, es elevar la comunidad Latinx de el campus de HSU, creando un espacio para que los estudiantes prosperen en entornos académicos y sociales. Eventos ocurren durante todo el año, pero algunos de los más notables incluyen La Concina, donde los estudiantes pueden hablar sobre comida, nutrición y costumbres culturales; Charlas Q-PDQ, que son discusiones abiertas para personas de color (PDC) queer; y Cafe con Chisme, un evento donde los estudiantes disfrutan de una bebida caliente junto con pan dulce y discuten eventos de la comunidad, temas del campus y comparten historias.

**EL CENTRO MULTICULTURAL** (MCC) también sirve a la comunidad del campus Latinx, junto con otros grupos culturales. El Centro Multicultural ofrece recursos para mujeres, una sala de oración, una

biblioteca y una sala de computadoras que ofrece impresión gratuita a todos los estudiantes.

Un primer paso para servir a la población latinx de HSU fue la fundación en 2013 de **EL LEÑADOR**, un periódico bilingüe (español y inglés) del campus. Sin embargo, de acuerdo con la declaración de misión del periódico, su objetivo es servir mucho más allá de los límites del campus: "Nuestro valor fundamental nos impulsa a ser la voz de la comunidad Latinx en el Condado de Humboldt." Un servicio importante que El Leñador brinda a las personas latinx de Humboldt es una lista de servicios comunitarios en sus páginas posteriores.

Se han creado opciones de vivienda culturalmente acogedoras. **LA COMUNIDAD** es una vivienda en el campus que, según su sitio web, está "diseñada para estudiantes que comparten un interés en la regeneración de valores culturales, tradiciones y costumbres arraigadas en las experiencias, historias y identidades multidimensionales de aquellos que se identifican y no se identifican como Latinx. También está diseñado para ser un espacio donde los estudiantes se sientan conectados y apoyados en una comunidad centrada en las experiencias y el patrimonio de las personas latinx."

Estos espacios, tal como se encuentran en el mapa adjunto, representan un comienzo para la responsabilidad de HSU de brindar el apoyo necesario para que la universidad trascienda su obligación básica de ser una institución de servicio hispana y convertirse, como dice Paz, en una verdadera próspera institución hispana.

## Study and Play Abroad

# How I Quarterbacked and Studied Geography in Great Britain

tyrone garrido



*At quarterback for Canterbury Chargers, playing American football while studying abroad last year, the author tucks the pigskin for a run (photo by Ken Matcham).*

For the 2018-19 academic year, I studied in the United Kingdom on a bilateral exchange program: It was one of the best things I could have ever done. Originally applying for only one semester abroad, I found that period of time permitted me to barely scratch the surface. So over the course of two semesters, I studied Geography and Geospatial Science at Canterbury Christ Church University (CCCU), two and a half hours east of London. The courses I took included titles such as Europe: Cultures, Identity, and Landscape and Regions of Risk: Human and Environmental Security, classes that helped me decide my future graduate studies.

The Uni, as I learned to call it, was the center of the city because, just like Arcata, the students are the beating heart of the city. I lived in student accommodation, Rigby Court, where I was surrounded by people from all over the world. I never thought that I would forge lasting friendships with people

from countries like the Netherlands, Malta, Spain, Germany, and many more. The best part about living with these various Europeans was creating unforgettable memories, sharing our traditions, languages, opinions, and, especially, our food! Of course, I cannot forget my British friends, trying legit English breakfast with tea and biscuits. Also, I was introduced to the world-famous Canterbury Tales and a historical pilgrimage ("Pilgrims' Way"), which for centuries people have taken to visit the Canterbury Cathedral, St. Augustine's Abbey, and St. Martin's Church in the city center.

Not only did I gain so much insight into British lifestyles, I also learned a ton about American Football. American football is really popular in the United Kingdom, so much so that I even felt like I was not able to hold my part in a

conversation with British about the National Football League (NFL) or fantasy leagues. It was almost as though I was failing as an American. Then I joined a college-level American football team, the C4 Canterbury Chargers, and the amount of respect and happiness I received was astounding. I played two positions, both quarterback and receiver. But when I took over as quarterback, my coach was so excited because he had an American calling the plays. As he put it, which I will never forget, "It feels good to hear that American accent in the huddle."

The fun experiences did not stop there. The team was also a sports club, part of the Uni's social clubs. These clubs are not focused primarily on creating athletes; they are meant for students to join and create social bonds among themselves. For instance, every Wednesday was Social Night, an evening when sports clubs gathered in the student union to compete or collaborate with each other. Basically, a fun night



*“I will never forget my coach saying, “It feels good to hear an American accent in the huddle.”*

of drinking, gaming, socializing, and finishing the night at Club Chemistry. A good distraction from the academic stresses of the Uni. Also, every Sunday pubs like the Penny Theatre offered Quiz Night, another social gathering of drinking and competing with students and other folks.

My exploration went well beyond Canterbury. Accompanied by my girlfriend, Lena Huseman, along with my roommate-friends Tyler James Robinson and Cherisse Figueroa, I traveled through the United

and methodological debates in geography to better understand the complex emergence of environmental risks and natural hazards and their implications for human-nature relations (vulnerability, resilience, adaptation) and how to deal with them in practice.”

My excitement to begin graduate study in Europe is underpinned by a confidence I gained through my coursework as a Geography major at HSU. Among the highlights are Dr. Laura Johnson’s Global Awareness (GEOG 300) and International Environmental



*Left: The author (far right) outside Wembley Stadium with travel buddies Tyler and Cherisse. Middle: Gazing over rooftops of Lüneburg, Germany. Right: In Morocco, with girlfriend Lena, outside the Hassan II Mosque (photos courtesy of author).*

Kingdom, visiting places from Herne Bay to London and all the way up to Scotland. We also traveled outside the island. Using affordable means of travel, such as FlixBuses, RyanAir, and train systems, we backpacked through France, Belgium, Netherlands, Germany, Czech Republic, Denmark, Sweden, and Morocco. Great opportunities, lasting friendships... time very well spent.

Now, with my time at Humboldt State coming to an end, a new chapter in my life begins. Starting in October, I will begin graduate studies in Germany, part of the United Nations University Institute for Environment and Human Security (UNU-EHS) and the Department of Geography of the University of Bonn’s International Joint master’s of science programme titled Geography of Environmental Risks and Human Security. The program’s overview “addresses theoretical

Issues and Globalization (GEOG 301), which helped me explore the social and environmental issues surrounding political economy and risks and hazards, environmental justice and climate change, place and sustainability; and Geographic Research and Writing (GEOG 311), jointly taught by Dr. Rosemary Sherriff and Nicholas Perdue, which helped me develop a critical lense to analyze the interdependence and interaction between humans and the environment. Furthermore, geospatial courses in remote sensing and geospatial programming prepared me with tools to record and analyze field data.

Thank you to Dr. Matthew Derrick, Dr. Sherriff, and everyone at GESA. Without their guidance and support, I would not have achieved my goal of continuing on to pursue a Geography-based graduate education in continental Europe.





2019 China-Tibet Field Study

# ROAD TRIPPING THE ROOF OF THE WORLD

miyako namba & fellow travelers (materials coordinated by sigrid arenas)

Last summer a dozen Humboldt State students, along with me and GESA faculty and respected China-Tibet expert Tony Rossi, took quite possibly the longest road trip of my life...if you could call what we experienced a “road trip.” Our group was comprised of Geography majors and minors, a Biology major, Anthropology majors and minors, sophomores to seniors to alum, an English major, and an aspiring Linguistics major.

We were a medley of students if you have ever seen one, a veritable motley crew that was especially lucky as the summer 2019 China-Tibet journey would cap a program started by Rossi nearly two decades ago.

Starting in Beijing, China, on May 28, we ventured into the heart of eastern China. Mostly busing, sometimes walking and occasionally taking a train, we wound our way through what I like to call China’s backcountry. We ate new foods, met new people, danced new dances, traveled new roads, and encountered more cultural variety than a person could ever grasp from a textbook or a story. We slept in a monk’s house in a small village, threw instant noodle parties in monastery hotel rooms, snapped copious photos, and some of us even played basketball with Tibetan Buddhist young monks.

After six weeks filled with memories to savor for years to come, we found ourselves in the famed Secret Garden in Lhasa, the Tibetan capital, toasting to the



*The summer 2019 China-Tibet student cohort, with Rossi (front row, center), at the Yak Hotel in Lhasa, Tibet.*

end of our extraordinary trip, which concluded the following day on July 6. Many of us were breaking up into smaller groups to continue our travels around the Eurasian continent, so the occasion took the form of a see-you-soon dinner party.

The trip itself was full of new experiences, lessons, connections, and stories that will last lifetimes. There is no way I could tell even a portion of those stories by myself. Thankfully, several of my fellow “class”-mates—or, rather, “field”-mates—are here to help me tell some of the tales from last summer.





## Almost Missing the Monk Debates

joan esquivel

My most memorable moment took place at a temple in the outskirts of Lhasa. It almost didn't happen. That morning the group separated when some of us were subject to the dress code at the Jokhang temple. Able to enter with the first wave, I did not receive the information that we had a set time to regroup and then depart for the monk debates. The monk debates, my most anticipated activity. We had a few opportunities to see them, but I always missed them due to the same reason: miscommunication of information. We took our time experiencing the Jokhang during the last day of Saga Dawa, the most important month of the Tibetan lunar calendar. Finally working our way back to the hotel, we met with the disappointed face of our teacher. Lucky for us he waited for us. As a full group, we took a taxi to the temple.



Walking into the courtyard, we saw what looked to be one hundred monks standing in groups, moving in forms, clapping, and swinging their prayer beads. We sat there in awe watching their faces as they poked fun at each

other's arguments. We remained until their closing prayer. When studying something on paper for so long, it is amazing finally to interact with it firsthand. The cooling tarp, the crack of the gravel. I was finally here!



## Treading Sacred Stones

samuel king

Standing on the outskirts of Sijykendo, a huge pile of carved stones piqued my curiosity. In their multitude, the stones formed elaborate walls and hills with a striking amount of them. I got

lost in a maze of Tibetan script intricately chiseled on tablets, varying delightfully in size and shape. I looked closely, seeing that each stone revealed its own vibrancy of color and the artistry.

*‘I got lost  
in a maze  
of Tibetan script  
intricately chiseled  
on tablets.*

The maze led me in deeper. I climbed up and reached a vantage point in which I was able to visualize the entire assembly of rock and stone. I stood in a moment of silence and tried to take it all in. Sounds of prayer wheels rang in the distance. The shuffling of monks and laypeople circumambulating the stones. The rush of a river. The valley encircling this holy site. I could not help but feel some guilt in treading these sacred tablets, but my spirit of adventure overrides my sensibility in most cases.



# A Snapshot of Amity and Earrings

blenna kiros

As I was hiking down the hill of a monastery in Garze, a Tibetan woman approached me. She insisted on gifting me her turquoise stud earrings in exchange for the dangly blue ones hanging from my ears. The woman never introduced herself. Nor did she take time to assess my appearance and only then decide she wanted to own the jewelry that were already on my lobes. Her disposition said, without actual words, "Where have you been? This exchange was supposed to happen an hour ago." I felt as though I was attending a scheduled appointment of which only she was aware. I felt as though I had no real choice in the matter. I was happy to give her



*Above left: Tibetan woman with her new earrings. Above right: The turquoise studs given to the author. Right: Author with her new friend (photos courtesy author).*



the earrings because the whole situation was so lighthearted. What was memorable about our interaction was her brash desire to wear the earrings. She seemed very pleased as she confidently flaunted the newly acquired jewelry to all of us.



## Venturing into the Unknown

noah ruschmeyer

After a long day of traveling, our group arrived in a small village near the sacred Mt. Genyan. We were tired, hungry, and a little bit anxious. Our intention was to find accommodations for the night, but we came across no restaurants or guesthouses. Fortunately, we met a compassionate family who fed us lunch and dinner, then put us up for the night. There is nothing quite as humanizing as breaking bread with people who might seem very different from

ourselves. In this photo I stand with one of the grandmothers of the family and her grandson. This moment reinforced what traveling is all about: diving into new cultures and not being afraid to venture into the unknown. In unfamiliar places, it is easy to seek comfort in what we know, but only by breaking free of what we think we know, can we experience the vibrant bouquet of peculiar new feelings, thoughts, and emotions that make us human.





## Catching My Breath, Having It Taken Away

garrett gazzo

This photo was taken at the top of the trip's first major pass, Zhi duo la or "Deer Guts Pass," cataloged around 4,400 meters in elevation. After climbing what felt like 20 stories the top of the pass's vantage point, I caught my breath. And then it was taken away by the sight of thousands of prayer flags blowing in the wind, this mountain strip, and on the opposite end, a sea of rolling hills. Self-

accomplishment saturated that moment because my pursuit of participating in this program started in 2017, and here I was two years later in the midst of accomplishing that goal. That is also when Rylie, another student in our group, made it to the peak and hugged me while saying, "We made it, buddy!" We both broke out into laughter, absorbing all we could from our surroundings.



## Mingling with Tibetan Plant Life

molly cribari

*Jugosa lupulina* (*Lamaiceae*) grows on the hillsides of the glacial valley in which the Dzogchen Monastery is nestled. Exploring the moraine was one of the most botanically rewarding moments I had on that six-week trip, finally encountering the plants I had read about while preparing for Tibet. The grounds of the Dzogchen Monastery were flush with flowers, occasional piles of yak dung, and a small herd of horses grazing in the distance. The ridge across from where I climbed was a sky burial site, a place for taking the dead. As I mingled with the diverse plant life, the sound of the monks chanting the morning prayers drifted up from below at the monastery. The landscape was Tibetan, botanically and culturally, with scattered purple shrub *Rhododendrons*, pink miniature *Adrosaces*, and moving maroon lines of monks walking in the valley below.





## Elevating My View

monica wingett

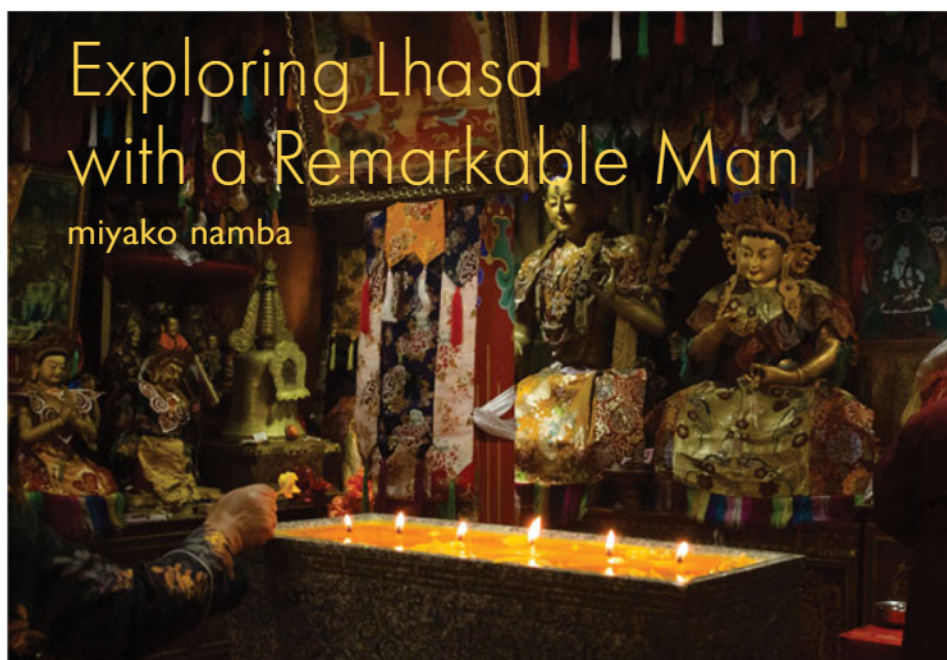
During the second week, we trekked to an area of the Sichuan Province to visit Mt. Genyen, one of Tibet's sacred mountains. My research topic was sacred mountains, so I was excited. We parked our tour bus on the side of a dirt road. From there we grabbed our packs and started hiking. We reached the top of a hill, and what lay before me took my breath away (although it was probably the elevation!). The

view—the valley, rivers, trees, bright sky, and towering mountains—was the most picturesque I could imagine. A place so seemingly untouched by society, one that was hard to believe existed in the world today. All I could hear was the sound of the rushing river over rocks. The only part touched by people was the monastery at the bottom of the mountain and the colorful prayer flags floating in the wind.



# Exploring Lhasa with a Remarkable Man

miyako namba



Tashii has lived in Lhasa his whole life. Our stroll around town confirmed his deep and intimate acquaintance with the Tibetan capital. He was an art professor at Lhasa University, teaching foreigners how to paint *thangkas* (Tibetan Buddhist paintings on cotton, silk appliqué, usually depicting a Buddhist deity, scene, or mandala), which accounted for his good English. Tashii wanted to show me a few places, places “the government doesn’t want you to see”. Weary but curious, I told him the truth: I had until 1 p.m. The next three hours were full of lessons, history, and stories.

Tashii led me through five separate temples. As it was Saga Dawa, many Tibetans were out making offerings. Yet all the temples we visited remained quiet and tranquil, despite the bustling Barkhor Bazaar outside. As we wound through alleyways and temples, Tashii explained more about his life. He has lived in Lhasa for 63 years and has been painting *thangkas* for most of that time. He has restored statues and *thongkas* found in these very temples.

As a history buff, I found the fourth temple by far the most intriguing. Tashii took me to a remote temple in the heart of the Barkhor, down two or three different alleyways, which opened up into a massive courtyard with two women selling barley wine and butter for offerings. We made our way up the steps to a small room on the top floor. Tashii pointed out the *thongkas* he had made, allowing time to soak in all the colors and artistry of the room while he went to talk to the monk.

In every room honoring a deity or idea, one almost usually encounters a monk accepting offerings in the form of currency while reciting sutras. When I returned to Tashii, he mentioned off-handedly that this was the room where the Dalai Lama hid out while the Potala and the Jokhung were being searched during the Cultural Revolution. The Dalai Lama spent his last night in Tibet in this very room.

I was still processing all I had just learned when Tashii took me to yet another temple, this time outside the Barkhor. It appeared far bigger than all the other temples. After the tour of temples, Tashii guided me to a traditional teahouse, which he said was one of only twelve remaining original buildings in Lhasa. All the workers and patrons were Tibetan. The lighting was mostly natural light. It was dark but cozy. I sipped sweet tea and listened to more of Tashii’s stories. He talked of his family and many of the adventures he has had around China.

During these three hours, I caught myself doing reality checks more times than I’d like to admit. Tashii’s stories were unbelievable at times, his body of experience something I could have never imagined. Tashii never asked for money or asked me to buy his paintings. In fact, he offered to make me a *thongka*, send it across the Pacific Ocean to my home. I’m not holding my breath awaiting for a package from Lhasa, but I can say that meeting Tashii was possibly the most fascinating thing about Tibet. Not only is he semi-famous in Lhasa, but he is very well off and, he reported, helped write most of the section on Lhasa in *Lonely Planet Tibet*.



# The Southern California Coast





1st Place

2019 California Geographical Society | Student Cartography Award

1st Place

2018 CAGIS\* | Arthur Robinson Award for Best Print Map

\*Cartography and Geographic Information Society





# San Gabriel Mountains



SAN GABRIEL

Los A



2nd Place  
2019 California Geographical Society | Student Cartography Award



# EL MOUNTAINS

es, California





# Visualizing Humboldt State's Built Environment

leo dipierro & roy gonzalez

One of the key attractions to Humboldt State is the character of the university's campus. Secluded, rural, and naturally beautiful are all terms used to describe the scenic hillside campus that seems to emerge from the boundaries of the Arcata Community Forest. From a geographic perspective, the characteristics and sense of place formed by a built environment are vitally important to place-based cultural identity. HSU is no exception, and students and faculty alike hold a bond with the campus' physical environment. Built environments are difficult to change, but it is imperative to understand what surrounds us to sustainably build in the future to improve the overall character of the campus.

HSU has expanded from the area occupied by Founders Hall. The campus descended down the hilltop over time with the construction of buildings and was altered further by the expansion of US Highway 101, which led to the current layout of LK Wood Boulevard as the campus' main access artery. As time has progressed, the campus has added more buildings, either by direct construction, acquisition, or additions. The bulk of HSU's campus environment was designed and laid out by a series of master plans extending back to 1949 and constructed throughout the latter half of the twentieth century. Master plans are vital documents, and play a crucial role in shaping what a campus aspires to be. Newer buildings such as the Behavioral and Social Sciences (BSS) building and the sprawling Kinesiology and Athletics (KA) complex have also added twenty-first century amenities to the campus' repertoire.

Even these newer constructions tend to arrive in cycles, which are often tied to the state's economy. Master plans reflect the goals and ideas infusing the foundational planning process. According to Facilities Management Director Michael Fisher, construction on campus is a complex process and requires input from many sources. A number of factors, including accessibility, budgeting, and enrollment, determine how projects are structured within the university's Facilities Management division. The last cycle of construction at HSU occurred roughly from 2004 to 2011, bringing the addition of the BSS, KA, and the College Creek housing area as major projects.

Diverging visions for the campus have emerged in different eras. Dating back to the 1949 master plan, consequent iterations were revised and issued by the

university at different dates. Each plan from 1949 onward laid out capital projects, full-time enrollment goals, and housing units to be constructed. The current university master plan was put into place in 2004 and presents a significant vision for the campus and its student enrollment.

A number of contributing factors that have shaped the current scope of the university's physical plan. Deferred maintenance, budget cuts, and persistent financial issues have prevailed, and these all place significant strain on campus development. However, the university still has numerous major and minor projects within its pipeline. Planning is a long process. Fisher stated that currently more than 120 projects are in different stages of construction and design throughout HSU, including recent renovations to seismically secure the Theater Arts building and retrofit the Library. These projects and others like them have varying degrees of physical visibility, but are nonetheless vital to the continuing safe operation of campus activities.

Most recently, new university President Tom Jackson announced an \$8.6 million grant to reconstruct the dilapidated Trinity Annex on Fourteenth Street as the new home of the university's Children's Center. Additionally, Fisher also touched on the renovation of Jenkins Hall, the university's former industrial arts building. The renovated building will be an interdisciplinary maker-space incorporating digital labs and other state-of-the-art equipment facilities. What is remarkable is that the overhaul of Jenkins Hall will come with a decreased carbon footprint, as sustainability is a key focus of new campus projects.

In the bigger picture of university planning, the master plan itself is a subject of discussion. The current master plan, according to Fisher, is at the end of a typical life cycle; discussion is underway on the formation of an updated document for HSU. This is understandably a significant process, and Fisher indicated an important detail. "Master plans need to be an adaptable document," he said. "The future of the campus needs to be representative of the people we serve and of our locale."

The potential for a new university plan is no doubt significant. HSU is a uniquely situated campus, physically and culturally. We possess a strong and unique body of students, community, and sense of place that ties it all together.



Project Timeline:  
2017-2019

Major improvements include seismic renovations, expanded basement level, new roofing, and accessibility improvements.

**Library**

Project Timeline:  
2018-2019

Major improvements include seismic renovations, improved roofing, and selective interior lighting upgrades.

**Theater Arts**

Project Timeline:  
TBA

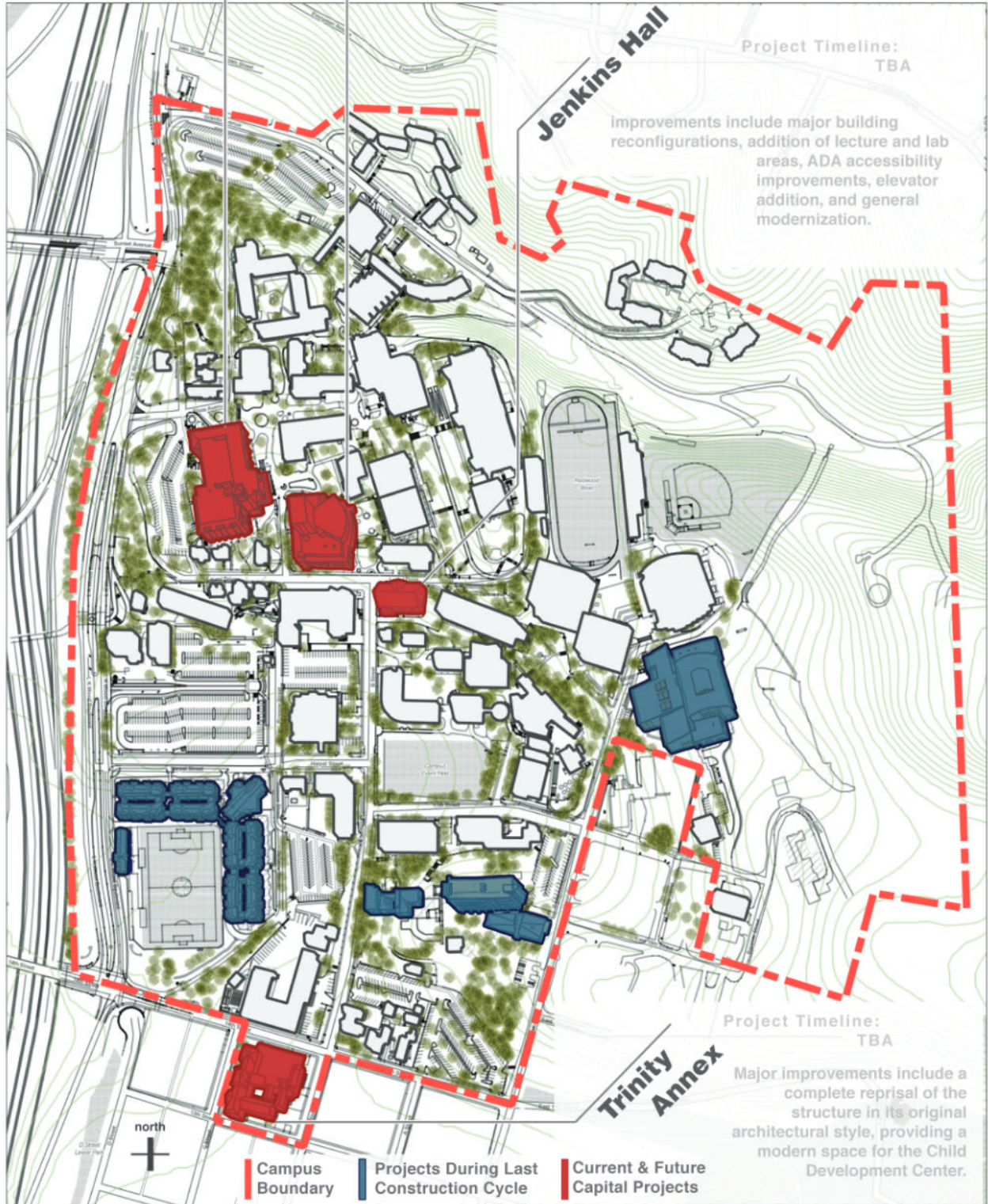
improvements include major building reconfigurations, addition of lecture and lab areas, ADA accessibility improvements, elevator addition, and general modernization.

**Jenkins Hall**

Project Timeline:  
TBA

Major improvements include a complete reprisal of the structure in its original architectural style, providing a modern space for the Child Development Center.

**Trinity Annex**



Campus Boundary

Projects During Last Construction Cycle

Current & Future Capital Projects

75 0 75 150m

**HUMBOLDT STATE UNIVERSITY**  
visualizing built environments



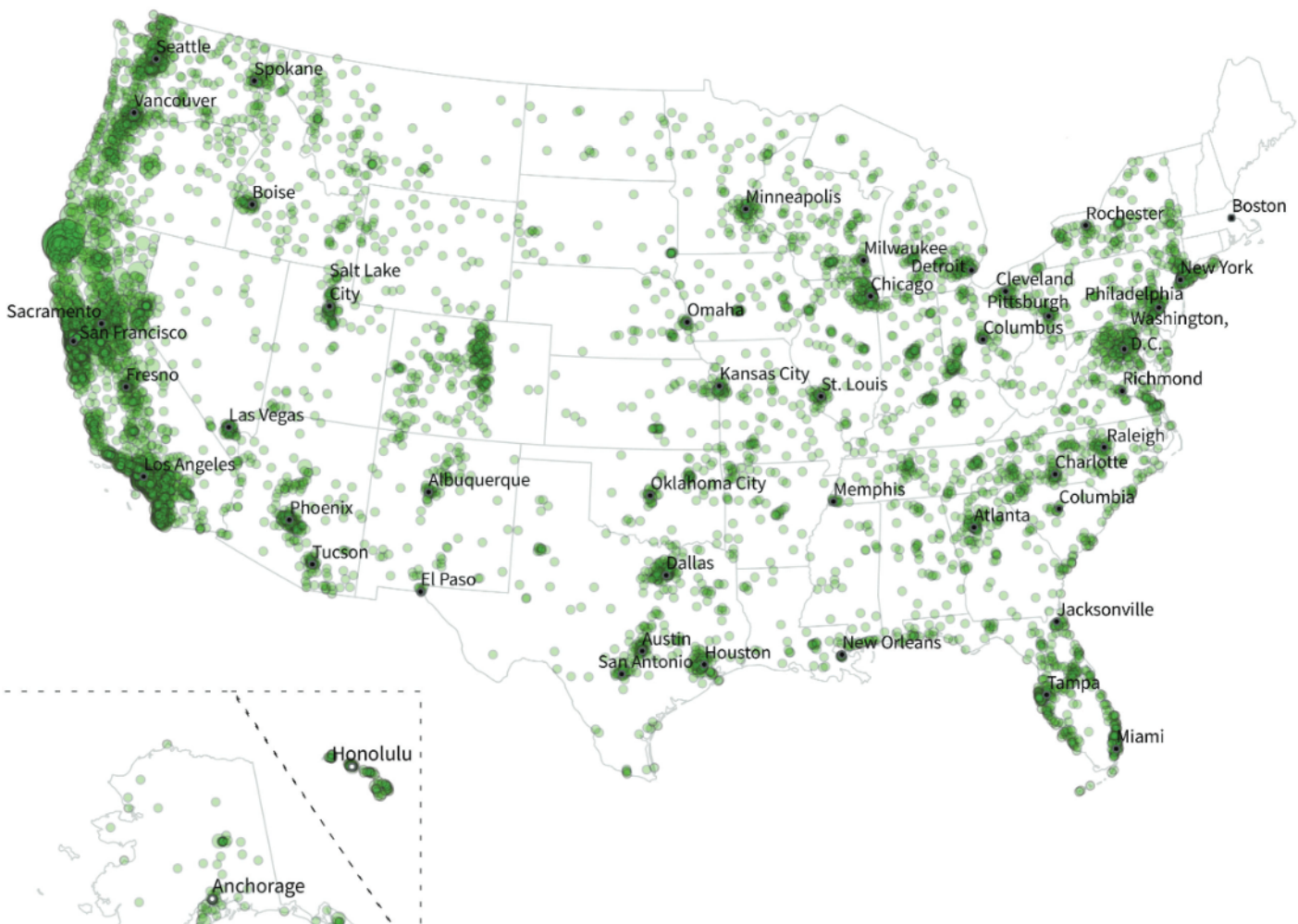
# Mapping Lumberjacks

dr. amy rock

Last fall, I was contacted by Marcom, Humboldt State University's marketing and communications department, about making a map of Humboldt alumni for a year-end publication. (I later discovered this was a calendar rather than a year-end report or magazine as I'd originally thought, so while I can't exactly say I'm a calendar girl, I can at least say my map may be hanging on walls across America...) I was sent a spreadsheet of alumni counts by zipcode. In past years, this map has been made using a technique called *proportional symbols*, which sizes the symbol to the number of alumni in that zip code.

When I tried that out, it looked like this:

The first thing I noted, with delight, is that Lumberjacks are all across the United States. The second was that California looked like a mess. As a part of the California State University (CSU) system (and really symptomatic of state universities everywhere), the vast majority of our students come from, and remain in, California. So, while this map shows a nice spread across the country, and clusters in pretty much every major city, it really hides the story of what is happening in our home state.





the cartographers among you haven't tried this technique, I highly recommend it for dense data clusters. (Shameless plug: You can read more about how it works in my forthcoming article, "Home Tweet Home: Can Social Media Define a Community?" in an upcoming special issue of the *Journal of Appalachian Studies*.) Fortunately, Marcom agreed with me, and the hex bin alumni map made its way into the calendar.

Go hex bins! Go Lumberjacks!





# SEX WORK IN HUMBOLDT COUNTY

danielle kirkland-shatraw



**T**he sex work industry is one that most people partake in regularly as either providers of sexual services and entertainment or consumers of it. Despite this, there is a lack of critical discussion in our community and at Humboldt State University about the prevalence of sex work and the urgent issues of violence and criminalization sex workers face in our communities. Conversations about sex work in Humboldt County have been dominated by law enforcement via journalism. This article challenges the dominant narrative of sex workers in the community by deconstructing the discourse through which sex work in Humboldt county has been discussed thus far. Further, it addresses the problematics of the way that sex workers have been talked about by allowing sex workers in Humboldt County to speak for themselves through anonymous interviews. This research is done through a critical geography approach, emphasizing discourse analysis, activism, and challenging structural dynamics of inequality.

## TERMINOLOGY

Sex work is a broad term that includes many types of work, some illegal and some not. Those who work as strippers, cam girls, sugar babies, peepshow performers, phone sex operators, dominatrices, and pornographic actors are considered within the sphere of sex work. Sex workers who engage in sex for money are considered full-service sex workers (FSSWers). FSSWers are typically referred to as “prostitutes,” “hookers,” or “whores.” However, these terms have been used as slurs to delegitimize and stigmatize full-service sex workers, and should no longer be used by non-FSSWers.

When discussing the definition of sex work, it is necessary to outline the distinctions between sex work and sex trafficking and why they are markedly different. Sex trafficking is sexual exploitation of minors or adults against their will. Sex work is adults consenting to sexual acts or performances in exchange for money from other consenting adults (Figure 1). Sex work being conflated with sex trafficking is harmful to both sex workers and sex trafficking victims; it denies that sex work is a valid profession in which sex

workers have autonomy over their own bodies and deserve safe working conditions, and it hinders sex workers’ effort to be allies and advocate to end sexual exploitation. Because of sex workers’ proximity to the market of buying and selling sex, they have the ability to help guide victims of sex trafficking to safety. However, criminalization of sex work often prevents sex workers from being able to do so without outing themselves in the process, leading to legal consequences.

## HISTORY

The earliest record of sex work found in the Humboldt Room Special Collections (a historical archive strictly for Humboldt County) is dated 1916, and it is a newspaper clipping discussing a “Red Light Abatement Act.” This legislation allowed business owners in the “red light district,” an area of Eureka on 2nd and 3rd Streets that had numerous brothels and bordellos where sex was bought and sold to be prosecuted if they used their property for “immoral purposes” (Suit Under Red Light Law).

While this is the first of newspaper clippings in the archives to report on sex work in Humboldt County, it is likely that the sex work industry was



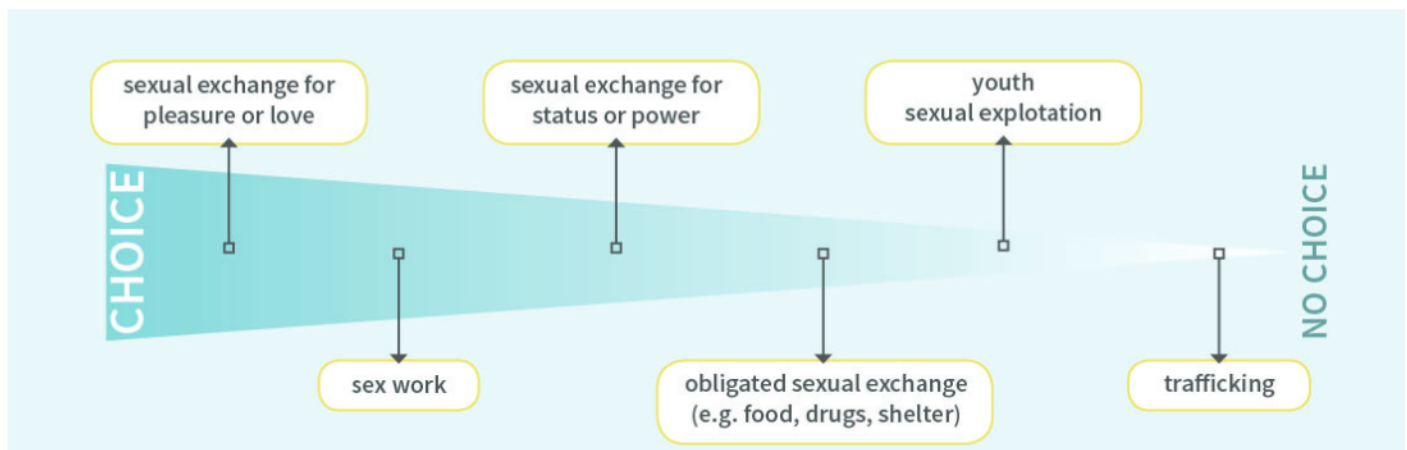


Figure 1. “Spectrum of Sexual Exchange” shows how sexual exchanges occur on a spectrum from personal choice and empowerment to coercion and exploitation (source: *Living in Community*).

present since colonial settlement in Humboldt. Historically, sex work has been a profession that has thrived in places where industry was prevalent, as women provide sexual services to immigrant laborers who are most always single men (Russell 2010, 102). In Humboldt County, the Gold Rush, the construction of railroads, and the lumber industry all brought a large influx of immigrant laborers to Humboldt County in the nineteenth and early part of the twentieth century that made for a flourishing sex work industry.

While it remains unclear if sex work in Humboldt County was ever legal, archival sources center on criminalization, beginning with the 1916 article. Regardless, the changing of laws over time have resulted in shifting dynamics of the sex work industry in Humboldt County. Up until the 1940s, brothels and bordellos in Old Town Eureka were primarily where the buying and selling of sex took place. Madams would run the establishments, keeping girls sober, facilitating payment and providing them protection from clients. With the revocation of liquor licenses in Eureka in the 1950s resulting from a county wide crackdown, many brothels went out of business and indoor sex work took the new form of operating under the guise of coffee shops. As law enforcement caught on to this reiteration of brothels, they quickly shut them down as well. It was then in the mid-1950s when indoor sex work was forced outdoors, with outdoor sex work seemingly more heavily policed than indoor sex work.

Street-based sex work in Eureka has been referred to as a “plague,” “unpleasant,” “bad for

business,” and something that tourists “do not want to see.” It is likely that the shift from indoor to outdoor sex work in part contributed to heavier policing and criminalization efforts because of the increased visibility of sex work and sex workers that otherwise would have been operating behind closed doors, making it less confrontational.

Another possible contribution to law enforcement’s crackdown on outdoor sex work in the latter half of the twentieth century was Murl Harpham, who joined the Eureka Police Department (EPD) in 1958. Archival sources indicate that Harpham’s efforts to catch and arrest sex workers were most prolific in the 1980s and ‘90s. Newspaper clippings describe his tactics of using undercover agents to catch both those who were selling sex and those were buying, of using specific language to ensure that sex workers incriminate themselves, and of using video cameras to catch people about to carry out the sexual act they agreed to pay for. Harpham has been vocal to the press about his persistent effort to criminalize sex workers and johns, of which the press took a “reporting” approach and did not challenge the idea of the unjustness of criminalization itself. Harpham was given a platform to speak on the history of his past efforts to arrest sex workers as recently as 2015 by the Humboldt Historical Society, even though he was retired from EPD at that point.

The historical documentation of sex work in Humboldt County detailed above has been consistently skewed and one-sided, lacking intersectional and critical approaches. This is why



## “Historical documentation of sex work in Humboldt County has been consistently skewed and one sided, lacking intersectional and critical approaches.

is it necessary to analyze not only the objective information documented about sex workers, but also the way that sex workers have been written about, acknowledging that history is always written with biases that can mute certain voices and narratives. Next this article will discuss the most important aspects of sex work to understand, according to sex workers. These emergent categories include criminalization, stigmatization, victimization, and community.

### CRIMINALIZATION

An appropriate place to begin when discussing sex work is the relationship between the sex work industry and legal systems. Because sex work is an umbrella term that encompasses so many types of jobs, the legality of it can be complicated, but is best summed up by the visual pyramid (Figure 2) of the hierarchies within sex work industry. The proximity to legality is reflective of the level of stigmatization, but it is important to remember that the law is not an adequate metric for what is right and wrong, especially within the US justice

system which was founded on principles of racial capitalism and colonialism.

Further, violence against sex workers is carried out by police who work to sustain the very system that criminalized sex work in the first place. The criminalization of sex work goes beyond laws that make it illegal to trade sex for money, but rather is part of a larger apparatus of a settler-colonial state that functions from the construction of the “other” (Shumer-Smith and Hannam 1994, 74). Sex workers are designated as a social “other,” as asserting bodily autonomy undermines patriarchal principles that uphold a system rooted in subjugation of the other and control over the body (McNay 1991, 131).

For these reasons, most sex workers are proponents of the decriminalization of sex work rather than the legalization of it. Legalization within an unjust system would exclude sex workers who are already marginalized, like people of color, disabled people, undocumented people or people who use drugs. Decriminalization would help to create safer working conditions because of a lessened fear of police violence and prosecution and it would improve access to health services as sex workers could seek safety and basic needs without the fear of being outed.

### STIGMATIZATION

The stigmatization of the sex industry is arguably just as harmful as the criminalization of it. Stigma produces harmful stereotypes of sex workers that dehumanize them, such as they are “dirty” or “diseased,” they are drug users, or they are desperate for “degrading” themselves (Davidson 1987) (Relyea 1993). The idea that sex work is demeaning because it requires “selling your body,” but other work like coal mining and farm work (workers whose bodies are literally degrading from working in toxic extractive industries) does not, is governed by stigma surrounding sex and sexuality.

It is necessary to situate sex work in the context of capitalism, in which all work is inherently exploitative because it is rooted in the idea that people only deserve to live if their bodies are profitable via labor. This means that sex workers are not responsible for



Figure 2. “Hierarchy of Sex Work” visualizes the levels stigma between various job in the sex work industry. The level of stigma also largely correlates to the intimacy of contact with clients and police, with more intimate and criminalized sex work being at the bottom of the hierarchy (figure by author).



violence enacted towards them for doing a job to survive under capitalism (Figure 3). It also means that sex workers are not required to love their jobs or feel empowered by them.

When asked “What are your feelings about the work that you do?” interviewees responded:

*“It’s funny because, if I tell people that I’m a sex worker—or they somehow find out—one of their first questions is “Do you like it?” or “Do you feel empowered?” or something like that. But, honestly, questions like that are annoying and ignorant to me. Would you ask someone who does retail or customer service or other jobs like that if they like their job or feel empowered by it? Probably not because that would be weird. Most likely if someone told you they did other types of service or care jobs—just to be clear sex work is service/care work—like worked in a nursing home or was a waitress or a nanny, you wouldn’t respond by asking if their job is empowering, or if they have ever considered finding a different job, or if they feel forced to work in that job. You would probably just be like “Okay, cool.” Everyone is just doing their thing. Everyone is getting paid to do what they’re good at to get by and live their life. Some people just happen to be good at caring for people and bringing comfort through sex.”*

*“It’s not really about whether or not I like the work itself. I feel like for so many people they don’t actually like what they do in their jobs—it’s the pay or hours that helps them decide if they like it or not. I like my job as a sex worker because it’s flexible and it pays well. I get to practically be a stay-at-home mom. I sometimes make more money in a month than my spouse, who has a degree and a full-time job, does. It doesn’t really matter how I feel about the work. I like it because it helps me be present with my family and comfortably support myself and them.”*

*“I personally love my job. I’ve been doing it full time for seven years now, and I’ve been able to pay off all my debts, travel the world, and save up enough money to buy property soon. This job has opened up so many worlds to me that I never thought I could be a part of. But I don’t want to glorify or idealize stripping—or sex work in general—my job has been difficult in every way. But when I talk to my friends and family who are students or who have more traditional careers, they are struggling too! Emotionally, mentally, physically. Every job can be taxing. I just personally think the difficulty of my job has paid off, when with many other types of work that’s not the case.”*



Figure 3. “Cycle of Stigma” shows the cycle that results from sex work stigma (source: *Living in Community*).

As is the case with other types of work, some sex workers love their job, some are neutral, and some hate it. Further, stigma results in sex workers not being able to be completely open about their jobs with friends, family, doctors, and therapists about their lives and experiences causing social isolation, and puts them at increased risk of mental and physical illness.

## VICTIMIZATION

Stigma can take a different shape than outright shaming and dehumanization—it also can also reveal itself as a savior complex in which there is an assertion that sex workers need “saving.” This is often enacted by advocating for increased policing and criminalizing of clients rather than sex workers themselves, which is problematic for two main reasons. First, by viewing an adult who consents to participate in sexual activities for payment as a victim, it is assumed that the person should not be choosing how to use their body, denying their right to bodily autonomy. Second, redirecting policing toward clients upholds the stigma that paying for sexual engagement is wrong and shameful, which reinforces harmful beliefs about sex and sexuality. Sex workers provide the service of being able to engage in sexual desires and experimentation in controlled environments with mutually agreed upon boundaries. To victimize sex workers and demonize clients is to deny both the right to safe spaces to explore sex and sexuality.



## COMMUNITY

Who are the sex workers in our own community? They are students, parents, people with “normal” jobs. They have never ceased to exist in Humboldt County, but are most often forced to conceal an entire part of their life out of fear of violence, legal repercussions, or stigma that could cost them their “normal” job, enrollment in school, or custody of their children. Our community can help to support sex workers by deconstructing personal beliefs and conceptions about what sex work is and who sex workers are. Decriminalization is urgent, but stigma is a more powerful force as it is upheld through social constructs and institutions that are going to outlive criminalization.

Destigmatization is a process that needs to happen now at the basic level of community showing up and fighting for sex workers rights and validating their work. This can happen by supporting sex workers by purchasing their services or content, listening to sex workers and amplifying their voice when they speak on their experiences, speaking out against police violence and criminalization of sex workers, speaking out against journalism and other sources of news that perpetuate stigma, and engaging in discussion about sex work in personal conversations and in the classroom.

## CONCLUSION

Within geography, space can be used as a critical tool for understanding the ways in which social constructions are materially produced. What is deemed appropriate within private and public spaces is dictated by social norms that help to reproduce inequalities imposed by structures of domination. Sex workers are most often excluded from private and public spaces, as sex work is used to distinguish a boundary of a “moral code” of which sex workers cross the line and are not welcome in these spaces.

One of the most prominent examples is sex workers who are students are not able to be out of fear of backlash from their institution or stigmatization from their peers and professors from the assumption that sex workers are not also academics. Similarly, parents are often not able to be out as sex workers because it is assumed that being a sex worker somehow compromises one’s ability to be a good parent. Another example,

within the sex work community itself, is when strippers shame people for being FSSWers in the club. Even in digital space sex workers are being excluded, the 2018 FOSTA/SESTA bill being the most responsible for this by banning content by sex workers, suspending their social media accounts and bank accounts and deplatforming them. Exclusion of sex workers from spaces or forcing them to conceal a part of their life to be able to access certain spaces demonstrates the importance of analyzing sex work through the lens of geography and the spatial aspects of social justice.

Beyond physical and digital spaces, sex work is excluded in conversations surrounding labor, economic and feminist geographies. Sex tourism, urban sex work, and the historical relationship between sex work and industry are all topics that are important for understanding global and local labor patterns and economic processes and are able to be examined through a geographic lens. The intersections of sex work and race/gender/class/sexuality/ability/the body provide many opportunities for crucial analysis. With such a broad scope to study sex work, it is time to bring sex work into geographic research and discussion.

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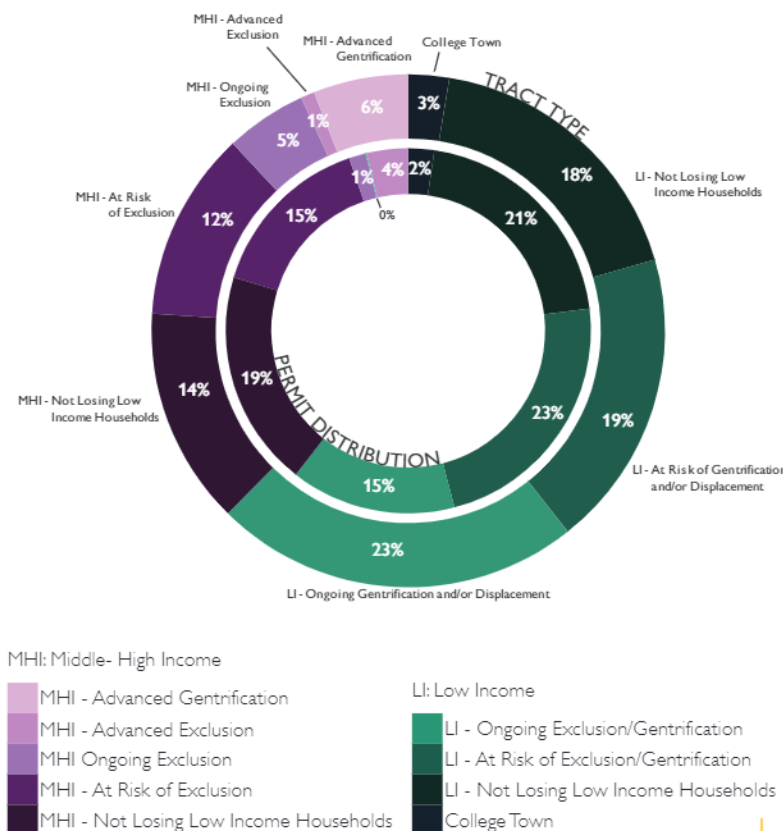
# TRACKING GENTRIFICATION IN OAKLAND

massimo lambert-mullen & gilbert trejo

**G**entrification is a complex and divisive issue that affects communities across the country, with a disproportionate impact on underserved communities of color. Gentrification is generally defined as “the process by which central urban neighborhoods that have undergone disinvestments and economic decline experience a reversal, reinvestment, and the in-migration of a relatively well-off, middle- and upper middle-class population” (Roderick 2000, 43). Gentrification often results in new amenities and housing units built for a new class of people who move in and displace residents of a neighborhood’s preexisting population. As with many issues of urban development and demographic change, geospatial data can serve as predictors of upcoming neighborhood change and be used as a tool to empower community organizations and influence policy changes (Chapple & Zuk 2016). For this study, we investigated the spatial distribution of building permit data in Oakland, California, as a way to illustrate such data can be used to predict gentrification and neighborhood displacement.

A building permit is the official approval from a city government to begin, modify, or continue construction on a particular parcel of land. Building permits are the breadcrumbs of the material transformation of spaces and allow urban geographers and other social justice-oriented researchers to document the character of the past as well as see developers’ or municipalities’ visions for the future. By comparing the density of several building permit types to the readily available methodology of the Urban Displacement Project, we aim to find relationships between building permits and gentrifying neighborhoods in Oakland. The relationships we uncover, socio-spatial at their core, would then contribute to an argument for the inclusion of building permit records as an indicator of gentrification in future prediction models.

We investigated the spatial distribution of building permit data in Oakland by joining the California building permit data to the Urban Displacement Project typology dataset (Zuk & Chapple 2015), geocoding and calculating the density of permits by typology within Oakland city limits. From these data, we created a proportional profile graphic (Figure 1) that shows the outer ring of census tract types within Oakland and an inner ring that shows the proportions of permit types within each tract type. From this, we can see what types of tracts are targeted for redevelopment in the city.



**Figure 1.** Graphic, with legend below, for Residential Demolition permit type. The outer circle displays the distribution of tract types in Oakland, while the inner circle displays the permit distribution proportional to tract types.



Looking more specifically at the permit data (Figure 2), we see there is a larger percentage of permits in middle-high-income tracts without a significant loss of households, indicating a correlation between growing housing stock and housing stability. The nonresidential and private infrastructure permits revealed a different trend, with a larger percentage

of nonresidential alteration permits given in low-income tracts, and a majority of the permits approved in middle-high-income tracts at risk of exclusion and low-income tracts at risk of gentrification and displacement. This is particularly evident among nonresidential demolitions, where 24 percent of the permits were given in middle-high-income tracts at

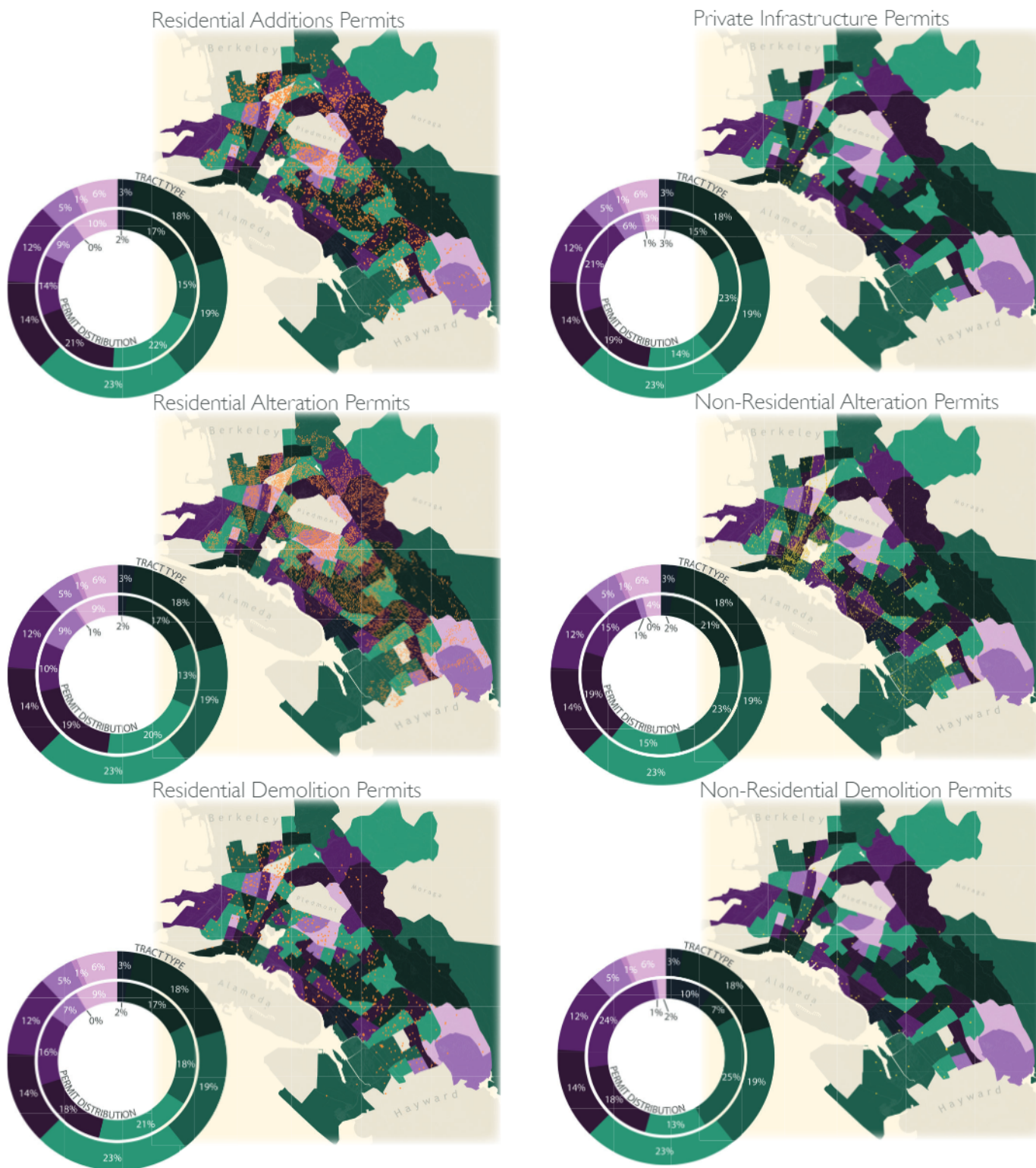


Figure 2. The permit distribution charts and the maps, included for geographic context.



risk of exclusion, and 25 percent of the permits were given in low-income tracts at risk of gentrification and displacement. Nonresidential demolitions and private infrastructure development are more likely to occur in census tracts that are at risk of exclusion and gentrification/displacement, while the same processes are less likely to occur in tracts that are currently experiencing exclusion and gentrification. This indicates that the demolition of old nonresidential buildings and the construction of large private developments could be predecessors to both exclusion and gentrification, therefore having the highest impact on the displacement of low-income residents.

To study changes to the built environment of a city as a way to look at issues of gentrification, displacement, and exclusion, this study observes and spatially catalogs several different permit types, including residential and nonresidential demolitions and alterations, as well as residential additions and private infrastructure. While additions and alterations are usually smaller-scale projects, demolitions can range from small residential projects to the destruction of large nonresidential structures. More problematic to low-income neighborhoods, private-infrastructure permits can be used to define a variety of projects, including the construction of multi-story residential housing structures as well as nonresidential physical improvements and landscape changes.

The new-build housing structures represent both a welcome increase in housing stock and the increasing presence of luxury condominiums, inaccessible to most low-income residents of Oakland. Private infrastructure permits are most common in census tracts at risk of gentrification, which are often have less residential zoning than areas that have already been redeveloped and rezoned. In the case of Oakland, this includes waterfront and uptown neighborhoods with many nonresidential structures and zoning laws that permit taller buildings.

Our findings confirm that the majority of issued and requested private-infrastructure permits are most commonly associated with census tracts that are at risk of gentrification and exclusion, making those permit classifications the best for predicting neighborhood change. Unlike the private-infrastructure and demolition permits, which may serve as early predictors for city governments to ensure neighborhood change is equitable and accessible to working classes, residential permits show that areas undergoing displacement and advanced gentrification have many residents who are choosing to make small-scale renovations and remodels, an indicator that houses are being flipped by developers.

The potential value of land and buildings varies on many geographic factors, and neighborhoods meeting characteristics that fit broader trends will define future investment and development in certain neighborhoods. Given the uncertainty of where urban redevelopment will take place next within city spaces in the future, spatial analytics and mapping of building permit data and investigating how trends in the data relate to the material infrastructure of a city can lead to a more complete and nuanced understanding the process of housing displacement and serve as a predictor for future gentrification.

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# UNDAMMING THE KLAMATH

A CRITICAL EXAMINATION OF INDIGENOUS  
WATER RIGHTS, DECOLONIZING SPACES,  
AND ENVISIONING A RECONCILIATORY

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Captivated by the rushing torrent of salmon racing upstream, Amy Cordalis recalls sitting beside her father as he shares snippets of the deeply rich history her Yurok roots have with the running rivers of the Klamath. For generations, these salmon runs have served as a vital vein in the ecological and cultural networks of the Pacific Northwest. Annual salmon runs have been sustainably fished for thousands of years, yet their cultural and spiritual significance runs much deeper than just a meal. Wide-eyed and hopeful, young Amy Cordalis didn't yet know that the same river teeming with fish before her would suffer the largest fish kill in history only decades later.

In just a handful of days, the 2002 Klamath River fish kill decimated over 68,000 fish returning to spawn. The cause of the kill was soon investigated by the US Fish and Wildlife Service, which found that there had been an explosive growth of parasites as water levels dropped due to the recurring diversion of water for farmers coupled with the already obstructed flows because of the dams. The massive economic, spiritual, and ecological disaster on the Klamath reignited fierce debates surrounding water rights on the river. Yet as disease, drought, and debate plagued the region, Amy began her studies in law and crystallized her future as an advocate for indigenous and environmental rights. Amy is just one of many involved in the numerous legal battles that have been fighting to uphold water rights on the Klamath. One of the most integral battles is the push to follow through what will be the largest dam removal project in history.

## WHAT'S THE SITUATION?

Today, more than 350 miles of what was once natural salmon and steelhead habitat are inaccessible as a result of the dams and reservoirs that have been constructed along the Klamath (Figure 1). The dams create an environment that encourages toxic blue-green algae blooms and a proliferation of harmful parasites like the ones responsible for the massive fish kill that occurred in 2002. In addition, water from the river is frequently redirected to irrigate massive agricultural plots throughout California. The tumult surrounding water rights along the Klamath is difficult to blame on any one factor; however, what is certain is that repeated and ruptured promises of lucrative plans are much too often prioritized over the innate value and well-being of the river.

Dam removal will be a crucial step in restoring the Klamath basin, but the process has been a grueling





Figure 1. Map illustrating the extent of the Klamath River and the four dams to be decommissioned to the east (map by Sharon Okada).

one. Complicated by the politics of water access and management, the river and the human-made reservoirs constructed along it have been the crux of several conflicting promises made to non-indigenous farmers in need of irrigation, tribal members fishing for sustenance, massive fish hatcheries, and even fire-fighting efforts throughout the Pacific Northwest. Joseph L. James, chairman of the Yurok Tribe, said, "Our Creator gave us the right to sustainably harvest salmon from the Klamath River. In return, we have a sacred duty to be a strong steward of the river and all of the life it supports." Yet history reveals that time and time again the indigenous people of the Klamath Basin have been robbed of their right to fish and denied their efforts to be stewards of the river. This is precisely why the decommissioning of the dams serves as a key milestone in the battle towards restoring the well-being of the region. Deconstructing the behemoths of colonial conceptions of profit and control over others (including the land and water) is a pivotal and necessary step in reimagining sustainable, reconciliatory relationships.

## THE COLONIAL HISTORY BEHIND TODAY'S INDUSTRY AND INFRASTRUCTURE

In many ways, Amy's story is a familiar one. Oral traditions reaffirm powerful ties to the land and waters of Southern Oregon and Northern California are not unscathed from the dominant narratives that define history as being just that, the past. As early as 1865 the federal government received a chilling notice from a surgeon in the Klamath area:

"Those who saw the Klamath and Trinity rivers in early days say that during the summer months they ran as clear as crystal, and thronged with salmon from the sea; now they are muddy streams and almost deserted by the fish. [Native Americans] gaze sadly into the muddy waters, despoiled almost of their finny prey by the impurities from the sluice boxes of the miners at the head of the stream... Their salmon fishing is destroyed to a very great extent, and with it one of their chief means of subsistence" (Most 2007, 9).



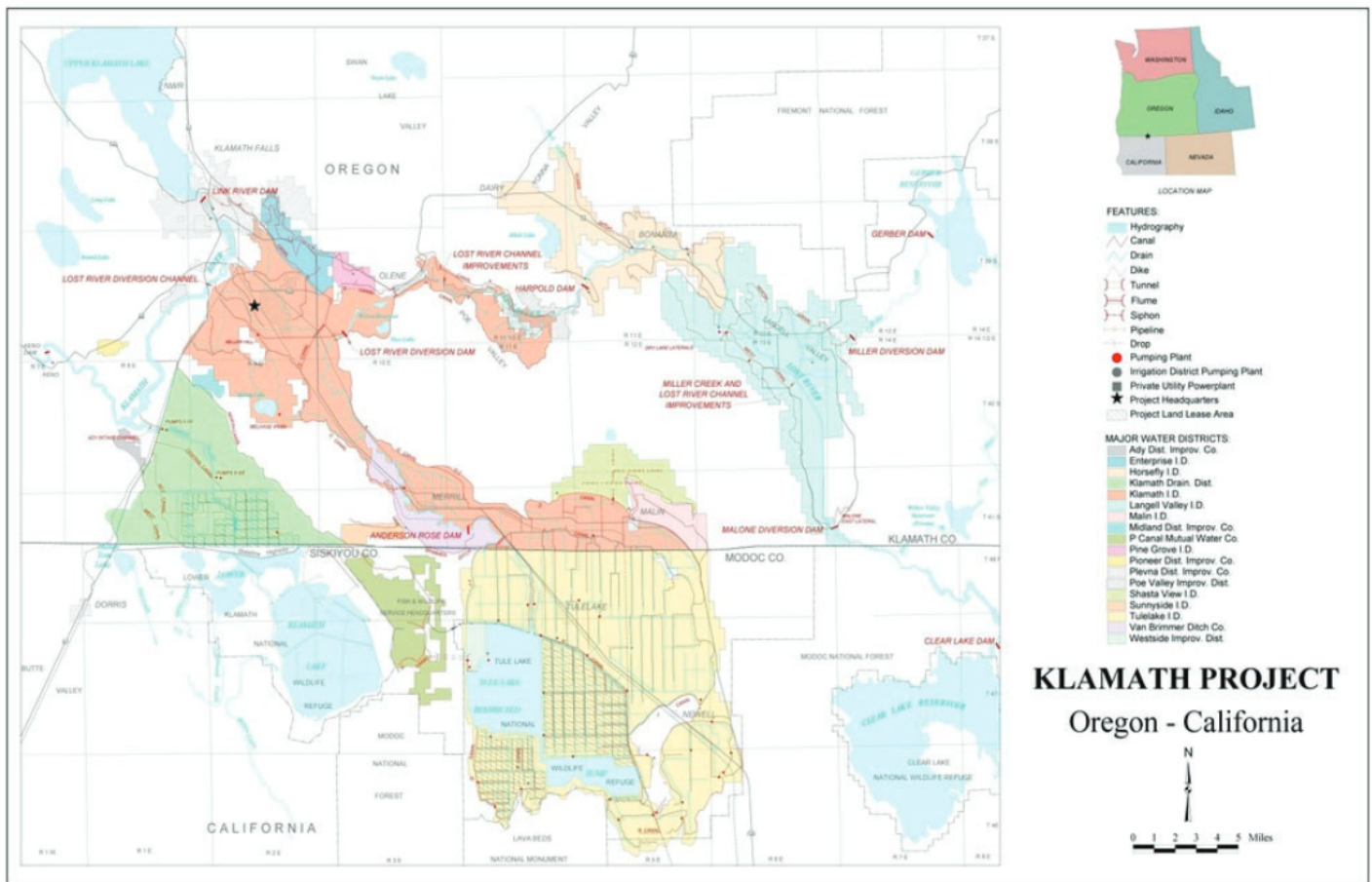


Figure 2. Map depicting the Klamath Basin Project. In 1906, the Reclamation Service initiated the Klamath Project to drain lakes and wetlands for cultivation. Years following it became the site of 10 Japanese Internment camps and numerous homesteading farm units (source: Oregon History Project).

While white settlement violently altered relationships and understandings of space for centuries, one specific form of colonial legacies unmask itself on the Klamath in 1902 when both Oregon and California ceded land to the federal government, opening it to homesteading with the promise of water rights for farmers. The Bureau of Reclamation's mission for the Klamath Irrigation Project stated that it planned to "reclaim the sunbaked prairies and worthless swamps" that provided sustenance to the Klamath region for centuries prior.

The mission was quickly fulfilled as swaths of remaining indigenous land and thriving ecological habitats were further subsumed by the ravenous hands of industry. The Klamath region bears the scars of the extractive, colonial categorization of the land as a resource. Furthermore, the same land served as a site for colonial expressions of violence by not only delineating ownership of the land to serve private and political interests, but also by employing the land units as internment camps. Most notes that during World

War II, the US War Relocation Authority built a total of ten concentration camps to house 18,000 Japanese Americans on Klamath project lands (Figure 2). After the war, the Bureau of Reclamation opened 86 farm units to homesteading, and by the end of the twentieth century 1,400 farms were operating on the Klamath Project lands, cultivating nearly 210,000 acres of wheat, barley, alfalfa, potatoes, onions, horseradish, sugar beets, and other crops.

While the Klamath Project lands were divvied up to serve economic and political interests, the river itself was also subject to such acts of control and profit. In 1918 the Copco 1 Dam was constructed on the Klamath River, blocking access to more than 350 miles of salmon and steelhead habitat in the main stem of the upper Klamath and its tributaries. Less than a decade later in 1925, the Copco 2 was constructed a quarter mile downstream. Eventually a total of seven dams on the Klamath River served the interest of the Department of Interior's Klamath Reclamation Project for the purpose of directing irrigation water.



*“The mission was quickly fulfilled as swaths of remaining indigenous land and thriving ecological habitats were further subsumed by the ravenous hands of industry.”*

What was once a river teeming with life has become a landscape serving as a convenient stage for political and profitable ploys to play out. Today, Klamath River fall chinook runs are less than 8 percent of their historical abundance and coho salmon’s numbers have fallen below 1 percent. Chum and pink salmon, once abundant in the Klamath, are now extinct while coho salmon, the Lost River and Short Nosed Suckers, and the once largest run of salmon, the Spring chinook, are listed as facing extinction.

### EVER-RAGING FIGHT FOR WATER RIGHTS

The river has and will continue to be part of a living, breathing landscape regardless of human actions upon it. As California ascended into the agricultural industry, investing in a profitable future that could feed not just locals but a globalizing world as well, the previous treaties made with the Yurok seemed miniscule, obsolete. Almost so small when standing beside the monolith of California’s agricultural industry that thousands of indigineous lives were robbed of their dignity and literal right to fish. Imposing itself onto the landscape, these dams represent a shift from fishing for sustenance to harnessing the energy and water from dams to redirect them in ways that support a complex, extractive means of commercializing the entire agricultural, fishing, and energy industry.

As early as the 1930s salmon numbers were beginning to deplete and prompted efforts to outlaw all commercial fishing of salmon. However, this ban extended to even the Yurok despite the tribe’s physical and spiritual reliance on the fish. It took nearly four decades of legal struggle for the Yurok to win back their right to fish the Klamath. While they retained the reclaimed right for a brief period of time, in 1978 the California Supreme Court once again banned the Tribe from fishing the river. This quickly intensified to armed showdowns with federal and state authorities that placed countless of indigineous lives at risk known as the “Klamath Salmon Wars.” Even today, legal fights and ongoing contention persist. Cordalis asserts that these ongoing struggles on the Klamath is the “classic environmental justice issue—the poor brown people

bearing the brunt of an environmental, ecological disaster... The core of our culture, the fish, has been taken away so that another society can prosper.”

### LOOKING TOWARD THE FUTURE, INFORMED BY THE PAST AND PRESENT

The controversy has raged on and on, yet resilience is an apt way of describing the fight for indigineous land and water rights. Colonial legacies persist throughout the landscape and assessing how massive structures like dams came to be erected presents a challenge. The decommissioning of the four Klamath dams sets precedent for the different ways in which we can work toward a reconciliatory landscape. I am not arguing for decommissioning every dam in the US, rather, we must advocate for a landscape of dignity, one that acknowledges the epistemic, ethnic, and ecological violence that has occurred and works to repair the damage, recover untold stories of resistance, and restore the land.

Lying ahead of us and our own communities is an increasingly unpredictable world at the mercy of climate change with the passing of each decade. Pair this with the invisible yet powerful networks of profit-driven agendas, we’re fooling ourselves to think that the average person is secured immunity from the discord. The rural farmers making ends meet, the blue-collar workers living paycheck to paycheck, the complex networks of water, land, and animals have historically never been a priority in a world that pledges profit over people and steps in only to place band-aids on the weathering hands of the workers.

Yet there is hope. Mobilization efforts and resistance is growing and offers alternative means of tackling the problems that lie before us. One of the largest dam removal projects enacted on Washington’s Elwha River shows promise after the decision to decommission two dams. Similarly, the plan had been made in response to the alarming drop in the keystone salmon species that relied on the Elwha. Countless species have since returned and grown in numbers and while ongoing research continues, other aspects of ecological health have been noted. Sediment loads,



nutrient loads, and local and coastal communities of the Elwha have been steadily improving after only a few years following dam removal. Here in Humboldt County, the Klamath Riverkeeper, along with over 40 other stakeholders, has been working for more than 17 years to restore the Klamath River. When the four Klamath River dams do come down, we will witness one of the largest river restoration projects in North American history.

Beyond dam removal, notable acts of resistance to colonial legacies are being made. This year the Yurok Tribe confirmed the new status of the Klamath River as they officially granted the body of water the rights of personhood. Cordalis explained that if the river was “hurt,” such as a having a toxic pollutant being in it, legal teams are able to bring a cause of action against polluters in order to protect the river. Moreover, the potentially beneficial implementation of traditional ecological knowledge offers itself as a tool for long term, sustainable management practices. Bill Tripp, deputy director of the Karuk Department of Natural Resources, explained, “These practices, though they’re conveyed through oral histories in the form of a myth or a story, they actually have practical ecological purposes.”

Decolonize the mind, decolonize the landscape. Water is life and the veins of the Earth have been clogged by colonial forces seeking exhaust resources and profit. There is a story behind every building, street name, and in this case, dam. It is vital that we ask ourselves in what ways do they revere the ghosts of colonialism? Furthermore, what can we do to change this? The largest dam removal waits on our horizon and instills the hope that we can find a common ground with neighboring communities, animals, and ourselves. Working towards a reconciliatory landscape means exactly this. Questioning the conception of various parts of the landscape and ultimately asking what it means as a whole as we reimagine future possibilities.

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# CONFLICTS AND ATTITUDES REGARDING THE RETURN OF THE GRAY WOLF TO CALIFORNIA

kendall burke

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Beginning in the mid-nineteenth century, Euro-American settlers began the task of changing the landscape of California from vast expanses of wetland and forest into agricultural land. Since the arrival and eventual settlement of Spanish colonizers, ranching cattle has been a lucrative business in much of the state. The growing ranching industry and population of California directly led to the extermination of the gray wolf (*Canis lupus*) within the state by 1924. Wolves had long been regarded as dangerous vermin that preyed upon livestock, and it was believed their destruction would be beneficial to both profit and public safety.

Wolves in other areas of the rapidly expanding United States would meet a similar fate, and soon the species was confined to small patches of land in the Upper Midwest, Rocky Mountains, and Pacific Northwest (US Fish and Wildlife Service 2019). In the latter half of the twentieth century, the environmental movement brought relief to the species. The gray wolf was listed under the Endangered Species Act of 1973, and slowly the species began to recover. More than 20 years later, wolves from Canada were released into Yellowstone National Park after a 60-year absence, proving that the wolf was capable of successfully integrating into areas of its former range. In December 2011, wolf OR-7 stepped into Siskiyou County from Oregon and became the first documented wolf in California since 1924 (California Department of Fish and Wildlife 2013). OR-7, nicknamed Journey, is now just one of a handful of wolves that have returned to California.

Though a success for the recovery of the species, the return of the wolf has been a source of controversy. Echoing the very attitude that expatriated the wolf nearly a century ago, many individuals who make their living ranching believe the wolf will endanger their livestock. These fears are not

unfounded. According to the California Department of Fish and Wildlife (CDFW), there have been over ten depredation investigations concerning gray wolves as of September 2019. In another report released by the CDFW, the Lassen pack's breeding female LAS01F gave birth to at least four pups in April of the same year. During this time, the CDFW monitoring cameras recorded two uncollared wolves travelling separately throughout Lassen County. While the California wolf population remains small and largely transient, it seems as though the species is beginning to form a foothold in the northeastern corner of the state. With the increasing presence of the wolf, it is becoming more important that the state identify areas of possible conflict and the attitudes of individuals within those areas in order to ensure the effective management of the species.

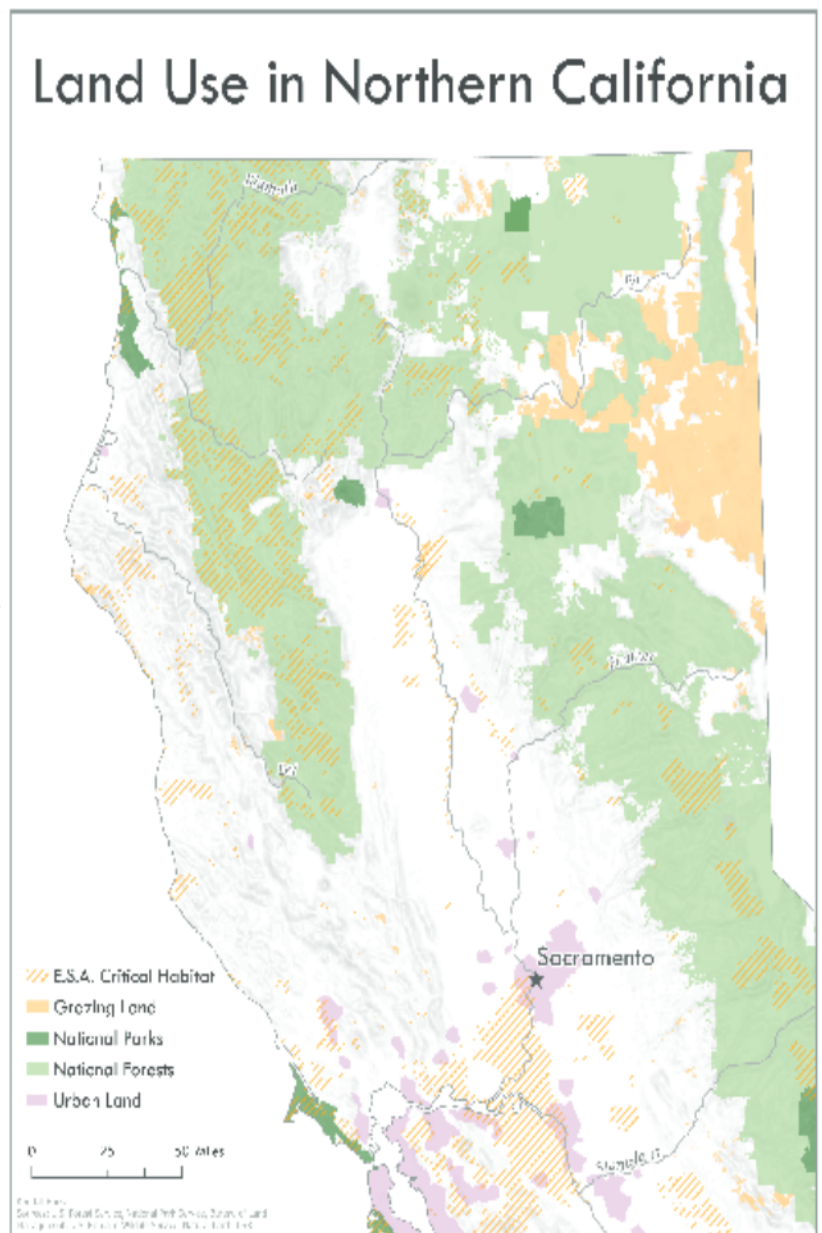
The conservation of wolves depends largely on the willingness of the community to cooperate. Wolves "can only coexist with humans if people are willing to share landscapes, tolerate livestock losses, and accept possible risks to human safety and property" (Bath 2009, 174). This can prove difficult as many in ranching communities believe that wolf conservation is a direct threat to their livelihoods. "Large carnivore management, especially wolf management, tends to be more socio-political in nature than biological" (Bath 2009, 174). Wolves are often symbolic of the battle between rural conservatives and the influence of the federal government. The battle over the gray wolf is representative of the disconnect between economic and ecological interests in rural communities, especially in regard to legislation concerning the protection of endangered species.

Rural communities often perceive regulation of the extractive industries their communities as a threat from the federal government. It is vital to recognize that as long as "wolves are presented



as a threat to the commodity... they will be opposed" (Nie 2003). It is therefore imperative that conservationists work closely with the community to understand these attitudes towards the wolf in order to increase the odds of a successful conservation plan. Many individuals and interests such as agribusiness "believe that wolf recovery, especially reintroduction into the American West, is a ruse and political ploy for more regulatory federal lands management, thus posing a serious threat to rural communities, extractive industries, and the sanctity of private property and individual freedom" (Nie 2003). In far northern California, many ranchers are deeply distrustful of wildlife officials (Hearden 2017). If the conservation of the wolf is to be successful, the suspicions of ranchers much be addressed.

The return of the wolf into California presents a unique set of problems as they were not reintroduced via human intervention, such as in the case of the wolves of Yellowstone. Therefore, those who oppose the return of the wolf must take their case straight to the state legislature, not argue with agencies such as the CDFW or the Bureau of Land Management (BLM). Not long after OR-7 entered California, ranching interests sued to prevent the listing of the gray wolf under the California Endangered Species Act. In a case brought forth by the California Cattlemen's Association and the California Farm Bureau Federation against the California Fish and Game Commission, Center for Biological Diversity, Environmental Protection Information Center, Klamath-Siskiyou Wildlands Center, and Cascadia Wildlands, the status of the gray wolf in California was contested. The California Cattlemen's Association and the California Farm Bureau Federation, representing the interests of ranchers, had filed a lawsuit against the California Fish and Game Commission's decision to list the gray wolf under California's Endangered Species Act (Clarke 2017). Although the Cattlemen's Association



*Figure 1. Land uses in northern California, including Endangered Species Act critical habitat, Bureau of Land Management grazing land, National Parks, National Forests, and urban land (map by author).*

and Farm Bureau eventually lost the case, their fight reflected the views held by many living in the possible future California range of the gray wolf.

It is likely that the areas wolves will repopulate are those within protected areas, rangeland and land with sparse human habitation. By compiling data about national forests, national parks, rangeland, and population centers, areas of possible conflict may be identified. Maps provide an easily understandable way to communicate spatial information to the general public. By compiling this information into a map, one can create a visual representation of possible future wolf habitats. This data would be used to identify areas of future conflict between wolves and



people, especially ranchers. The views and opinions of people living in these areas should be taken into special consideration. As stated in numerous articles and books regarding wolf conservation, the success of wolf management depends on the attitudes of the public. The cooperation of people living and working in these areas of the map are essential to the success of wolf conservation in far northern California.

Figure 1 cartographically illustrates a variety of land uses in Northern California, including national forests, Bureau of Land Management (BLM) grazing land, and population centers. Areas designated as “critical habitat” under the Endangered Species Act earn special protection under the federal government, thus benefiting species such as wolves. Areas of grazing land next to forests or parks present the most likely areas of conflict due to the large numbers of livestock next to possible future wolf habitat. As shown on the map, the northeastern corner of the state holds hundreds of square miles of grazing land surrounded by national forests. This interface of forest and rangeland contains the range of the Lassen pack. Once again, it is vital to understand the attitudes of individuals, especially those likely to come into direct conflict with wolves such as ranchers, towards the gray wolf.

The internet provides a platform for individuals to express themselves and their opinions freely and anonymously. Looking at local news websites in various northern California counties, opinions on wolves seem to be mixed. A glance at the comment sections of these news articles and opinion pieces, reveals the attitudes by local residents hold. Many argue that wolves were here long before people and therefore have the right to exist undisturbed by ranchers (Clarke 2017). Others argue that ranchers should not have to tolerate losses to their livestock and should use whatever means necessary to ward off wolves (Lassen County Times 2017). These comments also respond to misinformation, such as the myth that wolves were intentionally reintroduced into California. These comments are often highly opinionated, aggressive, and take an extreme stance on either side of the issue. Because the individuals living in these areas, both wolf and human, are at the most likely to be at risk of conflict, their opinions and views toward the gray wolf should be given the most weight. It is also imperative that these people be educated about wolves and possible management plans to dispel any rumors or misinformation. The identification of these areas of conflict is beneficial to the safety of wolves and people alike.

With the successes of the Endangered Species Act, it is far from likely that the gray wolf will be the last large predator to return to California. Mapping areas of possible future conflict between large predators and people will ensure both conservation and safety. Furthermore, it is vital that the attitudes of individuals living in these areas identified on the above map be taken into consideration by regulatory bodies. These actions will greatly increase the efficacy of wolf management and conservation. How the state chooses to deal with the controversy surrounding the wolf and its management will set the precedent for the possible return of other large predators.

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# MAPPING MARIJUANA CULTIVATION SITES AND WATER STORAGE IN THE REDWOOD CREEK WATERSHED, SOUTHERN HUMBOLDT COUNTY

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*Learn more about the author in Alumni Highlights on Page 74.*

Since the late 1960s, the Emerald Triangle—Humboldt, Mendocino, and Trinity counties—has been one of the nation's hotbeds of marijuana cultivation. Begun by the counterculture's "back-to-the-land" movement, over the last five decades what began as a black-market phenomenon has flowered into a billion-dollar industry. In 2007 the US Department of Justice estimated that California produced between 60 and 70 percent of all the marijuana consumed in the United States (Carah et al. 2015, 1), and in 2014 the state accounted for 49 percent of all legal sales in the country (ArcView Market Research 2015). That same year, the Drug Enforcement Administration eradicated 2.68 million plants in California (DEA 2015, 72); untold numbers remained, and the value of the illegal market has been virtually impossible to quantify. Marijuana is reputedly one of the state's top cash crops, but it is not listed in annual reports released by state and federal agriculture agencies.

Marijuana's complex legal status and lack of regulatory oversight have ensured that until recently, its environmental impacts have also remained largely unquantified. As more states have legalized or decriminalized it, however, more researchers have taken an interest in assessing the environmental issues attributable to unregulated cultivation. On both public and private lands, these include dangers to wildlife exposed to numerous agricultural toxins (Gabriel et al. 2012, 12; Harkinson 2014; Peebles 2013), sediment delivery to streams from road and home construction and grading for outdoor gardens (Short 2011, 110), and destruction of wildlife habitat due to stream diversions (Barringer 2013). On public lands, trespass grows have become perilous for both land managers and members of the public who inadvertently stumble onto cultivation sites; in 2013, they accounted for 72 percent of all outdoor plants seized in California (Harkinson, Brownell, and Lurie 2014). Meanwhile, for decades marijuana has also been cultivated on private lands without the oversight mandated for other agricultural products.

Effective regulation of California's marijuana industry demands a quantifiable understanding of the existing scope of cultivation, and the adequacy of water storage, on private lands that have long been devoted to a de facto commercial industry. The first objective of this research is to review the historical context of the Emerald Triangle. The second





*Figure 1. Location of the Redwood Creek watershed, in southern Humboldt County. Detailed view, upper right inset; view within California, lower left inset (sources: USGS Earth Explorer, County of Humboldt, California Department of Forestry and Fire Protection; map by author).*

is to provide a case study of the Redwood Creek watershed (Figure 1)—one of the first places where the back-to-the-land movement became entrenched, and exemplary of numerous areas where ranching and timber extraction have largely given way to unregulated, commercial-scale marijuana cultivation.

## HISTORICAL BACKGROUND

In the century and a half since European-Americans began permanently settling the North Coast, its landscape has been fundamentally changed by land privatization (i.e., ranching and farming), commercial fishing, and commercial timber extraction. The latter has been arguably the most environmentally destructive, with only 4 percent of the old-growth redwood forest that once dominated the Pacific coast from central California to southern Oregon remaining (National Park Service 2015). The devastation wrought on the land altered the region's rivers as well. Sedimentation from grading, road development, and erosion has left many waterways unsuitable for salmon, one of the North Coast's keystone species (McKee 2004, 13; Short 2011, 113).

In the wake of the post-World War II construction boom that felled numerous stands of virgin redwood and Douglas fir (Easthouse 2002), a new threat emerged. Because many ranchlands and timberlands had been so degraded they were no longer commercially viable, they were subdivided into smaller parcels that were sold at very low prices. Numerous such parcels were purchased by “back-to-the-landers” for whom marijuana cultivation became a chief source of income (Torgoff 2004, 281). As a group, they thought of themselves as responsible stewards of the land (Scott-Goforth 2013, Salmonid Restoration Federation 2013). By the early 1980s, however, the 1960s ideals of the first generation of back-to-the-landers had begun to give way to “greed grows” that exacted a heavy toll on an already devastated landscape.

In 1983 the Campaign Against Marijuana Planting (CAMP) was established, a multi-agency task force whose stated objectives included the reduction of marijuana availability through plant eradication, arrest and prosecution of marijuana cultivators and traffickers, reduction of marijuana-related environmental impact on public lands, and reduction of “associated criminal activity” in areas where cultivation occurred (CAMP 1983, 11). Raids on outdoor cultivation sites quickly led to many growers moving their operations indoors, to both greenhouses and permanent structures. Ironically, this enabled them to cultivate much more, and more potent, marijuana: as many as six crops can be grown indoors in a single year, and by controlling light, humidity, and temperature, an indoor cultivator can clone plants with higher levels of delta-9-tetrahydrocannabinol (THC), the physiologically active component in cannabis (Martyny et al. 2013, 622).

In 1996 California became the first state to legalize the use of medical marijuana through passage of Proposition 215, the Compassionate Use Act (Bauer et al. 2015, 1-2; Carah et al. 2015, 4). Seeking to cash in on an economic boom driven by legal marijuana sales, a new wave of migrants began pouring into the North Coast, and unemployed local timber workers began cultivating marijuana as well (Barringer 2013; Harkinson 2014). Industrial-scale marijuana farms—some with tens of thousands of plants—now dominate



# *“The very land subdivisions that facilitated the back-to-the-land movement now facilitates another wave of environmental destruction.”*

many parts of the Emerald Triangle, on public, tribal, and private lands (Barringer 2013). Paradoxically, the very land subdivisions that facilitated the back-to-the-land movement now facilitate another wave of environmental destruction. As Boston University professor Anne G. Short explains, “The slow but ongoing land-use transition from timber and ranch lands to more rural residential and amenity-oriented development...can be linked to an increased risk of sediment delivery to local streams and the continued degradation of habitat for salmonids” (2013, 122). Local creeks are often sucked dry for marijuana cultivation, and the widespread use of agricultural toxins has adversely affected numerous species including the Pacific fisher (*Martes pennanti pacifica*), a member of the weasel family that inhabits forests from northern California to Washington (Gabriel et al. 2012, 1).

## UNREGULATED MARIJUANA CULTIVATION AND THE ENVIRONMENT

The complex legal status of marijuana poses unique challenges for researchers trying to quantify its environmental impacts, and for policymakers seeking to develop long-term solutions to industry-related problems (Carah et al. 2015, 4-5). To date, only one peer-reviewed study has attempted to quantify the extent of marijuana cultivation within specific watersheds (Bauer et al. 2015). For Redwood Creek, the results were alarming: according to Bauer et al., “estimated water demand for marijuana cultivation is 36-173% of the annual seven-day low flow” (2015, 13). A review of several other studies reveals additional impacts, all germane to commercial agriculture. They include the following.

**Land-Use Changes.** In a 2011 study focusing on subdivided lands in Humboldt and Mendocino counties, the researcher found that landowners who are engaged in timber and ranching are far more knowledgeable about best management practices (BMPs) than residential, vacation, and other landowners who tend to be more recent transplants to rural areas, and whose private properties are not as strictly regulated as commercial properties (Short 2011, 121).

**Sedimentation.** Sedimentation is one of the key problems associated with rural residential development, agricultural terracing, and road construction; not only does it degrade habitat for salmonids and amphibians, but it is also associated with habitat fragmentation and edge effects that in turn impact species composition—often favoring nonnative over native species (Short 2011, 109-113).

**Rodenticide Use.** A significant environmental concern associated with both commercial agriculture and residential gardening is the widespread use of second-generation anticoagulant rodenticides (ARs), which affect numerous predators in both rural and urban settings. According to a 16-year study in southern California, urban bobcats have a high prevalence of notoedric mange as a result of high exposure to ARs (Serieys, Armenta, and Moriarty et al. 2015, 844). The researchers also found that “single-family high-density residential area[s] [were] among the most frequent land-use type to have positive associations with anticoagulant exposure” in the areas studied, even more so than areas zoned for agricultural use (855). These findings parallel those made by Short, who concluded that commercial landowners were far more knowledgeable about BMPs than residential landowners.

## CASE STUDY: METHODS

This study consisted of a GIS-based spatial analysis following a visual search of the watershed using Google Earth imagery. Digital elevation models, Humboldt County administrative boundaries and assessor’s parcels, and the Calwater 2.2.1 Watershed Boundaries were imported into ArcGIS, where the Redwood Creek watershed and parcels contained within or straddling the watershed were isolated. The resulting shapefiles were saved as KML files, which—along with the parcel and watershed boundaries and a UTM reference grid—were then imported into Google Earth. Sites identified were greenhouses, outdoor marijuana-cultivation gardens (commonly known as “grows”), water tanks, and installed ponds. Greenhouses were measured in Google Earth using the Ruler tool. Sites outside the boundaries of the Redwood Creek watershed, but on parcels that straddle the watershed, were recorded due to the possibility that they draw water from Redwood Creek and its tributaries.



After data were collected they were saved as KML files and imported into ArcGIS. Four point layers were generated from the KML files, one for each type of site. Each point layer was intersected with the newly created shapefile of Redwood Creek assessor's parcels, in order to determine the concentration of cultivation and water-storage sites per zoning classification (Table 1) and land-use designation (Figures 2, 3 and 4). According to the Humboldt County website, "Land use designations are more general than zoning classifications. Typically, land use designations focus on allowed uses, whereas zoning classifications provide specific standards related to building height and setbacks." Zoning classifications determine where, how, and how much marijuana can be cultivated. Land-use designations are useful to differentiate between parcels that have been developed for residential use and those that are used for purely commercial or recreational purposes.

## CASE STUDY: RESULTS

There are 369 assessor's parcels within or straddling the Redwood Creek watershed, ranging in size from 0.02 ha (0.05 acres) to 306.34 ha (756.98 acres), with a total area of 8754.67 ha (21633.23 acres; Figure 2 and Table 1). Visual search and analysis of the watershed

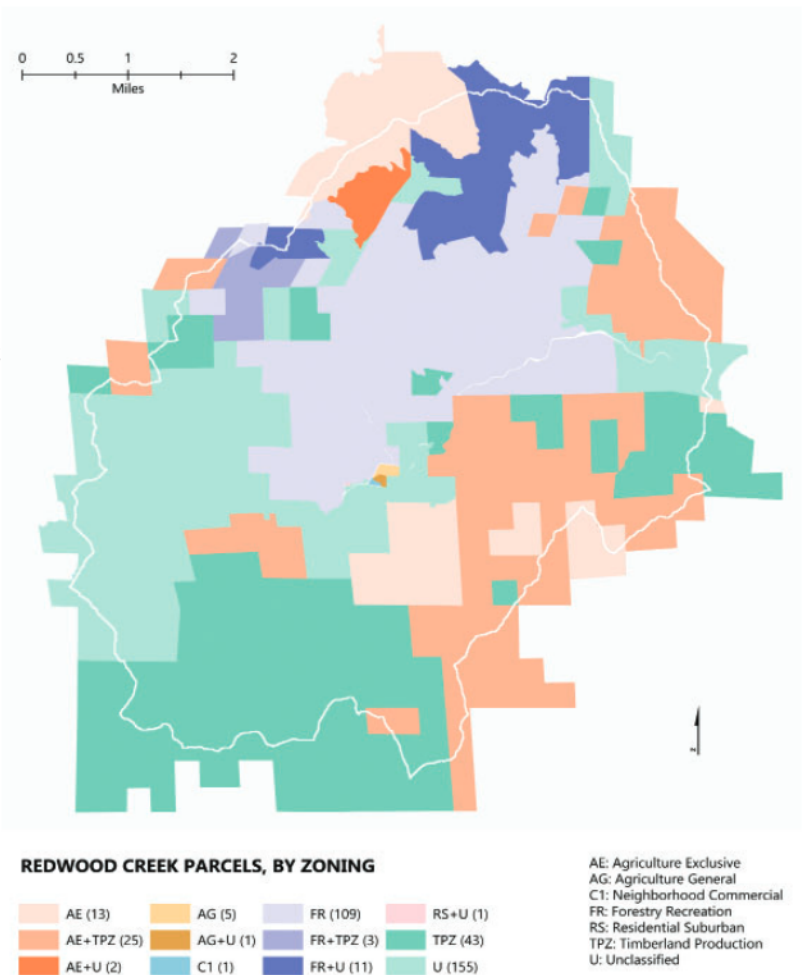


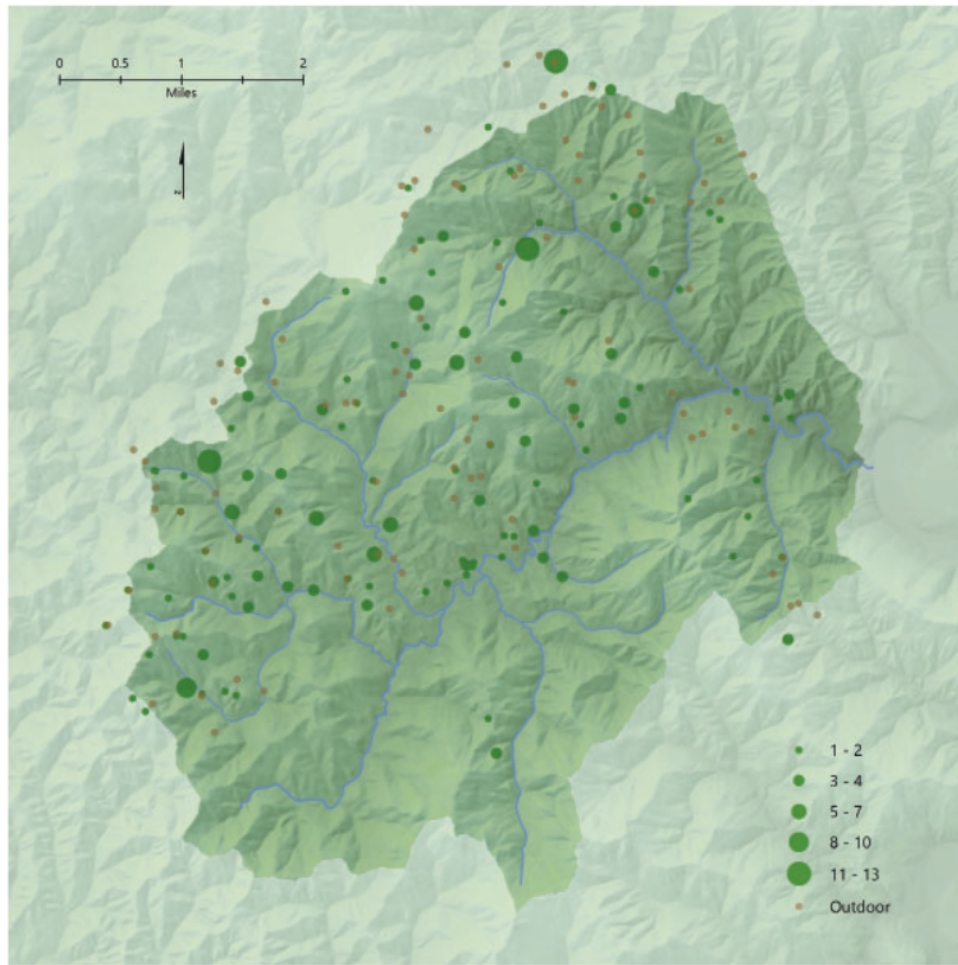
Figure 2. Parcels contained within or straddling the Redwood Creek watershed, by zoning classification (sources: County of Humboldt, Calfire; map by author).

TABLE 1. Number of marijuana-cultivation and water-storage sites, by zoning classification (source: County of Humboldt).

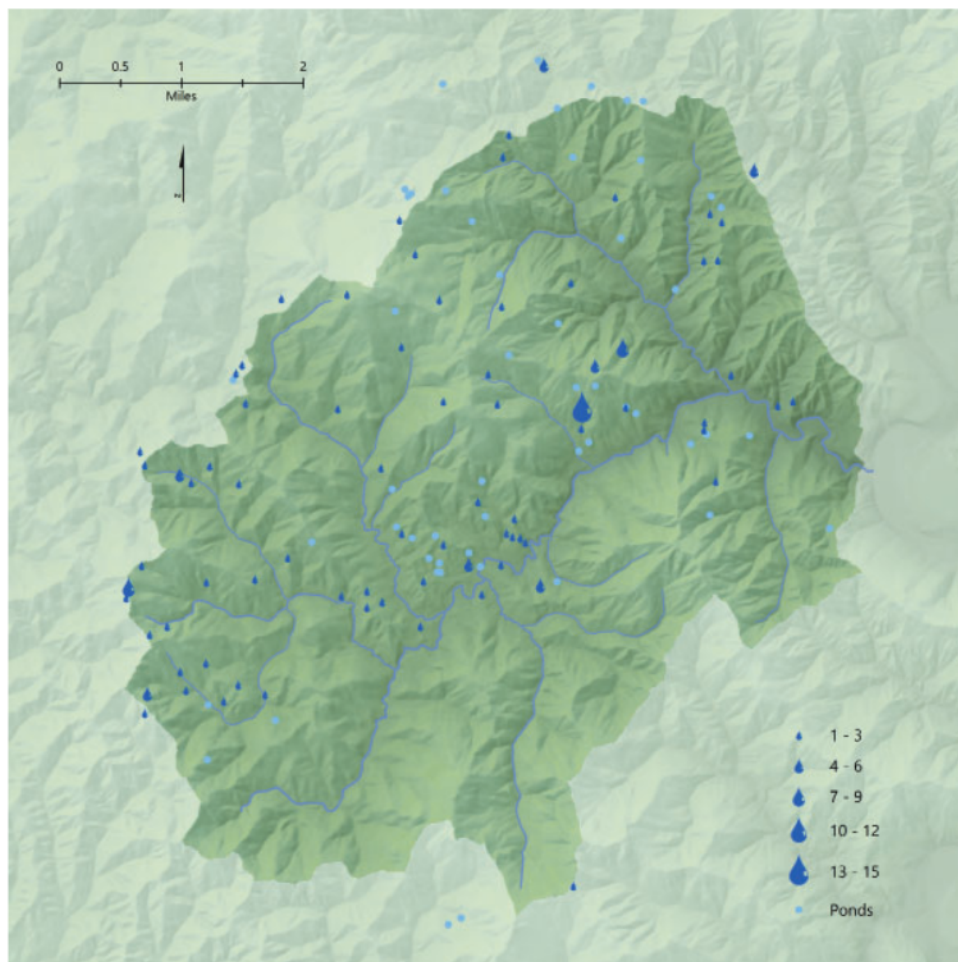
Zoning	Hectares	% of Total	# Parcels	Green-houses	% of Total	Outdoor	% of Total	Water Tanks	% of Total	Ponds	% of Total
AE	746.43	8.5%	13	16	5.3%	13	13.0%	12	7.3%	8	15.7%
AE+TPZ	1686.66	19.3%	25	8	2.6%	4	4.0%	5	3.0%	1	2.0%
AE+U	80.12	0.9%	2	6	2.0%	1	1.0%	0	0.0%	1	2.0%
AG	5.77	0.1%	5	0	0.0%	0	0.0%	0	0.0%	0	0.0%
AG+U	2.56	0.0%	1	0	0.0%	0	0.0%	0	0.0%	0	0.0%
C1	1.32	0.0%	1	1	0.3%	0	0.0%	6	3.7%	1	2.0%
FR	1585.22	18.1%	109	85	28.1%	37	37.0%	59	36.0%	25	49.0%
FR+TPZ	129.09	1.5%	3	1	0.3%	0	0.0%	0	0.0%	0	0.0%
FR+U	462.05	5.3%	11	25	8.3%	9	9.0%	2	1.2%	6	11.8%
RS+U	0.41	0.0%	1	0	0.0%	0	0.0%	0	0.0%	0	0.0%
TPZ	2248.45	25.7%	43	26	8.6%	10	10.0%	7	4.3%	4	7.8%
U	1806.59	20.6%	155	135	44.6%	26	26.0%	73	44.5%	5	9.8%
Totals	8754.67	100.0%	369	303	100.0%	100	100.0%	164	100.0%	51	100.0%

Key: AE=Agriculture Exclusive; AG=Agriculture General; C1=Neighborhood Commercial; FR=Forestry Recreation; RS=Residential Suburban; TPZ=Timberland Production; U=Unclassified.





*Figure 3. Simplified map of marijuana cultivation sites in the Redwood Creek watershed. Green circles represent clusters of greenhouses, by number; outdoor growing sites are mapped individually. Sites outside the boundaries of the watershed are on parcels that straddle two watersheds, and were recorded because they may draw water from Redwood Creek and/or its tributaries (sources: USGS Earth Explorer, County of Humboldt, Calfire; map by author).*



*Figure 4. Simplified map of water-storage units in the Redwood Creek watershed. Water drops represent water tanks, by number; installed ponds are mapped individually. Sites outside the boundaries of the watershed are on parcels that straddle two watersheds, and were recorded because they may draw water from Redwood Creek and/or its tributaries (sources: USGS Earth Explorer, County of Humboldt, Calfire; map by author).*



# *“It is imperative to quantify the extent of the industry and its environmental impacts to develop policies that prevent more damage.”*

yielded 303 greenhouses, 100 outdoor cultivation scenes, 164 water tanks, and 51 installed ponds. Outdoor cultivation scenes contained as few as 12 plants—so-called “mom-and-pop grows”—and as many as 170 plants.

Parcels zoned as “FR” account for only 18.1 percent of the land within or straddling the Redwood Creek watershed, but contain an estimated 28.1 percent of the greenhouses, 37 percent of the outdoor growing sites, 36 percent of the water tanks, and 49 percent of the installed ponds in the study area (Table 1). Similarly, parcels that remain “Unclassified” account for 20.6 percent of the acreage within or straddling the watershed, but contain an estimated 44.6 percent of the greenhouses, 26 percent of the outdoor growing sites, and 44.5 percent of the water tanks. However, they account for only 9.8 percent of the installed ponds.

Greenhouses were identified on only 122 parcels. Outdoor cultivation sites were identified on 73 parcels, water tanks on 77, and installed ponds on 38. Assessor’s parcels with land use designations of “Rural Residential” or “Rural Residential, Vacant” account for 47.8 percent of the parcel acreage within or straddling the Redwood Creek watershed, but contain an estimated 86.1 percent of the greenhouses, 84 percent of the outdoor growing sites, 91.5 percent of the water tanks, and 82.7 percent of the installed ponds in the study area.

## DISCUSSION

**Research and Analysis Challenges.** These results likely represent a low estimate of the total number of water-storage and cultivation facilities in the Redwood Creek watershed. A number of the tanks found are partly visible under the forest canopy, and it is reasonably certain that some tanks are extant but cannot be located using satellite imagery. Additionally, tanks vary in size and water-storage capacity is difficult to estimate; two tanks with the same diameter may differ greatly in height. Pond depth, likewise, cannot be determined in a two-dimensional analysis.

Although it seems likely that the vast majority of greenhouses are used for marijuana cultivation, some

are invariably used for other purposes. Conversely, it is also likely that many permanent structures—including former residential buildings—are used for marijuana cultivation.

**Increase in Number of Sites Over Time.** When comparing the Google Earth imagery from 2014 and 2012, there were numerous locations where new cultivation sites had been established, established cultivation sites had been expanded, and/or water tanks had been installed where none were extant before. These informal observations are consistent with the results of the study conducted by Bauer et al. (2015)—which used the 2012 imagery for analysis—and this study, which used the 2014 imagery. According to Bauer et al. (2015), in 2012 the estimated greenhouse capacity of the Redwood Creek watershed was 16,777 plants (2015, 12). Using the same calculations as Bauer, et al. (1.11484 m<sup>2</sup> per plant), in 2014 the greenhouse capacity in the Redwood Creek watershed was 20,570 plants. If both studies are reasonably accurate, this represents an 18 percent increase in greenhouse capacity in just 21 months.

## CONCLUSION

An accurate assessment of the extent of marijuana cultivation and water-storage capacity in the Redwood Creek watershed is not possible at this time, absent researchers’ capacity to perform ground truthing. However, with both medical and recreational marijuana use now legal in California, it is imperative to quantify the current extent of the industry and its environmental impacts in order to develop public policies that prevent more damaging impacts from occurring and allow for remediation of existing environmental degradation. According to at least two peer-reviewed studies, residential landowners are not as knowledgeable of BMPs as commercial landowners. Given this fact, it is also imperative that rural-residential landowners—who comprise the vast majority of marijuana cultivators in the Redwood Creek watershed, and likely in other rural subdivisions in the Emerald Triangle—be educated about BMPs as the formerly underground marijuana economy transitions into a state-regulated industry.



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PHOTO ESSAY

# MURALS OF HUMBOLDT

ryan sendejas



*An abandoned barn in Samoa off Vance Avenue and New Navy Base Road.  
Location is used for murals by graffiti artists.*

A sense of place is central to the human experience. Perception of place is unique for each individual. Each of us ascribes meaning to places and internalize their meanings into our social fabric. In turn, we also personalize communal places based on our cultural values, ownership, location, and position with social hierarchies.

When we modify of place it causes shifts of perception, sometimes tectonic, in society and the physical environment. Public art, both sanctioned

and unsanctioned, is an intersectional medium to shape place since art is the physical manifestation of human emotion, creativity, and experience.

In this photo essay, I explore the Humboldt as a community through its publicly displayed art murals, both legally and non-legally sanctioned. I traverse under bridges, behind warehouses, abandoned buildings, and alleyways to capture the creativity of local artists' works, hoping of capturing a diverse pallet of social color and textures.



## MURALS OF HUMBOLDT



*Graffiti street art on an abandoned millyard warehouse in Manila.*

*Eureka Live Art Walls at the Halvorsen Park. This project seeks to empower local artists and community members by giving space and the opportunity to showcase their creativity.*





## MURALS OF HUMBOLDT



Eureka Street Art Festival is a week-long community event that celebrates and promotes creativity in the Humboldt community. Throughout the week local and visiting artists create extravagant murals on buildings and walls in designated areas in the city of Eureka. The public is invited to a block party event each summer.

Above: The mural "Sun • Ram • Anasyrma" by Sofia Amezcua is located on the Ink People Center for the Arts building in Eureka. Amezcua describes her work as "powerful and intimate expressions of femininity that delve beneath the surface to encourage and validate deep emotionality and the strength in vulnerability."

Right: The mural "Diva Grace" by local artist Blake Reagan is located at the Speakeasy Bar in Eureka. Reagan has numerous murals throughout the community, showcasing his unique "electric art deco" style.

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*RYAN SENDEJAS graduated from HSU with a BA in Environmental Studies (2019). His passion for photography stemmed from his experience Art and Place (ART 395), a course taught by Dr. Nicole Jean Hill, in which students studied geographic locations through lens-based art. On his social media page, you will find his indulgence of travel experiences of travels, portraits, and photojournalism. Follow Sendejas at SenShutter.*





# A HIKER'S PILGRIMAGE IN CARPATHIAN RUTHENIA

nick burdine (2016)



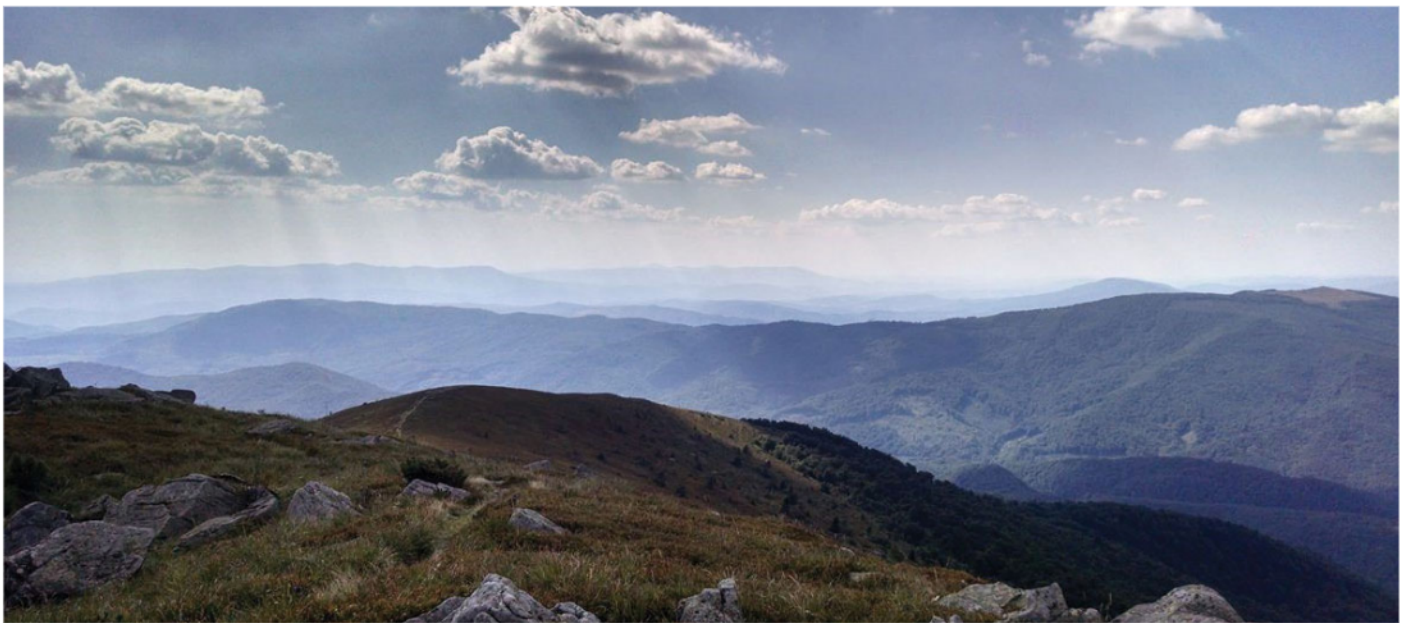
*Monument to the Ukrainian partisans  
who fought in World War II (photo by author).*

In the southwest corner of Ukraine lies the mountainous region of Zakarpattia. Its residents live in the valleys and hills of the Carpathian Mountains, and its rugged terrain, relative isolation, and distance from metropolitan centers such as Kyiv, Prague, and Budapest has created a people which are highly independent and culturally unique. Contributing to its cultural distinctiveness is the region's long and complicated history with its neighbors. At different times throughout its history, Zakarpattia has been a part of Ukraine, the Soviet Union, Czechoslovakia, Hungary, Romania, and on multiple brief occasions, has even been its own autonomous country (often referred to as Carpathian Ruthenia). Due to its shifting political boundaries and valuable geographic position, Zakarpattia has long been seen as an important strategic location by military leaders ranging from the Princes of Kievan Rus and Kings of Hungary, to the generals of the Soviet Union and NATO.

In the summer of 2018, while serving as a Peace Corps volunteer in Zakarpattia, myself and a group of other volunteers, along with a number of Ukrainians working at a cultural center based out of Uzhhorod, hiked to an abandoned Soviet military installation and war memorial high in the forested hills above of Uzhhorod.

My party and I met in the city of Uzhhorod, the administrative capital of Zakarpattia, and drove northeast into the hills. We watched as the black cobblestone roads and baroque churches of central Uzhhorod turned into pothole-laden highways and Soviet-grey apartment buildings found on the outskirts of many Eastern European cities. Those highways turned into the dusty dirt roads of small farming communities and the apartment buildings became vast fields of wheat and corn punctuated by small agricultural estates. We kept driving until we came to the mud tracks and steep forested slopes





of the Carpathian foothills. The traffic had all but stopped save for the odd farmer crossing the road with his livestock. Some with cows, then others with goats, some on horseback, and others with rickety carts filled with firewood. We had been driving for maybe two hours, but we couldn't have gone more than 50 miles because of how bad the roads are throughout the region.

We finally came to the location where we would be camping for the next two days. A stone and wood cabin built in the traditional Slavic style of the area, featuring a large hexagonal hearth and kitchen on the bottom floor, a second floor directly above the hearth where people would sleep, and all built around a long central chimney which would heat the entire structure. That night, we ate a traditional Carpathian meal which reflected the rich cultural tapestry of the region. There was shashlik (barbecued pork common across Eastern Europe), varenyky (dumplings filled with potatoes and served with sautéed onions and hot butter, similar to Russian pierogis), kremzlyky (fried potato pancakes most likely adopted from Polish Jews), bograch (hearty vegetable soup cooked with Hungarian paprika), brinza (mild goat cheese), salo (raw pig fat), pickled sweet tomatoes, beet and cabbage salad, and served with Romanian plumb brandy and homemade Carpathian wine.

The next day, we set out early on our nearly 30-mile roundtrip hike. The forest was rich with summer lushness, a sea of green from the resident birch, maple, and oak, and golden



*Top: A commanding view of Ukrainian-Carpathian foothills. Middle: The author and his party hiking through the forests of the Carpathian hills. Bottom: A cabin built in the traditional Slavic style of the region (photos by author).*





*Atop the Ukrainian-Carpathians, a Latin cross (left) and Orthodox cross (right) attest to the ethno-religious diversity in Ruthenia. The Latin cross is an important symbol for the Catholic Poles, Slovaks, Hungarians, Romanians, and Greek Catholic Rusyns. The Orthodox cross is a symbol important to Orthodox Ukrainians and Russians (photos by author).*

sunlight spilling over our heads. Our destination was a well-known hiker's pilgrimage—a mountain peak on the border between Ukraine and Slovakia with a commanding view of the surrounding hillside and a war memorial, built near the ruins of a Soviet military installation. Until the fall of the Soviet Union, the site was used to house ground-to-air rockets as part of an anti-aircraft defensive matrix built throughout the

Ukrainian-Carpathian hills. The war memorial was built in the 1970s and was erected to commemorate the Ukrainian partisans (secret guerrilla fighters who sided with the Soviet Union and fought against the occupying Nazi forces in the Second World War).

We arrived at our destination around midday while the sun was directly overhead, before it started to retreat beyond the horizon where it would cast

long shadows over the forest. The clear summer skies and noontime sun afforded us a spectacular view of the remote hills sprawling out in every direction from our location. Two giant steel crosses had been erected at the peak where we were standing, as is common across the peaks of the Ukrainian-Carpathians. The first was a simple Latin cross, and the second a slightly more ornate Orthodox cross. These two crosses represented the major ethno-religious groups of the region. The first cross being a symbol of the Catholic Poles, Slovaks, Hungarians, Romanians and Greek Catholic Rusyns (people believed to be the direct modern descendants of the people of Kievan Rus who settled the area in the 8th century); the second cross symbolizing the Orthodox Ukrainians and Russians. Standing next to these crosses beside the World War 2 memorial and looking out to the west, one can see the Slovakian border—demarcated by nothing more than wood and rock.

The military site was a series of small concrete buildings. There was a garage where the rockets would have been stored on the backs of large trucks and ready to be deployed at a moment's notice, a communications building where soldiers would have had radio and sensing equipment,



*Top: Garage where rockets were stored, the ruins of a Soviet military base. Bottom: The ruins of a Soviet military installation, evidence of the region's inclusion of a recently deceased empire (photos by author).*



*“Wars are fought, empires fall, and boundaries change, but people do not always move. Expressions of culture—architecture, food, religion, language—have a habit of sticking around long after political borders are continually drawn and redrawn.”*

and a small barracks where soldiers would have lived. Today, those buildings are long deserted and have turned to ruin. The concrete has crumbled to piles of rubble, water and mold occupy its chambers, vegetation has come to reclaim its walls, and local artists have turned it into a shrine for graffiti. Now, the compound is a monument to a dead empire of the not-too-distant past.

Outside, looking across the hills to the Slovakian border, I spoke in Ukrainian with our guides and friends from the Uzhhorod Cultural Center. They spoke mostly Ukrainian, but at times interjected it with words from Russian, Hungarian, Polish, Romanian, Slovakian, or words believed to be derived from Old Ruthenian, the language of the ancient Rusyns. This is known as the Trans-Carpathian dialect and is often looked down upon and made fun of by the “pure” Ukrainian speakers of western Ukraine, and the Russian speakers of eastern Ukraine. To outsiders, this dialect seems to be a unified and cohesive language belonging solely to the inhabitants of the Carpathian hills, but in reality, it is a dynamic system of languages which changes in every valley and in every community. A village might speak a slightly different version of the dialect from another village merely 30 miles down the river, or just beyond the hills in another valley.

Wars are fought, empires fall, and boundaries change, but people do not always move. Expressions of culture—architecture, food, religion, language—have a habit of sticking around long after political borders are continually drawn and redrawn. Zakarpattia stands as one of the finest examples of these cultural mixing pots, sitting at the crossroads of so many Eastern European nations.



*The author (bottom right), several Peace Corps volunteers, and two guides from the Uzhhorod Cultural Center resting at a peak in the Ukrainian-Carpathian hills.*

NICK BURDINE graduated from Humboldt State in 2016 with a bachelor's degree in Geography. After graduation, he joined the Peace Corps and served in Ukraine for nearly two and a half years where he taught English and worked on various community development projects. Today, he works as a Park Ranger for the Bureau of Land Management in western Montana. In his free time, Nick enjoys planning hiking and camping trips across the United States and Europe, and he is an avid reader. “Humboldt Geography instilled in me a sense of exploration and curiosity,” he attests. “At HSU, I learned how to ask meaningful questions about the world around me and how to use physical, cultural, and political landscapes to answer those questions.”





## alumni in focus

## DAVID BURKE (1984)

**D**avid Burke graduated in 1984 with a bachelor's degree in Geography from Humboldt State University and continued his education at Fresno State University, where he earned a master's degree in regional and city planning in 1986. He recalls being the only freshman in the Department of Geography during his time at Humboldt, which reinforced close connection with his professors. Humboldt Geography degrees run in the family. Burke gained his BA in 1980s, following his sister-in-law, who earned her HSU Geography degree in the 1970s. Visiting his family prior to entering HSU, Burke fell in love with "all the things that make Humboldt 'Humboldt': the natural beauty, the granola lifestyle, the Arcata Square, etc..."

Although his interest was originally in transferring as a Geography major and switching to Oceanography, the allure of pursuing Geography manifested in Burke after just one engaging class project. The class project was researching some demographics related to the local school population for the City of Arcata. This course demonstrated the vast utility of Geography, answering a single spatial question. After that class, the lifelong interest in Geography as well as planning developed within Burke, serving him both personally as well as professionally. Today, Burke applies the skills learned at his time in Humboldt and Fresno in his job as director of Facilities for the Davis Joint Unified School District in Davis, California. He supervises a department of 75 employees, planning and



*David poses with his daughter Kendall, who graduated from HSU with a Geography degree this year.*

implementing a \$225 million school program. Critical thinking, data analysis, and proper communication of data analysis are just a few skills he uses daily, which began developing as an HSU Geography major.

Thanks to his family's introduction to Humboldt State, Burke sent only one application out knowing his place was in Arcata. The family legacy continues with his daughter Kendall Burke, a Geography major who is a member of the team producing this very journal. Exploring different realms of geography is a family pastime, as the Burke family has traveled much of California and the United States.



## Monica Moreno-Espinoza (2015)

Research Data Analyst II (GIS)

Division of Research, Innovation, and System Information  
California Department of Transportation, Sacramento, CA

*"HSU Geography and its faculty fostered immense growth in me as a researcher. They challenged, guided, and inspired me to go above and beyond what I thought I could do. I recently transferred from Caltrans' Eureka office to Sacramento, where I support the Caltrans linear reference system and perform analysis of project impacts to the surrounding environment. I am excited for the new chapter in my life and am forever grateful to HSU Geography"*



# David Burke Speaks to Current Humboldt Geography Students

## IN ONE SENTENCE, HOW DO YOU DEFINE GEOGRAPHY AS A STUDY OR FIELD?

The study of past, current, and future spatial relationships amongst and between the natural, cultural, and built environments.

## WHAT STANDS OUT ABOUT YOUR TIME AT HSU?

The friendships developed that continue to this day. The quality academic environment. All the things that make Humboldt “Humboldt”: the natural beauty, the granola lifestyle, the Arcata Square, etc. My Geography professors really stand out. Doctors Hammasi, Bennion, Harper, and, of course, Leeper were outstanding. I still keep in contact with Joe and remember playing softball with him. It helped me develop a lifelong interest in Geography and planning that has served me well professionally and personally.

## HOW DO PEOPLE OUTSIDE OF HUMBOLDT RESPOND TO YOUR DEGREE AT HSU?

The folks who don’t know Humboldt, it’s “wink, wink, nudge, nudge, bet you had a great time, right?” The folks who know Humboldt always share great stories at HSU. I’m always surprised to find out how many people I run into are HSU alumni.

## WHAT DO YOU LIKE TO DO OUTSIDE OF WORK?

California and western US geography! I love to explore, go places I’ve never been before. Within the last two years, I have stood at the northeastern and northwestern corners of California. Only three more corners to go: the elbow in Lake Tahoe and the southeastern and southwestern corners. Sharing these interests with my family has been really important. I am so proud of Kendall that she shares many of these same interests. These are interests that my father passed to me.

## DO YOU HAVE ANY ADVICE FOR CURRENT GEOGRAPHY STUDENTS?

Enjoy and appreciate each day, study hard, do your best, leave things better than you found them, and be kind.

nicholas stehly

## BRIAN MILLAR (1982)

President  
Land Logistics, Inc.  
Davis, CA

*“The broad range of education I received as an HSU Geography major in the natural sciences, along with the technical skills I learned and courses I had with an emphasis on human influences on the land, have served me especially well in my professional career as a land planner.”*



## CYNTHIA LYNN TARWATER (1991)

Project Coordinator  
Trinity County Resource Conservation District  
Weaverville, CA

*“I’m still living in Trinity County, Big Bar, California. Still working as Project Coordinator at Trinity County Resource Conservation District (TCRCD) based in Weaverville. I’ve been there since 1993. My primary tasks include watershed restoration/sediment reduction work related to roads, road improvement, and road decommissioning projects on USFS, BLM and private lands. The TCRCD is a Special District and 100 percent grant funded. My favorite Geography teacher was John Harper, RIP. And my buddy Geography counselor: Joe Leeper.”*



## JOEL E. CORREIA (2004)

Assistant Professor  
Center for Latin American Studies  
University of Florida

*“I began to understand how geographic inquiry helps reveal roots of social and environmental injustice—and can change them through the department’s field trips to local sites of social-environmental change later on a summer field research trip to China and Tibet with Rossi. HSU Geography courses and applied experiences enabled me to build the skills needed to pursue activism, work in international development and later a PhD in Geography. I now use those skills in my research and teaching at University of Florida. Yo no creo en fronteras (I don’t believe in borders/boundaries), in part because of the support and education I gained at HSU.”*



## JILL BECKMANN (2006)

Lead Ecological Forester  
Lomakatsi Restoration Project  
Ashland, OR

*"Working with tribal governments, my recent work has focused on revitalizing relationships between human*



*communities and the natural landscape by facilitating the removal of encroaching conifer trees and reinstatement of cultural and prescribed fire practices in landscapes that have been shaped by natural and anthropogenic fire for millennia. I recently joined the team at Lomakatsi Restoration Project in Ashland, Oregon as Lead Ecological Forester*

*where I will continue to work collaboratively with tribal governments, state and federal agencies, and other non-profit entities."*

## CASSANDRA HANSEN (2006)

Environmental GIS Faculty  
Johns Hopkins University, Baltimore, MD

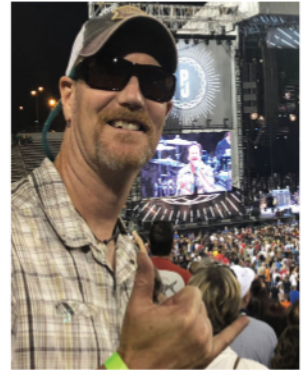
*"Small-sized classes combined with instructors who are passionate about Environmental Science, GIS, and Geography is what you can expect at HSU. I could not believe how many opportunities were available to me as an HSU Geography/GIS major. From mapping and surveying mountains in Alaska to patrolling the backcountry of Devil's Postpile National Monument. Take advantage of all these opportunities and keep your mind and heart open. Never stop searching for the Why of Where in every aspect of your life."*

## KEVIN McMANIGAL (2006)

Lecturer in GIS/Cartography  
University of Montana, Missoula, MT

*"As a geographer, a cartographer, and a human being, I owe a huge debt of gratitude to HSU's Department of Geography. My degree laid the foundation for a career in academia, not only with highly specialized skills in Geographic Information Science, but also with a deep understanding of our complex cultural and physical environment.*

*Beyond the classroom, my professors were caring mentors that became life-long friends. They continue to inspire and support me both professionally and personally. I am fond of telling young people, 'Journey to the coast and become a Lumberjack. You can't go wrong!'"*



## AYLSIA BALLINGER (2010)

Returned Peace Corps Volunteer, Malawi (2011-13)  
Conservationist II

California Conservation Corps  
Ukiah, NV

*"After graduating from HSU with a BA in Geography in 2010, I joined the Peace Corps and served in Malawi as a Community Based Natural Resource Manager from 2011-13.*

*After studying the elements of Geography and putting theory to practice in the Peace Corps, this solidified for me that human and environmental rights go hand in hand and serving the needs of both is imperative to a healthy existence. I feel lucky to have a career which allows me to work at the cornerstone of human development and environmental conservation."*



## Kirsten Ray (2012)

Returned Peace Corps Volunteer, Mongolia (2014-16)  
Program Analyst, US Department of Housing and Urban Development  
Portland, OR

*"Being part of the HSU Geography Department means being immersed in a strong community of passionate people. The connections I made in this department are*



*certainly lifelong. I've been able to use my Geography degree in many ways—primarily as a valuable lens through which to view the world. I am thankful and grateful to the department faculty who went above and beyond their roles as mentors. They ensured an incredible education and supported me in my continued academic and professional endeavors."*



## DANIELLE TIJERINA (KREUZER) (2010)

PhD Student, Hydrologic Science and Engineering  
Colorado School of Mines, Golden, CO



*"The HSU Geography Department helped shape me not only as a professional, but as a human. The department was a truly cohesive community, where we were encouraged to push our educational limits and explore beyond our learned perspectives. In*

*particular, my experience in the China and Tibet program with Tony Rossi influenced me in ways I never thought possible and has continued to inspire me to have a more open and inquisitive worldview."*

## YANG YANG (2011)

Postdoctoral Research Fellow  
Asia Research Institute  
National University of Singapore



*"HSU Geography opens up many new possibilities for students to become critical thinkers. Professors and students, with a wide range of academic background and interests, collaborate to foster an inclusive learning environment. The ability to understand differences and to think about them in a relational way will benefit the students in the long term."*

## AARON TAVERAS (2012)

GIS Program Manager  
Nevada Division of Forestry  
Carson City, NV

*"I truly enjoyed my time in Humboldt State Geography and have fond memories of the people and experiences that made my education so valuable. The skills and connections I made at HSU have allowed me the opportunity to do what I love in my career, and I wish HSU Geography all the best."*

## PAUL CASTANEDA (2013)

Utility Forester (GIS)  
CN Utility Consulting  
Los Angeles, CA

*"I encourage current Geography students to establish an academic rapport with your professors, seek out internships, and get involved*



*in research and clubs affiliated with the department. Put your passions to work. I enjoyed my first few jobs after graduation—and I have my studies at HSU Geography to thank for it—because they allowed me to travel throughout California while getting paid and earning relevant work experience. Don't shy away from opportunities in your career—I got my first internship at Sequoia National Park from networking with a fellow Geography student. Gathering as many skills and building a professional network makes you a versatile candidate for the next step in your career."*

## Emanuel Delgado (2014)

Tenure-Track Geography Faculty  
Reedley College, Reedley, CA

*"HSU Geography professors will open many doors for you. Work hard at your craft. Develop your research interests and skills. GIS is a growing field, take full advantage of that training. Visualize what you want, write down your goals, and do it! Disregard obstacles, believe in yourself. Have a strong grounding with family, peers, and a higher power. Love yourself and don't stop moving forward."*





## alumni in focus

## CRISTINA BAUSS (2016)

**C**ristina Bauss was born and raised in Brazil of American parents and has lived in the United States since age 11. A mother at 18, she has worked as a casino housekeeper, room-service waitress, newspaper and radio reporter, bilingual tutor for migrant workers' children, and office minion in more places than she cares to remember. She returned to college in her late 30s and graduated from HSU with a BA in Geography and an Advanced Geospatial Certificate. After graduation, she spent a year as a writer and editor under temporary contract with the US Fish and Wildlife Service. She's currently an Office Technician for the Fortuna District of the California Conservation Corps, where she's unwittingly become an expert in FISCAL, the state's fiscal-management system.

Bauss decided to pursue a career in geography and GIS after interviewing several wildlife trackers during an international tracking conference held in southern Humboldt County (yes, you read that correctly). HSU's reputation for having one of the strongest undergraduate Geography programs on the West Coast did not disappoint her: She felt challenged and enriched in all her coursework (no exaggeration), received more than \$10,000 in scholarships, spent a summer in Washington, D.C. as an intern with the National Geographic Society, and was named Outstanding Student of the Year in 2016-17.

Bauss suggests that Geography majors take advantage of as many field experience and internships—both local and elsewhere—as they can while at HSU. Internships are valuable, especially for students who choose to remain in Humboldt County; finding GIS work in a rural area can be challenging (as she can attest), and her classmates who have succeeded in doing so all had local internships or temporary



positions first. On the flip side, she says, do not be afraid to relocate for an entry-level GIS or any other geography-related position. Why study geography if not to become an explorer?

Bauss credits the Department of Geography and its outstanding faculty for the success she has enjoyed post-commencement. State and federal positions are highly competitive, and the education she received at HSU has been integral in both her day job, which demands incredible accuracy and attention to detail, and in her freelance cartography, including a set of maps for a local healthcare district.



## Hailey Lang (2014)

Regional Planner

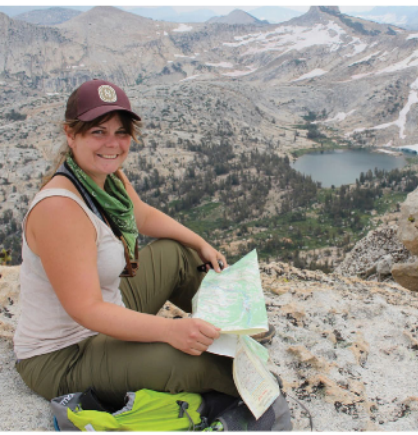
San Joaquin Council of Governments, Stockton, CA

*"My geography degree has directly affected my success as a planning professional. Many planning managers only hire planners with both geography and planning backgrounds, mostly because they make versatile and well-rounded planners. The reasoning for this is that planners that have studied geography have a great understanding of spatiality and regionalism. I have been able to utilize my coursework and research from HSU to analyze and solve in the planning challenges."*



## SARA MATTHEWS (2014)

Program Coordinator  
Tahoe Resource Conservation District  
South Lake Tahoe, CA



*"Joining the Humboldt State University Geography program is one of the best decisions that I've made. The mentorship and support that I received at HSU helped me develop critical thinking skills that undoubtedly have allowed me to succeed – both in my graduate education and in my career. In addition to GIS and cartography, my job calls for a nuanced understanding of the complex*

*issues that surround land management and conservation. There is nothing better for this than Geography. Being a geographer has honed my ability to understand the world around me; for that I am forever thankful."*

## JESSE VAD (2014)

Reporter/Graduate Student  
CUNY Newmark Graduate School of Journalism  
New York, NY



*"The HSU Geography department taught me how to analyze and read landscapes, study relationships between people and place and ultimately led me to my current career path. I'm at an advantage in the field of journalism purely because of those skills I learned at HSU. I'm still in touch with my professors who, years later, continue to guide and mentor me."*

## LUCIA "SUNFLOWER" WITTENBERG (2014)

Returned Peace Corps Volunteer, Nepal (2016-18)  
Agriculture Marketing Specialist  
US Department of Agriculture



*"The professors of the HSU Geography department showed me a true map of the world. From that map I learned that a place is not just space on a map. And a map is not just a projection of space, but rather another lens through which history, nature, and culture can be understood and explored. HSU Geography inspired me to chart my own map of the world."*

## KRISTOPHER ANDERSON (2015)

Development Lead  
Alpine Land Information Services  
Bend, OR

*"HSU gave me the foundational skills in Geographic Information Systems I needed to launch my career. This led me to not just GIS but project management and software development. Currently I am leading a team of programmers to create an entirely proprietary GIS. Understanding geography has changed my life.*

*Human behavior and physical science are brought together to describe our world. This foundational knowledge has helped me professionally and privately to grow and succeed at many pursuits."*



## Albert Gonzalo Bautista (2015)

Geospatial Technical Program Manager I  
Uber, Palo Alto, CA

*"HSU Geography gives you access to a community that will help you grow your interests and professional career. Geography provides a unique set of concepts, theories, and methods that lead to developing a dynamic array of skills that apply to various career paths in government, technology, and more! It was my training at HSU Geography that provided me with the skills and knowledge needed to tackle a career starting as a GIS Data Analyst, then promoted to Technical Program Manager at Uber."*





## SARAH SERBIN (2015)

Global IT Communications Coordinator  
Karl Storz Endoskope SE & Co. KG  
Los Angeles, CA

*"HSU Geography helped me develop a global mindset and necessary skillset to adapt in a rapidly changing environment. The mixture of technical and critical thinking skills gained from this degree provides a unique perspective, which can be used to your advantage. Pursue an interest, or a few, never stop learning and lava what you do."*



## ERIK C. KENAS (2016)

Geographer  
US Fish and Wildlife Service  
Arcata, CA

*"As a Geographer (GS-0150), I support Biologists and Botanists with spatial data to make decisions about species conservation. Geography's strength, to me, is that it understands physical science does not provide every solution. Geography's concern with both the physical Earth and aspects of human culture can allow for more informed decision-making regarding humans' use of resources."*

## NATHANIEL A. DOUGLASS (2017)

Master's Student, Department of Geography  
University of Oregon  
Eugene, OR

*"With my HSU Geography degree I've been able to work for a handful of great companies, and I was able to create my own business doing freelance cartography. I'm currently working on some amazing projects in the Cascades of Oregon all while pursuing a master's degree in Geography at the University of Oregon. My time at Humboldt State has given me the opportunity to work in some amazing places with some amazing people. I owe much of my success to the dedicated HSU Geography faculty!"*



*Jocelyn (left), as a Peace Corps volunteer, works with a resident of Manyara, Tanzania on a community mapping project.*

## Jocelyn Keranen (2013)

Project Specialist  
Beacon Health System



JOCELYN KERANEN from HSU with a bachelor's degree in Geography in 2013. Afterward she joined the Peace Corps, serving 2014-17 in Tanzania as a volunteer in environmental science. Jocelyn went right from the Peace Corps into graduate school at the University of Notre Dame, where she earned a Master of Science degree in Global Health. Her thesis consisted of a qualitative study examining access to mental healthcare among people living with HIV. Jocelyn is now employed with Beacon Health System in northern Indiana as a project specialist. Her work consists of four priority areas: maternal/child health, obesity, mental health, and substance use. In these priorities, Jocelyn collaborates with community partners to build upon their capacity to serve vulnerable populations. "I regularly use the skills I learned from the HSU Geography Department during my work, whether it's analyzing data, writing a grant, or thinking through the lens of cultural geography when developing a new program. I regularly draw on my geographic education to make decisions around program development, implementation, and evaluation," Jocelyn says. "What I love most about my job is the ability to work with programs from all different sectors, from housing the homeless to park development for improved safety and physical activity."

daniel blazich



# TO BE A GUIDE IN THE MOUNTAINS, AMONG THE PUMAS

mithra derakshan (2018)

After moving to Topanga in mid-September 2019, I started working for Santa Monica Mountains National Recreation Area as a Park Guide on October 28, 2019. As a native Angelino I was extremely excited to work for the Park Service in my hometown. Shortly thereafter, on November 8, 2019, the park and the county of Los Angeles experienced the largest wildfire in its recorded history, the Woolsey fire. The fire jumped two major highways, the 101 and the Pacific Coast Highway in less than seven hours. In the final accounting damage was inflicted on more than 96,000 acres of the 150,000-acre recreation area. Within the final containment lines, 1,500 structures were damaged, 88 percent of federal lands were affected, three lives were lost and an incalculable amount of emotional damage was done as well.

Let's just say I had a rough start...

Yet through these extreme circumstances I learned how to overcome obstacles and focus on the important mission of the Park Service: preserving unimpaired the natural and cultural resources and values of the National Park System for the enjoyment, education and inspiration of current and future generations.

This National Park unit is unique for countless reasons. I could spend all day sharing about why I think it is one of the coolest places on Earth. It is the largest area that protects and preserves the extremely rare Mediterranean ecosystem. With the Mediterranean ecosystem having a climate of hot dry summers and cool wet winters, it is an ideal place for human population and so these regions of the world tend to be some of the most populated, creating some unique issues in managing this large urban park.



*Sherry Ferber, author of P22: The Journey, dropped by the visitor center. Ferber's dedication to the animal is visible in the mountain lion tattoo on her right bicep.*

Within the recreation area there are over 60 different organizations attempting to manage and conserve the land, along with many private landowners. As California Representative Brad Sherman stated in 2001, "This park is at the fringes of the Los Angeles metropolitan area, with over 33 million visits to the beaches and mountains every year." One out of 17 Americans, roughly half of all Californians, lives within an hour's drive of this place, where the mountains meet the sea. You can hike, mountain bike,





*Left: My first puma hike with 15 visitors guided to the top of Inspiration Point at King Gillette Ranch.  
Right: Fresh puma track found after a light rain at King Gillette Ranch (photos courtesy of author).*

**‘I put on the NPS uniform and head into the park knowing that what I do for work does not feel like work at all.**

take a scenic drive, surf, fish, rock climb, horseback ride or search for rare birds all in one day. This park is also considered a biodiversity hotspot and protects many endemic and threatened species.

Among these threatened species is Los Angeles’ very own local population of California mountain lions, *Puma concolor*. The California mountain lion, or cougar or puma (this mammal has over 40 different common names just in North America) is not low in number in the entire state of California. Estimates suggest there may be anywhere between six thousand and eight thousand of these big cats in California alone. This animal’s range spans from the Canadian Yukon to the southern Andes in South America and is the widest of any large wild terrestrial mammal in the Western hemisphere. Yet, the local population of cougars in the park is struggling to survive in this highly urbanized and fragmented landscape.

Wildlife biologists from the National Park Service have studied over 70 mountain lions in the park and surrounding areas since 2002. Through studies, that include the use of GPS radio collars, wildlife cameras throughout the park, and field data collection, researchers have been able to identify some of the cats’ key struggles. As of today, there are six

adult pumas affixed with GPS collars, and biologists believe the region can sustain anywhere from 10-15 sub adult/adult mountain lions. One of the biggest issues is that the local population is trapped on an “island of habitat,” unable to disperse to find their own home range because they are surrounded on all sides by large barriers of development, mainly large highways. This creates low genetic diversity within the population, and a high amount of intraspecific conflict: mountain lions killing each other over territory. Most adult/sub-adult males do not make it past the age of three, though the natural lifespan of wild mountain lions is ten years. These mountain lions also face the threat of being hit by cars when attempting to disperse. They are also negatively affected by second generation anticoagulant rodenticides, or rat poison. In the study, 21 out of 22 mountain lions tested positive for up to six different types of rat poison, with two passing away in the last six months from rodenticides poisoning.

One of the long-term solutions for some of these serious issues is a proposed wildlife crossing on the I01 freeway near the Liberty Canyon area. NPS wildlife biologists believe this will allow new mountain lions to join this population and add their



unique genetic material, while also allowing mountain lions to disperse from the recreation area to northern open spaces and natural areas. The proposed wildlife crossing will be the largest one in the world, crossing over ten lanes of one of the busiest highways in the nation. Many non-profit organizations are also attempting to push for a ban on second generation rat poisons through the California AB1788 bill, but are facing opposition from pest control lobbyists.

I was so lucky to have the amazing experience of being able to interview two of the biologists who have been working on this study since its inception, and they outlined the most important issues the mountain lions are facing. Through this interview, hours of research, attending community forums, and speaking with local conservation groups and residents, I have created my own program to convey the information to the public visiting the park. My program is a 3.5-mile hike through Zuma Canyon in Malibu titled “Pumas at Zuma.” I share the information that I organized into a formal National Park Service program with visitors of all ages and backgrounds. I do a bit of facilitated dialogue, pair and share, and questioning of the audience to keep the audience engaged. I also display props of the GPS collars, wildlife cameras, puma tracks, puma scat, and laminated photos of the proposed wildlife crossing and famous pumas.

Through this work I hope to give visitors the information to understand and care about this precious resource, and hopefully one day care for this resource. It is the most gratifying feeling when I put on the NPS uniform and head into the park knowing that what I do for work does not feel like work at all.



*The world-famous Hollywood mountain lion in Griffith Park, named P-22 because he is the twenty-second puma in the study (photo by Steve Winter of National Geographic, used with permission).*



*Sandstone Peak after the Woolsey Fire. This is what the view looked like on the drive to first day at work guide at the Santa Monica Mountains National Recreation Area (photo by author).*

MITHRA SAYS: “I help visitors from all over the world understand the unique natural and cultural treasures of the region. I always wanted to work for the Park Service, and I wouldn’t have been able to do it without Humboldt Geography. HSU Geography professors connected me to an internship at Redwood National Park during my first semester, and the skills I learned during this time—endurance, commitment, teamwork—are ones integral to my work today. HSU Geography helped me believe in myself and accomplish my dreams.”



