

WEC SPOTLIGHT

FEBRUARY 2021

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About Our Cover Photo:

A view looking up to the peak of Salkantay, the highest peak of the Vilcabamba mountain range in the Peruvian Andes. SNRE doctoral student David Klinges and advisor Dr. Brett Scheffer had their research on how microgeography drives climate overlap on mountains recently published.

Learn more on page 11.

Photo Courtesy of David Klinges

Welcome to WEC!



Photo courtesy of Costanza Manes

New PhD Students...

Costanza Manes joins the WEC doctoral program this spring under the co-advisement of Drs. Ray Carthy, Assistant Unit Leader, FL Cooperative Fish and Wildlife Research Unit, and Ilaria Capua, Director, UF One Health Center of Excellence. Born in Rome, Italy, Costanza earned a BS in zoology in 2017 at Queen Mary University, London, where she studied the effect of changing freshwater environments on niche takeover from invasive gammarids. She obtained her MS

in conservation science in 2018 at Imperial College, London, where she focused on conservation linked to wildlife diseases, in particular how epidemiology of certain outbreaks can be exacerbated by anthropogenic activity and global change. In a remote corner of Costa Rica, Costanza examined the role human/wildlife interface plays in gastrointestinal disease transmission and severity between humans and two species of primates, spider and howler monkeys, for her thesis project. She became interested in the Fibropapillomatosis disease of green sea turtles while working at the UF One Health Center of Excellence for the past two years, and she will continue to study that disease as a doctoral student. She enjoys hiking, scuba diving, jigsaw puzzles, and practicing capoeira.

Welcome to WEC, continued...



Photo courtesy of Fatima Ramis

Fatima Ramis joins the WEC doctoral program under the co-advisement of WEC Assistant Professor Dr. Nia Morales and WEC Assistant Research Professor Dr. Matt Hallett. Fatima received her BS in biology in 2017 from Stetson University, Deland, FL, where she conducted research on maternal behavior and body condition scores of pigmy rattlesnakes. She earned her MS in biology in 2019 from the University of North Florida, Jacksonville, FL, where she researched environmental design of giraffe habitats in relation to guest interactions and social network structure of zoo-housed giraffes.

Fatima has worked with Rare, a conservation organization that supports and conducts impact analysis for small social media marketing campaigns focused on agroecological solutions to biodiversity threats. She is employed by Jacksonville Zoo and Gardens as a Wildlife Wellness and Research Officer, implementing animal welfare science frameworks to animal management. Fatima's doctoral research will focus on human dimensions of natural resource management, particularly on how environmental parks, zoos, and museums engage stakeholders in community participation. In her spare time, Fatima enjoys spending time with animals outdoors and reading in coffee shops.

Welcome to WEC, continued...



Photo courtesy of Kimberly Farase

New MS Students...

Kimberly Farase begins her WEC MS program this spring under the advisement of Dr. Katie Sieving. A native of Pensacola, FL, Kimberly attended the University of West Florida, Pensacola, FL, where she earned a BS in environmental science with minors in geographic information science and anthropology in 2018. Following graduation, Kimberly joined the Student Conservation Association (SCA) and served the Northwest Florida community through various projects, such as constructing breakwater oyster reefs for shoreline restoration and working as a burn crew team member to assist in habitat improvement for threatened and endangered species. Additionally, she has worked with herps while serving as Marine Turtle Program Assistant with the National Park Service and aiding in the management of gopher tortoises for Naval Air Station Whiting Field. As a graduate student in WEC, she intends to dive deeper into the topics of spatial ecology and human dimensions in wildlife conservation. In her free time, Kimberly enjoys traveling, playing music (violin, guitar, and ukulele), and creating nature-inspired art.

Kaili Gregory joins the WEC MS program under the advisement of Dr. Conor McGowan, Assistant Unit Leader, FL Cooperative Fish and Wildlife Research Unit. Kaili was raised in Washington, DC and earned her BS with distinction in research in environmental and sustainability sciences from Cornell University, Ithaca, NY, in 2020. At Cornell, she concentrated in environmental biology and applied ecology and earned minors in development sociology and climate change.



Photo courtesy of Kaili Gregory

Welcome to WEC, continued...

During her undergraduate career, she conducted research and completed an honor's thesis studying salinity effects on oyster reproduction in the Hudson River Estuary. This two-year project stemmed from a fellowship with the Hudson River Foundation and a collaboration with Dr. Matthew Hare. Post-undergraduate, Kaili interned with the Crustacean Ecology Lab at Mote Marine Lab in Sarasota, FL, where she studied how red tide impacts stone crab reproduction. At UF, she will work on population modeling and analysis of two species of western pond turtle as a part of a Species Status Assessment. Kaili will collaborate with species experts, US Fish and Wildlife Service, and USGS on her research. In her spare time, she enjoys scuba diving, sports, hiking, and playing soccer.



*Kaili Gregory on a dock along the Hudson River in New York City holding one of the cages that housed the experimental Eastern oysters (*Crassostrea virginica*), which she studied for her undergraduate thesis research. **Photo courtesy of Kaili Gregory***

Anna Harding begins her WEC MS program under the advisement of Dr. Katie Sieving. From Tampa, FL, Anna earned her BA in psychology from the University of South Florida, Tampa, FL in 2013. As an undergraduate, she worked as a research assistant within the department exploring the relationship between cortisol release and diet restrictions. Anna also attended Florida State University, Tallahassee, FL, where she earned



Photo courtesy of Anna Harding

her master's degree in social work in 2015. Since then, she has worked within an acute hospital setting as a medical social worker. Through this experience, Anna gained a deeper understanding of the complexities of connection, the importance of personal decision, and the fragility of life; issues that she began seeing on a grander scale through habitat loss and human/wildlife interaction while volunteering with organizations such as Chattahoochee Riverkeeper in Atlanta, GA. At UF, Anna plans to study social systems that impact wildlife conservation and associated quantitative tools

Welcome to WEC, continued...

to advance understanding of these interactions. She will apply principles often used in social work to enhance community engagement and education surrounding wildlife conservation efforts, especially in developing countries. Anna enjoys, running, hiking, baking, travel, and Disney-ing.



WEC MS student Sean Manz in the field at the Ordway-Swisher Biological Field Station during Dr. Katie Sieving's WIS 45470 Avian Field Research course.

Photo courtesy of Sean Manz

Odile Maurelli begins her WEC MS program under the advisement of Dr. Katie Sieving. Odile earned her BS with distinction in research from Cornell University, Ithaca, NY in 2017, where she completed an honors thesis on differential migration in herring gulls. As an undergraduate, she had her first avian research experience as a technician on a superb lyrebird project in Katoomba, New South Wales, Australia. Since graduation, Odile has worked with various avian species through projects

Alumnus **Sean Manz** (RCN BS '20) joins the WEC MS program under the advisement of Dr. Katie Sieving. From Caruthersville, MO, Sean separated from the US Navy in 2019 and earned his BS in Natural Resource Conservation from the University of Florida in 2020. His MS research will test non-lethal laser deterrents on avian species to reduce damage to crops and measure avian behavior when introduced to visual deterrents. Sean's research will be an experimental study tested on site at the USDA APHIS Florida Field Station, where he will compare avian behavior in planted corn crops and artificial crops in the presence or absence of the laser deterrent. In his free time, Sean enjoys all things outdoors – trail running, hiking, rock climbing, fishing, hunting, and disc golf, as well as college football.



WEC MS student Odile Maurelli holds a juvenile pukeko while working at the Tawharanui Regional Park in New Zealand.

Photo courtesy of Odile Maurelli

Welcome to WEC, continued...

around the world. While working on a long-term acorn woodpecker study at the Hastings Natural History Reservation in Carmel Valley, CA, she became passionate about cooperative breeding. This passion led her to Tawharanui, New Zealand and, most recently, to the remote Kimberley region of Western Australia to work on projects studying cooperative breeding and group living in avian species. For her UF MS program, Odile plans to continue studying cooperative breeding, focusing her research on the behavioral ecology of helping behavior in the Florida scrub-jay.

Alumnus **Sean McKnight** (WEC BS '16) returns to WEC and joins the graduate studies program under the co-advisement of Drs. Steve Johnson and Bryan Kluever. From the small town of Hermitage, PA, Sean earned his BS in wildlife ecology and conservation from UF in 2016. As an undergraduate, he volunteered at the USGS conservation genetics lab, the Ashton Biological Preserve, and with the Florida Fish and Wildlife Conservation Commission. Sean held a summer internship working for USGS in Everglades National Park performing invasive Burmese python and Argentine black and white tegu surveys. After graduation, he volunteered to study herpetofauna diversity in Indonesia, and stayed to work in Florida after he returned. Sean worked as an environmental specialist at Camp Blanding Joint Training Center conducting gopher tortoise surveys, banding and monitoring red-cockaded woodpeckers, and carrying out prescribed burns. He then took a position surveying alligators with FWC and later became the primary field biologist for the FWC Coastal Dunes Crowned Snake Project.

Always incredibly passionate about reptiles and amphibians, Sean gained an interest in Florida's invasive herpetofauna while taking Dr. Johnson's WIS 4934 Invasion Ecology of Amphibians and Reptiles course and during his USGS python and tegu internship. Sean's research will investigate the ecology, burrowing behavior, and management of invasive black spiny-tailed and green iguanas in Florida. In his spare time, Sean enjoys photography, travel, music, and cooking. He raises chickens, tends his garden, and has played guitar in his rock band Rx Fire for three years.



WEC MS student Sean McKnight with a Mombacho salamander in the Mombacho Volcano Natural Reserve, Nicaragua. *Photo courtesy of Sean McKnight*

Welcome to WEC, continued...



WEC MS student Carson Torhorst displays his favorite fish, a native musky, caught last summer in northern Wisconsin.

Photo courtesy of Carson Torhorst

Carson Torhorst joins the WEC MS program under the advisement of Dr. Samantha Wisely. From the small town of Oregon, WI, Carson earned his BS in 2019 from St. Norbert College in Green Bay, WI. While an undergraduate, he worked in a fish parasitology lab studying parasites of the burbot, a native fish of Lake Michigan and other northern bodies of freshwater. In the Wisely lab at UF, Carson will study recent human infections of *Trypanosoma cruzi* in Florida. He plans to conduct a wildlife survey to understand potential reservoir host(s) for this parasite since it can have deleterious effects on human health. For relaxation, Carson enjoys all activities outside, including hiking, camping, fishing, and hunting. He is also an avid fan of college football and all things Packers.

Moving on...

WEC doctoral candidate **Wes Anderson** successfully defended his dissertation entitled “Impacts of an Invasive Ecosystem Engineer on Wetlands and Aquatic Communities across a Subtropical Agroecosystem” and received his doctoral degree this fall. He accepted a tenure-track position with Auburn University and began as an Assistant Professor and Extension Specialist with the School of Forestry and Wildlife Sciences in January. Dr. Anderson was advised by Dr. Raoul Boughton.

SNRE doctoral candidate **Ellen Bledsoe** successfully defended her dissertation entitled “The Role of Patch- and Landscape-Level Processes in Shaping Desert Rodent Communities” and received her doctoral degree in December. Dr. Bledsoe was advised by Dr. Morgan Ernest.

Moving on, continued...

WEC doctoral candidate **Vratika Chaudhary** successfully defended her dissertation entitled “State Uncertainty across Scales - from Pathogens in Individuals to a Community of Mammals in Northeast India” and received her doctoral degree this fall. She is now a post-doc at Penn State University, working with Dr. David Miller of Penn State and Dr. Evan Grant of the USGS Patuxent Wildlife Research Center on applying decision science to the management of wildlife infectious diseases. Dr. Chaudhary was co-advised by Drs. Madan Oli and Varun Goswami.

SNRE doctoral candidate **Jessica Hightower** successfully defended her dissertation entitled “The Response of Bird Communities to Logging, Fragmentation, and Conversion to Oil Palm Plantations in Borneo” and received her doctoral degree in December. Dr. Hightower was advised by Dr. Rob Fletcher.

SNRE doctoral candidate **Kwanmok Kim** successfully defended his dissertation entitled “How Do Refuge Shape, Abundance, and Arrangement Affect Species Diversity in an Oyster Reef System” and received his doctoral degree this fall. Dr. Kim was advised by Dr. Peter Frederick.

SNRE doctoral candidate **Sergio Marconi** successfully defended his dissertation entitled “Disentangling the Role of Ecological Drivers on Forest Biological Dimensions across Scales” and received his doctoral degree in December. Dr. Marconi was advised by Dr. Ethan White.

SNRE doctoral candidate **Zoe Nhleko** successfully defended her dissertation entitled “Understanding and Responding to South Africa's White Rhino Poaching Crisis” and received her doctoral degree in December. Dr. Nhleko was advised by Dr. Bob McCleery.

SNRE doctoral candidate **Cristina Nunez Godoy** (SNRE MS '16) successfully defended her dissertation entitled “Improving Payments for Ecosystem Service Programs in a Global Deforestation Hotspot: The Gran Chaco of Argentina” and received her doctoral degree in December. Christina recently accepted a joint postdoctoral position with the Argentine’s National Scientific and Technical Research Council (CONICET) and the Catholic University of Salta (UCASa) for the next two years. She will be working with private landholders, local and state governmental and non-governmental agencies, research scientists, and academics to promote voluntary conservation of the Chaco Forest of Argentina. Dr. Nunez Godoy was co-advised by Drs. Elizabeth Pienaar and Lyn Branch.



Photo courtesy of Zoe Nhleko

Moving on, continued...

SNRE doctoral candidate **Elizabeth White** (SNRE MS '14) successfully defended her dissertation entitled “Population Characteristics, Movement Behavior, and Resource Selection of Florida Burrowing Owls Breeding in Suburban and Pastureland Habitats” and received her doctoral degree this fall. Dr. White was advised by Dr. Raoul Boughton.

WEC MS student **Annalee Tweitmann** successfully defended her thesis entitled “Interactive Effects of Salinity, Temperature, and Inundation Time on the Survival and Growth of the Eastern Oyster, *Crassostrea Virginica*” and received an MS degree this fall. Annalee was co-advised by Drs. Peter Frederick and Bill Pine. She plans to work for a natural resource agency.

Milestones...



Maggie Jones doing fieldwork while in South Africa and Eswatini (left and below). Photos courtesy of Maggie Jones

SNRE doctoral student **Maggie Jones** successfully completed her qualifying examination and advanced to candidacy in September. Her dissertation proposal is entitled “Plant-herbivore interactions in African savannas: Assessing the impacts of changing herbivory on savanna trees in southern Africa.” Maggie is co-advised by Drs. Rob Fletcher and Bob McCleery.



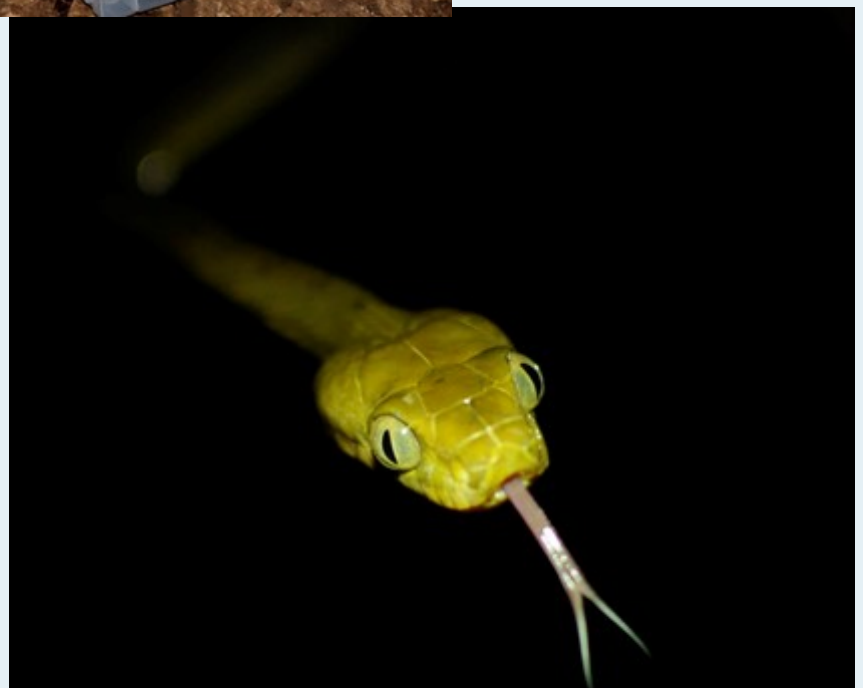
Publications & Papers...

SNRE doctoral candidate **Natalie Claunch** has a dissertation chapter entitled “Understanding metrics of stress in the context of invasion history: the case of the brown tree snake (*Boiga irregularis*)” in press with *Conservation Physiology*. She also is sole-author of “Field-based Thermal Physiology Assay: Cold Shock Recovery Under Ambient Conditions,” which has been accepted for publication in the *Journal of Visualized Experiments*. Natalie is co-advised by Drs. Christina Romagosa and Robert Reed.



Left picture: Natalie Claunch working in the field.

Photo credit Peter Xiong



Right picture: Brown tree snake.

Photo courtesy of Natalie Claunch

Publications & Papers, continued...



Mount Mayon towers above rice paddies on the island of Luzon in the Philippines. Photo courtesy of Brett Scheffers

SNRE doctoral student **David Klinges**, along with his advisor Dr. Brett Scheffers, have published their manuscript entitled "Microgeography, Not Just Latitude, Drives Climate Overlap on Mountains from Tropical to Polar Ecosystems" in *The University of Chicago Press Journals*: <https://www.journals.uchicago.edu/doi/full/10.1086/711873>. Their work was a global synthesis of thermal data across 29 mountain ranges and cumulative centuries of time, that critically re-evaluates a classic ecology paper (Dan Janzen's "Why mountain passes are higher in the tropics") to reveal the important role of the local environment for determining what temperatures an organism are exposed to, and, therefore, what climates they can tolerate. The American Society of Naturalists also posted a press release for the article: <https://amnat.org/an/newpapers/Jan-Klinges.html>.

SNRE doctoral candidate **Ben Lowe** collaborated with others from UF, USGS, and UN FAO on a publication that appeared in the *Proceedings of the National Academy of Sciences* in November.

Stokes, G. L., Lynch, A. J., Lowe, B. S., Funge-Smith, S., Valbo-Jørgensen, J., and Smidt, S. J. (2020). COVID-19 pandemic impacts on global inland fisheries. *Proceedings of the National Academy of Sciences*. DOI: [10.1073/pnas.2014016117](https://doi.org/10.1073/pnas.2014016117).

Publications & Papers, continued...

WEC doctoral candidate **Christian Rivera**, along with his colleagues from Columbia University and the American Museum of Natural History, had his MS research published in an article entitled "Assessing Ecological and Social Dimensions of Success in a Community-based Sustainable Harvest Program" in the journal *Environmental Management*. The full citation is: Rivera, C.J., Macey, S.K., Blair, M.E., & Sterling, E.J. (2021). Assessing Ecological and Social Dimensions of Success in a Community-based Sustainable Harvest Program. *Environmental Management*: <https://doi.org/10.1007/s00267-021-01425-6>.

WEC MS student **Madison Harman** has published "Attempted predation of *Siren lacertina* (Linnaeus, 1776) and *Nerodia taxispilota* (Holbrook 1838) and a review of herpetofaunal mortality in collapsible mesh-minnow traps" this January in *Herpetology Notes*. The paper is a literature review of herpetofaunal mortality associated with the use of collapsible mesh minnow traps for surveying. From the literature, Madison and her colleague Hunter Howell found that the use of this trap type has increased significantly over the last 30 years, indicating its utility; however, there are several inherent risks to wildlife of which researchers should be aware and strive to avoid during sampling. Madison is advised by Dr. Christina Romagosa.

Presentations & Workshops...

SNRE doctoral candidate **Natalie Claunch** presented research entitled "Invaders Sourced from Islands: Thermal Matching, Potential or Plasticity?" highlighting recent collaborative work with alumnus **Colin Goodman** (WEC MS '20) and others at the Society of Integrative and Comparative Biology Annual Meeting (virtual) in late January. Natalie is co-advised by Drs. Christina Romagosa and Robert Reed, and Colin was advised by Dr. Christina Romagosa.

WEC doctoral candidate **Carrie De Jesus** presented "Reptile hosts of *Ixodes scapularis*: What role do reptiles play in the epidemiology of Lyme disease in the southeastern US?" at the American Society of Tropical and Medicine and Hygiene Annual Meeting (ASTMH) in National Harbor, MD in November. She gave the same presentation at the Fifth Annual Archbold Research Symposium (virtual) in December.

Awards & Scholarships...

WEC doctoral candidate **Carrie De Jesus** received the second place presentation award for Acarology (\$400) for her presentation on “Ticks in Museum Collections: Reptiles Specimens are an Untapped Resource” for the Mite-y Women Symposium during the Entomological Society of America Annual Meeting in November. Carrie is co-advised by Drs. Sam Wisely and Gregory Glass.

Dr. Bob McCleery received a USDA Regional 2020 Excellence in College and University Teaching Award for Food and Agricultural Sciences in recognition of scholarship, exemplary pedagogy, and dedication to instruction among public and land-grant university faculty in November.

Alumni & Other News...

Alumna **Dr. Marcela Marquez** (SNRE PhD '17) received a postdoctoral grant from FONDECYT, the Chilean National Fund for Scientific and Technological Development, to study collaboration processes and collective action for urban wetlands conservation in the south of Chile. Marcela will focus on the city of Valdivia, where she currently lives, to understand social practices and socio-ecological transformations in different wetlands within the city. This three-year project, conducted through the Rio Cruces Wetland Center, Universidad Austral de Chile, will begin in mid-April 2021. Marcela was advised by Dr. Susan Jacobson.



*Aerial picture of the Valdivian wetlands in Chile.
Photo credit: Jorge Tomasevic*

Dr. Marcela Marquez (left) and her spouse Dr. Felipe Hernandez (right) (SNRE PhD '17) have been homeschooling lively 3-year-old daughter Simona during the pandemic. Photo courtesy of Dr. Marcela Marquez

Alumni & Other News, continued...

Alumnus **Alejandro Pietrek** (WEC MS '09) is among the first 5 field biologists awarded \$100,000 each by the Maxwell/Hanrahan Foundation. This foundation, which made its first awards in 2020, supports innovative people working in field-based science. Alejandro received this award for his research on climate change and conservation of birds and mammals in the high Andes of northern Argentina. He currently is a research scientist with Institute of Bio and Geosciences of the National Science Council of Argentina (CONICET), Salta, Argentina. Alejandro was advised by Dr. Lyn Branch.

WEC MS student **Keara Clancy** (WEC BS '20) reports that UF's Natural Resources Diversity Initiative (NRDI) has continued to implement safe practices due to COVID-19, bringing "socially distanced" outreach to diverse groups of schoolchildren via science kit deliveries! Between February and May 2021, NRDI will deliver 250 science kits, ranging from dinosaur excavation to DNA extraction, to four community partners throughout Gainesville: Albert Ray Massey Recreation Center, Eastside Community Center, Porters Community Center, and Phoenix Community Center.



DDCSP scholar Mariaguadalupe Vilchez at the 2019 CALS TailGator Event as a representative of UF's Chapter of The Wildlife Society. *Photo credit: Katrina Rossos*



DDCSP scholar Jazmyn Broxton is interested in marine and aquatic environments. *Photo courtesy of Doris Duke Conservation Scholars Program*

WEC undergraduates **Jazmyn Broxton** and **Mariaguadalupe Vilchez** were recently featured in a UF/IFAS blog piece about the Doris Duke Conservation Scholars Program, see <http://blogs.ifas.ufl.edu/cals/2020/12/10/getting-to-know-the-doris-duke-conservation-scholars-in-cals/>.

Both students are first-year DDCSP scholars and work with WEC MS student Laura Nicholson on her thesis research focused on habitat preferences of varying species. Jazmyn and Mariaguadalupe are advised by Dr. Christina Romagosa and Laura is advised by Dr. Holly Ober.

Alumni & Other News, continued...

WEC's **Dr. Peter Frederick** has retired and received Professor Emeritus status as of this February. An in-person event to celebrate his career will happen later this year. Dr. Frederick also received the Everglades Champion Award from Audubon Florida at the 2020 Audubon Florida Virtual Assembly in recognition of his exceptional conservation efforts over his long career. Full details of this award can be viewed on <https://fl.audubon.org/news/conservation-leaders-recognized-2020-audubon-florida-virtual-assembly>.



Dr. Peter Frederick, working in the field, has retired as a research professor and received Professor Emeritus status in the Department of Wildlife Ecology and Conservation. Photo credit: UF/IFAS Communications

About this Issue...

This issue of the WEC Spotlight was edited and produced by Katrina Rossos and Claire Williams. The next issue will be released in May 2021. Please send submissions for the May issue by April 15, 2021 to ccwillia@ufl.edu.

Want to promote your new research, field work, internship, or alumni news on WEC's social media platforms? Please send submissions to krossos@ufl.edu.

Follow us on Facebook at [@UFIFASWildlife](https://www.facebook.com/UFIFASWildlife), on Twitter at [@UFWildlife](https://twitter.com/UFWildlife), and on Instagram at [@UFWildlifeOfficial](https://www.instagram.com/UFWildlifeOfficial).



WEC undergraduate student Mariaguadalupe Vilchez captured this still image from one of the game cameras that master student Laura Nicholson set up in southwest Florida's Picayune Strand State Forest. *Photo courtesy of Mariaguadalupe Vilchez*