

NEXT-GEN WOLF CONSERVATION

BOONE AND CROCKETT FELLOW
ALEJANDRA ZUBIRIA PEREZ USES
COLLABORATIVE DATA SHARING
TO SHED LIGHT ON WOLVES IN
THE GREAT LAKES

KASEY RAHN

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In certain circles, mentioning wolves is like shouting “fire” in a crowded theater. But the dissonance surrounding these animals doesn’t scare Boone and Crockett Fellow Alejandra Zubiria Perez (Ale, pronounced Allie, to her friends), a research assistant and doctoral student at Michigan State University. Instead, she’s drawn to large carnivores, contentious species, and research surrounding human-wildlife conflict.

Through a series of interconnected studies, Zubiria Perez’s Ph.D. research aims to identify mortality drivers of gray wolves (what kills them) in the Great Lakes region. Using that data, she is researching how mortality influences population and pack dynamics. The work

will provide sound science for state and federal decision-making about wolf management.

For the first chapter of her dissertation, published in *Scientific Reports*, Zubiria Perez and co-authors explored how legal wolf harvest impacted reproduction and pack persistence—did the pack stay together or disband? Working in collaboration with the Wisconsin Department of Natural Resources and the United States Department of Agriculture Wildlife Services program, Zubiria Perez examined data from howl surveys and Wisconsin’s wolf monitoring program. This included information from legal wolf hunting seasons in the state from 2012 to 2014 when wolves in the Great Lakes

region were briefly removed from protection under the Endangered Species Act (ESA). Currently, Great Lakes wolves are listed on and federally protected under the ESA, which does not allow harvest of the animals.

Zubiria Perez and her co-authors found that pack persistence and reproduction rates were largely stable regardless of harvest. But that’s likely influenced by several factors.

First, harvest in Wisconsin occurred during a season that doesn’t impact breeding or pup-rearing. Mortality was also spread across the state, helping to dilute the effects on individual packs. Zubiria Perez says Wisconsin also has a pretty stable wolf

B&C UNIVERSITY PROGRAMS

The mission of the Boone and Crockett Club University Programs is the development of a diverse community of high-impact wildlife conservation leaders.

Opposite: Zubiria Perez backpacking in Strathcona Provincial Park, British Columbia.

population connected to other populations in Michigan and Minnesota. “These relationships with how wildlife responds to various human influences is all so complex,” she says. “We’re really trying to help inform management decisions, but I like to think it’s one piece of the puzzle.”

MEXICO CITY TO GREAT LAKES

Zubiria Perez’s passion for science began as a curious kid growing up in Mexico City, watching Animal Planet television shows. “I didn’t interact with wildlife growing up at all, but the little information I had on wildlife really interested me,” she says.

She originally planned to become a veterinarian but quickly realized she wanted to focus on research with broader implications for management. “We (humans) have a huge impact on the landscape, and I really wanted to help shed some light on things we can maybe change to improve our relationship with our ecosystem and wildlife within it,” she says.

Zubiria Perez earned a B.S. in biology from the University of British Columbia, where she dipped her toes into research for the first time in a lab studying behavior and cognition in zebrafish, a small fish often used for genetic research. Her master’s work at the University of Victoria focused on understanding

grizzly bear behavior and movement to inform the relocation of problem grizzly bears. Now, as a doctoral student at Michigan State, she’s studying wolves. “Wolves have always been my top species,” she says. “They’re complex in their ecology and in their relationships with humans.”

Zubiria Perez’s doctoral work is supported by the Great Lakes Fish and Wildlife Restoration Act and the Boone and Crockett Club’s University Programs, which funds wildlife conservation research for students around the United States. One major benefit of funding from the Boone and Crockett Club allows her to focus exclusively on her research and fully dedicate herself to her work, she says. She also values the opportunity to join a community of researchers with different backgrounds and specialties, allowing her to broaden her perspective.

“The more I do science, the more I realize how little we know, even with the species that are extremely charismatic and get tons of media attention,” she says. “Everyone knows what

Collecting carnivore scat samples in Isle Royale National Park.



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Transporting deer roadkill for bait to assist the Michigan Department of Natural Resources in wolf trapping for research.

Watching out for wolves in Lamar Valley, Yellowstone, Wyoming.



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a wolf is and has an opinion about wolves and wolf management. [But] there is still so much about them that we don't know."

RESEARCH IMPLICATIONS

Zubiria Perez's research will be critical in helping states understand how to set harvest management regulations and how to distribute that harvest during years when wolves can be harvested in the western Great Lakes states, says Jerrold Belant, Zubiria Perez's advisor and Boone and Crockett Chair in Wildlife Conservation at Michigan State.

Research like Zubiria Perez's helps us separate science from values so we can debate these aspects of wolf management independently, Belant adds. While both have their place, we need to understand which is being discussed and when. Zubiria Perez hopes her science can help provide the information managers need while shedding more clarity on gray wolves as a whole.

Strong science doesn't happen in a vacuum, and Zubiria Perez's research is just one part of a larger collaborative effort. Her current project explores a massive collection of wolf telemetry data collected by federal, state, and tribal partners in Minnesota, Wisconsin, and Michigan—all working together on questions about wolf ecology no

individual could answer alone through data sharing, says Belant. Known as the Great Lakes Wolf Collaborative, Belant and Zubiria Perez say it's the largest database of wolf location and mortality data ever compiled.

Zubiria Perez's inquisitiveness, creativity, and diligence make her a great scientist, Belant says. He adds that when you're working with data as complex as what Zubiria Perez is working with, mistakes are all too easy to make. She does a great job ensuring the integrity of the data—checking, double-checking, and then checking again. She has a sharp mind and learns rapidly.

"Boone and Crockett has been instrumental in ensuring that we integrate sustainable use conservation in all the research we do and helps ensure the studies we do—like Ale's—have direct contribution to people and management," says Belant.

Wildlife biologist Kelsey Bernard first met Zubiria Perez when the two worked together on the Isle Royale Wolf Project, collecting scat and hiking to wolf kill sites in the national park's backcountry.

Bernard recalls a scorching hot day on that Lake Superior island, three days into a backpacking trip when she and Zubiria Perez trekked into a particularly rough field location.

"This site will forever be burned into our memories because it was one of the most brutal to reach," Bernard says. "Despite the difficulty, Ale made sure to follow protocol to the letter, thoroughly scouring the site. What stood out most was her attitude. Through it all, she kept spirits high, never letting the situation get the better of us. It was a perfect example of how she maintains high scientific standards with a positive, team-oriented outlook, making even the toughest moments enjoyable."

After graduation in May, Zubiria Perez hopes to continue research on human-wildlife interactions. She's particularly interested in how wildlife responds to anthropogenic landscape changes and in exploring non-invasive wildlife research techniques.

"What makes Ale an exceptional scientist is her unwavering dedication and passion for the field. Her curiosity continually drives her to push the boundaries of knowledge in her field. Ale excels at collaborating with diverse groups, allowing her to approach scientific challenges with a holistic and well-rounded perspective," says Bernard. "She's genuinely passionate about her work and in making a difference, not just in her research, but in breaking barriers and being an incredible role model for other women in this field." ■