Photos courtesy of Andrew Stein

Left: Andrew Stein checking the health of a lion in Botswana. At right: (top) study abroad students help with a rhinoceros: (center) student

Learning in the Wild

Dr. Andrew Stein's passion for protecting wildlife has far-reaching benefits for students and alumni.

By Mark DiPietro

In his less than six years as a natural sciences professor at Landmark College, Dr. Andrew Stein has joined the ranks of faculty frequently singled out by students and alumni for the impact he's had on their education and careers.

Through his own community-based conservation and wildlife research, the LC Botswana study abroad program he designed, and his professional affiliations with organizations such as National Geographic and the World Conservation Union, Stein has guided many LC students into scientific frontiers they might not have otherwise imagined.

And by his own admission, he's become a better teacher because LC's culture of universal design has prompted him to find innovative classroom techniques to reach all students.

It started for Stein in 2013, when he interviewed for a faculty position at LC after finishing post-doctoral research in Botswana. The College's reputation for experiential learning attracted Stein, and he was encouraged by the potential to expand LC's study abroad offerings.

"I was particularly excited to hear about the College's focus, because I had done study abroad in college and it completely changed my life," he says. As an undergraduate at Connecticut College, Stein majored in zoology and did a study abroad trip (through the School for Field Studies) focused on wildlife management in Kenya, where he saw his childhood fascination with exotic animals come to life. Joining the natural sciences faculty at LC would allow Stein to bring those same kinds of opportunities to LC students through his own research in Africa.

s are guided through Botswana's marshes; (bottom) a quiet moment in the wild.

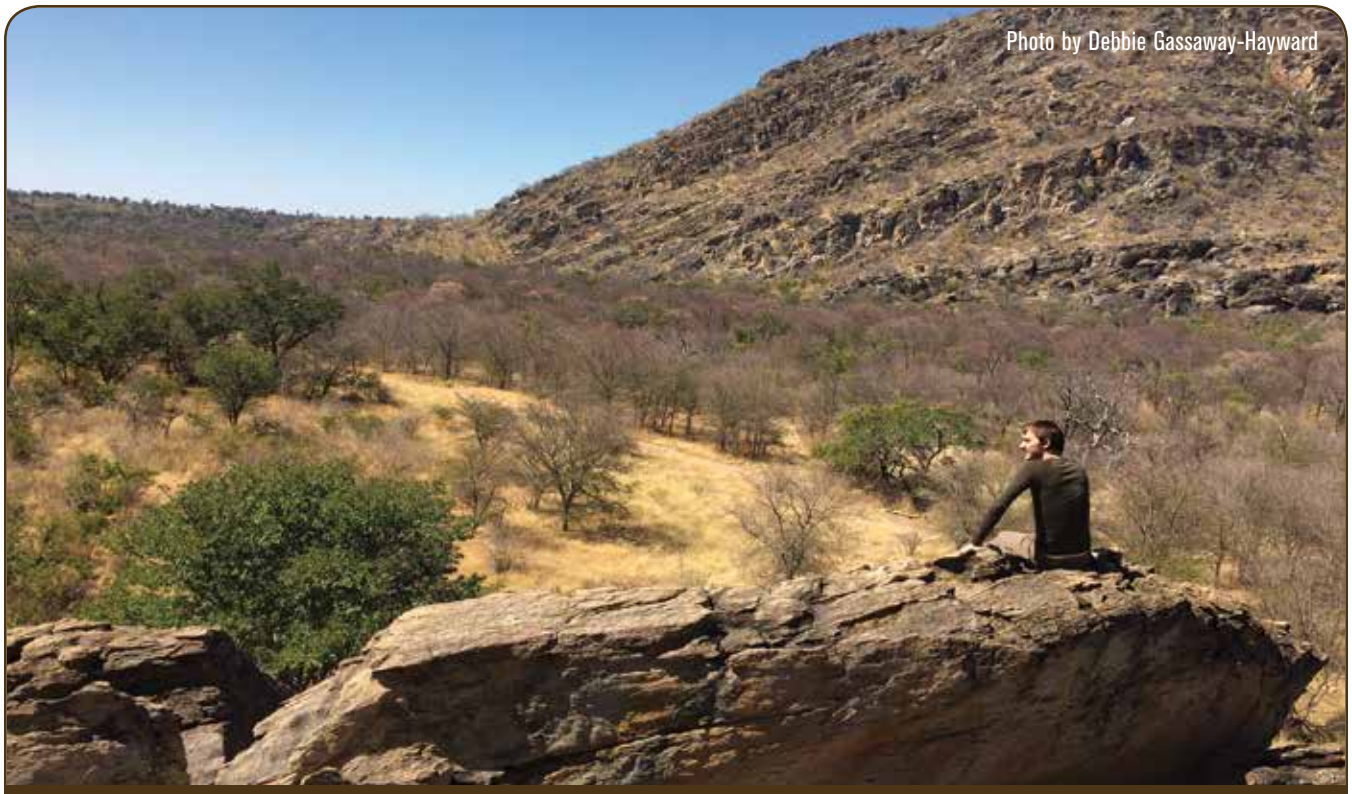

Photo by Debbie Gassaway-Hayward

Cael Hansen '18 found ways to apply his computer science studies to wildlife preservation during the 2017 study abroad trip to Botswana.

Stein was beginning a lion conservation project in Botswana's Okavango Delta in response to regional poisoning that was killing large populations of wildlife, including up to 50 percent of the lion population in a single year. At the same time, LC was in the process of strengthening its focus on the sciences, with a recently added associate degree in life sciences and a campaign to build what would become the Nicole Goodner MacFarlane Science, Technology & Innovation Center.

"There was a triangulation of events that brought all this together," Stein says. By summer 2016, he had designed LC's first study abroad program to Botswana, and served as academic director. Debbie Gassaway-Hayward, director of core advising at LC, was program director in Botswana.

One of the students on that trip was **Rob Lutz '16**, who was working toward an associate degree in business at LC. His interest in nature and the environment lured him to Botswana, and once he got there he was enthralled. Rob accompanied a veterinarian to "tag" rhinoceroses—allowing researchers to monitor the animals and protect them from poaching—and interviewed local villagers about their relationship to wildlife. It was an immersion into African culture and ecology that opened Rob's eyes to new possibilities.

"When I first stepped foot on the ground in Botswana, I felt an overwhelming feeling of excitement and thirst for new knowledge," says Rob, who had never been outside the United States prior to the trip. "As a business student, I was at a disadvantage with foreign terminology relating to environmental conservation, but as the days progressed I had regular meetings with Prof. Stein, collecting as much knowledge as I could from him. He has a way of reaching all students that caters to their learning styles."

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Photo by Sam Calle '17

So profound was Stein's influence that after earning his A.A. in Business Studies from LC in December 2016, Rob shifted his

focus to biology and transferred to Paul Smith's College, where he graduated this past December with a B.S. in integrated studies, incorporating the topics of parks and conservation management, sustainable communities, and entrepreneurial business studies. His capstone project was a land management plan for the Adirondack Land Trust, and he is currently working at the Adirondack Park in New York.

Jenna Brendler '17 was another student on that first trip to Botswana. Late-night talks with Stein, against a backdrop of the sound of whooping hyenas, invigorated Jenna's interest in studying large carnivores.

"After the study abroad trip, I realized all the career opportunities in my field that are related to conservation, especially in developing areas," she says. "Large carnivores are loved by people who don't live near them, but feared and hated by the people who have to deal with them every day."

After graduating LC with an associate degree in Life Sciences, Jenna transferred to the University of Montana, where she is studying wildlife biology. She is also Stein's field assistant in a wolf conservation project he began in Montana, part of the nonprofit CLAWS Conservancy he founded. (See related story about Jenna's work below.)

CLAWS—Communities Living Among Wildlife Sustainably—began in 2015 as an umbrella organization to bring together many of Stein's projects. "It's community focused because wildlife can only survive if people let them survive," he says. "That requires making decisions that are sustainable and holistic." CLAWS consists of several

Jenna Brendler '17 is on the Scent of Wolf Conservation in Montana

by Mark DiPietro

Dr. Andrew Stein might still be trying to get his wolf research off the ground in the northwestern United States if it weren't for **Jenna Brendler '17**. The project to set up scent markers and track wolf behavior faced many obstacles, including funding and the need for a reliable field assistant.

Enter Jenna, who was about to graduate from LC in spring 2017 with an Associate of Science in Life Sciences and had just decided to transfer to the University of Montana in Missoula. "I passed Dr. Stein in the hallway and asked, 'How's that wolf project coming?'" Jenna recalls. Stein started listing the challenges he was still facing and Jenna stopped him.

"Jenna told me, 'You can cross field assistant off the list,' and that lit a fire under me to get the wolf project started," Stein says. "My list of excuses was running out, and the challenges were getting fewer."

Meanwhile, a grant from Landmark College allowed Stein to purchase motion-sensor cameras to use in the field, and he identified collaborating facilities in Montana to help collect wolf scents. He also introduced Jenna to Dr. Diane Boyd, a well-known biologist for the state of Montana who has been referred to as "the Jane Goodall of wolves." The research project—one of several connected to Stein's nonprofit CLAWS Conservancy—was off and running.

"I knew I wanted to do field research, and during study abroad in Botswana, I got interested in hyenas," Jenna says. "While wolves and hyenas are very different, they also have quite a few similarities."

Jenna is also keenly interested in human-wildlife conflict, a thread that connects the wolf research with many of Stein's other projects. She's also minoring in linguistics—at first glance, far afield from her biology degree. But when Jenna starts to talk about her fascination with bio-acoustics (sounds made by animals), the connection is clear. "My faculty mentor works in bio-acoustics, and it could be very interesting to look at wolves' howls, hyena sounds, and bird calls."

In January, Jenna attended a National Geographic-sponsored conference, "Living with Wildlife," where Stein was an invited speaker. The gathering of conservationists, ranchers, and researchers was a chance for Jenna to network with some of Stein's far-reaching connections.

To learn more about Prof. Stein's nonprofit CLAWS Conservancy, visit ***www.clawsconservancy.org****.*

To watch Prof. Stein's 2014 Academic Speaker Series presentation, visit ***landmark.edu/stein****.*

programs, including lion conservation, called "Pride in Our Prides"; Stein's Montana wolves project, "Scent of a Wolf"; and "Leopards Without Borders," a global effort to mitigate the vulnerability of leopards, one of the less-studied big cats.

The common thread running through all of Stein's projects is human-carnivore conflict. "Once you begin working in conservation, you realize that studying wildlife is only one small part of it. Most of our resources go toward working with people. If you leave the wildlife alone, they take care of themselves: they feed themselves, they breed, they do what their instincts tell them to do. The problems come when people start persecuting wildlife."

Closer to home, Stein teaches a field ecology course at LC that includes wildlife surveys right in Putney. Some of the findings have been incorporated in Vermont state wildlife management plans. And for all the impact he has had on his students, Stein says the overall LC culture has made him more nimble and effective as a classroom instructor.

"When I go into a class, I have three or four potential activities planned, and depending on how that class is going and what the students need to learn best, I'll make a decision in that moment about what we're going to do next. But I've got to be prepared to do all of them before I even walk in." Stein credits his faculty colleagues, who routinely share their experiences and classroom innovations with each other, for fostering his own sense of inventiveness.

"I enjoy teaching a lot more now. Preparing slides and leaving time for questions—that's not fun. When I have to come up with a game or a role play or an art project, that means I have to think creatively and get invested. You can't be on autopilot."