



SCA intern Marisa Maldonado provides critical data on White-Nose Syndrome in bats at Mammoth Cave.

A World Without Bats?

SCA intern Marisa Maldonado concedes she's not like most people: she *likes* bats. That's what led her to Mammoth Cave National Park in Kentucky last summer, where she and fellow SCA member Samantha Sterman staked out roosts such as caves, trees, and buildings to conduct exit counts using night-vision goggles and infrared LEDs.

"When I told people I was working with bats," Marisa says, "most of them said they would never do that because bats are scary. I think they're cute."

Another misconception, she notes, is that bats are blind. "The truth is, larger bats have very good vision and smaller bats use echolocation, a kind of radar."

They're also in peril. More than a million bats have died of White-Nose Syndrome since the condition was first recognized in 2006 "and I wanted to acquire any data I could before it strikes Kentucky."

Of the five bat species Marisa monitored this summer, she especially liked the Rafflesia's Big-Eared Bat. "Different species of bats are very distinct; the size of the ears and tail membranes are good things to look at to tell them apart."

"I was very excited to be assigned to the Mammoth Cave National Park bat project because I've always been interested in bats but had never been able to study them. At Mammoth Cave you can see 13 species of bats, including big brown bats,

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**CONSERVATION
BEGINS HERE**

Student Conservation Association
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PRESIDENT'S MESSAGE

Developing Tomorrow's Leaders

SCA members enjoyed an award-winning year of achievements in 2010. Nearly 4,200 young people preserved and protected diverse American landscapes from majestic mountainsides to subterranean caves, and from wildlife refuges to urban cities.

To provide even more young people with a path to conservation service and professional opportunities, SCA is instituting new strategies to engage our nation's youth and prepare them for success as adults.

As a first step, we have re-envisioned the SCA experience. We are restructuring our service-learning programs into a single, integrated continuum designed to educate, train and deliver meaningful work experience for those of high school, college and post-grad age. This intentional, extended eco-track will provide our members with crucial career skills and fulfill our partners' workforce development needs.

Additionally, we are formulating a more extensive environmental curriculum and establishing greater competencies to provide more tangible takeaways for members and alumni. SCA also is launching a new professional development program to help our members leverage their experience and secure green jobs.

As we advance across these new frontiers, rest assured SCA will remain focused on providing young adults with formative service-learning opportunities on America's public lands. I remain grateful for your support, and hope we can continue to count on you as we take on the challenges of the New Year ahead.

Thank you and best wishes during the holiday season.

Dave M. Penny

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little brown bats, Indiana bats, gray bats, eastern pipistrelles, red bats, northern myotis, and—of course—Raffinesque's Big-Eared Bats."

Tracking bats is hard work. In addition to using technology, Marisa and Samantha spent many long nights hiking to caves, and that meant bushwhacking through forests with about 95% vegetation cover—mainly trees and shrubs about 4-5 feet tall.

Marisa says, "Exit counts are important to establish the current number of bats in the roosts as a baseline. When White-Nose Syndrome strikes in Kentucky, probably this winter, we'll know how many bats have been affected at each roost." During one of their best nights, Marissa says they counted approximately 630 of the furry, plum-sized mammals in one cave!

"We also did acoustic transects by driving around town very slowly with a recording device called an Anabat strapped to the top of the vehicle. That allowed us to record bat sounds within a specific distance from the recorder and then determine how many bats fly around in a certain vicinity."

White-Nose Syndrome was first identified in a cave in Schoharie County, New York. The white fungus that develops on a bat's muzzle is associated with disruption of hibernation and feeding cycles, low body fat, pneumonia and starvation. Scientists have speculated that the fungus may be an opportunistic infection that is successful due to damaged immune systems in afflicted bats, and that the real cause of the massive loss of bat population has not yet been identified. Possible explanations include variable winter weather and environmental toxins. For now, the focus is on stopping the spread of the disease. In some places, caves have been closed to the public.

Mammoth park superintendent Patrick Reed reports the SCA interns provided him with vital information under the most urgent of circumstances. "With White-Nose Syndrome on our doorstep, these are critical data that we haven't previously collected—at least not on this scale," he says.

Marisa says her experience at Mammoth Cave was both informative and rewarding, especially given the stakes involved. "Bats are a vital part of the ecosystem," she states. "A single bat can eat up to half its body weight in insects nightly. Without bats, insect numbers would skyrocket with devastating consequences for farming and control of insect-borne disease. Bat guano is also very important because it provides energy and nutrients for bacteria and insects in the caves, some of which are rare and have never been studied. I don't want to think about a world without bats."

Bats have inhabited Mammoth Cave for millions of years.



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Surfer Lakey Peterson, left, and rock band One Eyed Rhino, right, team up with SCA.

Surf's up and Bird is the Word

What do a 16-year-old surf phenom and a teen rock band have in common? If you guessed the SCA, then you're correct!

Surfer Lakey Peterson, two-time NSSA National Women's Open Champion, is an unstoppable 16-year-old. Lakey has decided to pledge all her time out of the water to bettering the environment by becoming a spokesperson for SCA. Look for web-based PSAs in the new year promoting the partnership, as well as appearances by Lakey at SCA events.

For more information, visit thesca.org/newsroom

In the wake of the Gulf oil spill, Sacramento-based teen band One Eyed Rhino is donating 100% of the proceeds from the sales of their new single, "The Bird," to SCA. The hit song is an ode to one of the most striking visuals from the Gulf oil spill, and is available for download on Amazon and iTunes.

To watch "The Bird" video, visit thesca.org/bird

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Scene + Heard

The 2-Minute Interview with Adrian Willis

SCA alumus
Adrian Willis just spent four weeks in the backcountry

of Denali—a dream assignment for the University of Texas freshman. This is Adrian's third year with SCA. He talked with us recently about working with a team of high school students he'd never met before in one of the most remote, beautiful places on earth.



What did you do this summer with SCA?

There were six of us, a random group from across America building a new trail in the Triple Lakes region.

What was it like being in the backcountry of Denali?

It was really pretty and we had a great view at lunch every day. The weather was unpredictable, sunny and warm one day, overcast and cold the next. Where we were working, the mosquitoes weren't bad, but at Wonder Lake you could see clouds of them hovering over you. I wore rain gear a lot.

And the food?

We cooked anything we wanted. I made sushi twice. Whoever was cooking chose what everyone ate. There was lots of pasta and stir-fried veggies.

What will you never forget?

During that last week, we went rafting and the tour guides had us do a circle of trust, where you stand on the edge of the raft and hold hands and then lean way back and support each other. Then we jumped in the river and the guides helped us get back in the boat. Some of who I am today is because of SCA. SCA has taught me to be my own person.

For more about Adrian, and to view videos and photos, visit thesca.org/follow-me/adrian

Whitetail on the Trail

by NaTasha Frazier, SCA '10, Back Bay National Wildlife Refuge

It happened on my last day as an SCA intern at Back Bay National Wildlife Refuge in Virginia, where I'd just spent the last three months meeting and greeting visitors, providing interpretation and leading tours. The sun was high in the sky. The day was hot. But despite the intense heat, it seemed like the perfect time to take in the beauty of the refuge and reflect on how incredibly lucky I was to have had the opportunity to work in one of America's great parks.



I was working alongside Kevin [a park employee] when we decided to take a break and explore the Charles Kuralt Trail, which is named after the award-winning broadcast journalist. The Kuralt Trail is one of the shortest trails (about one mile long) in the refuge so I didn't think twice about walking it. However, when Kevin told me that he wasn't getting out of the air-conditioned truck, it dawned on me that I would be walking into the forest, alone. Mind you, I'm a city girl and even though my rational mind knew I would be safe because it was daytime and the trail was well marked, I was slightly uneasy because the trees were thick and tall, and the blackberry bushes were dense. Before hopping out of the truck, I turned my head to look at Kevin and as I placed my hand on the door handle he said, "Now if the bugs get too bad, just come on back." I hoped he was referring to the ever-present dragonflies.

"Left foot, right foot, left foot, right foot. Come on girl, you can do it," I repeated silently in my head while making my way slowly toward the entrance of the trail. A few hundred yards in, I decided that maybe Kevin was just trying to freak me out and this walk wasn't such a bad idea after all. Up ahead I could see the red-roofed information kiosk tucked between blueberry bushes. Stopping to read about the history of the trail, I became aware of a loud buzzing sound. Not one but several biting flies suddenly appeared out of nowhere. Looking behind me, I could no longer see the parking lot or the entrance to the trail. So with the flies in hot pursuit, I put a bit more pep in my step and continued along the path.

I was so intent on eluding the flies that I didn't realize that the trees had begun to thin and larger patches of blue sky were now visible. Breaking free into a clearing on the bay side of the refuge, I was amazed to discover a hidden oasis with vibrant blooming flowers and chirping red-winged blackbirds. I was at a loss for words. The view was simply breathtaking. And as I stood there in awe, taking in the view, a bug flew right into my left eye. Ouch!

I decided that staying ahead of my relentless pursuers was a losing battle and took off running in the direction of the trail entrance. Slowing down to catch my breath, I heard a new buzzing sound. It was my cell phone. Before Kevin could get a word in edgewise, I started telling him about finding the oasis and evading the flies. As I drew nearer to the parking lot, I could see Kevin standing by the truck. He seemed to be mouthing something while frantically pointing into the woods. It wasn't until he yelled, "Look!" that I turned and saw the whitetail deer standing just a few feet away. The doe and I locked eyes. For what seemed like an eternity, I forgot to breathe and the magic of the moment took over. I could have stood there all day, silently communing with nature and this beautiful creature, but then my new flying friends caught up with me.

That day, I walked out of the forest with a huge smile on my face. I would never forget my SCA experience, or my last day at the refuge, or all the wonderful people I had met and the things I had learned at Back Bay.

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For further information on gift annuities or other ways to do something grand for our youth and our land, please contact Hugh Montgomery directly at (603) 504-3241, toll-free at 1-888-722-9675 ext. 151, or at hmontgomery@thesca.org.

SCA wins National Kids and Trails Award

On November 16, American Trails recognized SCA for bringing kids and trails together in 18 cities and major metropolitan areas across the country. More than 1,200 high school age members restored a whopping 329,392 feet of trail at 185 project sites in city and county parks. An additional 57,641 feet of new trail was also created.

For more, visit thesca.org/newsroom

Green Teens on a Mission to Reclaim the Outdoors

Despite cooler temperatures and some rainy weather, hundreds of teenage volunteers in five U.S. cities helped revitalize urban parks nationwide during the month of October. Sponsored by American Eagle Outfitters, and in partnership with SCA, the *Reclaim the Outdoors* initiative debuted this fall in Detroit, Houston, Pittsburgh, Seattle and Washington, D.C.

SCA members and participants from partnering community organizations and school groups engaged in projects ranging from building hiking trails to removing invasive species and cultivating urban farms.

For recaps and photos from each project site, visit thesca.org/blog



Photo courtesy of Emma Jorlin



Puerto Rico native and SCA intern Miguelo Resto working to winterize precious plants such as hyacinth and lotus leaves at Kenilworth Aquatic Gardens.

Saving an Ancient Tidal Marsh

“My favorite place at Kenilworth Park is the boardwalk to the wetland that borders the Anacostia River—it gives you a feel of what an actual marshland ecosystem looks like, and it’s an area frequented by majestic water birds like ospreys, egrets, and blue herons,” says Ahmad Toure. “I feel like everyone should learn about the vital role these gardens play by providing water filtration and flood control.”

Ahmad and fellow SCA Intern Miguelo Resto, under the direction of park supervisor Doug Rowley, are working to control water levels by restoring levees and installing devices that allow controlled transfer of water from the Anacostia River. Recently they installed coconut core logs in order to restore the land area lost to erosion. More importantly, they are removing invasive species that threaten to disrupt the natural ecosystem of the area and saving native plants that keep the wetland from washing away.

“Working here I’ve seen some pretty cool things happen like moving all the plants. Clearing out the greenhouses and getting them ready was tough because at the time the heat inside was almost unbearable,” notes Miguelo. “It was awesome to see the greenhouse filling up, and just knowing that we were saving these plants from certain death during the winter.”

Once a vast wetland, now greatly diminished by industrialization and urban encroachment, it’s the only remaining tidal marsh in

Washington, D.C. In the 1880s, Civil War veteran Walter Shaw saved what was left of the marsh by claiming it as his own garden where he cultivated water lilies. The ecosystem, however, faces both natural and man-made challenges.

Pollution is a major issue—when tides rise, trash and silt float in from the Anacostia River and surrounding waterways creating risks to flora and fauna.

Miguelo adds, “The best time of day is at lunch when the temperature is the highest. I’m from the Caribbean, so I’m used to weather that’s warmer than this. It pains me to hear from everyone that this is hardly even the beginning of winter.”

“My favorite part of the gardens has to be near the ponds housing the exotic lilies. I enjoy sitting around these ponds and listening to the sounds of nature: the frogs, birds, and wind sweeping through the needles of this beautiful pine tree I sit under during my break time.

“This work is important to me because I feel like not enough people are taking initiative to take care of the world we all share and live in. That’s why when I go to work every day, I try to complete as much work as possible.”

For more photos, visit thesca.org/hands-on



Christine readies a pelican for transport to a local rehabilitation center.

To Hug a Pelican

by Christine Chung, '10

This summer, as an SCA Resource Management Intern at the Rachel Carson National Wildlife Refuge in Wells, Maine, I monitored threatened piping plover and endangered least tern, and managed habitat for the endangered New England cottontail. I was also responsible for conducting outreach programs on various topics of my choice.

One of the topics I chose to present on was the Gulf oil disaster. I wanted to educate the public about the U.S. Fish & Wildlife Service (USFWS) response to the crisis. During my research, I came across photographs taken by Charlie Riedel from the Associated Press. As I looked through his photos of oiled birds, one photograph grabbed my attention. It was of a bird so mired in oil that I could not tell what species it was. Seeing that image, along with others of various bird species muddled brown with oil, struggling in a substance that was foreign to their natural habitat, made my heart break. I wanted to do something about it.

I accepted a two-week assignment as a technical specialist with the USFWS in Grande Isle, Louisiana, where I played an active role in the reconnaissance and recovery of oiled and injured wildlife.

Louisiana's state bird, the brown pelican, was only recently removed from the endangered species list. The impact of the Gulf oil spill on their numbers and health is unknown and it's possible that they could be re-listed as endangered.

Every day we scanned islands in Barataria Bay, near the Gulf of Mexico, to spot any birds that were oiled or just not acting normal. It wasn't long before I got the hang of picking out birds that were in trouble. They were either sluggish or acting frantic. Most of the birds we were dealing with were accustomed to people, but, still, recovering oiled or sick birds requires skill, especially with the young who are skittish. As I mastered good handling techniques, the process got easier and some birds

were easily contained. Others were more frightened and I just tried to hold them close to my body so they wouldn't flop around. Some of the juveniles were really strong and did not enjoy being confined or put in a cage.

Our biggest success came when four rescue vessels collaborated on reconnaissance around Bird Island II, with a fifth vessel to oversee the operation. The idea was to guide the birds to a single area on the water. The technique worked and we rescued and transported eight birds to the stabilization and rehabilitation center. Later that same day, we went back out and rescued three more birds. That's eleven birds in one day! I've never felt so passionate or as inspired as during those 17 days spent speaking with members of the local community and hearing how their lives had changed for the worse due to the spill. Their stories touched me and encouraged me to work as hard as I could to return things to normal.

But what deeply moved me was the opportunity to hug a pelican. Never before had I felt so connected to nature. The experience really solidified my lifelong commitment to wildlife conservation.

Christine Chung is currently studying wildlife management in Kenya and Tanzania.

For more photos of Christine Chung working in the Gulf, visit thesca.org/follow-me/christine

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