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Walker Valley REFLECTIONS

The newsletter of Great Smoky Mountains Institute at Tremont • Fall 2003



When I was presented with the opportunity to work at Tremont this summer, I seized it at once. During the previous two summers, GSMIT provided me with many awesome experiences. I developed a broader understanding of science while I worked under the citizen science director as a summer research assistant. I knew how every person employed there took the Institute's goal of "connecting people and nature" seriously and implemented its resulting principles into their everyday lives. I knew that my appreciation and love for the natural world would be nourished by my experiences at Tremont and that my summer would be a memorable one. What I did not realize was that I had been missing out on a very important part of Tremont's goal. As a research assistant, I contributed to the ATBI and other studies through collecting and identifying organisms and focused on aiding scientists in their aim to understand more about the natural environment in order to better educate others. The part of Tremont's goal that I was missing out on was the actual educat-

A Natural Epiphany

The spark that makes teaching a joy

by Erin Henegar

ing—teaching others about our amazing national park.

My position as the George W. Fry Endowed Education Chair required me to teach, as well as do research. Having such a title was an amazing honor by itself, even without the added responsibility of being trusted to teach a group of students. The idea of teaching didn't bother me until I was actually face to face with the challenge and was forced to make a lesson plan. Suddenly, having the role of the teacher made me uneasy. Perhaps often being mistaken for a fif-

teen year old instead of my twenty-year-old self did not help my self-confidence, and I began imagining nature clubs in which the campers were twice as big, and twice as sassy, as I. Repeatedly, I wondered if taking on such a challenge was worth it. I began to realize that the success of my program would mostly rely on my ability to communicate my enthusiasm and spread it among my students.

Finally, the day of my nature club was upon me. I watched the campers lose their initial interest in my program and restlessly look out the windows as I

explained the body parts and lifecycle of the beetle inside our science room. Frustrated by having them indoors, I quickly finished my explanation, and we all headed outside with our equipment to look for beetles. My mind was filled with what I was teaching and saying as we hiked up the Lumber Ridge trail. Soon our group was joined by a reporter who was taking pictures of the campers doing their activities. Wondering if the newcomer's presence would completely distract the campers,

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From the Executive Director

Throughout this issue you will find articles about the magic of our summer programs and the amazing discoveries and experiences that our staff and participants had over the past several months at Tremont. It is incredibly rewarding to see children so engaged with learning in this great national park. I hope these articles will give you a small glimpse of that. Our dedicated staff deserve so much of the credit for making the "magic" happen this summer and throughout the year. They so obviously enjoyed themselves as they hiked through the rain, waded in the streams, searched for critters, and joked with kids around the campfire.

Their love for the Smokies and young people was exhibited in so many ways. They believe that connecting people and nature is extremely important. This summer that connection was made again and again and again, creating memories and hopefully values that will affect students lives and the places they live for years to come. As we make the transition to the school program season I want to wish all of the great summer staff that were with us this summer the best.

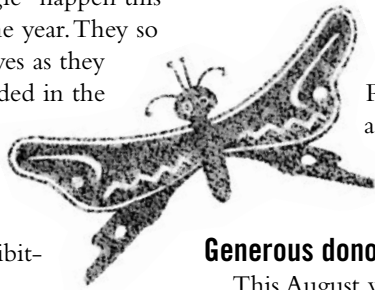
Transitions

Ryan Young who has been working with us as a naturalist since 2001 is moving to New England and he will be greatly missed. So will **Galina Skopina** who has

headed back to Moscow. We wish both of them happy trails!

Mike Matsko, who worked part-time with us last spring will join us as a full time Teacher/Naturalist. **Igor Iyzenkov** joined us in July as a new intern from Russia. **Glenda Finley** also joined us this summer as our finance/development assistant. We are also excited to announce that **Jennifer Arnold** who worked with us as a

naturalist in '95 and '96 is returning to take over the position of School Program Director. We have a wonderful and seasoned staff going into the fall season.



Generous donors

This August we received the final part of the Friends of the Smokies \$250,000 match to the Alcoa Foundation grant! All of those funds went toward our endowment bringing the balance of that fund well over \$500,000, which will enable us to continue the amount of financial aid we can give to students each year. Please look at the long list of donors at the end of this newsletter who contributed to the Friends' match and to increasing our endowment. The Cornerstone foundation provided \$25,000 of the Friends' match. Several special designated funds have been set up for scholarships through our endowment as well that are noteworthy. The Landon Caldwell memorial fund was increased sig-

nificantly through donations at a Friends' summer event. The George W. Fry endowment grew as well due to support and major donation from his daughter Georgiana Vines and Dr. John Fox. Family and friends have also continued to support that fund. (See the lead article by this year's George W. Fry research assistant.) A new scholarship fund was also established to honor the park's first naturalist, Art Stupka, and his wife Margaret. The Knoxville Utility Board donated \$10,000 to support scholarships in 2004. Great Smoky Mountains Association also continued to be a big supporter both financially but also with help in the development of many of our printed materials such as this newsletter! A big THANKS to all of those who continue to support our vision for the future financially. If you would like to make a donation to any of these funds or to receive information about our future plans please contact me.

Saving the Hemlocks

The Friends of the Smokies recently made another important contribution to the Smokies' future in allocating \$115,000 to help develop a beetle rearing facility at the University of Tennessee to help battle one the latest and most significant exotic pests in the park, the hemlock wooly adelgid. For more information on that threat, go to: www.savethehemlocks.net.

Hope to see you in the Smokies this fall!

Ken Voorhis, Executive Director



Folk musician
John McCutcheon

Arts Funding for Tremont

In July, the Tennessee Arts Commission awarded Tremont a matching grant of \$1450 for a teacher workshop. These Arts-In-Education funds, an annual grant made available by the state of Tennessee, will give us the opportunity to use the arts as a more widespread tool for teaching environmental education. Specifically, it will help support the teacher workshop, which will be developing a new arts curriculum for Tremont school programs. We envision this new curriculum to make use of visual, theatrical and literary arts and much, much more to help better connect Tremont students to the wonder of nature and the Great Smoky Mountains.

The Tennessee Arts Commission funds are only the first part of our larger Environmental Education and the Arts Initiative. The arts have played an important part in Tremont programs for many years. Every February we hold our annual Environmental Education and the Arts workshop, and this year we are excited to be hosting musician John McCutcheon. Now, we are poised to do much, much more. These new funds will begin to help make this dream a reality.

Interested in finding out more about the curriculum workshop and Tremont's Environmental Education and the Arts Initiative? Contact Jeremy at 865-448-6709, or Jeremy@gsmiit.org.

On the Quest for Cougars

Are there any big cats in Tennessee?

by Adam Barnes

In January of 2001, a couple from Florida were enjoying their vacation to the Smokies by driving through the Greenbrier area in the Northeast corner of the park. As they drove their car across a wooden bridge, they decided to pull over and take a moment to enjoy the mountain stream. They began walking upstream when suddenly the woman saw movement inside a rocky cave in the hillside. She yelled for her husband to bring the video camera, and what resulted is the first and only known video image of a cougar in Great Smoky Mountains National Park, ever.

As Dr. Don Linzey can tell you, this is not the only time a cougar has been reportedly spotted inside the national park. But why are these sightings such a big deal? According to the state of Tennessee, the last verified account of a cougar in the Smokies was in the 1920s, and the species has been considered expatriated, or extinct, from this area ever since. Dr. Linzey, who is a professor at Wytheville College in Virginia and works closely with the mammal research being done for the ATBI, is leading the research to determine if these animals are still found in the Appalachians. He and some of his students are here at Tremont this week as a part of our Natural Resources College Consortium. They are working closely with students from two other universities to learn about a variety

of topics concerning the Smokies today.

These big cats, which are called everything from cougars to mountain lions to panthers or pumas, are amazing examples of large predators. They are usually described as being about 3 to 4 feet long, tawny colored, with a muscular tail almost as long as their bodies. They are mostly nocturnal animals, very solitary, and are in almost constant movement around their large home ranges. They hunt a wide variety of large and small game, including deer and wild hogs.

Historically, cougars had the widest range of any mammal in the Western Hemisphere. But like many of the large predators in North America, the cougars were hunted almost to extinction. In a 70-year period between 1907 and 1978, close to sixty seven thousand cougars were killed in the western United States and Canada alone. It wasn't until the species were put on the protected or endangered species list that they began their slow comeback.

Today, the controversy surrounding these animals lies mostly in the eastern United States. Out west, the cougars have recovered so well that they are once again considered game animals in many states. But in the east, we are not sure what areas cougars might inhabit, and if they are making a comeback, how they got here. Dr. Linzey is working closely with park biologists to record any account of a cougar in the Smokies. When a sighting is reported, a

record is made of who saw it, where exactly they were, a description of what they saw and many other details that allow Dr. Linzey to determine the validity of the sighting.

If it is decided that the report is reliable, the location is marked on a map to help researchers decide where to monitor for cougars. A few different techniques are currently being used to try and gather evidence of cougars. Along with recording any reports of a cougar, Dr. Linzey and his volunteers are placing hair snares throughout promising areas of the park. These devices are set up in hopes of attracting a cougar to an area and then getting the animal to rub off a hair sample on a scented square of carpet. If a sighting is reported soon enough, or there are more than one sighting reported in a small area, researchers might set up an infrared, motion-activated camera in an attempt to get a picture of any animal that walks by.

As of this point, the research has not yet produced a conclusive piece of evidence that proves there are cougars in Great Smoky Mountains National Park. Even in the video recorded by the couple from Florida, there is some discussion as to what the image on the screen really is. If in the coming years it is determined that there are cougars in the Smokies, the next step will be to decide where they came from, and even more importantly, if there is natural breeding occurring in the wild.

It will be an amazing story if we find out that these animals have found their way back into the Smokies without help from man. I can only imagine how much more powerful a trip into these mountains would become knowing that this image of true wilderness is out there, roaming wild and free in its rightful place, once again.

A Natural Epiphany

continued from page 1

we continued hiking and finally reached our first site. Before long, I was engrossed in looking for beetles, eagerly searching with the campers and shouting excitedly along with them when a beetle was discovered.

A tap on the shoulder reminded me of the reporter's presence, and, thinking I was in the way of a picture, I quickly jumped up and stood apart from the

campers. Instead of preparing for a picture, however, I realized the reporter was silently watching the students. Suddenly, he remarked "It's amazing! I've never seen kids so interested in what they're doing. How did you do that?" Confused, I looked around at the groups of children around me and realized what he had meant. Serious looks of concentration covered some campers' faces, while others talked excitedly about their triumphant finds. They were having fun, and I could feel my worries melting away, as a con-

tented smile spread across my face. This is why people teach, I thought. Watching the kids eagerly search for beetles and seeing the excitement on their faces was the reward. I wondered how I could explain to the reporter that their enthusiasm had nothing to do with me. It was not a result of something I had done. A connection had been formed between the camper and the beetle, between an inquisitive child and the amazing diversity of the Smokies, between people and nature.

Trip to the Past Packs a Powerful Punch

Students Learn of Sacrifices Made In Creating National Park

by *Tonya Stoutt-Brown*

Remont has a time machine.

It's called *Walker Valley Living History*.

Every few weeks during the school year, we staff members dress in costume to portray folks who might have lived in the Smoky Mountains in the year 1918.

Students are asked to pretend they are part of a committee trying to decide if a portion of the Smoky Mountains should be made into a national park.

As they cross the bridge that will magically transport them to another time, the students encounter the character of Mrs. Davis (the woman who is considered the "mother of this national park"). She greets them and explains that, after returning from a visit to Yellowstone, she and her husband thought it would be wonderful to try to form a national park in the Smoky Mountains. She asks the committee members to go up into the mountains and survey the people who live there.

So with packs on their backs and notepads in hand, the students trudge up the West Prong trail to find us. They are almost immediately put in the difficult position of gaining our trust, educating us about the concept of a national park, and finding out if we'd be willing to give up our land to make it happen.

It's a lesson that carries quite an impact.

After talking to our characters, some of the students come off the trail convinced that creating a national park here is a bad idea because it would force too many people to leave the homes they've worked so hard to build.

And that's okay. One of our goals in this living history program is to give these kids a better appreciation for the park. One way to do that is by teaching them about the personal sacrifices that had to be made in order for the park to be created.

But even more interesting are the students who return to the group with a new

sense of conviction, determined that making a national park in the Smoky Mountains is right and good.

As we conclude the Walker Valley activity we draw the group together and talk about the sacrifices that were made. Many people were glad to have some cash so they could get out of the steep and rocky



mountains and find some good bottom-land. Others were more resistant, believing that they could hold onto the land themselves and manage it for the future.

When I was in high school, one of my teachers enjoyed putting students into teams so we could formally debate controversial issues. We quickly found out that the best way to learn about anything is to be forced to publicly defend it.

As those students stand toe to toe, for the first time, with someone who says no to a national park, it forces them to re-examine the issue and do some soul searching about something they likely never gave thought to before.

What must it have been like for those men and women who were fighting for a national park in real life? To walk into the mountains and tell people they had to give up their homes, their communities, and their way of life so wilderness could be preserved?

Imagine the obstacles. Imagine the argu-

ments. Students who take part in the living history face them in a personal way when they encounter characters from the time period.

...

"We want to turn this area into a national park," someone says.

I give them a blank stare and ask them what a national park is.

"We want to stop the logging and preserve the wilderness," they explain.

"Wouldn't that put a whole lot of people out of work?" I ask.

"We want to keep the animals safe," a student will say.

"You mean I can't hunt anymore? How will I feed my family in the winter?" I counter.

"We want everyone to be able to come here and enjoy the beauty of the mountains," one explains.

"I ain't givin' up my land so a bunch of rich folks can come up here and have a picnic on my property!" I argue.

"But we want to help you keep the land just the way it is," one usually chimes in.

"Then leave!"

...

In the face of this opposition and in the midst of breaking the hearts of mountain people, the founders of the national park held onto a vision that many could not understand.

They knew that logging was destroying the wilderness and its natural resources. They understood that if trees were cut and roads were built without restraint, something vital would be forever destroyed. They believed in their hearts that the people who lived in the mountains could start over much more easily than could the natural world.

Great Smoky Mountains National Park is often referred to as "the people's park," and indeed it is! It was not formed by politicians who simply blocked off acreage on a map.

Men, women, and even children who encountered opposition and obstacles at every turn brought it about. The fact that we have a national park here is a miracle in and of itself.

Even today, we occasionally encounter

bitterness in some of the descendants of those early mountain settlers. They still see the park as their rightful home place. They still feel wronged by the forces that ushered their families out.

Who can blame them? How would any of us feel if we'd worked so hard to make a home from the ground up and someone took it away? How would we feel if we were forced to leave the place where we'd raised our children, buried our loved ones, and built lasting relationships?

After all, it took a whole lot more than a trip to Home Depot for these families to start over! They had no stash of money or collateral for home loans, and no modern grocery stores or fast food restaurants to feed themselves till their new farms got up and running.

Meanwhile, the supporters of the national park suffered hostility and public ridicule as they carried the banner for their cause.

Today, we reap the benefits of all the sacrifices that were made. Nature reaps the benefits of the sacrifices that were made.

Each year, millions of people come from all over the country – from all over the world – to view the majesty of the Smoky

Mountains. Geologists marvel at the building blocks of them. Ornithologists wonder at the numbers of birds who wing their way through the air. Biologists, botanists, and entomologists stand in awe of the many different species of life here.

Countless students come to the park each year for lessons on the history of early American settlers and the science of nature.

And then, there are also visitors who simply want to retreat to a spot of green in a world where trees and open land are giving way to strip malls, parking lots, and housing developments at break-neck speed.

As we shed our boots, bonnets, jackets and shawls to return to our present-day GSMIT uniforms, I can't help being a little pensive. It's amazing to think such burdens were carried on both sides as these mountains, coves, and hardwood forests were transformed into a national park. It makes me want to protect them all the more.

Then I wonder if I was really the teacher in this experience—or maybe just another student of mountains' never-ending lessons.



Great Smoky Mountains National Park is often referred to as “the people’s park,” and indeed it is! It was not formed by politicians who simply blocked off acreage on a map.



In the River's Eddy

A Tremont Story

Poets and writers have compared our journey in life to that of a journey down a river. Sometimes we let a lazy current take us gently along with little or no work on our part. Other times we run into waves, rocks, and rapids making us paddle with all our might to stay afloat. On every river at different times and places there will be eddies. An eddy is a place where a circular current captures objects and keeps them for a while. These eddies can be to a weary river or life traveler a place of rest from

the journey. Tremont is such an eddy. Here we provide weary life travelers a respite from the daily grind and a chance to regenerate and reconnect with the natural world.

All of us at times need to stop and reflect and meditate as we journey along.

For some the stop in the eddy may be brief while others seek to stay and let life's river with its uncertain perils flow on by. Still we know that life is an adventure and what lies around the next bend in the river may bring us even

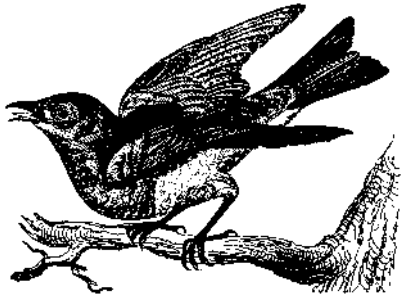
greater fulfillment. We try to equip travelers with a new sense of appreciation for the natural world and a new awareness that perhaps we will use as we journey on. Maybe ahead there are other eddies with other vistas and things to see and enjoy. We hope our travelers carry a tiny piece of Tremont in their hearts as they leave and hope they will spread the message to others to care for the natural world. May we keep the circle of life unbroken as we go on our way.

—Mickey Larkins

Ramble On

Some important things I've discovered about East Tennessee

by Ryan Young



Ramble On

*Leaves are falling all around
It's time I was on my way.
Thanks to you I'm much
obliged
For such a pleasant stay.
But now it's time for me to go
The autumn moon lights
my way.
For now I smell the rain
And with it pain
And it's headed my way.
Got no time to for spreading
roots,
The time has come to be gone.
And to our health we drank
a thousand times,
It's time to Ramble On.
I ain't tellin' no lie.
Mine's a tale that can't
be told,
My freedom I hold dear.*

—Robert Plant

Well, folks, I am turning in my ranger hat and heading north. Before I came to Tennessee, I lived and traveled through the Southwest, making any patch of government land with some solitude and fresh water my home. Before my time out west, I was raised and educated in Ohio. Now I am ready to settle in the far north country of Vermont. For what, I am not

sure—I have no employment. However, I do intend to continue my work on an independently-funded sociological study of how people view the weather.

I have found so far that Midwesterners think it's too humid in the summer and too snowy in the winter. Southwesterners complain that it is so hot and dry it's not feasible to leave the house. As for the Southeast, it never gets too cold and never too hot as long you've got some sweet tea on ice. My theory is two-fold so far: it states that no matter where you go, (1) No one who lives there likes the weather, and (2) Everywhere in the country the people all say the same thing: "If you don't like the weather here, wait fifteen minutes and it will change." While my study may not be very lucrative nor enlightening work, I am anxious to find out whether the winters in the Far Northeast are as abhorrent as people say, or if Northeasterners hold true to my theory.

While I finish my obligations to Tremont and write my last newsletter article, I realize that this is the point in the program where I am supposed to get all sentimental. I should tell everyone how wonderful they are, how much I loved my job and how many wonderful things Tremont has done for me and all the participants who have visited Walker's Valley. All of those things are true, and I have many wonderful memories of my time here. However, I decided to use my last Walker Valley Reflections article as an opportunity to mention the great things East Tennessee has to offer for anyone coming to visit or work at The Great Smoky Mountain Institute at Tremont.

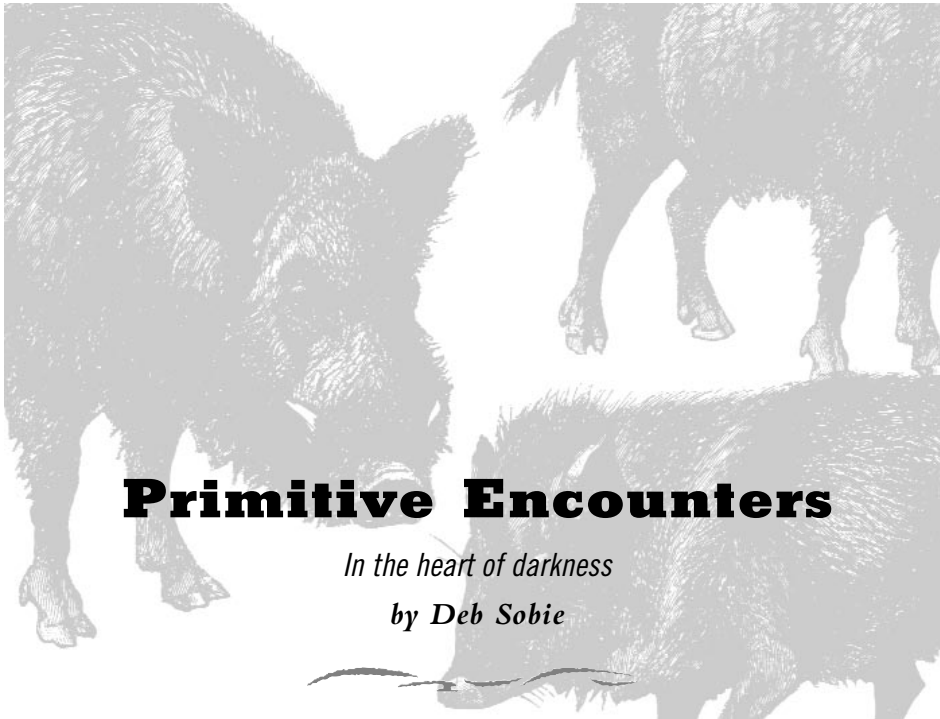
As I get ready to throw all my possessions in my van and move out of this valley, I realize that East Tennessee is far and

away one of best places to live in this great nation. I love life here and will miss all of these things that I found special about Blount County.

- *Nothing* is more important than high school football. Well, nothing besides College Football.
- The biggest factor in which tomatoes you buy at the grocery is not the price, size or color, but which county they were grown in.
- You can tell whether someone is a tourist, a local, or a good 'ol boy by whether they say "Maryville," "Mare-ville," or "Murvull," respectively.
- People are passionate about how the federal government regulates a place like Cades Cove, and they make their voices heard.
- The best place to take a date on Friday night (save fishing) is the Rocky Branch Community Center to listen to live folk and bluegrass musicians play in a family environment.
- It is easier to get stuck behind a driver doing 20 mph in a 45 than it is to find a decent restaurant with some home cooking.

...

There are many wonderful things about Blount County and Walker's Valley that I will truly miss; I hope it never changes, but feel that it will. Many East Tennessee communities like Townsend are under immense pressure to turn into the next Gatlinburg. I pray Townsend will always stay true to its motto: "The Peaceful Side of the Smokies." I have gotten to know this place in a special way and can now peacefully leave. I am off for a new life and wish you the best in all your ventures.



Primitive Encounters

In the heart of darkness
by Deb Sobie

Primitive Skills Expedition during Naturalist Expedition Camp kicked off to a great start with a class on tracking and stalking at the Cove, taught by tracking expert Wanda DeWaard. Campers also learned how to make fire and shelters.

The highlight of the Expedition came on Saturday when participants had the opportunity to have an overnight campout near the lagoons at Tremont. Campers spent Saturday working in teams to build two shelters that they would take turns sleeping in. After dinner we quickly packed our gear and headed to the lagoons. Everybody was excited to not only camp out but to also take turns participating in a fire watch and sleeping in the shelters. As daylight faded away we sat around the campfire making dream catchers and telling Native American stories and legends. Finally bedtime rolled around and everyone excitedly chose their time slot to sleep in the shelter and watch the fire.

Everyone went off to bed and stillness fell over camp. I settled peacefully in and started reading by flashlight only to hear the voice of the first fire watcher excitedly yell for Mihkel and me to come quickly. We rushed over to see what was wrong. The camper, Jacob, nervously declared that something was lurking in the shadows. Armed with a large stick, hearts racing, Mihkel and I slowly surveyed the area. At first our thoughts were of black bears, but we decided it was most likely wild boars, which have been frequenting Tremont late-

ly. As we searched Mihkel saw the shadows of three wild boars. With a sigh of relief and excitement to actually see wild boar, we had the campers come see.

We decided it would be a good idea to continue the fire watch but cancel sleeping in the shelters since we built them away from the main area. The campers were good sports, and everyone completed their turn doing fire watch. I was so impressed and amazed that even though they were scared, they took the opportunity to sit up by themselves and tend the fire.

My turn rolled around and I walked quietly to the fire with my heart pounding. Sitting in the dark with only the small light from the fire I battled fear of the dark and being alone. As a camp counselor I knew that I was supposed to be strong and courageous but it took some time for me to get over my fear. Watching the fire, I felt proud of those participants for taking their turn regardless of the fact that we were sleeping out with wild boars. I commended them for their courage, and realized that I could learn something from them just as they could learn something from me.

In the morning as we packed up our gear and headed back for breakfast, they shared their experiences of the night before. I was proud of them for learning and growing and taking the opportunity to challenge themselves. I hope that as they go back to school they will look back on their summer camp experiences with a sense of accomplishment and pride.

Herpetologists in the Making

Eleven brave young naturalists set out on an exciting quest for reptiles and amphibians. These campers became herpetologists on a journey to uncover these creepy, crawly creatures. They explored the diverse habitats in the park from Andrew's Bald in the high country down to the Middle Prong of the Little River.

The search for reptiles was a success as the young naturalists identified five species of snakes, two species of lizards, and one turtle species:

- Eastern Gartersnake
- Black Ratsnake
- Common Five-lined Skink
- Copperhead
- Northern Fence Lizard
- Timber Rattlesnake
- Common Five-lined Skink
- Northern Watersnake
- Eastern Snapping Turtle

The highlight for many campers was the challenging climb to find the elusive Timber Rattlesnake. Bushwhacking through thick vegetation and scaling several large rock faces brought us to our destination, known by Tremont staff as "Rattlesnake Rock." The young naturalists peered out at the edge of this rock to find the coiled rattlers taking in the last warmth of the day. This experience left quite an impression on the campers as they told stories of their journey for the rest of the week.

Amphibians, occupying habitats from a flowing river to rotting logs, are teeming in the Great Smoky Mountains. The Smokies are considered "The Salamander Capital of the World" as the diversity here is the greatest comparable to any other land area of the same size. From the streams of Tremont to the trails of the high country, we identified nine species of salamanders:

- Spotted Dusky Salamander
- Seal Salamander
- Black-bellied Salamander
- Jordan's Salamander
- Blue Ridge Spring Salamander
- Pigmy Salamander
- Imitator Salamander
- Southern Appalachian Salamander
- Blue Ridge Two-lined Salamander

Exploring the mid and high elevations, these young naturalists were thrilled to overturn every rock and log to find what might be hiding underneath. The red cheeks of the endemic Jordan's Salamander shined under almost every rock and log. One camper, Kevin, even found a vibrant orange Spring Salamander, the largest salamander we uncovered!

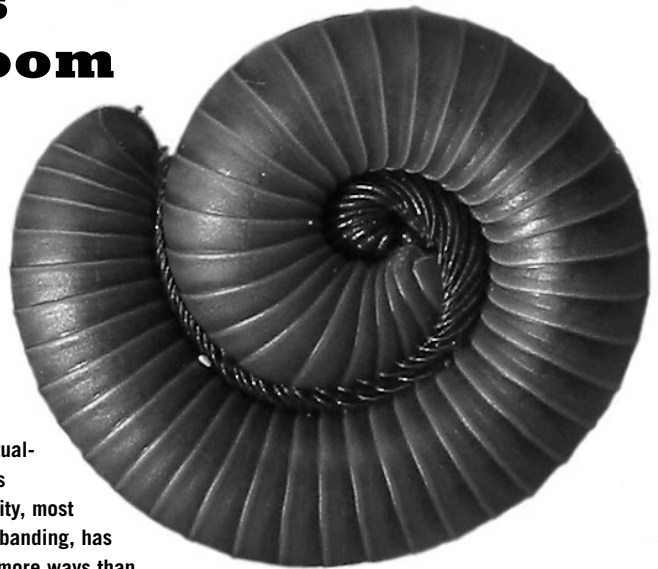
This excitement continued when they were taken to the Little River in search of giant Hellbenders with our Hellbender researcher, Amber Pitt. Although the campers were unable to catch any of these amazing salamanders, they enjoyed gearing up in masks and snorkels to search through the cool river water.

Through the adventures of this expedition, these campers were able to gain a greater understanding of the diversity of reptiles and amphibians that live in these mountains. This increased awareness also led them to a heightened appreciation of Great Smoky Mountains National Park. It was definitely a fun and memorable experience that they will be telling those back home for quite some time.

—Kate Lowe and Laura Milligan



...Breaking News from the Science Room



The summer has flown by at an unbelievable pace! Fortunately, our three terrific Summer Research Assistants (Alex, Amanda, and Moriah) and our George W. Fry Chair for Science Education (Erin) kept up with the amazing pace and accomplished great things in the citizen science department. These recent high school graduates and early college students have had the unique opportunity to study the natural world in Great Smoky Mountains National Park, teach others about what they learn, and get paid for it all too! I invite you to step into their hiking boots by reading their reflections on their summer experiences.

Many thanks to the volunteers who have contributed to our citizen science projects this summer, whether it was searching for hellbenders, identifying moths, or rising in the pre-dawn hours to help with bird banding. Thanks also to Helen Morrow, our ATBI Teacher Intern, who spent 80 hours assisting with our ATBI projects with the goal of applying what she has learned to her high school science classroom. Finally, thanks to our summer campers who became citizen scientists for a few days. You've truly contributed to our understanding of the overwhelming biodiversity in these mountains.

—Michelle Prysby,
Citizen Science Director

Birding by Heart

"Chicadee deee deee," said Moriah to Alex who responded with, "I'm an unattached male looking to establish a long term relationship." Why this madness? Moriah and Alex are reciting lines from the birding by ear CD and practicing for one of their favorite projects at Tremont: bird banding! Although there have been many more interesting and informative projects to help with, such as moth inventory, salamander monitoring, monarch larvae monitoring, and tracking down pollinators, the bird

banding has been the most unique.

Tremont has provided us with an experience of a life time (it beats flipping hamburgers by a long shot). Not only have we been able to learn a tremendous amount about nature, but we have actually contributed to science. This extremely early morning activity, most commonly referred to as bird banding, has been a unique opportunity in more ways than one. One of the most unique aspects of this activity is the diversity we have been presented with. Before our time at Tremont, names such as Tufted Titmouse and Oven Bird were merely odd. These two bird species were not new to science or Tremont, but were new to *us* as are many others.

Bird banding has not only presented us with diversity in the field of birds, but also in the fields of reptiles and insects. Various beetles, dragonflies, and other flying objects have been trapped in the bird nets. Checking the reptile tins every morning on the way to open the nets near the ozone garden and by the lagoons was filled with excitement. How can we forget Moriah frantically holding a tin open with an angry Northern Black Racer underneath and Alex sprinting after Moriah and Erin because he freaked when he saw a "docile" Copperhead? How naïve we once were...

Small insects and snakes are not all that we run into while checking the nets for new birds every forty minutes. Just the other day, we saw an exotic species loitering near the lagoons. The boar would not be there for long because by the next morning he would be "shipped out." We also encountered another exotic species while waiting under the River House to make our next bird check. We heard a call that sounded like, "Who-cooks-for-youuuu," and didn't know what was making that noise. Charlie had informed us that it was a Barred Owl, but we came to discover it was a *Brad Owl*—it seems that one of our staff members can be quite the bird imitator. We were never fooled again...

And now the summer is ending and the time has come where we disassemble the bird nets and begin to repair them. When we are not too busy being frustrated by the tiny, black thread used to repair the holes in the nets, our minds are filled with thoughts and memories of our time spent at Tremont. The information and lessons we have absorbed this past summer will be reflected as we disperse from Tremont's perfect beauty into what may seem like a completely different world.

Farewell...

—Moriah McArthur and Alex Pearson

High Country Quest... A Search for the Unknown

Have you ever wondered what kinds of various life forms exist in the high country? What types of snails and slime molds live there? How does the elevation affect diversity? Well, Discover Life in America was asking the same questions and I was fortunate enough to be able to help collect a variety of species to contribute to the answers.

On Thursday, July 31, I arrived at Tremont ready to be miserable for the next two days. I was supposed to go on a 5 mile backpacking trip to help do research for the High Country bioquest. Now, don't get me wrong—I was very excited about the research part of it. It was the 5-mile, steep uphill all-the-way part of this trip that I was worried about. After going to the orientation at Sugarlands, we returned to Tremont for some last minute equipment packing. Then, it was off to the trailhead.

After stopping in the Cades Cove picnic area for lunch, we started on the grueling hike. Shortly after starting, I began to think that maybe I had dreaded this trip just a bit too much. It wasn't terribly steep, the weather seemed ok, and my pack sat comfortably on my back. As we continued up the trail, I began to realize that I was actually having a very good time! It did start to rain, but I just kept trucking up the mountain! We stopped for a snack/ remove your pack break and all I could say was, "Wow, I can't believe we only have about 2 miles left!"

We began again and finally arrived at the shelter, dripping from head to toe and tired, but smiling! Everyone put on dry clothes, explored the area for a while, and then it was time for dinner. Bedtime didn't seem to come soon enough!

On Friday morning, we started the downhill hike back. We stopped to do research at three or four different sites. I discovered that snails are very cute, slime molds look incredibly cool, and, that I was having a wonderful time. I never realized that I could have so much fun while on a "dreaded and grueling" backpacking trip.

After gathering the specimens together and making proper labels for them, I brought them to Sugarlands. From there, they were going to be sent off to special-

ists to answer some of those pressing questions... What types of snails and slime molds live in the high country? How does elevation affect diversity?

Thanks to Michelle Prysby for giving me this awesome chance to experience new and exciting limitations and opportunities while contributing to actual scientific research. I had a great time in all of my Tremont experiences this summer and I am so glad that I was able to accomplish new things!

—Amanda Heinrich

Tremont's banding station season-ending report: The fourth year is a wrap

This summer was our fourth of bird banding under the Monitoring Avian Productivity and Survivorship (MAPS for short) protocol. MAPS was designed by the Institute for Bird Populations as a tool to detect to what extent birds are reproducing in different areas of the country, and how long those birds live. While most banding stations operate during migration to take advantage of higher numbers of birds, MAPS stations only operate during the nesting season. This is because of the site fidelity, or propensity of birds to return to the same place year after year.

Tremont, of course has additional reasons for banding birds. To teach science to young people. This year I was helped by 2 volunteers, 4 student interns, and one teacher intern. I split their training with Assistant Station Manager Bonnie Jo Voorhis, who is the only person who has been here all 4 years. Bonnie Jo has graduated from Heritage High and will be attending David Lipscomb University in a couple weeks. We all hope she finds time to come back next summer!

Our interns Amanda, Erin, Alex, Moriah and Helen, who you'll read about elsewhere in this newsletter, helped band birds on eight early mornings this summer. They also helped to set up nets in May. Since we took the nets down last week, they have all become expert at using the very fine,

black thread to repair various holes the nets accrue from deer encounters, branches, sweetgum balls, and tired people.

The station was open for 6 hours per day, on 8 days this year. We have ten nets. By multiplying these 3 numbers one finds the total number of net hours to be 480. The total number of birds caught was 56 for a capture rate of .117 birds per net hour. The total is significantly lower than the previous season tallies of 84, 86 and 89 in 2000, 2001 and 2002, respectively. For statistical validity we attempt to reduce variables that would affect how many and which birds we catch. We open nets the same number of hours, each day, use the same size and type nets, put them in the same places, and open only once for each 10-day period. The time we open is always within 10 minutes of sunrise. So the low number of captures should not be due to anything we did. Hopefully it does not reflect a trend of fewer birds in Walker Valley. Mirroring the low capture rate was a decrease in captures of three of our four most numerous species: Louisiana Waterthrushes, Wood Thrushes and Red-eyed Vireos.

While Louisiana Waterthrushes were again the most numerous with 17 captures for 30.3% of the total, we did not catch any in the first 2 banding days. This is a continuation of a trend over the last 3 years in which Louisiana Waterthrush numbers have fallen from 34 to 21 to 17. The big storms and ensuing floods this spring may have wiped out many waterthrush nests, which are built along stream banks. As was the case last year, we heard far fewer Red-eyed Vireos. And just like last year, we had only half as many of them in the nets as we did the first 2 years (5, 7, 3,2 in 2000,

2001, 2002, 2003, respectively). But what may be the most disconcerting decline is Wood Thrush, a species thought by many people to have the most beautiful song of any bird in North America. We averaged nearly 6 birds a year in our nets, but this year we only caught one individual. I had noticed early in the season that I was not hearing as many as I would expect.

The second most numerous bird was again American Goldfinch which we captured 6 times, or 10% of our birds. And the third was Indigo Bunting with 4 captures representing 7.1% of our captures. We caught 3 each of Acadian Flycatcher, Eastern Phoebe, Northern Cardinal, Worm-eating Warbler, Tufted Titmouse, and Northern Parula.

In addition to studying the birds, we study organisms that use birds as habitat—the various parasites that cannot be found in any way other than handling a bird. This year we collected 4 samples of feather lice and 2 Hippoboscid flies. Paul Super, a scientist with the park and our master bander collected fecal matter and blood samples from a couple birds to look for internal parasites.

—Charlie Muise



My River is Ocean-Bound

All summer I've been growing. The trees here are bigger than I've ever seen before. I know what they mean now when they say this place is a temperate rainforest. When I look up through the trees, there are so many layers and sizes of luscious leaves. I could watch the sun dance on them for hours. Walking along the West Prong trail, I fall silent as green life swallows me whole. I'd like to be invisible to the human eye when I'm in the forest, desert, or ocean, a signal to myself that I have entirely become a part of the natural world.

My favorite thing to do this summer has been to take young people into these woods. I watch how they

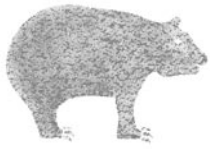
shed so many layers the longer we are together. There is nothing else to distract us but the millipedes skirting their way across the trail and the cicadas singing us to sleep at night. Their truer self is illuminated by the summer sun and I get to see what they really love and care about, which is all that really matters.

My body has gotten so strong climbing the Appalachian Mountains. My heart was born to pump life through me, my lungs to fill fully with fresh air, and my muscles to move me from place to place. When I do these activities I sleep deeply at night and stress leaks out with my breath. Carrying my food and shelter on my

back reminds me that I can take one step at a time. It's actually impossible to take more than one, a metaphor for my daily life in the fast paced, modern world. When my body is healthy, I'm amazed at how far I can go in just one day by simply by putting one foot in front of the other. I've learned how to slow down and get more done simultaneously. The two are wonderfully compatible. Being at Tremont this summer has enriched my social skills. I often began each week of camp feeling tired and overwhelmed by another group of kids to take care of and teach. But by the second day, I found that if I talked to people, finding out

about their families, interests, and struggles, I felt energized and enriched by getting involved. As a co-leader of two of the backpacking trips, I shared the responsibility of guiding the social atmosphere of the group in a positive direction. I spent our days of hiking asking questions, letting my campers know that I was genuinely interested in who they were and wanted to become. By taking an active role in people's lives, mine becomes full of growth and love for strangers. I now experience meeting people I haven't met yet as an opportunity to enrich my life and theirs instead of a welling fear of the unknown.

—Annika Williams



Looking Ahead

Check out some of the great programs just waiting for you this fall!

October

Fall Backpacking Trips

Fall Backpack Trip: October 17-19

Women's Backpack Trip: October 24-26

Enjoy the beautiful colors of autumn by joining us for a weekend of backpacking in the heart of Great Smoky Mountains National Park. We provide all the information, food and gear (except sleeping bag). Two experienced teacher/naturalists accompany each group to teach backpacking skills and to interpret the natural and cultural history of the Smokies. This is an educational and enjoyable way to learn about backpacking in the park.

Participants must be in good physical condition and be able to hike 5-8 miles a day in rugged, mountainous terrain. Visit our Web site at www.gsmit.org for route information. Programs last from Friday morning to Sunday afternoon.

Cost: \$190/participant

Autumn Brilliance Photo Workshop

October 17-20

What better place to improve your photography skills than the Smokies during fall color? Join us for the weekend as photographer Willard Clay shares the splendors of fall in the Smokies. Field sessions and lectures will cover the use of light, composition, landscape photography, close-ups,

and how to find the "right" picture. The program will combine natural history interpretation with photographic technique and is designed for intermediate to professional photographers. Program lasts from Friday supper to Monday mid-morning. This workshop fills quickly, so register early!

Cost: \$430/participant

Fall Naturalist Weekend

October 24-26

Autumn is a magical time of color and change in the "Place of Blue Smoke." Crisp sunny days and brilliant colors give a special flavor to fall explorations. Join us for a weekend of natural and cultural history study. Come prepared to be outside and active. Participants have a choice of four educational tracks for the weekend. After a long day in the park, we will come together in the evening to share our findings and enjoy lectures, music, storytelling and more. The program lasts from Friday supper to Sunday lunch.

Participants please indicate your first to fourth choices on your registration form:

- Logging History of the Smokies

The Great Smokies saw an amazing period of history before they became a national park. Relive this history as you explore regions of the park that were once railroads, towns, sawmills, resort communities, and other places that vanished soon after

the last log rode the rails out of the park.

- Black Bear Ecology

Study Southern Appalachian black bears, their ecology, and habitat. Participants will learn directly from the people who are conducting bear research in the park. Lots of hiking will get us to den sites, to see plenty of bear sign and perhaps a bear itself.

- Fungi of the Smokies

Destroying Angel, Birds Nest, Deadman's Fingers, Turkeytail – these are just a few of the thousands of species of fungi making their home in the forests and meadows of the Smokies. Through classroom discovery and field explorations, mycologist Coleman McCleneghan will share her knowledge of fungi, its natural history, lore and current research. If you have ever wondered about the secret world of mushrooms, join us for a fascinating weekend.

- Forests in the Mist

Spend the weekend thinking like an ecologist as you explore the many different forest types of the Great Smoky Mountains. Travel from stream-side hemlock forests to high elevation Spruce-Fir forests as you learn about the plants and animals that make them distinct and special.

Cost: \$175. One hour of graduate credit is available for an additional fee. Visit our Web site at www.gsmit.org for tentative weekend schedules.



Great Smoky Mountains Institute at Tremont is operated in cooperation with Great Smoky Mountains National Park.

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Jaimie Matzko

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summer t/ns

Mickey Larkins

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summer interns

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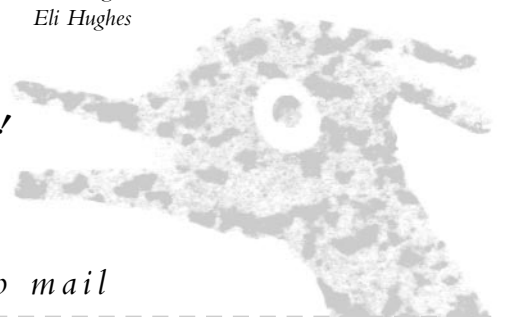
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