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# Walker Valley REFLECTIONS



The newsletter of Great Smoky Mountains Institute at Tremont • Winter 2004



*Wishing you*

a peaceful holiday season

and a new year filled with

*wonder.*



—The Tremont Staff



*...connecting people & nature*

in Great Smoky Mountains National Park

# Thanks to Tremont Supporters

As 2004 draws close to its end and winter quiet settles on the Smokies and Walker Valley, it is a good time to reflect on the events of the year. Tremont is a busy place and we have enjoyed seeing thousands of school children and their teachers involved in learning about Tremont through our school programs this year. Summer camps and a variety of workshops and other Smoky Mountains experiences gave people of all ages opportunities to be immersed in the wonders of this great park as well.

Many of you helped to make these experiences possible through generous donations to our annual campaign, endowment, scholarship fund, or designated projects. Thanks to all of you who have recognized the importance of such gifts and for your continued support! Many of you have already responded to our annual campaign mailing and those who did so before the beginning of November are recognized below. Others have sent their donations to us since then and will be recognized in the next newsletter as will those of you who are planning to send us your donation. As budget challenges and exciting new initiatives have taken form, the

number of people who are active supporters have grown along with us as well. We are so appreciative of the commitment to our mission that people have shown through such support.

The support of individual donors can help to leverage grant support as well. This year we have been fortunate to receive grants from Alcoa Foundation, Cornerstone Foundation, Knoxville Utility Board, BB&T bank, First Tennessee bank, The Tennessee Arts Commission, and the Clayton foundation. We also continue to receive generous support from The Friends of the Smokies and Great Smoky Mountains Association.

Volunteers, park staff, and Tremont staff and board members give of their time and talents to keep us moving forward. Recently we had our annual workday and over 50 willing folks showed up to help. Their names are listed below as well. Our board members meet at least monthly and the park superintendent and other key staff attend those meetings more often than not. We are tremendously fortunate to have an excellent team in place on

the Tremont staff and many of you can attest to their abilities and expertise. I feel tremendously blessed to work with such a fine staff, board, park partners and volunteers and can't say enough about their commitment and talent.

Great Smoky Mountains Institute at Tremont is a special place because of its relationship to this awesome park that it exists to support and protect. The ability to fulfill that mission however is made possible because of what is at the heart of our organization. That heart is those many people who I have mentioned here who support us in so many ways. Thanks once again and have a wonderful holiday season. We hope to see you at Tremont in 2005.



*Ken Ussis*

Executive Director

## Donations

From 8/1/04 to 11/18/04. Thank you!

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## Solving the Mysteries of the Black Bears

*The "Coolest Job in the World"*

*by Jennifer Arnold*

As we approach winter in the Smokies, most folks think of how the lives of many of the animals are changing to adjust to the season. When we ask students what the black bears of the Smokies do in the winter, most will answer what we have all been trained through years of cartoons to believe: "They find a cave to hibernate, of course." The hesitant naturalist answers, "Technically, the bears here don't hibernate, and they usually don't use caves." Many of the bears that call the Smokies home spend the winter high up in hollowed out trees. Bears do indeed change many of their habits and even their physiological workings in the winter, but in this area, it is not quite hibernation.

How have we been able to solve such mysteries about the park bears? It is largely due to the years of research the University of Tennessee has invested in these amazing animals. It has been 36 years since Dr. Michael Pelton first began the study of the Black Bears of GSMNP and the UT bear researchers reemergence each summer has become as much a part of seasonal change in the park as the blooming of the sourwood trees. These researchers work tirelessly each summer to collect data on the park bears and continue to be involved in research such as den surveys throughout the year so that we can learn such incredi-

ble things as where and how bears spend the winter, the population of bears and the trends we can expect to see. This past summer's researchers included Justin Conley, Carrie Lowe, and Megan Penrod, along with UT gradate student, Katie Settlege. These folks have what kids call "the Coolest Job in the World." They hike in the national park all summer in order to see, trap and examine bears!

2004 marked another successful year of research, although road closures, temporary flooding and injured researchers served to keep the bear crew on their toes. Our bear researchers are now employing two different types of mark and recapture techniques in order to determine population estimates as well as get an overall peek at the population makeup, health and trends. The traditional method, which has been used in the Smokies since the beginning of the research in 1969, is live capturing of bears during the summer months using a humane snare system. Bears are anesthetized, weighed, marked by a tattoo and aged using a pulled tooth. This method produces a wealth of information for the research, but is obviously taxing to both researchers and bears alike. A new method, which is in its second year of use here in GSMNP, is using DNA sampling of hair snares. The method simply uses a barbed

wire fence enclosure baited in the center with scents. As bears are very curious animals, especially when it comes to new smells, they climb through the fence to investigate and leave behind a DNA sample in the form of a small tuft of hair. As subsequent samples are taken throughout the summer, the DNA is analyzed and the individual bears returning to a site are considered "marked and recaptured." Through this method, more accurate estimates of the bear populations can be made for the park. The more passive collecting method serves to eliminate "trap shy" bears that would otherwise learn and avoid traps or "trap happy" bears. These bears seem to enjoy the food reward of the traditional trap more than they are bothered by the experience.

Through the live capturing of bears, researchers are able to determine much more about the individual bear, and researchers may place radio collars on females for den surveys during the winter months. However, the DNA hair sampling is a more efficient method for determining population estimates. Because of the different assets of each method, both methods have proven useful in solving the mysteries of the black bears of the Smokies.

As the black bear research continues, we begin to uncover even more of the mysteries of these amazing animals. Many more specifics of the black bear research conducted in the Smokies can be found at [www.fieldtripearth.org](http://www.fieldtripearth.org), the website of Field Trip Earth.

### Bear Necessities

*A few of the specifics of this past years' data collection*

**During the summer of 2004, using the live capturing technique, 24 different bears were trapped using 6 traplines from May 31 to August 16. Using DNA hair sampling, 1,778 samples were collected at a total of 65 sites and all but one site had bear activity during the 10 weeks. The average number of samples collected per week was 178, and an average of 48 out of the 65 sites yielded samples each week.**

***GSMNP 2004 DNA Data Summary:***

**250 total samples sent for analysis.**

**205 samples were successfully analyzed, resulting in:**

- 117 sample matches representing 41 bears.
- 88 bears not recaptured (ie: represented by only one sample, calculated as 205-117.)

**Thus, a total of 129 (41+88) individual bears were observed.**

# The Power of Memories

*The tradition of a closing circle*

*by Jen Martin*

Five days at Tremont. What memories! Hiking to Spruce Flats Falls, identifying salamanders, and bonding with classmates and teachers are just a few. It is a Tremont tradition to have a closing circle at the conclusion of every school group's stay, where we take a few final moments to share experiences with each other before departing for home. In the tradition of Native Americans and other people throughout time who gathered together after a significant event, we pass around a meaningful object (such as a deer antler) and share our stories. Holding that object gives the student the permission to speak, whereas everyone else has the permission to listen.

It is a serious moment, allowing students to share a highlight, something they have learned, or an opportunity to comment on what they have enjoyed most about the week. Remarks such as "I never thought I would have learned

so much!" and "I didn't know there were so many creatures living here!" show that the students have had an experience which opened their eyes to something different. They have a better understanding of why the Great Smoky Mountains National Park has been designated an

International Biosphere Reserve, and why it is so important to keep it protected.

Several students also note a change in themselves. An Oak Hill, Tennessee sixth grader stated that she was much more confident being in the woods and was no longer scared to be out at night. Another participant reflected how he learned to keep his bunk neater because it was so much easier to find things!

However, there is more about visiting Tremont than experiencing nature. Students learn about respecting the outdoors and also each other. Students who have never really talked to each other before become friends and grew more respectful and understanding. They get to experience their teachers outside of the typical classroom. "I actually got to see that my teacher is a real person outside of school!"

The closing circle often brings about a range of emotions from laughter to tears. The Tremont staff hopes the students will take what they learn here and use it in their homes and schools. And although it is extremely enjoyable for us to hear them reflect on their visit, it is inspirational as well to hear a fifth or sixth grader open her/his heart, share feelings with classmates, and truly express a passion for the Smoky Mountains National Park. It only reinforces the importance of environmental education and why it must continue in years to come. The memories provide a foundation for a lifetime of responsible citizenship, from environmental awareness, to commitment, to action.



## Storyteller Jay O'Callahan Coming to Tremont

Renowned storyteller Jay O'Callahan will be Tremont's special guest at our annual Environmental Education & the Arts Workshop, February 25-27. Jay has been a favorite for many years at the National Storytelling Festival in Jonesborough, Tennessee. He has also performed at the Winter Olympics, the National Theatre Complex in London, and with the Boston Symphony Orchestra. The Associated Press trumpeted him as "a theatre troupe inside one body." *Time* magazine dubbed him "a genius."

"Jay really draws his audience in while performing," says Jennifer Arnold, Tremont School Program Director. Tremont Executive Director Ken Voorhis says, "Our family has attended the National Storytelling Festival many times over the past decade, and amidst a wealth of storytelling, Jay O'Callahan is always among our very favorites."

In addition to his Friday evening performance, Jay will lead a three-hour storytelling workshop on Saturday morning. We will have concurrent sessions all day on Saturday that focus on the arts and the environment. Updates will be added over the coming months to our website, [www.gsmi.org](http://www.gsmi.org)

Tickets may be bought solely for the Friday evening performance or for the entire weekend workshop. For ticketing information call (865) 448-6709. —*Jeremy Lloyd*

### As the Earth Rotates

*Late summer, early fall weather synopsis*

With winter looming in the near future, let's take a look back at late summer and early fall. The month of August stayed pretty close to form with warm temps and high humidity—perfect summer weather for Walker Valley and the Smokies.

September was unusual in that it was the 3rd rainiest since 1991. October was also atypical in that it was one of the warmest since 1991, since average lows are usually found in the 40s. What will winter have in store for Walker Valley? We'll keep you up to date as the earth rotates.

—*Michael Matzko*

	Aug	Sept	Oct
Average high	84° F	81° F	77° F
Average low	62° F	57° F	52° F
Total rain	3.0 in.	5.9 in.	1.3 in.

# The Art of Observation

Looking for signs of wildlife

by Jaimie Matzko

After spending the weekend learning about tracking and nature observation with Wanda DeWaard, I don't think I'll ever look at things the same. Now I find myself watching how animals and people move to figure out what type of track they would leave. We spent a Saturday in the field at Cades Cove, and the day began with several deer passing close by. We tried to retrace their steps by looking for tracks, and I discovered how difficult they can be to find among the newly fallen layers of leaf litter. As we explored along Abrams Creek we found so many signs of animals! Some folks even surprised themselves as they found tracks of animals as small as mice, squirrel, and even salamanders. It was an extremely observant group, and we truly enjoyed looking for signs of wildlife. I couldn't believe what a difference it made keeping the track between the sun and myself, and as the sun started to set, the tracks seemed to magically appear in the mud.

On Sunday, we retraced our instructor's tracks to learn more about search and rescue efforts. What an accomplishment for the group to succeed in following the trail! It was very difficult—sometimes the only clues were misplaced dirt, a broken twig, or compacted leaves.

The art of tracking is such an important part of learning to truly observe nature. How often do you see the elusive mammals of the Great Smoky Mountains National Park? A great deal about animals and their environment can be learned by observing signs of wildlife. Bones, tracks, scat, and scratch marks always make for an interesting discovery. Even a chewed acorn can give away whether a Red, Gray or Flying Squirrel was active in the area. Winter is one of the best times to look for signs of wildlife. The clues are everywhere, and it's fun to practice identifying tracks. Find some mud after a good rain, or hit the trails after a snowfall and make some discoveries of your own!



## An Evening in the Smokies with the Woodpickers and Friends

Those of you have heard the Woodpickers (Jeanie and Richard Hilten, John Richardson and Ken Voorhis) know that they have been long promising to produce the CD. At last, *An Evening in the Smokies* is due to be out early in 2005 and includes over twenty tunes of Smoky Mountains music such as old time string band favorites "Whiskey Before Breakfast" or "Arkansas Traveler." It also includes Tremont originals from Vannie Cook, Voice of the Smokies, and Big Timber, as well as one written and performed by Sam Crowe. Jeremy Lloyd and other friends play along as well. The CD will sell for \$15 and all proceeds will provide scholarships for students to come to Tremont. Watch for details on our Web site and in our e-news.

## Park Issues

Working at Tremont for the last few years has given me a unique perspective into how a national park is operated. I have been constantly amazed at all that goes into keeping the park up and running on a daily basis. For the park service, every day is a little bit like owning and operating a business, running the utility services for an entire city, and maintaining a five hundred thousand acre lawn all at the same time. And to top it all off, there is a constant onslaught of new management issues—everything from threats to the park's resources to public controversy to changes in governmental legislature.

Here at Tremont, we are always asked about some of the major management issues that face the Smokies today. The following is a list of resources that we have found helpful in answering many of those questions. And as always, we hope the information you find will help you to spark some new ones.

[www.nps.gov/grsm](http://www.nps.gov/grsm) A great site for general Smokies info. Click on the In Depth button to find links to a ton of info.

[www.northshoreroad.info](http://www.northshoreroad.info) Information on the ongoing process surrounding the proposed North Shore Road.

[www.elkmont-gmpa-ea.com](http://www.elkmont-gmpa-ea.com) Management plans for the historic Elkmont area of the park.

[www.cadescoveopp.com](http://www.cadescoveopp.com) Ideas and information about the management of Cades Cove.

[www.saveourhemlocks.org](http://www.saveourhemlocks.org) What is being done in the fight against the Hemlock Woolly Adelgid, and what you can do to help.



[www.dlia.org](http://www.dlia.org) Homepage for Discover Life in America, the organization coordinating the All Taxa Biodiversity Inventory (ATBI).

[www2.nature.nps.gov/air/webcams/parks/grsmcam/grsmcam.htm](http://www2.nature.nps.gov/air/webcams/parks/grsmcam/grsmcam.htm) A live web cam from atop Look Rock, with good info on the air quality in the Smokies

—Adam Barnes



*Old Berry*

## Indian Summer

*Back in time with Ol' Will*

*by Michael Matzko*

***“What year is it, Jeb?” I asked.  
“You don’t know what year it is, boy? Are you awake yet?” Jeb smirked. “It’s the year 1917.”***

Last week, I decided to go for a short hike up the West Prong Trail. It was a warm Indian summer day with a breeze that littered the ground with freshly fallen leaves. After a short while I decided that this was the perfect afternoon for a catnap. Finding a good flat spot, I piled some leaves up and plopped myself down. I guess it didn’t take too long for me to fall blissfully asleep, and sleep I did.



**Will and Nancy Walker with their large family.**

I awoke to the sound of a strange voice. Squinting through watery eyes I found a man I had never seen before standing above me. “What ya doin up here, foreigner?” he asked. The man was dressed in overalls wearing a big floppy hat holding a rifle. “Well sir, I was out taking a hike and decided to stop for a nap,” I answered. He told me his name was Jeb and that he lived over the hill near the Spicewoods. I realized that standing before me was a true mountain man and quickly introduced myself as Michael from Western Pennsylvania. Jeb was very friendly and thought it was funny that I was sleeping way up here on the hillside. He asked me if I had any kin up in these hills. I told him that I didn’t, and I began to wonder if I was in the Twilight Zone because Jeb certainly was not from the year 2004. “What year is it, Jeb?” I asked.

“You don’t know what year it is, boy? Are you awake yet?” he smirked. I must have looked like a deer in the headlights because he patted me on the back and laughed, “It’s the year 1917. How long you been up here a-sleepin?” Going to sleep in 2004 and waking up in 1917 is a lot to wrap your head around, and I was beginning to feel like Rip Van Winkle. “Oh yeah, of course! 1917. I guess I’m still a little sleepy.” I said. Jeb told me he was on his way down to Walker Valley to help Ol’ Will get his wagon out of the river. “We could use another man, you want a come?” Jeb asked. Happily I agreed, wanting to meet the famous Will Walker in the worst way. We walked along the West Prong trail through Will’s fields past the schoolhouse and the cemetery. I was amazed at how different everything looked as we approached the rushing water of the Middle Prong. As we got closer to the bank, I could see Will in the river with a few other men trying to pry the wagon wheel from underneath a large log. “Where ya been, Jeb?” I heard Will say over the sound of the rapids.

“Well, I found this here man a-sleepin on the ground above your fields. He says he comes from Pennsylvania, and I thought youn’s could use another hand gitt’n this here wagon out,” Jeb hollered. Will looked at me and asked me who my people were and what I was doin’ up on his land. I told him I’m from the Matzko family up in Western Pennsylvania and that I didn’t realize I was sleeping on his land. He said he had never heard of my people and that I should have asked him first before going up on his land.

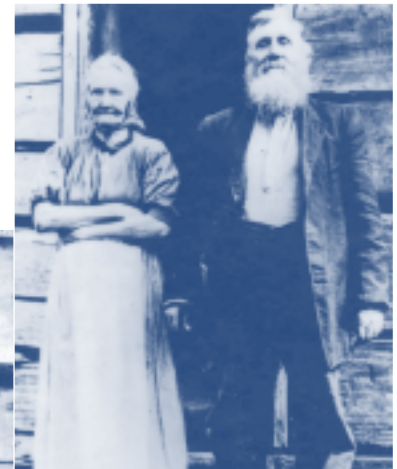
My hard work that day in the river must have impressed Will because he invited me over for supper, where I met his wife Nancy. We had a hearty meal of squirrel dumplings, stewed potatoes, greasy turnip greens, and cornbread. And as a treat, we had apple cobbler for dessert. I had never eaten squirrel before and was quite pleased at the flavor it produced. I talked with Will for hours after the meal about all kinds of things: his childhood, his family, and his way of life here in the Smokies. I had heard that Big Will was quite the storyteller, and he proved it to me that evening. One particular story I found quite amusing was the story about his nephews logging up on Lumber Ridge.

Two nephews of Big Will had been given permission to cut some log on

Lumber (Timber) Ridge, using a mule to start the logs down one of these “skids.” When the logs got a good start, the boys would yell “Jay!” at which the mule would step aside and let the logs continue down the “skid” to the river. As you know, the mule can be the most stubborn creature in the world, and this mule was no exception. He decided one day that he would not work anymore. Nothing they could do would make him go. They remembered that their Uncle Will had a big ox named Old Berry. They went down to ask if they could borrow Old Berry to finish getting their logs down the river. Big Will said, “You boys know that Old Berry is a valuable animal. I was offered \$100 for him recently. And you also know he has never worked in timber. If anything happens to him, you boys will owe me \$100.” With that admonition ringing in their ears, the boys took Old Berry up the ridge, hitched him to his first load of logs, started him down the skid, but when they yelled “Jay!” Old Berry didn’t understand and kept going on down the skid. The boys followed, discussing what they expected to find at the foot of the ridge and how their

profits from the logs already down would be gone to repay their Uncle Will. Imagine their surprise when they reached the bottom of the skid and saw Old Berry sitting astride the largest log unharmed. Rejoicing, they led Old Berry back to the top of the ridge to finish their job of bringing down the logs. Thereafter each time Old Berry heard the boys yell “Jay!” he stepped aside—he had learned his lesson well.

The evening spent with Big Will and Nancy was one of the finest of my life. We laughed and talked through much of the night by the side of the fire. Cheerfully, I nodded off to awake back on the West Prong trail in my bed of leaves with a smile and a sense of place.



**Left:** Will Walker poses with a treasured possession: his rifle, “Ol’ Death.”  
**Above:** Nancy and Will Walker in front of their cabin.

# Going Green

*Can we do more?*

*by Jaimie Matzko*



## Class Acts

Many educators across the country are incorporating place-based education into their classrooms, not only because it's good for the earth, but it helps students develop skills that they may not get from traditional education. Over 5,000 students come to Tremont each year because there are teachers dedicated to incorporating programs in environmental education beyond the classroom. It is a lot of work to plan for the trip, but the rewards are plenty. We offer hands-on programs to help students develop a sense of place, learn to appreciate diversity and to demonstrate stewardship. We hope that by bringing teachers, chaperones and students together at Tremont, they will return with a new sense of wonder and curiosity about the history and nature that surrounds them in their own communities.

As a Naturalist at Tremont, I am so impressed at the dedication of teachers. Those of us that consider ourselves educators have probably chosen that path because we care about the students and want to make a difference in their lives. What if there was a way that you could get your students involved in making a difference in their communities, learning about the natural and cultural history of the local area and achieve higher academic standings? There are schools all over the country that are going green by introducing philosophies like place-based education and how to reduce human impact on the earth. In his book *Place Based Education*, author David Sobel writes: "Place-based education is the process of using the local community and environment as a starting point to teach concepts in language arts, mathematics, social studies, science and other subjects across the curriculum. Emphasizing hands-on, real world learning experiences, this approach to education increases academic achievement, helps students develop stronger ties to their community, enhances students' appreciation of the natural world and creates a heightened commitment to serving as active, contributing citizens." The Center for Environmental Education of Antioch New England Institute has some great ideas for teachers and administrators that are interested in becoming a greener school with stronger ties to the local community.

## Curriculum Integration

- **Study local human impacts and possible solutions.** Which issues interest the students? It's great for kids to see results of their hard work in their own community.
- **Get students involved in field studies.** Investigate the life in different habitats on school grounds or take a creative writing lesson out in nature.
- **Learn about local history.** Have students research the stories of the area. Interview seniors or bring in a local musician that plays songs of your region. Put on a play for the community to teach others of your findings.

## School Grounds

- **Designate an area for the class to spend**

*time in the field.* It can be their "special spot."

- **Get community involved in habitat management.** Remove exotics, put up bird boxes, or create a land lab specifically for outdoor learning.
- **Plant a community garden on school grounds.**

## Community-based Projects

Getting students involved in helping their communities can be one of the most important aspects of environmental education.

- **Research the issues in your community.** What issues interest the students?
- **Build partnerships within the schools to be involved in projects.** There are most likely other teachers that would like to accomplish similar goals in their classroom.
- **Meet curriculum goals by participating in real life problem solving projects that benefit the community.**

There are many organizations that your school could form a partnership with, such as local watershed protection agencies.

## School Sustainability

- Does your school **recycle or compost**?
- What types of **cleaning chemicals** are used to clean and maintain the school grounds? Are there alternatives that would be better for the earth, the students and the teachers?
- **Food Service** is a major issue for a lot of schools. Do they get local or organic produce? Do they have healthy choices for students? Do they use Styrofoam? Have students research costs and options and put together a presentation for administration.

## Administration Support

Making some of these changes can seem intimidating, and getting the support from the administration can get others involved to help.

Professional development is an important part of teaching and providing opportunities for school staff to learn about incorporating environmental education into the classroom. Developing grantwriting skills, hosting in-service workshops or teacher retreats are all great ways to get started.

*For more information on going green, go to [www.SchoolsGoGreen.org](http://www.SchoolsGoGreen.org).*

# From the Science Room

*Citizen science = learning by doing*

Teachers, how would you like to have your students learn science by really doing it, become stewards of the national park, and connect with nature in a unique way? Citizen science at Tremont is an opportunity to contribute to the park and gain science skills at the same time by collecting data that help to monitor and inventory the natural resources of the Smokies.

More schools than ever are involved in citizen science at Tremont. For example, students from Calvary Fellowship spent several days at Tremont focusing on citizen science projects. Among their activities was a morning spent identifying moths for our Moth Monitoring and Inventory project. We set up our special Moth Motel 6 refrigerator and “left the light on” for them overnight. The next morning, the Calvary students counted and identified the moths that had taken up residence inside the trap. All the moths were allowed to check out and fly on their merry way, except for two mystery moths that we were unable to identify. We’ll save them for the experts—maybe they’ll turn out to be new records for the park!

Many school groups this fall have collected data for our Salamander Monitoring project. They have thoroughly checked the artificial salamander habitats in some of our nearby streams and identified, weighed, and measured the salamanders they found. St. Mary of the Lake students, for example, spent a morning at the Loan Branch on this investigation of salamander populations.

In 20 artificial habitats, they found 4 species of salamanders (6 individuals altogether, 4 of which were adults). With repeated monitoring over time, we can compare how the salamander abundance and diversity change seasonally and from year to year.



Two girls from Austin East show off the salamanders they identified during our salamander monitoring activity.

For just a few weeks in the fall, school groups can tag butterflies for our Monarch Butterfly Migration Study to learn more about the monarchs’ migration to Mexico. We’ve decided it should count as a physical education credit when we have students running around for hours in fields chasing butterflies! Students from Pi Beta Phi Elementary in Gatlinburg, Sevier County Adult High School, and Carson-Newman College, as well as many local volunteers helped us this year. Despite the fact that with all this help, we put in more effort than ever before, we did not catch many monarchs this year—just 14 (a tiny fraction of the 143 we tagged last year).

Monitoring programs and anecdotal reports from across the country, however, have indicated that 2004 is a low year for monarch butterfly populations, so our observations here in the Smokies fit that pattern. When they weren’t catching monarchs, the students practiced their skills by catching and identifying other butterfly species, so the day was still productive as well as fun. And, you never know, one of the 14 monarchs we tagged might turn up in Mexico!

Austin East High School from Knoxville spent a weekend at Tremont engaged in science as an enhancement to a Smoky Mountain Ecology course. A citizen science highlight for these students was the evening they spent on an owl prowling in Cades Cove. Not only did they hear six different Screech Owls, they also saw a coyote! This group also identified moths, monitored salamanders, and looked for fungi for the ATBI.

Does all this sound like your idea of fun? We have plenty more opportunities for school groups to get involved in citizen science. Our winter and early spring projects include more salamander monitoring, an inventory of winter-emerging stoneflies, and frog call surveys, to name a few. Keep an eye on the Science at Tremont section of our Web site as we post more information about our on-going research projects. Talk to Michelle Prysby (Citizen Science Director, [michelle@gsmiit.org](mailto:michelle@gsmiit.org)) or Jennifer Arnold (School Program Director, [jennifer@gsmiit.org](mailto:jennifer@gsmiit.org)) about how your school group can get involved.

—Michelle Prysby  
Citizen Science Director

## Great Smoky Mountains National Park Pocket Guide & Journal published

It’s not every day that Tremont publishes a new book. But the arts have borne fresh fruit at Tremont recently. We’re excited to announce our new *Great Smoky Mountains National Park Pocket Guide & Journal*, due out sometime this spring.

A result of a year-long project, it seeks to more fully integrate the arts into Tremont programs. In January 2004 a group of teachers, artists and arts educators convened at Tremont to create an arts curriculum for our school programs. Any workshop creates more ideas than can ever really be used—a good problem to have, because it means a reservoir of ideas for possible future use.

The *Pocket Guide & Journal* accomplishes many things. The pocket guide section is packed with information about the park that many Tremont visitors may be unaware of, or may have to look up in multiple sources. In addition to providing a brief history of the park’s natural and cultural history, it outlines brief summaries

of park flora and fauna. Sections on frequently asked questions, hikes and highlights, wildlife viewing tips, important moments in park history, and brief biographies on important figures in the formation and life of the park are included.

The journal section is interactive in format and includes many tools that teachers and students, or for that matter any park visitor, will find useful. Plenty of journaling pages, plus inspirational quotes, are also provided.

Artist Joey Heath, whose drawings have been widely published in park literature, illustrated the guide. Tremont Senior Teacher-Naturalist Jeremy Lloyd provided research and wrote the text.

We are grateful to the Tennessee Arts Commission for helping to fund the curriculum workshop that spawned this project, and to the Clayton Family Foundation for providing resources to complete the *Pocket Guide & Journal*.



# Looking Ahead

Join us for one of our upcoming workshops!

Our 2005 program brochure should arrive in your mailbox early in the year, but if you can't wait, check out a complete listing of our program offerings at [www.gsmiit.org](http://www.gsmiit.org)

## Wilderness First Responder Course January 16-23

Do you know how to respond to backcountry emergency situations? Anyone interested in the wilderness or in emergency medical training will benefit from this course. Instructors from Roane State Community College will lead the program. The curriculum will meet the Tennessee Department of Transportation's standards for First Responder while focusing on the special situations that may develop in the wilderness. Participants will be eligible for national registry and state testing upon completion of this program. The test for certification will be given on the last day of the course.

Program lasts from Sunday evening to the following Sunday afternoon. Test fee, lodging, and meals included in cost. Cost: \$765. There will be an additional fee to purchase textbooks.

## Family Adventure Weekend

February 11-13 or September 23-25

Run away from home and bring the family with you! What better way to spend a weekend with the family than exploring Great Smoky Mountains National Park! This weekend is chock full of hikes, crafts, games, waterfalls, beautiful views, campfires, and plenty of time to enjoy being with the ones you love. We will provide discovery and adventure AND we do all the cooking! It doesn't get much better than this! Join our talented staff for a weekend you will never forget.

Program lasts from Friday supper through Sunday lunch. Cost: \$300 for family of four ages 6 and up

(\$70 for each additional person); includes all meals, lodging, materials, and instruction. Visit GSMIT's Web site [www.gsmiit.org](http://www.gsmiit.org) for a full schedule.

## Wilderness First Responder Refresher February 18-20

If you have taken Wilderness First Responder in the past and are due for a renewal, this program will satisfy the requirements to renew certification in First Responder on the national registry. This program is also an excellent review of wilderness medical information and skills. Limited enrollment! Program lasts from Friday morning to Sunday afternoon, meals and lodging included. Cost: \$320.

## Spring Awakenings Naturalist Weekend April 8-10

Over the past 36 years, Great Smoky Mountains Institute at Tremont has formulated a recipe for a perfect weekend away. Take the beauty of the Smoky Mountains, add a cascade of blooming wildflowers, a dash of crisp air, dedicated and talented staff and guest instructors, and...voila! You have Spring Awakenings Naturalist Weekend. Spend the day focusing on your topic of choice and the evening participating in lectures, campfires, storytelling or musical entertainment. Choose from four areas of focus:

- **Woodland Wildflowers**

Spend the weekend exploring the park's nooks and hollows with staff that will share their love and knowledge of plants. Learn wildflower identification, natural history, habitats, and resources.

- **Off the Beaten Path**

Ready for some adventure? Are you interested in seeing parts of the park that most people never get to see? If so, then this weekend adventure was

made for you. Join Executive Director Ken Voorhis as he leads you to many of the secret and special places that he has found in his 20 years of exploring in the national park.

- **Cades Cove: Behind the Scenes Adventure**

Spend the weekend in the cove exploring the unknown places in the park's most visited area. Walk the fields to look for wildlife, discover caves, visit historic structures, find new trails, find a hidden swamp, explore amphibian haunts, and see the Cove in a whole new way.

- **Smokies Sampler**

This workshop is designed for those folks who want a little bit of everything. This is a great way to be introduced to all the wonders of spring in the Great Smokies.

Program lasts from Friday supper to Sunday lunch. Cost: \$200/participant (includes meals, lodging and instruction.) One hour of graduate credit is available for an additional fee. Visit GSMIT's Web site [www.gsmiit.org](http://www.gsmiit.org) for workshop schedules.

## Spring Adult Backpack: Sugarland Mountain

April 15-17

Join our guides and experience the beauty of spring in the Great Smoky Mountains firsthand on a three-day backpacking adventure. We provide all of the information, food, and gear (except sleeping bag) for your excursion. This is a safe, educational, and enjoyable way to learn about backpacking in the Smokies. Participants must be in good physical condition and be able to hike 5-8 miles a day in rugged, mountainous terrain.

Program lasts from Friday morning to Sunday afternoon. Cost: \$215. Route changes due to weather, campsite or trail closure may occur.

## New Family Weekend programs at Tremont!

"Does Tremont have any programs that I can bring my whole family to?" It seems like over the past year we have been asked this question more and more. The idea seemed like a good one to us, too, so no more waiting—next year we will be offering two Family Weekends. Families can look forward spending time together hiking the trails, exploring the streams, looking for wildlife, and finishing the day sitting around a campfire roasting marshmallows and listening to a wonderful storyteller spin some tall tales.

### TENTATIVE SCHEDULE

Friday	3:00-5:00 p.m.	Registration and Move into the Lodge
	5:30 p.m.	Supper
	7:00-9:00 p.m.	Evening Programs
Saturday	8:00 am	Breakfast
	9:00-Noon	Morning Activities (hikes, games, crafts)
	12:30 p.m.	Lunch
	1:30-4:30 p.m.	Afternoon Activities (hikes, games, crafts)
	5:30 p.m.	Supper
	7:00-9:00 p.m.	Evening Programs
Sunday	8:00 a.m.	Breakfast
	9:00-Noon	Hit the trail with a Sack Lunch

The programs are open to families with children ages six and up, and will be offered February 11-13 and September 23-25, 2005. For more information, or to register your family, call our office at 865-448-6709, or email us at [mail@gsmiit.org](mailto:mail@gsmiit.org).

## Ode to Tremont

When the evening news and terrorist reports burden me down, I journey back to Tremont where the only news that matters is the report from Mother Nature.

When the sights and sounds of flatland living crowd me into a corner, I journey back to Tremont—Lumber Ridge—Spruce Flats Falls loop where nature's sights and sounds soothe my soul.

When too many bills are coming in and gas prices soar, my mind soars back to Tremont where sweat is the only price you pay to marvel in nature's daily gifts.

Wander up the Middle Prong. Dip your toe in the cool waters and reclaim your sanity!

—Mickey Larkins

# Trees in Winter

Looking for clues in the twigs

by Ken Voorhis

If you want to really know trees, learn to identify them in the winter. Most people know a few trees. The most obvious identifier is the leaf, in some species the bark, and in some the flower or fruit. Some people know a good many trees and may expand the characteristics they rely on to recognizing simple or compound leaves, alternate or opposite arrangements, even tastes or smells of leaves, location, size, or a greater attention to the details in the bark. Once photosynthesis has ceased and the remaining leaf pigments are revealed in the wondrous display of autumnal color, it is not too long before November rains and winds leave the forest bare. It is then that tree identification may be a greater challenge but certainly none the less fun and interesting.

So what is left to aid those of us who want to identify trees in winter? Next to leaf shape, one of the first things that one learns in identifying trees is leaf arrangement. There are more trees with leaves that are arranged in an alternate pattern than opposite. I was taught the mnemonic "MAD horses buck." to remember the opposite trees. M for maples, A for ashes, D for dogwoods, horse = horsechestnut, and buck = buckeyes! "Great," you say "but what about the part about no leaves in winter?" No leaves, true. Evidence of leaves and their arrangement, however, is clearly apparent by looking at the twigs. What leaves are to identification in the summer, twigs are in the winter. Not only do twigs show scars from the leaves that have fallen, but also those leaf scars are signatures for that species. Big leaves have big leaf scars. Itty-bitty leaves have itty-bitty leaf scars. The leaf scars themselves contain patterns of bundle scars that are part of the "signature."

Above the leaf scars are buds that will become next year's leaf. Most twigs have a terminal bud at the tip that will be next year's growth and is another helpful identifier. A good tree guide will show the tree's twigs with leaf scars, lateral and terminal buds. A favorite guide of mine is *Fruit Key & Twig Key* by William Harlow (Dover Press.) The colors of the twigs are often also distinctive and helpful with identification. The fruits or parts of the fruits are also sometimes persistent and helpful in identification.

If you now feel challenged to go out and try to I.D. some trees in winter then I have met my objective. Grab a good field guide, a warm coat, and good

luck to you. At the very least you'll come back with rosy cheeks. Besides, that time alone with a tree is good therapy in my book. If you are further interested in trees this winter, I can suggest a great book to settle down with after the sun is down. *The Trees in My Forest* by Bernd Heinrich is full of great natural history about trees as Bernd describes a 300 acre overgrown farm that he bought in Maine over 25 years ago. He describes his forest there and how he has managed its diversity and watched it grow. It's a great read full of interesting details, and conveys a great sense of a man's connection with a place.

One of my winter projects will be to put the key to *Trees of the Smokies* up on our Web site and to create there a web-based tree identifier with pictures and descriptions. Check the Web site to watch the progress. I will also be leading a tree identification hike with Wilderness Wildlife Week to Albright Grove on January 11, and as part of our new monthly "Hikes with a Tremont Naturalist" another tree hike on February 11. If you are in the neighborhood come join us. Call our office for more details.



White ash bud

## Give the Gift of Summer Camp

Is there any better gift than that of sparkling waters, miles of trails, new friends, and forest critters? We don't think so and that's why we have created a special summer camp gift offer. Give the special child in your life a week or two at summer camp in Great Smoky Mountains National Park. Register by December 15 and we will give you a ten percent discount and send a long-sleeved Great Smoky Mountains Institute t-shirt and card to give them during the holidays. We offer a variety of camps (see below for brief descriptions or visit our Web site [www.gsmiit.org](http://www.gsmiit.org) for more information) from science to backpacking adventure. Each camp is designed to give campers a special understanding of the national park and of themselves. Camp is definitely one of the best gifts around. Contact our office at 865-448-6709 to register.

### Discovery Camp

June 20-25, June 27-July 2

*Outrageous science and nature experience for ages 9-12*

### Smoky Mountain Naturalist Expeditions

July 11-21

*See nature up close and personal. Ages 11-13*

### Field Ecology Adventure Camp

June 20-25, July 11-21

*Be a field scientist for a week or two. Ages 13-17*

### Wilderness Adventure Camp

June 20-25, June 27-July 2

### Teen High Adventure

July 11-21

*Backpacking adventure in the wilds of Great Smoky Mountains. Ages 13-17*