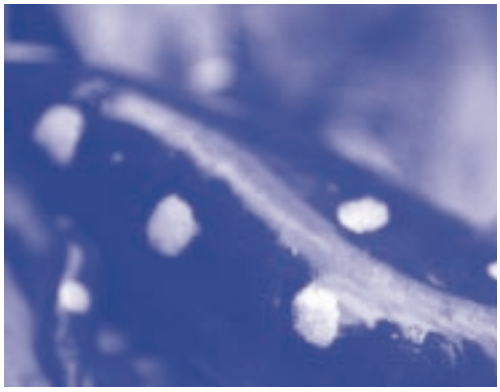
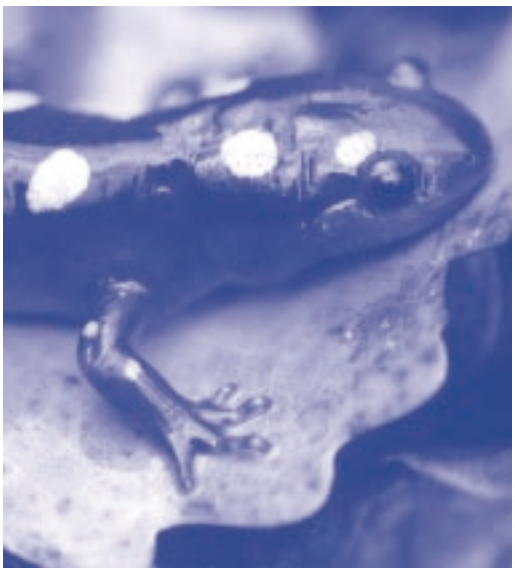
Walker Valley
REFLECTIONS

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

Heralding Spring

Around early February, folks at Tremont start to feel a strange feeling, sort of a tingling anticipation. It is the feeling that we'll soon be reunited with old friends, friends we haven't seen or heard from in months. These friends signify the arrival of the wet and wonderful spring of the Smokies. After an unusually cold January, the sights and sounds of our friends are particularly welcoming this year. To bring the Smokies to you, our staff has collaborated to share a little about some of our favorite spring species, but we hope that you can join us at Tremont this spring to experience them in person!





KEN VOORHIS

The Black Chinned-Red Salamander (*Pseudotriton ruber schencki*) is one of my favorites and a somewhat rare surprise when turning over rocks in local streams. On early spring rainy nights however I have found these beauties wandering across the Tremont road. On several such occasions I've hiked the asphalt in rain gear with flashlight to see what has emerged. Wood Frogs (another favorite), Long-tailed Salamanders, and those stout red salamanders are often out in unusual abundance. Many amphibians move to breeding areas during this time of year, and their migrations make for great opportunities to see species that are usually more reclusive. I also enjoy going out during the earliest rains a little further afield to visit a few secret places where the Spotted Salamanders gather to lay their eggs. They are one of our larger salamanders and are quite striking, with yellow spots against a jet black slimy skin. On such trips, I am also thrilled by the trills and almost deafening calls

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Summers' Salvation

Becoming a part of the past, present, and future of summertime in Walker Valley

Adam Barnes

It's cold. And raining. And overcast and gray. It's the glory of an early February afternoon here in Walker Valley.

Now don't get me wrong, it's not that I'm complaining. There's definitely something magical about being in the mountains on these midwinter days. The color of the river, the smells in the air, even the occasional column of sunlight brightening a spot on the mountainside. But there is something about days like these that makes me sit here in the office, warming my hands on a cup of coffee and my toes in a pair of thick wool socks, and yearn for the nice warm days of summer.

And somehow, I'm sure that I am not the first person to sit in this valley and ward off a case of cabin fever by thinking forward to the sunny days of June and July. I have my memories of the past few years to entertain me, but I also wonder what summertime would have meant to all the past generations of residents here in Walker Valley.

Summer, 1904

You wake up just before dawn and lay in the half-light of the loft for a few minutes listening to the stirrings of early morning just outside the cabin. The sounds of the fire being stoked downstairs lets you know that you're not the first to wake, so you slide out from beneath your blanket, dress quickly, and climb down the ladder. As you sit and eat your morning meal, thoughts of the days chores fill your mind; tend to the chickens right off, then climb up on the barn roof and replace those shingles before the heat of the day, all this leading up to an afternoon working the corn out in the field. But you know that after all that hard work, nothing in this world will feel better than a dip in the river before suppertime….

Summer, 1926

How amazing is this? You and forty other Girl Scouts are living in the middle of the Great Smoky Mountain wilderness for two whole weeks. Camp Margaret Townsend, named after that wonderful woman who asked her husband not to log this part of the valley so girls like you could spend your summers here. You've already been here for a week, spending your days being guided along the trails by some of the old loggers, and your evenings singing songs around the campfire. And this year has been even better than last, since they dammed up the river next to our island and gave us a gorgeous new pool to swim in….

Summer, 1971

For being an experiment, this idea of a Youth Conservation Corps sure seems like a good one to you. Not only have you gotten to spend the last 6 weeks at the Maryville College Environmental Education Center at Tremont, but you've met all kinds of new people as well. There were those park rangers who took you out to inspect and clean up campsites, the folks who helped your crew rebuild one and a half miles of the famous Appalachian Trail, even a visit by Lady Bird Johnson, the wife of the president, to see how the YCC was working. And how great were those days spent with the fisheries crew up to our waists in the cool water doing a stream survey and stocking fish….

Summer, 2003

You're sitting in the pavilion waiting for the cookout to begin. As much as you're looking forward to a big ol' hamburger grilled by the Tremont kitchen staff, you know better than to eat too much right before the all-camp, boys versus girls Capture the Flag game coming up. Last year the girls won, so you and the other boys have been working on your strategy all week during siesta time in the lodge. And after the big game, it'll be time for the campfire. If it's anything like the one the first night, you know that the counselors have come up with some hilarious entertainment to share. Sitting there, you can't believe you still have energy for all this after spending the entire day hiking eight miles in the mountains. But that jump in the swimming hole when you got back made every step of the journey worth it….

Well, I guess that plenty of good memories have come out of our little valley over the years. And while it is important and impressive to recognize the changes that have happened to the mountains and its people over the years, it's still good to know that some things never change. Looking forward, who knows what memories will be made during the 2004 Summer Camps that will help get me through February next year. But no matter what, it feels good knowing that I will become a part of the next piece of history woven into this place.

Summer Camp Is Coming!

You've thought about it, longed for it, dreamed about it during the dark days of midwinter. Now it's time to do it. Sign your child up for a week of summer camp in the Great Smoky Mountains!

• *Discovery Camp* is one of our longest running programs for children ages 9-12. Kids get to explore nature, learning about plants and birds, frogs and snakes. There's swimming in the river daily, plus a hiking adventure in the wilderness, and even a night's campout in the woods.

• *Wilderness Adventure Camp* is a 3 night/4 day backcountry excursion for teenagers who may have never backpacked before and want to see what it's all about. Quite a few campers return summer after summer as well.

• *Teen High Adventure*, a 6 night/7 day trek that will likely include a day whitewater rafting, is also for teenagers. Teen High Adventure is our premiere backpacking offering, designed to give teenagers a rewarding experience growing in the areas of backcountry skills, nature appreciation, and personal development.

• *Field Ecology Adventure* (formerly known as Teen Science Camp) gives teenagers ages 13-17 the opportunity of working *with* and *as* real scientists. Past campers have studied salamanders, insects, birds, and plants in-depth. Climb a mountain, ford a river, and do real science.

• *Smoky Mountain Naturalist Expeditions* gives kids ages 12-14 the opportunity to immerse themselves in a ten-day field of study learning about amphibians, black bears, forest ecology, or primitive skills. This is *deep* immersion, in contrast with the average park visitor, whose windshield experience motoring through the mountains hardly scrapes the surface. Expedition Naturalists will get to explore areas all over the Park, interact with professional land and wildlife managers, and gaze into the glowing embers of an evening campfire after an afternoon spent swimming in the Middle Prong. This unique program is truly one-of-a-kind.

If you wish to see what a week at one of Tremont's summertime youth programs looks like, click on our website at www.gsmit.org for a sample weekly schedule. These programs fill quickly, so sign your child up soon. We look forward to meeting you and spending the summer with your child! *—Jeremy Lloyd*

Heralding Spring

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of Spring Peepers and Chorus Frogs. The amphibians also come out long before the wildflowers, so to me are some of the first signs that spring is around the corner. —*Ken Voorhis*

If you like spring wildflowers, there is no better place to be than the Great Smoky Mountains National Park. Of all the amazing wildflowers that I look forward to seeing, Bloodroot, *Sanguinaria canadensis*, is my favorite. This member of the poppy family is also known as Red Puccoon, Indian Paint or Tetterroot. The common name "Bloodroot" comes from the red juices in the root of the plant. It was used by Native Americans as a dye for fabrics and paints. Bloodroot contains sanguinarine, a chemical with akaloid properties that has been used for antiseptic, anesthetic and anti-cancer treatments. The common name "Tetterroot" refers to the treatment of fungal infections, ringworm, and warts. It is commercially used in toothpastes and mouthwashes as it inhibits dental plaque. Although there are many medicinal uses for Bloodroot, this plant is toxic and should not be ingested. This flower has 8-10 white petals, surrounding golden stamen. The kidney-shaped leaf is unique and attractive, sticking around long after the flower and seed capsule are gone. Look for Bloodroot from mid-March to April when it blooms here in Walker Valley, especially along the West Prong Trail. —*Jaimie Matzko*

What represents spring more than butterflies? Most butterflies overwinter in the egg, caterpillar, or chrysalis stage, so we don't see the adult butterflies on the wing until the weather warms and they complete their life cycle. But a few butterflies, particularly those in the genus *Nymphalis*, overwinter as adults. It's neat to hike in winter and think about butterflies holed up in cracks and crevices around you. For this reason, the Mourning-cloak (*Nymphalis antiopa*) is usually the first butterfly we observe in Walker Valley each spring, sometimes even coming out on warm, sunny days in early February. Adult Mourningcloaks prefer to eat tree sap and rotting fruit, while their spiny, red-and-black larvae feed in large groups on willow, elm, and other trees. Keep an eye out for Mourningcloaks where you are, too. They can be found in forests, suburbs, and even cities all across the US. —*Michelle Prysby*

Many of the 200 or so bird species that have been recorded in Great Smoky Mountains National Park are neotropical migrants. They breed here in the spring and summer, and migrate to Central or even South America for the winter. Since few northern birds migrate here for winter, an avid birdwatcher is always ready for spring. The aptly-named Pine Warbler (*Dendroica pinus*) is often among the first to arrive, since some of them winter as far north as the Gulf Coast. They nest in pine trees, and switch from eating insects to pine and other seeds in cold months. It is unusual to see a Pine Warbler away from a conifer for long. Sometime in early February, start listening for the loose, slow trill that announces one of the bigger warblers in the area. Its yellow head, breast, abdomen, flanks and upper back are distinctive with the 2 large white wing bars, dark line before the eye and large (for a warbler) bill. —*Charlie Muise*

The Eastern Fence Lizard (*Sceloporous undulatus*) is one of the first reptiles we see in Walker Valley each spring. It prefers sunny locations and can be found resting on rotting logs and in open woodlands throughout the low and middle altitudes in the Smokies. While hiking in Walker Valley along the Lumber Ridge and Spruce Flat Falls trail, keep an eye out for these gray and brown lizards with dark markings. The males have bluish patches on each side of the belly and throat. Females lay 6-10 eggs in the late spring that hatch in mid-summer. The earliest recorded sighting of the Eastern Fence Lizard in Walker Valley is January 23, and usually is seen by March 1. You may see one sunning itself while looking for a tasty snack consisting of spiders, centipedes, snails or beetles. —*Jen Martin*

My favorite spring species is the Eastern Redbud or Judas tree (*Cercis canadensis*). The E. Redbud, in the Pea family, is a small tree with a rounded crown and maximum height of 40-50 feet. What makes it my favorite are the beautiful magenta-colored flowers that appear in clusters just before the heart-shaped leaves. Here in Walker Valley, the redbud blooms typically in late March, but has been seen as early as March 18 and as late as April 11. This tree is most commonly found in limestone areas below 2,200 feet, such as Cades Cove and many other places adjacent to the park. This tree has become an important ornamental species due to its showy flowers and small size. The flowers of the redbud can be eaten and are especially nice on a salad. The inner bark has been found to be highly astringent, and is commonly used as a folk remedy for stomach ailments.—*Michael Matzko*

The first few weeks in April are when a little bit of sneaky magic occurs in our forests. During that time, the trees begin to leaf and the woods begin to "green-up." I eagerly anticipate the greening-up time since it brings with it a succession of colors that change daily. The first green leaves on the scene come from the random bursts of the emerald compound leaves of Yellow Buckeye. Soon, from the millions of tiny first leaves dotting the mountainsides, we see a haze of incredibly fresh, cool spring green. As the leaves grow, they begin to fill in the nooks and crannies, obscuring our view and creating the "wall of green" which explorers of the Park know so well. By May, the fresh, lively greens of early spring have aged to a more deep somber color as they set about the business of competing with their neighbors for sunlight. This subtle process of change and growth tempts me to watch every second so that I miss none of its magic. —*Amber Parker*

A few staff recommendations for field guides and references:

- ***Amphibians and Reptiles of Great Smoky Mountains National Park*** **by James E. Huheey and Arthur Stupka**
- ***Peterson Field Guide, Eastern/Central Medicinal Plants*** **by Steven Foster and James Duke**
- ***Wild Roots*** **by Doug Elliot**
- ***Trees, Shrubs, and Woody Vines of Great Smoky Mountains National Park*** **by Arthur Stupka**
- ***Butterflies Through Binoculars: The East*** **by Jeffrey Glassberg**
- ***Wildflowers of the Smokies*** **by Peter White**

I always know that spring is officially here when, after a quiet winter season, the park once again begins to fill with people. And every year, this return seems to be led by a group of one of the most interesting harbingers of springtime, the *College Spring Breaker*.

The warm days and cool nights of mid-March triggers a huge migration of subspecies of *Spring Breakers* from all over the United States, in particular, it seems, the Midwest. Many wind their way to Eastern Tennessee, while a few individuals find their journey's end here at Tremont. Note is taken as they prepare to disperse towards

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their ultimate destination, a backcountry campsite. Their packs are filled with gear, their legs with bravado, and their minds with dreams of adventure. Many disappear into the cove hardwood, where they are seldom seen or heard from for days at a time. But then, all at once, the first good rain drives them from their temporary woodland habitats back into the arms of civilization.

We see large groups of them huddled between the cover of cars trying desperately to light a stove on which to cook 2 cans of baked beans and a pot of mac and cheese. There are sleeping bags strewn about the parking lot in the early morning hours. Some are even bold enough to ask for directions to the nearest motel. After a few weeks of this convergence of life, the frenzy dies down, the individuals return to their natural habitat, and the forest waits for that fateful day in June, when school lets out for the summer. —*Adam Barnes*

Successful Arts Curriculum Workshop

On January 23-25, an extraordinary group of people came together at Tremont for a unique event. With help from the Tennessee Arts Commission, we hosted a diverse array of people—educators and arts professionals—for the purpose of creating a new arts-based curriculum for Tremont's school programs. Tentatively called *Exploring the Smokies Through the Arts*, this program will do just that—use the arts more fully to connect children with nature.

Starting from scratch is not easy, and we had to take into account our limitations. For instance, because we're located inside a National Park, we cannot reconstruct an old settler's cabin or traditional Cherokee dwelling on the Tremont campus. We began to see these limitations as strengths because, by virtue of being located in a National Park, an arts program at Tremont would truly be one-of-a-kind.

We continue to hammer out a lesson manual that will glue it all together, and in the meantime, we will continue spreading the word about this exciting project. If you are a school teacher and want to learn more, you can even put your two cents in on the creative process! Call (865) 448-6709 or email me at Jeremy@gsmit.org.

Other big plans for the arts at Tremont loom in the future, and for now we're dreaming big: an arts-based curriculum for high school, college and adult groups…a concert and lecture series…and even an Artist-in-Residence program. Helped by the Clayton Family Foundation, which recently awarded Tremont with a $5000 grant, we hope to make a portion of this a reality soon. Stay tuned! —*Jeremy Lloyd*

NATIONAL PARK SERVICE

The House That Jack Built

Stories come alive on Mount Le Conte

by Jaimie Matzko

Those of you who live to climb mountains have probably been asked, "Why do you do it?" I'm sure the answer is always the same—"If you have to ask, you probably wouldn't understand." At Tremont, we like to provide opportunities for people to not only stand on top of the mountain, but to learn about the flora and fauna, the history of the mountain and stories that it has to share. It's one thing to climb up a mountain and back the same day, returning before dusk. It's quite another to stand atop as you watch the colors of the sunset give way to the darkness and the stars, knowing you will be there to watch it rise again, after sleeping at over 6,500 feet. Mt. Le Conte is one of the few places to have this experience. There is a lodge on Mt. Le Conte that attracts hikers from all over because of the good food, rustic atmosphere and of course, the location. Although high country ecology and science research are the topics of our Mt. Le Conte hikes this spring, summer and fall, there are so many stories that this old mountain holds. As one explores Mount Le Conte, it's hard not to wonder… "Who were some of the early explorers? What were their stories?"

According to *A Natural History of Mount Le Conte*, by Kenneth Wise and Ron Peterson, Mount Le Conte was named for Professor John Le Conte of South Carolina College, who never climbed this mountain. Sam Buckley and Thomas Clingman had honored Le Conte because of his help in measuring the elevation of Smoky Dome, now known as Clingmans Dome.

Although elevation measurements and explorations of Mt. Le Conte took place in the 1850s, it wasn't until the 1920s that visits on the mountain became more frequent. Paul Adams first climbed Le Conte in 1918, when his family moved to Knoxville. He was an enthusiastic naturalist and hiker, spending all his free time finding new adventures in the Great Smokies. In 1924, his knowledge and experiences would soon prove important as Adams was asked to join the Great Smoky Mountain Conservation Association by Colonel David Chapman. This group was organized to promote the idea of the Great Smoky Mountains becoming a National Park. In August of that year, Adams would help guide the first Park Commission trip to Le Conte. This was a difficult trip; they did not have the maintained trails we use today. On the descent, they were one of the first known groups to travel from the top of Mount Le Conte to Alum Cave Bluffs. In Adams' writings he says, "We rested fairly often, trying to pick out the good points for our stops…This took a

long time. But the bones and peace of mind of our visitors were precious. We wanted them to see the beauty and ruggedness of our mountains, so that they would recommend the establishment of the Park." This trip led to Chapman offering Adams the opportunity to establish a permanent camp. Adams located a water source atop the mountain, now known as the Basin Spring. With the permission of the Champion Fibre Co., the logging company that owned the mountain, he established a camp to the west of where Le Conte Lodge now stands. He constructed a fifteen-by-twenty foot cabin of notched spruce and fir logs, using moss and clay for the chinking. Adams kept a journal of his discoveries and adventures at his camp, with his faithful canine companion, Cumberland Jack, in a book titled *Mount Le Conte.*

On May 10, 1926, Jack Huff and Will Ramsay took over management, building a larger cabin, thirty by twenty-four feet of all balsam wood, or Fraser Fir. There were sixteen upper and lower bunks made of fir branches covered with blankets. The boarded roof was waterproofed with tarpaper and gravel, and the fireplace was built of rocks at the opposite end of the door. This cabin was known as "The house that Jack built." The most amazing story I have read of Jack Huff was when he carried his mother up to the top of Mount Le Conte. Her health was failing and all she wanted to do was watch the sunrise at Myrtle Point before she died. Jack built a rocking chair that he could strap on his back, specifically designed to carry her to the top. Jack took only a few breaks to let her rest. He claimed she was the only one to ever climb Mount Le Conte backwards! What a devoted son! Huff married his wife, Pauline in 1934 at Myrtle Point. They managed the Lodge until 1960. Although there have been many improvements and reconstruction since the "House that Jack Built," the lodging is still very rustic and now includes a dining hall, recreation hall, several small cabins, and cozy beds, of course. Reservations are required and they must be made well in advance with Stokely Hospitality Enterprises.

Mount Le Conte is a magnificent mountain with so many more stories to learn and share— not only in the language of the landscape, but about the people who have explored this place. There is nothing quite like climbing a mountain; the whole experience is deeply satisfying. Places like Mount Le Conte change people's lives, not only for people like Paul Adams and Jack Huff, but those who have made a tradition to hike Mount Le Conte each year to enjoy the wilderness and solitude of our National Park. Start your own tradition this year. As you stand on this old mountain, take pictures, leave only your cares, and give thanks that places like Mount Le Conte are preserved for future generations to enjoy.

GSMIT Le Conte trips are scheduled for April 17-19 and August 14-16. Check our website www.gsmit.org for more info, or call to register.

From Tremont to Elkmont

These mountains hold so many interesting stories, we'll never know them all. And sadly many tales are being lost as people who know them carry them to their graves. That's why it's so important to tell these mountain stories and keep them alive. Each pre-park community was rich with legend and lore, and Elkmont is no exception. With a little imagination and guidance, today's campground reverts back to the old logging town with trains passing through. The ghost town of forsaken cabins comes alive when we learn about the people who lived there. And of course the cemeteries hold their own stories of the almost forgotten people who are buried there.


MICHAEL COLLIER

Those of you who have come to Tremont have probably visited the Walker Cemetery where little Vannie Cook was buried after a burning tree fell on her. Now I'd like to tell you the rest of the story. Vannie's father, Sam Cook, left Walker Valley and moved his family across Meigs Mountain to Jakes Creek, above Elkmont. His remaining daughter, Eva, later married Steve Ownby, who was from one of Elkmont's original pioneer families. As a wedding present, Sam bought a nearby cabin for the newlyweds. This cabin, built in the mid-1800s, was later bought by Frank Avent for $200 and, beginning in 1919, was used by Mayna Treanor Avent, one of Tennessee's most esteemed artists. But I'm getting ahead of my story…

Steve and Eva had a son, Henry Clay. On a March day in 1930, Steve needed to do some work to the roof of their new woodshed down by Elkmont. Henry was not quite two years old, but insisted on helping his dad, as children often do. It wasn't long before he got his little hands dirty and slipped off down to the river to wash them. The Little River was swollen and swift from the spring rains. Perhaps he leaned over too far. Or perhaps he slipped on a wet rock. His body was found about a quarter mile downstream. His tombstone simply reads: "H. C. Ownby, Mar. 30, 1928-Mar. 18, 1930."

Another tragedy for Sam Cook and his family.

Little Henry Clay was buried in the "new" Elkmont cemetery, that Levi Trentham had just started in 1928 when his wife, Emaline, died. The story goes that Levi wanted his wife buried down by Jakes Creek, where they had already buried one of their children. He told his two older boys to dig their mother's grave for tomorrow's burial. They protested, concerned that the grave would fill with water if (or when) the creek flooded. Levi, a rather opinionated character, insisted that the boys dig where they were told, so they did. But that night, when Levi was asleep, the sons crept down to the empty grave and poured water into it. The next morning, the day of the funeral, Levi was dismayed when he discovered that there was water in the grave. He conceded that his sons had been right and ordered them to dig a new grave on a knoll of his property, which may have been his cornfield. This was the beginning of the "new" Elkmont cemetery, which is above today's campground. (The "old" Elkmont cemetery is located on the dead-end road behind the Wonderland Hotel.)

Alice Townsend, Col. Townsend's third wife, is also buried in the Trentham cemetery. But Col. Townsend, (who had a house in Elkmont and was the president of the Little River Lumber Company that logged much of what is now the national park, and whom the town of Townsend is named after), is not. He is buried in the Old Grey Cemetery in Knoxville, between his first two wives.

Sound interesting? Then come join us as we explore Elkmont and hike to the secluded Avent Cabin, visit Levi Trentham's "new" cemetery (and maybe the old cemetery, too), and see his cabin (that has been moved). We'll see Col. Townsend's set-off house, and one of Alice Townsend's houses. We'll learn a little history, mixed in with some stories, and have a lot of fun at the Spring Naturalist Weekend, April 23-25. The price is $190 and space is limited to 15, so call today to register! 865-448-6709. *—Julie Brown*

Annual Report 2003

From the Executive Director

How do I properly convey in a brief annual report what was accomplished at Great Smoky Mountains Institute in the last year? There are some statistics shown below that tell part of the story. I've also shown a bulleted list that outlines some of our successes—that is, new programs and activities, goals met, projects accomplished. The statistics and list of successes help to show that our talented and dedicated staff worked hard and that we are on track with accomplishing some great things. What they don't fully show is the impact that we had on the lives of those who experienced the Smokies firsthand and the lessons they learned by doing so.

Just this evening I had a conversation with two parents (who were helping chaperone a group of middle school students for the week) about how things have changed since we were kids. The opportunities that we had to explore the woods and fields near our homes are not as easily accessible to children today. Their students spent the day hiking with and learning from their teachers and our naturalists about Great Smoky Mountains National Park up close and personal. Despite a cold and wet day, they had stories to tell, memories of the mountains shrouded in mist, and lessons about the forest environment in the winter. The impact that an experience like that has on students is difficult to measure and it is hard to say how important it can become as part of a child's lifetime of learning.

The impact of our programs is significant and, I believe, more important than ever in today's changing world. 2003 was a very good year. We have exciting plans for 2004 and beyond. Our board and staff developed a challenging strategic plan in 2003 that will help us chart our direction over the next 5 to 7 years and assure that connecting people and nature will continue to occur. But don't just take my word for it that what we are doing is critically important. The following testimony of the truth of that statement is well expressed by the words of Judy Stockton, a seasoned schoolteacher who has brought her student to Tremont for a number of years.

—Ken Voorhis

Dear Ken and Staff,

I've been meaning to put my thoughts on paper for such a long time. I continually tell parents, community members, other teachers, and students about the great experiences my students and I have had over the years at Tremont, but I've failed to put pencil to paper and express my gratitude to each of you until now.

I have been bringing students to Tremont for more than 15 years, and each trip has been wonderful; the staff is always knowledgeable, helpful, fun, and responsive to every adult or student need.

Education takes place in a variety of venues beyond the school house, like out-of-doors, live theater, etc. The education Tremont offers by connecting people and nature has far-reaching potential. This experience makes a younger generation aware of their responsibilities to the world around them. They then bring back new knowledge that they spread to family and friends and others they come in contact with. They talk about food waste, water conservation, native plant and animal habitat destruction, and auto/factory pollution as some examples. The kids see, touch, taste, hear, and experience nature in person, not simply read about it in a book. There is no substitute for this marvelous hands-on, lifelong learning adventure.

All of your activities require cooperation which helps to solidify an important theme of the program—that man must cooperate with nature. We have, after all, but one world to save for the generations that follow.

Over the years, I've had some parents say that this trip to Tremont began their youngster's interest in protecting the environment; therefore, he/she went on to study environmental sciences in college, wrote poems, participated in projects that emphasized protecting the environment, practiced environmentally friendly habits, and insist that those around them do the same.

Children get so excited that following the trip they bring their families back to Tremont to hike and learn. They insist that their families practice changes at home that incorporate what was emphasized during their stay at the camp.

Even when kids leave our middle school and move on to our high school, some stop by to ask when we're going to Tremont and can they go as chaperones. They'd love to go again! Also, parents ask that children be placed on this team because they've heard such wonderful things about our environmental education trip and would like their children to have the same experience.

Now, you'll need to keep in mind that the children who come to Brentwood Middle School are folks who have a lot of advantages in life, but not usually outdoor environmental experiences—roughing it, so to speak. Theirs were more likely to have been expensive ski trips and lavish vacations to a number of exotic places. Therefore, this trip was a *first time* journey. Their eyes remained wide for the entire stay, and being in a totally new learning environment, the students were eager to master everything presented to them! It was hard for them to fall asleep at night because of all they have seen, heard, touched, and experienced that day.

I could go on and on. I've just touched the surface on all the great things you do to teach the importance of saving the environment and the roles we all play in that. I suppose I could simply say that you folks and your camp are invaluable to me as a teacher. You make an important difference. Please keep on keepin' on!

Most sincerely,
Judy Stockton
Brentwood Middle School
Brentwood, TN

Year-end Statistics 2003

NUMBER OF GROUPS	108
youth 3 day	46
youth 5 day	38
adult	24
TOTAL PARTICIPANTS	4,739
youth	3,430
adult leaders	569
adults	654
summer youth	293
summer adult	186
program user days	18,994
program user hours	157,650
ind.meals served	42,981
school groups- # of states	13

all groups: # of states		38
park visitors (in vis. ctr.)		9,365
financial aid	209 students	$21,105
program income		755,369
revenue from bookstore sales		49,920
support income		285,011
other income		15,931
TOTAL INCOME		1,106,231
operational expenses		990,500
capital expenses		6,861
endowment value		550,838
building fund		94,666
grant $ committed		23,291
reserve account		100,000

GSMIT

Priorities for 2004

- Implement the second stage of a study and project to develop the tools needed to measure the outcomes and benefits of our programs.
- Complete the development of written correlations between our curriculum and Tennessee and other surrounding state curriculum standards.
- Take planning for new facilities to the next level and begin to seek funds to do so.
- Regularly review our progress on the strategic plan and further develop action steps for priorities that are lacking.
- Develop a fundraising strategy that can bring in the additional funds needed for our 2004 budget.
- Increase recruitment of school groups especially for down times.
- Successfully work with UT to house a summer Archaeology Field school.
- Continue progress on the Arts initiative and an arts curriculum.
- Take integration of Science into school curriculum to new level.
- Develop professional development plan for program staff.
- Continue to improve our programs and workshops.

Successes

- Our endowment has now grown to over $560,000 with help from the Friends' match to the Alcoa Foundation Grant.
- We've completed the grant cycle from Alcoa Foundation which contributed to enhanced science programs, increased scholarships, better evaluation and over $90,000 in our building fund.
- Our education staff structure was re-configured in a way that will help us focus more on looking forward than just conducting the day to day.
- With the hiring of Jennifer Arnold as School Program Director we have a team in place that is capable of world class thinking and acting.
- Moving a part time financial assistant to a skilled full-time financial person and converting to in-house accounting has created greater efficiency, less external costs, and helped us move toward a more sustainable workload for office staff.
- Our conceptual master plan for site and facilities was finished in May.
- The first stage of an evaluation study was completed in November.
- A successful Citizen Science forum to discuss best practices in this emerging field attracted people from 20 centers and organizations across the country.
- We began a professional workshop series. The Nature Shop program in March was a success.
- Our first major fundraising event at the Buckhorn Inn was very successful.
- Robert Tino's Passenger Pigeon Print was released and we hosted an event that gained us good publicity and began the sale of those prints.
- In spite of a sluggish economy our summer programs were better attended due to increased marketing efforts.
- A record number of scholarships were distributed. $21,105 helped 209 students.
- We increased fundraising efforts with a more focused annual campaign and several significant gifts over the year.
- Through a partnership with University of Tennessee, the Tennessee Geographic Alliance and funding from National Geographic we conducted a successful summer teacher training week for 50 teachers.
- We have continued to increase our involvement with local schools.
- The George Fry fund reached the goal of $50,000 and as a result we had our first Science Research chair in the summer.
- We revised our web-site and now have more complete listings there.
- A board/staff strategic planning retreat set priorities for the next 5 to 7-years.
- Our staff was represented and gave presentations at major conferences—Ecological Society of America, Biodiversity workshop, SAMAB conference, ATBI meetings, Association of Nature Center Administrators, Residential Center Directors summit.
- Improvements to facilities included repainting of buildings and new roofs on staff housing units, both by NPS staff. Other improvements have included new library shelves, a roof on the deck off the riverside room, science lab additions, and renovations in the dining hall.
- We had a successful workday with well over 60 volunteers.
- We received a grant from the Tennessee Arts Commission and are beginning an Arts Integration Initiative.

Alcoa foundation

A Friend in Need

An update on Eastern Hemlocks

By Charlie Muise

For some, the oppressive summer heat is a reason enough to stay indoors. Not me. Like other Tremonsters, I prefer the outdoors. When it gets hot, and I can't head to the high country (on top of old Smoky, it averages 20 degrees colder than in Knoxville) I look for an old friend: the Eastern Hemlock. A valley with a stream running through it and hemlocks overhead is a great place to explore. I can enjoy a nice cool morning looking for birds, butterflies, salamanders and flowers. I'm out of the sun, enjoying the sweet smell of duff that is like no other forest.

Eastern Hemlock is easily recognizable, with needle-shaped leaves that are less than half an inch long and arranged along 2 sides of a twig, not all the way around like Firs and Spruces, not in clumps like pines. Eastern Hemlock is one of the more common evergreen trees in the Smokies—at least for now. More about that later.

Eastern Hemlock is a part of our history. The bark of Hemlock contains a lot of tannic acid; many Native Americans and European pioneers used this bark to "tan" hides of deer and other animals. Water holds more oxygen at cooler temperatures so fast swimming, high metabolism fish such as Brook Trout are more successful in cooler water. The same coolness sought by people is also conferred to the streams along whose banks hemlocks grow. Streams lined and covered by hemlock are also good for fishing.

NATIONAL PARK SERVICE

A hemlock infested with the Hemlock Wooly Adelgid. This insect was first found in the U.S. more than half a century ago, and has recently been found in the Twenty-mile area of the Smokies.

Hemlock is also ecologically important in the Appalachians. In addition to the fish that rely on Hemlock-cooled streams, there are myriad invertebrates that also depend upon it. Some birds, such as the Wood Thrush, with its beautiful song, and the fiery-throated Blackburnian Warbler nest preferentially in hemlocks. The chatty, antic-prone Red Squirrel is most easily found in Hemlocks and other evergreens. So is one of its primary predators, the Barred Owl. With a wide, shallow root system, Eastern Hemlock can grow tall in places where thin soil prohibits other tall trees. This means that hemlocks are important for erosion control, especially along banks of fast-flowing rivers.

Hemlocks are also nice in the colder months. When much of the land looks bleary and gray, hemlock stands remain green—above *and* below, since the understory and ground cover are often composed of Dog Hobble, Rhododendron, Galax, Christmas Fern and other evergreens.

The very first Blackburnian Warbler I saw was in a hemlock-enshrouded stream called Indian Ladders, in the Poconos. This narrow, somewhat deep gorge on the eastern escarpment of the Pocono Plateau was near my home and I spent many days just enjoying the smell, the colors, the coolness and the beauty of Mother Nature. On this particular day a friend and I were trying to see exactly how many Red Efts—the immature form of the Red-spotted Newt—we could find. We found a lot, but I don't remember the number now because I was distracted by the sound of a bird I'd heard a couple times before, but could never see in the dense canopy. Suddenly, less than ten feet from my head was the fiery red throat, orange eyebrow, yellow belly and wonderfully contrasting black and white pattern of the wings. I didn't need a book to tell me that I'd *finally* seen this amazing bird. The fact that it was also the 300th species I'd recorded was not nearly as important to me as breath-taking color. My friend tells me I skipped half way down the trail as the sun set on that hot May day. So, ever since then I associate hemlocks with one of America's most vividly-colored birds.

But the Indian Ladders has lost its hemlocks, not to the logger's axe, and not to air pollution. The culprit is a tiny, almost microscopic insect called the Hemlock Wooly Adelgid (HWA). A native of Asia, this insect was first found in the U.S. more than half a century ago. It took ecologists a while to realize the damage it would cause. In 1999, they discovered Hemlock Wooly Adelgids in Delaware Water Gap National Recreation Area, where Indian Ladders is located. Now the area has lost most of its hemlocks. In my research, I found that a similar plight had already befallen Shenandoah National Park in Virginia. I have since been back to some areas I visited pre-infestation, and the changes were shocking and disheartening to me.

In December 2003, Will Blozan, president of the Eastern Native Tree Society, led an expedition of experts to the east fork of the Chattooga River in the Ellicott Rock Wilderness. Here they found what is currently the world champion Eastern Hemlock, impressive at a height of 168 feet, 9 inches and a girth of 11 feet 4 inches. Other trees in this grove measure 167'10"

and 162'7." Losing a grove of this sort would be terrible. But Blozan and his team found that "this tree and every other in the grove is (sic) essentially dead. The hemlock woolly adelgid has destroyed the grove and some trees are completely defoliated and dead. The Medlin Mountain Monarch, which was climbed just two years ago with no obvious sign of HWA, is now a partially defoliated, gray ghost of it's (sic) former luscious glory."

In 2001 came the frightening news that HWA was found in the Twenty-mile area of Great Smoky Mountains National Park. The damage so far has been light, with defoliation of trees along Parson's Branch Road. But our experience in Virginia, Pennsylvania, New Jersey and the Catskills of New York indicate that Eastern Hemlock in the Smokies is in a honeymoon period, and the damage will soon follow.

Fortunately this park is blessed with a small but active staff that has vowed to study and fight this invader with all of their resources. Park employees, with the help of Tremont and others, have monitored the spread of HWA from the first day it was found. Sites where it is found are documented and observed multiple times to determine rate of spread and how quickly an area becomes inundated. Park staff have attended conferences and communicated with HWA experts along the eastern US to learn what has or has not worked. After some intense research, they have a plan.

The park cannot fight HWA alone. Though 520,000 acres sounds like a lot to you and me, it is impossible to control what happens in the park without some outside help from others, such as the US Forest Service and other neighbors.

So far there are three treatments that show promise: a soapy spray, an injection, and the release of a non-native predatory beetle. Though these are the only weapons available, they are not without problems. The injection is expensive and the idea of injecting every Hemlock tree is preposterous, especially since it would need to be done annually. Spraying a tree is not specific—many other organisms die, and the soap ends up in a local body of water, so park staff are quite careful with this approach. Soap is a twice-per-year endeavor, and is limited by the power of the pump used. A pump the park hopes to purchase, though better than what they have access to now, would only reach 80 feet high, and works from a vehicle. Backcountry spraying is limited by what a person can carry on his or her back. The beetles have been researched, and so far all evidence indicates they will not eat any native organisms. But only time will really tell. And they are expensive (at $2-3 per beetle) and not necessarily available. The good news is that the 51,000 beetles that have been released so far have been free. The bad news is that it is highly unlikely that there will be enough of them in coming years. The estimated number needed by just this park—7 million—far exceeds the number produced in the entire U.S. And in the unlikely event they could obtain all those beetles, the park would need 352 people to release them for 16 days in a row, to cover 1/4 of each target area. This is partly because, in order to be effective, beetles have to be released during a short window in the summer time.

As part of the plan, resource management staff have divided the park up into regions that fall into one of 4 categories of priority. This will allow them to focus any available resources where they are most needed and where they will be most effective. These are based on many factors such as the size and age of trees, the percentage of forest cover represented by Eastern Hemlock, how close to roads and buildings a grove is (after all, dead hemlocks become a safety issue), and how much impact on riparian areas the loss of a grove will cause.

The most important job is scouting. The park needs to learn what areas are most infested and when new infestations occur. Tremont Summer Camps will be helping with this again, as in the last two years. This is very labor intensive, and something *you* can help with. Contact Kris Johnson at kris_Johnson@nps.gov if you notice HWA—usually seen in the form of tiny (1-3 mm diameter) white fuzz balls at the base of leaves—or if you are interested in volunteering regularly for this project.

For more information, please check out www.saveourhemlocks.org

Once Again in the Smokies

It is March, 1987. I am 7 years old sitting in the back of a Dodge minivan with my younger brother and sister. We are probably fussing with each other since the excitement of an eight-hour car trip from Ohio to The Great Smoky Mountains National Park lost its flavor about seven hours ago. It is our family vacation- our first time to the Smokies. We discovered how much there is to see and do in the Smokies that we made two more trips in the next year. I don't remember many details about the trips- except it rained a lot and I thought that Dollywood was the coolest place on Earth.

A lot has changed in the past 16 years. My first trip to the Smokies triggered something deep and difficult to explain at the time. I grew to love the outdoors. So much so, that I realized I wanted to learn as much as possible about nature.

I recently graduated from Ohio University with degrees in Biological Sciences and Environmental Geography. Two summers I worked at the Columbus Zoo and Aquarium at the manatee exhibit participating in husbandry training and interpretation. I also took a field study class that focused on environmental education on Andros Island, Bahamas, which was quite different than what I was used to in America. This past summer, I taught marine science education programs at a non-profit organization in Maine, called Herring Gut Learning Center. I thought that Maine was the most wonderful place, and that I would want to live there forever. My internship in Maine ended and I came once again to Tennessee, and worked as a Student Conservation Association intern with Resource Education through the Park Service. What an eye-opening experience! I had no idea how many secrets these mountains have to tell. I immediately fell in love with the Smokies and the rich heritage of its people.

When given the opportunity to work with Tremont as a Teacher/Naturalist, I jumped at the chance. What an amazing group of people! My first few weeks here have been spent observing the programs in order for me to learn them and begin teaching. I have found myself feeling like one of the students- so captivated about what is being taught, feeling a part of the stories and history that encompasses Walker Valley. It has been a wonderful experience to sit back and watch the Tremont staff work its magic. I am very much looking forward to being a part of that in an active way.

Being a Teacher/Naturalist is much more than memorizing and reciting the names of trees, flowers and animals. An effective Teacher/Naturalist must become a part of the learner's lives, even if it is only for the few days that they are here. I hope that my small impact will make a difference in the mindset of future generations, much like these mountains have done for me.

—Jen Martin

Looking Ahead

Summer camps

Come with us on an awesome outdoor adventure. Tremont offers an in-depth learning experience that fosters an understanding of these beautiful mountains and encourages a lifelong appreciation and stewardship of the environment. It's hard to imagine education being so much fun, but here at Tremont, it certainly is! Campers who return year after year are testimony to this fact. From backpacking in the wilderness to learning about the secret haunts of salamanders, the Institute offers a variety of opportunities to serve different interests, abilities and age groups. Check it out and find the program that is just right for you or the young person in your life. Visit our Web site *www.gsmit.org* to view photos from last year's camps as well as to find out about our scholarship funding.

June

Discovery Camp

June 21–26, June 28–July 3

Discovery Camp is full of firsts for many kids. Each one is an exciting discovery (that's why we gave it the name). It's a place to get dirty and explore vast worlds of science and nature. Search for salamanders, collect insects, experience the awesome power of a waterfall, take the challenge of a hike, and laugh with your new friends by a campfire as the sun goes down. This is the place where you'll discover just how exciting summer camp can be. Camp lasts from Monday afternoon to Saturday morning. COST: $360. Ages 9-12.

Wilderness Adventure Camp

June 21–26, June 28–July 3

Learn the skills necessary for planning and enjoying a safe, successful backpacking trip. A three-night backpack gives participants the chance to put these skills into practice, experience a true wilderness and make friends to last a lifetime. Camp lasts from Monday afternoon to Saturday morning. COST: $380. Ages 13-17. (For a longer program, check out Teen High Adventure)

Field Ecology Adventure

5-day session: June 21–26
10-day session: July 12–22

Field Ecology Adventure is an intense adventure in field research. Learn about the natural world and the methods scientists use to study it by participating in science projects in the national park. The shorter camp lasts from Monday to Saturday, while the longer camp lasts from Monday to the second Thursday. The longer camp includes a camping trip and time for team projects developed by the campers. Both camps include plenty of fun along with science—swimming, hiking, stories around the campfire—but, of course, science is fun too when it happens in the Great Smoky Mountains! Ages 13-17. COST for 5-day session: $380. COST for 10-day session: $730.
Attendance is limited. To apply, please send a letter explaining why this camp is right for you, and a letter of reference from a teacher or other adult with your registration form. Financial aid is available for qualified applicants.

Smoky Mountain Naturalist Expeditions

July 12–22

Here at GSMIT, we believe the only thing more fun than exploring nature is exploring nature and learning about it at the same time. Smoky Mountain Naturalist Expeditions, designed for middle-school aged students, is a cut above the traditional summer camp. Participants spend each day working with naturalists in the national park, and assisting scientists with actual ongoing research. Campers search for salamanders, investigate old growth forests, track black bears, and encounter the occasional timber rattlesnake! It's a whole wonderful world waiting to be discovered. And it's capped off each day with a dip in the river, a family-style dinner, and great evening activities. It's a fascinating experience for the budding scientist or nature enthusiast, and a whole lot of fun for everyone. Attendance is limited, so register early.
COST: $730. Ages 11-13.

Teen High Adventure

July 12–22

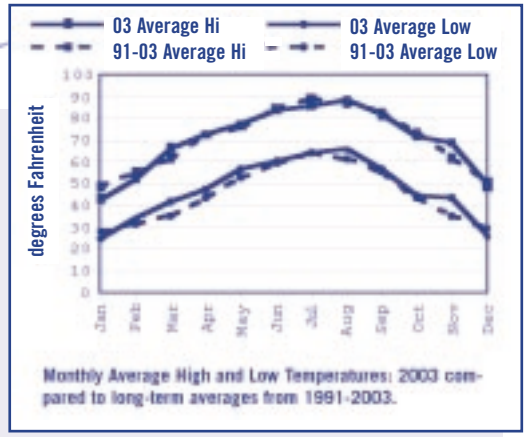
Slip into the swirling mists of the "place of blue smoke" for a 10-day program that includes a 7 day/ 6 night backpacking adventure, whitewater rafting, and the chance to learn outdoor living skills. Wildlife, good friends, spectacular views, and great backpack leaders will accompany your journey. Program lasts from Monday mid-afternoon through the second Thursday morning. COST: $730. Ages 13-17.

ALL IMAGES GSMIT

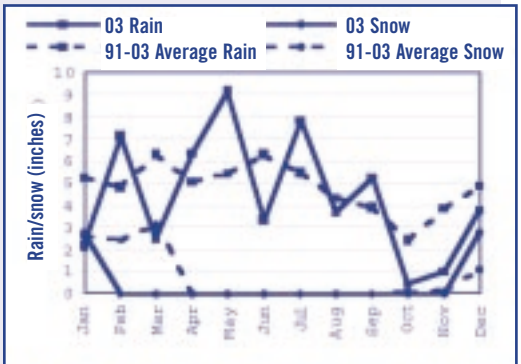
2003: Wild Weather

Weather plays an important role in our everyday lives. That is especially true here at the Great Smoky Mountains Institute at Tremont. Let's face it, we spend most of our time outdoors, and we wouldn't have it any other way. When schools visit Tremont, students wake up a little early and meet a teacher/naturalist at the weather station to collect data. They find the current temperature, as well as the highs and lows of the previous day. The students also record the current relative humidity, barometric pressure, wind speed and direction, sky condition, and, of course, the previous day's precipitation. With this data they use the Sager Weathercaster to predict the day's forecast, which is then read at that morning's breakfast. Sadly, we don't have students for every single day, so we use an automated logger to collect the data in their stead. The recorded info is then plugged into our database for future reference. Accompanying this article is the data that has been collected for 2003 (*at right.*)

The wildest weather of 2003 came on May 6 and 7 with over 6 inches of rain in under 48 hours, resulting in a flood that washed out Tremont road and made boulders in the river roll and crash like thunder. The biggest flood since 1994, it thankfully created a lot less damage. Personally it was the most magnificent, unforgettable display of nature's power I have ever seen. *—Mike Matzko*



Monthly Average High and Low Temperatures: 2003 compared to long-term averages from 1991-2003.



Monthly Average Rainfall and Snowfall: 2003 compared to long-term averages from 1991-2003.

Smoke Signals

Students can develop a sense of place at Tremont

by Jennifer Arnold

I am constantly amazed by teachers and their dedication to their students! Our visiting lead teachers face low resources and high expectations on top of the current wave of unfunded mandates. Yet, they give of their own time and energy to bring students to the mountains for an experience that will be remembered for years to come.

The relationship between Tremont and school lead teachers is unique among environmental education centers. For those not familiar with the Tremont school programs, we look at this relationship as a partnership in the student's education. Classes are taught, not only by Tremont naturalists, but jointly with teachers visiting from the home community. The Tremont Teacher/Naturalists are incredibly knowledgeable about the local ecosystems, but may not know the concepts the students have been covering in class the current year, the name of the stream that runs by their school, and the academic units that will be covered in the weeks and months following the Tremont trip. The classroom teachers understand how this concept may link to subjects taught earlier in their classrooms. This is where our partnership comes together. Students have a chance to learn from Tremont Naturalists, and the teachers have a chance to get out and teach in an outdoor classroom to which they don't normally have access. This model allows those who best know the students and their ongoing curriculum to play a vital role in this aspect of their education while taking advantage of the vast amount of knowledge of the Tremont Teacher/Naturalist.

Some of our visiting schools use their chance to teach at Tremont as one step within many years of building the concepts to becoming a true citizen of the land. This allows those teachers to build on the knowledge of the previous years and get the most out of each experience. By using this model of increasing knowledge of the environment from year to year, teachers can easily incorporate the Tremont experience into the flow of learning.

Developmentally, it makes the most sense to begin these experiences in the early elementary grades by having students come to know what is the closest to them physically. The schoolyard is an environment with which they have the most experience and understanding. During the first and second grade years, watching the schoolyard change and getting to know the native wildlife through stories and pictures helps them feel they are becoming a true member of their local environment.

A perfect example of this model is given in the lastest book by David Sobel, *Place Based Education*. He gives the example of the Adventure Education curriculum at The College School of Webster Groves, near St. Louis. *"Outdoor adventures begin in kindergarten with the annual Day in the Woods, when the children study pond water, climb hills and complete a half-mile hike. The first grader's one-night camping trip in a country park includes a ten-foot rock climb, a creek exploration, and fossil hunting. The second graders explore caves, and by third grade students go on a three-day wilderness camping trip. In fourth and fifth grade, they move backward in time, staging a historical re-enactment of a pioneer camp at an old prairie homestead. They also explore Missouri caves in earnest and recreate Tom Sawyer's and Becky's experience of sleeping in a cave overnight.*

Sixth graders do a five-day wilderness trip in a national forest complete with an overnight solo–a true rite of passage for many young adolescents. Seventh graders explore the urban environment using local transportation, sleeping in churches, performing community service, and delving into ethnic neighborhoods. By eighth grade, students travel to Okefenokee Swamp in Georgia and the southern mountains for bicycling, canoeing, and orienteering. They also conduct four days of community research in a historical Appalachian village. This movement from close and familiar to distant and strange accurately mirrors the developmental transitions unfolding in the child's psyche."

This example from St. Louis is not unlike what many Tremont teachers do every year. By furthering their students understanding of the world around them more and more each year, they are giving their students a gift of knowledge that will last a lifetime. Our hope is that teachers coming to Tremont are able to further the education that began in the schoolyard and classroom and will continue long after they have left Walker Valley.

For Tremont Lead Teachers: If you are a teacher who brings students to Tremont, please share with us your educational plan for your students. We are always excited to hear how this experience adds to what you (or previous years' teachers) have taught. We can often tailor discussions during classes to build on those experiences. We are also thrilled to hear about lessons in which your Tremont time is used once you return to school. By teaching cooperatively, we can help the students get the most out of the time and energy, which goes into your Tremont experience.

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From 11/21/03 to 1/20/04. Thank you!

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Jaimie Matzko
Mike Matzko
part-time naturalists
Brian Napier
Carole Olson
Karen White
citizen science director
Michelle Prysby
sr. teacher naturalists
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This newsletter is printed on 100% post-recycled paper
Newsletter design by Lisa Horstman, courtesy of Great Smoky Mountains Association.

Great Smoky Mountains Institute at
TREMONT
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9275 Tremont Road
Townsend, TN 37882

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