



SMOKIES

GUIDE

The Official Newspaper of Great Smoky Mountains National Park
Winter 2016-17



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BILL LEA PHOTO

Bobcats find shelter in hollow logs, rock outcroppings, and under rootballs. Though rarely seen, bobcats are quite numerous in the Smokies.

Bobcats are Phantom Felines of the Smokies

You don't see them, but they are here. When you hike, they peer from rock outcrops and tangles of brush. As you drive, you pass them dozing on hillsides in hollow logs and under the rootballs of windfall trees. This writer once watched a bobcat sitting on a boulder beside the busiest road in the park in broad daylight, while scores of cars passed unknowingly.

At 20-25 pounds, bobcats are not small mammals, nor are they scarce in the Great Smoky Mountains. But they are incredibly stealthy. They can sit motionless for hours, their thick, mottled coats blending perfectly with the leaf litter and vegetation.

When they do move, they do so soundlessly. And most of their activity is at dawn or dusk, a time when few people roam the park and when light conditions make their camouflage even more effective.

Bobcats are well adapted for life in the Smoky Moun-

ains. They have plenty of prey and few if any enemies. About the only thing that will depress a bobcat population is a crash in the number of rabbits, their favorite prey. But even if rabbits are in decline, they have plenty of other animals to pounce upon, including:

- ☛ squirrels ☛ mice ☛ voles ☛ shrews ☛ birds ☛ groundhogs ☛ insects ☛ box turtles ☛ snakes ☛ lizards ☛ opossums ☛ white-tailed deer (often sick, young, or carrion) ☛

The mountain lion is about the only wild animal that preys on bobcats, and it has been extirpated from the Great Smoky Mountains.

Protected as they are by the national park, bobcats are doing very well here. Some biologists believe they are as numerous in the Smokies today as they were when European-American settlers first arrived in the late 1700s. Of course that still doesn't mean that you will actually see one.



NORTHERN CARDINAL

Northern Cardinals are common year-round residents in the Great Smoky Mountains. They sing loudly and frequently. One of their more common vocalizations sounds like "what, cheer, cheer, cheer, cheer, cheer." Unlike most other songbirds, both males and females are strong singers.



BILL LEA PHOTO

Newfound Gap Road may be temporarily closed due to snow and ice.

Enjoy This Winter in the Mountains Safely

The 33-mile-long Newfound Gap Road (U.S. 441) is the main automobile route through Great Smoky Mountains National Park. It crosses the crest of the Smoky Mountains at Newfound Gap (elevation 5,046') to connect the towns of Gatlinburg, TN and Cherokee, NC. Driving time is typically one hour.

At Newfound Gap, where the road reaches its highest point, temperatures are frequently 10-15° F cooler than in Cherokee or Gatlinburg. In addition, the higher elevations receive considerably more precipitation than the surrounding valleys. Annually, Newfound Gap records over five feet of snow.

This combination of low temperatures and high precipitation results in periods of hazardous driving conditions. For the safety of motorists, the Park Service imposes certain restrictions on winter driving. Typically, Newfound Gap Road is temporarily closed

15-20 times each winter.

Even though driving conditions may seem fine near Gatlinburg or Cherokee, Newfound Gap Road contains very steep grades and is often coated with snow and ice in winter. Salt is not used to treat roads in the park because it damages the plant and stream life that the park was created to protect.

When driving on snow-covered roads, reduce your speed and avoid sudden braking. Use lower gears or brake gently when you need to slow down.

For current conditions call (865) 436-1200 or check Twitter at www.twitter.com/smokiesroadsnps.

Winter hikers should be prepared for cold and wet conditions, even if the day starts warm. Always bring rain gear, hat, and gloves. Dress in layers with wool or fleece. Avoid cotton clothing in winter because it loses insulation value when wet.



winter greens

these plants keep the winter woods lush and vibrant

Many off-season visitors to the Great Smoky Mountains are surprised by how much green there is in the winter forest. In fact, evergreen plants in the Smokies include everything from ferns to shrubs to towering trees.

“Why We Have Evergreens” from Cherokee storyteller

Freeman Owle:

The Great Spirit made all the trees and the plants and the animals, and he asked them to stay awake and fast and pray seven nights, in reverence to the Creator. And the first night they all did, but the second night some fell asleep, and the third night more dropped out, and so on. By the seventh night, only a few were still awake: the holly, the laurel, the cedar, the hemlock, and some others. And the Great Spirit, the Creator, said that they would be able to keep their hair—their leaves—all year round. And he gave them special power to be medicine for the Cherokee people.

Red Cedar

The eastern Cherokee hold the cedar tree in particular reverence. Green twigs from cedar trees are thrown on the fire for their pleasing fragrance during special Cherokee ceremonies.



Fraser Fir

These dense evergreens are native only to the southern Appalachian Mountains. In the Smokies, they are found at elevations above 4,500'. For many years this species has been a favorite choice for Christmas tree growers and buyers because the trees hold their needles and have a sweet, balsam scent.

Rosebay Rhododendron

“Rhodo” is one of the most common shrubs in the park. Its long thick leaves curl up like cigars when the weather is very cold. This action helps the plant conserve moisture.

Christmas Fern

The common name for this fern comes from the fact that it is still green at Christmas time and throughout the winter.



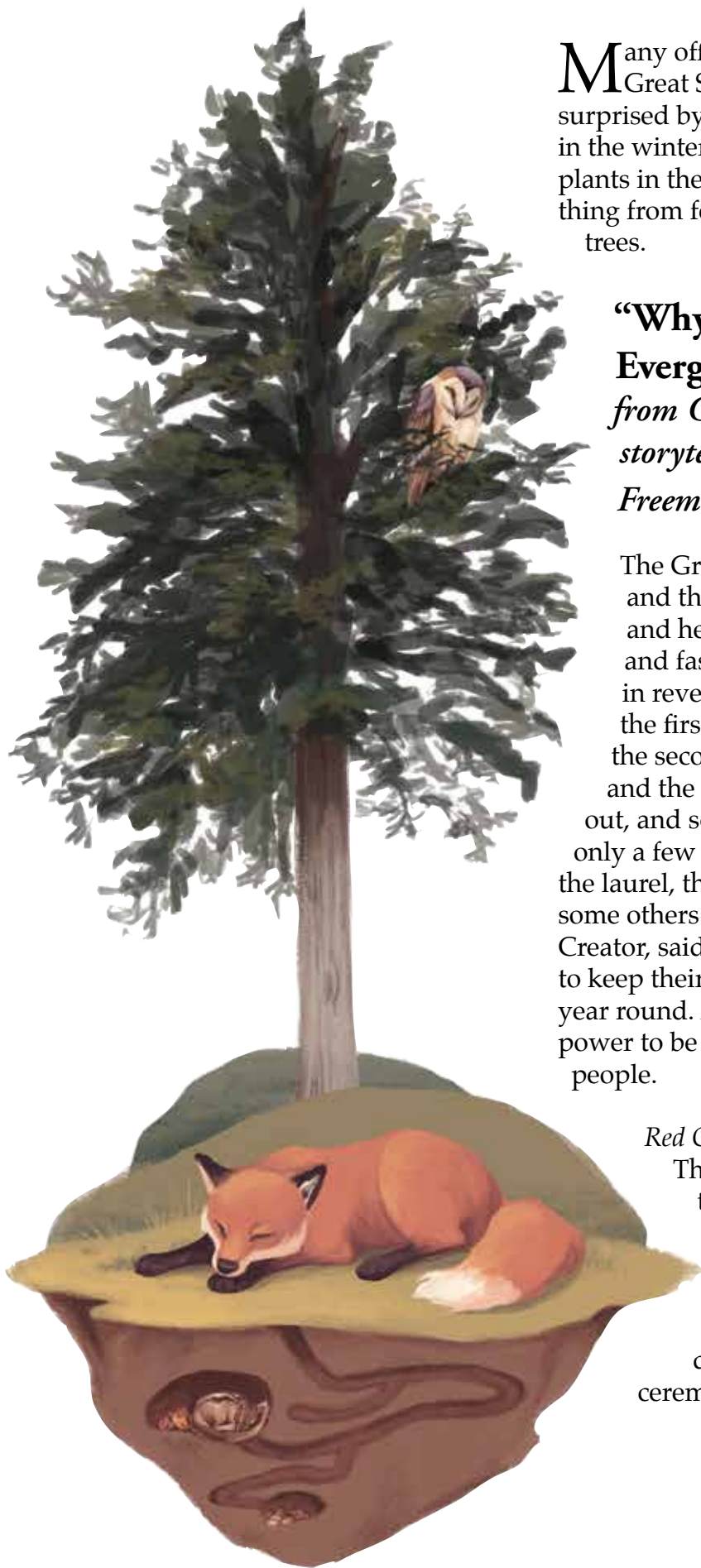
American Holly

These evergreen trees are recognizable by their thick, spiny leaves and bright red berries. A century ago hollies were popular as Christmas trees. Its very white wood has been used to make piano keys.

Pines

Six varieties of pines are native to the Smokies, including the short-leaf, long-leaf, Table Mountain, pitch, eastern-white, and Virginia.

art by Emma DuFort



smokies trip planner

to order maps and guides: www.smokiesinformation.org

smokies guide

Smokies Guide is produced five times per year by Great Smoky Mountains Association and Great Smoky Mountains National Park. Publication dates are roughly as follows:

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CONTRIBUTING EDITOR

Steve Kemp

NPS COORDINATOR

Nigel Fields

EDITORIAL BOARD

Lynda Doucette

Kristine Johnson

Mike Maslona

Laurel Rematore

Stephanie Sutton

Contributors

LISA HORSTMAN,

KAREN KEY, EMMA DUFORT

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Mountains Association

GSMA

P.O. Box 130

Gatlinburg, TN 37738



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Campgrounds at Smokemont and Cades Cove are open all year.

camping in the the national park

The National Park Service maintains developed campgrounds at nine locations in the park. There are no show-ers or hookups other than circuits for special medical uses at Cades Cove, Elkmont, and Smokemont.

Campsites at Elkmont, Smokemont, Cataloochee, Cosby, and Cades Cove may be reserved. For reservations call 1-877-444-6777 or contact www.recreation.gov. Sites may be reserved up to six months in advance. Reservations are required at Cataloochee Campground.

Site occupancy is limited to six people and two vehicles (a trailer = 1 vehicle). The maximum stay is 14 days.

Special camping sites for large groups are available seasonally at Big Creek, Cades Cove, Cataloochee, Cosby, Deep Creek, Elkmont, and Smokemont. Group sites must be reserved. Call 1-877-444-6777 or contact www.recreation.gov. Group sites may be reserved up to one year in advance.

The list below shows number of campground sites,

elevations, and maximum RV lengths. For current camping fees and dates of operation, visit www.nps.gov/grsm.
ABRAMS CREEK 16 sites, elev. 1,125', 12' trailers
BALSAM MOUNTAIN 42 sites, elev. 5,310', 30' RVs
BIG CREEK 12 sites, elev. 1,700', tents only
CADES COVE 159 sites, elev. 1,807', open year-round, 35'-40' RVs
CATALOOCHEE 27 sites, elev. 2,610', 31' RVs. Reservations are required.
COSBY 157 sites, elev. 2,459', 25' RVs
DEEP CREEK 92 sites, elev. 1,800', 26' RVs
ELKMONT 220 sites, elev. 2,150', 32'-35' RVs
LOOK ROCK *Closed*
SMOKEMONT 142 sites, elev. 2,198', open year-round, 35'-40' RVs

The NPS has banned outside firewood from entering the park unless it is USDA or state certified heat-treated wood. Campers may gather dead and down wood in the park for campfires. Certified wood may be purchased in and around the park.

accommodations

Le Conte Lodge (accessible by trail only) provides the only lodging in the park. Call (865) 429-5704.

For information on lodging outside the park:
Bryson City 1-800-867-9246
Cherokee 1-800-438-1601
Fontana 1-800-849-2258
Gatlinburg 1-800-267-7088
Maggie Valley 1-800-624-4431
Pigeon Forge 1-800-251-9100
Sevierville 1-888-766-5948
Townsend 1-800-525-6834

pets in the park

Pets are allowed in frontcountry campgrounds and beside roads as long as they are restrained at all times. Pets are not allowed on park trails, except for the Gatlinburg and Oconaluftee River trails. Dogs on these trails must be leashed.

road closures

The following roads close for the winter. Listed below are the estimated 2017 opening dates. This schedule is subject to change.

Clingmans Dome—April 1
Rich Mountain—April 7
Roaring Fork—March 24
Parson Branch—April 7

special events

December 10, 2016
Festival of Christmas Past:
Sugarlands Visitor Center

December 17, 2016
Holiday Homecoming at
Oconaluftee Visitor Center

April 11-April 15, 2017
Spring Wildflower Pilgrimage: parkwide

May 10, 2017
Start of bicycle mornings in
Cades Cove

for rent

The Appalachian Clubhouse and Spence Cabin at Elkmont can be rented for daytime events starting in April. Contact www.recreation.gov.

picnic areas

Picnic areas open year-round are: Cades Cove, Deep Creek, Greenbrier, and Metcalf Bottoms. Please see the map on page 16 for locations.

other services

There are no gas stations, showers, or restaurants in the national park.



Bicycling Cades Cove in winter.

bicycling

Most park roads are too narrow and heavily traveled by automobiles for safe or enjoyable bicycling. However, Cades Cove Loop Road is an exception. This 11-mile, one-way, paved road provides bicyclists with excellent opportunities for wildlife viewing and touring historic homesites.

Helmets are required by law for persons age 16 and under. However, helmets are strongly recommended for all bicyclists.

Bicycles are permitted on park roads but prohibited on trails except Gatlinburg, Oconaluftee River, and lower Deep Creek/Indian Creek.

For biking in national forests, call (828) 257-4200.



park information

for additional information, visit www.nps.gov/grsm

Gatlinburg, TN elev. 1,462'				Mt. Le Conte elev. 6,593'		
	Avg. High	Low	Precip.	Avg. High	Low	Precip.
Jan.	49°	27°	4.0"	36°	18°	6.7"
Feb.	53°	28°	4.1"	37°	19°	5.6"
March	62°	35°	5.5"	44°	25°	7.0"
April	71°	42°	4.5"	52°	31°	6.7"
May	77°	50°	5.7"	58°	39°	8.0"
June	82°	58°	5.8"	64°	47°	8.7"
July	85°	62°	6.3"	67°	50°	9.0"
Aug.	84°	61°	5.3"	67°	49°	7.6"
Sept.	79°	55°	4.7"	62°	44°	7.2"
Oct.	70°	43°	2.9"	55°	35°	4.7"
Nov.	60°	34°	3.4"	46°	27°	6.8"
Dec.	51°	28°	4.6"	38°	20°	6.4"

The above temperature and precipitation averages are based on data for the last 20 years. Temperatures are in degrees fahrenheit. An average of over 84" (7 feet) of precipitation falls on the higher elevations of the Smokies. On Mt. Le Conte, an average of 82.8" of snow falls per year.

park weather

SPRING
March has the most changeable weather; snow can fall on any day, especially at the higher elevations. Backpackers are often caught off guard when a sunny day in the 70s F. is followed by a wet, bitterly cold one. By mid- to late April, the weather is milder.

SUMMER
By mid-June, heat, haze, and humidity are the norm. Most precipitation occurs as afternoon thundershowers.

AUTUMN
In mid-September, a pattern of warm, sunny days and crisp, clear nights often begins. However, cool, rainy days also occur. Snow may fall at the higher elevations in November.

WINTER
Days during this fickle season can be sunny and 65°F. or snowy with highs in the 20s. At the low elevations, snows of 1" or more occur 3-5 times per year. At Newfound Gap, 69" fall on average. Lows of -20°F. are possible at the higher elevations.



Fishing for brook trout is now allowed in most park streams.

fishing

Fishing is permitted year-round in the park, but a Tennessee or North Carolina fishing license is required. Either state license is valid throughout the park and no trout stamp is required. A special permit is required for the Cherokee Reservation and Gatlinburg. Licenses are available in nearby towns. Fishing with bait is prohibited.

A free fishing map with a complete list of all park fishing regulations is available at visitor centers.

DRIVING DISTANCES & ESTIMATED TIMES

Cherokee, NC to:
Gatlinburg: 34 miles (1 hour)
Cades Cove: 57 miles (2 hours)
Newfound Gap: 18 miles (1/2 hour)
Clingmans Dome: 25 miles (3/4 hour)
Cataloochee: 39 miles (1 1/2 hours)
Deep Creek: 14 miles (1/2 hour)

Gatlinburg, TN to:
Cherokee: 34 miles (1 hour)
Cades Cove: 27 miles (1 hour)
Newfound Gap: 16 miles (1/2 hour)
Clingmans Dome: 23 miles (3/4 hour)
Cataloochee: 65 miles (2 hours)
Greenbrier Cove: 6 miles (1/4 hour)
Deep Creek: 48 miles (1 1/2 hours)

Townsend, TN to:
Cades Cove: 9 miles (1/3 hour)
Newfound Gap: 34 miles (1 1/4 hours)
Gatlinburg: 22 miles (3/4 hour)
Cherokee: 52 miles (1 1/2 hours)
Look Rock: 18 miles (1/2 hour)
Cataloochee: 87 miles (2 1/4 hours)



Primitive backcountry shelters are located along the Appalachian Trail and near the summit of Mt. Le Conte. Reservations are required.

winter camping in the backcountry

Winter camping can be an exciting adventure for persons properly equipped and informed. To facilitate this activity, the National Park Service maintains over 800 miles of trails and more than 100 backcountry campsites and shelters throughout the park. One of the greatest challenges for backcountry campers is deciding where to go. Here are some tools to help.

1. Go online to view the park's official trail map (www.nps.gov/grsm/plan-yourvisit/maps.htm), which shows all park trails, campsites, and shelters. Park rules and regulations are also listed here. If you wish, you can purchase the printed version of the trail map for \$1 by stopping at any park visitor center or calling (865) 436-7318 x226 or shopping online at www.SmokiesInformation.org.

2. Call or stop by the park's backcountry office, which is open daily from 8-5:00, for trip planning help. The office is located in Sugarlands Visitor Center, two miles south of

Gatlinburg on U.S. 441. (865) 436-1297.

3. Make your reservation and obtain your permit through the backcountry office at Sugarlands Visitor Center (by phone or in person) or online at www.smokiespermits.nps.gov.

Reservations and permits are required for all overnight stays in the backcountry. The cost is \$4 per person per night. Reservations may be made up to 30 days in advance.

Winter hikers should be especially aware of the danger of hypothermia—the lowering of body temperature. The combination of rain, cold, and wind is especially dangerous. At the park's higher elevations, hypothermia can be a threat even during summer.

To prevent hypothermia, carry reliable rain gear at all times. Layer clothing that provides warmth when wet (not cotton). Be prepared for sudden weather changes, especially at the higher elevations. Stay dry.



places to go

the national park encompasses over 800 square miles



GSMA PHOTO

caades cove

highlights: 🏠 historic buildings
🦌 wildlife viewing

Cades Cove is one of the most popular destinations in the Smokies because it offers an unusual blend of both natural and cultural resources.

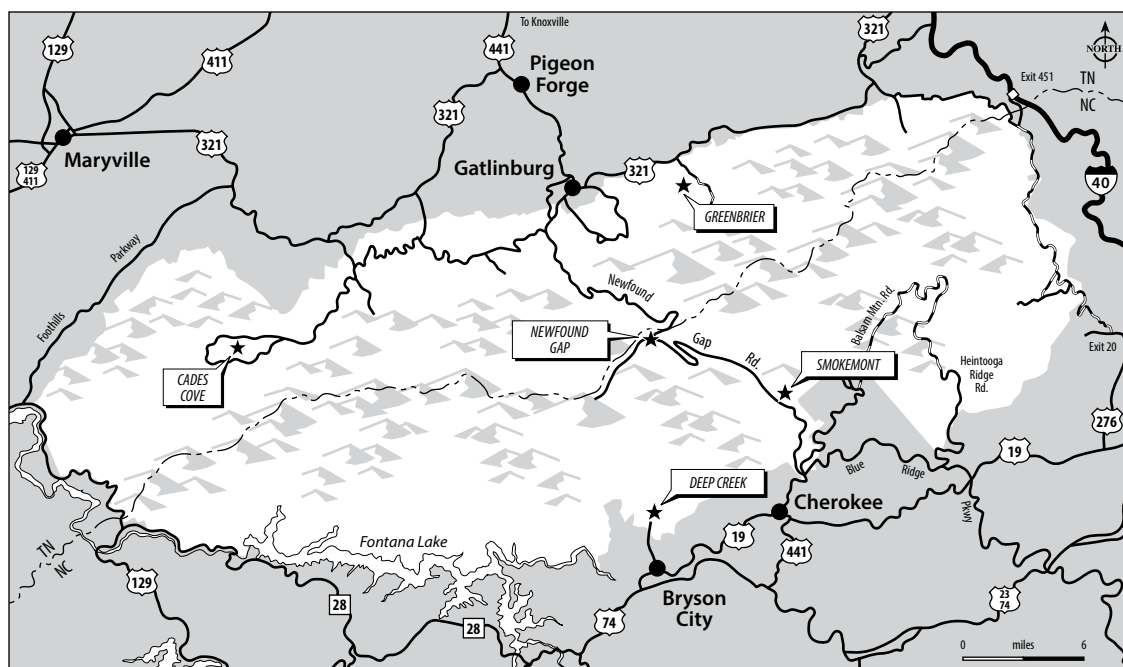
Deer are often sighted in the fields, and their breeding season (or "rut") continues through early winter. Observations of other wildlife, including bear, Wild Turkey, and coyote are also possible. Please use pullouts when viewing wildlife. Never approach or feed animals.

A wide array of historic buildings, some dating back to the mid-19th century, are preserved throughout the cove. These include a grist mill, a variety of barns, three churches, and a renowned collection of log homes.

An 11-mile one-way loop road takes you around the cove. A visitor center (open daily), restrooms, and the Cable Mill walking tour are located halfway around.

Numerous trails start in the cove, including the 5-mile roundtrip trail to Abrams Falls and the 8.5-mile Rich Mountain loop hike.

Mileage from Townsend—9
from Gatlinburg—27



greenbrier

highlights: 🚲 mountain biking
🥾 walking trails

Greenbrier is a hiker's delight. Trails include Ramsey Cascade, Old Settlers, Grapeyard Ridge, Brushy Mountain, and Porters Creek. Ramsey Cascade is a strenuous 8-mile roundtrip hike to the tallest waterfall in the park. Moderate Porters Creek Trail leads 1.8 miles (one-way) past a historic cemetery to Fern Branch Falls. A short side trip takes you to the historic hiker club cabin and barn. Brushy Mountain Trail can be used for a 9.1 mile (one-way) trek to the summit of Mt. Le Conte.

The roads in Greenbrier are mostly gravel and motorist must travel at a slow pace. This makes the area appealing to some mountain bikers, although bikes are permitted only on roads and not on any of the hiking trails.

Anglers have long frequented the West Prong.

Mileage from Gatlinburg—4
from Townsend—24
from Cherokee—41

deep creek

highlights: 🥾 walking trails
🚲 mountain biking

The Deep Creek area is an off-the-beaten-path destination in the Great Smoky Mountains, celebrated for its rushing streams and waterfalls. Hikers enjoy the area because of the waterfalls and because there are several loop hikes to choose from. Mountain bikers can take advantage of one of the few park trails where bicycles are permitted.

Deep Creek area loop hikes include Juney Whank Falls (0.6 mile), Three Waterfalls Loop (2.4 miles), and Deep Creek-Indian Creek Loop (4.4 miles). Longer loop hikes are also possible.

Bicycles are allowed on Deep Creek and Indian Creek trails to the points where the old roadbeds end and the trail treads begin.

Deep Creek Picnic Area is open year-round. The picnic pavilion can be reserved at www.recreation.gov

Mileage from Cherokee—14
from Gatlinburg—48
from Townsend—65

smokemont

highlights: 🥾 walking trails
▲ camping, 🏠 historic buildings

Smokemont Campground is open year-round. It is situated near the banks of the Oconaluftee River, a major waterway acclaimed for its trout fishing as well as its place in 19th century Smoky Mountain history. When Newfound Gap Road is closed because of snow, this area is still accessible.

A favorite hike in the Smokemont area is the 6.1 mile Bradley Fork-Smokemont loop hike. Highlights of this strenuous route include the waters of Bradley Fork, and an historic cemetery. You can start the trail near campground D Loop.

The Oconaluftee Baptist Church is located near the bridge between Newfound Gap Road (U.S. 441) and the campground. The church was built in 1896, although the congregation dates back to 1836.

Mileage from Gatlinburg—28
from Cherokee—5
from Townsend—46



NPS PHOTO

newfound gap

highlights: 🏔 mountain views
❄ snow?

In southern Appalachian vernacular, a gap is a low point in a mountain ridge. New Englanders call such places "notches" while westerners refer to them as mountain "passes."

At nearly a mile high (5,046'), Newfound Gap is significantly cooler than the surrounding lowlands and receives much more snow. On average, 69 inches of snow falls at the gap each year.

When there is snow on the ground, and Newfound Gap Road has not been closed because of it, opportunities do exist for snow sports in the area. Many people use Clingmans Dome Road (closed to vehicles in winter) for walking, snowshoeing, and cross-country skiing. The road starts 0.1 mile south of Newfound Gap.

A trip to Newfound Gap is a trip to the Canadian zone spruce-fir forest. This fragrant evergreen woodland is similar to the boreal forests of New England and eastern Canada.

Mileage from Gatlinburg—16
from Cherokee—18
from Townsend—34

national park news

connect to the park on Twitter: www.twitter.com/GreatSmokyNPS

NPS News Briefs

Total Solar Eclipse to Be Visible from Park

THE WESTERN HALF OF GREAT SMOKY Mountains National Park will offer viewers front row seats to the total solar eclipse on the afternoon of August 21, 2017. There will be special events related to the eclipse both inside the park and in surrounding communities.

Because of the influx of eclipse viewers during the already-busy season, the Park Service will need to close or restrict certain areas to prevent gridlock. Eclipse viewers may need to make special plans to avoid viewing the rare astronomical event while caught in a traffic jam. Visit www.nps.gov/grsm for current information.



NPS PHOTO BY HERB KUPFER



When complete in 2018, the new section of Foothills Parkway West will offer spectacular views between Walland and Wears Valley.

GSMNP Wins \$250,000 for Clingmans Dome Observation Tower Improvements

THE VOTES ARE IN AND Great Smoky Mountains National Park has finished in the top five of a nationwide contest for funding to restore historic structures. Sponsored by American Express, National Geographic, and the National Trust for Historic Preservation, the contest urged fans to vote for their favorite national park and its selected historic preservation project. The Smokies finished second behind only Yellowstone.

The Clingmans Dome tower work will include replacing damaged handrails and flagstones, repairing exterior surfaces, and dealing with settlement issues. The tower was constructed in 1959.

ABR Rescued 20 Bears Already in 2016

APPALACHIAN BEAR RESCUE located in Townsend, TN, has taken in a record 56 bears between 2015 and 2016. The nonprofit organization accepts injured, orphaned, and malnourished black bears and keeps them until they are healthy enough to return to the wild. While at ABR, bears are shielded from human contact so they retain their wildness. Over the last two years, most of the bears were malnourished cubs or yearlings suffering due to the severe hard mast (acorns, nuts, seeds) failure in the late summer and fall of 2015.

A combined 33-mile-long section of the Foothills Parkway that offers motorists jaw-dropping views of the Great Smoky Mountains is now slated for completion sometime in 2018. When finished, this western piece of the parkway will connect U.S. 129 at Chilhowee Lake (22 miles from Maryville, TN), with Wears Valley (6 miles from Pigeon Forge).

As it gracefully curves along the Smoky Mountain foothills, the parkway will offer numerous pullouts and overlooks with exhibits on park natural and cultural history.

A little more than half of the 33-mile segment (Chilhowee Lake to Walland) was actually completed in 1969 and has been open since. But the Walland to Wears Valley section was challenged by extremely steep, unstable slopes, requiring engineers to design long cantilevered bridges similar to the Linn Cove viaduct on the Blue Ridge Parkway. These extended bridges, along with other features, will offer motorists even more views than they

currently enjoy on Newfound Gap Road (U.S. 441) through the center of the national park.

The final work to open the Walland to Wears Valley sec-

tion is made possible through a \$10 million federal transportation infrastructure grant and \$25 million from the state of Tennessee and the National Park Service. Finishing work is slated to begin in early 2017, and is expected to take 12-18 months to complete.

Two other sections of the Foothills Parkway have been completed and are open to the public: The six-mile-long eastern section between U.S. 321 in Cosby and Interstate 40 and "The Spur" between Pigeon Forge and Gatlinburg.

Although the parkway runs outside the boundaries of Great Smoky Mountains National Park proper, the land is owned and administered by the Park Service. Examples of other NPS parkways include the Blue Ridge, Natchez Trace, and the George Washington Memorial parkways.

Two Year Rehabilitation of Alum Cave Trail is Complete

Rehabilitation work on the ever-popular Alum Cave Trail to Mt. Le Conte is now complete. The park's Trails Forever crew worked miracles on the notoriously steep trail, transforming rutted gulleys into handsome native stone stairways. The crew, including volunteers, started work in spring 2015 and worked from April through November during both years.

"This is the first major rehabilitation of this trail since its original construction," says Park Trails Manager Tobias Miller. "It is our hope that this treatment will last for many years to come."

Trails Forever, funded by Friends of the Smokies, plans to take on Rainbow Falls Trail as its next major project.

Previous to the Alum Cave project, the crew reconstructed Forney Ridge Trail to Andrews Bald and Chimney Tops Trail. All three foot paths are now examples of the best in trail design, engineering, and construction.



Crews used native stone and timbers to replace muddy ruts with wide, graceful stairs.

winter see & dos

This is one of the best times to visit the Smokies!

DRESS FOR WINTER SUCCESS

Winter weather is extremely variable in the Smokies. Days may be sunny and 70° F or well below 0° F (in the high country) with howling winds. In case you haven't recently needed to dress for chilly winter weather, here are some tips.

1. **Avoid wearing cotton, especially next to your skin** (e.g. T-shirts, sweatshirts, socks). When cotton becomes wet from precipitation or perspiration it will not keep you warm.
2. **Dress in layers.** Avoid getting too warm or cold by wearing several light layers of clothing that can be easily removed or added. Materials such as wool, polypropylene or "fleece" are excellent for layering because they provide warmth even when damp.
3. **Wear a hat, gloves, and warm socks.**
4. **Always carry rain gear.** Getting wet can quickly lead to hypothermia. Rain gear also makes a good windbreaker.



Smoky Mountains National Park. Highlights include artifacts from Great Smoky Mountains National Park. Visit gsmheritagecenter.org for a list of special exhibits and events.

Swain County Visitor Center and Heritage Museum

Located in downtown Bryson City, NC at the corner of Main & Everett Streets.

Open 9-5, closed Christmas Day.

Admission: Free

(865) 436-7318 x318

The Heritage Museum covers the dramatic history of Swain County, NC, including the story of Cherokee Indian towns like Kituwha, European-American settlers seeking a living from the rugged Smoky Mountains, Civil War battles, moonshiners, bear hunters, Fontana Dam, and the creation of the national park. The museum includes interactive exhibits just for kids.

In the visitor center there is information about hiking, rafting, sightseeing, and riding the Smoky Mountain Railroad.



Swain County Visitor Center and Heritage Museum

THE GREAT INDOORS

Great Smoky Mountains Heritage Center

Located on Hwy 73 in Townsend, TN.

Open 10-5, closed most Sundays.

Admission: \$7 adults, \$5 seniors, \$5 kids 6-17, free for kids 5 and under (865) 448-0044.

The center is located on six acres and offers both indoor and outdoor exhibits. Subject matter includes east Tennessee American Indian history and the lives of Euro-American settlers from the early 1800s to the establishment of Great

Great Smoky Mountains Heritage Center in Townsend, TN



HISTORY HIKES

Kephart Prong

The trailhead is located at the foot-bridge over the Oconaluftee River 7.0 miles north of Oconaluftee Visitor Center on Newfound Gap Road (U.S. 441). The first 0.25 mile of trail passes by the site of an old CCC camp and fish hatchery.

Woody House

In Cataloochee Valley, follow the Rough Fork Trail from the end of Cataloochee Road 1.0 mile to the Woody place and its 1880s home.

BILL LEA PHOTO

BYRON JORJIAN PHOTO



Historic photo of Little Greenbrier School

Little Greenbrier

Between Elkmont and Townsend on Little River Road, park at Metcalf Bottoms Picnic Area and walk across the bridge. Take the Metcalf Bottoms Trail 0.6 mile to the Little Greenbrier School. If you wish, you can continue 1.0 mile from the school to the Walker sisters' farmstead.

WATERFALL WALKS

Juney Whank Falls: A moderate 0.6-mile round trip hike. The trail starts from the parking area at the end of Deep Creek Road, (past the side road to Deep Creek Campground).

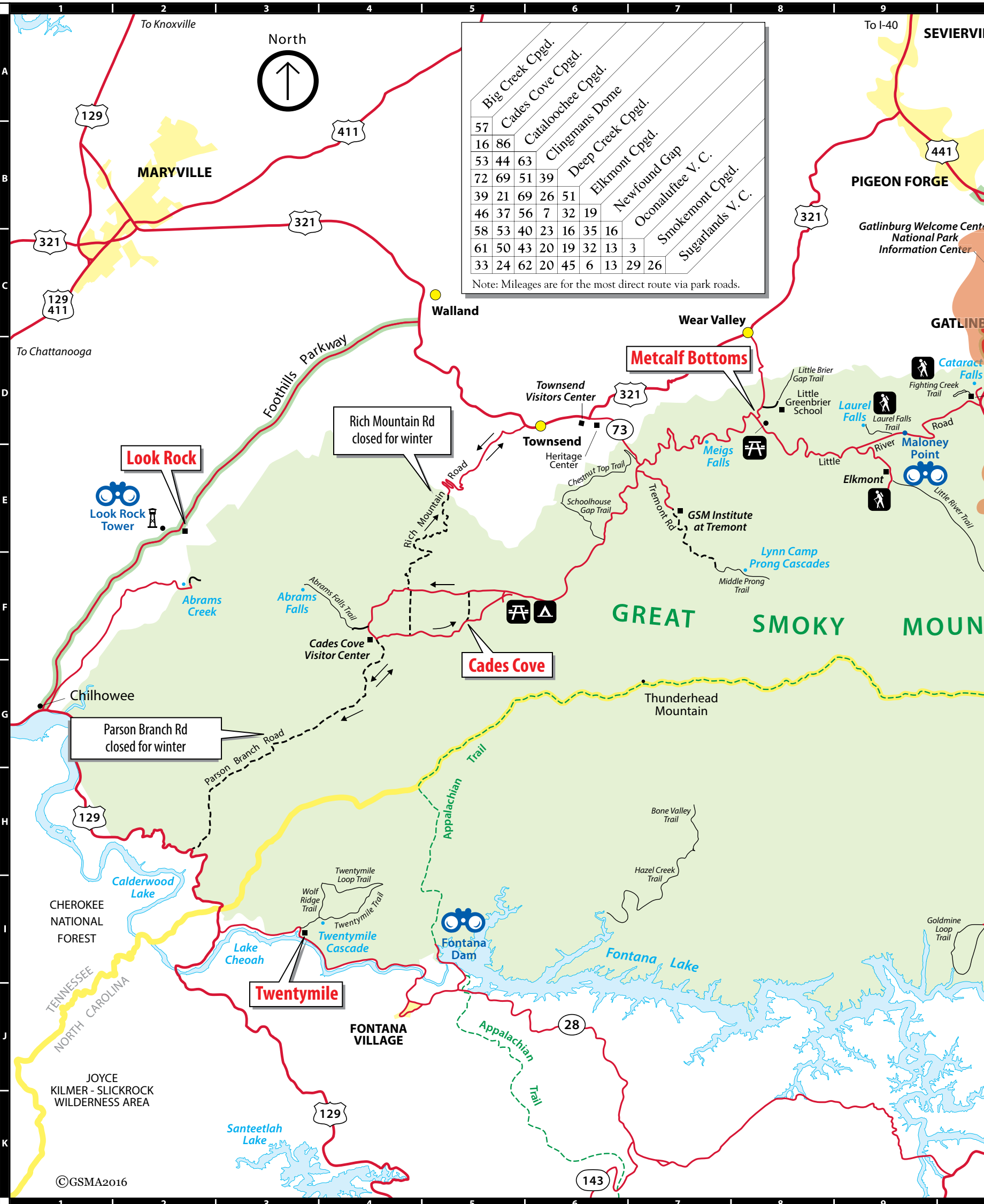
Indian Creek Falls: An easy 2.0-mile roundtrip hike. Take the Deep Creek Trail, which starts at the end of Deep Creek Road (past the side road to Deep Creek Campground), to Indian Creek Trail.

Hen Wallow Falls: A moderate 4.5-mile round trip hike. Take the Gabes Mountain Trail, which begins from the parking area at the entrance to Cosby Campground. Beyond the falls, Gabes Mountain Trail leads to rich, old-growth forest.

Hen Wallow Falls

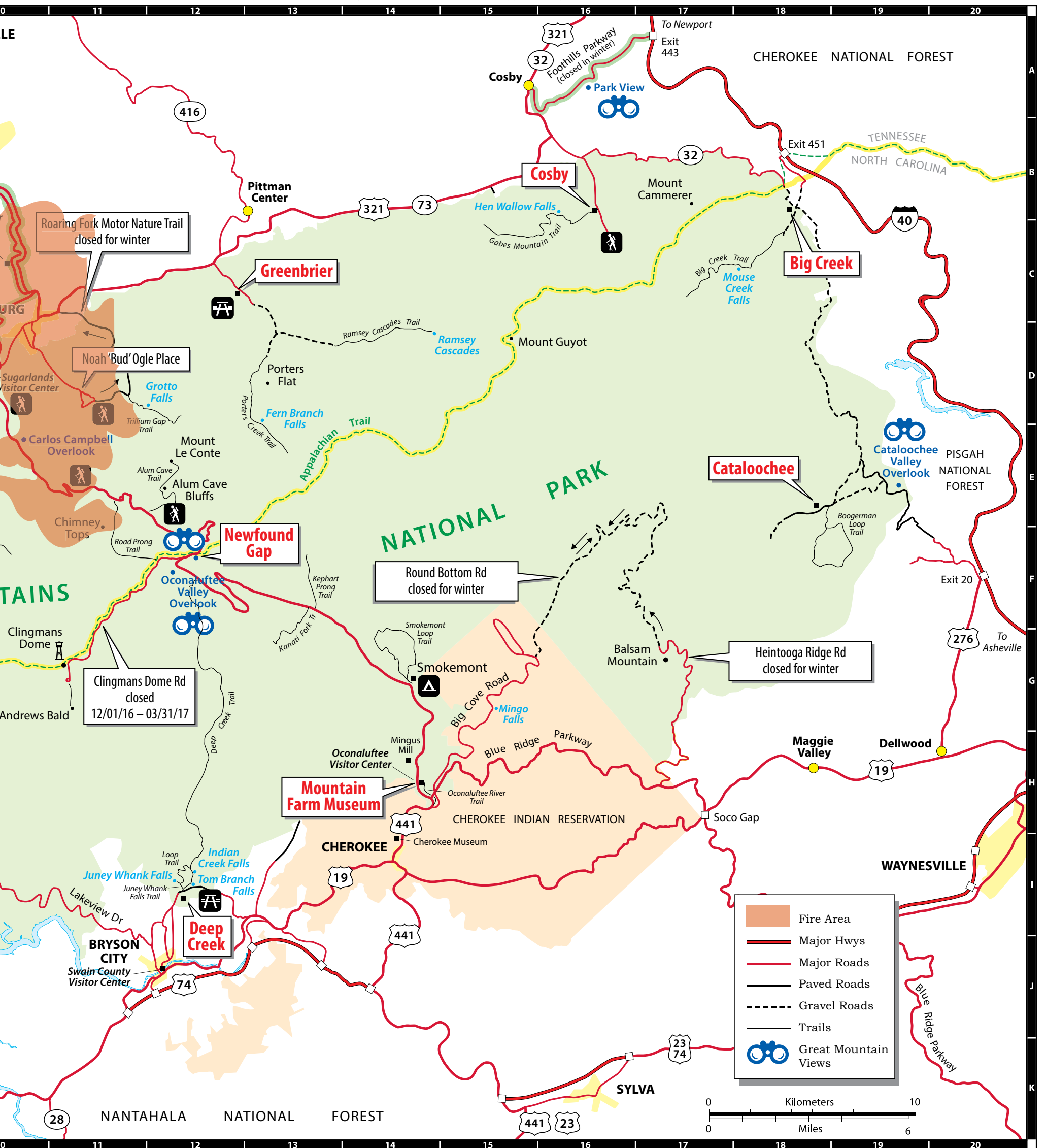


Winter Opportunities and Fire Area Map *Note that even within the fire area shown, large sections of forest are*



©GSMA2016

untouched while others were intensely burned. This patchwork mosaic is typical of wildland fires.



2016 wildfire!

Visit nps.gov/grsm for current information

Clockwise from top left; Fire threatened the park's Noah "Bud" Ogle Place on November 28, 2016, before the firestorm broke out in Gatlinburg and other nearby communities. Crews used foam and backfires to save the invaluable historic structures.

The windstorm and fires created unsafe conditions along many park trails, leading to the temporary closures of the following trails:

Chimney Tops, Road Prong, Huskey Gap, Rough Creek, Old Sugarlands, Twin Creeks, Baskins Creek, Bull Head, Rainbow Falls, Trillium Gap, Cove Mountain, and portions of Sugarland Mountain and Grapeyard Ridge trails.

Special crews assess the impacts of the fire from Carlos Campbell Overlook on Newfound Gap Road.



PHOTOGRAPHS BY BRUCE McCAMISH

Play it Safe

Due to the extraordinary number of windfall and damaged trees throughout the park, hikers and motorists should be on guard for falling branches and trees. Conditions can be especially dangerous when it's windy or heavy snow is falling. Hikers should be prepared to climb over large trees across trails. Likewise, some footbridges have been destroyed by falling trees and hikers need to be prepared to safely ford mountain streams.

In late November of 2016, the Chimney Tops 2 fire, one of the largest wildfires in the history of Great Smoky Mountains National Park, raged across the drought-stricken landscape. When this fire combined with other blazes sparked by downed power lines in nearby communities, they created one of the most devastating firestorms the region has ever experienced.

Q: Where did the Chimney Tops fire start, and how?

A: The Chimney Tops 2 fire started at the summit of the north (second) Chimney Top. That is the rocky spire north of the first Chimney Top; beyond the terminus of Chimney Tops Trail. Authorities have charged two juveniles with intentionally starting the fire.

An earlier fire, the Chimney Tops fire, was started in the same vicinity, but was on a slope that was more accessible to firefighters. That fire was extinguished by park crews on November 16. The Chimney Tops fire was also human caused and burned $\frac{1}{4}$ acre.

Q: How many acres were burned by the Chimney Tops 2 fire?

A: Approximately 11,000 acres in the park, which is about 2% of the total park acreage. However, within the 11,000 acre wildfire area, some sections are unburned, some are severely burned, and some are lightly affected in a typical forest fire mosaic.

Q: Was wildlife killed by the fire?

A: At least one bear is reported to have died, but all of the bears that are collared and tracked by wildlife biologists survived. Some small, slow moving animals likely perished. Fortunately most wild animals are adapted to avoid wildfires, either by fleeing or burrowing deep in the ground. Wild turkey, bear, and squirrels were observed foraging

burned areas even before the fires were extinguished.

Q: Were any of the park's visitor centers, historic log cabins, churches, or other buildings burned?

A: No. Firefighters were able to save several historic and new structures in the Cherokee Orchard area. And because the Chimney Tops 2 fire tended toward jumping from ridge to ridge, and mountain farmers built their homes in sheltered coves and valleys, many invaluable historic structures were never threatened. A few buildings received minor damage from the winds and falling trees.

Q: How did such a big fire ever happen in the normally soggy Smoky Mountains?

A: Although 2016 started out with near normal precipitation, the usually abundant Smoky Mountain rains just stopped falling in mid summer. The weather was also abnormally sunny and warm through the fall. While these unusual circumstances lead to a long and gorgeous fall color season, they also creat-



The Chimney Tops 2 fire burned approximately 11,000 acres in Great Smoky Mountains National Park. Crews from as far away as Arizona, California, and Alaska were called in to extinguish the blaze and clear roadways. The severe windstorm on November 28-29 accelerated the blaze and downed hundreds of trees along roads and trails.



torists on Newfound Gap Road were stunned to see a massive twin prop helicopter hover over tiny Road Prong and repeatedly fill its bucket from deep pools in the creek.

However, when the humidity dropped and southerly winds picked up on November 27, the fire jumped its containment line and continued to spread by lofting burning embers into the air that landed as far as a half mile away.

The winds and dense smoke also forced all aircraft to be grounded, a serious setback to the firefighting and reconnaissance efforts. As darkness fell on November 28, the fire had reached historic and terrifying proportions. And it was being blown straight north by hurricane force winds toward the drought-stricken town of Gatlinburg.

The rain so sorely lacking from the region for so many months finally began to fall early on the morning of November 29. The same weather systems that cause mountain wave winds also bring rain, eventually. Over the next week, more than three inches quenched the dry landscape. The more than 600 fire fighters by then on the scene were able to contain the fire, but not before its rampage had devastated so much.

Q: Were there other fires outside the Smokies?

A: Yes, hundreds of smaller wildfires had burned in

Tennessee, north Georgia, and western North Carolina from October into December.

Q: What will happen to the areas burned by the fires?

A: No one knows exactly because such hot, intense fires are rare in the southern Appalachian Mountains. In some areas of the park, the fires burned through the duff on the forest floor and incinerated the organic matter in the soils.

The Park Service has already completed a few re-vegetation projects on some burn areas that may be susceptible to landslides, but for the most part, nature will be allowed to take its course. In this resilient, vibrant, diverse ecosystem, it's likely that even the most severely burned areas will be sporting green foliage and wildflowers in a short time.

It will be interesting to observe how some fire dependent habitats, like lower elevation pine-oak forest, will respond to the catalyst. Such habitats may present a profusion of wildflowers over the next few years.

What Happens Next?

Certain ecosystems in the Great Smoky Mountains have suffered for many years from lack of fire. For example, Table Mountain Pine trees need fire to help their seeds spread and germinate. Some wildlife will benefit from the standing dead trees and more open forest environment, possibly including the endangered red-cockaded woodpecker and Indiana bat. Other habitats like cove hardwood forest and northern hardwood forest are usually too damp to burn but did experience some wildfire in this extreme incident. Scientists will be studying how these environments respond and sharing their discoveries with the public.

Q: Who is paying for the massive fire fighting effort?

A: The costs have been shared by Great Smoky Mountains National Park, the National Park Service headquarters in Washington, D.C. and the Tennessee state division of forestry.

Q: Has Climate Change made catastrophes like this more frequent?

A: Scientists confirm that fire seasons and wildfire severity is increasing across the U.S. The five months prior to the Chimney Tops 2 fire were the driest on record, dating back to 1895.

Q: Where can I see evidence of fire in the park?

A: Please see the map on pages 8-9. Some of the trails impacted by the fire may remain closed for an extended period of time. For current information, visit www.nps.gov/grsm.

ed forest conditions that were tinder dry. The recently fallen autumn leaves that piled up on the forest floor also contributed to the dangerous situation.

The third factor was the mountain wave winds that typically pummel the Smokies in November and December, but can occur any time from October through February. These mysterious, hurricane-force winds are similar to the Santa Ana winds along mountain ranges in California. Weather systems approaching the Great Smoky Mountains from the west may be accompanied by strong winds out of the south. These winds are intensified when they are forced up and over the east-west trending Great Smoky Mountains.

Mountain wave winds of well over 100 miles per hour have been clocked in the foothills of the Smokies. From November 28-29, 2016, gusts

in excess of 85 mph were recorded in and around the park. These winds toppled thousands of trees, downed power lines, and stoked the wildfires in the same way a blacksmith's bellows stoke a forge. They transformed a relatively small, slow moving forest fire into a raging inferno. They also started many new fires as broken power lines and exploding transformers sprayed sparks across the parched landscape.

Q: How did the National Park Service respond to the forest fire?

A: Park fire fighters were the ones who first sighted smoke from the Chimney Tops 2 fire on November 23. They were on the scene in less than an hour. Unfortunately, the terrain there is dominated by sheer cliffs and such dense vegetation that it is a dangerous environment even when not on fire! Many passing mo-

2016 SPECIAL REPORT

State of the Park



WILDLIFE



The food storage cables at backcountry campsites and shelters have proven to be very successful at keeping bears and people-food apart. Funding has been secured this year to repair some damaged systems.

some damaged systems.

- *The non-native wild hog population appears to be relatively low.* The drop is likely due to low reproduction and consistent control efforts by park staff. Since 1959, more than 12,000 invasive wild hogs have been removed from the park.

- *A new program allows researchers to track radio-collared bears to areas inside and outside the park* where they may be obtaining garbage or other human-related food. Wildlife staff can pinpoint the trouble spots and take action to clean them up.



Backcountry campsite food storage cables in action.



Wild hogs in the park continue to test positive for pseudorabies, a significant disease for the domestic swine industry.

- *White-nose Syndrome has killed 98% of the Eastern pipestrelle bats and 95% of the little brown bats in the park.* The fungal disease usually affects bats while they are hibernating in caves.

- *A bear seriously mauled a backcountry camper* in the Hazel Creek area this year. The 16-year-old camper is expected to recover from most of his injuries, but the incident is a reminder that park animals are wild and can be dangerous.

STREAM LIFE



GARY WILSON

Certain brook trout populations in the park will likely decrease in 2017 due to drought.



Recent water quality monitoring data indicate slight improvements in stream acidity in mid-elevation streams. These improvements are attributed to reductions in acid rain (from power plants and factories) in the last decade.

- *Research indicates that brook trout populations in the park are healthy,* although the extended drought will likely result in poor year classes in 2017. Brook trout and rainbow trout produced two healthy year classes of young fish in 2014 and 2015, which means there will be good numbers of adult fish in 2017. All park streams are now open to fishing and harvest for the first time since the park was established in 1934.

- *Monitoring of four species of endangered and threatened fish* indicates there are now viable reproducing populations in the park with some populations expanding their range.



Twelve park streams (41 miles) remain officially listed as impaired by acid deposition. Water quality improvements are not being seen in the high elevation streams yet as there is a lot of nitrate and sulfate to flush from these soils. Research indicates it will take more than 50 years for 57% of the parks sensitive streams to recover enough to support brook trout.

PLANT LIFE



Park management decided to restrict outside firewood from entering the park. Only heat-treated firewood is now allowed. Heat treatment kills insects and diseases that may be in wood and reduces the chance that a new pest could be introduced into the park.

- **Park vegetation management crews have removed over 6,000 non-native mimosa trees already this year.** All told, crews worked 426 individual exotic plant sites removing invasives like kudzu, garlic mustard, princess tree, privet, and multiflora rose.

- **Fraser fir trees are re-growing** in some areas where mature trees were killed by the balsam woolly adelgid.



The non-native emerald ash borer beetle continues to spread. Hundreds of ash trees inside the park have been affected and park crews are treating as many trees as possible.

- **New exotic plant species are still finding their way into the park.** Three new exotic plants were identified this year: Callery "Bradford" pear (*Pyrus calleryana*), helleborine orchid (*Epipactis helleborine*), and mock-orange (*Philadelphus virginialis*).

AIR QUALITY



Ozone pollution, acid rain, particulate matter, and regional haze levels at the park have all improved dramatically since 1999. Cleaner power plants and cleaner motor vehicles are the reasons. Visibility on the worst days has improved from 9 miles in the 1990s to 39 miles in 2014.

- **Nearly 12,000 customers** have signed up for the Tennessee Valley Authority's (TVA's) Green Power Program.

- **Since December of 2008, TVA has installed sulfur dioxide scrubbers** on the nearby Bull Run and Kingston coal-fired power plants, reducing



Because of sulfur and nitrogen pollution, park rainfall is five times more acidic than natural rainfall, causing streams to become too acidic for Clean Water Act standards.

On some summer days, ground level ozone pollution can make air in the park unhealthy to breathe.



Thanks to reductions in coal-burning power plants and vehicle emissions, air quality in the Smokies is improving. Still, sulfates from power plants and factories are reducing mountain views from 80 miles (historically) to 39 miles today.



HISTORIC PRESERVATION



Construction is now complete on the Collections Preservation Center which shelters the park's historic artifacts and other items. This facility will house not only all of the Smokies' historic and archaeological collections, it will also protect historic items from several other regional National Park Service units.

- **Friends of the Smokies successfully com-**

peted for a \$250,000 Partners in Preservation grant which will allow for preservation work on Clingmans Dome Tower, which is listed on the National Register of Historic Places.

- **Historic Structure Reports** have been prepared to guide the park's care of all of the 18 historic buildings being preserved at Elkmont. Restoration of the Spence Cabin and Appalachian Club House is already complete and work will soon begin to restore four more of these buildings.



The park's cabins, churches, and other historic buildings are being permanently damaged by vandals carving or writing their names on walls. If you witness vandalism taking place, please call (865) 436-1230 to report it.

The recently completed Collections Preservation Center shelters the park's historic artifacts and other items.

VISITOR EXPERIENCE



To celebrate the centennial of the National Park Service, the Smokies and its partners collaborated to blanket Knoxville's airport with murals celebrating parks within 200 miles of that city. • Park Superintendent Cassius Cash led an effort to encourage hundreds of school kids and adults to hike 100 miles in the park and earn a commemorative patch. • Great Smoky Mountains Association published special centennial editions of *Smokies Life Magazine* including a feature that named the 100 most influential people in park history. • Nationally-acclaimed musicians like Dolly Parton and David Holt collaborated to create "On Top of Old Smoky," a CD featuring modern recordings of traditional Smoky Mountain music.

- **Restoration work on the enormously popular Alum Cave Trail to Mt. Le Conte was completed** by the park's Trails Forever crew.

- **Over 21,000 students benefited from the Smokies "Parks as Classrooms" programs** in which participants visit the park and learn about its natural and cultural resources through curriculum-based programs. In addition, over 500 members of local Boys and Girls Clubs were able to take field trips to the Smokies.



Visitation to Great Smoky Mountains National Park is up another six percent through the first nine months of 2016 and will likely top 11 million this year. Although it's good news

that so many people are enjoying their national park, the high visitation is testing the limits of the park's staffing and infrastructure, including roads, parking areas, and restrooms during the peak months.

if you love the smokies...

help protect and preserve a true American masterpiece

become a member

Since 1953, Great Smoky Mountains Association has supported the educational, scientific, and historical efforts of the National Park Service through cash donations and in-kind services. In 2017 alone, the association plans to provide more than \$1.3 million in assistance that includes saving hemlock trees, restoring historic buildings, environmental education programs, backcountry staff, and historic preservation.



Association members receive a number of benefits to keep them informed about special events in the park and issues affecting the Smokies:

- Subscription to the semi-annual, full-color magazine *Smokies Life*
- Exclusive digital access to the award-winning quarterly park newspaper, *Smokies Guide*, the association's newsletter, *The Bearpaw*, and many other members-only features
- A 15-20% discount on books, music, gifts, and other products sold at park visitor centers and at our web store
- Discounts up to 20% at more than 400 national park bookstores across the country
- Special discounts at area rental cabins, inns, restaurants, shops, and attractions
- And most importantly, the satisfaction of helping to preserve nature and history in Great Smoky Mountains National Park.

Join today using the coupon to the right or visit www.SmokiesInformation.org. Or call us at 1-888-898-9102 x222. GSMA memberships start at just \$35 per year.

JOHN DICKSON PHOTO



Great Smoky Mountains National Park is one of the few large national parks without an entrance fee. Most parks now charge \$30 per vehicle. Without this supplemental income, it is difficult for the Smokies to adequately protect wildlife, preserve historic areas, and provide educational opportunities. You can help by using some of the money you saved at the entrance to support the park partners on this page.

field school

An exciting variety of adventures await adults who long to get out and explore the park accompanied by expert guides. Programs are offered by the Smoky Mountain Field School and include Mt. Le Conte overnights, wildlife workshops, edible plants, wildflower photography, animal tracking, bird watching, salamanders, mountain cooking, and more. One day programs start at as little as \$79. Contact: (865) 974-0150 or smfs.utk.edu

gsmi at tremont

Great Smoky Mountains Institute at Tremont provides residential environmental education programs in Great Smoky Mountains National Park. Up to 5,000 students and adults annually attend workshops, summer camps, and school programs at the Institute. Tremont's adult workshops include birding, backpacking, environmental education, naturalist weekends, and photography. Contact (865) 448-6709 or www.gsmit.org

discover life...

We all know that the Great Smoky Mountains are famous for their diversity of life, but how much do we really know about all those plants and animals? Well, before the nonprofit Discover Life in America launched its biological inventory of the park, not a whole heck of a lot! Now that's all changed. DLIA has documented over 19,000 different species in the Smokies, nearly 1,000 of those new to the science books. To learn more: www.dlia.org

support the friends

Friends of Great Smoky Mountains National Park is a nonprofit organization that assists the National Park Service by raising funds and public awareness and pro-



viding volunteers for park projects.

Since 1993, Friends has raised over \$53 million for park projects and programs. These donations help:

- protect elk, bear, brook trout, and other wildlife
- improve trails, campsites, and backcountry shelters
- support educational programs for school children
- improve visitor facilities
- fund special educational services like the park movie
- preserve log cabins and other historic structures.

Your donation can help make these projects a reality. Put a few coins or a few dollars in one of the donation boxes located at visitor centers, roadsides, and other locations around the park. Buy the Smokies license plate for your car (available in Tennessee and North Carolina).

However you choose to give, your donation will really help protect the Great Smoky Mountains for many years to come!

Friends of the Smokies
P.O. Box 1660,
Kodak, TN 37764
(865) 932-4794
1-800-845-5665

www.friendsofthesmokies.org

"Get Rooted in the Smokies"

Choose Your Membership Level:

- ☐ Acorn (youth) Membership \$15
- ☐ Buckeye Annual Membership \$35
- ☐ Chestnut Annual Membership \$100
- ☐ Dogwood Membership \$200
- ☐ Hemlock Lifetime Membership \$1,000
- ☐ Annual Business Membership \$250

YES, I WANT TO JOIN GSMA!

Name(s) _____

Address _____

Email (for Cub Report) _____

Telephone # _____

Please include your check with this form. Mail to:
GSMA, P.O. Box 130, Gatlinburg, TN 37738

Technology

A new app shows what lives where

Where the Wild Things Are

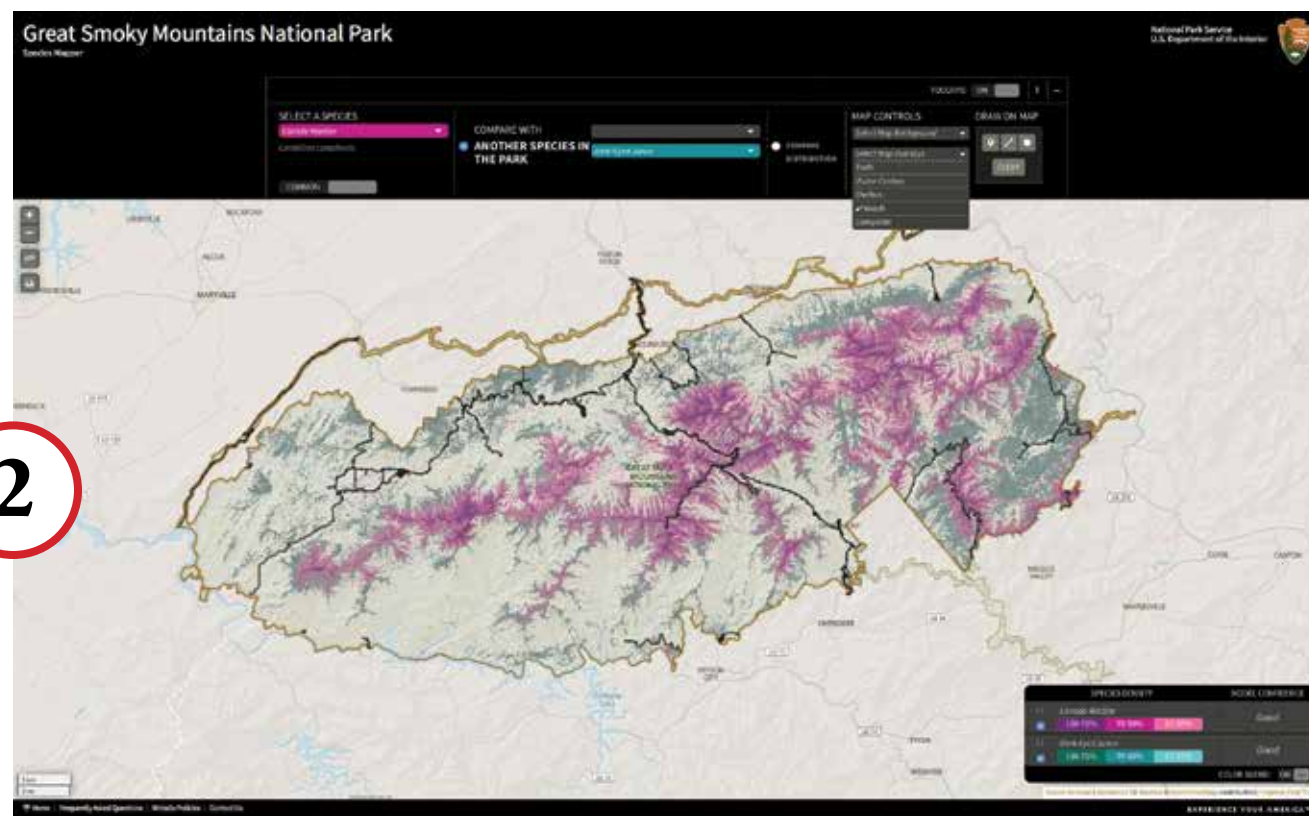
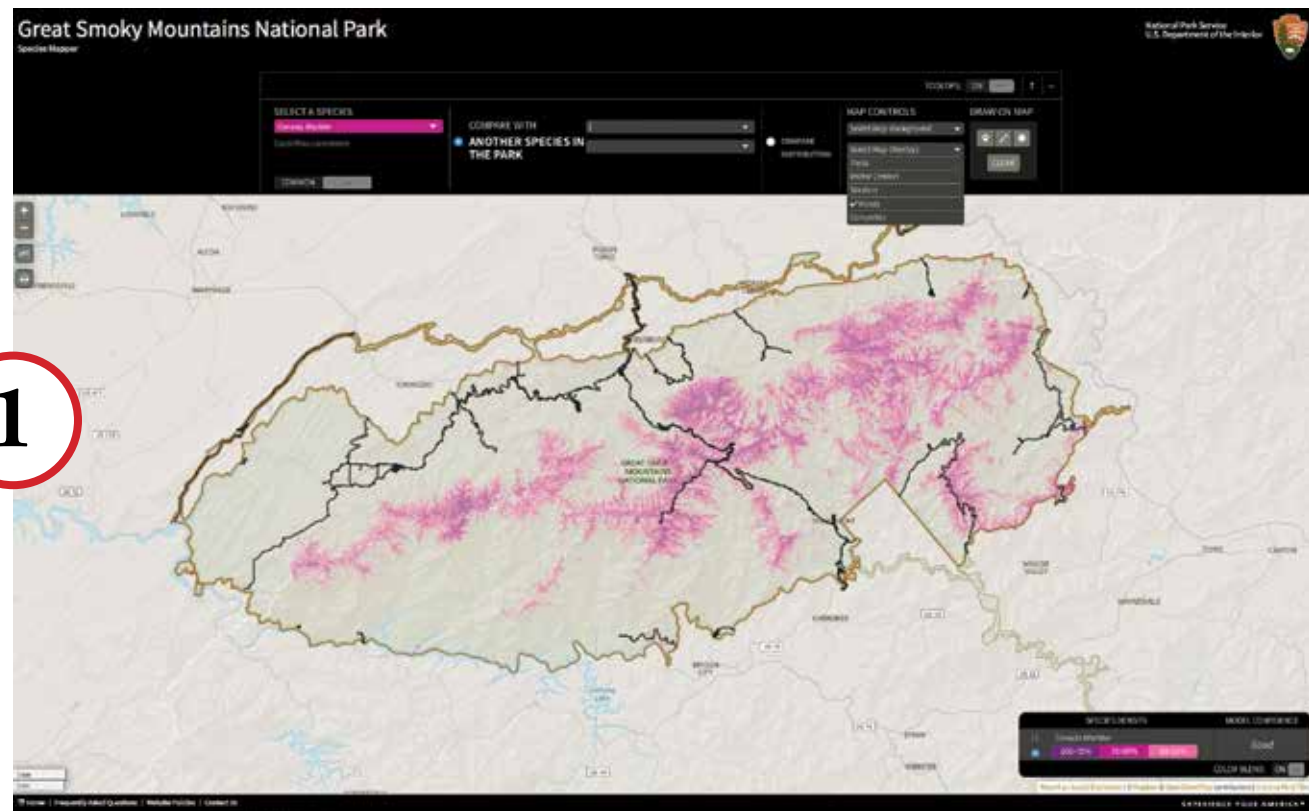
Have you ever wondered where to look for a Canada Warbler in the Smokies? Or a painted trillium? Now you can get some amazing help from an app created through a partnership between Great Smoky Mountains National Park and the Department of Electrical Engineering and Computer Science (EECS) and the School of Arts at the University of Tennessee (UT), Knoxville. The name of the web-based application is Species Mapper. Everyone from park managers to school groups can use Species Mapper to explore habitats for over 1,800 plant and animal species. The application can be found at <https://science.nature.nps.gov/parks/grsm/species>.

Species Mapper uses locations where species have been previously documented to help predict additional places where they may occur in the park. These predictions, or models, are based on observations made during ongoing wildland monitoring as well as during science studies conducted by researchers from all over the world. The result of the model is a detailed map showing where each species is likely to live in the park.

"This application allows park managers to use the vast amount of biological data collected over the past three decades to protect park resources," said Inventory and Monitoring Program Manager Tom Remaley. "Visitors can use this site to explore what lives in the park and what they might see during their visit."

The model uses supercomputers managed by the UT/Oak Ridge National Laboratory's Joint Institute for Computational Sciences to analyze the location of observations as well as the characteristics of the environment such as slope, forest type, geology, elevation, temperature, and sun exposure. Faculty and post-doctoral researchers from UT's national Institute for Mathematical and Biological Synthesis have also contributed to the scientific analysis of the data and the models.

Park managers will continue to add observations



to the application making it more accurate and comprehensive. Many of the observations will come from the All Taxa Biodiversity Inventory (ATBI), which is a park-wide biological inventory of all life forms. Over 19,000 species have now been

recorded in the park, thanks to the project.

For more information about biological diversity in the park, visit www.nps.gov/grsm/learn/nature/index.htm and the Discover Life in America website at www.dlia.org.

Top, Step 1: Selecting *Canada Warbler* from the species selector shows its likely locations as purple areas in the park.

Bottom, Step 2: Choosing a second species—in this case, *Dark-eyed Junco*—shows its locations in blue-green in addition to the purple Canada Warbler habitat sites.

winter travels

for more information: www.nps.gov/grsm

441 snow routes

For periods when Newfound Gap Road (U.S. 441) is closed because of snow, alternate routes around the Smokies are shown below. Commercial traffic must use "Primary" routes. "Secondary" routes are shorter but the roads are steeper and more winding.

emergencies

Listed below are some numbers to call for emergencies that arise after hours.
Park Headquarters (865) 436-9171
Cherokee Police (828) 497-4131
Gatlinburg Police (865) 436-5181

hospitals

Le Conte/Sevier County (865) 446-7000, Middle Creek Rd., Sevierville, TN.
Blount Memorial (865) 983-7211, U.S. 321, Maryville, TN.
Haywood County (828) 456-7311, Waynesville, NC.
Swain County (828) 488-2155, Bryson City, NC.

regulations

Picking or digging plants is prohibited in the park.
Persons feeding wildlife are subject to a \$5,000 fine.
Pets are not permitted on most park trails. Only the Gatlinburg and Oconaluftee River trails allow dogs on a leash.

accessibility

Restrooms at all park visitor centers (Cades Cove, Oconaluftee, and Sugarlands) are fully accessible. The Sugarlands Valley all-access nature trail is located on Newfound Gap Road just south of Sugarlands Visitor Center.

