



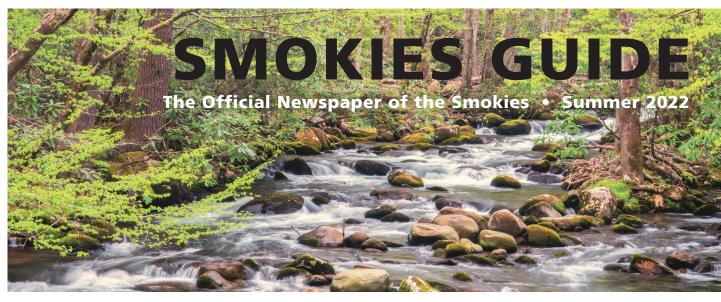
Words with a Ranger

My childhood was spent playing and fishing in the lakes and rivers of the Midwest. With about 2,900 miles of streams flowing from the mountains to the valleys of Great Smoky Mountains National Park, it's easy to feel at home here.

As an education park ranger, part of my job is to educate park visitors about the cultural and natural resources in the park and how to protect them. With more than 14 million visitors annually, the resources can sometimes be damaged, often unintentionally.

In recent years, visitors have moved rocks to create dams, channels, and cairns to such an extent that it has changed the aquatic habitat, leading to the death of thousands of aquatic animals. Salamanders, fish, and dragonfly larvae are just a few of the creatures that make their homes and nests under the rocks in the streams. Species like the eastern hellbender are so rare that the streams in the park are some of the last places they can be found. To an aquatic animal, moving rocks is like cutting down a tree that supports a bird's nest. It harms the

Continued on page 8



Some 2,900 miles of rivers and streams flow through Great Smoky Mountains National Park, providing a home for many different species of native fish, salamanders, crustaceans, and insects. *Image by Joye Ardyn Durham*.

Mountain Streams Abound with Hidden Life

Smokies waterways serve as a hub for biodiversity

Take a look around a river or stream in the Smokies, and you'll be sure to spot some form of life. Beneath the water's surface, aquatic salamanders, aquatic insects, crayfish, and colorful freshwater fish dart between the rocks and pebbles. In the air above, hundreds of different species of winged insects glide over the water.

In fact, scientists like Entomologist Becky Nichols can learn a lot about the health of a waterway by studying these insects closely.

"By monitoring the abundance and diversity of aquatic insects from year to year, we can determine if streams are doing well or not," said Nichols. "Certain groups of insects, such as mayflies, caddisflies, and stoneflies, are very sensitive to changes in stream characteristics like pH, temperature, and siltation levels."

There are about 2,900 miles of rivers and streams in the Smokies, providing habitat for several federally threatened and endangered species including the Citico darter and the Smoky madtom. According to Nichols, anyone can help protect these unique species by following a few simple rules in the park.

"First of all, be aware of aquatic habitats and try not to overly disturb them," said Nichols. "Many kinds of organisms live in the stream and have certain habitat requirements, including particular substrate sizes, flow rates, water depths, vegetation, etc. Disturbances, such as moving rocks, will change these characteristics and negatively impact species that live there. Also, if you use fishing gear, be sure to clean it appropriately before entering park waters to avoid transport of invasive species." See page 3 for cleaning tips.



THANK YOU FOR NOT MOVING ROCKS

Eastern hellbender salamanders live and nest under rocks in Smokies streams.

Leaving no trace helps

Leaving no trace helps this and other important species thrive.









COVID-19

The National Park Service is working with federal, state, and local health authorities to closely monitor the COVID-19 pandemic. Check nps. gov/grsm for the latest updates on open facilities, access, and updates on maskwearing requirements. All openings are based on available staffing. Temporary closures may occur on short notice. Play it #SmokiesSafe in the park:

- Delay your trip if you are sick
- · Bring a mask and check for current mask requirements
- Send only one or two members of your party into visitor centers
- · Avoid crowded areas
- · Maintain social distancing six feet away from others

Visitor centers

Hours may be modified due to COVID-19.

Oconaluftee and Sugarlands: open 9 a.m.-5 p.m. June through September. Cades Cove: open 9 a.m.-6 p.m. June through August; 9 a.m.-5 p.m. September.

Clingmans Dome: open 10 a.m.-6:30 p.m. June through August; 10 a.m.-6 p.m. September.

Road closures

• Cades Cove Loop Road is closed to vehicles on Wednesdays from May 4 through September 28 to allow for non-motorized recreation.

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

Printed on recycled paper

Camping in the national park

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

Campsite reservations are required at all park campgrounds, including Abrams Creek, Balsam Mountain, Big Creek, Cades Cove, Cataloochee, Cosby, Deep Creek, Elkmont, and

Smokemont. Sites may be reserved up to six months in advance. Make your reservation at recreation.gov or call 877.444.6777.

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

Campsites for large groups are at Big Creek, Cades Cove, Cataloochee, Cosby, Deep Creek, Elkmont, and Smokemont. Reservations are required and may be secured up to a year in advance. For more information, visit nps.gov/grsm.

No. of Expected Nightly Max RV Site Elevation Sites **Open Dates** Fees Length **Abrams** 16 1,125 4/29 - 10/30\$17.50 121 Creek **Balsam** 42 5,310' \$17.50 30' 5/13 - 10/11 **Mountain** Big tents 1,700' 12 4/15 - 10/30\$17.50 Creek only Cades open \$25 159 1,807 35'-40' Cove year-round **Cataloochee** 27 \$25 31' 2,610' 4/15 - 10/30157 2,4591 4/15 - 10/30\$17.50 25' Cosby Deep 92 1,800' 4/15 - 10/30\$25 26' Creek \$25-2,150 32'-35' **Elkmont** 220 3/11 - 11/27\$27 \$21open **Smokemont** 142 2,1981 35'-40' \$25 year-round Look Closed. Check recreation.gov for opening dates. **Rock**

Firewood

Firewood
To prevent the spread of destructive pests, only USDA- or state-certified heat-treated firewood may be brought into the park. Campers may gather dead and down wood in the park for campfires.

Picnic areas

Picnic areas at Cades Cove, Deep Creek, Greenbrier, and Metcalf Bottoms are open year-round. Heintooga closes Oct. 11. Big Creek, Collins Creek, Cosby, Look Rock, and Twin Creeks close Oct. 31. Chimneys closes Nov. 29. Picnic pavilions may be reserved for \$12.50-\$60 at recreation.gov. Some restroom facilities at picnic areas may be closed.

For rent

The Appalachian Clubhouse and Spence Cabin at Elkmont can be reserved for daytime events at recreation.gov through October 31, 2022.

Accommodations

LeConte Lodge (accessible by trail only) provides the only lodging in the park. Advanced reservations required. 865.429.5704 or lecontelodge.com

Special events and ranger programs

Check at visitor centers or nps.gov/ grsm for information about special events and ranger programs.

Bicycling

Most park roads are too narrow and heavily traveled for safe or enjoyable bicycling. Bicycles are permitted on park roads but prohibited on trails except Gatlinburg, Oconaluftee River, and lower Deep Creek and Indian Creek trails. Helmets are required by

SMOKIES GUIDE

Smokies Guide is produced four times per year by Great Smoky Mountains Association and Great Smoky Mountains National Park.

nps.gov/grsm SmokiesInformation.org

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Winter: mid-Dec.

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the free **NPS** App for

Download

interactive maps, tours, and more. law for persons age 16 and under and strongly recommended for all.

Cades Cove Loop Road is open exclusively to cyclists and pedestrians on Wednesdays from May 4 through September 28. Bikes may be rented at the Cades Cove Campground store. 865.448.9034.

Horseback riding

Some 550 miles of park trails are open to horses. See park trail map for trails and rules. Horse camps are available at Anthony Creek, Big Creek, Cataloochee, Round Bottom, and Tow String. Make reservations at recreation.gov.

Three concession horseback riding stables offer rides from March through November. Call for exact opening dates.

- Cades Cove 865.448.9009 cadescovestables.com
- Smokemont 828.497.2373 smokemontridingstable.com
- Sugarlands 865.436.3535 sugarlandsridingstables.com

Fishing

Fishing is permitted yearround 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. Fishing with bait is prohibited. Special permits are required for the Qualla Boundary and Gatlinburg, and licenses are available in nearby towns. A free

CLEANING WATER GEAR

To prevent the spread of invasive Didymo algae:

- 1. Remove debris and strands of algae from all water gear, tubes, wading boots, etc.
- 2. Soak gear in a 2.5%-5.0% solution of household bleach with hot water for ten minutes. Scrub hard-to-remove debris with a biodegradable detergent.
- 3. Once gear is dry to the touch, wait an additional 48 hours before use.

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

Pets in the park Pets are allowed in frontcountry campgrounds and along roads as long as they are restrained at all times. Pets are not allowed on park trails, except for Gatlinburg and Oconaluftee River trails. Pets

must be kept in control on a leash

no longer than six feet.

Backcountry camping Camping can be an exciting adventure for those who are properly equipped and informed. To facilitate this activity, the NPS maintains more than 800 miles of trails and more than 100 backcountry campsites and shelters throughout the park. One of the greatest challenges is deciding where to go. Here are some tools to help.

- I. Get the map. Go online to view the park's official trail map (nps.gov/grsm/planyourvisit/maps. htm), which shows all park trails, campsites, and shelters. Park rules and regulations are also listed here. You can purchase the printed version of the trail map for \$1 at any park visitor center or online at SmokiesInformation.org.
- 2. Plan your trip. Call or stop by the park's Backcountry Office from 8 a.m. to 5 p.m. for trip planning help. The office is located in

Sugarlands Visitor Center, two miles south of Gatlinburg on US 441. 865.436.1297.

3. Get a permit. Make your reservation and get your permit through the Backcountry Office at Sugarlands Visitor Center (by phone or in person) or online at smokiespermits.nps.gov.

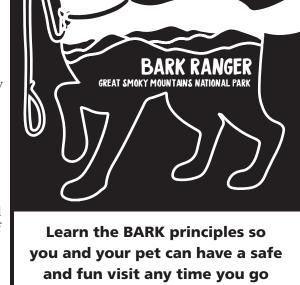
Reservations and permits are required for all overnight stays in the backcountry. The cost is \$4 per person per night. Reservations may be made up to 30 days in advance.

Summer hikers should be especially aware of the dangers of dehydration, heat exhaustion, and hyponatremia—the combination of increased water intake and inadequate sodium and electrolyte levels. Drink when thirsty; rest and eat often. Carry an ample supply of water, snacks, and sun protection. Know your limits. Reduce the risk of hypothermia, a danger even in summer, with layered clothing and rain gear. Stay dry. See page 4 for more trip essentials.

Park weather

In summer, heat, haze, and humidity are the norm by mid-June. Most precipitation occurs as afternoon thundershowers.

By mid-September, a pattern of warm, sunny days and crisp, clear nights often begins. However, cool, rainy days also occur.





to a national park.



The **only** two pet-friendly trails in the Smokies are Gatlinburg Trail in TN and Oconaluftee River Trail in NC.

Check out the BARK ranger products at SmokiesInformation.org







the park

14 million + 1,000 + species visitors per year new to science found in







30 species of 69 species 9,900 + species 16 mtns. higher of insects 16 than 6,000'

Anything can happen out on the trail, but you'll be prepared if you keep it **SMOKIES SMART!**

Tell someone where you're going, stay on established trails, pack the essentials, and know what to do in case of an emergency. Let the NPS Backcountry Office help you plan your hike and prepare for what you may experience along the way. Call 865.436.1297, 8 a.m. – 5 p.m.



PACK ESSENTIALS

- Navigation—map, compass, and knowledge of how to use them
- Water and food
- Extra layers
- Rain gear and pack cover or waterproof bags
- **Headlamp** or flashlight
- Traction support like hiking poles or microspikes
- Emergency whistle
- First aid kit
- Sun protection with sunscreen, sunglasses, and hat

FOR A LONGER HIKE

- Repair kit with multi-tool or knife
- Fire starter
- **Shelter**—emergency tent or tarp



IN AN EMERGENCY

- Call 911 if you can acquire a signal.
- Remain with any injured parties until help arrives.
 Use what basic first-aid techniques you know, but do not attempt invasive intervention unless you are medically trained.
- Use an emergency whistle to issue a series of three spaced blasts every few minutes to alert rescue crews. If you are in an open area, display brightly colored clothing or gear.

YOUR CELL PHONE IS NOT

- a light
- a map
- a survival kit
- always going to have service

THNGS TO DOINTHE SUMMERTIME

Hit the Trail

There are more than 800 miles of maintained trails in the Smokies ranging from leisurely quiet walkways to challenging mountain ascents. Just be sure to come prepared with the pack essentials (see page opposite).

Download a free copy of the park's trail map at nps.gov or purchase one for \$1 at a visitor center or kiosk. Visitor center bookstores offer hiking references including *Day Hikes of the Smokies* and *Hiking Trails of the Smokies*.

Photo by Diego Ferron



Go Fishing

Cool off by a mountain stream and try your hand at hooking one of the five species of game fish found in the park. The Smokies offer a wide variety of angling experiences with about 580 miles of streams supporting wild trout populations. Bait is prohibited, and a NC or TN license is required.

Grab a free fishing map at a visitor center to get a lay of the land and brush up on park rules. To learn more about fish you may encounter, purchase the brand-new *Fishes of the Smokies* field guide at a park store.



Go Vehicle-free in Cades Cove

Bike, walk, run, or bring your own mobility-aiding device while enjoying the beautiful and historic Cades Cove valley on vehicle-free Wednesdays this summer. Access to the scenic II-mile Cades Cove Loop Road is limited to cyclists and pedestrians from sunrise to sunset on Wednesdays from May 4 through September 28, 2022.

Helmets are required for cyclists under 16 and recommended for all. Bicycles can be rented at the Cades Cove Campground store. Try starting your journey in the afternoon for a less-crowded experience.

Contemplate the Stars

The striking views don't have to end when the sun sets over the Great Smoky Mountains. The park's vastness, high peaks, and relative distance from larger cities make for some of the best stargazing in the region.

Higher elevations in the park are typically less affected by artificial light. Pull off at a scenic overlook along the Foothills Parkway or try setting up with a telescope at Newfound Gap or a visitor center parking lot. If you're planning to camp out in the backcountry, don't forget to look up!

Photo of night sky by NPS



Find the Smokies Most Wanted

Help scientists gather important information about plants and animals by using the free iNaturalist app in the park.

1 Get the iNaturalist app Download the app. Log in. Try it out.





2 Record life you find in the Smokies

Find a cool organism. Take photos or sound recordings. Post it to iNaturalist. Repeat.

Up for a challenge? Look for the target species (like this pickerel frog) in the Smokies Most Wanted guide. Find the guide and more at dlia.org/smokiesmostwanted.





Driving distances and estimated times

All driving times may vary due to traffic conditions.

Cherokee, NC to:

Gatlinburg: 34 miles (1 hour)
Cades Cove: 58 miles (2 hours)
Newfound Gap: 18 miles (½ hour)
Clingmans Dome: 25 miles (¾ hour)
Cataloochee: 39 miles (1½ hours)
Deep Creek: 14 miles (½ hour)

Gatlinburg, TN to:

Cherokee: 34 miles (1 hour)
Cades Cove: 27 miles (1 hour)
Newfound Gap: 16 miles (½ hour)
Clingmans Dome: 23 miles (¾ hour)
Cataloochee: 65 miles (½ hours)
Greenbrier Cove: 6 miles (¼ hour)
Deep Creek: 48 miles (1½ hours)

Townsend, TN to:

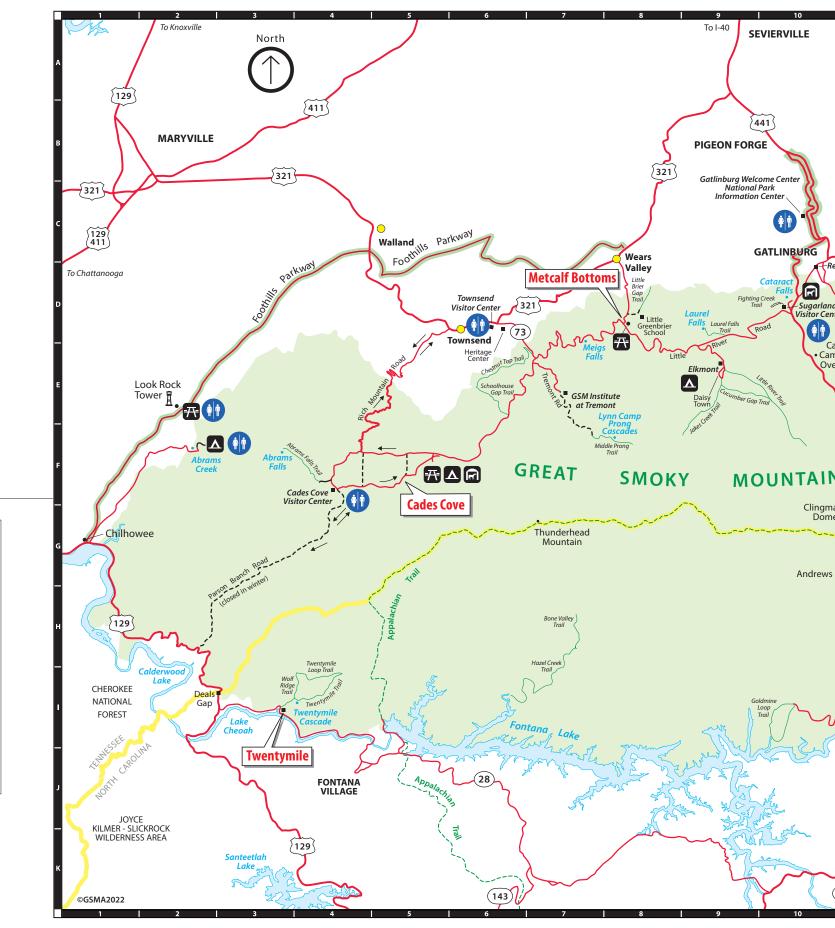
Cades Cove: 9 miles (1/4 hour)

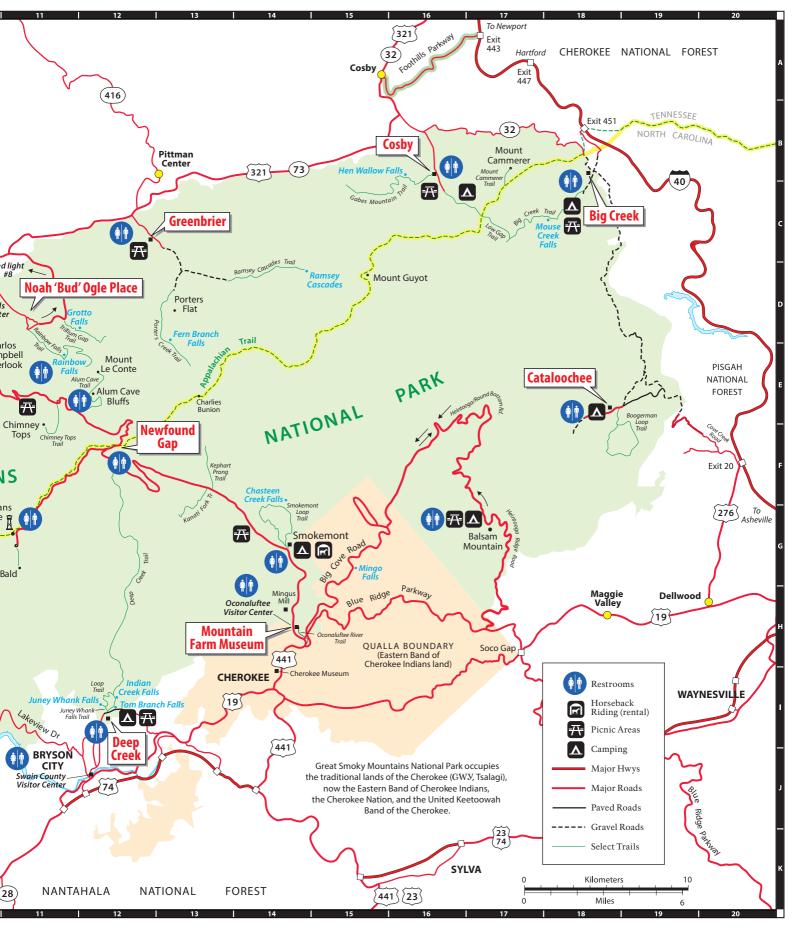
Newfound Gap: 34 miles (11/4 hours)

Gatlinburg: 22 miles (¾ hour) Cherokee: 52 miles (1½ hours) Look Rock: 18 miles (½ hour) Cataloochee: 87 miles (3 hours)

Gatli	nburg, T	N elev.	1,462'	Mt. Le Con	ite 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"

These temperature and precipitation averages are based on data for the last 20 years. Temperatures are in degrees Fahrenheit. An average of over 84 inches (7 feet) of precipitation falls on the higher elevations of the Smokies.





Words with a Ranger Continued from page 1

adults, eggs, and young. What can you do? Leave no trace, so future generations are able to enjoy the park and all the species that call it home. Share with others how they can help to protect the park. Thank you for not moving rocks and for sharing this message with your friends and family.

Leave No Trace Principles The Leave No Trace Principles provide a framework of seven minimum-impact

practices for anyone visiting the outdoors. Although Leave No Trace has its roots in backcountry settings, the principles can be applied anywhere—from remote wilderness areas to local parks and even in your own backyard. They also apply to almost every recreational activity. For more information about Leave No Trace, visit LNT.org.

- 1. Plan ahead and prepare
- 2. Travel and camp on durable surfaces
- 3. Dispose of waste properly
- 4. Leave what you find (including river rocks!)
- 5. Minimize campfire impacts
- 6. Respect wildlife
- 7. Be considerate of other visitors



LEAVE ONLY FOOTPRINTS

Writing on or carving into trees, stones, or structures can cause permanent damage—it's also a crime! Taking a photo is always a better way to remember your time in the Smokies and helps preserve the park for others too.





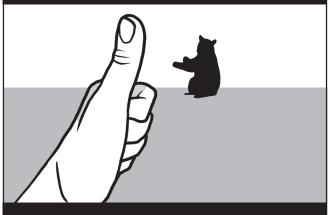
BIN IT FOR THE BEARS

Help protect bears by packing out all trash and food waste and using bear-proof dumpsters in the park.



Raccoon illustration on page 9 by Lisa Horstman. All others by Emma DuFort.

RULE OF THUMB FOR WILDLIFE VIEWING

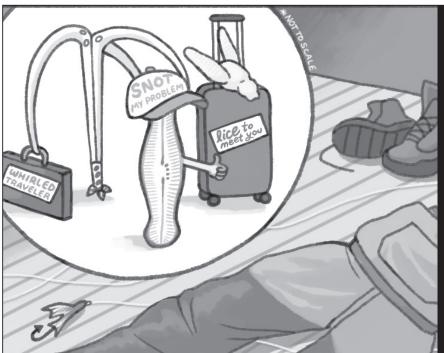


When viewing wildlife, hold your arm out straight. If you can't cover the animal in your line of sight with your thumb, you're too close!

PARK WITH CARE

Keep yourself and others safe by always parking in a designated paved or gravel area with all four wheels off the roadway. Parking elsewhere can damage protected vegetation, damage or bog your car, and obstruct emergency vehicles.





KEEP IT CLEAN IN STREAMS

Did you know shoes and fishing equipment can spread harmful aquatic diseases and pests? Clean your gear before jumping in, and remember bait is prohibited in the park. Pick up a free fishing map with a complete list of park regulations at any visitor center.



KEEP PETS ON DESIGNATED TRAILS

Remember that the Gatlinburg Trail and Oconaluftee River Trail are the *only* pet-friendly trails in the park. All pets must be kept on a leash no longer than six feet at all times.

IF YOU LOVE THE SMOKIES

Great Smoky Mountains National Park depends on four primary nonprofit partners as well as 2,800 park volunteers to help its staff meet the needs of 14+ million visitors and

manage 522,000 acres of resources.

Great Smoky Mountains Association

Since 1953, the nonprofit Great Smoky Mountains Association has supported the educational, scientific, and historical preservation efforts of the park by operating the park's official bookstores, publishing books and other media about the park's natural and cultural resources. and supporting park programs. Over the years, GSMA has contributed more than \$46 million to assist with living history demonstrations, save hemlock trees, fund natural resource education internships, construct visitor centers and the Collections Preservation Center, and much more.

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 biannual fullcolor magazine Smokies Life
- Digital access to this award-winning park newspaper and Smokies *LIVE* e-newsletter
- 15-20% discount on books, music, gifts, and products at park visitor centers and at GSMA's web store
- 10% (or more) discount at 500+ additional nonprofit public lands partner stores
- Access to member-exclusive group hikes, backpacking excursions, and educational sessions
- Invitation to GSMA's Members Weekend

Join today by visiting Smokies-Information.org or call us at 888.898.9102, ext. 257.

Friends of the Smokies

Founded in 1993, supporters of Friends of the Smokies have contributed over \$75 million to the park. Funds help the park provide more than 14 million visitors a safe, memorable experience while protecting the historic and natural resources



of the park. Every year, the park requests funding for numerous projects and programs that would be unfulfilled without the support of Friends.

Programs and projects include:

- 'Forever Places' endowment to support historic preservation
- 'Trails Forever' endowment to fund the skilled crews who lead trail rehabilitation
- · 'Trails Now,' which funds materials for 'Trails Forever' projects
- Facility improvements and visitor amenities
- Campground renovations
- · Cultural experiences and special
- · Search and Rescue vehicles and safety equipment
- Education programs to serve over 10,000 students every year
- · Air and water quality monitoring
- Conservation and wildlife management

Programs like 'Forever Places' support the park's efforts to ensure that future generations will have the opportunity to enjoy the park and walk in the footsteps of those who once called these mountains home.

Your donation makes a difference. Learn more and become a 'Friend' by visiting FriendsOfTheSmokies.org.



For information about memberships and planned giving, email: info@friendsofthesmokies.org or call 800.845.5665.

Discover Life in America

The Smokies have long been renowned for their rich variety of life. Knowing what creatures reside here helps the

ourselves and future generations

National Park Service better protect the Smokies against threats like air pollution, wild-



Join the park's partners in helping to protect this place for

fire, habitat fragmentation, invasive species, and climate change.

Discover Life in America is a nonprofit partner that was launched in 1998 to manage the All Taxa Biodiversity Inventory (ATBI), an effort to identify and learn about every variety of plant and animal in the park. The organization works with leading biologists from around the globe to conduct this massive inventory.

Volunteers and interns become 'community scientists' who help with DLiA's work. These participants get an insider's look at the park, as well as firsthand knowledge of biology, field science, and laboratory practices. Funding comes from donations by individuals and institutions.

To date, DLiA has helped add more than 10,000 species to the inventory of life in the park, including more than 1,000 species completely new to science! Today there are more than 21,000 different kinds of organisms known to the park with new discoveries happening every day. You can support DLiA by purchasing the Smokies Species-a-Day perpetual calendar. Learn more at DLiA.org or by calling 865.430.4757.

Tremont

Born out of a need for residential education programs in the park, Great **Smoky Mountains**



Institute at Tremont has offered student and adult programs that promote a connection to nature for more than 50 years. Up to 6,000 students and adults annually attend workshops, camps, and school programs at the institute that are designed to promote curiosity and inspire learning.

Adult workshops include hiking, backpacking, community science, professional and teacher development, photography, and the Southern Appalachian Naturalist Certification program. Summer camps provide youth and their families opportunities to spend three to ten days exploring the national park and its wonders. Fees include meals, lodging, and most equipment.

Call 865.448.6709 or visit GSMIT. org for program dates and information and to learn how you can support lifechanging learning experiences in the Smokies!









species of birds miles of streams



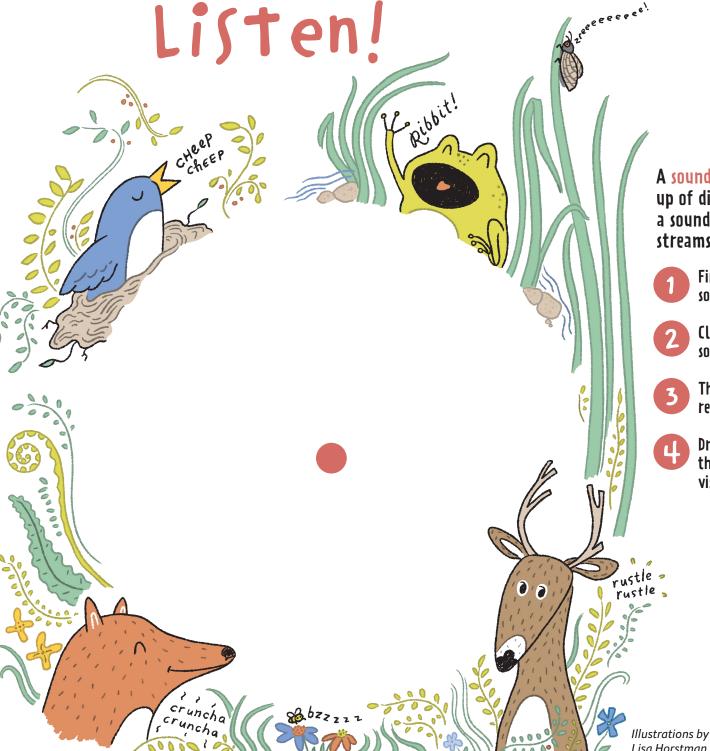






3,400+species 500,000+acres 848

What's that sound?



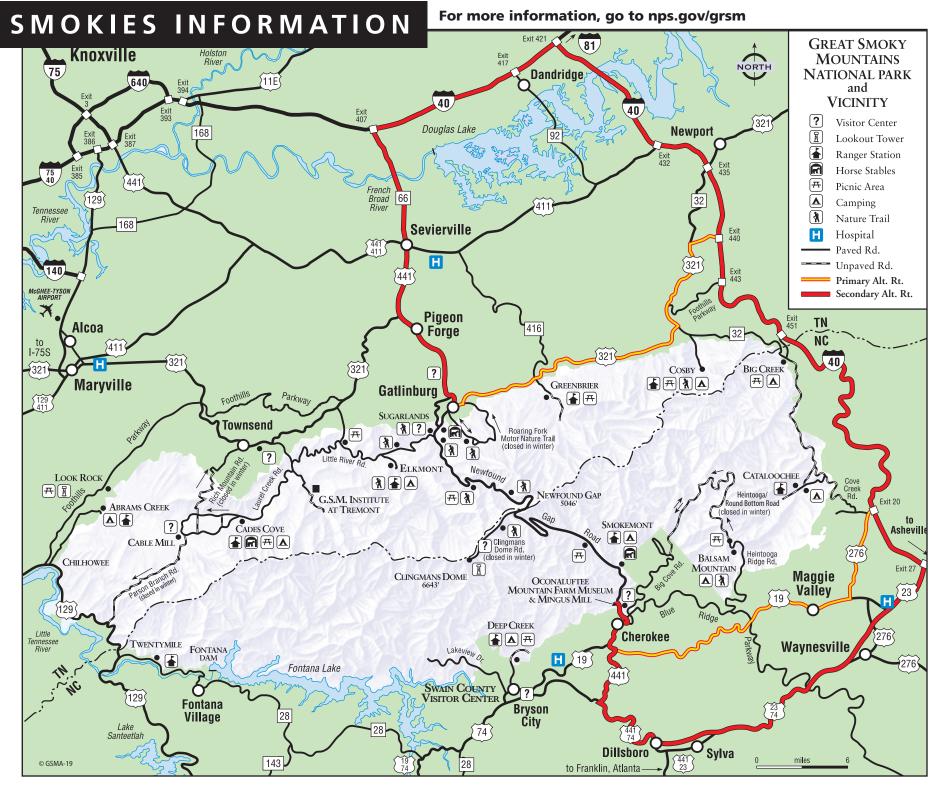


A soundscape is an environment made up of different sounds. In the Smokies, a soundscape could include critters, streams, wind, and much more!

- Find a place to focus on your soundscape.
- Close your eyes and listen to the sounds around you.
- The dot in the middle of the circle represents you.
- Draw the sounds where you hear them around you to record your own visual soundscape!

Explore more sounds of the Smokies at nps.gov/grsm/learn/nature/ soundscapes.htm or google "Great Smoky Mountains Park soundscape."

Lisa Horstman



Information

General park info: 865.436.1200 nps.gov/grsm Backcountry info: 865.436.1297

smokiespermits.nps.gov

Emergencies

911 Park Hoad

Park Headquarters 865.436.9171

Cherokee Police 828.497.4131

Gatlinburg Police 865.436.5181

Accessibility

Restrooms at Cades Cove, Oconaluftee, and Sugarlands visitor centers are fully accessible. For more information about accessibility, go to nps. gov/grsm/planyourvisit/accessibility.htm.

Avoid the fine

Pets are only permitted on the Gatlinburg and Oconaluftee River trails, which allow dogs on a leash. Persons feeding wildlife are subject to a \$5,000 fine. Picking or digging plants is prohibited in the park.