



Peak Experiences

The official newspaper
of Lassen Volcanic National Park

November 2006 - April 2007

Experience Lassen Volcanic National Park!

AT THE EDGE OF LASSEN'S WILDERNESS, the solitude can be so deep that your ears ring with the absence of sound. On mornings after snowfall, the landscape glimmers as if the sky had overturned, spilling the Milky Way across the soaring peaks.

As the sun climbs, things begin to stir in the park. Clark's nutcrackers call to each other across the red fir forest. The nightly forays of foxes and pine martens are revealed by prints in the snow. By lunch time, giddy children are making their own tracks, sliding down the slopes like otters.

Whether you are looking for a contemplative snowshoe trip, family snow play, or challenging telemark runs, Lassen Volcanic National Park has a lot to offer. Although the Main Park Road through the park usually closes by mid-November, the park is open year-round. Throughout the winter the Main Park Road is plowed to the Southwest Parking Area on the south side of the park and to the Loomis Museum on the north side of the park. The winter season provides visitors auto-free opportunities to see another, quieter side of the park.



Lassen Peak blanketed in clouds above a thawing Lake Helen.

This park newspaper is made possible by a donation from the Lassen Association.
www.lassenloomis.info

Welcome to Lassen Volcanic National Park!

It's amazing how blue the skies can be at Lassen Volcanic National Park during the fall and winter seasons! The golden colors of the aspens amongst the tall pines and firs are soon blanketed with deep snow that sparkles on clear winter days. There is such beauty for you to see and enjoy this time of year in the park.

Please make your visit safe and enjoyable by planning ahead. Our staff can provide details about trails, ranger-led programs, and weather, road and avalanche conditions. Please remember to help protect and preserve this wonderful park while you visit and enjoy this special place.

Mary G. Martin
Superintendent



Lassen
association

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National Park Service
U.S. Department of the Interior

Lassen Volcanic National Park
P.O. Box 100
Mineral, CA 96063



National Park Service
U.S. Department
of the Interior



Lassen Volcanic National Park

Established first as Cinder Cone and Lassen Peak National Monuments in 1907, Lassen Volcanic became a national park in 1916 because of its significance as an active volcanic landscape. Lassen Peak began erupting in 1914, had its most spectacular activity in 1915, and experienced minor activity until 1921. All four types of volcanoes in the world plus active hydrothermal areas are found in the park's 106,372 acres. Lassen Peak is one of the largest plug dome volcanoes in the world. It is considered to be active today.

CONTACT INFORMATION

Emergencies - DIAL 911

**Information
Park Headquarters (year-round)**
(530) 595-4444

Fax Number
(530) 595-3262

**Park Website and E-mail
Address**
www.nps.gov/lavo
lavo_information@nps.gov

Mailing Address
Lassen Volcanic National Park
P.O. Box 100
Mineral, CA 96063-0100

Fall and Winter Activities

Beginner-Intermediate Ski & Snowshoe Routes abound in the Manzanita Lake area (elevation 6,000 feet). The road regularly is plowed from the North Entrance to the Loomis Ranger Station (one mile). Over 15 miles of cross-country ski trails begin at the Loomis Ranger Station. More experienced skiers can access challenging mountainous terrain from this area. See page 5 for suggested routes. The Loomis Ranger Station is open intermittently on weekends and holidays for information, maps and books.

Intermediate-Advanced Skiers and Snowshoers delight in the steep terrain and sweeping views from the snow-covered Main Park Road (usually accessed from the Southwest Area). See page 4 for touring routes.

Fall Hiking & Camping: This is a gorgeous time to visit the park, with fall colors often persisting through early November. Until serious snowfall begins, you can enjoy fabulous hiking throughout the park without the heat or crowds of summer. Manzanita Lake and Warner Valley Campgrounds are open (without drinking water) until snow covers the ground. The Southwest Walk-In campground is open year-round.



Snowplay: The Main Park Road is plowed one mile from the Southwest Entrance to the parking area. Tobogganing, sledding, and tubing are allowed near the Southwest parking area (elevation 6700 feet) and snowboarding is allowed ¼ mile from the parking area.

Snow Camping is available at the Southwest Campground. Vault toilets are available nearby, but there is no water available. Free permits for **wilderness snow camping** are available at Park Headquarters and the information board in the Southwest Entrance parking area.

Need more information? The Park headquarters information desk in Mineral is open Monday through Friday (closed holidays) for information, maps and books. The phone number for park headquarters is 530-595-4444 .

Ranger-Led Activities

Snowshoe Walks

Join a park ranger for a one to two mile adventure exploring winter ecology or Lassen's geologic history. Wear boots and dress warmly. Participants must be at least eight years old and be able to withstand moderate physical exertion at 7000' elevation. Snowshoe walks are available first-come, first-served.

Snowshoe walks are held Saturdays from January 6 through April 7. Meet the ranger at 1:30 p.m. by the Information Station in the parking area near the Southwest Entrance for this 1 ½ to 2 hour program.

For safety reasons infants and children in carriers are not allowed on snowshoe walks.

A \$1 donation is requested for each pair of snowshoes used. Snowshoes are provided for the ranger-led walk only.



Group Programs

Snowshoe walks for schools and organized groups of 10 or more persons require reservations well in advance. Reservations can be made as early as November 1 at 8 a.m. for winter school or group programs (dates fill quickly). Programs cover topics such as winter ecology, winter survival, and snow shelters. For more information, please telephone (530) 595-4444 ext. 5133, Monday through Friday.

VISITOR CENTER UPDATE



Southern View of New Kohm Yah-mah-nee Visitor Center

Construction of Lassen Volcanic National Park's new visitor center is scheduled to begin in the spring of 2007 with a grand opening in late summer 2008. A contract was awarded to Slayden Construction Group Inc. of Slayton, Oregon. The National Park Service awarded the project as a "design-build" contract. This type of

contract requires the builder to complete a detailed design based on a NPS Schematic Design and then construct the visitor center according to that design. The project includes enhancements to the water and wastewater systems, a parking lot overlay, an amphitheater, an auditorium, energy-saving technology, and other utility enhancements.



You Need To Know

For Your Safety

- Please remember that Lassen Volcanic National Park is a wild area with natural wonders that are also potential hazards.
- The National Park Service cannot guarantee your safety.
- Bring a first aid kit, high energy food, water, and extra clothing.
- Prepare for the unexpected. Equipment failure, injury, or illness. Wet winter storms can turn a day trip into an agonizing ordeal.
- An emergency phone is available at the Southwest Entrance Station building.
- A pay phone is available at the Manzanita Lake Loomis plaza.

Roads

- Carry tire chains in your vehicle.
- The Loomis Ranger Station is at 6000' elevation and the Southwest Entrance is at 6700' elevation.
- Be alert for icy road conditions and drifting snow.

Park Road Closures

- Call Park Headquarters for current park road information at (530) 595-4444.
- The Main Park Road usually closes by late October for the season due to snow. Visit the road conditions and spring road opening webpage at: http://www.nps.gov/lavo/lassen_roadsandtrails.htm
- Plowing usually begins on the Main Park Road in early April; the road usually opens by mid-June.
- The Butte Lake, Warner Valley and Juniper Lake roads close for the season due to snow by late October and usually reopen by late June.

Trails

- Call Park headquarters for current trail information at (530) 595-4444.
- Be aware that thermal areas may be covered by snow and that the snow may be dangerously thin and could collapse at any time.
- Do not walk or ski across lakes.

Campground

- The Southwest Campground is open for snow camping with vault toilets available, but no water; park only in the designated overnight parking area.
- Fires and fire pans are not permitted, barbecuing on paved parking lot is ok.
- The campground is free this year, but please register at the entrance station.

Accessible Facilities

- Park headquarters in Mineral: information desk, rest room, water fountain
- Manzanita Lake: Loomis Ranger Station, rest room

Pets

- Pets are not permitted away from plowed roads or parking areas and must be on a leash and restrained at all times.

Snowmobiling

- Snowmobiling is not permitted anywhere within the boundaries of Lassen Volcanic National Park. Please ask a ranger about snowmobile trails outside the park.

For a complete listing of park rules and regulations, please ask at park headquarters.

Into the Wilderness

Cross-country skiers and snowshoers who venture into Lassen's backcountry can expect spectacular vistas and snowy solitude. Adequate preparation and precaution may ensure a safe and enjoyable experience. Call park headquarters in advance for information on snow, weather, and backcountry conditions.

Day Users

- Always sign in/out on trail register stands at the Southwest parking area and at the trailhead by the Loomis Ranger Station in the Manzanita Lake area
- Registration is helpful should search and rescue assistance be necessary

Overnight Users

- A wilderness permit is required; ask about areas closed to camping
- Wilderness permits are available at park headquarters in Mineral (open Monday through Friday from 8 a.m. to 4:30 p.m., closed holidays) or by calling (530) 595-4444; permits are available during office hours, on weekends at park entrance stations, and at the Southwest parking area after hours. An application for a wilderness permit can be found at <http://www.nps.gov/lavo>
- Park in designated overnight parking area ONLY; vehicles can be damaged by snow removal equipment if parked in other areas

Pets, Fires, Litter

- Pets are not permitted in the backcountry or in any unplowed areas
- Open fires and fire pans are not permitted; use campstoves only
- Carry out all litter
- Dig latrines and bury human waste at least one foot deep in snow away from trails and drainages; carry out all waste paper

Water, Food, Clothing, Supplies

- Carry water; exercising in dry high-elevation air makes one particularly susceptible to dehydration
- Purify park surface water and melted snow before drinking by using 2-micron filters (or better) and boiling 5 minutes to avoid Giardia
- Potable water is not available at the Southwest parking area. Potable water is available near the Loomis Ranger Station (only small containers will fit under the faucets)

- Store food and trash in a canister or hang out of reach of animals
- Always carry waterproof cold weather gear, even on sunny days
- Layer clothing to maintain an even temperature; excessive perspiration can lead to hypothermia
- Carry a topographic map and compass and know how to use them
- Pack an emergency ski tip, complete extra binding, and repair manuals



For Your Safety

- Always travel with a partner or a group
- Select a travel route familiar to at least one member of your party and equal to your experience and ability
- Be prepared for winter weather extremes (gale winds, subzero temperatures, blowing snow, whiteout conditions) which can kill unprepared travelers
- Postpone or terminate your trip if a storm is forecasted or appears to be building; weather can be unpredictable and fast-changing
- If caught in a storm, wait it out in a sheltered, avalanche-safe area until conditions stabilize
- Allow extra travel time during soft snow conditions
- Be aware that thermal areas may be covered by snow and that the snow may be dangerously thin and could collapse at any time
- In case of emergency, the nearest telephone or ranger is at the Southwest parking area or Loomis Ranger Station
- Remember: your best chance of survival is to use your own resources; be prepared and stay alert
- When accessing the plowed sections of the road during the spring road opening, please use extreme caution. Avalanches and rock slides can occur at any moment.

Climate Statistics

PARK HEADQUARTERS (ELEVATION 4850')

	Oct.	Nov.	Dec.	Jan.	Feb.	March	April
Average Maximum Temp (°F)	71	57	48	48	50	54	62
Average Minimum Temp (°F)	29	20	15	15	15	20	24
Lowest Minimum Temp (°F)	15	7	-12	-13	-7	-2	6
Average Snowfall (Inches)	1.0	10.5	27	31	30	31	11.25

MANZANITA LAKE (ELEVATION 5850')

	Oct.	Nov.	Dec.	Jan.	Feb.	March	April
Average Maximum Temp (°F)	69	56	50	50	51	53	61
Average Minimum Temp (°F)	30	21	14	13	13	16	23
Lowest Minimum Temp (°F)	10	2	-13	-13	-11	-7	-2
Average Snowfall (Inches)	3	18	31	34	28	33	14

Sunrise and Sunset Times for Chester (times calculated for flat terrain)

Day	November		December		January	
	Rise	Set	Rise	Set	Rise	Set
01	0635	1701	0709	1639	0728	1650
10	0645	1652	0717	1639	0727	1658
20	0657	1644	0724	1642	0723	1709

Day	February		March		April	
	Rise	Set	Rise	Set	Rise	Set
01	0714	1724	0638	1757	0548	1830
10	0704	1735	0624	1807	0634	1939
20	0651	1747	0608	1817	0619	1949



Cross-Country Ski and Snowshoe

Virtually the entire park is open to the skier or snowshoer. Most routes described below are accessible with snowshoes or skis with climbing skins. Summit conditions on the various peaks may require an ice axe or crampons. These routes provide a variety of terrain and scenery. Sudden storms or avalanche conditions may be encountered. The wise winter traveler will turn back at any sign of inclement weather.

Visitors exploring Lassen's backcountry in the winter should take special precautions. Heavy snowfall and rugged terrain create serious avalanche conditions throughout the park. In addition to the ten essentials, it is strongly recommended that all visitors carry avalanche gear. This includes: basic knowledge of route finding and snow science, a probe pole, avalanche beacon and a lightweight shovel.

Wilderness permits are available free of charge from a ranger or at www.nps.gov/lavo. No backcountry camping is allowed within one mile of the plowed areas. The Southwest Campground provides easy access for snow camping. All skiers and snowshoers are asked to sign in/out for day and overnight trips. Registers are located near the bulletin board. Common courtesy asks that snowshoers and snow players stay out of cross-country ski tracks.

Park Road from Southwest Area

Classification: Beginner to advanced
Distance: Southwest parking area to Lake Helen 6.2 mi., to road summit at base of Lassen Peak 7 mi., to Kings Creek Meadows 11.6 mi., to Summit Lake 16.5 mi., to Hat Lake 19 mi., to Manzanita Lake 30 mi.
Elevation: Start (Southwest) 6700', high point 8500', Manzanita Lake 5850'
Average Skiing Time (one way): Lake Helen 3 hrs., Kings Creek 5 hrs., Summit Lake 8 hrs., Manzanita Lake 2 days
 The route starts at the Southwest parking

area and follows the unplowed Park Road through the park to Manzanita Lake. Hazardous, steep side hills with icy conditions may be encountered. The Diamond Peak area has a history of avalanches. This area should be avoided by using the marked "cutoff" trail just north of Windy Point (see map below). By midwinter in the high, open country between the head of Little Hot Springs Valley and Reading Peak, it is difficult to find any trace of the road. High winds and whiteout conditions are common in this same area during winter storms. The road crosses several avalanche paths. Terrain off the roadway is generally steep south of Kings Creek and gentle northward. Good overnight snow camping areas (with wilderness permit) can be found a short distance from the road north of Diamond Peak, near Emerald Lake and Lake Helen, Kings Creek Meadow, Summit Lake and Hat Lake. This route offers good access into the heart of Lassen's backcountry.

Ridge Lakes

Classification: Advanced intermediate
Distance: 2.5 mi. round trip
Elevation: Start (Sulphur Works) 7000', high point 8000'
Average Skiing Time (one way): 1 hr.
 To reach this trail, follow the unplowed Park Road from Southwest parking area about ¾ mi., cross the bridge just before reaching Sulphur Works, then turn left (northwest) away from the road and follow the drainage just west of the Sulphur Works thermal basin. The trail climbs rapidly

Sulfur emissions are prevalent throughout the Sulphur Works Area. These heated gases melt out snow caverns which may be unrecognizable due to new snow covering the openings.

Fatalities have occurred from visitors breaking through snow and falling into these heated caverns. Multiple vents can occur in terrain that appears to be skiable.

Know where the vents are and use caution throughout the valley.

to the Ridge Lakes basin. Several good camping spots (with wilderness permit) can be found on the north shore of Ridge Lakes. If weather is severe, more protected camping can be found about ¼ mi. below Ridge Lakes along its outlet creek. Avoid the area just south of Ridge Lakes during periods of avalanche danger. The trail loops north from Ridge Lakes to rejoin itself about ¾ mi. below the basin.

Lassen Peak

Classification: Advanced
Distance: 20 mi. round trip
Elevation: Start 6700', summit 10,457'
Average Skiing Time (round trip): 3 days
 Most skiers and snowshoers allow 3 days to summit Lassen Peak in the winter. A likely itinerary includes setting up camp near Lake Helen (day 1), summiting Lassen (day 2), return trip (day 3). Remember that conditions on the mountain are most stable in early morning hours, afternoon travel is not recommended. A wilderness permit is required for all overnight visits to the park.

The safest route up the mountain follows the summer trail through the forested



The annual weight of a heavy snowload has bent this large California red fir.



section and continues on the southeast ridge to the summit. Weather conditions on Lassen Peak can deteriorate rapidly, creating whiteout conditions and high winds.

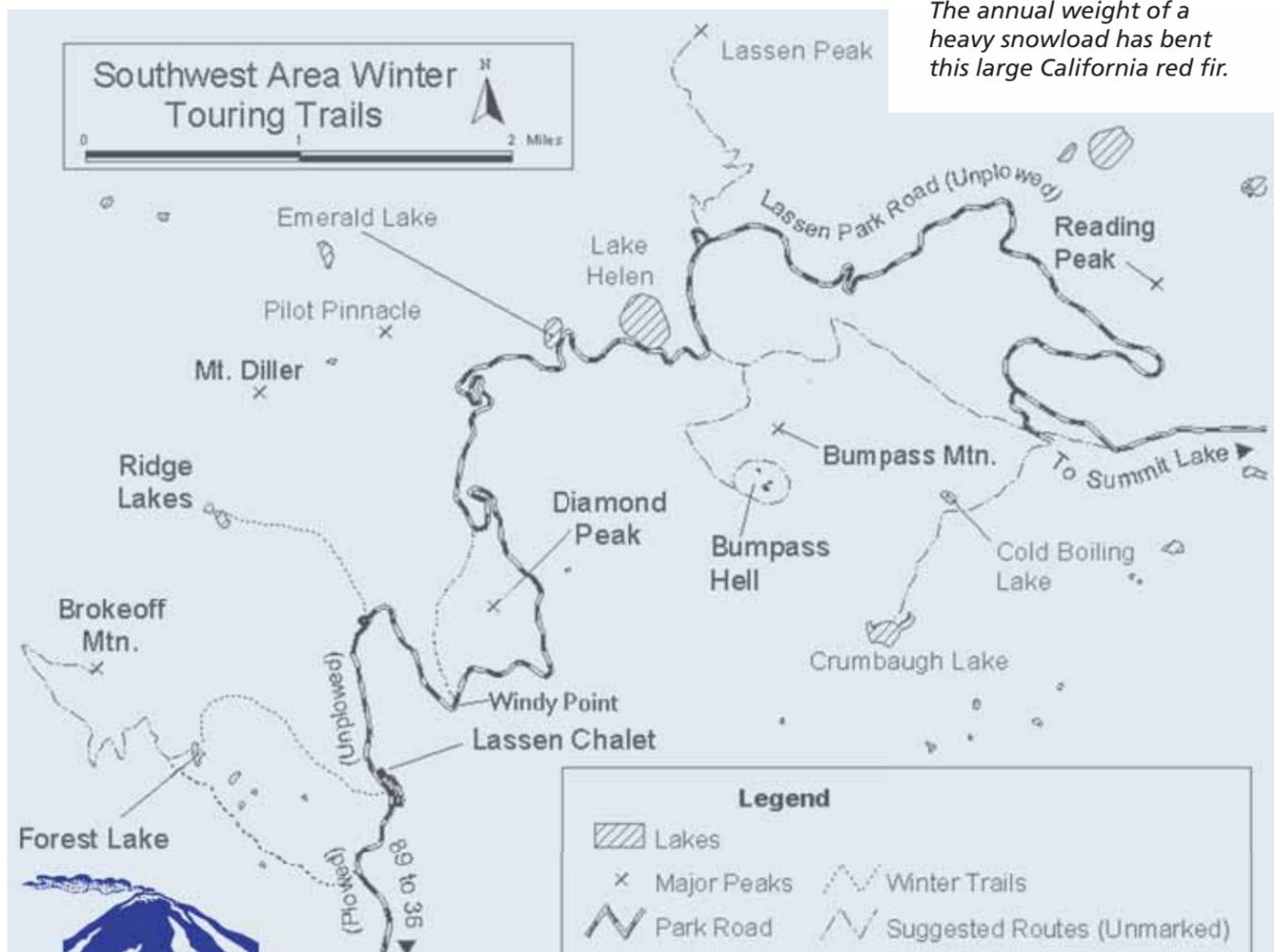
Forest Lake

Classification: Intermediate
Distance: 1 mi.
Elevation: Start 6,500', high point 7,500'
Average Skiing Time: 2 hr.
Description: The trail begins at the Southwest parking area and follows the unplowed Park Road 100 yds, then turns (south) and follows a shallow bowl several hundred yards until another larger bowl is reached. At this point the trail turns right (west) and passes through the bowl to a flat area. Look for a ridge on the right (north). Follow the crest of the ridge toward the west until a turn to the left (south) up a steep face. Continue to the southwest, staying above some large open areas to the south. On reaching the next ridge, turn right (west) and follow the ridge to the open bowl area beneath Brokeoff Mountain. Do not travel into the bowl--turn left (south) and follow the markers to Forest Lake.

Brokeoff Mountain

Classification: Advanced
Distance: 4 mi. one way
Elevation: Start 6650', summit 9250'
Average Skiing Time (one way): 4 hrs.
 Most skiers access the summit via the southwest ridge. Nevertheless, getting onto this ridge can be difficult as the various routes inevitably take a traveler through hazardous canyons. Traditional routes often use the Forest Lake trail or the summer trail which begins near the park entrance. Numerous avalanche paths exist on all aspects of the mountain. Travelers should use extreme caution. Many skiers reserve travel on Brokeoff Mountain until spring when snow conditions traditionally stabilize.

Summit conditions during inclement weather often include high winds with little or no visibility. Large, overhanging snow cornices at the summit make any approach to the edge extremely dangerous.





Snowshoe Loop

Classification: Beginner

This trail is recommended for foot traffic only, not skiing

Distance: 1.6 mi. around lake
Elevation: Start 5800', high point 5850'

Average Time (round trip): 1.5 hr.
 The route starts near the Loomis Ranger Station and circles the lake.



Pine Martens have adapted to harsh winters and are active all winter long.



The Lassen Volcanic Backcountry Ski Patrol is on patrol! They can be identified by nametags, red jackets and the universal first aid symbol. They are volunteers who work weekends. They can provide information about routes, updated avalanche assessments and the park in general. You may also meet the ski patrollers snow camping at the Southwest or Devastated Areas where they may be available after hours in the case of an emergency.

Nobles Emigrant Trail

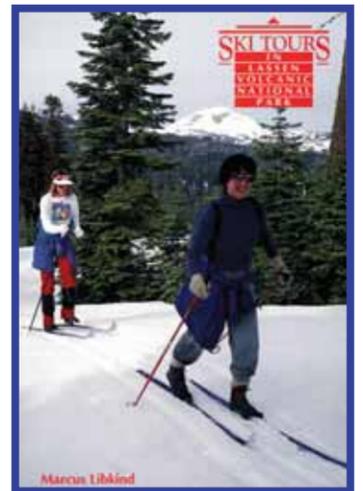
Classification: Beginner to intermediate

Distance: 7 mi.

Elevation: Start 5850', high point 6350'

Average Skiing Time (round trip): 3-4 hrs.

The trail starts at the Park Road across from the Loomis parking area. The route joins the historic Nobles Emigrant Trail at the base of Table Mountain. The trail then climbs a portion of the southeast flank of Table Mountain and continues through heavy fir forest at a gradual descent, then rejoins the Park Road at Sunflower Flat. Turn right (north) to follow the Park Road back to make a loop.



Ski Tours in Lassen Volcanic National Park \$14.95; Available through the Lassen Loomis Museum Association. llma@citlink.net or 530-595-3399

Manzanita Creek

Classification: Intermediate

Distance: 7.5 mi.

Elevation: Start 5850', high point 7400'

Average Skiing Time (round trip): 6 hrs.

The trail leaves from the Loomis Ranger Station, crosses the footbridge, and turns right onto the Manzanita Lake Campground road. Travel through the campground to the Manzanita Creek trailhead sign. The route is mostly a gradual climb of over 1000 feet. Suitable snow camping sites are found along the upper portion. Make certain to obtain a wilderness permit. Beware of Loomis Peak, which has several avalanche chutes that may reach the trail toward the upper end.

Near the Park: McGowan Lake & Nanny Creek

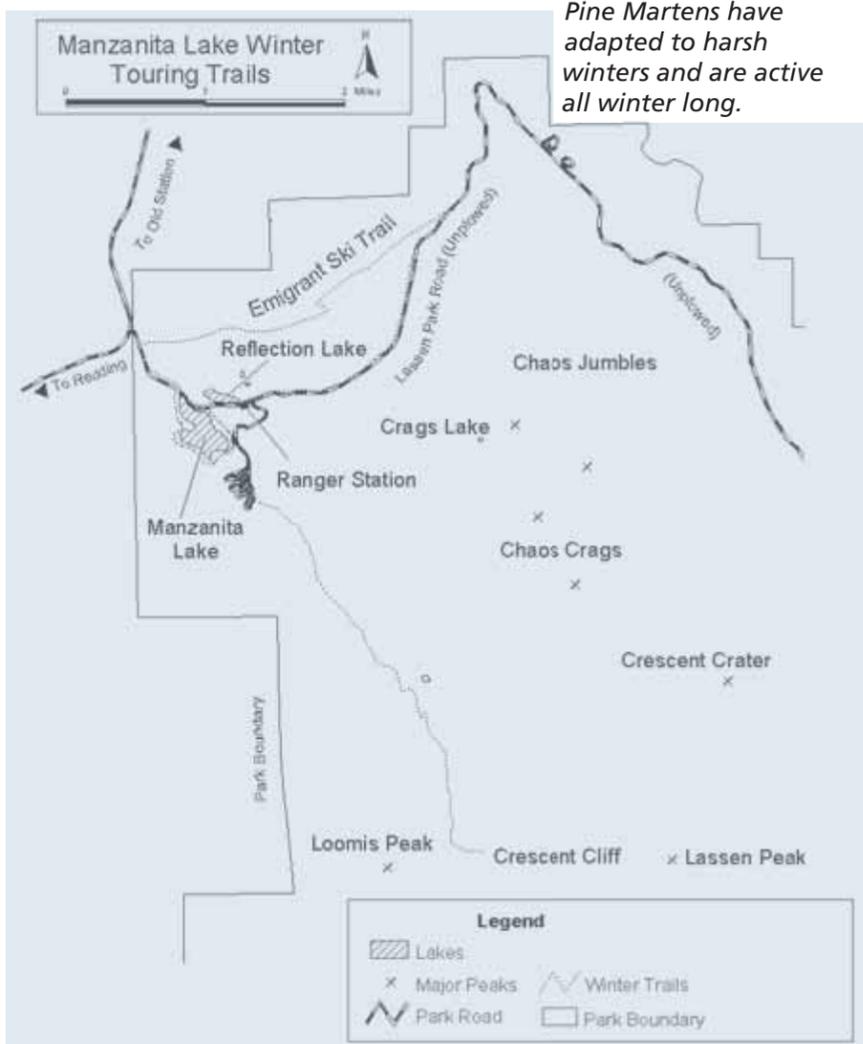
Classification: Beginner to intermediate

Distance: 5 mi. to Nanny Creek

Elevation: Start (Highway 89) 6080', end (Highway 36) 5110'

Average Skiing Time (one way): 2 hrs.

The trail leaves Highway 89 on the unplowed McGowan Lake Road (3.5 miles south of the Southwest Entrance). The route is marked with blue and white ski touring signs and proceeds across a flat and slightly descending landscape. Skiers will pass through largely forested areas with some meadow clearings, ending at Highway 36 at Nanny Creek. The trail does not go to McGowan Lake which is on private property. This trail makes for a good one way ski if vehicles are available for shuttle.



Lake ice is dangerous and unstable. Lake shores may be difficult to recognize due to snow. Please stay off lake ice.

Be "Avalanche Aware"

ALWAYS OBTAIN WEATHER AND avalanche information before entering the park's backcountry (see Color Avalanche Danger Descriptors on back page). At times, backcountry travel may not be advised due to high or extreme avalanche conditions.

STORMS

- 80% of all avalanches occur during or soon after a storm.
- When new snow falls on top of old snow, the avalanche danger is much higher.

SNOWFALL

- Snow falling at a rate of 1" or more per hour increases avalanche danger rapidly.
- With high winds, leeward slopes can become dangerously loaded with snow, even with just a few inches of snowfall.

WEATHER CONDITIONS

- Rapidly changing weather conditions (wind, temperature, precipitation) can cause unstable snow.

SOUNDS

- Unstable snow can settle beneath a

skier's weight with a "whumff."

RECENT AND PRIOR AVALANCHE ACTIVITY

- If you see a new avalanche, suspect dangerous conditions.
- Avoid old slide paths, steep open gullies/slopes; watch for areas with small trees bent over and trees with broken limbs.

ROUTE SELECTION

- If you must cross a dangerous slope, stay high and near the top; avoid avalanche fracture lines.
- If you must climb or descend a dangerous slope, go straight up or down; do not traverse back and forth.
- Areas of dense timber, ridges, or rocky outcrops can be safer; use them for rest stops.
- Only one person should cross a dangerous slope at a time.
- Snow softens as the day grows warmer, this can make a return trip more difficult.
- Each person should carry a shovel.
- Carry and learn to use an avalanche transceiver.



Steep slopes and snow cornices on Bumpass Mountain

(NPS Photo by K. Pietras)

- Report any unstable areas to a ranger.
- IF YOU ARE CAUGHT IN AN AVALANCHE**
- Discard all equipment.
- Make swimming motions and try to stay on top, working your way to the avalanche's side.
- If you are pulled beneath the surface, keep your mouth closed.
- As you begin to slow to a stop, make air space in front of your face with your hands; keep your arms close to your body.

IF YOU ARE A SURVIVOR

- Mark the place where you last saw the person buried and search directly downslope.
- Probe the snow in an even line across the snowfield using ski poles, shovels, or skis.
- If you can, send someone for help.
- If you are alone, do not abandon your search and go for help unless it is minutes away; the buried person has less than a 50% chance of survival after 15 minutes.

ENTRANCE FEE OPTIONS

- **7-day pass** for Lassen Volcanic National Park : \$10 per vehicle or \$5 per person on foot, bicycle, motorcycle, or bus.
- **Annual pass** for Lassen Volcanic National Park and Whiskeytown National Recreation Area: \$25 admits all passengers in a private vehicle for one year from month of purchase.
- **National Parks Pass:** \$50 pass admits all passengers in a private vehicle to all 390 units administered by the National Park Service for one year from month of purchase. Also available via 1-888-GO-PARKS and www.nationalparks.org.
- **Golden Eagle Pass:** \$65 pass for national parks plus entrance fees at all federal monuments, historic sites, recreation areas, and wildlife refuges. Also honored at national forests and other federal lands charging for use of high-impact recreation areas. Valid for one year from month of purchase.
- **Golden Age Passport:** One-time \$10 fee buys a lifetime pass for park entrance fees for U.S. citizens and permanent residents 62 or older. Valid for lifetime.
- **Golden Access Pass:** Free to blind or permanently disabled U.S. citizens and permanent residents. Provide appropriate documentation. Valid for lifetime.



Join the Green Team



Recycle! use the green recycling bins and participate in the park's recycling program.

Park Partners



**Lassen
association**

The **Lassen Association** has assisted the National Park Service since 1939 in providing park visitors with interpretive and educational merchandise regarding the many and varied features of the park. We provide books, maps, trail guides and videos about the natural and cultural history of Lassen Volcanic National Park. Additionally, we offer a large selection of educational gift merchandise to enhance your park experience.

I want to invest in the Lassen Association. I've checked my annual membership option below and will send my check to: Lassen Association, P.O. Box 220, Mineral, CA 96063.

Membership

- Manzanita Lake
- Chaos Crags
- Diamond Peak
- Emerald Lake
- Brokeoff Mountain
- Lassen Peak

Benefits

- 10% Discount on All Merchandise
- Plus a seven day Park Pass
- Plus "Flowers of Lassen" Book
- Plus a season Park Pass
- Plus "Ishi, the Last Yahi" Video
- Plus a National Parks Pass

Investment

- \$20
- \$50
- \$100
- \$250
- \$500
- \$1,000

Name _____ Phone _____
Address _____
City _____ State _____ Zip Code _____

A portion of your donation may be tax deductible. Please make checks payable to the **Lassen Association**. For more information about memberships and publications, please call (530) 595-3399 or visit our web site, www.lassenloomis.info.

Lassen Park Foundation, a private, nonprofit foundation, founded in 1984, for the purpose of providing support for projects in Lassen Volcanic National Park and Lassen National Forest.



Authorized by the National Park Service and working in cooperation with the U.S. Forest Service, the Foundation is able to assist with park needs such as enhanced interpretive and educational activities, trail restoration, wildlife research, and cultural resource projects.

- Enclosed is my donation in the amount of \$ _____
- Please send me more information about the Foundation

Name _____
Address _____

Mail to **Lassen Park Foundation, P.O. Box 3155, Chico, CA 95927-3155**, or telephone (530) 898-9309. Donations are tax deductible.

Please make checks payable to the **Lassen Park Foundation**.

NEARBY BUSINESSES

South of Park, Highway 36: Mineral and Mill Creek

Volcano Country Camping & R.V.
www.volcanocountry.com
* Full R.V. Hook-Ups
* Tent Camping * Laundry
* Hot Showers * Post Office
* Propane * Dump Station
Located 9 miles from Lassen Volcanic National Park's Southwest Entrance
Check in at the Lassen Mineral Lodge General Store.
Family owned and operated

(530) 595-4422
(530) 595-5947 message number
Groceries and Dining next door
See the Lassen Mineral Lodge Ad

Childs Meadow Resort DOTTIE ZIMMERMAN
41500 HWY 36E • MILL CREEK, CA 96061 BRUCE LOVE
(530) OR (888) 595-3383
5 MILES EAST OF SW ENTRANCE TO LASSEN VOLCANIC NATIONAL PARK
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Cross Country Ski and Snowshoe Rentals
Open All Year!
(530) 595-4422
(530) 595-4452 Fax
www.minerallodge.com
Located 9 miles from Lassen Volcanic National Park's Southwest Entrance
38348 Hwy 36 E. P.O. Box 160
Mineral, CA 96063
R.V. and Tent Camping next door. See Volcano Country Camping & R.V.
Family Owned and operated.

McGovern's Mt. Lassen Chalets
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Surviving Winter



Western Tanager

Wild animals have three main methods to deal with winter: They can leave it by migrating; they can avoid it by hibernating or they can live with it by confronting and adjusting to its severe conditions.

Many animals migrate. More than 83 species of birds nest in the park. Most of these birds leave Northeastern California before winter sets in and return in spring. Western tanagers fly as far south as Costa Rica. Many songbirds, from swallows to warblers fly to western Mexico for the winter. How many people do you know head south to places like Florida when the winter weather arrives?

Spending winters in the tropics conjures up images of sun bathing on a balmy beach. For birds, however, winter is no vacation. Birds of all sizes fuel their long distance flights by burning fat, so they must store body fat prior to migration and eat enough to replenish this fat as it is burned. Travel to and from nesting areas is full of perils, including storms, predators, obstacles such as radio towers, and the search for food in unfamiliar landscapes.

Many flying animals choose not to migrate during Lassen's harsh winters. Some insects, such as Lassen's California tortoise shell butterflies, survive

the winter by producing glycerol, a form of sugar that resists freezing. On cold nights, birds such as Lassen's chickadees enter a controlled hypothermia; lowering their body temperatures allows them to save fat that would have been burned to maintain their normal high body temperature.

Hibernation is a strategy used by animals including bears, bats, golden-mantled ground squirrels, and chipmunks. In the fall bears put on fat by gorging on berries and pinenuts. While bears are denning, their temperatures can drop 15° F and their bodies slow down to reduce energy consumption. Even so, bears will burn 15 to 40 percent of their body fat over the winter, requiring a bear to consume 20,000 calories a day or more in preparation for winter hibernation. Bears may wake up, but do not have to eat, urinate, or defecate. Female bears give birth during hibernation.

Animals that confront winter have a wide variety of adaptations for survival. Adding fat and gaining weight for hibernation are adaptations. Storing food is a common behavioral adaptation. Beavers stash twigs underwater where they will be available all winter. Pikas, the "haymakers of the mountains," dry grasses in summer for consumption under winter's blanket of snow.

Many small animals take advantage of the insulating value of the snow. Once the snow cover is about eight inches deep, the temperature at ground level becomes almost constant regardless of how cold it gets above. Voles remain active all winter by living under the snow where their food is still available and they can build warm nests of grass. Unfortunately for voles, weasels will successfully hunt them in their own tunnels, even using the nests as sleeping quarters, and lining the nest with the fur of the previous occupants.

Surviving the winter season can be challenging for not only Lassen's wildlife, but for park visitors as well. Visitors must be prepared to deal with rigors of winter. The basic survival strategy is the same; stay warm, have plenty of food and water, and recognize your limits in mountain weather conditions.

Avalanche Danger Color Coded System	Danger Level	Avalanche Probability and Avalanche Trigger	Degree and Distribution of Avalanche Danger	Recommended Action in the Backcountry
<p>Always plan ahead when traveling into the backcountry. Before leaving home, you can learn more about avalanche safety and check on current conditions in the Lassen area by calling Park Headquarters. The National Avalanche Center's website, www.avalanche.org/~nac, is an excellent source for safety tips and information on avalanche danger.</p> <p>Check weather reports and avalanche conditions posted at the Southwest parking area and Loomis Ranger Station. Lassen Volcanic uses the standard color-coded system shown at right.</p>	LOW (green)	Natural avalanches very unlikely. Human triggered avalanches unlikely.	Generally stable snow. Isolated areas of instability.	Travel is generally safe. Normal caution is advised.
	MODERATE (yellow)	Natural avalanches unlikely. Human triggered avalanches possible.	Unstable slabs possible on steep terrain.	Use caution in steeper terrain on certain aspects
	CONSIDERABLE (orange)	Natural avalanches possible. Human triggered avalanches probable.	Unstable slabs probable on steep terrain.	Be increasingly cautious in steeper terrain.
	HIGH (red)	Natural and human triggered avalanches likely.	Unstable slabs likely on a variety of aspects and slope angles.	Travel in avalanche terrain is not recommended. Safest travel on windward ridges of lower angle slopes without steeper terrain above.
	EXTREME (black)	Widespread natural or human triggered avalanches certain.	Extremely unstable slabs certain on most aspects and slope angles. Large, destructive avalanches possible.	Travel in avalanche terrain should be avoided and travel confined to low angle terrain well away from avalanche path run-outs.

Gear Up For Safe Driving In Snow Country!

Please remember that high-elevation roads are often icy or snow-covered during the fall and winter and can be very hazardous, especially when temperatures drop during the evening and early morning hours.

The main park road that connects with Highway 89 is closed throughout most of the winter. The road is plowed to the Southwest parking area from the Southwest Entrance and to the Loomis Museum from the North Entrance. Visit the park road status website at http://www.nps.gov/lavo/planyourvisit/lassen_roadsandtrails.htm for up-to-date information. The 17 Road (31N17 from Mineral to Viola), A-21, and other U.S. Forest Service and county roads close for the winter.

Carry tire chains in your vehicle from October through May. Chain requirements can be instituted at any time; even four-wheel drive vehicles with snow tires can be required to chain up. Watch for highway advisories posted in Red Bluff and Redding. Caltrans will post chain requirements on Highways 36 and 44.

To check for chain requirements, road closures, or other highway advisories before your trip, call the Caltrans Highway Information Network at 1-800-427-7623 or go to the Caltrans website at www.dot.ca.gov/hq/roadinfo.

Caltrans also offers important tips for winter driving in snow country at www.dot.ca.gov/hq/roadinfo/wntdriv.htm.

Have a safe and enjoyable trip! We look forward to seeing you in the park.

