

VOL. 120, NO. 2

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# NATIONAL GEOGRAPHIC

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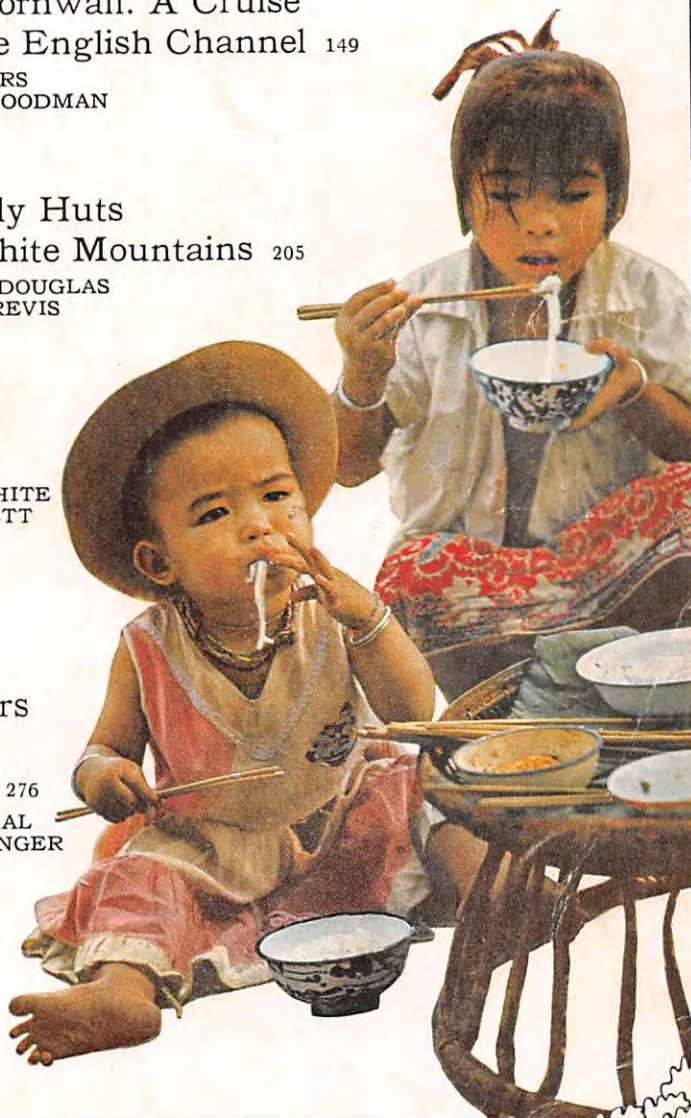
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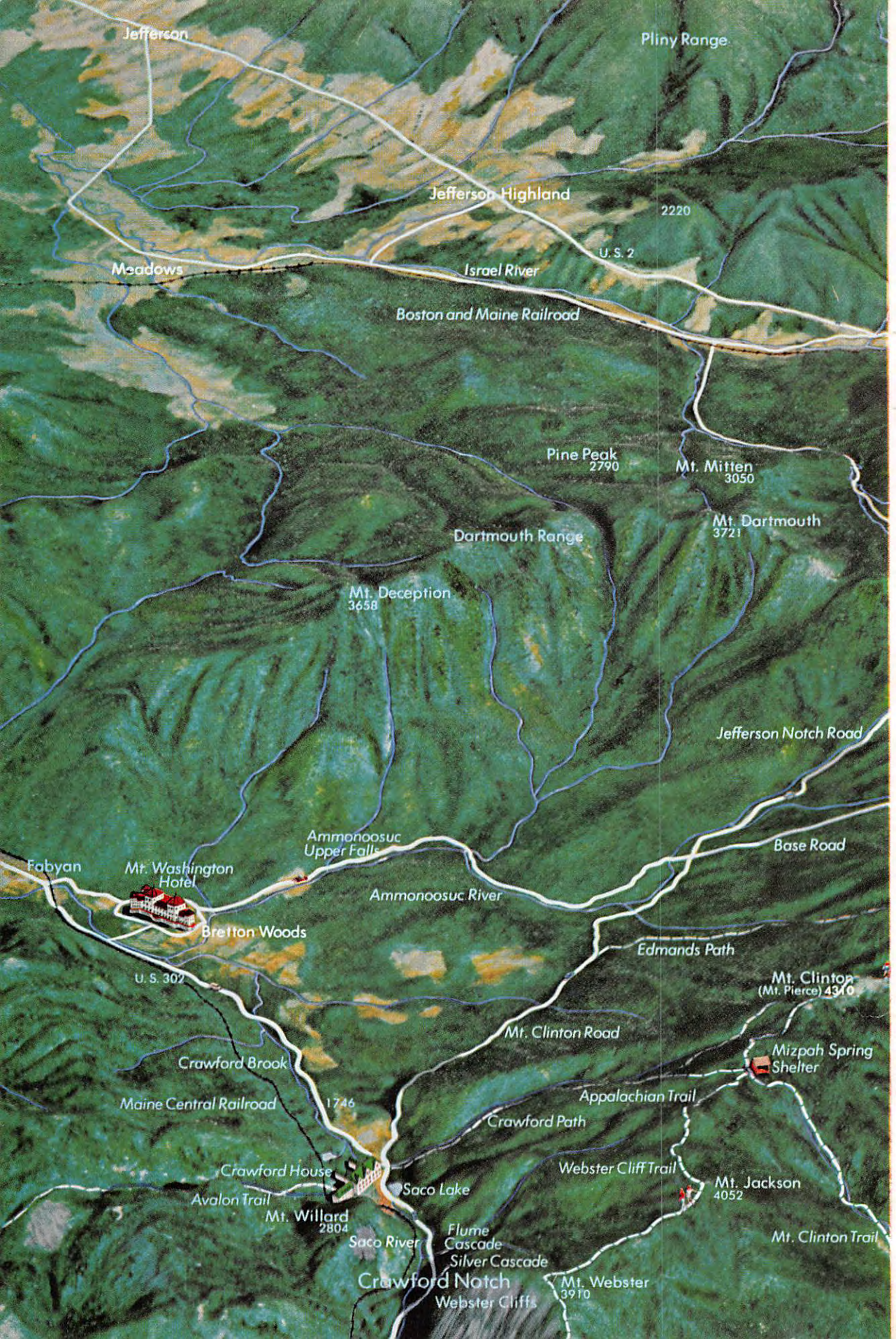
Sailors in  
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Jefferson Highland

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Meadows

Israel River

U.S. 2

Boston and Maine Railroad

Pine Peak  
2790

Mt. Mitten  
3050

Mt. Dartmouth  
3721

Dartmouth Range

Mt. Deception  
3658

Jefferson Notch Road

Ammonoosuc  
Upper Falls

Base Road

Fabyan

Mt. Washington  
Hotel

Ammonoosuc River

Bretton Woods

Edmands Path

U.S. 302

Mt. Clinton  
(Mt. Pierce) 4310

Crawford Brook

Mt. Clinton Road

Maine Central Railroad

1746

Appalachian Trail

Mizpah Spring  
Shelter

Crawford Path

Crawford House

Webster Cliff Trail

Avalon Trail

Saco Lake

Mt. Jackson  
4052

Mt. Willard  
2804

Saco River

Flume  
Cascade  
Silver Cascade

Mt. Webster  
3910

Crawford Notch  
Webster Cliffs

Mt. Clinton Trail



Pond of Safety

Randolph Mt.  
3070

2775  
Crescent Range

Randolph Hill  
1816

U.S. 2

Randolph Valley

Randolph

U.S. 2

Air Line

Randolph Path

King Ravine

Valley Way

Mt. Madison 5363

Mt. Bowmen  
3450

The Log Cabin

Gray Knob

Mt. Adams  
5798

Madison Spring Huts

Castellated Ridge

Mt. Jefferson  
5713

PRESIDENTIAL RANGE

Great Gulf Wild Area

Osgood Trail

Caps Ridge Trail

Gulfside Trail

Great Gulf Shelters

Madison Gulf Trail

3840  
Halfway House

Mt. Clay  
5532

Summit House

Mt. Washington  
6288

Huntington Ravine

Jefferson Notch

Mt. Washington  
Cog Railway

Bigelow  
Lawn

Alpine  
Garden

Lion Head

Jewell Trail

Lakes of the Clouds Hut

Ammonoosuc  
Ravine Trail

Boott Spur  
5500

Tuckerman  
Ravine

Raymond Path

2700  
Base Station

Mt. Monroe  
5385

Tuckerman Ski and  
Hermit Lake shelters

Tuckerman  
Ravine  
Trail

Mt. Franklin  
5004

Crawford Path

Gulf of Slides

Boott Spur Trail

Mt. Pleasant  
4761

Desolation Pond

Oakes Gulf

Slide Peak  
4807

Glen Boulder

Montalban  
Ridge

Scars mark  
1927 slide

Dry River  
Shelter No. 3

Isolation Shelter

Rocky

Branch

Ridge

3929

Dry River

Isolation  
Trail

Mt. Isolation  
4005

Isolation Trail

3660

Dry River  
Shelter No. 2

Mt. Davis  
3840

Dry River Trail

Davis Path

Rocky Branch  
Shelter No. 2

Rocky Branch Trail



# MOUNT WASHINGTON

## Lofty Crown of the White Mountains

Roads  Hut symbol   
 Trails  Shelter symbol   
 Elevations in feet

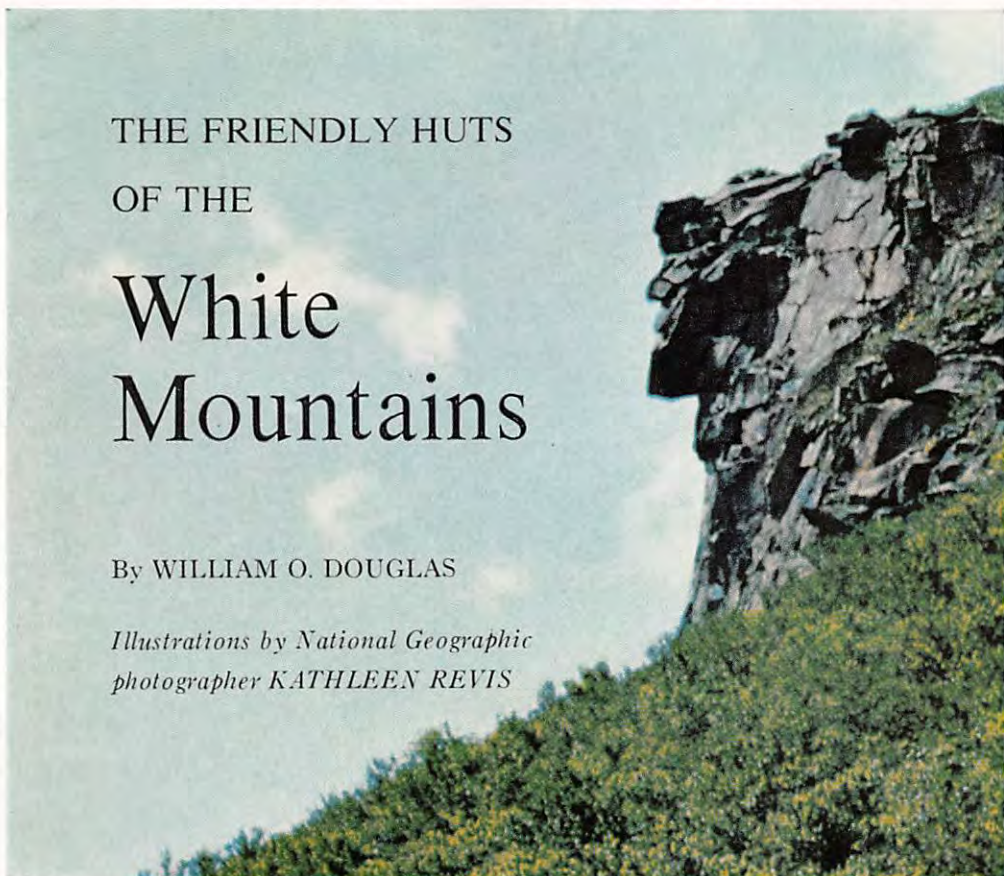
Research by H. Lee Peacock and art work by Robert W. Nicholson  
 of the National Geographic Staff

THE FRIENDLY HUTS  
OF THE

# White Mountains

By WILLIAM O. DOUGLAS

*Illustrations by National Geographic  
photographer KATHLEEN REVIS*



OLD MAN OF THE MOUNTAINS © N.G.S.

IT HAD BEGUN on a sunny June day, our hike up the green-clad slopes of King Ravine. Now, an hour later and a thousand feet higher in the White Mountains of New Hampshire, the wind seemed to whip the calendar back to March.

A sudden storm whistled down the glacial cirque, drenching us; the temperature plummeted toward freezing. Mechanically I followed the spare figure of George Hamilton over tumbled rocks that lay everywhere along the steep trail.

Scrambling up one piano-size slab, I slipped on its greasy coat of lichens, skidded downward, and came to rest on my back, my rucksack caught in the top of a stunted birch. I laughed while George helped untangle me—then noted the 20-foot drop that awaited below the branches.

Cautioned now, and wearied by the climb, we slowed our pace. Fog moved in as we neared the tree line, cutting visibility to a few feet. I was dead tired and chilled to the marrow. Night was on us.

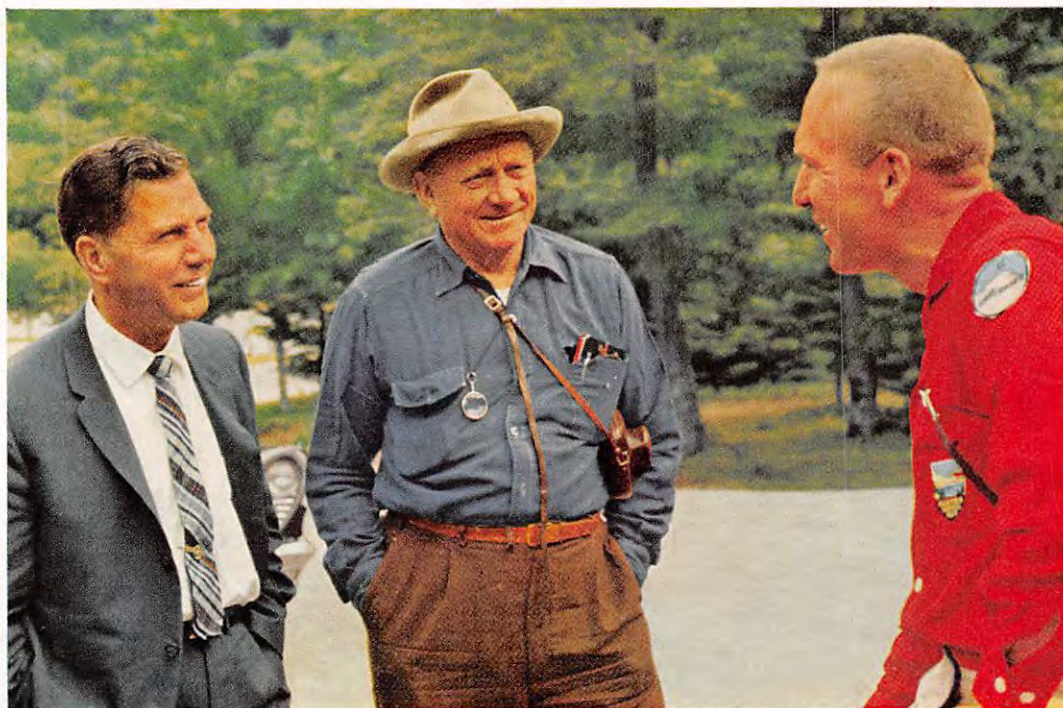
Abruptly the wind cleared a corridor through the mist, and there beyond a stand of dwarf spruce shone the lights of Madison Spring Huts—yellow beacons of cheer that promised hot food and warm bunks.

### Hut Offers a Hearty Welcome

“Home at last!” George shouted. And so it seemed. In all my visits to the friendly huts of the Appalachian Mountain Club, I recall no heartier welcome.

Whenever I want a few days of wilderness hiking without carrying heavy camping gear, I head for the White Mountains

◀ **Crumpled mountainland** of ridges and notches, trails and hikers' shelters, the Mount Washington area stands out in bold detail in this unusual relief map, made by photographing a plastic model. The model was produced to the National Geographic Society's specifications by the Aero Service Corporation of Philadelphia. To verify each detail, Geographic research cartographer H. Lee Peacock crisscrossed the actual peaks by plane. The area shown extends 12 miles from Bretton Woods on the extreme left to Carter Notch on the right (see map, page 210).



HS EKTACHROME (ABOVE) AND KODACHROME © NATIONAL GEOGRAPHIC SOCIETY

**Hiking clothes replace judicial robes.** Supreme Court Associate Justice William O. Douglas (center) arrives for a vacation in the White Mountains. New Hampshire's Gov. Wesley Powell (left) welcomes the distinguished visitor, who shortly set off on a wilderness hike with George T. Hamilton (right), manager of the Appalachian Mountain Club hut system. They climbed through wild flowers and forests, skirted precipitous ravines, and listened to the song of waterfalls. Higher trails led them across a skyscape of rock and wind, sometimes fog-hung, sometimes dazzling with sunlight, to boundless summit vistas. Stopping at AMC huts each night, they found food and fellowship.

**Crystal Cascade:** One of "a thousand waterfalls, making the dusk and silence of the woods glad with the laughter of the chasing floods, and luminous with blown spray and silver gleams." John Greenleaf Whittier wrote the description in *Mountain Pictures*.

and the huts of the AMC. If I select my route with care amid the miles of trails and logging roads that thread this region of New Hampshire, I need not pack a tent, sleeping bag, or food; yet I will sleep comfortably no matter how foul the weather, and be well fed.

These seven "huts" (perhaps a misleading term, for their bunkrooms hold from 30 to 90 guests in comfort) are unique in American mountaineering. Their doors are open to hikers between mid-June and mid-September. Under the direction of George T. Hamilton, manager of the AMC hut system (above), they are staffed by hand-picked high-school and college students who make hospitality their summer-vacation business. For a fee of \$7.50 a hiker obtains lodging, supper, breakfast, a trail lunch for the next day's travel—and a companionship beyond price.

The Appalachian Mountain Club, which operates these huts, is not our largest—its membership of 7,500 is about half that of the West's Sierra Club—but it is our oldest mountain club, dating from 1876.\*

#### Club Founded to Explore Mountains

Headed in its earliest days by a number of dedicated professors from New England colleges and universities, the AMC set out "to explore the mountains of New England and adjacent regions . . . and in general to cultivate an interest in geographical studies." Its members, of all ages and vocations, have since worked wonders in the recreational develop-

\*With 55 other hiking clubs and hundreds of dedicated individuals, the Appalachian Mountain Club helps to maintain the 2,000-mile-long Appalachian Trail. See "Skyline Trail From Maine to Georgia," by Andrew H. Brown, NATIONAL GEOGRAPHIC, August, 1949.





Sunset's misty gold lights the trail for climbers approaching Lakes of the Clouds Hut

ment of the mountain country of Massachusetts, New Hampshire, and Maine.

In addition to the seven huts open during the summer and the base camp at Pinkham Notch, AMC also operates a ski shelter in world-famous Tuckerman Ravine and unmanned lean-tos and cabins throughout the White Mountains. The club's magazine, *Appalachia*, has become a storehouse of information for climbers and nature lovers.

#### Hikers Roam a Mountain Playground

The White Mountains lie as though flung at random over some 1,300 square miles of northern New Hampshire, largely in the White Mountain National Forest. Actually they comprise several ranges, divided by gaps, or "notches"; dominating them are the treeless summits of the famous Presidential Range. Towering over all at 6,288 feet stands

Mount Washington, loftiest in the Northeast (foldout, pages 202-4, and map, page 210).\*

Modern highways snake through such famous notches as Pinkham, Crawford, and Franconia. Some 1,700 miles of footpaths, fire trails, and timber roads thread this cordial wilderness. A devoted band of AMC outdoorsmen and women has built and now maintains 354 miles of trail here.

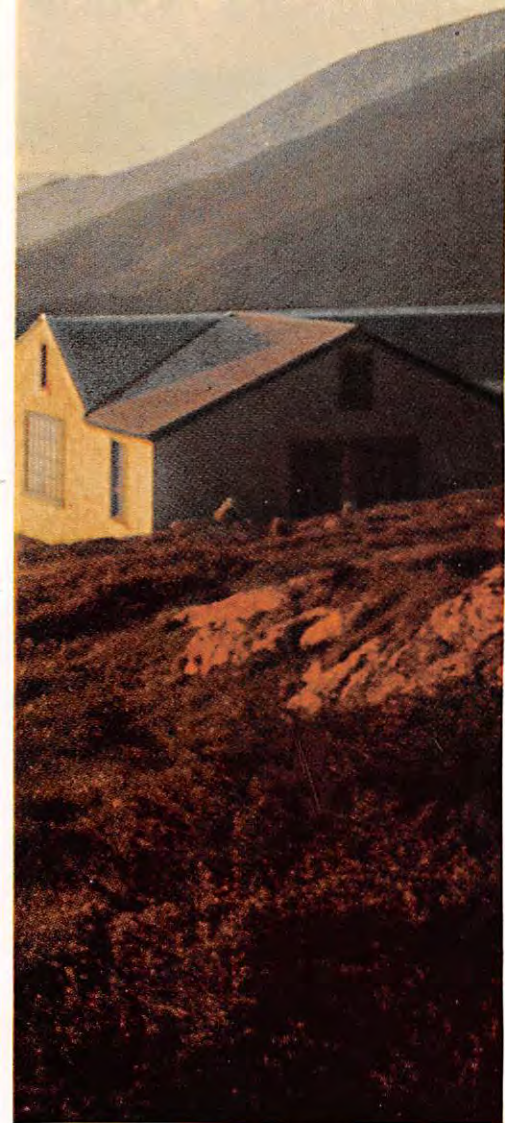
Such accessibility has drawn millions of hikers, skiers, fishermen, campers, and climbers to the region, making it, all things considered, the most popular mountain playground in the United States.

It was not always so.

I first visited the White Mountains in the 1920's, when most of New Hampshire's roads were narrow and winding, many of them dirt.

\*See "Mountains Top Off New England," by F. Barrows Colton, NATIONAL GEOGRAPHIC, May, 1951.





KODACHROME (BELOW) AND HS EKTACHROMES © N. G. S.



Rousing chorus of "Dinah" sung by Justice Douglas and hutboys fills the kitchen of Carter Notch Hut, a night's stop on the author's trek. High-school or college students, the hutboys spend their summers cooking, cleaning, and packing in supplies.

Vacationists harmonize at Lakes of the Clouds Hut. 209



The mountains then seemed to me distant and remote, as they must have centuries ago to mariners who saw them from the Atlantic as "white hills" 70 miles away.

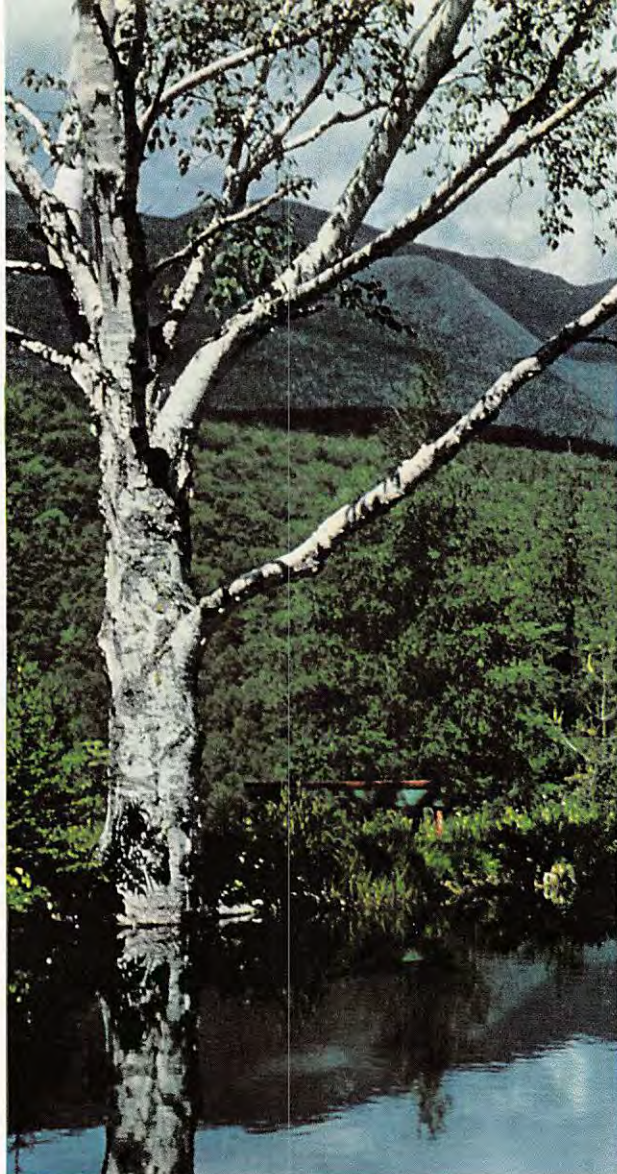
In those days I often went to Franconia Notch, where I liked to look at the Great Stone Face, made famous by Nathaniel Hawthorne (page 205). This natural wonder (now held in place by cables and bars) is known also as the Old Man of the Mountains.

Often, too, I would visit Crawford Notch, where one could rent a saddle horse and strike out into the forested slopes. The trail up Mount Willard, winding through spectacular hardwoods and flowering shrubs, made every ride an adventure.

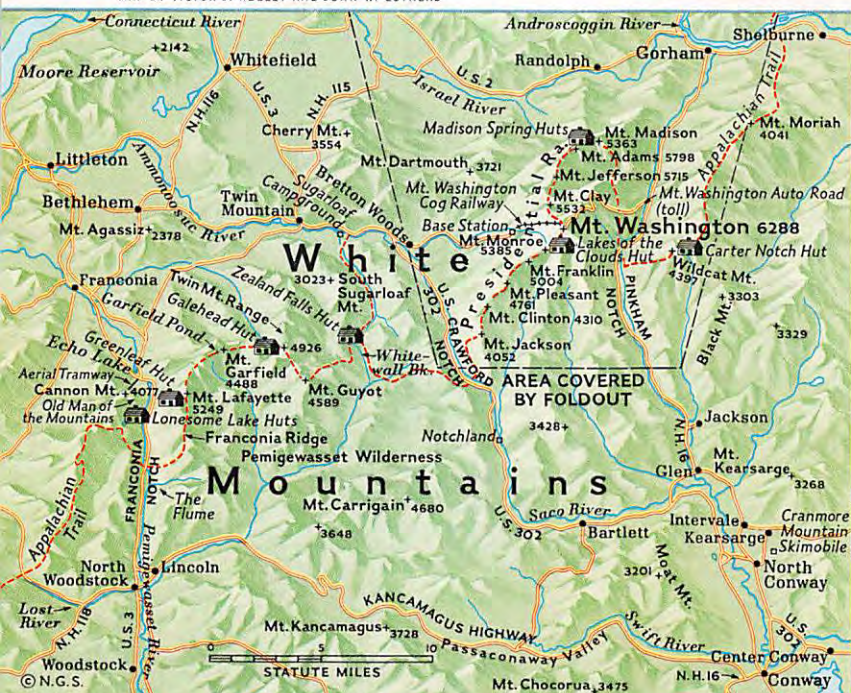
### Glen House Reservoir Mirrors Men and the Mountains They Seek

Bald heads of Mounts Adams (right) and Jefferson (left) rise above the Great Gulf Wild Area, 5,400 wooded acres set aside "for use and enjoyment by future generations." Glacial cirques, carved in the Ice Age, appear as dishlike hollows.

Seven friendly huts manned by the 85-year-old Appalachian Mountain Club dot the White Mountains of New Hampshire, offering food, bunks, and timely shelter from the area's sudden, fierce storms. Two of the seven — Madison and Lonesome — consist of several buildings and are referred to in the plural. Across the map slants an 80-mile section of the Appalachian Trail, the Maine-to-Georgia footpath that AMC helps maintain.



MAP BY VICTOR J. KELLEY AND JOHN W. LOTHERS





KODACHROME © NATIONAL GEOGRAPHIC SOCIETY

Since the 1950's, I have tried to hike these mountains each year, in either summer or fall. Last year I revisited this region for a week's hike with George Hamilton, Paul Doherty, State conservation officer, Lee Kelley of the U. S. Forest Service, and Kathleen Revis of the NATIONAL GEOGRAPHIC staff, who made the photographs on these pages.

Before the five of us set out, George and I swung our legs on the porch rail at rustic Pinkham Notch Camp—headquarters for the AMC hut system—and discussed the visitor influx of recent years.

"These mountains are now within a day's drive for 40 million people," he said. "We have visitors every month of the year—nearly two and a half million a year altogether.

"November brings hunters as well as hikers," he continued. "From December to June,

skiers and hardy winter climbers take over the slopes. Summer and fall, thousands of hikers take to the trails."

Since the first hut was built, on the shoulder of Mount Madison in 1888, the AMC's hut system has grown with the crowds.

"Today it's a chain-hotel business in miniature," said George. "We prepare between 40,000 and 45,000 meals each year."

#### Huts Spaced for Week-long Tour

The seven huts, together with the headquarters camp at Pinkham Notch, represent an investment of more than a quarter of a million dollars. The huts are so located along the ridges and cols that a hiker can plan a week-long itinerary, staying at a different one each night; or he can simply choose one as a destination and hike up in an afternoon.



KODACHROME © NATIONAL GEOGRAPHIC SOCIETY

Picking a way up Mount Madison's Osgood Trail, girls from Camp Mudjekeewis meet "masses and fragments of naked rock heaped confusedly together, like a cairn reared by giants in memory of a giant chief," as Nathaniel Hawthorne described a slope in the Presidential Range. Campers from Mudjekeewis come to climb each summer.



KODACHROME © NATIONAL GEOGRAPHIC SOCIETY

**Gondola carries sightseers** to the heights of Wildcat Mountain, which gives them a 70-mile view toward Canada to the north and the Atlantic to the east. Mount Washington rises on the horizon. In winter the 91-car Italian-built lift serves skiers. Here, in summer, Stanley Judge (left), Wildcat's manager, welcomes a picnicking group.

Farthest east in the system lies a hut nestled in Carter Notch (see foldout, preceding page 205). We could have hiked up "The Slot," an easy 3.6-mile stretch of the Nineteen Mile Brook Trail, but we chose instead to ride the Wildcat gondola (above) and hike the more spectacular Wildcat Ridge Trail.

Purple finches were constant companions as the narrow trail repeatedly climbed and dropped sharply again. A breath-taking view awaited at every rise, but I found myself as enchanted by white banks of bunchberries growing thick along the path, and the delicate, greenish-white clintonia lily. Everywhere the ground was covered with oxalis—the low, shamrock-leaved plant which, when crushed, efficiently cleans hands of pitch.

Nowhere I could recall did the black spruce show to better advantage. On Wildcat Ridge it seldom grows higher than 10 or 12 feet; at this close range its cones shimmer with an iridescent purple hue.

At last on the edge of the notch, we gazed down 1,000 feet to Carter Lakes and the hut. The impulse to shout from this prominence proved irresistible. We took turns hailing the hut crew far below. But none of us got a response, not even an echo, for the deep spruce smothered our shouts.

#### Winter Ice Makes Summer Dessert

Slippery roots offered handholds as we half slid, half climbed down the steep slope to Carter. The hut, flanked by sheer cliffs, accommodates 30 guests and stands slightly higher than the level of Carter Lakes.

The larger of the two lakes is one of the few bodies of water in the Northeast that boast good fishing above 3,000 feet. Conservation officers, Paul Doherty explained, pack in brook-trout fingerlings every few years to restock it.

After dinner that evening a hutman spooned out generous helpings of fresh home-



KODACHROME (ABOVE) AND HS EKTACHROME © NATIONAL GEOGRAPHIC SOCIETY

**Jogging up Mount Madison**, student Gerry Whiting carries 85 pounds of food for the Madison Spring Huts. His Yukon pack, ten pounds of wood, rope, and canvas, puts most of the weight on his bare shoulders. Young, sturdy hutboys, all enthusiastic outdoorsmen, carry 90 percent of the supplies needed to serve thousands of meals each year in the seven AMC huts in the White Mountains.

**Ringer!** Dirt flies as a horseshoe finds its post. The midmorning break relieves a long day's work for Madison hutmaster Douglas Kirkwood. Rising at dawn, he and his assistants prepared breakfast and trail lunches for 50-odd hikers. Cleanup and packup followed. Afternoon will find them cooking for a new wave of guests.

To get the picture, photographer Kathleen Revis crouched behind the post for some 150 pitches. Dirt pelted her in the face, and each ringer sounded like "a shot from a gun." Fearful that she had missed her picture, she hiked seven miles for a return visit—only to discover later that she had caught this view on the first roll of film.

made ice cream—a long hike, I thought, from the nearest source of ice. Though three of the huts have generators for electricity, only Pinkham Notch Camp has a refrigerator. But ice, I learned, lingers far into the summer in the rocky crevices of Carter Notch.

When I awoke next day I folded my blankets, as hut guests are expected to do, and stepped out of the men's bunkroom into a morning that sparkled with a heavy dew.

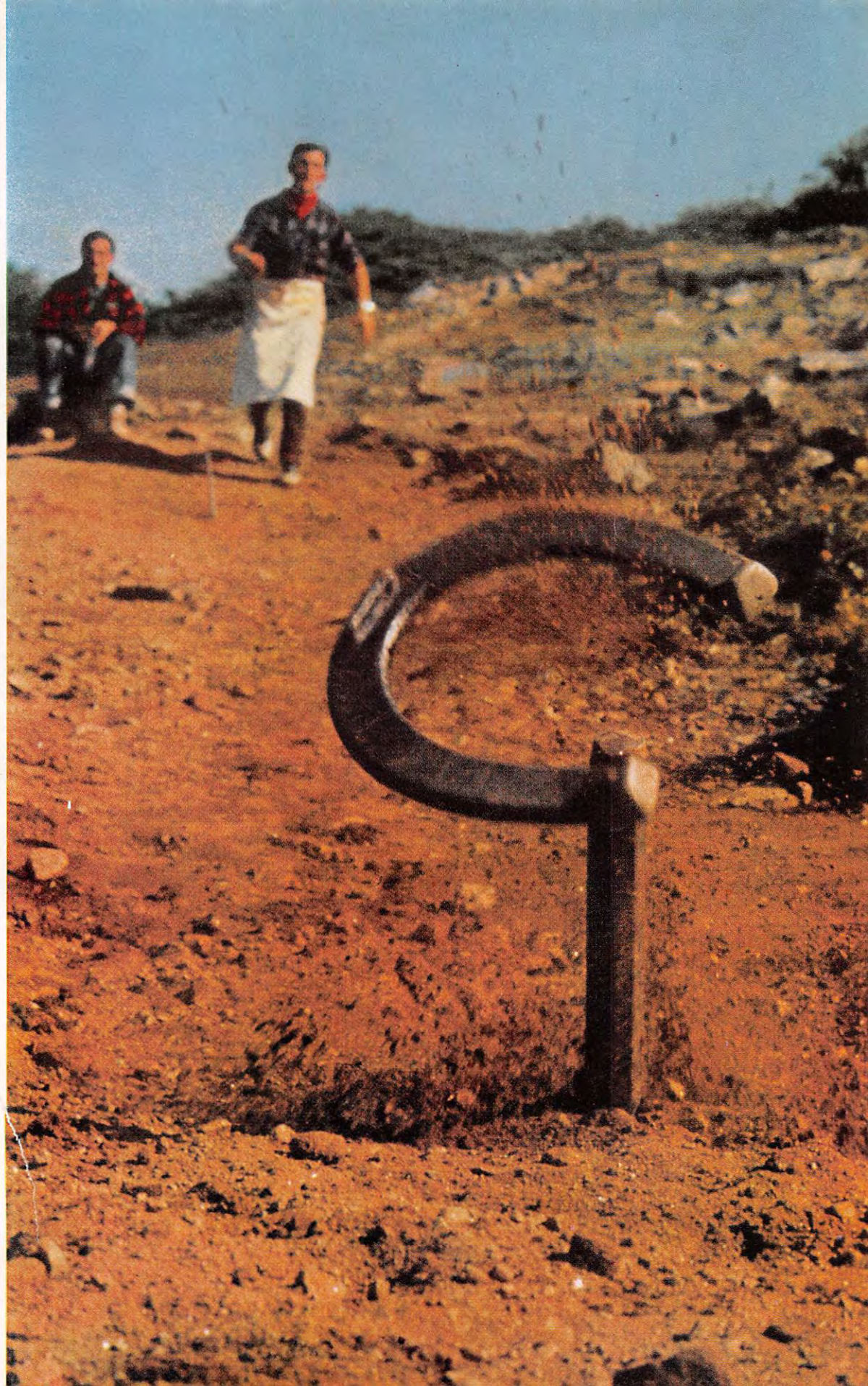
George and I went to the lake's edge to wash up before taking to the trail. We stood in silence for a while in a stand of mountain ash, watching the "square tails"—brook trout—dimpling the surface. I turned away reluctantly, for this is a spot that invites, almost compels one to linger.

So, too, is Lonesome Lake, at the westernmost end of the chain of huts. Lonesome is a quiet mountain pond sitting above Franconia Notch, where the Old Man of the Mountains dominates the countryside.

Little sun reaches the trail into Lonesome even on a bright June day, I observed. Yellow and paper-bark birch, hemlock, and rock maple lock branches overhead, infusing the air with a soft emerald hue. White-throated sparrows kept us company along the broad path of crumbling rock and entertained us with their refrain: "Old Sam Peabody, Peabody, Peabody!"

#### Young Visitor Arrives on a Packboard

We exchanged greetings with a family group headed for the Lonesome Lake Huts. The youngest was a boy of five. I was not surprised, for one comes to expect all ages on these trails. George Hamilton's youngest son visited the huts when he was barely able to walk—carried papoose-style on a packboard. And fully 20 percent of the huts' guests are supervised groups from children's camps. Yet I have encountered more than a few hikers well into their seventies.





"I remember one old fellow who just wouldn't quit," Hamilton said. "I think he was 80 when we finally had to bar him from the huts for his own safety. Kept wandering off the trail, and finally got lost in the Pemigewasset Wilderness for three days. He lived on a couple of sandwiches until he was finally located."

#### Boys and Burros Stock the Huts

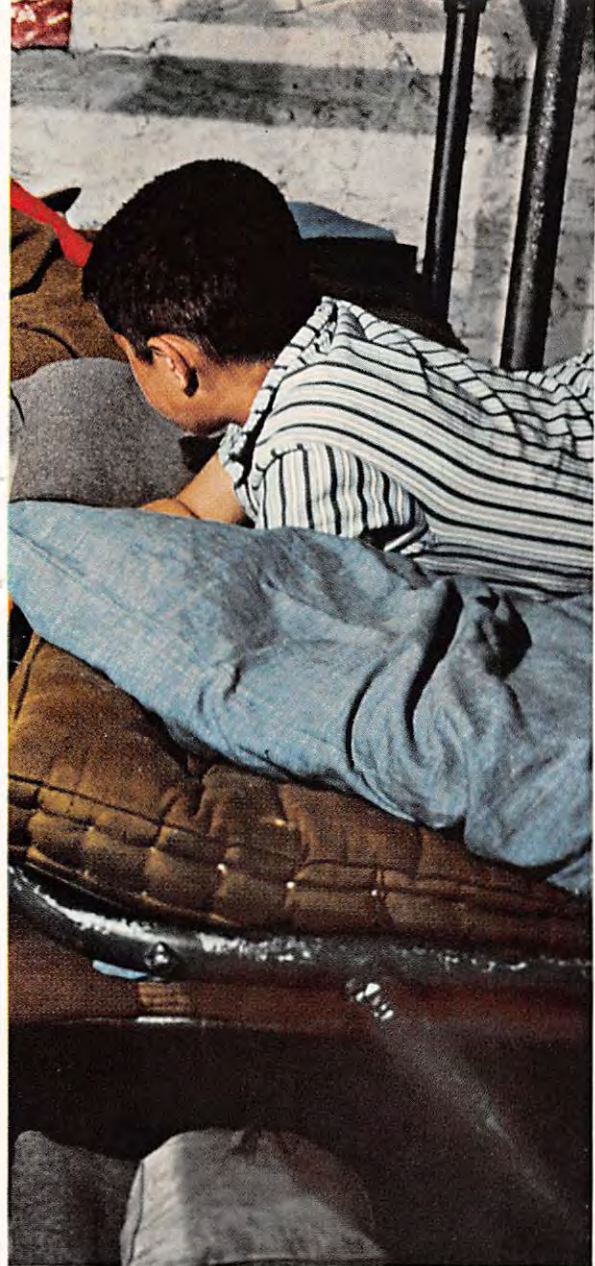
Linked by trails between Carter on the east and Lonesome on the west, four huts beckon the hiker along wind-blown ridges and forested defiles: Lakes of the Clouds, Zealand Falls, Galehead, and Greenleaf (map, page 210).

The last three lie in the broken, wooded country between Crawford Notch and Franconia. We took the easy way to Zealand Falls, driving to the end of a dirt road north of the hut, and hiking in 2.7 miles. Much of the way we followed the bed of a narrow-gauge logging railroad built in the 19th century. On the way we watched half a dozen protesting AMC burros being hauled aboard a truck with block and tackle.

"We use them mostly at the beginning of the season to stock the huts with case goods and heavy staples," George explained. "Even then we use them at only four of the huts; hutboys backpack 90 percent of our supplies."

Clouds hung low overhead like gray wool





KODACHROMES BY NATIONAL GEOGRAPHIC PHOTOGRAPHER KATHLEEN REVIS © N.G.S.

botanical matriarch, for it serves as seedbed for many flowers. It also germinates spruce, fir, and birch seeds, nourishing the seedlings among the wind-swept rocks until they can anchor their roots.

Galehead Hut, like Zealand and Greenleaf, accommodates 36 guests, but only two others occupied it the night we stayed there. Later in the hiking season its bunkrooms occasionally overflow, and hikers without advance reservations must sometimes settle

### Bedtime Is Never Too Soon After a Long Day's Climb

Carter Notch Hut receives its early-to-bedders—children who hiked up Nineteen Mile Brook Trail. All but the two-year-old at lower left made the trip under their own steam; he rode on his father's back.

Three blankets on each bunk ensure comfort when temperatures drop to near-freezing in the unheated stone hut.

**Pigtail swinging**, a youngster climbs a ladder to her bunk in Zealand Falls Hut. White Mountain huts provide bunks for more than 15,000 hikers each year.



late that afternoon when we reached Zealand Falls Hut—a restful, rustic cabin beside the falls of Whitewall Brook. Showers drumming on the roof lulled us to sleep, but sparkling sunshine greeted us next morning as we took the trail toward Galehead.

The route winds for about seven miles, up and down through black spruce, balsam fir, paper birch, mountain ash, and beech.

Timber line here varies with wind and soil. Trees creep higher on the eastern and southern slopes, sheltered from prevailing winds. But even there, in the 4,000-foot zone, the spruce, balsam, and birch are usually dwarfed.

Moss lies lush most of the way. I love this



HS EKTACHROME © NATIONAL GEOGRAPHIC SOCIETY

### Camel-sized Load Arrives Atop Youth in a Zebra Vest

Back-straining bundle, 185 pounds of groceries, eases off the shoulders of William Belcher, assistant hutmaster at Lakes of the Clouds. Eighteen years old, he packed the load 1½ grueling miles downhill from Mount Washington, where supplies are trucked in. Perhaps even harder than climbing, downhill packing requires steady footwork and balance. Slippery rocks invite spills.

"The boys sort of stagger down the mountain," photographer Revis observed.

Swells and peals of an organ enliven evenings at Zealand Falls Hut. Assistant hutmaster Henry A. Zoob plays; Navy chaplain Capt. A. R. Cook, his wife, sons, and daughter join in song. The organ, like all else, was packed in.

for cots or even sleep on dining-room tables.

Beyond Galehead Hut the trail jogs up and down through thick stands of timber, past rivulets and springs where I like to put my face to the cold, pure water.

We opened our trail lunches on Mount Garfield, where a fire tower once stood. We lay on smooth granite on the lee side, a bright sun warming the rock. The only sound was the whistling of the wind. The only movement was the scudding of white clouds and a hawk that soared gracefully high overhead.

"No traffic," I sighed.

"No exhaust fumes," Kathleen added.

"No people," said Paul.

"Not even a telephone," George murmured happily, eyes closed.

We pushed off down the trail to Garfield Pond, a small, shallow lake fringed with lily pads, and slaked our thirst at Elizabeth Spring, barely large enough for dipping, where the water stays at about 38° on the hottest summer day.

George and Paul paused to examine a sharp-clawed track, strange to me. They nodded in agreement: a fisher. This large

and ferocious member of the weasel family flourishes in the White Mountains.

"They call him the 'forester's friend,'" Paul said. "For a good meal he'll wade right into a porcupine, which does a lot of timber damage up here. The fisher's as fast as he is tough, too—one of the few animals I know that can run down a red squirrel in his own tree."

### Grouse Attacks Human Invaders

Game is more abundant in this area than in others served by the huts. This is a favorite haunt of the Virginia deer. Bobcat sign is frequent. And I always see snowshoe rabbits here.

Once, on an earlier hike with George Hamilton, I lagged behind while he disappeared around a bend. Suddenly I heard him laugh, shouting, "We're being attacked!"

When I caught up, I saw a hen spruce grouse, mottled with reddish, golden-brown feathers, charging him over and over again. Red marks above her eyes gave the illusion of genuine anger. Only when her brood of half a dozen chicks had reached cover did she retreat and leave the trail to us.



KODACHROME © NATIONAL GEOGRAPHIC SOCIETY

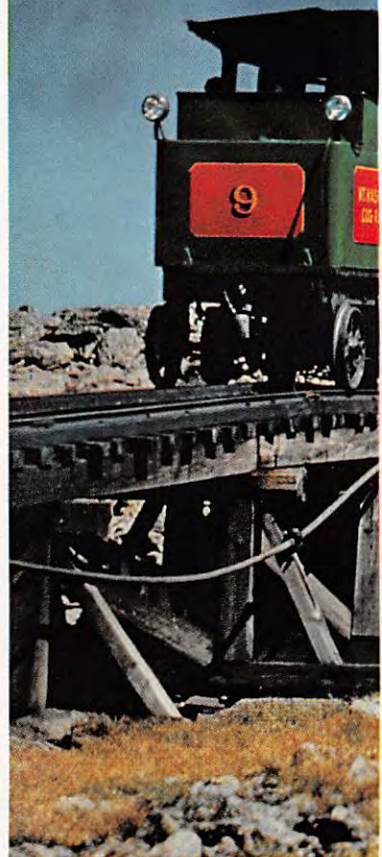
This area is abundant with birds — thrushes, juncos, black-capped chickadees, chestnut-sided warblers, hairy woodpeckers, ruffed grouse, winter wrens, robins, cedar waxwings — and, of course, the usual purple finches and white-throated sparrows. In summer when I sit quietly by a shaded pool or brook west of Galehead, I hear some of the finest orchestrations that the birds of the north woods produce.

As one leaves Garfield Pond for Greenleaf Hut, he climbs sharply toward the barren-looking mile-high summit of Mount Lafayette. From its crest the hut can be seen on open ground, nearly a mile to the west.

Greenleaf's three hutmen had seen us from a window as we worked our way, hot and weary, down the last scree slope. They welcomed us with a cooling soft drink. Shedding our rucksacks, we found dinner waiting on the rough wooden tables.

#### Hungry Camper Stokes Up

Already at the table was the only other human we had encountered that day — a burly camper carrying a heavy pack who had barreled past us with a cheery wave. From a hutman I learned that he had been camping out in the mountains for a week, eating mostly dried foods. Now he was making up for it.



### Skyline Siding Eases Cogwheel Traffic Jam on Mount Washington

This sightseeing line, the Mount Washington Cog Railway, began operations in 1869. "Old Peppersass" trains, so called because the original locomotive resembled a pepper-sauce cruet, make the 6½-mile round trip in three hours. Each passenger car boasts its own locomotive, and both have brakes, so cars ride uncoupled ahead of engines on upgrades, behind them on downgrades. Boilers built for grades averaging 25 percent tilt oddly forward on level ground.

**Billowing smoke,** a "Puffin' Devil," as the trains are also dubbed, tackles the first rise near Base Station.



KODACHROMES © NATIONAL GEOGRAPHIC SOCIETY

My own healthy appetite satisfied, I watched while he ate his way with silent singleness of purpose through three huge helpings of roast beef and vegetables. He glanced up inquiringly at the hutmaster, and the two exchanged knowing grins. A fourth plati-load disappeared. I looked on in awe as the camper filled in a few remaining crevices with a large stack of fresh-baked brownies.

Family-style meals are served at all the huts. And it is always a joy to me to watch the hungry eyes of a camp group—perhaps 20 to 50 youngsters—following the motions of a hutman carving a turkey (page 227). The aroma of a crisp brown bird, bubbling soup, and hot biscuits seems magically to take the ache out of tired feet.

Every meal is a gay social event as well as a feast. Each hut seems to have at least one hutman who plays either the mouth organ or the guitar. I have joined them in after-dinner musicals from Carter Notch Hut to Lonesome (page 209).

Greenleaf Hut overlooks Franconia Notch

(page 236), and from near by one can see the sheer cliffs of Cannon, or Profile, Mountain. From its heights the Old Man of the Mountains gazes serenely over the valley.

But as friendly as these mountains are, they can deal cruelly with those who underestimate them. Over the years 29 have died on Mount Washington alone. Paul Doherty, who has helped to carry out unfortunate victims, pointed out to me the scene of a tragedy less than a year earlier.

#### Youths Die Beneath Old Man's Face

When Sidney Crouch, age 21, and Alfred Whipple, Jr., 20, were seen one August afternoon stranded 500 feet up on the cliff below the Old Man of the Mountains, word was sent to AMC headquarters at Pinkham Notch. A crew of experienced mountain climbers quickly assembled, but driving rain, fierce gusts, and near-freezing temperatures made the rescuers' climb immensely difficult. Not until the next day did they reach the ledge.

"The two boys died of exposure soon after

## Clouds Bonnet the Dome and Skytop Community of Mount Washington

In climate, flora, and fauna, this 6,288-foot peak is a bit of Labrador transplanted to New Hampshire. Winds here blow harder and more constantly than at any other spot under observation. Weather instruments in 1934 recorded the highest wind velocity known—231 miles an hour. With wind comes fog, shrouding the tree-bald peak 25 days in the average month.

In fall, winter, and spring, sometimes even in summer, the fog freezes into rime that coats rocks and buildings with ice. Hail and sleet hit like bird shot. Snow depth above timber line rarely exceeds a few inches except in sheltered pockets, but winter temperatures sometimes drop to 30° below zero and once hit -58°. "Misery Hill," as weathermen call the mountain, serves as a testing ground for arctic gear.

Darby Field, of Exeter, New Hampshire, first climbed the mountain in 1642, only 22 years after the Pilgrims landed. Since then, thousands have followed by horseback, car, railway, and foot.

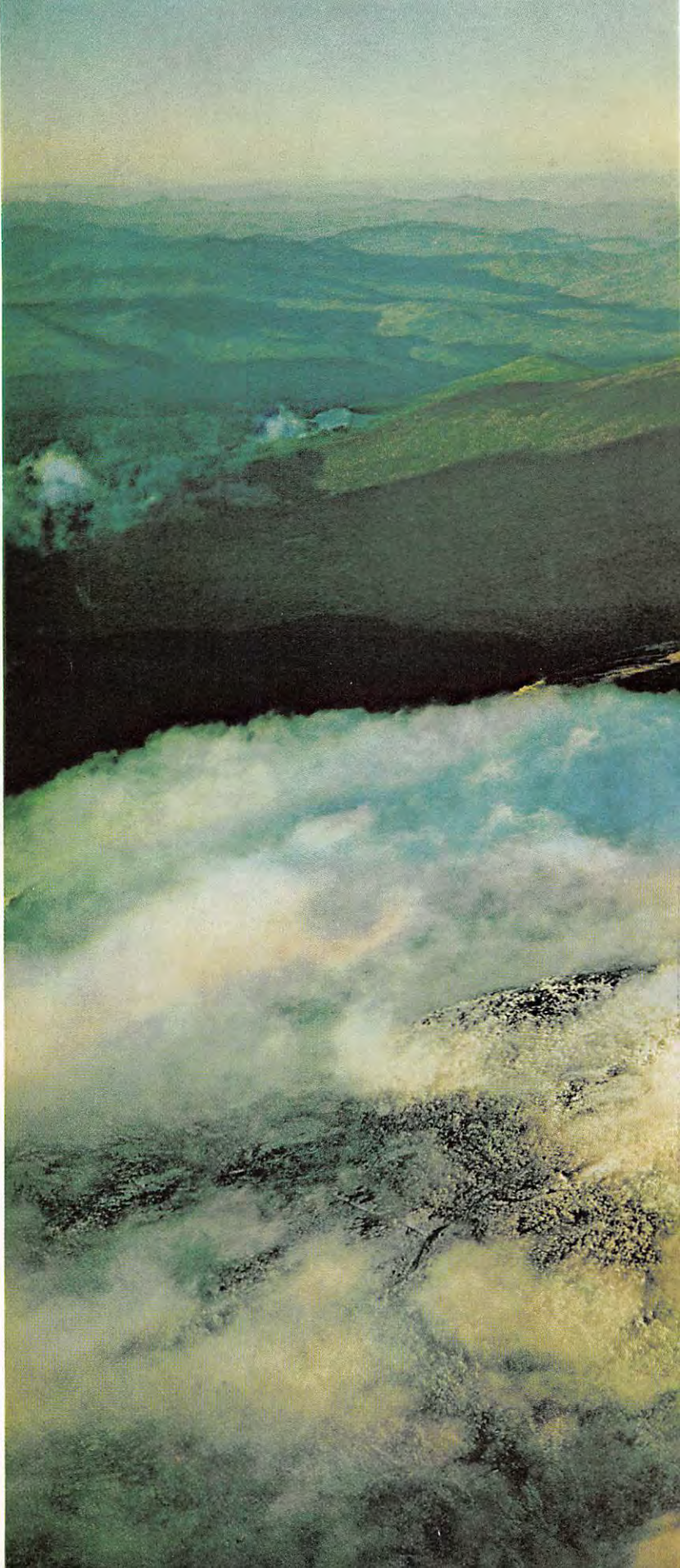
In 1835 a guide wrote: "Wm. S. Gookin ascended... in a violent rain, got a thorough wetting, saw nothing but clouds and rocks, got nothing (except a cold)."

But P. T. Barnum had better luck. He labeled Mount Washington's spectacular view the "second greatest show on earth."

In this aerial picture, the mountain casts its shadow across an entire valley, and distant mountains roll away toward Maine.

A small but important weather observatory, anchored by 10 steel rods, and a television transmitter appear in foreground. Summit House and Tip Top House, summer hotels, rise at rear.

EKTACHROME AERO BY LAWRENCE LOWRY  
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the first climber reached them," Paul said. "Their climbing equipment consisted of two lengths of rope, a carpenter's hammer, and a few short iron rods. They were inadequately clothed and lacked the experience for so dangerous a climb."

Rescue work in the national forest is in charge of the district ranger, who relies heavily on the AMC. George Hamilton keeps a list of 18 expert mountaineers according to their particular skills, such as ice climbing or rock work, together with their day and night telephone contacts.

Rescue equipment, ranging from wind-proof clothing to basketlike metal Stokes litters, is cached at key spots. Radio connects Mount Washington with Pinkham Notch, and a telephone with Lakes of the Clouds Hut, although the other huts can communicate only by "moccasin telegraph." Most rescue missions have happier endings than the one on Cannon Mountain. That same year AMC and Forest Service crews successfully answered 36 search and rescue calls.

#### Arctic Plants Thrive on Rocky Heights

Expert mountaineers find ample challenge in the White Mountains. A group within the AMC has formed the "4,000-Footer Club," open to anyone who has climbed 46 designated peaks above 4,000 feet.

Two friends of mine, Miriam Underhill, editor of the AMC magazine, *Appalachia*, and her husband Robert, now form an even more exclusive group: those who have climbed all 46 in both summer and winter. Making their last ascent of Mount Jefferson to achieve this unique record in December, 1960, the couple snowshoed to the summit in winds up to 35 miles an hour and temperatures ranging to 8° below zero.

The feat sounds impressive enough, but consider the fact that Mrs. Underhill is in her 60's and her husband is 72!\*

Most hikers in the White Mountains are content to visit one or two of the huts, or to cover the entire circuit in a leisurely (in our case, even haphazard) way.

Of all the huts, Lakes of the Clouds—with a capacity of 90 guests—attracts the largest crowds, principally because it is so close to Mount Washington, which can be ascended by road, cog railway, and trail.

The Lakes hut has, however, another distinction: It rests near the base of Mount Monroe, and here the moist, rocky soil produces

the most exotic wild flowers to be found in New England. Some I have found also in the Brooks Range of Alaska, 1,600 miles more northerly; others are akin to plants of Labrador and Greenland.

Cranberries with small, leathery leaves and tiny pink flowers grow here, as do delicate alpine saxifrage, lush cassiope, and Solomon's seal. A purplish mountain heath shows urn-shaped flowers; the Greenland sandwort makes beds of white.

Pale laurel displays tiny, star-shaped flowers of reddish pink. A tiny white sprite known as dwarf cinquefoil grows along the trails. Most profuse of all are creamy beds of arctic *Diapensia lapponica* that mantle the rocky surfaces (page 230).

#### Building Bolted to Windy Peak

It was at the Lakes that I learned how severe Mount Washington weather can be, even in late June. It had seemed warm as we hiked; indeed, I felt as if I had worn too much clothing. After dinner at the hut, when the sun was still high, I went out to explore some of the near-by botanical wonders. I wore no hat or jacket and felt comfortable enough.

Suddenly the wind came up. It arrived like a gunshot. In a few minutes it was blowing a gale. The temperature dropped fast, and before I could walk 100 yards I was blue with cold. There were moments on the half-mile hike back to the hut when I questioned whether I would be able to reach it. The experience taught me the awful threat Mount Washington holds for an incautious hiker.

The White Mountains are not high, even by United States standards. Yet they suffer some of the worst weather we have, for disturbances from the Great Lakes and the Gulf of Mexico often converge here, and the area lies close enough to the coast to feel severe storms from the Atlantic and Newfoundland.

As early as 1870 scientists spent long winter vigils atop Mount Washington. The present weather observatory there was established in 1932 (page 222). A staff of four to six men it the year round.

They live and work in a small structure known as "the strongest frame building in the United States." Its framework of 10-inch railroad trestle timbers is bolted at least five feet deep into solid rock and concrete. Seven-

\*A veteran mountaineer, Miriam O'Brien Underhill wrote "Manless Alpine Climbing" in the NATIONAL GEOGRAPHIC, August, 1934.





HS EKTACHROME (ABOVE) AND KODACHROME © NATIONAL GEOGRAPHIC SOCIETY

### Striking Out Through Clouds on Mount Washington, Hikers Head Toward Tuckerman Ravine

Foul weather dictates that this party bypass Washington's summit. Such prudence saves lives; 29 climbers have perished on these slopes.

"Its accessibility and extremely violent and unpredictable weather make this one of the world's most dangerous peaks," says mountain expert Bradford Washburn.

Glacier-gouged Tuckerman Ravine (page 230) holds its snows for skiers into June.



"Turn back *now* if the weather is bad," says a sign beside the Ammonoosuc Ravine Trail near Lakes of the Clouds Hut. "The area ahead has the worst weather in America. Many have died there from exposure, even in the summer."



KODACHROMES © NATIONAL GEOGRAPHIC SOCIETY

Satisfying appetites made ravenous by exercise and mountain air, a Lakes of the Clouds hutman fills bowl after bowl with salad. These enthusiastic young cooks can whip up dinners for 80 to 125 guests on any summer afternoon.

To break 90 eggs fast, a chef uses but one hand. He works at night to save time before breakfast.



layered walls ward off the summit's wintriest weather.

On all my climbs I drop in for a visit with these men, drink a cup of coffee with them, and watch their various instruments in operation. They make eight observations daily, sending five by radio to the U. S. Weather Bureau station at Portland, Maine.

I have spent hours perusing their records. The entries for April 12, 1934, show a wind of 231 miles an hour at the summit—the strongest ever measured anywhere in the world. Another reading, in wintertime, shows an unofficial low temperature of  $-58^{\circ}$  F.

A 50-, 60-, or even an 80-mile wind is not unusual even in summer. Storms come up with incredible swiftness here, and a piercing cold wind can quickly reduce the body temperature of a lightly dressed, unprepared hiker below the safety point.

#### AMC Seminars Stress Safety

That is one reason the AMC hut system serves a special need in these barren, wind-blown regions. The three huts at or above tree line—Greenleaf, Madison, and Lakes of the Clouds—provide a comforting safety factor to hikers and climbers.

In addition, the AMC uses its huts early every season for the training of camp counselors in mountain leadership. Groups of boys and girls from more than 60 camps

*(Continued on page 231)*

Juicy breast of turkey vanishes under the knife of hutmaster Charles Kellogg, a Williams College track star. One hutman, something of a connoisseur, likes to try foreign dishes and imported ingredients. His manager regretfully has to limit his menus.

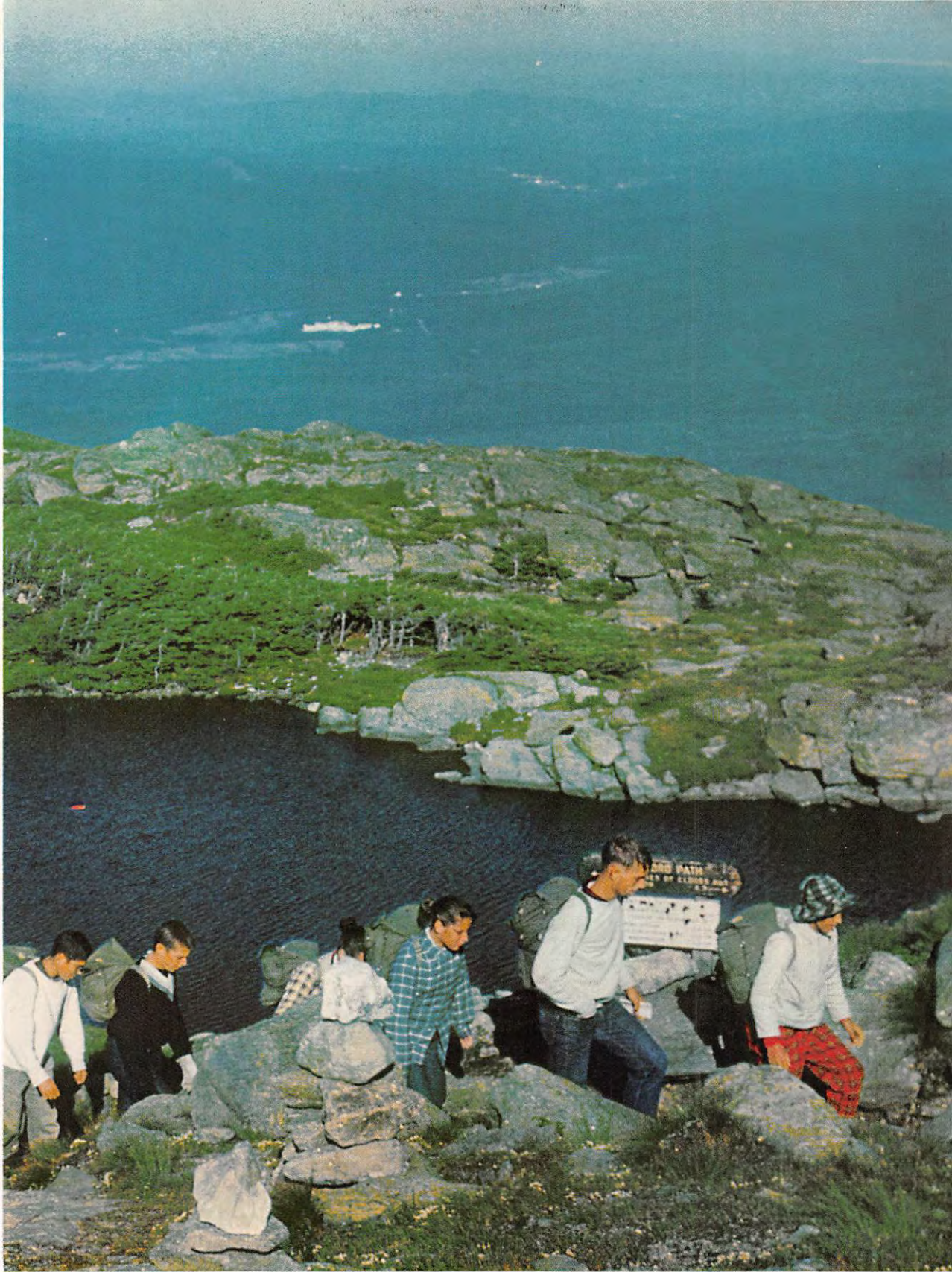
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**Lobster Pots Dot a Lake of the Clouds:  
a Hoax to Deceive Gullible Visitors**

Hikers bound for Mount Washington thread trail-marking cairns overlooking one of the lakes. Although hutmen swim in the frigid waters, photog-



KODACHROME © NATIONAL GEOGRAPHIC SOCIETY

rapher Revis "never saw a day warm enough." Lakes of the Clouds Hut, largest in the AMC system, hugs a rocky shelf beneath Mount Mon-

roe. Mount Washington Hotel, scene of the Bretton Woods Monetary Conference in 1944, appears as a long white smudge far below in the valley.



KODACHROMES © NATIONAL GEOGRAPHIC SOCIETY

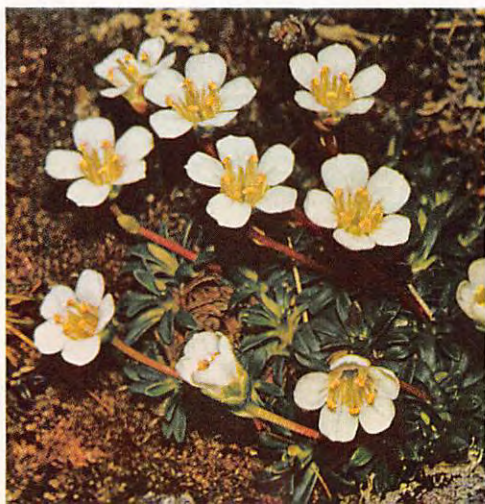


Wild-flower hunters find blooms on the rim of Tuckerman Ravine. Blanketed by snow until summer, flowers on the head-wall of this glacial cirque abbreviate their blossoming time. Springtime violets often pop out with fall's goldenrod.

**Large-flowered trillium** (*Trillium grandiflorum*) glows starlike in moist woodlands.

**Pale laurel** (*Kalmia polifolia*) nods delicate blossoms in a trailside meadow (lower left).

**Diapensia** (*Diapensia lapponica*) clings bravely to a rocky bed above timber line.



throughout the Northeast visit the hut system each season, and their leaders gather beforehand for several days of seminars, lectures, and familiarization with the maze of mountain trails.

At the Lakes hut I sat in with George Hamilton on one of these sessions, attended by 60 participants. Problems ranged from "Where should a group be taken to see the striae formed by glaciers?" to "How does one get help if a youngster breaks a leg or has an attack of appendicitis?"

"Discuss the pros and cons of the Huntington Ravine Trail and the Randolph Path, respectively, as escape routes during inclement weather," went one problem.

"The Huntington Ravine Trail is too steep to lead the average children's group either up or down in dry weather; in wet weather it is out of the question for descent by a camp hiking party," was the correct answer.

"On the other hand, the Randolph Path offers a gentle escape from Edmands Col down into the trees on the Randolph side of

Mount Adams, and is the trail to take to escape severe weather on the ridge."

This is the kind of stuff around which these annual AMC seminars are built. They teach hikers what they must do to be safe when the mountains turn treacherous.

#### Club Members Tamed the Mountains

One cannot long wander through the White Mountain country without being impressed by the number and the excellence of its trails. A few of them were built before 1876, when the Appalachian Mountain Club was formed, but not many.

AMC members made nearly every high ridge accessible; they established a network of through trails which made possible cross-country travel from Carter Notch to Franconia Notch and even beyond. Other groups, notably the Randolph Mountain Club, added access trails. By the turn of the century the AMC had built and was maintaining 100 miles of trails.

Some of these were hacked out of thick



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Shower of tiny pink blooms, alpine azalea (*Loiseleuria procumbens*) spreads across gray rocks rimming one of the Lakes of the Clouds. Ruler shows size of the flowers.





forests, and trees along the way were marked by blazes. Above tree line, white stencil marks were painted on rocks, or cairns topped with white rocks were erected. In some places these cairns stand only a few feet apart to help keep hikers on the trail even in thick fog (page 228).

#### Trail Crews Keep Paths Open

AMC never neglects trails that it has built. At Hutton Lodge in Whitefield, during summer months, it maintains quarters for a trail crew of a dozen men or so, drawn from high schools and colleges. I have often met such crews clearing downed timber, repairing washouts, re-marking obliterated signs, or "brushing out" paths clogged with new growth.

Perhaps the most ambitious trail builder of all was J. Rayner Edmands of the Harvard Observatory, who spent 18 years at it until he died in 1910.

"He used to live in the Randolph Valley and hike up here every morning with a crew of workmen. They'd spend the whole day shifting rocks with a crowbar to lay them flat," said Hamilton as we walked along the Gulfside Trail, where Edmands had done his work more than half a century earlier. The trail, leading into Madison Spring Huts, looked in places almost as smooth as a garden walk, though it passed through tumbled masses of granite.

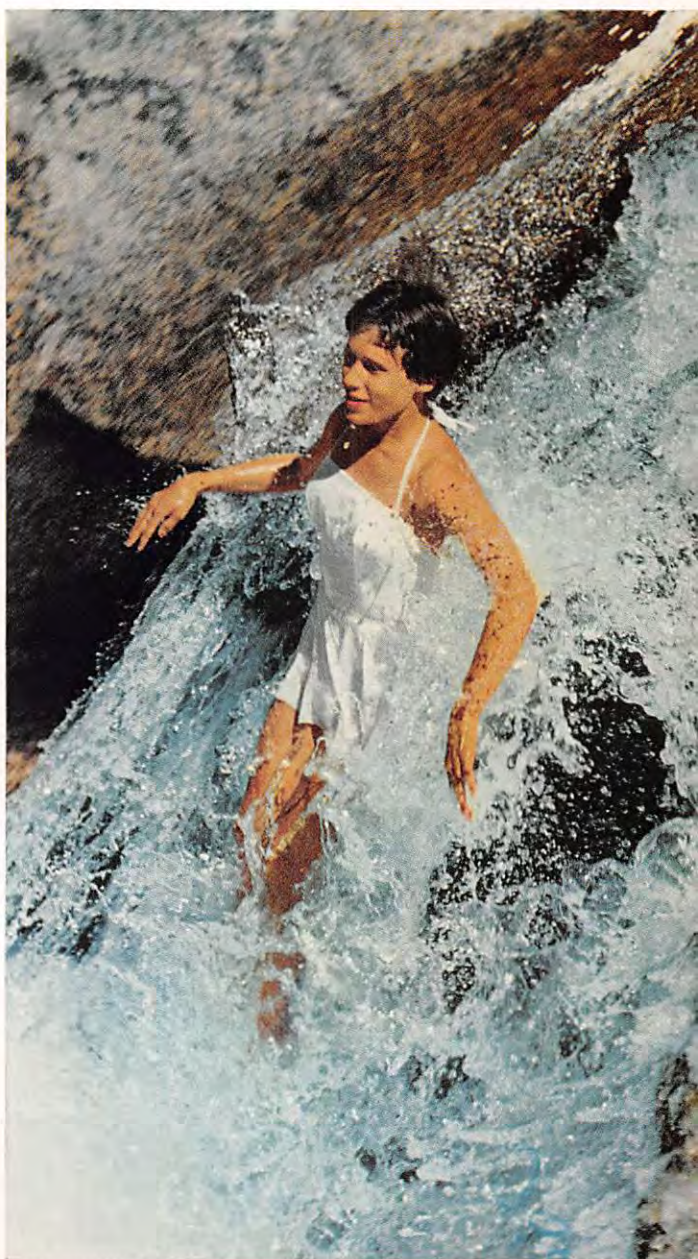
Hutmaster Doug Kirkwood, a student at Middlebury College, Vermont, greeted us with a broad grin at the door of Madison.

"Let's look busy—here come some more goofers!" he shouted to his four hutmen.

"Goofer" is not as derisive a term as

it sounds; hutmen apply it to any visitor. Nor did the crew have to look busy. Their working day had begun before six that morning with the preparation of breakfast. It would end perhaps at nine in the evening, after trail lunches had been made up for the hikers to take with them next day.

The hutmaster, who has all the responsibility of managing a small hotel, prepares a roster for each day's work—dishes, cooking, cleaning, packing supplies. Most hutmen, ranging in age from 16 to 23, can cook surprisingly well, the younger ones learning



**Shooting a waterfall** in the Ammonoosuc River, a swimmer drops between rock walls into raging water. "Like a hand on your head, the current pushes you toward the bottom of the pool," one youth told the photographer. "When I am not cautious, whirling eddies spin me around and around on the surface."

**Body rigid**, Carol Gavin appears to stand in the midst of the race.

from their seniors. Many scorn modern mixes, turning out delicious hot breads, cookies, cakes, pies, and puddings the old-fashioned way.

At Madison one youth throws himself into the role of chef with rare dedication, beaming as hungry hikers wolf down such specialties as eggs Benedict.

"We have to hold him down once in a while," George confided with a chuckle. "He keeps asking for avocados and cooking wine,

**Suspension bridge** swings across Saco River at the start of the Davis Path from Notchland in Crawford Notch toward Mount Washington. The route forms part of a 354-mile trail system maintained by the Appalachian Club.

KODACHROME © NATIONAL GEOGRAPHIC SOCIETY



and spices I never heard of. We want the huts to put out good meals, of course, but we're not running Maxim's of Paris up here!"

From the base camp at Pinkham Notch, Hamilton looks over the orders and does the purchasing of supplies—from bacon to blankets. Twice a week AMC trucks take the orders to packhouses located below the huts, where hutmen pick them up.

Often I have paused on the trail to chat with these rugged, enthusiastic youths, their packboards impressively loaded with canned goods, 50-pound tanks of propane gas for cooking, even lumber and paint for hut repairs. Most wear faded packing shorts, cut down from dungarees, slit and laced up the sides for greater leg freedom (page 214).

Madison hutmen take about three hours to climb the 3.6 miles up the steep Valley Way trail with loads of 70 to 100 pounds or more—about the speed of an average hiker with a light knapsack. Each hutman commonly packs up more than a ton in a season.

A hutman filling a gasoline can accidentally set Madison afire in 1940, causing severe damage. AMC later hired dozens of packers to haul up building materials, weighing the loads at the top and paying the bearers 5 cents a pound. A French Canadian set a record that still stands when he packed up 224 pounds in one load.

#### Truck Rides Trail on Hutmen's Backs

Over several cups of after-dinner coffee with George Hamilton and Doug Kirkwood, I learned that hutmen are paid from \$16 to \$50 a week, plus room and board. Yet Hamilton sorts through as many as 200 applicants each year to fill perhaps a dozen vacancies.

"Once a boy spends a summer in these mountains, they seem to get into his blood," said George. "Most of them come back year after year until they finish college."

And after all this packing-in, what does a hutman do on his days off? He goes hiking, of course. Most hutmen own a cherished map liberally "red lined": veined with red pencil marks tracing the trails they have covered in the complex White Mountain network.

And there is always time to perpetrate a hoax on goofers. The Madison crew one year dismantled a worn-out truck and packed it three and a half miles up to the hut. On a boulder-strewn slope they reassembled it, simply to savor the astonishment of weary climbers confronted by a motor vehicle 3,600



KODACHROMES © NATIONAL GEOGRAPHIC SOCIETY

### Mountain Visitors Dry Out After a Rainy Night at Sugarloaf Campground

Two Pennsylvania families, the Robert Sayres (above) and the Allan Erslevs, drove into the White Mountains to spend their vacations under canvas. Pitching camp, they endured a night-long rain that left their gear soaked.

Sometimes weather forces campers to seek permanent shelter. One night the howl of wind and lash of rain awoke Miss Revis in Madison Spring Huts. Alone in the dark bunkroom, she felt a shiver of fear when the door opened and someone slipped into the room. Her visitor turned out to be a woman whose tent had proved no protection against the elements.

Night discomforts forgotten, small campers wash blueberries they gathered themselves.





The world falls away from Greenleaf Hut lookout. Cannon Mountain's ski runs streak



KODACHROME © NATIONAL GEOGRAPHIC SOCIETY

the forested slope at left; Echo Lake adorns Franconia Notch. Vermont lies on the horizon



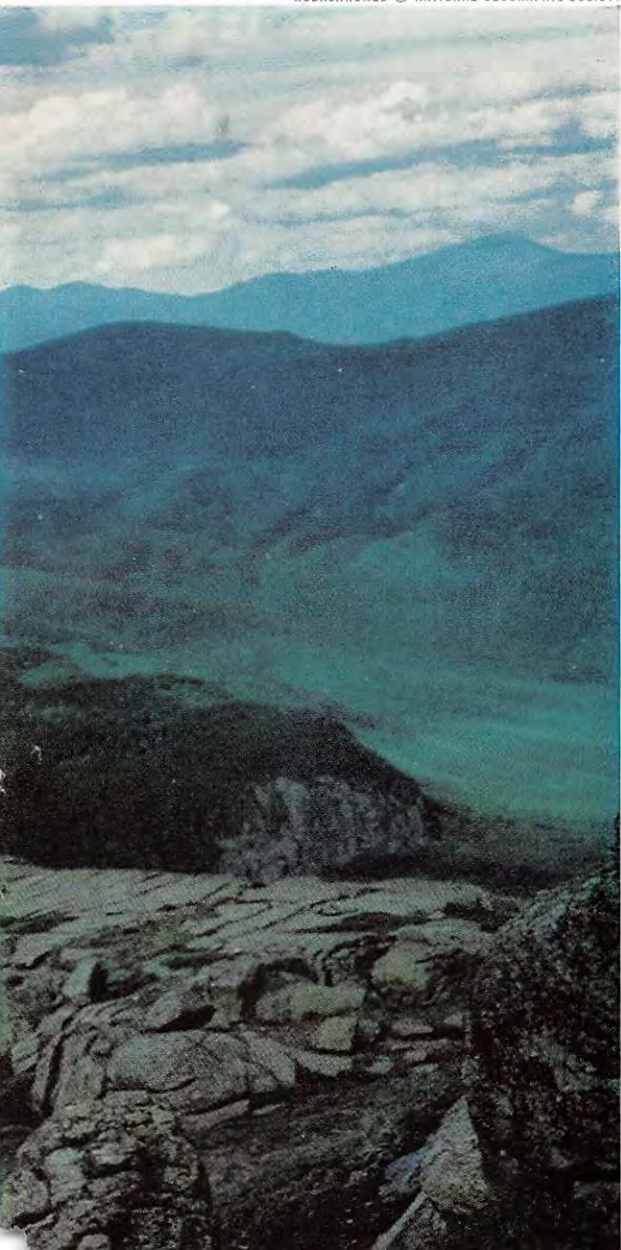
**Hearty breakfast** prepares Justice Douglas and his friends for a muscle-stretching day. George Hamilton and Mrs. Joseph Casey of Washington, D. C., flank the author.

### Hikers Alone in a Granite Immensity Trudge Across New England's Roof

"New Hampshire mountains curl up in a coil," wrote poet Robert Frost. This view from Franconia Ridge pictures his words.

At the center of the coil lies Mount Garfield (foreground); the Twin Mountain Range swings behind and around it. On the outer arc stand the Presidential peaks, culminating in Mount Washington (far right).

KODACHROMES © NATIONAL GEOGRAPHIC SOCIETY



feet above the highway. Last year lobster-pot buoys appeared incongruously in one of the Lakes of the Clouds (page 228).

"Another time," George recalled, "the Lakes crew slipped out in the middle of the night, hiked more than seven miles in the dark, and swapped places with the Madison boys. Sleepy breakfasters at both huts had a hard time figuring *that* one out."

But goofers have proved their resourcefulness, too. One couple turned up just in time for dinner at a hut miles from civilization, impeccably attired in evening clothes, down to patent-leather pumps and spiked heels (the result, it developed, of a quick change in the near-by brush).

Doug Kirkwood, who had served at Madison for four summers, went on to praise the spirit of most hikers who stop there to spend the night in rough, unheated bunkrooms and eat the plain, hearty fare.

He spoke of the new hutmen, and their need to get into condition quickly to pack heavy loads. He spoke with pride of their achievements in packing, in learning to accommodate themselves to all kinds of people, in developing the varied skills a hut job requires. As he talked, I caught from him the spirit of these men who work hard for small wages because they love the mountains and the outdoor life.

#### "Helicopters? Not on Your Life!"

Our talk finally turned to the future of the huts. Someone had mentioned to me on this trip that with helicopters the drudgery of backpacking would be eliminated.

"What would you think of that?" I asked.

Doug Kirkwood shook his head. "Helicopters? Not on your life!" he replied. "Then the romance would go out of the huts. Backpacking brings a sense of achievement."

I knew what he meant. Now it is the hutman versus the mountain. The man who carries a hundred pounds on his back as he climbs 3,600 feet has a feeling of fulfillment that makes even sweat and toil a joy. And often he rates the experience as the brightest in his life.

By the same token, the weary hiker who stays the night, dines heartily, makes small botanical, geological, or ornithological discoveries in the surrounding country, sees the sun set over distant ridges, and shares in the conviviality of an evening with the hutmen, feels somehow compelled to revisit the huts over and over again.

As I do.