



ROCKY MOUNTAIN HIGHLIGHTS

September, 1987

Visitor's guide for what to see and do in
Rocky Mountain National Park

Constitution Bicentennial Honored

by Glen Kaye
Chief Park Naturalist

Some call The Constitution the legal glue that holds America together. And for good reason all of America is recognizing its Bicentennial in 1987. This celebration is of special significance to the National Park Service, for many of the sites associated with the Constitution are now preserved as Federal historical areas, sites such as the John Adams House and Independence Hall, where Americans can learn how our governmental order came to pass. But this is not merely a study in ancient history. The lessons of the Constitution's creation are important in that they reveal how we determine the extent of governmental involvement in our lives.

It was early in his administration that President Washington asked Alexander Hamilton and Thomas Jefferson to prepare position papers on the constitutionality of a national bank. And the diametrically opposed views that resulted shaped today's debates on broad versus strict construction — what the Federal government should do and what it should not do.

Hamilton responded to Washington by writing:

"... every power vested in a government is in its nature sovereign, and includes by force the term a right to employ all the means requisite and fairly applicable to the attainment of the ends of such power, and which

are not precluded by restrictions and exceptions specified in the Constitution, or not immoral, or not contrary to the essential lends of political society ..."

In effect, said Hamilton, unless the Constitution says you can't do it, you can.

Contrariwise, Jefferson expressed his strict interpretation of the Constitution:

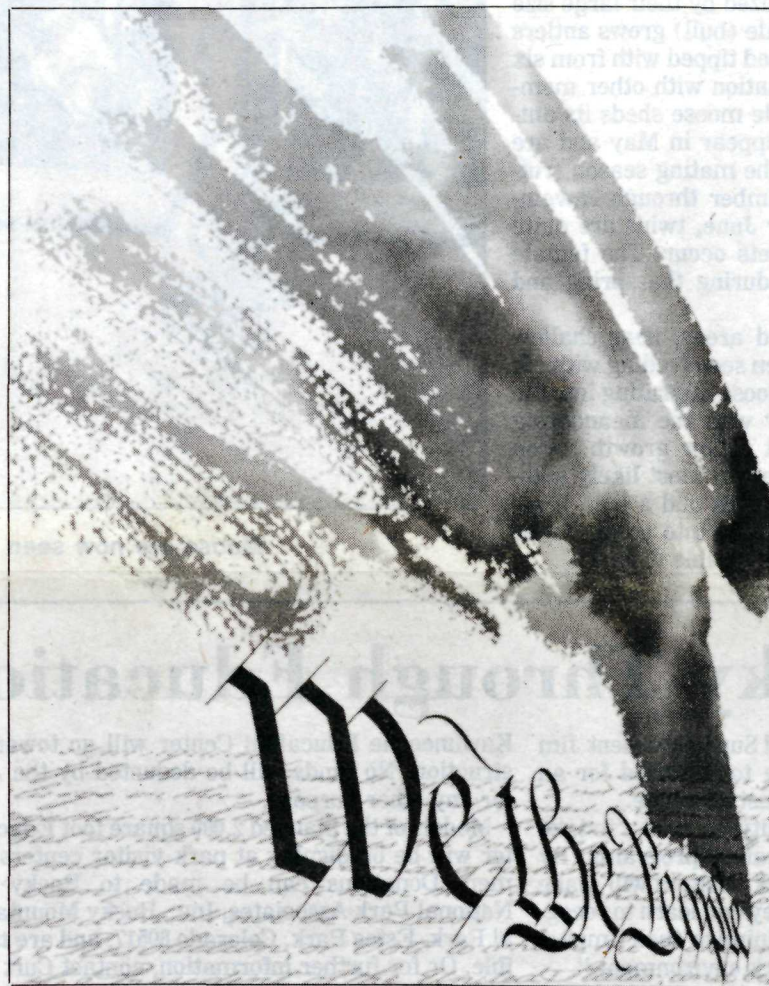
"I consider the foundation of the Constitution as laid on this ground — that all powers not delegated to the United States, by the Constitution, nor prohibited by it to the states, are reserved to the states, or to the people. To take a single step beyond the boundaries thus specially drawn around the powers of Congress, is to take possession of a boundless field of power, no longer susceptible of any definition."

In other words, says Jefferson, the Federal government can only do what the Constitution specifically says it can do.

This issue, strict vs. broad construction, has provocative implications for parks and other Federal land-managing agencies. For example: Under what constitutional authority were parks created? Under what authority are they managed?

Take a look at the Constitution. In Article IV there is a phrase of considerable vagueness that reads:

"The Congress shall have Power to dispose of and make all needful Rules and Regulations respecting the Terriorty or other



Property belonging to the United States."

In effect, this seemingly insignificant phrase can be interpreted as an umbrella statement under which land management by the Federal government is interpreted as "constitutional."

The point is interesting, but so

what?

The "so what" for all of us is in a deeper consideration of the word "needful." Needful to whom? Needful to Congress. But how does Congress determine what is needful? It does so based on the information and value systems at hand. Basic research

provides information that can re-define what is needful. So can the insights of citizens who provide new views of the world. A Henry Thoreau, a John Muir, an Enos Mills, an ordinary citizen has the potential to shape Congress' perception of what is needful.

Suddenly, present day issues can be seen in the light of constitutional authority. The realization comes to use that the Constitution, the mighty, sovereign Constitution, is unfinished. The issues of historic preservation, of acid rain, of biological reserves, for example, are constitutional issues that Congress is wrestling with now, in an effort to determine what is "needful." New policies will evolve, perhaps new amendments will come.

Thus a dialogue about the Constitution in 1987 is not irrelevant history. It is about present day civics and citizen responsibility. Contrary to Gibbons, empires don't fall — they crumble — piece by piece by piece. They crumble when there is an abuse of powers and an indifferent or readily-swayed populace. Democracy, as one cynic observed, is government by default — it is left to those who are involved.

A Constitution Bicentennial, is therefore of immense value. It can reveal why we are what we are, but most important, it can encourage citizens to relearn and use the responsibility that is rightfully theirs — as specified in those first three words of the Constitution, "We the people."

Welcome to Rocky Mountain National Park

by James B. Thompson, Superintendent

Again this year, Rocky Mountain National Park will become the "pleasuring ground" for nearly two million summer visitors. Visitors will come from every state and many foreign countries to experience the magnificence that is the essence of this great National Park, as expressed by the scenery, the wildlife and the recreational opportunities to be enjoyed here.

Each summer the park staff quadruples in number to provide the best possible visitor services, while at the same time working to protect the valuable resources that are Rocky. At the beginning of each summer the park staff rededicates itself to the ideals that visitors to National Parks have come to expect. Besides the highly visible uniformed staff, there are many equally dedicated men and women working behind the scenes to make Rocky the best it can be for today and for the future.

This year our country is celebrating the bicentennial anniversary of our Constitution. Rocky Mountain National Park will participate in this celebration, because the Constitution gives basic direction to how we live and how our government is to function. More important, the Constitution provides the way and means for all of us to

actively participate in the governing process. We have a right, indeed an obligation, to make our opinions known to those who represent us in government. Let us rejoice that our Constitution has stood firm for 200 years.

Recently, as part of the governing process, the first major changes were made in the fee system at the national parks since 1972. Virtually every commodity in our lives has increased in cost in recent year; now the cost of visiting your national parks has also increased. A one time visit (meaning up to seven days) is now \$5 per car. A park annual pass is \$15.00. A Golden Eagle Passport good for all Federal fee areas in the country during 1987 is \$25. Individuals arriving by foot, bike or bus pay \$2 each.

A significant change in the fee system this year is that some of the money collected as fees will be returned to the park earmarked for research, resource management and interpretation enhancement. Therefore, this year you will begin to see more park improvements and services as a direct result of the park fees you pay.

This year I encourage each of you to take pride in America and in your national parks. And above all, have a safe and enjoyable visit to Rocky Mountain National Park.

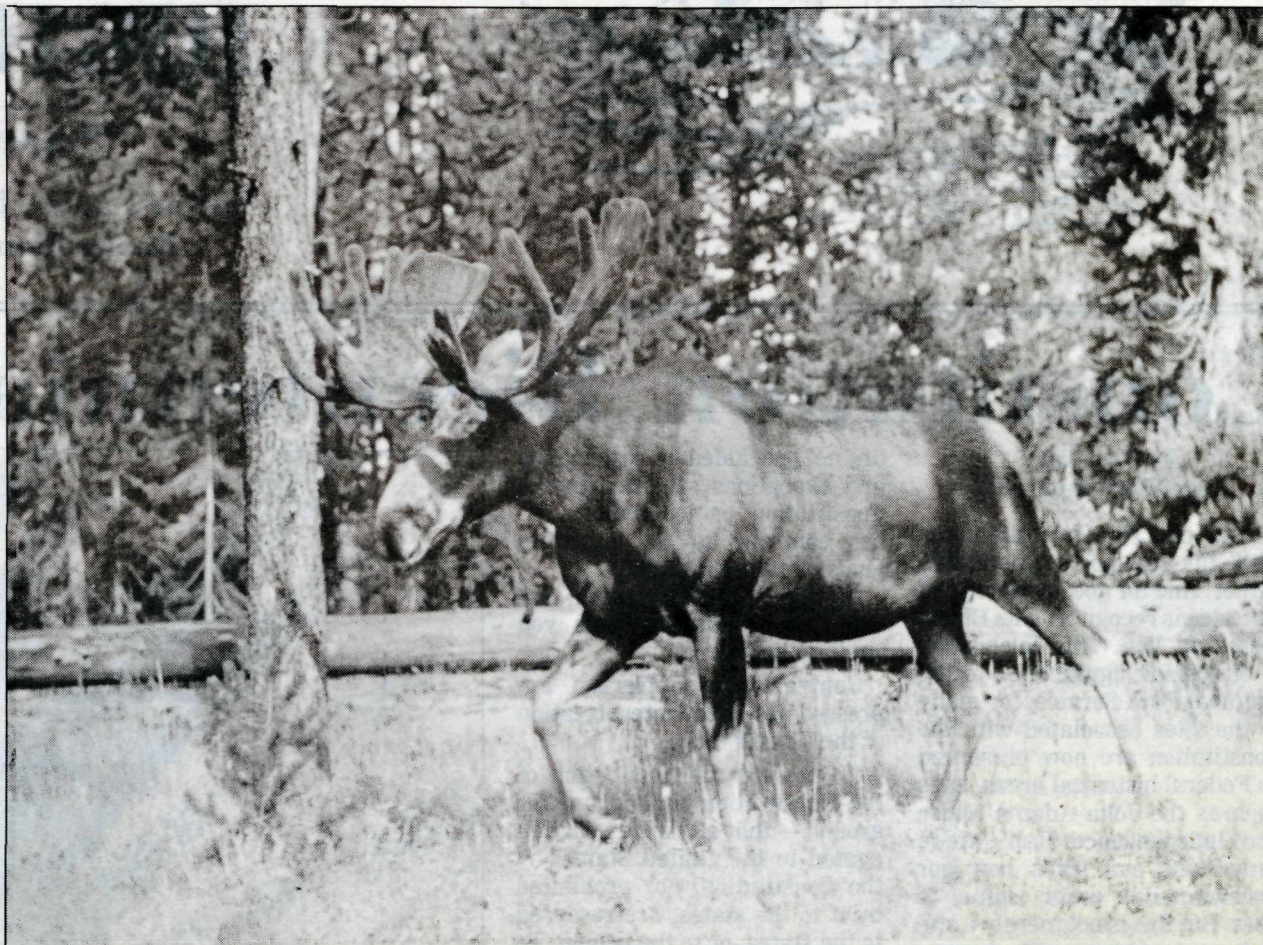
The Park's Largest Animal!

by Jim Capps

Sightings of moose in Colorado were first recorded by early settlers and moose soon disappeared from the scene because of interference by man. In 1978 moose were reintroduced in the Willow Creek district of North-Central Colorado, an area adjacent to Rocky Mountain National Park. These mammals gradually extended their boundaries. At first only a few sightings of moose were noted on the West side of the park, but numerous sightings have been recorded during the last five years. The moose, a browsing animal, feeds on a variety of plants and shrubs. Conditions on the West side of the park are ideal for moose. Abundant willow, aspen, spruce and fir, as well as low marshy meadows, form a habitat attractive to the park's largest mammal.

Adult moose are easily recognized by their large size and purplish-gray color. The male (bull) grows antlers which are enormous, flattened and tipped with from six to 12 short points. As is the situation with other members of the deer family, the male moose sheds its antlers each spring. New antlers appear in May and are covered by a soft velvet skin. The mating season (rutting season) is generally September through November. Calves are born in May or June, twins are quite common and occasionally triplets occur. The female (cow) travels with the calves during the spring and summer.

Moose live mainly in forested areas, near shallow lakes and streams. They are often seen feeding with elk and cattle. A favorite area for moose migrating into the park is the Kawuneeche Valley with the meandering Colorado River and substantial willow growth. Upon encountering humans the moose will most likely withdraw. A cow may defend her calves and a bull, if seriously bothered, may chase people into trees. To be safe, view these animals at a reasonable distance.



Moose are now seen in Rocky Mountain National Park year around.

Help Rocky Through Education

"We need assistance," announced Superintendent Jim Thompson in early May, referring to the need for an education center near the park's west entrance.

Visitors should have the opportunity, he said, "to take advantage of natural history education programs. By becoming better oriented to the park, visitors will make more effective use of their time. They can learn to recognize hazards and learn how to minimize their impact upon the fragile, high-mountain park environment."

Some 500,000 visitors enter Rocky Mountain National Park each year through the west entrance. Currently, the Kawuneeche Visitor Center near there is inadequate, serving primarily as an administrative office. Although an educational facility was originally planned for that site in 1966, it has never been constructed due to lack of funds.

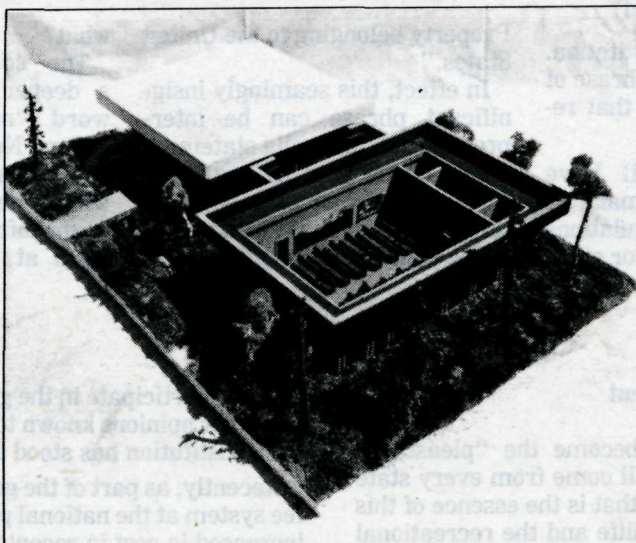
"The effort must be made in the private sector," the Superintendent suggested, "if park visitors are ever to have an adequate educational facility to serve them."

What is needed is an education center, located adjacent to the existing National Park Service offices. Such a center will contain exhibit space and an auditorium where park naturalists can present talks and where films and videos can be shown.

Helping Rocky Mountain National Park obtain this facility is the Rocky Mountain National Park Associates, Inc., a non-profit association dedicated to assisting the park with capital improvement projects and land preservation efforts. Its Executive Director, Curt Buchholtz, advised that 100% of any funds donated toward the

Kawuneeche Education Center will go toward its construction. No funds will be deducted by the Associates for any other purpose.

Models of the planned 2,000 square foot Education Center will be on display at park visitor centers this summer. Donations can be made to Rocky Mountain National Park Associates, Inc., Rocky Mountain National Park, Estes Park, Colorado 80517, and are tax deductible. Or for further information, contact Curt Buchholtz at Park Headquarters, (303) 586-2371, extension 294.



Yes, I'd like to help build the Kawuneeche Education Center.

Enclosed is my donation for \$ _____.

**Send to: Curt Buchholtz, Executive Director
Rocky Mountain National Park Associates, Inc.
Rocky Mountain National Park
Estes Park, CO 80517**

Recreation Fees Increased

by Christy Metz

In 1987, entrance fees increased in 27 national park areas in the Rocky Mountain region. Not since 1972 has there been an increase in recreation fees at America's Parklands.

Congress authorized the increased fees effective February 1, 1987. Along with increased fees, Congress also authorized that some of the revenues collected be returned to the parks to help support research, resource management and interpretation activities. Previously, monies from entrance fees and camping fees were deposited in the Land and Water Conservation Fund with no direct benefit to park operations.

The new entrance fees at Rocky Mountain National Park are as follows:

Weekly permits for vehicles are now \$5.

Rocky Mountain National Park Annual Passes (park specific passes are new this year) are \$15 and valid through December 31, 1987.

Golden Eagle Passports are good at all the national parks where fees are charged, and they are now \$25 for the calendar year.

Bus passengers, bicyclists and pedestrians will be charged \$2 for a weekly permit.

Other "Golden" passports are issued FREE to visitors over age 62 and to visitors who are permanently disabled.

All campgrounds in the park charge \$6 per night when water is available, with the following exception ... fees in Moraine Park and Glacier Basin Campgrounds will be \$8 per night during the reservation period, June 25 through August 15, this year.

The Ouzel Lake Fire — Nine Years Later

On August 9, 1978, lightning ignited a small forest fire in the Wild Basin area of Rocky Mountain National Park. Since this fire was within the zone for natural fires set forth in the Resources Management Plan, it was allowed to burn. For about two weeks it smoldered and burned slowly through a mature spruce-fir forest. However, after several smaller flare-ups, on September 16 the nature of the fire changed. As a result of severe winds, the fire expanded to almost 1,100 acres and became the largest fire in recent history of the park.

When finally extinguished, the Ouzel Lake fire had burned a swath from the alpine tundra on Mahana Peak to within a half-mile of the park boundary near Alenspark. An area about five miles long and one-half mile wide was blackened.

Within this area were several different vegetation types typical of the park. Old mature stands of Englemann spruce and subalpine fir with trees over 400 years old were burned that probably had not seen fire since the glaciers. There were stands of nature lodgepole pine, old decadent trees about 200 years old being replaced by young spruce and fir, and younger stands of lodgepole less than 100 years of age.

Intermixed with the major forests were wet meadows, aspen groves, moist streamside vegetation and on the rocky ridges, limber pine stand.

During the summer of 1979 a study was initiated to monitor the recovery of the vegetation. We wanted to know what plants were coming in, the successional patterns, and how long it took to redevelop a viable ecosystem. Other aspects of the burn development, including changes in the wildlife populations, were also to be monitored.

In order to make these determinations, it was necessary to set up 12 permanently marked plots. The sites were chosen according to their location in the burn, topography, original vegetation and severity of the fire in order to sample as many different conditions as possible. In 1979 when the plots were established, only three species of vascular plants were found in two plots. Mosses, lichens and fungi were also present. In 1982, twenty-four species were located; 1984, thirty-

six; and last year in 1986 the number had climbed to forty-seven.

The most common plant on the transects was fireweed. In 1986 fireweed averaged 19 percent cover and appeared on all 12 plots. This was, however, a decrease from the high of 25 percent in 1984. This decline is indicative of the maturing vegetation since fireweed is an early invader species.

The next two most common species are more persistent and more common in the climax forests. Low huckleberry had 3 percent cover in 1980; 6 percent in 1982; 9 percent in 1984, and was up to 12 percent in 1986. Elk sedge, also very common in spruce-fir forests, increased from about .5 percent in 1980 to 2 percent in 1984; 8 percent in 1985 and up to 11 percent in 1986. The most common grass, Canadian reedgrass, was found in the moist sites. It did not appear on the plots until 1982 and had increased to 6 percent in 1986.

Although the average cover is still fairly low, the vegetation is progressing. Some plots show exceptional flower displays when fireweed, arnica, golden banner and others are in bloom. The most moist sites are developing best, while the windblown ridges on the east end of the burn and the Ouzel ridge show extremely slow development. Some of these sites experienced fairly severe erosion in the first few years that depleted the top soil.

The trees and shrubs are also coming back but at a much slower pace. The most common shrub has been red raspberry that jumped from 21 plants per acre in 1982, to 500 in 1984, and 1,000 in 1986.

As would be expected, two early successional tree species are doing the best. Lodgepole pine had 17 seedlings per acre on the plots in 1980. By 1982 they had increased to 22, and this past summer there were 56 trees per acres. Aspen increased both as resprouts and seedlings from 7 in 1980 to 40 in 1986.

Wildlife is common in the burned area now. Last July the birds observed were the mountain bluebird, Townsend's solitaire, grey-headed junco, northern-3-toed woodpecker, Audubon's warbler and the broad-tailed hummingbird. Two deer were observed feeding in the burned area, and elk sign is very common



throughout.

Although the burned area of the Ouzel Lake fire may still be considered ugly to some, the pure beauty of it is now becoming apparent, as well as the interesting ecological succession. The trees sculptured by the fire and cleaned by wind

erosion are exquisite. Scenic vistas, never before appreciated as you walked through the climax forest, are opened up with breathtaking views.

A hike through the Ouzel Lake fire burned area is well worth your time—you may be surprised.

Free Bear Lake Shuttle Bus Service

A FREE shuttle bus service provides alternative transportation to ease congestion problems at parking areas at Bear Lake and along Bear Lake Road.

A major parking area is near Glacier Basin Campground, and bus stops are located at Bierstadt Lake Trailhead, Glacier Gorge Junction and Bear Lake. "Bus Stop" signs mark each stop.

The Bear Lake Shuttle Bus system will begin operation on June 24 and will operate on two different time schedules through September 27.

SCHEDULE A:

8:00 a.m.-9:30 a.m. — The shuttle leaves every 30 minutes from the Glacier Basin parking area.

9:30 a.m.-12:30 p.m. — The shuttle leaves every 12 minutes from Glacier Basin parking area.

12:45 p.m.-5:30 p.m. — The shuttle leaves every 15 minutes from the Glacier Basin parking area.

The LAST shuttle leaves Bear Lake at 6:00 p.m. for the Glacier Basin parking area.

SCHEDULE B:

9:30 a.m.-5:30 p.m. — The shuttle leaves every 30 minutes from the Glacier Basin parking area.

The LAST shuttle leaves Bear Lake at 6:00 p.m. for the Glacier Basin parking area.

DATES AND SCHEDULES:

June 24-Aug. 16

Aug. 17-21

Aug. 22, 23

Aug. 24-28

Aug. 29, 30

Aug. 31-Sept. 4

Sept. 5-7

Sept. 12-13

Sept. 19-20

Sept. 26-27

— No shuttle service on dates not shown —

Schedule A

Schedule B

Schedule A

Schedule B

Schedule A

Schedule B

Schedule A

Schedule B

Schedule B

Schedule B

MORAINE PARK CAMPGROUND-GLACIER BASIN LOOP

June 24 through August 16 only (intermediate stops at Moraine Park Museum and Hollowell Park picnic area)

Leaves Moraine Park

7:30 a.m.

8:30 a.m.

9:30 a.m.

10:30 a.m.

11:30 a.m.

12:30 a.m.

Break

2:00 p.m.

3:00 p.m.

4:00 p.m.

5:00 p.m.

Arrives Glacier Basin

7:55 a.m. and returns

8:55 a.m. and returns

9:55 a.m. and returns

10:55 a.m. and returns

11:55 a.m. and returns

12:55 a.m. and returns

Break

2:25 p.m. and returns

3:25 p.m. and returns

4:25 p.m. and returns

5:25 p.m. and returns

REMEMBER, the LAST bus leaves the Glacier Basin Shuttle Bus parking area to return to Moraine Park campground at 5:30 p.m.

By taking a few minutes to plan how you can best use the FREE shuttle bus system, you can park your car and enjoy vacation more.

Naturalist Activities Schedule

Eastside — Estes Park

INFORMATION STATIONS

National Park Headquarters	8 a.m.-9 p.m. (Sept. 1-19)
	8 a.m. — 5 p.m. (Sept. 20-30)
Moraine Park Visitor Center	9 a.m.-5 p.m. (Sept. 1-27)
Alpine Visitor Center	9 a.m.-5 p.m. (Sept. 1-20)

Illustrated Evening Programs

Headquarters Auditorium	7:30 p.m. nightly (Sept. 1-26)
Moraine Park Campground Amphitheater	8:30 p.m. (Sept. 1-5 only)
Glacier Basin Campground Amphitheater	8:30 p.m. (Sept. 1-5 only)
Aspenglen Campground Amphitheater	8:30 p.m. Wed., Fri., Sat. nights (Sept. 1-5 only)

Be sure to get a copy of the weekly additions and titles of evening programs available at the visitor centers and campgrounds.

Ranger-Guided Things To Do



The following activities will be conducted by Ranger-Naturalists for the period September 1-September 30. See the Description of Activities for information about each activity.

SUNDAYS

9:30 a.m.	Tundra Trek (except 9/27)
10:30 a.m.	Bighorn! (9/6 only)
1:30 p.m.	Wapiti Walk
2:30 p.m.	Alpine Aspects (except 9/27)

MONDAYS

10:30 a.m.	Bighorn! (9/7 only)
10:30 a.m.	Meet the Mammals
1:30 p.m.	Autumn in the Rockies
2:30 p.m.	Alpine Aspects (except 9/21 and 9/28)

TUESDAYS

8:30 a.m.	Half-day Hike
10:30 a.m.	Big Horn! (9/1 only)
1:30 p.m.	Wapiti Walk
2:30 p.m.	Puppets on the Pass (9/1 only)
2:30 p.m.	Alpine Aspects (9/8 and 9/15 only)
3:00 p.m.	Flood of '82 (except 9/29)

WEDNESDAYS

7:30 a.m.	Coffee with a Ranger (except 9/30)
8:30 a.m.	Half-day Hike
10:30 a.m.	Bighorn! (9/2 only)
10:30 a.m.	Tundra Nature Walk (except 9/23 and 9/30)
10:30 a.m.	Meet The Mammals
1:30 p.m.	Discovery Walk
2:30 p.m.	Alpine Aspects (except 9/23 and 9/30)

THURSDAYS

10:30 a.m.	Bighorn! (9/3 only)
10:30 a.m.	Autumn in the Rockies
1:30 p.m.	Mountains and Glaciers
2:30 p.m.	Alpine Aspects (except 9/24)

FRIDAYS

10:30 a.m.	Bighorn! (9/4 only)
10:30 a.m.	Shoreline Stroll
1:30 p.m.	Wapiti Walk
2:30 p.m.	Alpine Aspects (except 9/25)

SATURDAYS

9:30 a.m.	Tundra Trek (except 9/26)
10:30 a.m.	Bighorn! (9/5 only)
10:30 a.m.	Discovery Walk
1:30 p.m.	Autumn in the Rockies
2:30 p.m.	Puppets on the Pass (9/5 only)
2:30 p.m.	Alpine Aspects (9/12 and 9/19 only)
3:00 p.m.	Islands in Time (except 9/26)

Description of Ranger-Guided Activities

Children under 16 years of age must be accompanied by an adult who will be responsible for their conduct and safety.

When fewer than five are in attendance, an activity may be cancelled.

Description of Activities

ALPINE ASPECTS. This 15-20 minute talk will help you discover the many fascinating aspects of the alpine tundra — the miniature wildflower gardens and the furry and feathered creatures who survive in the land above the trees. Meet at the Alpine Visitor Center.

AUTUMN IN THE ROCKIES. Enjoy a stroll through aspen stands and rolling meadows, discovering how animals and plants use this beautiful season to prepare for winter. Meet at the Cub Lake trailhead along Moraine Park Road for this 1½ hour walk.

BIGHORN! Where are all the sheep? When can I see them? If you would like to know more about this majestic resident of the Rocky Mountain high country, join the naturalist for this 20-30 minute talk. Meet at the Information Station at Sheep Lakes.

COFFEE WITH A RANGER: Wake up to a steaming hot cup of coffee and chat with a ranger around a campfire. Hot beverages will be provided. Bring your own mug and any questions you may have concerning Rocky Mountain National Park. Meet at the Aspenglen Campground Amphitheater.

DISCOVERY WALK. Bring your curiosity and any questions you might have about the park to this 1½ hour exploration. Meet at Hollowell Park Picnic Area along Bear Lake Road.

FLOOD OF '82. Discover the incredible force of water during this hour-long exploration of the Roaring River flood area. Meet at the first (east) parking lot at the alluvial fan in the flood area.

HALF-DAY HIKE. An approximate 5-mile round trip hike to various areas of the park. Wear good hiking shoes. Bring water and raingear. Meeting place and destination will be announced at visitor centers and campgrounds.

ISLANDS IN TIME. National Parks have long been sources of inspiration for artists, nature writers, and those of us who simply need to get away. Heighten your awareness and perception of the natural world through one of these activities — sketching, writing, photography or meditation. Topics will be announced at visitor centers and campgrounds. Meet at the Endovalley Picnic Area at the east end of the loop.

MEET THE MAMMALS. A 1½-hour walk to learn about the many furry creatures who live in this area. Meet at Moraine Park Museum and caravan to the discovery site.

MOUNTAINS AND GLACIERS. How did these mountains get here? What rocks comprise them? What forces have shaped them? Increase your appreciation of the mountains as you learn their geologic story. Meet at the Moraine Park Museum.

PUPPETS ON THE PASS. Let the animals themselves tell you the story of life on the tundra. Meet at the Alpine Visitor Center for this delightful 20-minute puppet show.

SHORELINE STROLL. Participate in life on the edge! This short distance walk studies plants and animals around the lakeshore. About 1½ hours. Meet at Sprague Lake Picnic Area on Bear Lake Road.

TUNDRA NATURE WALK. Exhilarate your senses with sweeping alpine views and miniature wildflower gardens unique to the land above the trees. Join a naturalist for this 1½-hour walk over the gentle tundra slopes. Meet at the Alpine Visitor Center.

TUNDRA TREK. A more rigorous 3-hour hike to a special tundra niche is offered for those who can't get enough of the high country. Expect more wind and less air for this naturalist-guided trek at 11,500 feet. Meet at the Alpine Visitor Center.

WAPITI WALK. Ruts, racks and other things related to the American elk will be discussed during this 1½ hour walk through one of the park's prime elk habitats. Do not expect to see elk. Meet at Moraine Park Museum and be prepared to caravan.

HIKING ON YOUR OWN

(Eastside)

EUGENIA MINE WALK

Begin walking at the Longs Peak Ranger Station. Walk along the Longs Peak Trail a short distance, take the trail to the right at the first junction, and go about two miles to the mine site. See if you can tell what was mined there. Was it a successful venture? Return by walking back along the same trail. An easy round trip of about four miles.

GEM LAKE TRAIL

A different mountain hike through eroded granite and gnarled ponderosa pine with many spectacular views of the Front Range. For this leisurely walk of 4 miles round trip, begin at the Twin Owls parking lot on Devil's Gulch Road, just 2 miles north of Estes Park.

LAWN LAKE TRAIL

See how the force of water drastically affected this drainage during the flood of 1982. The Lawn Lake Trail begins at an altitude of 8,200 feet and climbs to 10,789 feet, an elevation gain of 2,589 feet. After hiking 6.4 miles you will see the remains of the Lawn Lake dam. Appreciate the process of geologic change during this 13 mile round trip hike. Begin at the Lawn Lake Trailhead in Horseshoe Park.

LONGS PEAK TRAIL

This strenuous, 14 mile trail leads to the summit of one of America's great peaks. Elevation gain is from 9,350 feet to 14,255 feet. Because of afternoon and evening thunderstorms, you should plan to be on the summit by noon or earlier. Round trip hiking time is usually 10 to 14 hours, and hikers commonly start by 5 a.m. or earlier. Weather conditions on Longs Peak can be severe — do not be afraid to turn back when weather threatens or conditions get hazardous. More detailed information about Longs Peak can be obtained at the Longs Peak Ranger Station or at the Park Headquarters Visitor Center and Backcountry Office.

SPRAGUE LAKE WALK

Ideal for wheelchaired visitors, this is a level walk of about one-half mile around part or all of Sprague Lake, elevation 8,710 feet. Enjoy this walk by using and testing all your senses — smell, touch, see, hear and taste, if appropriate. The trail starts on the left (east) of the parking lot.

TUNDRA WORLD TRAILS

Short trails lead from both the Forest Canyon Overlook Parking Area and from the Rocky Cut Parking Area for short walks into the Tundra World. Elevations range from 11,600 to 12,310 feet. Please stay on the trails to help the trailside plants survive.

WILD BASIN

A wild corner of the park, with scenic glaciated valleys, streams and waterfalls. Hiking distances of up to 16 miles round trip on trail of a wide range of difficulty from easy to strenuous. Elevations from 8,470 to 11,000 feet are reached. Some portions of the trails pass through the 1978 burned area of the Ouzel Fire and provide an interesting study of post-fire succession. The Ouzel Fire burned 1,050 acres, and it is the largest fire on record in the park.

Naturalist Activities Schedule

Westside — Grand Lake

INFORMATION STATION

Kawuneeche Visitor Center

8 a.m. to 5 p.m. Daily

Map & Book Sales — Backcountry Permits

Illustrated Evening Programs — 8:30 p.m.

Evening programs will be presented on some nights from September 1st through September 12th at Timber Creek Campground Amphitheater. Check the newspaper insert or inquire at visitor centers for a schedule of programs. Program titles will be posted at Kawuneeche (West Side) Visitor Center and at Timber Creek Campground.

Ranger-Guided Things To Do



The following activities will be conducted by Naturalists from September 1st through September 19. An insert in this paper will have activities and other information not provided here. See the Description of Activities for information about each activity.

SUNDAYS

No Scheduled Activities

MONDAYS

10:00 a.m. Onahu Creek: A Web of Life

2:00 p.m. Cross Country to Chickaree Lake

TUESDAYS

10:00 a.m. Shipler Cabins — Walk Through Time

2:00 p.m. Waterfalls and Wildflowers

7:00 p.m. Beaver Night Hike

WEDNESDAYS

No Scheduled Activities

THURSDAYS

No Scheduled Activities

FRIDAYS

10:00 a.m. Onahu Creek: A Web of Life

2:00 p.m. Shipler Cabins — Walk Through Time

SATURDAYS

10:00 p.m. Waterfalls and Wildflowers

2:00 p.m. The Colorado: Life Along the River

Descriptions of Activities

The following activities will be conducted by Naturalists. The schedule of RANGER-GUIDED THINGS TO DO lists the dates and times of the activities. An insert in this paper will provide additional information. Good walking shoes are recommended and you may want a raincoat, water and a snack.

BEAVER NIGHT HIKE: Explore the fascinating world of nature's engineers in a natural setting. Bring warm clothes and a flashlight. Onahu Creek Trailhead. 2 hours, 1 mile.

THE COLORADO: LIFE ALONG THE RIVER: A mighty river begins as a small stream in the Rockies. The surrounding valley has a wide variety of plants and animals. Colorado River Trailhead (This is labeled as the Lulu City Trailhead on some park maps.) 2 hours, 1½ miles.

CROSS-COUNTRY TO CHICKAREE LAKE: This seldom seen lake can only be reached by hiking 1½ miles on the trails and up to 2½ miles cross-country through timber depending on the route the ranger selects. Onahu Creek Trailhead. 3-4 hours, 4 miles.

ONAHU CREEK: A WEB OF LIFE: The plants and animals of the Rockies produce unique environ-

ments. Signs of deer, elk, moose, birds and beaver can be found in the forests and meadows the Creek. Onahu Creek Trailhead. 2 hours, ½ mile.

SHIPLER CABINS — WALK THROUGH TIME: Prospectors, trappers and nature have changed this valley and nature is reclaiming it. Bighorn sheep, deer and beaver are sometimes seen. Colorado River Trailhead. (This is labeled at the Lulu City Trailhead on some park maps.) Bring a lunch. 3-4 hours, 4 miles.

WATERFALLS AND WILDFLOWERS: A glacier carved this valley. The stream left behind drops over one of the most beautiful falls in the park. East Inlet Trailhead at the end of the Tunnel Road, east of Grand Lake. 2 hours, 1½ mile.

Visit the Never Summer Ranch



OPEN DAILY: 9:00 a.m. to 4:00 p.m.

The ranch will be closed for the season after September 7.

A dude ranch of the 1920's is fun to explore. Find out what life was like when Rocky Mountain National Park was first established. Tools and other artifacts of daily life and ranch operations of the era are on display. Walk over from Timber Creek Campground or park at the Never Summer Ranch parking area. 4 miles south of Timber Creek Campground.

HIKING ON YOUR OWN

(Westside)

ADAMS FALLS

A ½ mile hike to a delightful waterfall. Hiking on for another mile, you will come to a large glaciated valley. An easy to moderately difficult hike of about 2 hours duration. Start from the end of the Tunnel Road east of Grand Lake.

LULU CITY

Traces of log cabins are all that remain of a once booming

mining town. Distance is 6¼ miles round trip. Elevation is 9,300 feet. The hike is easy to moderate in difficulty. Start from the Colorado River Trailhead.

LULU CITY — LITTLE YELLOWSTONE LOOP

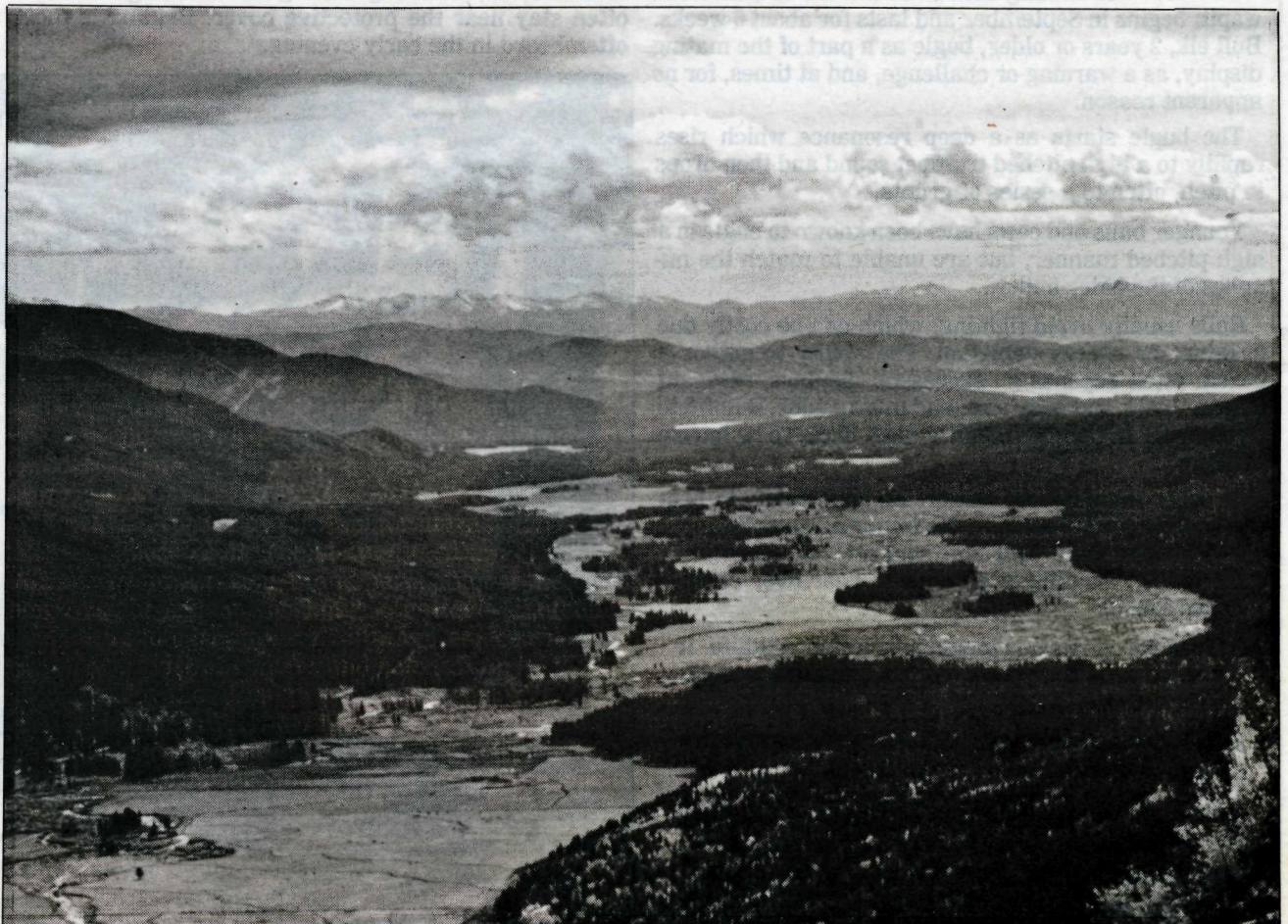
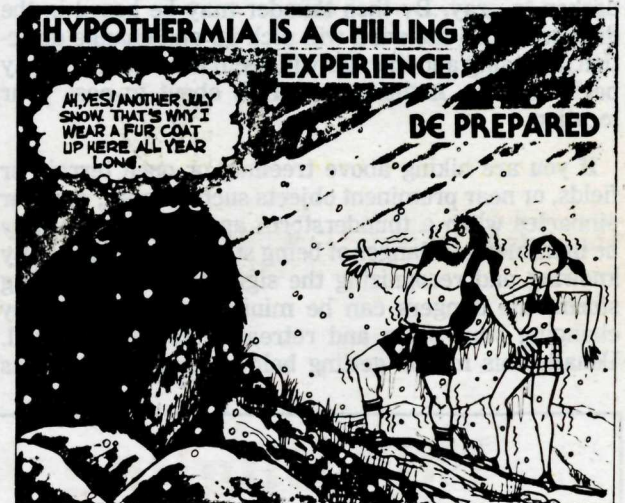
Hike up the Colorado River to the Lulu City ghost town site. Then travel up the old stage road to the Grand River Ditch which was built in 1894. Hike along the ditch and then down through a miniature version of the Grand Canyon of the Yellowstone and back to the trailhead from which you started. A moderate to strenuous hike 13 miles in length. Start from the Colorado River Trailhead. Allow at least 6 hours hiking time.

ONAHU CREEK-GREEN MOUNTAIN LOOP

Walk in prime moose and elk forage, through marshy meadow, lodgepole pine, quaking aspen, subalpine fir, and Engelmann spruce forests. Explore the cabin ruins of an early settler. A moderate to moderately difficult hike of 7 miles. Allow at least 3-4 hours. Start from the Onahu Trailhead, 3.7 miles North of the Kawuneeche Visitor Center.

SHADOW MOUNTAIN LOOKOUT TRAIL

Visit an early day fire lookout near the summit of Shadow Mountain. View the lakes below. A moderate to moderately difficult 9.6 mile round trip hike. Start from the East Shore Trailhead located East of the Shadow Mountain Dam. Allow a minimum of 4-5 hours.



Kawuneeche Valley is the heartland of Rocky's west side.

Lightning Is Frightening

By Skip Betts, Park Naturalist

On any given day in the Rockies, the weather forecast might be "sunny and warm with a chance for afternoon and evening thunderstorms." Thunderstorms are frequently a part of mountain weather patterns, and lightning is associated with them.

Thunderstorms usually originate over the mountains; and in the high altitude, with its open expanses, lightning is often especially severe. Therefore, it becomes imperative that hikers and climbers know the signs that indicate an oncoming thunderstorm. They also need to know what actions to take to minimize the possibility of their being struck by lightning.

Local weather forecasts will give the first indications of possible thunderstorm activity. However, it is always wise to carry rain gear when hiking in the mountains. Since most thunderstorms occur between early afternoon and dusk, plan your hiking and climbing activities so that the highest point is reached before noon and your descent begun shortly thereafter. Hikers should watch the cloud activity in their vicinity, for the clouds will indicate thunderstorm buildup.

The first sign is the appearance of small, puffy clouds with knobs or "turrets" on their tops. These will likely change to large billowy, white clouds which will soon darken to gray. By then thunder may be heard in the distance. Soon the wind will pick up and change direction, lightning and thunder will seem nearer, and it may begin to rain. A thunderstorm is about to pass your location.

If you are hiking above treeline, or open terrain or fields, or near prominent objects such as trees, rocks or pinnacles when a thunderstorm approaches, you may be in immediate danger of being struck by lightning. By knowing and recognizing the signs of an approaching storm, the dangers can be minimized or avoided by changing your plans and retreating to safer ground. Usually this means getting below treeline as soon as

possible and staying out of ravine bottoms to avoid possible flash floods. The challenge of the summit will have to wait for another day.

If you should be caught above treeline or in the open, if you feel a tingling of your skin or have a "hair standing on end" feeling, or if you hear popping or crackling of static electricity, you are in immediate danger. You should take immediate action. If you have a pack with you get on top of it, or get on small rocks, to make minimum contact with the ground; squat on your toes and finger tips with your head as low as possible; and wait for the thunderstorm to pass. If you are in a car, stay there; if you are near one, get in it. Chances are very good you will be fine.

What you should not do is get under an overhang, seek shelter under a large tree or rock, or stand in the entrance to a cave. Above all, try not to be the tallest object around your location. These are all places lightning bolts tend to seek out as paths of least resistance.

Lightning is frightening, extremely so for most people. But if you use caution, look for the signs of approaching thunderstorms, and change your plans before a thunderstorm is upon you, you can minimize the hazard.

Altitude Ills

By Judy Rosen, Park Naturalist

A "Rocky Mountain high" may include more than beautiful vistas and alpine wildflowers. It may also include high altitude sickness for the unacclimatized visitor. Symptoms include nausea, dizziness, headache, rapid heartbeat, and shortness of breath. Acclimatization is a gradual process, but the short-term visitor can minimize the effects of high altitude by limiting strenuous activity for the first few days, eating lightly, avoiding alcohol and cigarettes, and increasing fluid intake and rest.

Summer Worship Schedule

Throughout the summer months, worship services will be conducted in Glacier Basin and Moraine Park campgrounds in Rocky Mountain National Park.

These services, conducted by volunteer young people preparing for ministerial service, are sponsored by the Christian Ministry in the National Parks, an Ecumenical Association.

Services will be held in the amphitheatres at Glacier Basin and Moraine Park campgrounds at 8 and 10 a.m. and 7 p.m. each Sunday.

The last of these summer services will be held on Sept. 6, 1987.

Religious services of many denominations also are available in Estes Park and Grand Lake.



BEWARE OF GIARDIASIS



as the cause of water-borne outbreaks of diarrhea.

- Associated symptoms include chronic diarrhea, abdominal cramps, bloating, fatigue and loss of weight.
- GIARDIA are carried by humans and some domestic and wild animals. They get into surface water (lakes, streams, and rivers) and contaminate water supplies.
- Carry water from public supplies in canteens or bulk containers.

NOTE:

- Water treatment disinfection chemicals are not considered as reliable as heat in killing GIARDIA.
- Backcountry surface water should be boiled for one minute. The evening meal is an ideal time to boil water for drinking and brushing teeth for the next day's use.

Elk Bugling in Rocky Mountain National Park

The "rut" or mating season of the elk or American wapiti begins in September and lasts for about 6 weeks. Bull elk, 2 years or older, bugle as a part of the mating display, as a warning or challenge, and at times, for no apparent reason.

The bugle starts as a deep resonance which rises rapidly to a high pitched trumpet sound and then drops in pitch, often to a series of grunts.

Younger bulls and cows have been known to bugle in a high pitched manner, but are unable to match the nuances of the older bulls.

Bulls usually avoid fighting, which can be costly due to injury or energy depletion. The ability to gather a harem often depends on successful displays, resonant bugling, neck and body size, and musky odor. Bulls, 8 to 9 years old, in their prime, are most likely to be harem masters.

In order to assure all visitors an opportunity to hear the bugling please observe the following guidelines:

1. When stopping your car, shut off the engine immediately. Bugling is difficult to hear over extraneous sounds.
2. Turn off lights. It is illegal to spotlight wildlife. It will take time for your eyes to adjust to the darkness.
3. Shut car doors quietly and keep conversations to a minimum.
4. Do not walk into the meadows or crowd the elk in any manner.
5. It is illegal to use artificial elk whistles or calls.

The most popular areas for the elk bugling experience are Horseshoe Park and Upper Beaver Meadows.

Watch for the elk along the edges of clearings. Elk will often stay near the protective cover. Bugling is most often heard in the early evening.

The "rut" is an important time in the annual life cycle of elk. Please do nothing to stress the animals. We are visitors in their territory.



Park Air Quality Program

by Jim Capps

Rocky Mountain National Park is an area of great scenic beauty with fragile and evolving ecosystems. The park was established by an Act of Congress on January 26, 1915 which provided for ... "the preservation of the natural conditions and scenic beauties thereof." In addition, the park as an International Biosphere Reserve is to be a place where man's impacts are not felt and as a control by which man's activities elsewhere can be compared. Few envisioned at the time the park was established the tremendous changes that would occur as a result of the modernization of American industry.

Historically the air in Rocky Mountain National Park has been free of sustained pollution. With the development of the automobile, and greater demands for electricity, leading to the establishment of fossil fueled plants, and population growth around the park, changes in air quality have resulted and pose a threat to the maintenance and preservation of park resources.

The Clean Air Act of 1977 gives the National Park Service authority and responsibility to protect the air resource. Rocky Mountain National Park is a mandatory Class I Federal air quality area. Park supervision has a clear responsibility for the protection of air quality related values, including visibility. In order to maintain the scenic beauty of this mountainous area for future generations, park supervision has developed an Air Quality Management Program. The goal of the program is to maintain the natural environment of the park so that physical, chemical, and biological processes,

along with the visitor appreciation of the scenic wonders, will continue unimpaired by human influenced changes in the atmosphere.

Specific objectives of the parks Air Quality Management Program are to: determine and maintain baseline status of resources — air, water, soils and biota — within the limits of natural variation; conduct appropriate research and monitoring in such a manner as to minimize adverse impacts on park resources or intrusions on visitor experiences; conform with regulatory requirements for the Federal Land Manager in the Clean Air Act; keep the public informed of threats to the Rocky Mountain ecosystem; and devise appropriate mitigation strategies to be implemented if or when man influenced changes are detected.

The park also has the responsibility to identify integral vistas. Integral vistas are defined as views from inside a Class I area to a specific landmark or panorama outside the Class I area important to the visitors visual experience. Gore Range Overlook to the Gore Range, and Medicine Bow Curve to the Rawah Mountains are identified as integral vistas at Rocky Mountain National Park.

Acid rain or acid precipitation, which is derived from air pollutants such as sulfates and nitrates, is becoming an ever increasing problem in the park. These pollutants can affect aquatic ecosystems by killing fish and other organisms and can have a damaging effect on human health, wildlife, vegetation and soil resources.

Some air pollutants cause insidious impacts on park resources such as the flora, fauna and water quality. Ozone, for example, impacts certain plant species, Pon-

derosa Pine is particularly susceptible to needle injury resulting from ozone. Other pollutants that may be of significance at Rocky Mountain National Park are: heavy metals, nitrogen oxide, sulfur dioxide, particulates, and acid precipitation.

Consistent with the goals of the Air Quality Management Program, supervision has indicated the need for further information. Research is needed at two levels, on the effects of air pollutants, and on the resources. Biological indicator studies are needed to identify sensitive species and to enhance the ability of monitoring programs to record threshold impairment levels. This will allow the determination of air quality related values. Ecosystem level studies are needed to describe processes and the effects of pollutants on them with the resultant effects on the total ecosystem. The most sensitive processes could then be identified to receive further monitoring. The alpine ecosystem has been designated as the most important resource in the park and may be the most sensitive to acid precipitation.

Quotable Quote . . .

"Those who live pioneer lives are usually the most fortunate of people. They suffer from no dull existence.... Their days are full of eagerness and repose, they work with happy hands.... To be able to build a log cabin on the fresh, wild mountain slope and by its frontier fireplace to explore the fairyland of enchanting thought is indeed a blessing."

Enos Mills

The Rocky Mountain National Park, 1917

IN MEMORIAM

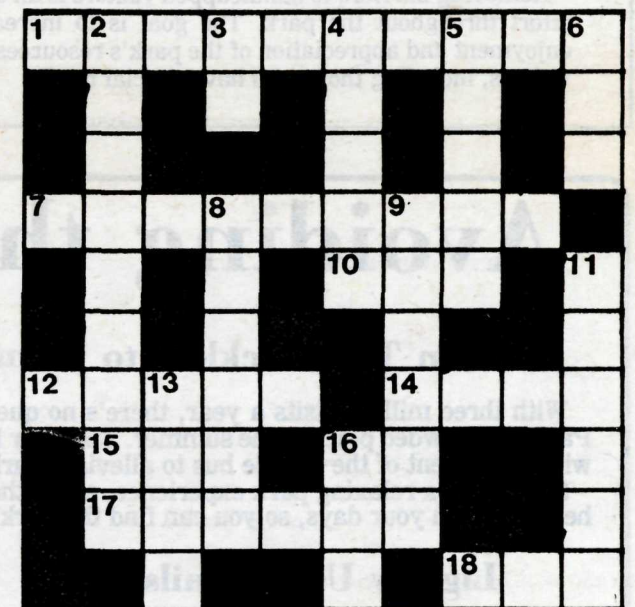
We invite you to consider ...

Memorial gifts for friends and loved ones.

Your contributions, and those of friends, can be fitting tributes to those who loved Rocky Mountain National Park. The funds will be used to support the park educational or search and res-

cue programs, as specified by you, so that others may find safe and enriching experiences.

Tax-deductible donations may be made to: Rocky Mountain Nature Association, Rocky Mountain National Park, Estes Park, Colorado 80517; (303) 586-2371.



ACROSS

- 1) Highest continuous paved highway in the United States.
- 7) The tundra chicken.
- 10) Fires may occur when the climate is _____.
- 12) The highest peak in Rocky Mountain National Park.
- 14) On top of.
- 15) A famous West.
- 16) The same amount.
- 17) Name of lake or tree in Rocky Mountain Park.
- 18) Period of time.

DOWN

- 2) Popular rooms for visitors.
- 3) Opposite of out.
- 4) Fast; speedy.
- 5) What happens to fallen leaves and trees.
- 6) They bugle in the fall as a mating call.
- 8) A National Park employee.
- 9) Ground dwelling game bird.
- 11) Land above the trees.
- 13) The back of the neck.
- 16) Highest card in the deck.

The Rocky Mountain Nature Association

— People Helping Parks and Forests Since 1931 —

Joining the Rocky Mountain Nature Association means supporting the educational and research programs of the National Park Service and the U.S. Forest Service.

Since 1931 this non-profit Cooperating Association has:

- Published books, pamphlets, and other materials to inform the public about the wonders of the Rocky Mountain Region.
- Served the public demand for information by operating bookshops within visitor centers, offering the best literature available about these areas.
- Supported preservation and education programs with profits earned from book sales and personal contributions.
- Sponsored the Rocky Mountain Seminar Program for the past 25 years, which currently offers 14 summertime, outdoor education courses.
- Assisted with publications and programs at Florissant Fossil Beds National Monument, the Rocky Mountain Regional Office of the National Park Service, and U.S. Forest Service offices at the Clear Creek Ranger District in Idaho Springs and the Aspen Ranger District in Aspen, Colo.

Rocky Mountain Nature Association members benefit by:

- Knowing that membership fees contribute directly to the availability and success of park interpretive programs.
- Gaining a big 15% discount on all publications.

- Receiving complimentary copies of the park newspaper, Rocky Mountain Highlights.
- Being aware that membership dues and contributions to the association are, by law, tax deductible.

SUPPORT YOUR PARKS, MONUMENTS, AND FORESTS: JOIN THE ASSOCIATION!

_____ cut here _____

Membership categories:

Individual	\$10
Family	\$15
Sustaining	\$25
Supporting	\$50
Contributing	\$100
Patron	\$500
Life	\$1000
Corporate	\$1000-5000

name _____

address _____

city _____ state _____ zip _____

Send to: Rocky Mountain Nature Association, Rocky Mountain National Park, Estes Park, CO 80517

Making Rocky Accessible

by Skip Betts, Park Naturalist

Visitors to Rocky Mountain National Park often have impairments affecting their use of the park, including visual and hearing impairments, mobility impairments and mental impairments. Making Rocky accessible to visitors with these handicaps is an ongoing effort to meet Federal regulations against discrimination on the basis of handicap.

To meet these requirements, Rocky has continuously improved access to buildings, campgrounds, restrooms, picnic areas and most self-guided activities. Special efforts are made to include handicapped visitors on all ranger-guided walks and talks and at campfire programs. At visitor centers there are Braille books, cassette tapes and large print booklets available, which include most of the trail guides and some of the park-specific publications. Park information and assistance are available for hearing impaired visitors through a Telecommunications Device for the Deaf (TDD) by telephoning (303) 586-8506. Handicapped visitors interested in a back country experience should contact the park's Backcountry Office and ask for information about the "handicamp," a small, accessible campsite that will accommodate a group of no more than 10 people by reservation only. Trail Ridge Road and Old Fall River Road are self-guided motor tours with the use of booklets that are available at visitors centers and roadside dispensers. Both roads have some roadside exhibits and short trails to overlooks. The 3/4 mile long Tundra Nature Trail is fairly steep and reaches the highest elevation on Trail Ridge Road.

Removing barriers to handicapped visitors is an ongoing effort throughout the park. The goal is to increase the enjoyment and appreciation of the park's resources for all visitors, including those who have special needs.

The Way It Was



Touring Rocky Mountain National Park in 1928.

Avoiding the Crowds

or

Ten Tiny Ticklers to Trim Territorial Trauma

With three million visits a year, there's no question about it. Rocky Mountain National Park is a crowded place in the summer. The Bear Lake area is the most crowded of all, even with the advent of the shuttle bus to alleviate parking problems.

So to have a relaxing park experience, avoid the crowds. The following lists of trails can help you plan your days, so you can find the park experience you seek.

Lightly Used Trails

Lawn Lake Trail
Shadow Mountain Lookout Trail
Onahu Creek Trail
Green Mountain Trail
Timber Lake Trail
Wind River Trail
Pear Lake Trail
Finch Lake Trail
Mill Creek Basin Trail
Ypsilon Lake Trail

Heavily Used Trails

Bear Lake Trail
Tundra World Trail
Alberta Falls Trail
Dream Lake Trail
Loch Vale Trail
Glacier Gorge Trail
East Longs Peak Trail
Fern Lake Trail

Lost and Found

by CHRISTY METZ

Lens caps, cameras, sunglasses, car keys, toys —the Lost and Found Office of Rocky Mountain National Park receives thousands of items every year, and in turn each year many items are either returned to their owners or claimed by the finder.

The Federal Law, Title 36 CFR 2.22(a)(3), requires that visitors turn in any items they find as soon as practicable. The law also provides that the finder of lost items may be claimed if the item can not be returned to its owner within 60 days.

By filling out a short form, visitors who have either lost items or found items can start the recovery process. Any Park Ranger at the visitor centers, the campgrounds or the information stations will help you with a lost or found situation — it only takes a few minutes.

For more information call the Lost and Found Office at (303) 586-2371, ask for extension 206.

Quotable Quote . . .

"...nature presents us with millions of answers.... Our job is to figure out the questions so we can appreciate the answers."

Donald and Lillian Stokes
ORION magazine, winter 1987

EMERGENCY ASSISTANCE

Sept. 1-12 — 6 a.m.-1 a.m.	586-2371
Sept. 13-26 — 7 a.m.-10 p.m.	586-2371
Sept. 27-30 — 7 a.m.-7 p.m.	586-2371
All Other Times	911

VISITOR SERVICES

East Unit Info., Estes Park (general)	586-2385
Public Information Office	586-2371
Backcountry Office	586-4459
Park Headquarters Administration	586-2371
Moraine Park Museum	586-3777
Alpine Visitor Center	586-4927
West Unit Info., Grand Lake	627-3471
TTY—TDD (for hearing impaired)	586-8506

DANGEROUS SNOWFIELDS USE CAUTION

No doubt you will encounter numerous steep snowfields along the roadways during your visit to Rocky Mountain National Park this summer. Although beautiful, these snowfields can be extremely dangerous. Most of them end with a very steep dropoff. Many people have been killed or seriously injured by sliding down the seemingly "soft" snow slopes. For the safety of yourself and your family, **KEEP OFF STEEP SLOPES AND AWAY FROM EDGES.**



Rocky Mountain Highlights

Rocky Mountain Highlights is published by Rocky Mountain Nature Association. This nonprofit association exists to support the educational programs of the National Park Service.