

Shelley

STATEMENT FOR MANAGEMENT

REVISED 1988

CRATERS OF THE MOON NATIONAL MONUMENT

PACIFIC NORTHWEST REGION

NATIONAL PARK SERVICE

PREPARED BY:

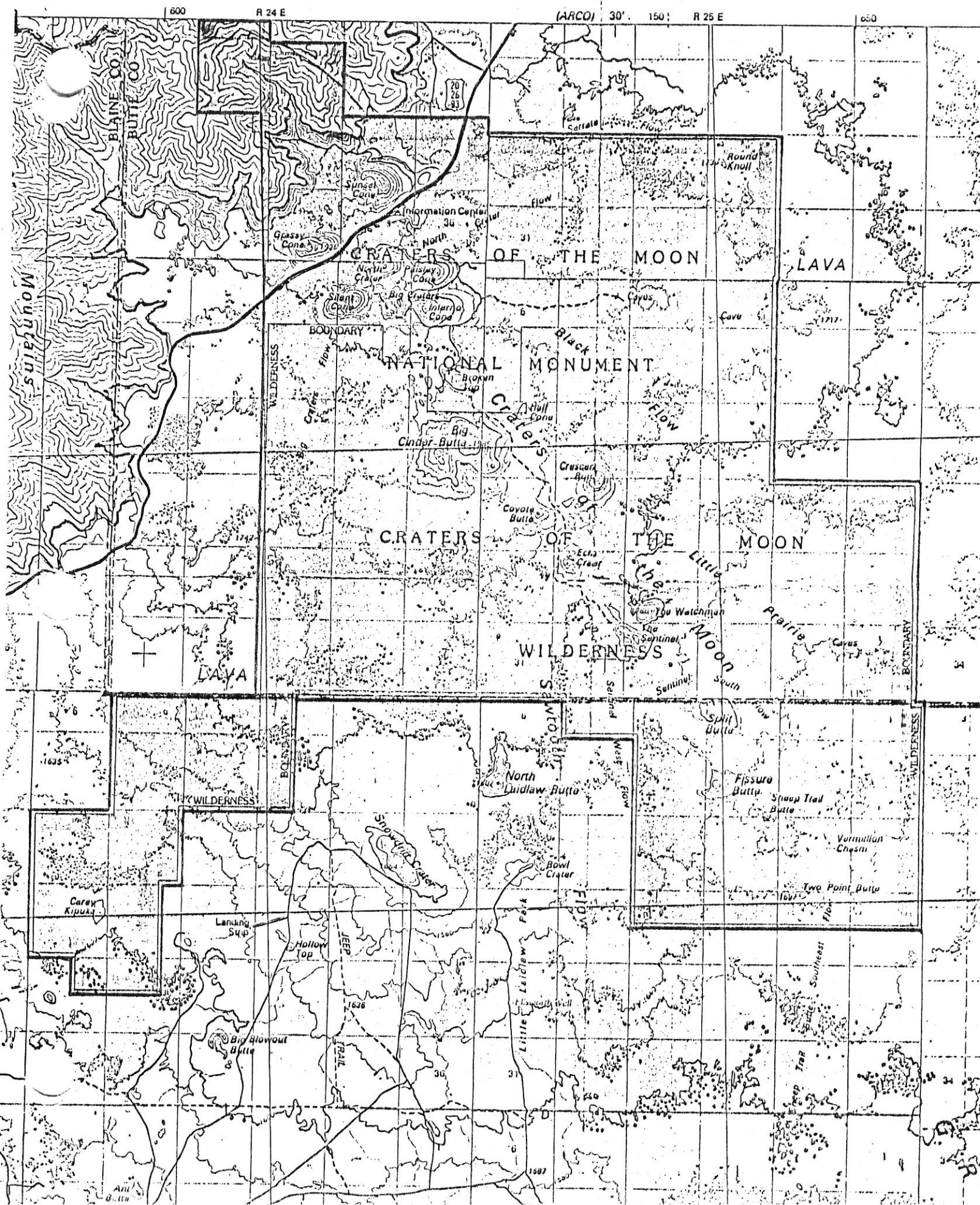
Robert E. Loh
Superintendent

APPROVED BY:

Charles W. Megeath
Regional Director

DATE:

10/11/88



STATEMENT FOR MANAGEMENT

CRATERS OF THE MOON NATIONAL MONUMENT

I. Location of the Monument

Craters of the Moon National Monument is located on the northern edge of Idaho's Snake River Plain, a vast 20,000 square mile lava landscape, itself the product of ancient volcanic activity. To the north the plain is bounded by the Pioneer Mountain Range, with the Snake River roughly prescribing the southern and eastern limits.

Along the Snake River and the interstate highway which generally runs parallel to it, several centers of population have developed. Twin Falls, Idaho Falls and Pocatello are the major population centers in the region. These towns are largely commercial and distribution centers serving the agricultural community, and still retain a somewhat rural orientation. Differing from the others, Pocatello owes much of its growth to the presence of Idaho State University.

Blaine County, in which part of the monument (13,361 acres) is located, has a slightly different character than its neighbors, due largely to the Sun Valley-Ketchum area. Sun Valley, an internationally known ski resort and prominent year-round vacation spot, has created an enclave which attracts many out-of-state visitors and residents.

Arco, 18 miles northeast of the monument and the county seat for Butte County (remaining 40,184.05 of monument acres lie within this county), is the major gateway town for the monument. With 1,200 residents, Arco offers a full range of retail and service facilities to area visitors.

Nearly all of the lands surrounding the monument come under the jurisdiction of the Bureau of Land Management, and are used for sheep and cattle grazing on a permit basis. Hunting pressure, during the general deer season, is heavy on these lands and other recreational uses are light.

The monument is also relatively close to such national travel destination points as Yellowstone National Park, Grand Teton National Park and Sawtooth National Recreation Area. Vacationists passing through Idaho on their way to these areas make up an important segment of the summer visitation.

Craters of the Moon lies within the Idaho Second Congressional District.

II. Purpose and Significance

A. Purpose of the Monument (See Appendix A)

The purpose of the Craters of the Moon National Monument is stated in President Coolidge's proclamation of May 2, 1924, which is to preserve the

" . . . remarkable fissure eruption together with its associated volcanic cones, craters, rifts, lava flows, caves, natural bridges, and other phenomena characteristic of volcanic action which are of unusual scientific value and general interest . . . for educational values and to administer the area in accordance with the act of August 25, 1916, establishing the National Park Service."

B. Significance of the Monument's Resources

The primary natural resource of Craters of the Moon National Monument is the vast basaltic lava flows and associated features which resulted from extensive fissure type eruptions occurring as recently as 2,100 years ago.

Included in the Monument are examples of nearly all known features of basaltic volcanism. The uniqueness of the area lies not so much in individual features as in the existence of the many diverse features of basaltic volcanism compressed within a remarkably small geographic area.

Wildlife is surprisingly numerous, although not seen in large numbers by the average visitor. The most common are mule deer, coyote, marmot, ground squirrel, chipmunk, mountain bluebird, Clark's nutcracker, Lewis woodpecker, and black-billed magpie.

Vegetation is varied on both the cinder slopes and lava flows. Over 300 species of plants are native to the Monument. The most common are big sagebrush, antelope bitterbrush, rubber rabbitbrush, and limber pine in the older flows and cones. The geologically younger areas support syringa, tansybush, and dwarf buckwheat. The Little Cottonwood Canyon drainage, north of the highway, supports Douglas-fir and aspen.

Numerous archeological sites have been recorded within the Monument. These sites consist mainly of sparsely scattered artifacts on the ground surface and are of limited significance archeologically. The sites are being preserved, however, as intensive investigation might yield additional information at a future date. Interpretively, the sites are a testimony to man's survival and use of a seemingly hostile environment.

III. Influences: Inventory and Analysis

A. Regional Influences

The increasingly popular use of native lava rock in building and fire-place construction throughout southeastern Idaho dictates a vital need on the part of management to provide protection for the unique and diverse forms of lava that reside within the boundaries of the Monument.

The North unit of the monument is the primary summer range for the Crater Mule Deer Herd (400-600). This is due to the monument's exclusion of livestock use. The natural habitat and protective status of the monument are conducive to a very high reproductive rate of the deer herd. The concern is to ensure that the deer population does not exceed the habitat carrying capacity. A three years research project, completed in 1983, established methods to continually monitor the population and detect changes in vegetation relative to deer impacts. This monitoring of the deer herd will be carried out as per standard operating procedures and in cooperation with the Idaho Fish and Game Department and the Bureau of Land Management.

Trespass of domestic livestock (primarily sheep) has been a common and continuing problem for many years in the northern section of the park. A fencing project completed in 1977 has helped to control the trespass of sheep. The fence was constructed and maintained by the park. Due to the steep terrain, it was not possible to construct the fence on the boundary line. It runs along the ridge top and approximately one and one-half miles of the fence is within the park. A special use permit allowed the sheep user to utilize 148 acres of park lands for grazing. This was a satisfactory solution to the problem, as it protected the park's water source and the grazing impact was contained to a minor section of land. With the CFR revision in 1984, livestock use in Craters of the Moon was prohibited, thus the special use permit was voided. The current need is for the construction of additional fencing and adjustments to the boundary line to include all of the Little Cottonwood drainage. A legislative proposal to change the boundary is currently awaiting congressional action. Additional fence construction is scheduled during 1988.

Vegetation management needs research to determine the role of natural fire in the grassland communities and to control exotic plant species. Currently all wildfires are under full suppression action. This is not cost effective and natural wildfire is a necessary component in the natural ecosystem. Action has been initiated with the field work completed on a Fire Ecology study under contract with the CPSU-UI. A wildlands Fire Management Plan will be produced.

Monitoring of visitor impact on Inferno Cone will continue for a five year period to determine if cinder material loss/displacement is static or continual. A decision for future visitor use will be made after this monitoring phase is concluded.

Air quality monitoring will continue as a long term research project. Currently, monitoring is limited to visibility but monitoring for gaseous impacts needs to be started. Ozone and fluoride damage is suspected. April, 1984, a fuel fired power plant came on the line 25 air miles northeast of the park at the INEL site. A PSD permit is currently under state consideration for upgrading the INEL Chemical Fuels Processing Restoration Plant. Craters of the Moon has increased visibility monitoring for baseline data collection. The prevailing wind is southwest.

The great variety of recreational activities provided by the rivers, lakes, and mountains of central Idaho and the short driving distances from the main population centers to this area have done much to determine the visitor use at Craters of the Moon National Monument. The Monument is situated so that most highway travelers heading for the Sawtooth Mountains and Salmon River country from the east and southeast usually take a route that passes through the Monument. In addition, the shortest and fastest route from Yellowstone and Grand Teton National Parks to Boise, Idaho, and points west or vice versa is via Highway 20/26/93 which passes through the Monument.

The above factors have caused the Monument to become a rest stop for a considerable number of the highway travelers and its camping facilities to become an overnight stopping point. Usually by 10:00 a.m. each morning the campground is virtually empty. The 52-unit campground in the monument operates at below capacity--only occupied during peak visitation (July through mid-August).

Exploration for geothermal energy in the region outside the monument is a possibility although not presently active or anticipated. Exploration for minerals (silver and gold) has increased dramatically during the last few years. Numerous mineral claims have been filed directly adjacent to the monument boundary.

B. Within Park Influences

Removal of volcanic material (pahoehoe, aa, bombs, lava, etc.) by visitors over the years has, in certain locations, been heavy. The results have been the complete removal of some volcanic phenomena. An aggressive program to prevent illegal removal of geological features will continue as a primary management action.

Off-trail use by foot travel and off-road-vehicles produce a long-term adverse impact on some geological features. The spatter cones and cinder cones are particularly susceptible to damage. Signing, special closures and other educational efforts will continue.

Illegal killing of mule deer at Craters of the Moon is a complex problem. The majority of poaching incidents occur in the North Unit where the adjacent lands are open to deer hunting during archery and general big game season (September to mid-November). Many of the violations are committed by hunters that unintentionally enter the monument and kill a deer within the boundary. Although past efforts to mark the monument boundary have had limited success, more must be done in order to protect the deer herd. If we are to PREVENT the illegal killing of deer an aggressive educational program is necessary. This can only be accomplished through the media and personal contacts before the hunter reaches the Monument to begin the hunt. This will be done by issuing press releases prior to hunting season, additional boundary marking, signing and increasing personal contacts with hunters as they enter the Monument area. This requires cooperation with the Idaho Department of Fish and Game (see Appendix H).

C. Legislative and Administrative Requirements

July 18, 1941--a proclamation by the President of the United States excluding land from Craters of the Moon National Monument, Idaho. Such land excluded was needed for the construction of Idaho State Highway 22 (now numbered 20/26/93). A total of 94.19 acres were deleted.

March 29, 1961--informal cooperative agreement between Craters of the Moon National Monument and the state office of the Bureau of Land Management, Boise, Idaho, covering the prevention, detection, and suppression of fires occurring on Bureau of Land Management or Monument lands. (See Informal Cooperative Agreement - Appendix C.)

November 19, 1962--a proclamation (No. 3506) by the President of the United States adding a 180-acre kipuka (an island of soil and vegetation within a lava flow) and the intervening lands between the kipuka and the then existing monument boundaries, thereby aggregating 5346.41 acres within the park. The area was added because it was scientifically valuable for ecological studies and contained a mature, native sagebrush-grassland association which has been undisturbed by man or domestic livestock. (See Appendix D.)

October 23, 1970--Public Law 91-504 establishing certain lands within Craters of the Moon National Monument as wilderness. Total acreage was 43,243. (See Appendix E.)

Craters of the Moon National Monument has proprietary jurisdiction.

The Clean Air Act as amended gives the National Park Service specific authority for the protection of air quality. Section 162(a) designates Craters of the Moon National Monument as a mandatory Federal class I area under the Prevention of Significant Deterioration (PSD) program. The PSD program gives the National Park Service, as managers of Federal class I areas, the affirmative responsibility and the authority to ensure that no new major facility will have an adverse impact on the air quality related values of an area, including visibility.

D. Resources

1. Geological

The Monument was established to preserve for public benefit an unusual array of volcanic resources. Nearly every known phenomenon of basaltic volcanism may be observed within the boundary. The basic feature is the Great Rift - a linear zone of fissures or cracks which has repeatedly and rather recently produced a chain of volcanic features along its length. The rift is approximately 60 miles in length and extends from the Pioneer Mountains to the community of American Falls, Idaho.

Oriented along the fissures are more than 25 major cinder cones, several series of spatter cones and over fifty individual lava flows which radiate outward for many miles. The oldest flows appear to be approximately 15,000 years old. The most recent activity occurred about 2,100 years ago.

Lava appears in both the rough, clinkery aa type and smooth pahoehoe with its beautiful frozen flow patterns. Large cinder cones, up to 800 feet in height, are the source of spindle-shaped, ribbon, and broadcrust "bombs" that lie strewn about the orifices. Some of the spatter cones contain deep crystal-walled pits. Large fissures reveal the orientation of the Rift zone; some are coated with spatter as evidence of the last activity. Numerous tree molds preserve in detail the shapes of trees which were flooded with lava. In some of the pahoehoe flows large lava tubes occur. Some of these are reservoirs of ice deposits which persist throughout the summer. Lava stalactites, lateral tube systems and rippling flow patterns along the floors of the tubes lend interest to the "caves".

Another feature of interest is the large number of crater wall fragments (rafted blocks) which dot the otherwise smooth expanse of lava flows. These lava monoliths were swept from the cinder cone walls by lava which welled up inside the cones and broke through the sides. Some fragments have been moved as far as four miles.

2. Plant Communities

Craters of the Moon is located on the northern edge of the Snake River Plain. It lies within an area typified by low precipitation and a wide range of temperatures, both seasonal and daily. The climax plant community is sagebrush-grass. Local exceptions occur where streams or wind deposited snows provide moisture for thin stands of coniferous and broadleaf trees.

Mature soil accumulations in the Carey and Round Knoll Kipukas (islands of vegetation), the Little Cottonwood area, and in the southeast section of the Monument permit climax vegetation. Characteristic shrubs are big sagebrush, antelope bitterbrush and rabbitbrush. Characteristic grasses are Idaho fescue, bluebunch wheatgrass, Sandberg bluegrass, western needlegrass and giant wild rye.

- a. Young lava flows: Soil filled cracks, crevices and depressions provide sporadic habitat for such shrubs as syringa, tansybush and rockspirea. Limber pine also grows sparsely in the flows. Characteristic forbs are scabland penstemon and gland cinquefoil. As the flows increase in age and soil accumulation, the sage-grass community will crowd out these pioneer species, including the Limber pine. Change is imperceptibly slow; some flows over 2,000 years old still appear almost completely barren.

- b. Cinder cones: The pioneer community on young cones is a wide-spread but sparse covering of herbs such as dwarf monkeyflower, buckwheat, cryptantha and Lewis bitterroot. In sequence, this community is replaced on northfacing slopes by limber pine. Antelope bitterbrush advances on the south and west slopes, to be replaced in turn by the climax sage-grass community. Limber pine will also eventually give way to sage-grass on the north slopes except where snow conditions favor the trees.

3. Wildlife

Wildlife resources in the area are surprisingly rich and varied.

- a. Resident species: Rodents common to all vegetated portions of the area are yellowbelly marmot, chipmunks, golden-mantled ground squirrel, deer mouse and voles. Porcupines and red squirrels are found in the forested areas. Mountain cottontails, whitetail and blacktail jackrabbits occur in cyclic numbers. In the most broken lava flows a few Pikas can be found.

Coyotes, red foxes, bobcats, longtail weasels, and badgers are resident mammal predators. Black bears and mountain lions occasionally enter the Little Cottonwood drainage. Golden eagles, great horned owls, redtail and marsh hawks, ravens and magpies can also be seen. Resident non-predatory birds include sagegrouse, blue grouse, Clark's nutcracker and mountain chickadee.

Characteristic reptiles include horned lizards, Great Basin rattlesnakes, rubber boas, gopher snakes and western skinks.

- b. Migratory species: In the summer the lava-flow water holes are a flurry of mourning doves, bluebirds and violet-green swallows. The stream-fed valleys of the Little Cottonwood area host warblers, finches, towhees, woodpeckers and wrens. Broadtailed hummingbirds can be seen during peak flowering of the shrub species. In late fall, flocks of pinyon jays pass through the foothills.

Perhaps the most exciting wildlife observation to visitors is the sight of mule deer. They can be seen almost any morning or evening along the loop road during the summer and fall season.

At the turn of the century, mule deer began establishing a summer range along the Great Rift. Since the creation of the monument in 1924, the herd has consistently increased. The current population consists of approximately 400-600 animals that spend 7-8 months (April to November) on summer range within the monument. The winter use patterns are complex as there appears to be multiple wintering areas, all outside the monument.

An active program of monitoring and cooperation is necessary to avoid long-range conflicts. Changes would be detected through a program of monitoring numbers and the age structure of the populations and range usage. Overpopulation, should it occur, could be controlled by removal of surplus animals on lands under state jurisdiction.

Craters of the Moon lies midway between summer and winter ranges of a sizable pronghorn antelope herd. In April antelope bands are seen passing southwesternly along the Oregon Trail Cutoff. Their route parallels Highway 20-26-93. The animals spend the summer in the Fish Creek area. From October to late November the migration is reversed.

4. Water

Little Cottonwood Creek comprises the sole water supply source for the monument. A recently dug well in the Cottonwood area failed to provide a new primary source of water for the park. Enclosed springs above the main Cottonwood Creek are tapped and an extensive pipe system transports the water to the point of use at area headquarters. The water is treated and stored in a 150,000 gallon reservoir.

5. Historical

Research is needed to determine the significant archeological sites within the monument. It is unlikely that any information will be obtained which will add significantly to the general knowledge of the Idaho Indians. The monument area is a small element of the region formerly occupied by them. We do know that the Shoshoni people traveled across the Rift zone as they went between the Snake River and the valleys of the Wood River.

6. Air Resources

The air quality at Craters of the Moon is a primary resource which enables the visitor to see and appreciate those attributes and natural phenomenon for which the park was established. In addition, air quality pollution and visibility degradation directly affects the park ecosystem. The National Park Service has a responsibility to protect air quality under both the 1916 organic act and the Clean Air Act. As required by the Clean Air Act, the superintendent will take affirmative actions to protect air quality related values in the Class I area.

External programs needed to remedy existing and prevent future impacts on park air resources and values from man-made air pollution will be aggressively pursued by participating in the development of federal, state and local air pollution control plans and regulations.

Permit applications for new air pollution sources will be reviewed and potential impacts will be assessed. The public's understanding of park air quality issues will be promoted through educational and interpretive programs. Air quality is a valuable park resource which will be protected and managed along with all the other resources related to the park.

An Air Management Plan is currently being developed. The State of Idaho, Division of Air Quality will collaborate in the development of this critical management document. The purpose of the Air Management Plan is to identify the Air Quality Related Values of the park and to identify and designate vistas.

E. Land Uses and Trends

A cross-country ski program is in the elementary stages of development. A snowmobile and trail grooming equipment have been acquired through donation and the loop road is utilized as a cross-country ski trail during the winter time.

The purpose of this service is to provide a method for winter visitors to use and enjoy the park. As the roadway is not kept snowfree from mid-November through mid-April, there is little opportunity for park visitors to explore beyond the visitor center area except by traveling over the snow.

The winter of 1987-1988 is the first time this service has been offered. Visitor use is increasing dramatically as word of the program spreads, with estimated weekly use presently around 100 skiers. A comparability study has set the user fee at \$1.00 per person and will be fully implemented in the winter of 1988-1989.

Visitor comments and enthusiasm has been extremely positive and interpretive services will be provided as usage increases and manpower permits.

F. Visitor Use Analysis

1. 10-Year Visitation, 1977-1987

A narrative of factors influencing visitation trends.

1975 to 1978 - Gradual increase in visitation each year after a downward trend due to gasoline shortages that began in 1972.

1979 - Second period of gasoline shortages. Estimated that previous visitation figures were inflated by 25 percent. New traffic counter system was installed.

1980 - Gas shortages in the Western United States, mainly California. Also, the counters and the method of counting visitors changed.

1981 to 1984 - Fairly steady with peak in 1982 and then downward trend. A bar chart showing both day use and overnight camper numbers for the ten-year period is enclosed.

1985 to 1987 - Gradual increase in visitation with steady increase in percentage of regional visitors. Dramatic increase in overnight users. Increase in winter visitation.

2. Average Daily Visitation

Visitation on a day-to-day basis was not kept as a permanent record and is not available for determining individual peak visitation days for the year 1984 and 1987 for comparison.

	<u>1984</u>	<u>1987</u>		<u>1984</u>	<u>1987</u>
JAN	819	3,293	JUL	58,590	45,105
FEB	2,233	3,108	AUG	56,528	43,942
MAR	3,929	4,561	SEP	28,378	24,041
APR	4,935	8,885	OCT	10,006	9,982
MAY	17,942	24,209	NOV	4,410	2,877
JUN	31,742	30,345	DEC	1,289	2,452
TOTAL				220,801	202,800

3. Visitor Use Patterns (June/July/August)

a. Daily: Peak visitation occurs between the hours of 10:00 a.m. to 4:00 p.m. During this period, visitation is steady without further peaks. Over fifty percent of all visitors spend less than three hours within the monument. Only five percent remain overnight (campground). The day of the week has little bearing upon the total number of visitors to the monument.

b. Weekly:

June 1 to June 15 - Visitation increases slowly.

June 16 to August 1 - A sharp increase in visitation with peak in mid-July.

August 2 to August 15 - Steady heavy visitation at peak level.

August 16 to August 31 - A sharp decline in the number of visitors, dropping to the early June levels.

c. Visitation pattern: (years 1974-1984)

Spring	11% of total visitors
Summer	65% of total visitors
Fall	22% of total visitors
Winter	2% of total visitors
Day use.	94%
Overnight.	5%
Extended	1%

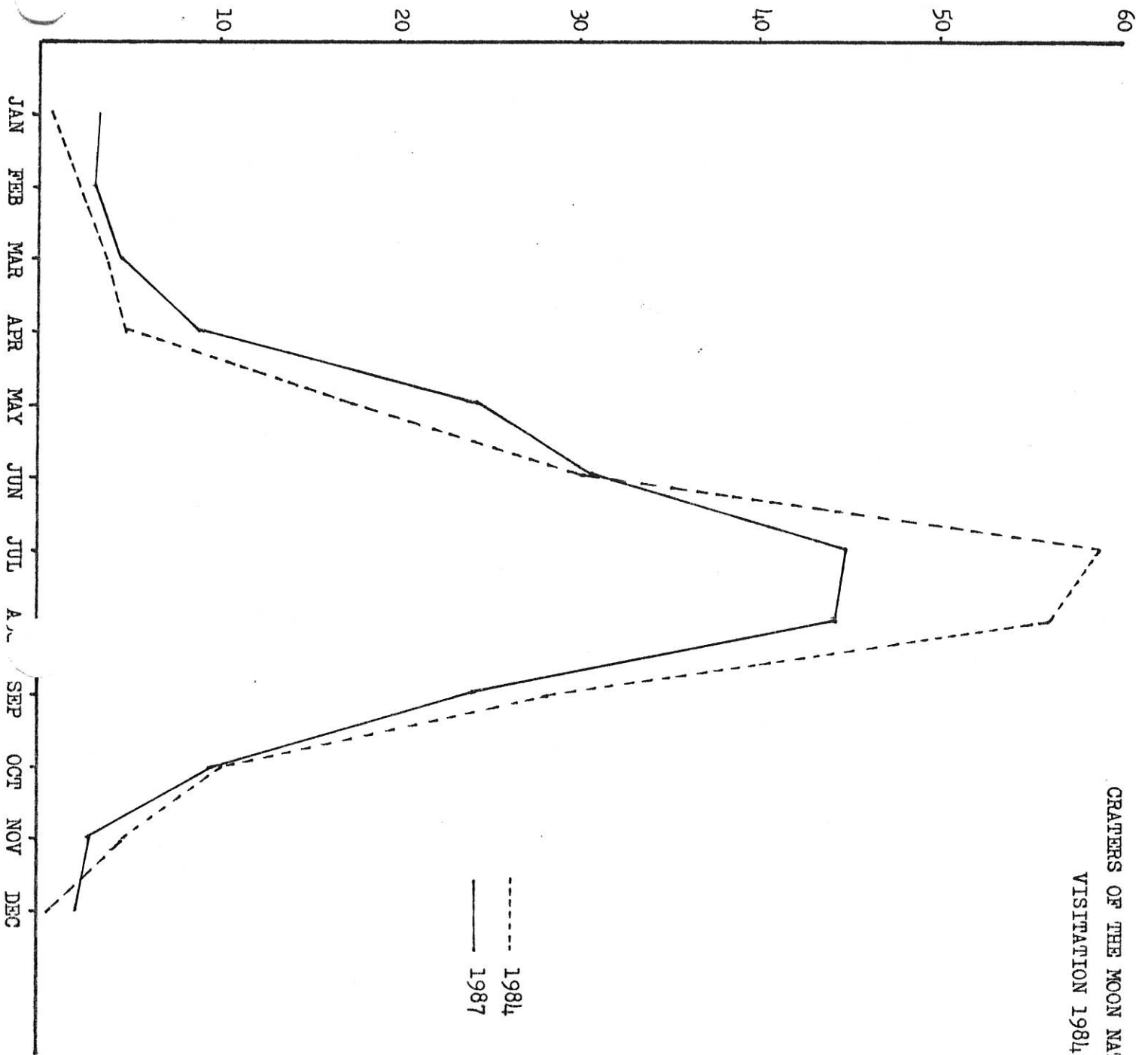
d. Origin: (years 1974-1984)

Local.	3%
Regional	30% (2-3 hour drive)
National	66%
International.	1%

e. Activities and percentage involved: (years 1974-1984)

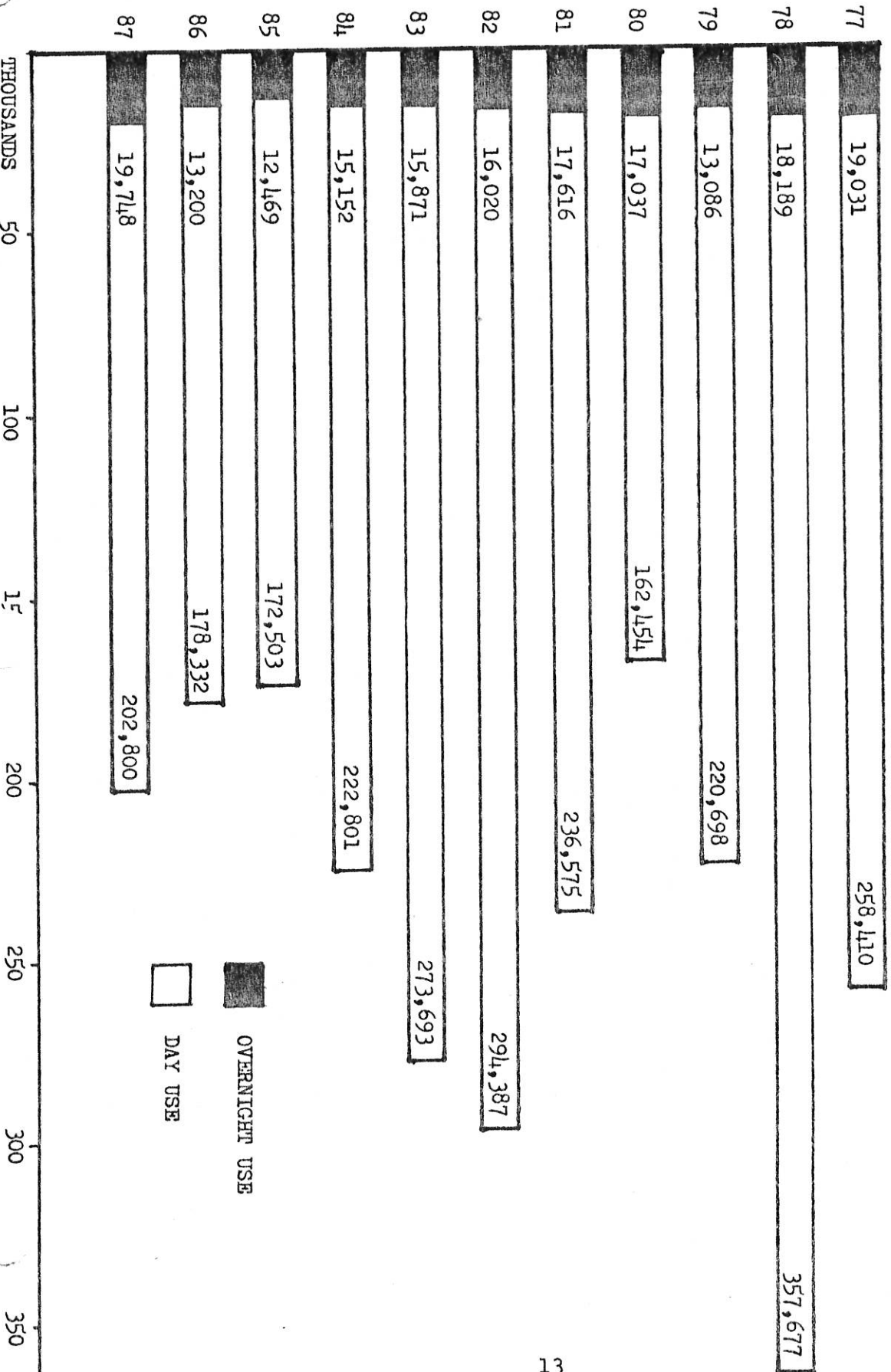
<u>Summer/Fall</u>		<u>Winter/Spring</u>	
Sightseeing.	95%	Skiing	20%
Backpacking.	1%	Guided Tours	20%
Camping.	5%	Sightseeing.	25%
Hiking	40%	Visitor Center . . .	80%
Conducted activities . . .	10%		
Campfire program	4%		
Visitor center	70%		
Cycling.	1%		
Photography.	15%		
Picnicking	5%		
Nature trails.	50%		

(THOUSANDS OF VISITORS)



CRATERS OF THE MOON NATIONAL MONUMENT
VISITATION 1984 AND 1987

CHARTERS OF THE MOON NATIONAL MONUMENT
10 YEAR VISITOR USE



G. Facilities and Equipment Analysis

1. Roads and Trails

Roads: Paved (Primary) - 6.65 mi.
Paved (Secondary) - .45 mi.

Graded - 3.55 mi.
Ungraded - 2.45 mi.

Trails: Paved - 2.37 mi.
Unpaved - 9.58 mi.

Parking areas: Visitor Center - 2 lots (50 spaces total)
North Crater Nature Trail - 25 spaces
North Crater Trail - 15 spaces
Paisley Pull-off - 4 spaces
Old Man of the Craters Pull-off - 4 spaces
Cinder Gardens Pull-off - 3 spaces
Inferno Cone - 12 spaces
Spatter Cones - 25 spaces
Hill Pull-off - 3 spaces
Cascades Pull-off - 6 spaces
Intervals Pull-off - 10 spaces
Tree Molds Trailhead - 25 spaces
Caves Area - 25 spaces

2. Buildings and Facilities

Buildings: 3-bedroom residence (3) (1,530 sq. ft.)
Duplex residence (1) (2,400 sq. ft. total)
Apartment, 4-unit (1) (1,450 sq. ft. total)

One of the 3-bedroom homes is vacant at the present time and probably will remain so for an indefinite period of time. Overall, the quarters are in fair condition, but could start to deteriorate if unoccupied for an extended period of time.

Utility building (6 unit) (3,921 sq. ft.)
Chlorinator building (100 sq. ft.)
Storage building (858 sq. ft.)
Comfort stations-campground (2) (308 & 200 sq. ft.)
Comfort stations-Loop Drive Road (2) (pit-type) (196 sq. ft.)

The maintenance utility building is in good condition and was extended in 1979 to provide for additional storage, parking for vehicles and a protected area for repair work on heavy equipment. However, the area needs insulation and heating for more efficient use.

The chlorinator building was remodeled in 1981. Electrical power was brought in to allow for year-round operation of the chlorination system.

A new kiosk was built in 1986 for fee collection and is located by the campground area.

A new amphitheater was designed and built in 1987. The seating capacity is for 130 people.

3. Utility Systems

Electrical: Power is furnished by the local REA Co-op to several distribution points at the headquarters and quarters areas. Park is responsible for maintaining the electrical components from the meter base into the structure, but not the meter. In some areas, there are underground lines to structures or facilities such as to the amphitheater, campground comfort stations and teleradiometer deck, which the monument is responsible for maintaining. All other power supply lines are the responsibility of the REA Co-op. General Electric AC voltage stabilizers have been installed at several locations to protect valuable electronic equipment from power surges (Visitor Center - NHA computer, Park computer. Also five portables used in quarters at occupants discretion).

Water: Water source for park residents and visitors are four springs in the northern section of the monument (Pioneer Mountains). The water is gravity fed through the chlorinator and then stored in two concrete tanks, one 50,000 gallon and one 100,000 gallon tank, for use on demand. At the chlorinator, located near the group campground, the water is treated with liquid bleach (sodium hypochlorite).

Water is supplied to the headquarters area and the campgrounds (main and group). The group campground water supply is before the chlorination addition point and has been posted as non-potable. Sprinkler systems are located throughout the headquarters and residential sections to maintain the extensive lawn areas.

All water systems in the park are owned, operated and maintained by the park.

Sewage:

The utility area and visitor center sewage is handled by a 2,000 gallon single compartment concrete septic tank with a 2,000 gallon leaching well. There is approximately 150 feet of leach field extending throughout a section of the visitor center lawn at a depth of 8 feet.

The residential and seasonal apartment area is served by a 2,000 gallon single compartment concrete septic tank with a 2,000 gallon leaching well. This system is located in a fairly large cinder field away from the buildings and works adequately.

The main campground area is served by two separate systems. The block comfort station (Mission 66) is served by a 2,000 gallon concrete septic tank and a concrete block, open joint leaching well. The log comfort station is served by a new (1984) 3,000 gallon concrete septic tank and a concrete block, open joint leaching well.

Temporary vault toilets are used in the main campground during the winter season. Two stalls are served by one 2,000 gallon concrete vault. The stalls are removed in the summer time when the comfort stations are opened for use.

The group campground is served by pit toilets over open holes, cinder leaching pits (just holes in the ground, but they leach adequately due to the cinder soil). Vault toilets should be considered due to buildup of solid wastes.

Loop drive vault toilets at the Tree Molds and Caves parking areas are each served by 2,000 gallon concrete vaults. Structural cracks have developed in the vaults which allow liquids to leach off creating a maintenance problem with pumping and odor.

All sewage systems are owned, operated and maintained by the park. However, pumping of the system is done by contract.

Radio:

The radio system consists of a base station and remote repeater. Equipment includes: two mobile radios and ten hand held radios. Service is provided as needed by private contractors.

4. Major Equipment

Owned: One ton Dodge 1986 truck with dump bed.

Leased: GSA Motor Pool

2½ ton dump truck with snowplow blade attachment

4 x 4 compact Jeep

Van, Dodge (ambulance)

Ford Ranger pickup, compact

Chevrolet pickup (Administration)

Chevrolet pickup (Maintenance)

John Deere 544D-H loader/backhoe

Fair Snowcrater 742 SI self-contained fan snowblower
compatible with loader

H. STATUS OF PLANNING

Name	Preparer	Date Approved	Comment on Adequacy	Repository
Statement for Management	CRMO	06/86	Being revised for approval 1988	CRMO/PNR
Resource Management Plan	King-CRMO	03/87	Current	CRMO/PNR
General Management Plan	CRMO/PNR	-	Started 1987	CRMO/PNR
Statement for Interpretation	Clark-CRMO	02/86	Current	CRMO/PNR
Interpretive Prospectus	Finn-HFC	12/79	Current	HFC/CRMO/PNR
Backcountry Plan	CRMO	04/84	Current	CRMO
Wayside Exhibit Plan	HFC	09/84	Current	HFC/CRMO
Park Safety Plan	King-CRMO	12/79	Under review in PNEO	CRMO/PNR
Air Quality Study	King-CRMO	-	To be drafted in 1988	CRMO/PNR
Wildlife Management Plan	-	-	10-238 submitted, study required	CRMO/PNR
Cave Management Plan	King-CRMO	-	Scheduled for 1989	CRMO/PNR
Fire Ecology	King-CRMO	01/82	To be completed in 1989	CRMO/PNR
Museum Exhibit Plan	-	-	10-238 submitted in 1985	HFC/CRMO/PNR
Collection Management Plan	-	-	10-238 submitted in 1985	CRMO/PNR
Sign Plan	King-CRMO	-	Under review in Region	CRMO/PNR
Cultural Resource Study (Administrative History)	Clark-CRMO	06/84	10-238 submitted in 1984	CRMO/PNR

I. Management Zoning Map

Craters of the Moon has five major zones: Special Use, Natural, Park Development, Natural/Development, and Wilderness.

Natural: This zone north of the highway has an administrative gravel road, one research campsite, and one group campground with two pit toilets and no water. In order for people to use this area, they must have a permit which is provided by the rangers.

Park Development: This area contains the visitor center, shop, housing units and campground, paved roads, parking lots, viewpoints, and walking trails in this zone. However, the surrounding area is natural and managed as such.

Wilderness (Natural): The wilderness area contains approximately 80% of the park land. There is a proposal by BLM to make the land abutting our southern and eastern boundary a wilderness area. (See Appendix B.)

IV. Major Issues/Concerns

Development of Interpretive Services

The future development of a major interpretive site at Big Sink has been under consideration for several years. Big Sink is associated with several other volcanic features that are already being interpreted. Interpreting Big Sink would provide a more complete geologic story to the visitor than what is now presented. After conferring with PNRO on this possibility, it is now felt Big Sink is a significant geologic feature that should be interpreted to the park visitor. This project would include the development of appropriate wayside exhibits and the construction of a ramp, stairway and viewing deck. Further planning and NEPA compliance will proceed upon the location of a funding source.

The production and installation of a set of wayside exhibits is planned for FY 1989. This addition will meet nearly all identified needs for such exhibits. The development of a special wayside exhibit on air quality is planned for FY 1988.

In FY 1987, an Exhibit Planning Team was established to develop new exhibits and facilities for the visitor center. Further planning and production will proceed according to Harpers Ferry Center scheduling.

The addition of a second permanent employee in the Interpretive Division in FY 1988 is projected to allow for the expansion of interpretive services in several areas. Further development of Environmental Education programs, special emphasis programs, year-round activities and on and off-site programs is planned. Unfortunately, subsequent funding reductions in FY 1988 indicate some of these goals may not be obtainable.

After many years in which no publications on Craters of the Moon were available, the park is now involved in the production of several different books. The Interpretive Division is now working with Harpers Ferry Center, the Craters of the Moon Natural History Association, U.S. Geologic Survey and Boise State University on various publications related to the park. These publications should provide visitors with information in several different formats at several different price levels.

Roads and Trails

Our roadways, pulloff areas and parking lots are becoming increasingly a serious matter of concern. The major problem is the development of perpetual transverse cracks in the pavement. Many cracks have reached a point where they are not only annoying and uncomfortable to the park visitor driving over them in a vehicle, but they constitute a general safety hazard. In the past, maintenance efforts have ranged from packing asphalt in the cracks to experimenting with various oils, tar and plastic mixtures. Nothing thus far has worked.

We are convinced that a lasting solution to the problem is to replace the road surface with a new surface.

Baseline Resources Inventory

The need to establish a baseline data system for the resources of the park is paramount. As pressures increase, it is critical that we have the information necessary to recognize change and measure results. The implementation of the Resources Management Plan and our long term success as stewards of the park are directly dependent on completing such a project. Many management actions might be initiated through common sense, without further research or monitoring, but management actions can not be evaluated without knowing the current status of the resource.

The project is scheduled for the first phase to be completed in 1988. This will include a vegetation map, mammals and birds species and habitat map, summary and abstracts of all relevant publications/research projects, permanently established ecological monitoring plots in all major habitats, and a data management system for a comprehensive baseline data system. Other major components to be included later are air resources regarding gaseous pollutants, water resources, soil survey and winter range use/distribution of mule deer and cultural resources.

This baseline resources inventory is the cornerstone for managing the park and involves all aspects of management concerns: air quality, wildfires, visitor impact, wilderness use and wildlife management.

Air Quality Degradation

Craters of the Moon has participated in air quality monitoring projects for the National Park Service and other agencies for over a decade. Until recently, managers assumed a pristine airshed existed at Craters of the

Moon, with the only pollution occurring in the summer in the form of windblown dust and smoke. Recent events such as possible pollutant-caused foliage damage and increased industry in southern Idaho raised questions about the current status and developing trends of air quality. This paper examines visibility, total suspended particulates (TSP), fine particulates, and pH levels. Over the past five years, visual range has shown a significant steady decline; TSP have generally decreased; and pH has remained approximately the same. Results of the fine particulate study suggest that sulfates and windblown smoke are important contributors to the particulate makeup of the Craters of the Moon airshed.

With a recently (spring 1988) approved PSD permit at the Fuels Processing Plant, INEL, and at least two additional pending applications for PSD at the INEL, air quality degradation will continue to increase. Additional visibility monitoring is absolutely necessary, and gaseous pollutants impacts monitoring must be initiated in order to establish a baseline of information and to determine possible pollution sources.

Mining and Mineral Exploration

Although actual mining operations adjacent to the monument have not occurred, the potential exists. The number of mineral claims filed by large corporations within the past several years has dramatically increased, with several claims filed directly adjacent to the boundary.

V. Management Objectives

* Preservation of geological resources--to preserve to the greatest extent possible the basaltic volcanism features of the Monument through effective interpretation and protection programs.

* Preservation of natural resources--to perpetuate the natural ecosystems of the monument through active and effective resources management programs.

* Preservation of air quality--to preserve visibility and associated vistas and to prevent deterioration of the airshed and all air quality related values.

Preservation of archeological sites--to identify, evaluate, protect, and preserve the park's archeological and historic resources in a manner consistent with historic preservation law and National Park Service policies.

^ * Water conservation--to emphasize water conservation in the development of management and visitor facilities as well as in the park's operating programs.

Physical development--to provide, in the most environmentally suitable locations possible, only those developments necessary to serve the needs of park visitors and park management.

Interpretation—to foster an understanding and appreciation of the environmental forces that formed the present-day landscape of the Snake River Plain as well as an understanding of the plants and animals which have adapted to this harsh habitat.

Recreational use—to encourage camping, picnicking, hiking, and other compatible recreational uses by providing quality facilities for a more meaningful experience for the visitor.

Cooperation—to promote perpetuation and compatible use of Monument and regional resources through cooperation in planning and management activities with other governmental agencies as well as private interests.

* Wildlife—to promote a continuing program of scientific research and study to gather information that will allow for long term wildlife management programs.

* Grazing—to work on a cooperative basis with other government agencies, primarily the Bureau of Land Management in matters of mutual concern, such as the effect of stock grazing in the vicinity of the monument.

* Wilderness preservation and management—to establish objective policy and guidelines (backcountry management plan) that will ensure a strong and definite commitment by park management to the preservation of the monument's wilderness.

Campground—to continue management of the Lava Flow Campground to insure a safe and pleasant experience for the monument visitor and to provide minimum access to the handicapped.

Management efficiency—to increase the Service's ability to accomplish its mission in the most cost effective manner, creating more park self sufficiency and the helping to offset the national deficit.

Winter use—to increase visitor use and enjoyment of the monument during the winter time.

APPENDIX A

22. Craters of the Moon National Monument

	Page
Establishment: Proclamation (No. 1694) of May 2, 1924.....	161
Boundaries enlarged: Proclamation (No. 1843) of July 23, 1928.....	162
Boundaries enlarged: Proclamation (No. 1916) of July 9, 1930.....	164
Excluding certain land from monument: Proclamation (No. 2499) of July 18, 1941	165

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

A PROCLAMATION

[No. 1694—May 2, 1924—43 Stat. 1947]

WHEREAS, there is located in townships one south, one and two north, ranges twenty-four and twenty-five east of the Boise Meridian, in Butte and Blaine Counties, Idaho, an area which contains a remarkable fissure eruption together with its associated volcanic cones, craters, rifts, lava flows, caves, natural bridges, and other phenomena characteristic of volcanic action which are of unusual scientific value and general interest; and

WHEREAS, this area contains many curious and unusual phenomena of great educational value and has a weird and scenic landscape peculiar to itself; and

WHEREAS, it appears that the public interest would be promoted by reserving these volcanic features as a National Monument, together with as much land as may be needed for the protection thereof.

NOW, THEREFORE, I, Calvin Coolidge, President of the United States of America, by authority of the power in me vested by section two of the act of Congress entitled, "An Act for the preservation of American antiquities," approved June eighth, nineteen hundred and six (34 Stat., 225) do proclaim that there is hereby reserved from all forms of appropriation under the public land laws, subject to all valid existing claims, and set apart as a National Monument all that piece or parcel of land in the Counties of Butte and Blaine, State of Idaho, shown as the Craters of the Moon National Monument upon the diagram hereto annexed and made a part hereof.

Warning is hereby expressly given to all unauthorized persons not to appropriate, injure, destroy or remove any feature of this Monument and not to locate or settle upon any of the lands thereof.

The Director of the National Park Service, under the direction of the Secretary of the Interior, shall have the supervision, management, and control of this Monument as provided in the act of Congress entitled, "An Act to establish a National Park Service and for other purposes," approved August twenty-fifth, nineteen hundred and sixteen (39 Stat., 535) and Acts additional thereto or amendatory thereof.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the United States to be affixed.

DONE in the City of Washington this 2d day of May in the year of our

Lord one thousand nine hundred and twenty-four and of the Independence of the United States of America the one hundred and forty-eighth.

CALVIN COOLIDGE.

By the President:

CHARLES E. HUGHES,
Secretary of State.

Appendix A

22. Craters of the Moon National Monument

	Page
Establishment: Proclamation (No. 1694) of May 2, 1924.....	161
Boundaries enlarged: Proclamation (No. 1843) of July 23, 1928.....	162
Boundaries enlarged: Proclamation (No. 1916) of July 9, 1930.....	164
Excluding certain land from monument: Proclamation (No. 2499) of July 18, 1941.....	165

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

A PROCLAMATION

[No. 1694—May 2, 1924—43 Stat. 1947]

WHEREAS, there is located in townships one south, one and two north, ranges twenty-four and twenty-five east of the Boise Meridian, in Butte and Blaine Counties, Idaho, an area which contains a remarkable fissure eruption together with its associated volcanic cones, craters, rifts, lava flows, caves, natural bridges, and other phenomena characteristic of volcanic action which are of unusual scientific value and general interest; and

WHEREAS, this area contains many curious and unusual phenomena of great educational value and has a weird and scenic landscape peculiar to itself; and

WHEREAS, it appears that the public interest would be promoted by reserving these volcanic features as a National Monument, together with as much land as may be needed for the protection thereof.

NOW, THEREFORE, I, Calvin Coolidge, President of the United States of America, by authority of the power in me vested by section two of the act of Congress entitled, "An Act for the preservation of American antiquities," approved June eighth, nineteen hundred and six (34 Stat., 225) do proclaim that there is hereby reserved from all forms of appropriation under the public land laws, subject to all valid existing claims, and set apart as a National Monument all that piece or parcel of land in the Counties of Butte and Blaine, State of Idaho, shown as the Craters of the Moon National Monument upon the diagram hereto annexed and made a part hereof.

~~Warning is hereby expressly given to all unauthorized persons not to appropriate, injure, destroy, or remove any feature of this Monument and not to locate or settle upon any of the lands thereof.~~

The Director of the National Park Service, under the direction of the Secretary of the Interior, shall have the supervision, management, and control of this Monument as provided in the act of Congress entitled, "An Act to establish a National Park Service and for other purposes," approved August twenty-fifth, nineteen hundred and sixteen (39 Stat., 535) and Acts additional thereto or amendatory thereof.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the United States to be affixed.

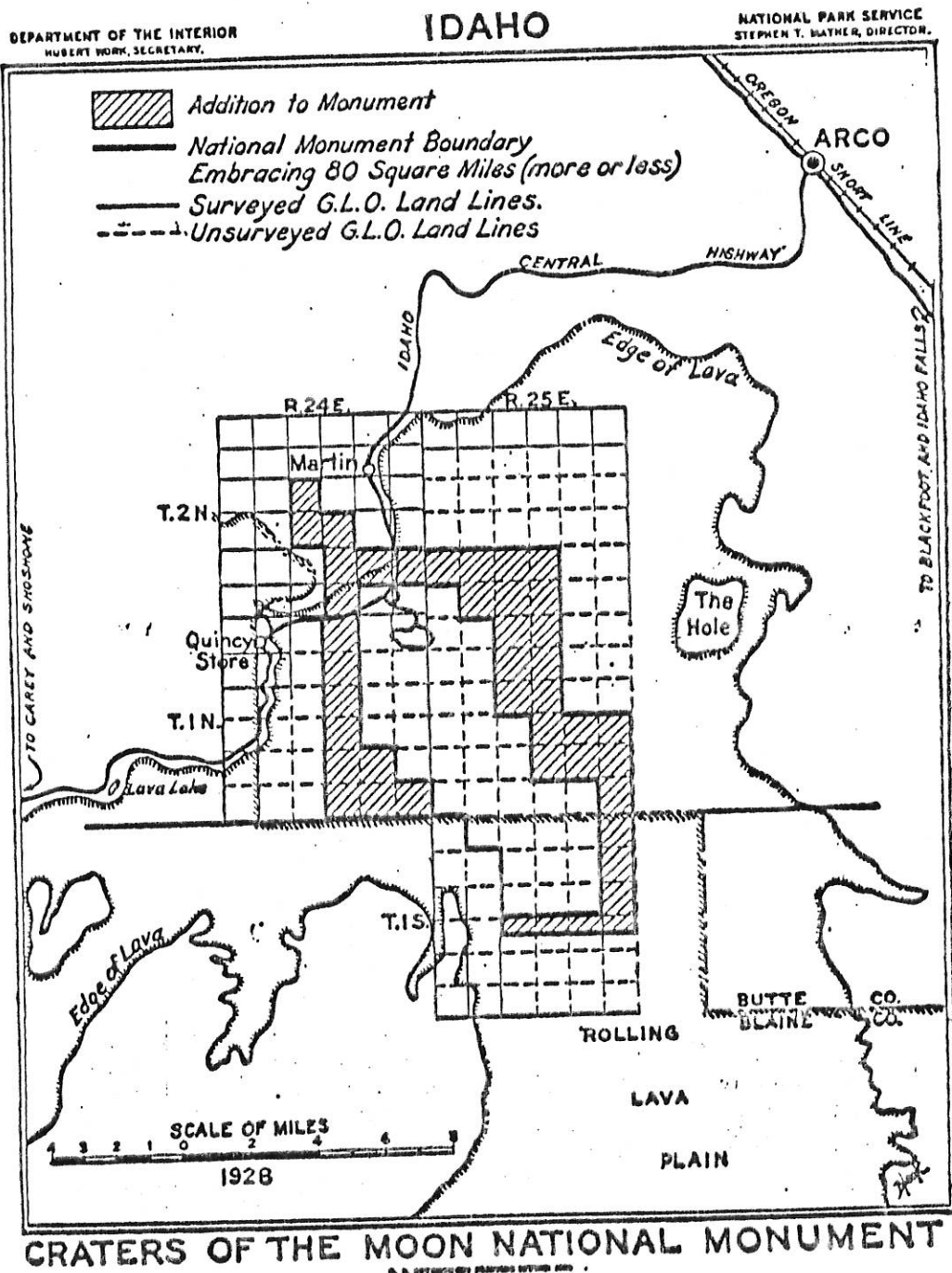
Done in the City of Washington this 2d day of May in the year of our Lord one thousand nine hundred and twenty-four and of the Independence of the United States of America the one hundred and forty-eighth.

CALVIN COOLIDGE.

By the President:
CHARLES E. HUGHES,
Secretary of State.

VIII. NATIONAL MONUMENTS—CRATERS OF THE MOON 163

NOW, THEREFORE, I, Calvin Coolidge, President of the United States of America, by authority of the power in me vested by section two of the act of Congress entitled, "An Act for the Preservation of American antiquities", approved June eighth, nineteen hundred and six (34 Stat., 225), do proclaim that Sections sixteen, twenty-one, twenty-two, twenty-five, twenty-six, twenty-seven, and thirty-four in Township two North, Range twenty-four East; Unsurveyed Sections twenty-seven, twenty-eight, twenty-nine, thirty, thirty-two, thirty-three and thirty-four in Township two North, Range twenty-five East; Unsurveyed Sections three, ten, fifteen, twenty-two, twenty-six, twenty-seven, thirty-four, thirty-five and thirty-six in Township



one North, Range twenty-four East; Unsurveyed Sections three, four, nine, ten, fifteen, sixteen, twenty-two, twenty-three, twenty-four, twenty-five, twenty-six, twenty-seven and thirty-six in Township one North, Range twenty-five East; Unsurveyed Sections one, twelve, thirteen and the north half of Sections twenty-one, twenty-two, twenty-three and twenty-four in Township one South, Range twenty-five East; all Boise Meridian, Idaho; are hereby reserved from all forms of appropriation under the public land laws, subject to all valid existing claims, and set apart as an addition to the Craters of the Moon National Monument and that the boundaries of the said National Monument are now as shown on the diagram hereto annexed and made a part hereof.

Warning is hereby expressly given to all unauthorized persons not to appropriate, injure, destroy or remove any feature of this Monument and not to locate or settle upon any of the lands thereof.

The Director of the National Park Service, under the direction of the Secretary of the Interior, shall have the supervision, management, and control of this Monument as provided in the Act of Congress entitled "An Act to establish a National Park Service and for other purposes," approved August twenty-fifth, nineteen hundred and sixteen (39 Stat., 535) and Acts additional thereto or amendatory thereof.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the United States to be affixed.

DONE at the City of Washington this 23 day of July in the year of our Lord one thousand nine hundred and twenty-eight and of the Independence of the United States of America the one hundred and fifty-third.

CALVIN COOLIDGE.

By the President:

FRANK B. KELLOGG,
Secretary of State.

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

A PROCLAMATION

[No. 1916—July 9, 1930—46 Stat. 3029]

WHEREAS lot 1, section 28, township 2 north, range 24 east, Boise meridian, Idaho, is bounded on the north and east by the Craters of the Moon National Monument; and

WHEREAS said lot 1, section 28, contains a spring which is needed to furnish the said monument with an adequate water supply; and

WHEREAS said lot 1, section 28, is vacant unappropriated public land of the United States;

NOW, THEREFORE, I, Herbert Hoover, President of the United States of America, do proclaim that the lands hereinafter described shall be, and are hereby, added to and included within the Craters of the Moon National Monument, and as part of said monument shall be, and are hereby, made subject to the provisions of the act of August 25, 1916 (39 Stat. 535), entitled "An act to establish a national park service, and for other purposes" and all acts supplementary thereto and amendatory thereof and all other laws and rules and regulations applicable to, and extending over, the said monument:

In township 2 north
Nothing herein
on said lands made
homestead, mineral
affect the right of
enjoyment of his land

IN WITNESS WHEREOF
of the United States
DONE at the City of

Washington, D. C.
[SEAL] the President

By the President
HENRY L. SUMNER
Secretary

BY THE

WHEREAS it appears
Craters of the Moon
by proclamation
of July 23, 1930,
necessary for the
interest situated or

WHEREAS it appears
State Highway No. 20

NOW, THEREFORE, I, Herbert Hoover, President of the United States of America, do proclaim that the lands hereinafter described shall be, and are hereby, added to and included within the Craters of the Moon National Monument, and as part of said monument shall be, and are hereby, made subject to the provisions of the act of August 25, 1916 (39 Stat. 535), entitled "An act to establish a national park service, and for other purposes" and all acts supplementary thereto and amendatory thereof and all other laws and rules and regulations applicable to, and extending over, the said monument:

is hereby excluded
IN WITNESS WHEREOF

of the United States
DONE at the City of

Washington, D. C.
[SEAL] the President

By the President
SUMNER
Secretary

BOISE MERIDIAN

In township 2 north, range 24 east, lot 1, section 28.
Nothing herein shall affect any existing valid claim, location, or entry on said lands made under the land laws of the United States whether for homestead, mineral, right of way, or any other purposes whatsoever, or shall affect the right of any such claimant, locator, or entryman to the full use and enjoyment of his land.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the United States to be affixed.

DONE at the City of Washington this 9th day of July, in the year of our

Lord nineteen hundred and thirty, and of the Independence of
[SEAL] the United States of America the one hundred and fifty-fifth.
HERBERT HOOVER.

By the President:

HENRY L. STIMSON,
Secretary of State.

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

A PROCLAMATION

[No. 2499—July 18, 1941—55 Stat. 1660]

WHEREAS it appears that certain public land which is now a part of the Craters of the Moon National Monument in the State of Idaho, established by proclamation of May 2, 1924, 43 Stat. 1947, and enlarged by proclamations of July 23, 1928, 45 Stat. 2959, and July 9, 1930, 46 Stat. 3029, is not necessary for the proper care and management of the objects of scientific interest situated on the lands within the said monument; and

WHEREAS it appears that such land is needed for the construction of Idaho State Highway No. 22, by the State of Idaho:

NOW, THEREFORE, I, Franklin D. Roosevelt, President of the United States of America, under and by virtue of the authority vested in me by section 2 of the act of June 8, 1906, c. 3060, 34 Stat. 225, U. S. C., title 16, sec. 431, do proclaim that a strip of land situated in section 3, Township 1 North, Range 24 East, and sections 25, 34, 35 and 36, Township 2 North, Range 24 East, Boise Meridian, Butte County, Idaho, as shown on a map prepared by the Department of Public Works, Bureau of Highways, State of Idaho, on file in the General Land Office, Department of the Interior, bearing the title

"FAP 128-E(1)

Map showing right-of-way across
Craters of the Moon National
Monument—Butte County—Idaho

February 1941 — Scale 1"=400'

is hereby excluded from the Craters of the Moon National Monument.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the United States to be affixed.

DONE at the City of Washington this 18th day of July in the year of our
Lord nineteen hundred and forty-one, and of the Independence
[SEAL] of the United States the one hundred sixty-sixth.

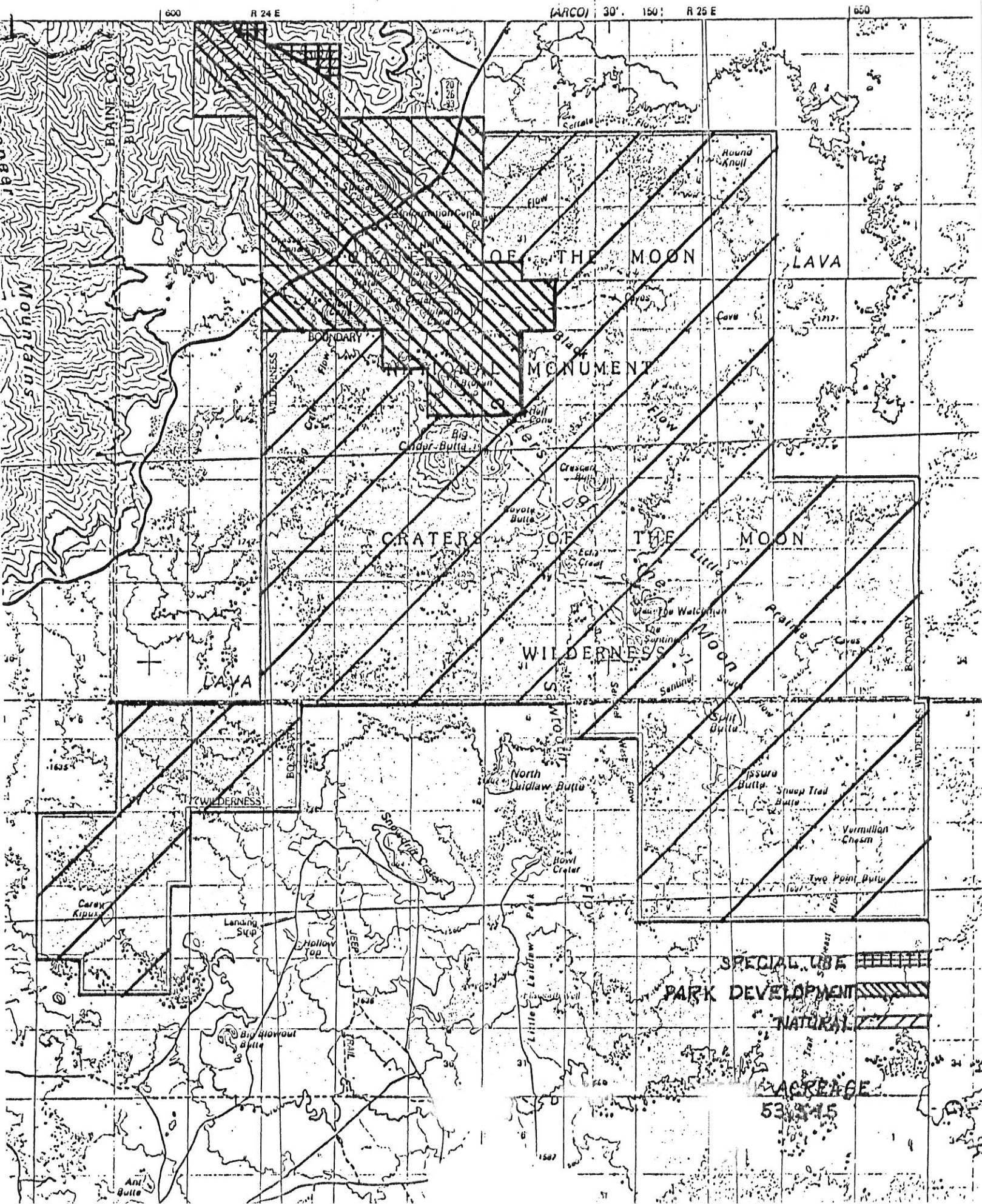
FRANKLIN D. ROOSEVELT.

By the President:

SUMNER WELLES.
Acting Secretary of State.

A P P E N D I X B

600	R 24 E	(ARCO)	30'	150'	R 25 E	650
-----	--------	--------	-----	------	--------	-----



APPENDIX C

APPENDIX C

INFORMAL COOPERATIVE AGREEMENT

BETWEEN

STATE OFFICE OF BUREAU OF LAND MANAGEMENT, BOISE, IDAHO

AND

CRATERS OF THE MOON NATIONAL MONUMENT

The following informal agreement covers fire protection cooperation between the above-named offices of the Bureau of Land Management, Division of Forestry, hereafter referred to as the BLM, and the Craters of the Moon National Monument, hereafter referred to as the Monument.

I. Extent of the Agreement

It is agreed that the parties hereto shall cooperate to the fullest possible degree in the prevention, detection, and suppression of fires occurring on BLM or Monument lands, and specifically so in the following respects:

II. Detection and Report

A. Each Agency shall promptly report to the other any fires discovered on the other's territory. Fires on the BLM, discovered by Monument employees, shall be reported to the nearest BLM fire warden, or to the nearest BLM Forestry Headquarters Office. Fires on Monument land, discovered by BLM employees, shall be reported, either to the nearest Park ranger, or to the Superintendent's office at Craters of the Moon Headquarters.

III. Common Dependency Zone

The area one mile, more-or-less, in width on either side of the boundary common to both agencies, is hereby declared a "Common Dependency Zone".

IV. Initial Action

Initial action on fires in the "Common Dependency Zone" shall be made on either a voluntary or request basis by the agency whose forces can reach the fire with the least delay. No charge shall be made by either agency for initial action on fires in this zone during the initial burning period. For work performed following the initial period, which shall end at 10:00 a.m. of the day following the fire's inception, the Agency on whose land the fire is burning will reimburse the other for all costs incurred for the extra period work.

V. Mutual Fires

In the event a fire exists on both BLM and Monument lands, it will be handled in one of the following ways:

A. The Agencies may agree as to which of them shall take full charge of the fire, in which case the cost shall be prorated against the areas burned.

B. Either Agency may elect to suppress that portion of the fire within its own territory and bear the full cost of so doing.

VI. Liaison Officer

On all fires requiring joint action, a liaison officer mutually acceptable to both parties shall be appointed to coordinate all suppression activities.

VII. Manpower and Overhead

Each Agency shall, upon request, furnish to the other, overhead, labor, and supplies, needed and available for suppression of fires in the other's territory outside the "Common Dependency Zone". Provided:

- A. That such assistance does not critically impair the needs of the Agency furnishing it.
- B. That the party requesting assistance shall pay travel expenses and overtime of protection employees, the base and overtime of wageboard construction and maintenance employees, the entire cost of special crews when necessary, and the cost of persons hired for the suppression job.

VIII. Release of Crews

It is understood that members of the protection force of either Agency employed on a fire in the other's territory, shall be released at the earliest opportunity in order that they may resume their regular duties.

IX. Special Equipment and Hand Tools

When available, either Agency shall furnish equipment such as pumps, trucks, tractors, and hand tools, etc., to the other for use on going fires. The party using such equipment shall pay the operating costs and return the equipment in good repair when no longer needed. Any of the above lost or damaged beyond repair shall be replaced or paid for by the using Agency. An operator will be provided with heavy equipment whenever available.

X. Board of Review

When advisable, joint boards of review will meet and analyze the action on fires, when both parties were engaged in the suppression.

XI. Change in Amendments

This agreement shall remain in force until amended or cancelled prior to March 1st of any year, at the request of either party.

XII. Intent of Agreement

Nothing in this agreement changes in any way the intent or purpose of the cooperative Fire Control Agreement existing between the BLM and the National Park Service.

Approved _____ 1959

BUREAU OF LAND MANAGEMENT

Signed _____

Title _____

Approved _____ 1959

CRATERS OF THE MOON NATIONAL MONUMENT

Signed _____

Title _____

Amendment #1

INFORMAL COOPERATIVE AGREEMENT

BETWEEN

STATE OFFICE OF BUREAU OF LAND MANAGEMENT, BOISE, IDAHO

AND

CRATERS OF THE MOON NATIONAL MONUMENT

Paragraph VII. Manpower and Overhead

Subparagraph B. That the party requesting assistance shall pay travel expenses and overtime of protection employees, the base and overtime of wage-board construction and maintenance employees, the entire cost of special crews when necessary, and the cost of persons hired for the suppression job when such costs exceed the amount of \$100.00.

The above amended paragraph shall become a part of the original agreement when it has been approved below by representatives of both organizations.

Approved March 29 1961

BUREAU OF LAND MANAGEMENT

Signed _____

Title State Supervisor

Approved February 7 1961

CRATERS OF THE MOON NATIONAL
MONUMENT

Signed _____

Title Superintendent

Amendment #2

INFORMAL COOPERATIVE AGREEMENT

BETWEEN

STATE OFFICE OF BUREAU OF LAND MANAGEMENT, BOISE, IDAHO

AND

CRATERS OF THE MOON NATIONAL MONUMENT

Paragraph IV. Initial Action

Initial action on fires in the "Common Dependency Zone" shall be made on either a voluntary or request basis by the agency whose forces can reach the fire with the least delay. No charge shall be made by either agency for the initial action on fires in this zone during the initial burning period. For work performed following this initial period, which shall end at 10:00 a.m. of the day following the fire's inception, the agency on whose land the fire is burning will reimburse the other for all costs incurred for the extra period work. The agency making the initial attack will be authorized to expend \$600.00, payable by the responsible agency. Before any additional costs are incurred, the responsible agency will be notified of the action taken and the agency making the initial attack will secure authorization before further obligating the responsible agency. If that agency cannot be notified, the suppression action will be continued, based on the best judgement of the agency's representative on the ground.

Approved _____ 1961

BUREAU OF LAND MANAGEMENT

Approved _____ 1961

CRATERS OF THE MOON NATIONAL MONUMENT

Signed _____

Title _____

Signed _____

Title _____

A P P E N D I X D

Presidential Documents

APPENDIX D

THE 3—THE PRESIDENT

Proclamation 3306

ADDITION TO THE CRATERS OF THE MOON NATIONAL MONUMENT, IDAHO

By the President of the United States of America
A Proclamation

WHEREAS the Craters of the Moon National Monument, Idaho, established by Proclamation No. 1694 of May 2, 1924, was reserved and set apart as an area that contains a remarkable fissure eruption together with its associated volcanic cones, craters, rifts, lava flows, caves, natural bridges, and other phenomena characteristic of volcanic action that are of unusual scientific value; and

WHEREAS it appears that it would be in the public interest to add to the Craters of the Moon National Monument a 140-acre kipuka, a term of Hawaiian origin for an island of vegetation completely surrounded by lava, that is scientifically valuable for ecological studies because it contains a mature, native sagebrush-grassland association which has been undisturbed by man or domestic livestock; and to add to the monument the intervening lands between the kipuka and the present monument boundaries:

NOW, THEREFORE, I, JOHN F. KENNEDY, President of the United States of America, by virtue of the authority vested in me by Section 2 of the Act of June 8, 1906 (34 Stat. 225; 16 U.S.C. 631), and subject to valid existing rights do proclaim that the following-described lands are hereby added to and reserved as a part of the Craters of the Moon National Monument:

BOONE MARSHMAN, Idaho

T 14, R 24 E

sec. 2, W-1/4

All of sections 4, 5, 8, 9, 17, 18 and 19

sec. 10, W-1/4

sec. 20, W-1/4 and W-1/2 E-1/4

sec. 22, S 1/4-1/2 and W-1/2 N 1/2-1/4

sec. 30, NE-1/4

comprising 5,300 acres, more or less.

Warning is hereby expressly given to all unauthorized persons not to appropriate, injure, destroy or remove any of the features or objects of this monument and not to locate or settle upon any of the lands thereof.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the Seal of the United States of America to be affixed.

DONE at the City of Washington this nineteenth day of November in the year of our Lord nineteen hundred and sixty-two, and [1962] of the Independence of the United States of America the one hundred and eighty seventh.

JOHN F. KENNEDY

By the President:

Dean Rusk,

Secretary of State.

(P.R. Doc. 11765; Filed, Nov. 21, 1962; 9:54 a.m.)

FEDERAL REGISTER
THURSDAY

November 22, 1962 11:47

Craters of the Moon, N.M. D.10

A P P E N D I X E

APPENDIX E



Public Law 91-504
91st Congress, S. 3014
October 23, 1970

An Act

To designate certain lands as wilderness.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Wilderness areas.
Designation.

DESIGNATION OF WILDERNESS AREAS WITHIN NATIONAL WILDLIFE REFUGES

SECTION 1. In accordance with section 3(c) of the Wilderness Act (78 Stat. 890; 16 U.S.C. 1132(c)), the following lands are hereby designated as wilderness:

(a) certain lands in the (1) Bering Sea, Bogoslof, and Tuxedni National Wildlife Refuges, Alaska, which comprise about forty-one thousand one hundred and thirteen acres, three hundred and ninety acres, and six thousand four hundred and two acres, respectively, and which are depicted on maps entitled "Bering Sea Wilderness—Proposed", and "Bogoslof Wilderness—Proposed", and "Tuxedni Wilderness—Proposed", dated August 1967, and (2) the lands comprising the Saint Lázaria, Hazy Island, and Forrester Island National Wildlife Refuges, Alaska, which comprise about sixty-two acres, forty-two acres, and two thousand six hundred and thirty acres, respectively, and which are depicted on maps entitled "Southeastern Alaska Proposed Wilderness Areas", dated August 1967, which shall be known as the "Bering Sea Wilderness", "Bogoslof Wilderness", "Tuxedni Wilderness", "Saint Lázaria Wilderness", "Hazy Islands Wilderness", and "Forrester Island Wilderness", respectively;

Bering Sea.
Bogoslof.
Tuxedni.
Saint Lázaria.
Hazy Islands.
Forrester Island.

(b) certain lands in the (1) Three Arch Rocks and Oregon Three Arch Rocks Islands National Wildlife Refuges, Oregon, which comprise about seventeen acres and twenty-one acres, respectively, and which are depicted on maps entitled "Three Arch Rocks Wilderness—Proposed", and "Oregon Islands Wilderness—Proposed", dated July 1967, and (2) the lands comprising the Copalis, Flattery Rocks, and Quillayute Needles National Wildlife Refuges, Washington, which comprise about five acres, one hundred and twenty-five acres, and forty-nine acres, respectively, and which are depicted on a map entitled "Washington Islands Wilderness—Proposed", dated August 1967, as revised January 1969, which shall be known as "Three Arch Rocks Wilderness", "Oregon Islands Wilderness", and "Washington Islands Wilderness", respectively;

Three Arch Rocks.
Oregon Islands.
Washington.
Islands.

(c) certain lands in the Bitter Lake National Wildlife Refuge, Salt Creek, New Mexico, which comprise about eight thousand five hundred acres and which are depicted on a map entitled "Salt Creek Wilderness—Proposed", and dated August 1967, which shall be known as the "Salt Creek Wilderness";

84 STAT. 1104
84 STAT. 1105

(d) certain lands in (1) the Island Bay and Passage Key National Wildlife Refuges, Florida, which comprise about twenty acres each and which are depicted on maps entitled "Island Bay Wilderness—Proposed" and "Passage Key Wilderness—Proposed", dated August 1967, and (2) the Wichita Mountains National Wildlife Refuge, Oklahoma, which comprise about eight thousand nine hundred acres and which are depicted on a map entitled "Wichita Mountains Wilderness—Proposed", dated October 1967, which shall be known as "Island Bay Wilderness", "Passage Key Wilderness", and "Wichita Mountains Wilderness", respectively;

Island Bay.
Passage Key.
Wichita Mountains.

Seney,
Huron Islands,
Michigan Is-
lands,
Wisconsin Is-
lands,
Moosehorn.

(e) certain lands in (1) the Seney, Huron Islands, and Michigan Islands National Wildlife Refuges, Michigan, which comprise about twenty-five thousand one hundred and fifty acres, one hundred and forty-seven acres, and twelve acres, respectively, and which are depicted on maps entitled "Seney Wilderness—Proposed", "Huron Islands Wilderness—Proposed", and "Michigan Islands Wilderness—Proposed", (2) the Gravel Island and Green Bay National Wilderness Refuges, Wisconsin, which comprise about twenty-seven acres and two acres, respectively, and which are depicted on a map entitled "Wisconsin Islands Wilderness—Proposed", and (3) the Moosehorn National Wildlife Refuge, Maine, which comprise about two thousand seven hundred and eighty-two acres and which are depicted on a map entitled "Edmunds Wilderness and Birch Islands Wilderness—Proposed", all said maps being dated August 1967, which shall be known as "Seney Wilderness", "Huron Islands Wilderness", "Michigan Islands Wilderness", "Wisconsin Islands Wilderness", and "Moosehorn Wilderness", respectively;

Pelican Island.

(f) certain lands in the Pelican Island National Wildlife Refuge, Florida, which comprise about three acres and which are depicted on a map entitled "Pelican Island Wilderness—Proposed" and dated August 1970, which shall be known as the "Pelican Island Wilderness"; and

Monomoy.

(g) certain lands in the Monomoy National Wildlife Refuge, Massachusetts, which comprise about two thousand six hundred acres but excepting and excluding therefrom two tracts of land containing approximately ninety and one hundred and seventy acres, respectively and which are depicted on a map entitled "Monomoy Wilderness—Proposed" and dated August 1970, which shall be known as the "Monomoy Wilderness".

DESIGNATION OF WILDERNESS AREAS WITHIN NATIONAL PARKS AND MONUMENTS

SEC. 2. In accordance with section 3(c) of the Wilderness Act (78 Stat. 890; 16 U.S.C. 1132(c)), the following lands are hereby designated as wilderness:

Craters of the
Moon.

84 STAT. 1105

64 STAT. 1106

(a) certain lands in the Craters of the Moon National Monument, which comprise about forty-three thousand two hundred and forty-three acres and which are depicted on a map entitled "Wilderness Plan, Craters of the Moon National Monument, Idaho", numbered 131-91,000 and dated March 1970, which shall be known as the "Craters of the Moon National Wilderness Area";

Petrified
Forest.

(b) certain lands in the Petrified Forest National Park, which comprise about fifty thousand two hundred and sixty acres and which are depicted on a map entitled "Recommended Wilderness, Petrified Forest National Park, Arizona", numbered NP-PF-3320-O and dated November 1967, which shall be known as the "Petrified Forest National Wilderness Area".

DESIGNATION OF WILDERNESS AREAS WITHIN NATIONAL FORESTS

Mount Baldy.

SEC. 3. In accordance with section 3(b) of the Wilderness Act (78 Stat. 890; 16 U.S.C. 1132(b)), the following lands are hereby designated as wilderness: the area classified as the Mount Baldy Primitive Area with the proposed additions thereto and deletions therefrom, as generally depicted on a map entitled "Proposed Mount Baldy Wilderness", dated April 1, 1968, comprising an area of approximately seven thousand acres, within and as a part of the Apache National Forest, in the State of Arizona.

A P P E N D I X F

MEMORANDUM OF UNDERSTANDING
BETWEEN THE
BUREAU OF LAND MANAGEMENT
AND THE
NATIONAL PARK SERVICE
FOR THE
COLLECTION OF ATMOSPHERIC DEPOSITION DATA

This Memorandum of Understanding made and entered into by the United States Department of Interior, Bureau of Land Management, Idaho State Director, hereafter referred to as the BLM; and the United States Department of the Interior, National Park Service, Superintendent, Craters of the Moon National Monument, hereafter referred to as NPS under provisions of the Economy Act of June 30, 1932 (31 USD 686).

WHEREAS, the Economy Act authorizes the BLM to obtain work or supplies with the NPS; and,

WHEREAS, the BLM has need for the operation of an air quality station for the purpose of obtaining atmospheric deposition information to properly manage public lands in south central or southern Idaho, and

WHEREAS, the Craters of the Moon National Monument is suitably located and the NPS has available skilled personnel and are currently collecting climatic and air quality data; and,

WHEREAS, the NPS has need for certain data relating to atmospheric deposition.

NOW THEREFORE, in consideration of the above premises, the BLM and NPS hereto agree as follows:

A. Mutually Agree To

1. Meet during January each year to discuss future project operation, arrive at cost agreements for the following fiscal year and obtain other information necessary for the continuation of the project.
2. Prepare a year-end report covering the operation of the project, data presentation and cost summary.

B. The BLM Agrees To:

1. Supply the air quality sampling equipment and provide for funds necessary to repair and maintain the equipment in proper working order.
2. Supply the funding and contracts necessary to analyze samples from the air quality station where laboratory expertise is beyond the capabilities of the NPS.
3. Reimburse the NPS for installation expense and, upon receipt of billing, operating and maintenance expenses such as electricity, repair parts, building materials, etc. not to exceed \$2000 annually.
4. Contact the NPS in December to establish a meeting time and place for the annual January meeting.
5. Provide the lead and clerical assistance in preparing the annual report.

C. The NPS Agrees To:

1. Install (near existing air quality facilities) and operate the air quality station year-long, meeting the requirements found in the "Field Observer Instruction Manual, North Central Regional Project NC-141, Atmospheric Deposition Project Handbook." This basically entails a maximum of weekly collection of pH, conductivity and weight measurements, and processing of the samples for shipment to the laboratory. (See Part B. 2. and attachment.)
2. Send all sampling records to the BLM State Director on a monthly basis.

3. Notify the BLM State Director or other designated personnel immediately upon encountering problems that may affect the project's operation.

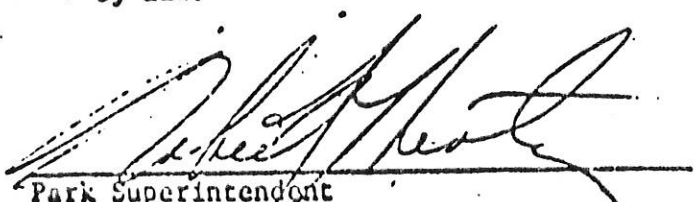
D. Property Ownership

Any properties that may be acquired or constructed through provisions of this agreement will be owned by the party making the contribution.

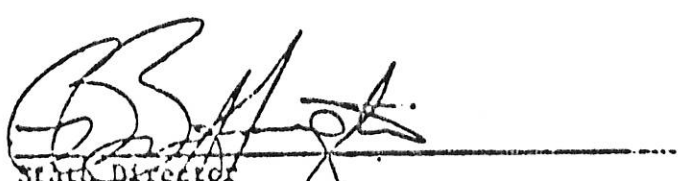
E. Duration of Time

This agreement shall remain continuously in effect until terminated by mutual agreement of the parties hereto, or by either party hereto, by giving ninety (90) days prior written notice; however, any termination hereunder shall not affect any obligation of the BLM to make payment of costs incurred by the NPS.

Nothing herein shall be construed as obligating either party to expend or as involving the United States in any contract or other obligation for the future payment of money in excess of appropriations authorized by law.


Park Superintendent
Craters of the Moon National Monument
P. O. Box 29
Arco, Idaho 83213

9-18-79
Date


State Director
Idaho State Office, BLM
Box 042, Federal Building
550 W. Fort Street
Boise, Idaho 83724

SEP 11 1979
Date

A P P E N D I X G

INDEFINITE LOAN AGREEMENT

It is hereby agreed that the Idaho Falls Chamber of Commerce is granted an indefinite loan of the system of National Park Service exhibits consisting of four (4) 6' tall X 4' square (at the base) pylons, two (2) approximately 8' square parkscape murals, and one (1) approximately 3' X 4' wall-mounted electronic orientation map, formerly displayed at the Intermountain Science Experience Center in Idaho Falls, Idaho. Shipping crates for these exhibit components are included.

This loan shall be subject to the following provisions:

1. The transfer of property shall be formalized by the proper execution of a Department of Interior Form DI-105 Receipt for Property by a duly authorized representative of the Idaho Falls Chamber of Commerce and the Pacific Northwest Regional Office, National Park Service.
2. Any part of the exhibit system deemed by the Chamber of Commerce to be appropriate may be displayed at Fanning Field Airport near Idaho Falls, Idaho, until such time as the proposed new Chamber of Commerce building in Idaho Falls is completed. At all times, parts of the exhibit not on display shall be kept secure in environmentally safe storage under the control of the Idaho Falls Chamber of Commerce.
3. The exhibit system shall be maintained to National Park Service standards of visual quality, informational integrity and structural soundness. All costs of routine care, and maintenance and rehabilitation procedures shall be borne by the Idaho Falls Chamber of Commerce. The quality and suitability of maintenance shall be verified by an annual inspection conducted by personnel authorized by the National Park Service. The cost of such inspection to be borne by the National Park Service.
4. The National Park Service shall provide technical advice, recommend maintenance and rehabilitation procedures, and supply liaison between the Idaho Falls Chamber of Commerce and National Park Service Field areas for acquisition of up-dated photographs and other display materials needed for exhibit maintenance.
5. This indefinite loan agreement may be terminated within thirty days after written request of either party.

SIGNED:

For the Idaho Falls,
Idaho Chamber of Commerce:

Nancy J. Cusick

Date: *March 20/81*

For the National Park Service

David J. Fitch, Jr.

Date: *4/16/81*

A P P E N D I X H

MEMORANDUM OF UNDERSTANDING

Between

NATIONAL PARK SERVICE

and

IDAHO DEPARTMENT OF FISH AND GAME

This Memorandum of Understanding is made between the National Park Service, United States Department of the Interior, acting by and through the Superintendent, Craters of the Moon National Monument; hereinafter "Park Service", and the Idaho Department of Fish and Game acting by and through its Director, hereinafter "IF&G".

1. Purpose of Agreement.

This agreement is made in recognition of the need for intergovernmental cooperation in the preservation, use and management of wildlife resources within the Craters of the Moon National Monument and upon adjacent Federal and State lands. Such cooperative management shall include but not limited to following:

- a. Wildlife resource inventories and data collection;
- b. The protection of wildlife with specific reference to the Craters mule deer herd;
- c. Control consumptive resource utilization and the illegal killing of mule deer and other wildlife; and
- d. Wildlife interpretation and hunter education;

AND to otherwise provide for the mutual aid and assistance between NPS and IF&G.

2. Authorities.

This agreement is made pursuant to the statutory and regulatory authority contained in, but not limited to, Title 36, Fish and Game, I.C.A. § 36.104(b)9; 16 U.S.C. §§ 1b-1, 1a-6, 3 (1982 ed.), and § 24.6, Part 24, Title 43 Code of Federal Regulations.

3. Organization.

No formal organizational structure, administrative or otherwise, is necessary to implement this agreement and the functional purposes hereof are implemented through the operational procedures set forth herein. No direct financing by the State or the Park Service is required by this agreement nor shall any property, real or personal, be acquired, managed or disposed of pursuant hereto.

4. Idaho Fish and Game Responsibilities.

- a. Provide Park Service with data re mule deer inventories within Region Six.
- b. Provide Park Service with current regulations and policies regarding wildlife management, closed areas within Region Six, special hunting seasons and all other information involving the enforcement of IF&G laws and regulations.
- c. Issue ex-officio conservation officer cards to NPS rangers at Craters of the Moon National Monument qualified pursuant to IF&G Policy E-2.05.
- d. Close at all times to the hunting of mule deer and other wildlife the area within the boundaries of the Craters of the Moon National Monument.

5. National Park Service Responsibilities.

- a. Collect wildlife data and conduct an annual census of the Craters' mule deer herd;
- b. Monitor the wildlife habitat and mule deer range condition within the monument and adjacent lands;
- c. Enforce IF&G hunting regulations within the monument and assist State enforcement of such regulations on lands adjacent thereto;
- d. Assist IF&G to inform hunters of State and NPS regulations re hunting within the monument and upon lands adjacent thereto.
- e. Provide IF&G upon request with all incident reports for enforcement actions taken by NPS pursuant to Idaho law and IF&G regulations.
- f. The Park Services shall submit to IF&G the names of law enforcement personnel for designation as ex-officio conservation officers who have been deputized as "Authorized Officers" pursuant to § 36.1301 of the Idaho Code.

6. Term of Agreement.

This agreement shall remain in effect, unless otherwise terminated pursuant to this paragraph, for a period of five (5) years from the date of the last execution of this agreement. Sixty days prior to the scheduled termination date the agreement shall be reviewed for re-affirmation or modification. The agreement may be reaffirmed for an additional term of five (5) years by the execution of a re-affirmation agreement to be attached to this agreement. This agreement may be terminated by either party upon giving notice of an intention to do so not less than sixty days prior thereto, or by Congressional action inconsistent with this agreement.

7. Officials Not To Benefit.

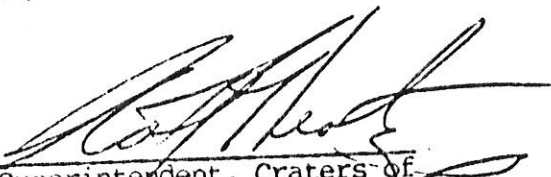
No member of, or delegate to, Congress, or resident Commissioner, shall be admitted to any share or part of this agreement or to any benefit that may arise therefrom, but this restriction shall not be construed to extend to this agreement if made with a corporation or company for its general benefit.

8. Non-discrimination.

In connection with the operations authorized under this agreement, each agency agrees not to discriminate against any employee or applicant for employment because of race, religion, color, sex, or national origin. The aforesaid provision shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; lay-off or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

The parties herein fix their signatures the day indicated and this agreement shall take effect upon the date of its last execution.

NATIONAL PARK SERVICE

By 
Superintendent, Craters of
the Moon National Monument

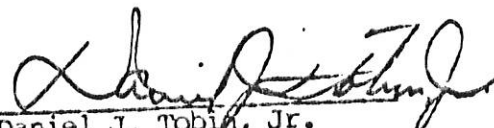
Date: 8-30-84

STATE OF IDAHO
DEPARTMENT OF FISH AND GAME

By 
Jerry M. Conley, Director

Date: August 28, 1984

Approved this 19th day of September, 1984.


Daniel J. Tobin, Jr.
Regional Director
Pacific Northwest Region
National Park Service