

Hell's Half Acre Wilderness Study Area

1. The Study Area -- 66,200 acres

The Hell's Half Acre WSA (ID-33-15) is located in Bonneville County ten miles west of Idaho Falls, Idaho. The WSA includes 66,200 acres of public land. Inholdings consist of 2,560 acres of state land (see Table 1). Boundaries of the WSA are generally the outside edges of the lava flow near State Highway 20 to the north and adjacent to state, BLM and private lands on the east, south and west.

The 5,200-year-old lava flow resembles a flat moonscape that is interrupted by deep crevices, fissures, ridges, depressions and sparse vegetation. Vegetation type and density vary widely depending on where soils have accumulated. Pioneer plants such as lichens and mosses inhabit the barren lava surfaces, while more diverse plant communities have developed on the older lava surfaces and in "kipukas," areas within the flow that escaped the encroaching lava. The kipukas and older lava flows contain dense stands of juniper trees and a wide variety of high desert shrubs, forbs and grasses. Mule deer, antelope, coyotes and rabbits are the most frequently sighted mammals on Hell's Half Acre. Sage grouse and mourning doves inhabit the lava flows and kipukas and are hunted to a limited extent near the WSA's boundary. No threatened, endangered or sensitive animals or plants are known to occur in the area.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Eastern Idaho Management Framework Plan Amendment/Environmental Impact Statement (EIS) filed October 1986. Two alternatives were analyzed in the EIS for Hell's Half Acre WSA: the proposed action (all wilderness) alternative, which is the recommendation of this report (66,200 acres would be designated as wilderness); and a no wilderness alternative.

2. Recommendation and Rationale

66,200 acres recommended for wilderness

0 acres recommended for nonwilderness

The recommendation for the Hell's Half Acre WSA is to designate the area as wilderness. The environmentally preferable alternative is the all wilderness alternative. It would cause the least change from the natural environment over the long term. The entire 66,200 acres of BLM-administered public land within the WSA is recommended for wilderness designation and is shown as the Hell's Half Acre Proposal map. This recommendation for wilderness will further apply to the 2,560 acres of inholdings that are anticipated to be acquired from the State of Idaho through exchange.

Wilderness designation of this area would ensure the preservation of a 5,200-year-old lava landscape and maintain the outstanding opportunities for solitude among the area's fissure, ridges, crevices and other volcanic features. Also the challenging primitive recreation opportunities and integrity of the designated National Natural Landmark would be protected.

Several factors contribute to the area's value as wilderness:

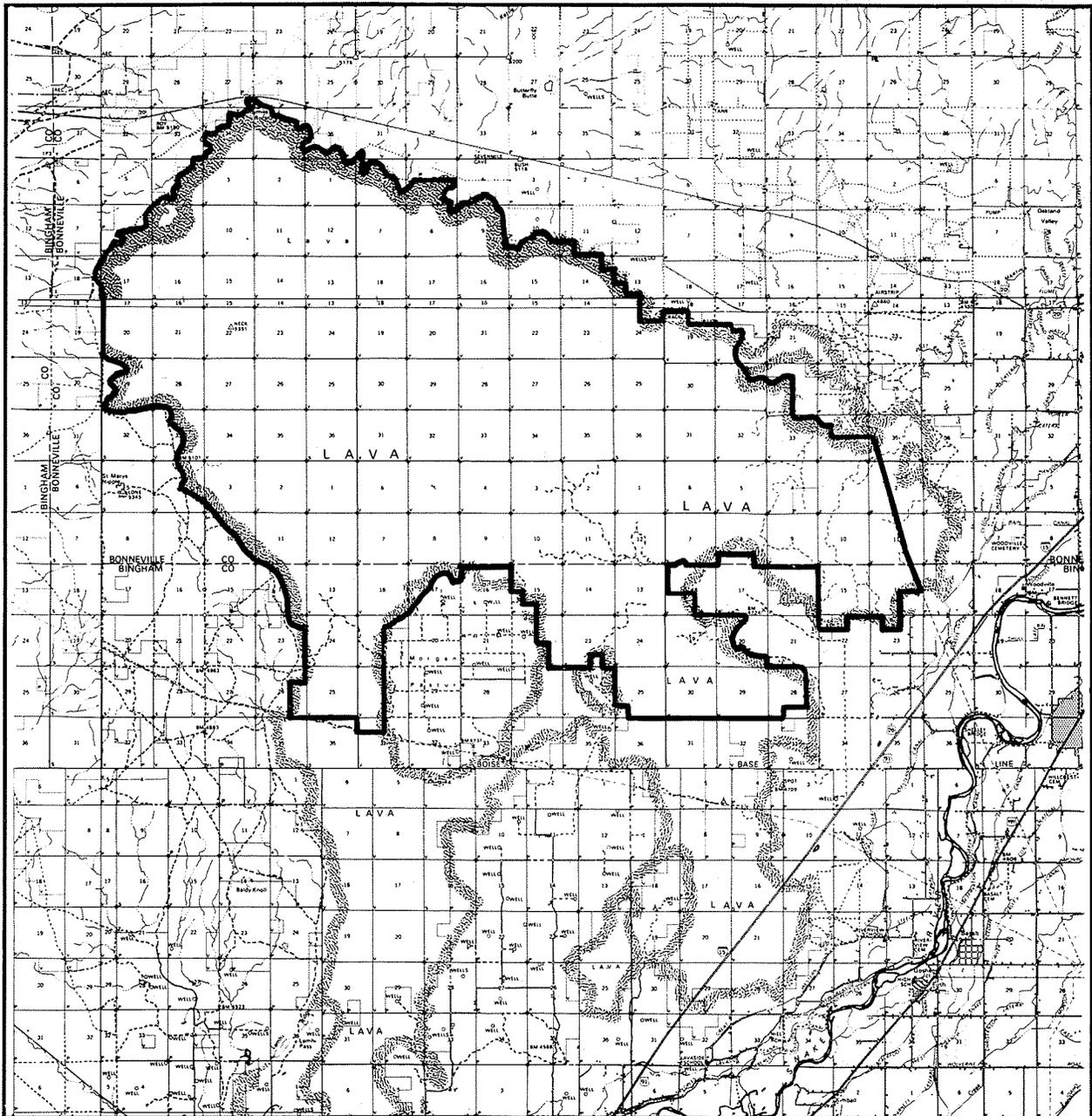
The 66,200 acres recommended for wilderness designation includes nearly three-fourths of the Hell's Half Acre lava field. The field is an outstanding example of a single-event geologic feature that is fully preserved and exposed. Fractures, depressions, ridges and caves are common across the fairly smooth surface. A large portion of the WSA, 44,000 acres, is designated a National Natural Landmark.

The WSA adds an element of uncommon and striking scenery to the southeastern Idaho high desert. Farm land and sagebrush-covered flats surround the lava flow which is a scenic backdrop for visitors along Interstate 15. Thousands of people travel this highway on their way to Yellowstone and Grand Teton National Parks.

The WSA's large size and rugged volcanic landscape offer excellent solitude for those willing to venture into this harsh environment. The absence of trails will help maintain the isolated character of the area for recreationists. Hiking, camping and caving among the pressure and flow ridges, kipukas and lava tubes of one of the youngest shield volcanos in the U.S. can be a challenging and rewarding experience.

The WSA can be managed to preserve its wilderness values over the long term because of its extreme ruggedness, inaccessibility to motor vehicles and well-defined wilderness boundary along the margins of the lava flow. State lands pose some concern for future management of the area as wilderness. These inholdings, if acquired through exchange, would supplement the wilderness values and remove the possibility of conflicts with incompatible uses. The Idaho Department of Lands has expressed a willingness to exchange.

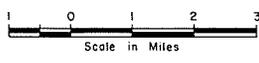
Conflicts with other resource uses of the Hell's Half Acre WSA are limited. Exploration and development of geothermal and oil and gas would be curtailed by wilderness designation. However, the geologic structure of the WSA suggests that a low potential exists for these energy sources. Lava building stone collection would not be permitted. The impact would be minor because adequate quantities of stone are available elsewhere to meet future demands. Other stone collection sites are available outside the WSA in the Hell's Half Acre flow and the Snake River Plain. Motorized recreation would be eliminated but the impact would be negligible because the present use is low (150 visitor days per year).



T. 3 N.
 T. 2 N.
 T. 2 N.
 T. 1 N.
 T. 1 N.
 T. 1 S.
 T. 1 S.

R. 34 E. | R. 35 E. R. 35 E. | R. 36 E. R. 36 E. | R. 37 E.

- | | | | |
|---|---|---|--------------|
|  | RECOMMENDED FOR WILDERNESS |  | SPLIT ESTATE |
|  | RECOMMENDED FOR NONWILDERNESS |  | STATE |
|  | LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS |  | PRIVATE |



**ID-33-15
 HELL'S HALF ACRE
 PROPOSAL**

OCTOBER 1988

**Table 1 -- Land Status and Acreage Summary of the Study Area
HELL'S HALF ACRE**

Within Wilderness Study Area

BLM (surface and subsurface)	66,200
Split Estate (BLM surface only)	0
Inholdings (state, private)	2,560
Total	68,760

Within the Recommended Wilderness Boundary

BLM (within WSA)	66,200
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM Land Recommended for Wilderness	66,200
Inholdings (state, private) ¹	2,560
State land (outside WSA)	0

Within the Area Not Recommended for Wilderness

BLM	0
Split Estate	0
Total BLM Land Not Recommended for Wilderness	0
Inholdings (state, private)	0

¹Appendix I is a detailed description of inholdings and/or split estate tracts included within the study.

3. Criteria Considered in Developing the Wilderness Recommendations

Wilderness Characteristics

A. Naturalness

The Hell's Half Acre WSA is predominantly natural with negligible human imprints. The 5,200-year-old lava flow has been an obstacle to development since the settlement of the Snake River Plain and generally is considered unusable land. Farming activities have stopped at the edge of the lava flow leaving the hardened basalt surface virtually untouched.

Impacts on the natural appearance of the WSA consist of 18 faintly visible vehicle trails and six small border dump sites. These impacts are minor and do not detract from the naturalness of this large area. From the edges and higher points of Hell's Half Acre, the visitor can view cultivated land, rural traffic on farm roads and highways and the towns of Idaho Falls and Shelley, Idaho. Farming occurs up to the lava borders along the north, south and southeast. The overall impact on naturalness of these influences is minor. Few areas either in the National Wilderness Preservation System or being studied for designation compare with the high quality of naturalness in Hell's Half Acre.

B. Solitude

The WSA offers outstanding opportunities for solitude because of its large size, rugged topography and lack of hiking trails. The visitor can find a secluded spot. The sharp relief in the lava provides adequate screening for reducing encounters with other visitors. The nearby farming activity and other human influences could detract from a feeling of solitude for some visitors. Others who venture into this rugged landscape may find that the nearness of civilization heightens their awareness of being easily removed from human activity.

C. Primitive and Unconfined Recreation

Hell's Half Acre offers outstanding recreational activities rarely found in this country. Volcanic forces have created lava tunnels which can be explored as well as a myriad of volcanic features that provide excellent subjects for photographers and geology buffs. Sightseeing is outstanding for botanical and zoological features. Snowshoeing and cross-country skiing offer physical and mental challenge to winter explorers. Similarly, for those willing to brave the rough portions of lava, hiking allows visitors to discover its unique beauty. The many lava features offer travel destinations of interest to explorers and enhance the quality of each expedition into the lava. Camping is another activity for the enthusiast willing to pack in water. The rugged terrain and harsh conditions provide a significant challenge to those who find this aspect of primitive recreation rewarding.

D. Special Features

The scientific, educational and scenic values of the Hell's Half Acre WSA area are important. A large portion, 44,000 acres, has been designated a National Natural Landmark because of its unusual occurrence within the Snake River Plain. It includes excellent examples of pahoehoe lava features of geologic importance. The ecology of the lava is a prime illustration of pioneering plant communities. The ferns in the deep cracks are a botanical anomaly. For the visitor to this uncommon and striking landscape, the scenic contrast to the southeastern Idaho desert is of special interest. The lava flow adds an element of significant change from the surrounding sagebrush-covered flats and cultivated farm land.

Diversity in the National Wilderness Preservation System

A. Assessing the Diversity of Natural Systems and Features as Represented by Ecosystems

Hell's Half Acre WSA is located in the Intermountain Sagebrush Province -- Desert Ecosystem where vegetation is largely absent. This ecosystem is not well represented nationwide in the wilderness system. If designated, Hell's Half Acre could increase the total area represented by this ecosystem and add vegetation and landform characteristics associated with a lava flow that is generally twice the age of the Craters of the Moon Wilderness. This ecosystem is represented by one designated area with 30,245 acres. There are 11 other BLM study areas in the state under study with this ecosystem. This information is summarized on Table 2.

TABLE 2
Ecosystem Representation

Bailey-Kuchler Classification		<u>NWPS Areas</u>		<u>Other BLM Studies</u>	
		areas	acres	areas	acres
Intermountain Province	Sagebrush				
		<u>NATIONWIDE</u>			
Desert-Vegetation Absent Ecosystem	Largely	1	30,245	12	870,403
		<u>IDAHO</u>			
Desert-Vegetation Absent Ecosystem	Largely	1	30,245	11	646,687
		<u>NEVADA</u>			
Desert-Vegetation Absent Ecosystem	Largely	0	0	1	223,716

**B. Expanding the Opportunities for Solitude or Primitive Recreation
Within a Day's Driving Time (Five Hours) of Major Population Centers**

The Hell's Half Acre WSA is within a five-hour drive from two major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within a five-hour drive of the population centers.

Hell's Half Acre would increase the land area available to Boise, Idaho, and Salt Lake City-Ogden, Utah, residents for solitude and primitive recreation by about one percent. However, most wilderness visitors to the WSA are not expected to come from long distances. The local communities of Idaho Falls, Blackfoot and Pocatello, Idaho, would likely benefit the most from the area. These local communities have a combined population of over 100,000 people.

Table 3

**Wilderness Opportunities for Residents
of Major Population Centers**

Population Centers	<u>NWPS Areas</u>		<u>Other BLM Studies</u>	
	areas	acres	areas	acres
Boise, Idaho/Salt Lake City, Utah ¹	16	4,741,570	141	5,374,250

¹Salt Lake City, Utah, and vicinity includes other cities of Provo, Orem and Ogden, Utah.

C. Balancing the Geographic Distribution of Wilderness Areas

Hell's Half Acre WSA would contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. No wilderness areas have been designated in southeastern Idaho where the WSA is located. The nearest designated area is the 43,243 acre Craters of the Moon Wilderness in south-central Idaho. Adjacent to the Craters is the proposed 346,800 acre Great Rift Wilderness which has been recommended for designation to Congress by the President. There are five other wilderness areas totaling 3,958,158 acres located in central Idaho.

Manageability

The WSA can be managed to preserve its wilderness values over the long term because of its extreme ruggedness, inaccessibility to motor vehicles and well-defined wilderness boundary along the margins of the lava flow. State lands pose some concern for future management of the area as wilderness. These inholdings, if acquired through exchange, would supplement the wilderness values and remove the possibility of conflicts with incompatible uses. The Idaho Department of Lands has expressed a willingness to make an exchange.

Energy and Minerals Resource Values

Mineral assessments for the Hell's Half Acre WSA have been prepared by the Geological Survey in 1987 and the Bureau of Mines in 1985. Conclusions from these reports are:

Industry has leased half of the WSA for oil and gas, but lessors have not shown interest in exploration. The area lacks host rocks and structures favorable for the occurrence of oil and gas or coal. No thermal water is known to exist within the WSA and several wells adjacent to the area have water which indicates low heat gradients. The resource potential for these commodities is low.

The WSA contains about 150,000 tons of basalt building stone suitable for use as a decorative veneer. The likelihood for development of the decorative stone is considered moderate. Most areas which contain suitable stone lie near the edge of the lava field.

Analysis of basalt samples from the WSA showed no concentrations of any elements which might be associated with mineralization. It is, therefore, concluded that the WSA has low mineral resource potential for metals.

Impacts on Resources

The following comparative impact table summarizes the effects on pertinent resources for all the alternatives considered including designation or nondesignation of the entire area as wilderness.

Table 4
Comparative Summary of the Impacts by Alternative
WSA ID-33-15 (HELL'S HALF ACRE)

ENVIRONMENTAL ISSUES	PROPOSED ACTION (ALL WILDERNESS ALTERNATIVE)	NO WILDERNESS ALTERNATIVE
Impacts on Wilderness Values	Wilderness values and special features of scenic 5,200-year-old pahoehoe and lava formations, pioneering plant communities and a 44,000 acre National Natural Landmark would be preserved on 66,200 acres. Natural character would be rehabilitated along 18 miles of vehicle trails by removing the surface disturbance of motor vehicle use. Solitude would not be disturbed near the trails because visitors would not see or hear motor vehicles.	Continued presence of motor vehicles on 18 miles of vehicle trails would slightly degrade naturalness. Solitude would be disturbed by the infrequent presence of vehicles on the fringes of the WSA.
Impacts to Energy and Mineral Development	Subject to valid existing rights on oil and gas leases, the WSA would be withdrawn from mineral entry. Because of low potential for occurrence of energy mineral commodities, no impacts are anticipated. Lava building stone collection would not be permitted but the impact would be minor because adequate quantities of stone would be available to meet future demands. Other stone collection sites are available outside the WSA in the Hell's Half Acre Flow and the Snake River Plain.	No Impact.
Impacts to Motorized Recreation Use	Motorized recreation use, amounting to 150 visitor days, would be foregone annually both in the short and long term. Impacts of shifting use to other public lands would be negligible.	No Impact.

Local Social and Economic Considerations

Wilderness designation would create a minor favorable economic impact as a result of increased recreation use. No significant social effects would occur as a result of wilderness designation of the Hell's Half Acre WSA.

Summary of WSA-Specific Public Comments

BLM's wilderness inventory and study were conducted with extensive public participation and public involvement was an important consideration in making wilderness recommendations. BLM solicited public involvement in the study phase through scoping meetings, mailings on issue identification and alternative formulation, a 90-day public comment period and two formal hearings on the Eastern Idaho Draft Wilderness EIS. Comments received during the inventory period and EIS scoping efforts were used to develop significant study issues and various alternatives for the ultimate management of those lands found to have wilderness value.

During the wilderness inventory, BLM received 31 comments that addressed the Hell's Half Acre WSA. Twenty-seven comments supported the WSA recommendation and emphasized the area's high quality wilderness characteristics to include naturalness, solitude, primitive recreation and special features of scenic value, wildlife value, educational and scientific importance and diverse vegetation. Four comments said the area lacked naturalness, solitude, primitive recreation and would not qualify for further study.

Wilderness was not an issue in the original Big Desert MFP and was not a subject of comments. No comments received during the wilderness inventory were deferred for consideration during the study. Comments received during the issue identification and alternative formulation steps offered the following points to be considered during the study:

The WSA's outstanding wilderness quality and closeness to population centers.

The conflicts with motorbike use and mineral activities.

The need to protect a lava flow as wilderness when Idaho already has enough wilderness.

Seventy-eight of the comments received during the Draft EIS comment period or at the public hearings specifically mentioned the Hell's Half Acre WSA. All but two strongly supported the recommendation for wilderness. The two against wilderness objected because of the unknown status of minerals and because industry had not yet had a chance to explore the WSA. Supporters emphasized the area's high quality wilderness values, lack of resource conflicts, important special features and closeness to major Idaho population centers. One commenter from Utah Power and Light Company supported wilderness but asked that a boundary adjustment be made in the area.

Three government agencies commented on the WSA. The Idaho Department of Fish and Game and the U.S. Environmental Protection Agency stated that they had no objection to the Draft EIS proposal. The Bureau of Indian Affairs concurred with the recommendation because of Hell's Half Acre's high-quality wilderness values.

APPENDIX I --HELL'S HALF ACRE
Estimated Costs of Acquisition of Nonfederal Holdings
Within Areas Recommended for Designation(1)

Legal Description	Total Acreage	Number of Owners	Type of Ownership by Estate	Type of Ownership by Estate	Presently Proposed for Acquisition	Preferred Method of Acquisition	Estimated Cost of Acquisition	Estimated Cost of Acquisition
			(federal, state, private, other)	(federal, state, private, other)				
Parcel No. 1 T. 2 N., R. 34 E. Sec. 16	640	1	State	State	Yes	Exchange	N/A	6,400
Parcel No. 2 T. 2 N., R. 34 E. Sec. 36	640	1	State	State	Yes	Exchange	N/A	6,400
Parcel No. 3 T. 2 N., R. 35 E. Sec. 16	640	1	State	State	Yes	Exchange	N/A	6,400
Parcel No. 4 T. 2 N., R. 35 E. Sec. 36	640	1	State	State	Yes	Exchange	N/A	6,400

(1)The estimated costs listed in this appendix in no way represent a formal appraised value of the land or mineral estate but are rough estimates based on sales or exchanges of lands or mineral estates with similar characteristics to those included in the WSA. The estimates are for purposes of establishing a range of potential costs to the government of acquiring nonfederal holdings and in no way represent an offer to purchase or exchange at the cost estimate included in this appendix.